Dictionary of Analytical Reagents

SPRINGER-SCIENCE+BUSINESS MEDIA, B.V.

Periodic Table of the Elements

IUPAC Notation

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

Previous IUPAC Notation

IA	IIA	IIIA	IVA	VA	VIA	VIIA	VIIIA	IB	IIB	IIIB	IVB	VB	VIB	VIIB	0

1 H 1.01																	2 He 4.00
3 Li 6.94	4 Be 9.01											5 B 10.81	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.18
11 Na 22.99	12 Mg 24.31											13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.95
19 K 39.10	20 Ca 40.08	21 Sc 44.96	22 Ti 47.88	23 V 50.94	24 Cr 52.00	25 Mn 54.94	26 Fe 55.85	27 Co 58.93	28 Ni 58.69	29 Cu 63.55	30 Zn 65.39	31 Ga 69.72	32 Ge 72.61	33 As 74.92	34 Se 78.96	35 Br 79.90	36 Kr 83.80
37 Rb 85.47	38 Sr 87.62	39 Y 88.91	40 Zr 91.22	41 Nb 92.91	42 Mo 95.94	43 Tc (98.91)	44 Ru 101.07	45 Rh 102.91	46 Pd 106.42	47 Ag 107.87	48 Cd 112.41	49 In 114.82	50 Sn 118.71	51 Sb 121.75	52 Te 127.60	53 I 126.90	54 Xe 131.29
55 Cs 132.91	56 Ba 137.33	57–71 See Lantha-nides	72 Hf 178.49	73 Ta 180.95	74 W 183.85	75 Re 186.21	76 Os 190.2	77 Ir 192.22	78 Pt 195.08	79 Au 196.97	80 Hg 200.59	81 Tl 204.38	82 Pb 207.2	83 Bi 208.98	84 Po (209.98)	85 At (209.99)	86 Rn (222.02)
87 Fr (223.02)	88 Ra (226.03)	89–103 See Acti-nides	104 Unq (261.11)	105 Unp (262.11)	106 Unh (263.12)	107 Uns (262.12)	108 Uno	109 Une	110 Uun								

57 La 138.91	58 Ce 140.12	59 Pr 140.91	60 Nd 144.24	61 Pm (144.91)	62 Sm 150.36	63 Eu 151.97	64 Gd 157.25	65 Tb 158.93	66 Dy 162.50	67 Ho 164.93	68 Er 167.26	69 Tm 168.93	70 Yb 173.04	71 Lu 174.97	Lanthanides
89 Ac 227.03	90 Th 232.04	91 Pa 231.04	92 U 238.03	93 Np 237.05	94 Pu (239.05)	95 Am (241.06)	96 Cm (244.06)	97 Bk (249.08)	98 Cf (252.08)	99 Es (252.08)	100 Fm (257.10)	101 Md (256.09)	102 No (259.10)	103 Lr (262.11)	Actinides

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Contents

Caution

Treat all chemical substances as if they have dangerous properties.

The publisher makes no representation, express or implied, with regard to the accuracy of the information contained in this Dictionary, and cannot accept any legal responsibility or liability for any errors or omissions that may be made.

The specific information in this publication on the hazardous and toxic properties of certain substances is included to alert the reader to possible dangers associated with the use of those compounds. The absence of such information should not however be taken as an indication of safety in use or misuse.

Preface

Although modern analytical chemistry relies heavily on instrumentation and data processing, organic reagents play an important role across the whole range of analytical procedures. Their uses vary from pH buffers to NMR shift reagents, and from chromogenic reagents to enzyme substrates and chromatographic derivatisation reagents. This Dictionary, one of a series derived from the Chapman & Hall Chemical Database, provides extensive and carefully constructed documentation of the (mainly organic) reagents most commonly used by analytical chemists working in academia, industry or the public domain.

Use of the *Dictionary of Analytical Reagents* is greatly facilitated by the innovative indexing systems, which give rapid access to concise, carefully edited information on each reagent, which then provides a convenient reference point for further queries using other printed and on-line sources. Thus, in addition to the usual indexes of reagent name, molecular formula and CAS Registry number, compounds are also indexed according to their use (such as spectrophotometric reagent or NMR shift reagent), inorganic analyte, and class of compound (such as crown ether or β-diketone).

A small proportion of entries in the present Dictionary derive from the Fifth Edition of the *Dictionary of Organic Compounds* (1982) and its supplements, heavily augmented with the addition of large amounts of pertinent information for analytical chemists. However, most of the entries are completely new and have been compiled over the past three years by a team of specialist contributors.

The selection of entries has been carefully reviewed by the Editors at each stage of the development of the Dictionary. We believe that the result will be of the maximum utility for the analytical chemist within the most practicable compact size.

A.T., D.T.B., G.G.G., R.Ł.,
Z.M., E.J.N., H.O.

Introduction

1. Using the Dictionary

The Dictionary is arranged alphabetically by entry name. Every entry is numbered to assist ready location. Many reagents are included as derivatives of main entry compounds; the extensive indexing of the Dictionary means that these can be readily located through the Name, Molecular Formula or Type of Compound indexes.

Indexes

There are four printed indexes:

Name Index. This lists every name given throughout the Dictionary, whether it refers to an entry, stereoisomer or derivative, and including some names embedded in the text of entries.

Molecular Formula Index. This lists all molecular formulae given in the Dictionary in Hill convention order. Molecular formulae are reported for all reagents but not normally for derivatives such as hydrates or salts of neutral compounds. Cationic compounds are given a molecular formula which is that of the cation and the various salts are listed as derivatives, together with their molecular formulae.

CAS Registry Number Index. Lists all CAS (Chemical Abstracts Service) Registry numbers given throughout the Dictionary in serial order.

Type of Compound Index. This valuable index classifies all reagents included in the Dictionary under three or more of approximately 200 headings according to analyte (e.g. copper), compound group (e.g. phenothiazine) and analytical application (e.g. chromatographic derivatisation reagent). A full list of the headings used is given at the beginning of the Index.

2. Compound selection policy

In compiling this Dictionary the aim of the International Editorial Board has been to select all those reagents thought to be of interest to the majority of analytical chemists. This has been done by consulting laboratory chemical suppliers' catalogues, IUPAC analytical reagent recommendations and by searching the primary literature. It does not include macromolecular materials, such as enzymes, ion-exchange resins and antibodies which, although widely used in analytical procedures, cannot readily be defined by a molecular formula.

3. Chemical names and synonyms

The Dictionary contains a wide range of synonyms which may be (*a*) those found in the primary literature, (*b*) *Chemical Abstracts* names, (*c*) a small proportion of names added editorially to achieve as much consistency as possible, or (*d*) tradenames and *Colour Index* names.

Most entries are headed by a systematic name but in the case of very well known reagents the trivial name is preferred. Care has been taken to incorporate as many helpful synonyms as possible, including trivial and semitrivial names, generic names and tradenames (including *Colour Index* names).

Frequently a trivial name of a reagent strictly applies to a derivative of the parent compound (e.g. a sodium salt or a hydrochloride) but for ease of use the trivial name is used as the entry name and an appropriate note to this effect is added to the entry.

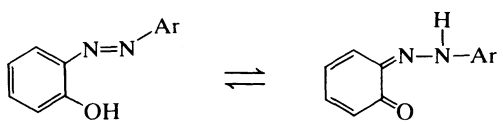
Names corresponding to those used by CAS during the 8th and 9th Collective Index Periods (1967–1971 and 1972–1976 respectively) are labelled with the suffixes 8CI, 9CI. Names first introduced since 1976 are referred to as 9CI as there have been no substantial changes of CA nomenclature affecting organic compounds since that date.

If a compound cannot be located immediately in the main body of the entries, **it is important to use the indexes.**

Tautomerism

Some of the analytical reagents with more than one functional group are capable of tautomerism, the nature of which may be influenced by solvation and, especially, complexation.

The following example shows the type of tautomerism frequently encountered amongst azo compounds in particular, and which may lead to difficulties in registering the compound in *Chemical Abstracts* and in this Dictionary.



Arylazophenol ⇌ Cyclohexadienedione monoarylhydrazone

The tautomeric equilibrium even in neutral solution will be shifted according to the precise structure of the reagent, and for a particular compound may or may

not have been investigated in detail. The CAS policy for registering such compounds is generally to index them under the azo tautomer whether this is the predominant tautomer or not. There are some exceptions to this, for example acetoacetanilide azo derivatives are indexed under the ketohydrazone tautomer. The Dictionary policy is to list the compound under the CAS name but to present the structure of the more favourable tautomer. A comment to indicate the likelihood of tautomer formation is usually added (see for example entry no. H-00391). Where CAS numbers have been assigned to individual tautomers these are listed at the end of the entry in brackets.

4. Bibliographic references and literature coverage

The selection of references is made with the aim of facilitating entry into the literature for the user who wishes to locate more detailed information about a particular compound. Reference contents are indicated using suffixes e.g. (*detn*, *Au*).

Journal abbreviations generally follow the practice of the Chemical Abstracts Service Source Index (CASSI). In patent references, no distinction is made between patent applications and granted patents. Wherever possible, English-language patent equivalents are quoted.

In compiling this Dictionary the primary literature has been surveyed to early 1992 and extensive reference has been made to reviews available at that time.

5. Hazard Information

Many reagents are toxic. Information on their toxicity is highlighted by the use of the symbol ▷, which also appears in the indexes. Whilst every effort has been made to alert the user to potential hazards associated with particular reagents, **the absence of such information cannot be taken as a guarantee of safety in use or misuse**. The information provided is given in good faith but the Editors cannot be held responsible for any inaccuracies therein.

6. Principal Abbreviations

[α]	specific rotation
abs. config.	absolute configuration
Ac	Acetyl
AcOH	Acetic acid
Ac_2O	Acetic anhydride
alk.	alkaline
amorph.	amorphous
anal.	analytical applications, analysis or detection
aq.	aqueous
B	base
bibl.	bibliography
biosynth.	biosynthesis
Bp	boiling point
BAN	British Approved Name
c.	concentration
ca.	(*circa*) about
cd	circular dichroism
chromatog.	chromatography
C.I.	Colour Index
cmr	^{13}C nuclear magnetic resonance
col.	colour, coloration
conc.	concentrated
config.	configuration
constit.	constituent
compd.	compound
cryst. struct.	X-ray crystal structure determination
d	density
dec.	decomposes, decomposition
degradn.	degradation
deriv(s)	derivatives
descr.	described
detn.	detection
dil.	dilute, dilution
dimorph.	dimorphic
esr	electron spin resonance
Et	Ethyl
EtOAc	Ethyl acetate
fluor.	fluoresces, fluorescence
glc	gas liquid chromatography
Glc	β-D-glucopyranosyl
haz.	hazard
hplc	high performance liquid chromatography
hydrol.	hydrolyses, hydrolysed, hydrolysis
i.m.	intramuscular
INN	International Nonproprietary Name
i.p.	intraperitoneal
ir	infra-red spectrum
isol.	isolation
isom.	isomerises, isomers
i.v.	intravenous
JAN	Japanese Accepted Name
LD	lethal dose: LD_{50}, a dose which is lethal to 50% of the animals tested
M	molecular weight (formula weight)
max.	maximum
Me	Methyl
metab.	metabolism, metabolite
misc.	miscible
mixt.	mixture

mod.	moderately
Mp	melting point
ms	mass spectrum
n	index of refraction (e.g. n_D^{20} for 20° and sodium light)
obt.	obtained
occur.	occurrence
ord	optical rotatory dispersion
pet. ether	Petroleum ether (light petroleum)
Ph	Phenyl (C_6H_5)
pharmacol.	pharmacology
pmr	proton (^1H) nuclear magnetic resonance
props.	properties
purifn.	purification
Py	Pyridine
ref.	reference
resoln.	resolution
rev.	review
r.t.	room temperature
s.c.	subcutaneous
sl.	slightly
sol.	soluble
soln.	solution
solv.	solvent
subl.	sublimation, sublimes
synth.	synthesis
tautom.	tautomerism
tlc	thin layer chromatography
tox.	toxicity, toxicology
unsatd.	unsaturated
USAN	United States Adopted Name
uv	ultraviolet spectrum
v.	very
vol.	volume

7. Further information

For further information about the presentation of data in this and other Dictionaries, see the introduction to the *Dictionary of Organic Compounds*, Fifth Edition and Supplements.

Analytical Reagents

Despite the major advances that have been made in analytical instrumentation in the past decade, it is still rare for an analytical measurement to be made on a sample without the use of chemical reagents. Pretreatment of the sample may simply be the adjustment of pH or precipitation of unwanted compounds, or it can involve conversion of the analyte into a form suitable for quantitation by a particular instrumental technique. Examples of the latter are the use of chromogenic reagents for the spectrophotometric determination of metal ions and the derivatisation of organic compounds prior to gas chromatographic separation and detection. Most reagents used for such purposes are organic compounds, and it is such compounds that are described in this Dictionary. Uniquely in the Dictionary, the reagents are also indexed according to their analytical application, inorganic analyte and type of reagent. More detailed discussions of the applications of analytical reagents are available in numerous textbooks and review articles.

Additional references to general sources of information

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Flagg, J.F., *Organic Reagents used in Gravimetric and Volumetric Analysis*, Interscience, New York, 1948.

Feigl, F., *Chemistry of Specific, Selective and Sensitive Reactions*, Academic Press, New York, 1949.

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Sommer, L., Ackermann, G., Burns, D.T. and Savvin, S.B., Present and Future Status of Organic Analytical Reagents – Part I: General Remarks, *Pure. Appl. Chem.*, 1990, **62**, 2147.

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– Part IV: Organic Analytical Reagents in Atomic Absorption Spectrophotometry of Metals, *Pure Appl. Chem.*, 1992, **64**, 213.
Ackermann, G., Sommer, L., and Burns, D.T., *Organic Analytical Reagents for the Determination of Inorganic Substances*, in *Handbook of Chemistry and Physics*, 74th Edn., CRC Press, Boca Raton, 1993.

1. Description of main applications of analytical reagents

In this Dictionary, the following analytical application areas are identified. Reagents having entries in the Dictionary are indicated in boldface type.

1.1. Amperometric reagent

Amperometry is the determination of a species by titration with a reagent whilst monitoring the change in the voltammetric current. The current may be that produced by oxidation or reduction of the analyte or the titrant, or both. The end-point of the titration is indicated by a sharp break in the titration graph.

The titrant may react with the analyte to form a complex which is not electroactive at the potential used, or a precipitate.

Additional references

Stock, J.T., *Amperometric Titrations*, Wiley-Interscience, New York, 1965.
Scholz, E., *Karl-Fischer Titration*, Springer Verlag, Berlin, 1984.
Crow, D.R., *Principles and Applications of Electrochemistry*, 3rd Edn., Chapman & Hall, London, 1988.
Hulanicki, A. and Glab, S., Present and Future Status of Organic Analytical Reagents – Part III: Organic Analytical Reagents in Electroanalysis, *Pure Appl. Chem.*, 1991, **63**, 1805.

1.2. Buffer (pH)

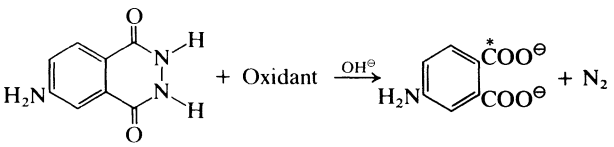
pH buffers are substances that resist a change in the pH of a solution when acid or base is added. Simple buffers are mixtures of, e.g. a weak acid and its anion (acetic acid/sodium acetate), and are widely used. However, in some instances, the buffer components interact in undesirable ways with the analytical system, especially when biochemical studies are being undertaken, e.g. by forming complexes or by inhibiting enzymes. To minimize such interactions, a series of zwitterionic *N*-substituted aminosulfonic acids (the so-called "Good" buffers) have been introduced, which include compounds such as **4-(2-Hydroxyethyl)-1-piperazineethanesulfonic acid** (HEPES). The pH of particular buffer solutions may be calculated from the pK_a values for the buffering compound, or found in one of numerous compilations.

Additional references

Good, N.E., Winget, G.D., Winter, W., Connolly, T.W., Izawa, S. and Singh, R.M.M., *Biochemistry*, 1966, **5**, 467.
Perrin, D.D. and Dempsey, B., *Buffers for pH and Metal Ion Control*, Chapman & Hall, London, 1974.
Ferguson, W.J., Braunschweiger, K.I., Braunschweiger, W.R., Smith, J.R., McCormick, J.J., Wasman, C.C., Jarvis, N.P., Bell, D.H. and Good, N.E., *Anal. Biochem.*, 1980, **104**, 300.
Hulanicki, A., *Reactions of Acids and Bases in Analytical Chemistry*, Horwood, Chichester, 1987.
Handbook of Chemistry and Physics, 74th Edn., CRC Press, Boca Raton, 1993.

1.3. Chemiluminescence generation agent

Chemiluminescence (CL) is the light generated by a chemical reaction. The product of the reaction is formed in an excited state, which can then emit light, or transfer its energy to another species (sensitizer, fluorophore) which then emits. The most common CL reaction is the oxidation of **Luminol** (5-amino-2,3-dihydrophthalazine-1,4-dione, catalysed by various metal ions) in alkaline solution, to form the emitter 3-aminophthalate:



Analytical applications of CL measurements based on luminol involve determination of the oxidant, or trace metal catalyst, or monitoring various enzyme-catalysed reactions which produce hydrogen peroxide, which is then determined by CL. Glucose determination using glucose oxidase:

$$C_6H_{12}O_6 + O_2 \xrightarrow[\text{oxidase}]{\text{glucose}} C_6H_{10}O_6 + H_2O_2$$

is a typical example.

A useful way of generating sensitized CL is by the use of aryl oxalates such as **Bis(2,4,6-trichlorophenyl) oxalate**. On oxidation they only emit very weak CL, but they are capable of stimulating intense

luminescence from a wide range of fluorophores, including polyaromatic hydrocarbons and rhodamine-type compounds. The reactions are usually used for determination of fluorophores, often on-line after liquid chromatographic separation.

Additional references

Burr, J.G., (Ed.) *Chemi- and Bioluminescence*, Dekker, New York, 1985.

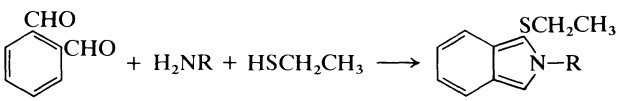
Campbell, A.K., *Chemiluminescence: Principles and Applications in Biology and Medicine*, Horwood, Chichester, 1988.

Townshend, A., *Analyst*, 1990, **115**, 495.

Robards, K. and Worsfold, P.J., Analytical Applications of Liquid-phase Chemiluminescence, *Anal. Chim. Acta*, 1992, **266**, 147.

1.4. Chromatographic derivatisation agent

Gas and liquid chromatography are extremely popular analytical techniques for analysis of multi-component mixtures. Supercritical fluid chromatography, capillary electrophoresis and ion-exchange chromatography have also become popular in the last decade. Derivatisation in chromatography is often required either to improve the amenability of the analytes to chromatographic separation or to improve their detectability. For example, methylation or silylation is often used to make compounds more volatile, so that they can be separated and determined by gas chromatography. Analytes can be converted to fluorescent derivatives (before or after liquid chromatographic separation) so that they can be detected with great sensitivity by their derivative's fluorescence. A typical example is the reaction of amines with **1,2-Benzenedicarboxaldehyde** in the presence of 2-mercaptoethanol to produce a fluorescent derivative:



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Frei, R.W. and Lawrence, J.F., *Chemical Derivatization in Analytical Chemistry*, Vol. 1: *Chromatography*, 1981; Vol 2: *Separation and Continuous Flow Techniques*, 1982, Plenum, New York.

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Lingeman, H. and Underberg, W.J. (Eds.), *Detection-oriented Derivatization Techniques in Liquid Chromatography*, Dekker, New York, 1990.

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Blau, K. and King, G.S., *Handbook of Derivatives for Chromatography*, 2nd Edn., Wiley, New York, 1992.

1.5. Enzyme substrate or co-factor

Enzyme-catalysed reactions are widely used for analytical purposes, for the determination of substrates (e.g. glucose oxidase for determination of glucose) and of inhibitors (such as pesticides, by their inhibition of cholinesterase) and activators. Although enzymes are very useful as analytical reagents, they are not classified individually in this Dictionary. However, enzymes themselves are extensively assayed by clinical chemists, biochemists, forensic scientists and food chemists, and the substrates used for such assays are carefully chosen to achieve optimum sensitivity, selectivity and reliability. Such substrates are listed in this Dictionary, as are the co-enzymes (co-factors) required by many redox enzymes, for example nicotinamide adenine dinucleotide (NAD^+/NADH) which is a co-enzyme for many dehydrogenases, e.g.

$$CH_3CH_2OH + NAD^+ \xrightarrow[\text{dehydrogenase}]{\text{alcohol}} CH_3CHO + NADH + H^+$$

Additional reference

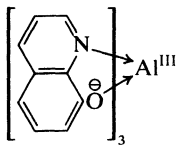
Bergmeyer, H.U. (Ed.), *Methods of Enzymatic Analysis*, 3rd Edn. 12 vols, VCH, Weinheim, 1986.

1.6. Extractant

Analytes can be separated from the sample matrix (or vice versa) or from other analytes by extraction into a water-immiscible liquid phase. Such extractions are carried out for a number of reasons (removal of, or from interfering species, increasing the analyte concentration, improving the detectability of the analyte). For most organic analytes, extraction takes place without the aid of another reagent, although recently the improved extraction achieved with the aid of micelles or cyclodextrins has been extensively investigated. The main exceptions are the extraction

of charged species, such as quaternary ammonium ions, or long chain sulfonate ions, which is achieved after ion-pair formation with a bulky anion (e.g. **Methyl orange**) or cation (e.g. **Methylene blue**), respectively. In such instances, the highly coloured extracted species are readily detected by spectrophotometry.

Inorganic ions can also be extracted with the aid of organic reagents. Oxoanions such as $Cr_2O_7^{2\ominus}$ can be extracted as ion pairs with bulky cations e.g. benzyltributylammonium ions. Metal ions can be converted into chelates. If the chelate is uncharged, as, for example, in tris(8-quinolinolato)aluminium:



it is likely to be readily extractable (and to precipitate from aqueous solution). If it is charged, as in **Tris-(1,10-phenanthroline-N^1,N^{10})iron(*II*)(2+)** (ferroin), a polarizable counterion e.g. iodide or thiocyanate can be added to facilitate extraction.

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Starý, J. *The Solvent Extraction of Metal Chelates*, Pergamon, Oxford, 1964.

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Marcus, Y. and Kertes, A.S., *Ion Exchange and Solvent Extraction of Metal Complexes*, Wiley, New York, 1969.

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Fogg, A.G., Burgess, C. and Burns, D.T., A review of the use of basic dyes in the determination of anions particularly as a means of determining Sb, Tl and Ga, *Talanta*, 1971, **18**, 1175.

Sekine, T. and Hasegawa, Y., *Solvent Extraction Chemistry*, Dekker, New York, 1977.

Cresser, M.S., *Solvent Extraction in Flame Spectroscopic Analysis*, Butterworh, London, 1978.

Burns, D.T., Ion pairing: A Marriage of Analytical Convenience, *Anal. Proc.*, 1982, **19**, 355.

Frei, R.W. and Lawrence, J.F., *Chemical Derivatization in Analytical Chemistry, Vol. 2: Separation and Continuous Flow Techniques*, Plenum, New York, 1982.

Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, 2nd Edn., Horwood, Chichester, 1986.

Alegret, S., *Developments in Solvent Extraction*, Horwood, Chichester, 1988.

Malat, M., *Extrakční Spektrofotometric Kovů a Nekovú*, SNTL, Prague, 1988.

Rydberg, J., Musikas, C. and Choppin, G.R. (Eds.), *Principles and Practices of Solvent Extraction*, Dekker, New York, 1992.

1.7. Fluorescent label

Fluorimetry provides a very sensitive means of detection in organic and inorganic analysis. Most analyte species, however, are not fluorescent, or are only weakly so. Thus, if they are to be detected fluorimetrically, they have to be 'tagged' or 'labelled' with a fluorophore by reaction with derivatives of molecules such as **Fluorescein**, **Anthracene** or **Rhodamine B**. Such derivatives are valuable for liquid chromatographic detection. They are also useful for labelling of antibodies or antigens in immunoassay procedures, and for labelling of DNA fragments.

1.8. Gravimetric reagent

Most inorganic ions can be determined by precipitation, collection of the precipitate, and either weighing the dry precipitate as such or after conversion to another (more stable) compound, usually by heating. Certain organic reagents have been particularly effective as gravimetric precipitants because the compounds formed are readily filtered off, have a reproducible, stoichiometric composition, and can readily be dried and weighed. The analyte element proportion of the precipitate is often quite small, so that a small amount of analyte gives rise to a large weight of precipitate, which can be weighed relatively precisely. For example, reaction of aluminium with 8-quinolinol produces a precipitate that contains 5.9% by weight of aluminium.

Additional references

Wilson, C.L. and Wilson, D.W. (Eds.), *Comprehensive Analytical Chemistry, Vol. 1C, Classical Analysis. Gravimetric and Titrimetric Determination of the Elements*, Elsevier, Amsterdam, 1962.

Erdey, L. *Gravimetric Analysis,* Pergamon, Oxford, 1963–5.

1.9. Indicator

An indicator is a compound that is added to a solution being titrated to indicate the equivalence point of the titration. During the titration, there is an abrupt change in a visual property of the compound, denoted the 'end-point' which, if the indicator has been properly chosen, will be coincident with the equivalence point. The visual property involved is usually colour, i.e. there is a distinct colour change at the end point, but there are many examples of fluorescent indicators and chemiluminescent indicators, where the end-point is usually indicated by the appearance or disappearance of luminescence.

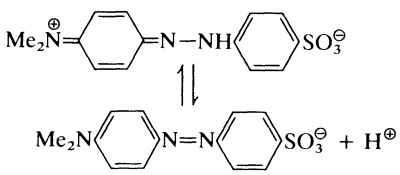
The mode of action of the indicator depends on the type of titration:

(a) Acid-base

An acid-base indicator is a weak acid or weak base, whose conjugate forms have distinctly different colours, e.g. for an indicator A which is a weak acid,

$$A \rightleftharpoons A^{\ominus} + H^{\oplus}$$

A and $A^{\ominus}$ have different colours. The colour of the solution during the titration depends on their relative concentrations, which in turn depends on the pH of the solution and the acid dissociation constant of the indicator (k_A). A colour change is visible approximately from $[A] = 10[A^{\ominus}]$ to $[A] = 0.1\,[A^{\ominus}]$, so the pH range for the colour change is given by $(0.1 - 10)\,k_A$. A typical example is **Methyl orange**.



(b) Argentimetric (adsorption)

The end-point of a precipitation titration of substances (usually halides and pseudohalides) with silver ions can be detected by the change in colour of certain compounds adsorbed on the precipitate. The colour change results from a change of the charge on the precipitate surface at the equivalence point, which leads to a change in the light absorption properties of the adsorbed indicator. The best-known example is **Fluorescein**, which changes from colourless to pink when silver ions become in excess in the solution.

(c) Complexímetric

Almost all complexímetric titrations of metal ions are carried out with EDTA or related compounds as titrant. The equivalence point, when all the metal ion has just been complexed by titrant, can be located by using chromogenic complexing agents which form significantly weaker complexes with the metal ion than does EDTA. The final drops of titrant remove the metal ion from its coloured complex, thus causing an abrupt colour change. A large range of spectrophotometric reagents for metals can be used as complexímetric indictors. Typical examples are **Xylenol orange** (an iminodiacetic acid derivative) and **Chrome black special** (Eriochrome black T, an azo dye). A limited number of fluorescent indicators is also available. These become fluorescent when their metal chelates are dissociated at the end-point.

(d) Redox

The equivalence point of a given redox titration occurs at a particular electrochemical potential, governed by the standard redox potentials of the reactants and the reaction conditions. A redox indicator is a compound that reversibly changes its colour (or, rarely, luminesces) at a particular potential. Thus the indicator is chosen so that its transition potential overlaps the equivalence potential of the titration system.

There are two main types of indicator. One involves a complex of a metal ion, which changes colour when the oxidation state of the metal ion changes. The iron-1,10-phenanthroline system is a typical example, the iron(*II*) chelate (ferroin) being red, the iron(*III*) chelate (ferrion) being essentially colourless (actually very pale blue). The transition potential is about 1.1 *V*, so the indicator is very suitable for use in titrations with cerium(*IV*) in sulphuric acid. The second type of indicator comprises various types of organic compound (aromatic amines, triphenylmethane dyestuffs, for example) which can be oxidised and reduced reversibly, and change colour on doing so. ***N,N'*-Diphenylbenzidine** is a typical example.

Additional references

Bishop, E. (Ed.), *Indicators*, Pergamon, Oxford, 1972.

Polster, J. and Laehmann, H., *Spectrometric Titrations*, VCH, Weinheim, 1989.

1.10. Masking agent

A masking agent is a molecule that binds with another species to form a soluble product, thus preventing it from reacting with a particular analytical reagent and interfering with an analytical measurement. In most instances, such masking agents are complexing agents, and act by complexing with the potential interferent so that it does not participate in the

analytical reaction. The analytical reaction may itself be a complexing reaction, but also could be, for example, precipitation, a redox reaction (including an electrochemical process), or extraction. Some typical examples are given below. Small amounts of Cu(*II*) can be separated from Hg(*II*) by extraction with **Dithizone**, if a 1*M* bromide solution is used to mask (i.e. complex with) the Hg. Oxalate, tartrate or citrate can prevent precipitation of the hydrated oxides of Fe(*III*) or Al. Triethanolamine masks Al and Fe(*III*), thus allowing the titration of Ca with EDTA in the presence of these other ions using murexide as indicator. In this last example, the masking agent also prevents reaction of Fe(*III*) and Al with the indicator. These ions block the indicator action in that the Fe(*III*) and Al complexes of murexide are not broken down by EDTA.

Additional references

Ringbom, K., *Complexation in Analytical Chemistry*, Interscience, New York, 1963.

Perrin, D.D., *Masking and Demasking of Chemical Reactions*, Wiley-Interscience, New York, 1970.

Inczédy, J., *Analytical Applications of Complex Equilibria*, Akademiai Kiado, Budapest, 1976.

Hartley, F.R., Burgess, C. and Alcock, R.M., *Solution Equilibria*, Horwood, Chichester, 1980.

Kotrlý, S. and Sûcha, L., *Handbook of Chemical Equilibria in Analytical Chemistry*, Horwood, Chichester, 1985.

1.11. NMR shift reagent

Such reagents are used to disperse the NMR peaks obtained for certain types of compound over a larger frequency range, thus often allowing overlapping peaks to be separated. These reagents are usually complexes of the paramagnetic ions $Eu^{3\oplus}$ or $Pr^{3\oplus}$, e.g. the dipivalomethanato complex of Pr(*III*) [**Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)-praseodymium(*III*)**, $Pr(thd)_3$], generally dissolved in non-polar solvents such as CCl_4, $CDCl_3$ or C_6D_6, to avoid competition of the solvent with the analyte for sites on the metal ion. The shift is caused by the interaction with the analyte of the magnetic field generated by the large magnetic moment of the paramagnetic ions in the reagent complex.

Additional references

Flockhart, B.D., *Lanthanide Shift Reagents in NMR Spectroscopy*, Crit. Rev. Anal. Chem., 1976, p. 69.

Atta-ur-Rahman, *NMR Basic Principles*, Springer, New York, 1986.

Flockhart, B.D. and Burns, D.T., Organic Analytical Reagents in Nuclear Magnetic Resonance Spectroscopy, *Pure Appl. Chem.*, 1987, **59**, 915.

Popov, A.I. and Hallenga, K. (Eds.), *Modern NMR Techniques and their Application in Chemistry*, Dekker, New York, 1990.

1.12. Scintillator

A scintillator is a compound which, when dissolved in an appropriate solvent, is raised to an excited state by collision with β-particles. The β-particles mainly excite the solvent molecules, and the excitation energy is then transferred to the scintillator. The subsequent de-excitation results in the emission of a photon. Excitation is caused even by low energy β-particles, such as those emitted by ^{3}H, ^{14}C, ^{35}S and ^{125}I, so that the scintillation process is widely used to monitor such emitters, the detector being a photomultiplier tube. Scintillation counting is used in a wide range of analytical procedures, especially in radioimmunoassay and radiotracer studies.

The solvent used is usually an aromatic hydrocarbon (toluene or xylene are most common), or sometimes dioxan. The scintillator is a polyaromatic fluorophore, such as **2,5-Diphenyloxazole** (PPO). In the past it has sometimes been necessary to add a secondary scintillator to which the energy is transferred from the primary scintillator. Secondary scintillators, of which **2,2′-(1,4-Phenylene)bis-[5-phenyloxazole]** (POPOP) is the most well known, are somewhat larger molecules, with more delocalisation than the primary scintillators: they emit at longer wavelengths at which photomultiplier tube sensitivity is greater.

1.13. Spectrofluorimetric reagent

Relatively few organic compounds, and only a handful of inorganic species are sufficiently fluorescent to be detectable at trace levels by direct monitoring of their native fluorescence. In order to provide sensitive spectrofluorometric procedures for most analytes, therefore, reagents have to be used which convert the analyte into fluorescent derivatives. For metal ions, such reagents are generally chelating agents (and which can often also be used as extractants). A typical example is **8-Hydroxy quinoline**, which forms fluorescent chelates with a number of metal ions. For organic compounds, a wide variety of reagents is available, which themselves are generally highly fluorescent, and produce intensely fluorescent products. Typical reagents are **1,2-Benzenedicarboxaldehyde** or **Dansyl chloride**, which form fluorescent derivatives with amines. Some of these reagents are used as chromatographic

derivatizing agents in conjunction with fluorimetric detection.

Additional references

Parker, C.A., *Photoluminescence of Solutions*, Elsevier, Amsterdam, 1968.

Guilbault, G.G., *Practical Fluorescence: Theory, Methods and Techniques*, Dekker, New York, 1973.

Wehry, E.L. (Ed.) *Modern Fluorescence Spectroscopy*, Plenum, New York, 1976–81.

Snell, F.D., *Photometric and Fluorometric Methods of Analysis. Metals, Parts 1 and 2* (1978), *Non metals* (1981), Wiley-Interscience, New York.

Schulman, S.G. (Ed.) *Molecular Luminescence Spectroscopy, Vol. 1* (1985), *Vol 2* (1988), Wiley, New York.

Baeyens, W.R.G., De Keukelaire, D. and Korkidis, K. (Eds.) *Luminescence Techniques in Chemical and Biochemical Analysis*, Dekker, New York, 1991.

Dewey, T.G., (Ed.), *Biophysical and Biochemical Aspects of Fluorescence Spectroscopy*, Plenum, New York, 1991.

Wolfbeis, O.S. (Ed.), *Fluorescence Spectroscopy: New Methods and Applications*, Springer, Berlin, 1993.

1.14. Spectrophotometric reagent

Absorption spectrophotometry in the UV-visible region is arguably the most common analytical technique in current use, being employed in batch analysis, flow systems (including chromatography and electrophoresis), and in optical sensors (opt(r)odes). Many inorganic and organic species are sufficiently absorbing at particular wavelengths within the UV-visible range that they can be determined without further treatment. However, for poorly absorbing species, or for increasing the sensitivity or changing the wavelength at which absorbance measurements are made, reaction with appropriate reagents is commonplace. For metal ions, reaction with chromogenic chelating agents is the usual procedure. For example, iron(*II*) gives an intense red, water soluble complex with 1,10-phenanthroline $[Fe(1,10\text{-phen})_3]^{2\oplus}$ which has a molar absorptivity of 1.1×10^4 $1\,mol^{-1}\,cm^{-1}$. The most highly absorbing chelates have molar absorptivities of the order of 10^5 $1\ mol^{-1}\ cm^{-1}$, and consequently provide a means of high sensitivity detection.

There is a great variety of chromogenic reactions for inorganic compounds; sulphur dioxide, for example, is frequently determined spectrophotometrically after reaction with **Tris(4-aminophenyl)-methanol** (pararosaniline). There is also an extremely large selection of reagents available for organic compounds, either for classes of compounds (for example, amines, carbonyl compounds) or for individual species.

Additional references

Snell, F.D. and Snell, C.T., *Colorimetric Methods of Analysis, Including Photometric and Fluorimetric Methods, Vols I–IV, and various supplements up to Vol. IV AAA*, Van Nostrand Reinhold, (1919–1971).

Boltz, D.F. and Howell, J.A. (Eds.), *Colorimetric Determination of Nonmetals*, 2nd Edn., Wiley-Interscience, New York, 1978.

Sandell, E.B. and Onishi, H. *Photometric Determination of Traces of Metals. General Aspects*, 4th Edn., Wiley-Interscience, New York, 1978.

Thomas, L.C. and Chamberlain, G.J., *Colorimetric Chemical Analytical Methods*, 9th Edn., Tintometer, Salisbury, 1980.

Onishi, H. *Photometric Determination of Traces of Metals. Part IIA: Individual Metals, Aluminium to Lithium* (1986), *Part IIB: Individual Metals, Magnesium to Zirconium* (1989), 4th Edn., Wiley-Interscience, New York.

Marczenko, Z., *Separation and Spectrophotometric Determination of Elements,* 2nd Edn., Horwood, Chichester, 1986.

Nowicka-Jankowska, T., Gorczyński, K., Michaelik, A. and Wieteska, E., *Analytical Visible and UV Spectroscopy (Wilson and Wilson, Vol. XIX)*, Elsevier, Amsterdam, 1986.

Malat, M., *Extrakční Spektrofotometrie Kovů a Nekovú*, SNTL, Prague, 1988.

Sommer, L., *Analytical Absorption Spectrophotometry in the Visible and UV Region*, Elsevier, Amsterdam, 1989.

Ackermann, G., Sommer, L. and Burns, D.T., in *Handbook of Chemistry and Physics*, 74th Edn., CRC Press, Boca Raton, 1993.

1.15. Surfactant

Surfactants find a variety uses in analytical processes. One is the formation of micelles (or microemulsions) which can provide protective environments for analytes or reagents which may enhance stability, or luminescence intensity, for example, or allow reagents to act in conditions not normally accessible to them. They also find application in sample pretreatment including flotation procedures, electroanalytical measurements (e.g. suppression of polarographic maxima) and flow systems.

Additional references

Sebba, F., *Ion Flotation*, Elsevier, Amsterdam, 1962.
Lemlich, R. (Ed.), *Adsorptive Bubble Separation Techniques*, Academic Press, New York, 1972.
Diaz Garcia, M.E. and Sanz-Medel, A., Dye-Surfactant Interactions: A Review, *Talanta*, 1986, **33**, 255.
Caballero, M., Cela, R. and Perez-Bustamante, J.A., Analytical Applications of some Flotation Techniques, *Talanta*, 1990, **37**, 275.

1.16. Titrant

A titration is the process of determining the quantity of a substance by adding measured increments of another substance, the titrant. The latter is almost always added as a standardised solution (or by electrolyte generation, as in a coulometric titration). The end-point of the titration, which should indicate the addition of an exact chemical equivalence, is recognized by a visual indicator or instrumentally. Titrations are based on acid-base reactions (for determination of acids or bases), redox reactions (for determining oxidants or reductants), chelating reactions (usually with EDTA-type compounds, for determination of metal ions) or precipitations (usually of halides or pseudohalides with silver ions).

Additional references

Kolthoff, I.M., Stenger, V.A. and Belcher, R., *Volumetric Analysis*, Interscience, New York, 1942–57.
Berka, A., Vulterin, J. and Zyka, J., *Newer Redox Titrants*, Pergamon, Oxford, 1965.
Schwarzenbach, G., Flaschka, H. and Irving, H.M.N.H., *Complexometric Titrations*, 2nd Edn., Methuen, London, 1969.
West, T.S., *Complexometry with EDTA and Related Reagents*, 3rd Edn., BDH Chemicals, Poole, 1969.
Erdey, L. and Svehla, G., *Ascorbinometric Titrations*, Akadémiai Kiadó, Budapest, 1973.
Svehla, G., *Automatic Potentiometric Titrations*, Pergamon, Oxford, 1978.
Šafařík, L. and Stránský, Z., *Titrimetric Analysis in Organic Solvents*, Elsevier, Amsterdam, 1986.
Oehme, F. and Richter, W., *Instrumental Titration Techniques*, Hüthig, Heidelberg, 1987.

1.17. Turbidimetric/Nephelometric reagent

Many analytes can be determined by measuring the light-scattering that occurs after they have been converted into a colloidal suspension by addition of a suitable reagent under appropriate conditions. The reagents used are generally precipitants, but the conditions for the reaction are chosen so that a highly dispersed precipitate is formed. In turbidimetry, the light absorbed by the suspension is measured (equivalent to spectrophotometry), whereas in nephelometry the intensity of the scattered light is monitored.

Additional reference

Bobtelsky, M., *Heterometry*, Elsevier, Amsterdam, 1960.

2. Description of main classes of analytical reagents

The ability of a reagent to react with metal ions is generally derived from a particular feature of the molecule, the functional group, as was clearly stated by Feigl many decades ago. For example, all molecules containing the grouping —N=C—C=N— will be expected to complex strongly with Fe(*II*) and Cu(*I*), and form highly coloured chelates. Compounds bearing the HN—C=S grouping will bind strongly with Hg(*I*), (*II*), Ag(*I*) and the noble metal ions. The measurable properties of the complexes formed depend on other features of the reagent, such as the presence of chromophoric groups (in a spectrophotometric reagent) or of electroactive groups (in an electroanalytical reagent).

This Dictionary classifies such reagents, where appropriate, on the basis of the following most commonly encountered functional groups or compound types.

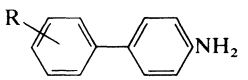
Additional references

Feigl, F., *Chemistry of Specific, Selective and Sensitive Reactions*, Academic Press, New York, 1949.
Kodama, K., *Methods of Quantitative Inorganic Analysis*, Interscience, New York, 1963, pp. 45–142.

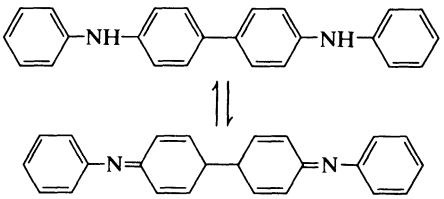
See also the references to the introductory section of this Chapter.

2.1. Aminobiphenyl compounds

Compounds with the general structure:



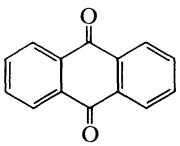
and related compounds are used analytically in two ways. One is as a precipitant for certain oxoanions, especially sulphate. The traditional reagent was benzidine **(4,4′-Diaminobiphenyl)** but it is no longer used because it is a carcinogen. Alternative, non-carcinogenic derivatives are available, such as **4-Amino-4′-chlorobiphenyl**. The other uses of such compounds are as redox indicators. ***N,N′*-Diphenylbenzidine** is a typical example, which is reversibly oxidized to *N,N*-diphenylbenzidine violet:



This indicator is used in iron(*II*) - dichromate titrations.

2.2. Anthraquinones

Anthraquinone itself is:



Many of its hydroxy derivatives form strong complexes with metal ions. For example, Alizarine **(1,2-Dihydroxyanthraquinone)** forms coloured suspensions or solutions by complexing with one of a wide range of metal ions, including Zr, Th, Ga, In, Ti and U. The red-violet Zr(*IV*) chelate is decolourised by $F^{\ominus}$, by preferential complexation of $F^{\ominus}$ with Zr(*IV*), thus providing the basis of a popular spectrophotometric method for the determination of fluoride.

Alizarine fluorine blue is the 3-methylamino-*N,N*-bisacetic acid derivative of alizarine, the Ce or La chelate of which binds with fluoride ions to form a ternary complex. This was the first reagent that could be used for the direct spectrophotometric determination of fluoride.

2.3. Azo compounds

Azo compounds, especially those with at least one coordinating group on an aromatic ring ortho to the azo group, form strongly bound, highly coloured metal chelates, and thus find use as spectrophotometric reagents and complexiметric indicators. Many of these compounds were originally developed as dyestuffs, and are classified in the Colour Index. A typical example is **Chrome black special** which forms a red, soluble chelate with $Mg^{2\oplus}$ and can thus be used as an indicator for the EDTA titration of $Mg^{2\oplus}$, and as a spectrophotometric reagent for that metal. Other azo compounds, such as **1-(2-Pyridylazo)-2-naphthol** (PAN) were developed specifically as metallochromic reagents.

Hydroxy-substituted azo compounds frequently exhibit tautomerism which can lead to difficulties with nomenclature and CAS registration (see note in Introduction).

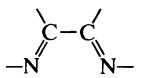
Additional reference

Anderson, R.G. and Nickless, G., Heterocyclic Azo Dyestuffs in Analytical Chemistry, *Analyst*, 1967, **92**, 207.

Hovind, H.R., Thiazolylazo Dyes and their Application in Analytical Chemistry, *Analyst*, 1975, **100**, 769.

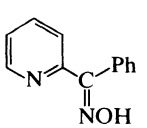
2.4. 2,2-Bipyridyl and related compounds:

Compounds containing the functional group:



chelate with many metal ions via the two nitrogen atoms. However, of the common metal ions only Cu(*I*) and Fe(*II*) produce intensely coloured complexes which are used for spectrophotometric measurements and, in the case of the iron(*II*) complexes, as redox indicators. The complexes of the other metal ions are colourless, absorbing only in the UV region. This allows such ligands to be used as effective masking agents for these other metal ions. The generic example of such a compound is **2,2′-Bipyridine** (bipy) which forms charged and therefore water soluble complexes of the type $[Fe(bipy)_3]^{2\oplus}$. Considerable effort has been made to synthesize more elaborate derivatives which have improved analytical properties such as greater molar absorptivity or changed redox potential for its iron(*II*) complex.

Many other reagents contain this functional group, including phenyl-2-pyridyl ketoxime



and **Dimethylglyoxime**.

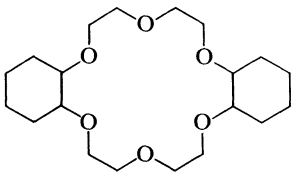
Additional references

Diehl, H. and Smith, G.G., *The Copper Reagents: Cuproine, Neocuproine, Bathocuproine*, G.G. Smith Chemical Co., Columbus, Ohio, 1958.

Schilt, A.A., *Analytical Reactions of 1,10-Phenanthroline and Related Compounds*, Pergamon, Oxford, 1969.

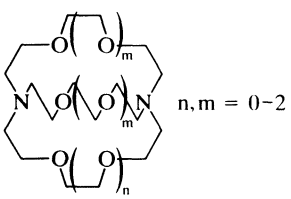
2.5. Crown ethers and cryptands

Crown ethers are macrocyclic polyethers, forming charged metal ion complexes by ion-dipole interactions. These complexes, with an appropriate counter-ion, are usually soluble in organic solvents. A simple example is dicyclohexyl-18-crown-6 (18 atoms in the ring, 6 heterocyclic oxygen atoms).



Selectivity is achieved in such reagents by changing the size and shape of the cavity, introduction of other heteroatoms, etc. Of the simple crown ethers, potassium is most strongly complexed by dicyclohexyl-18-crown-6 because the cavity diameter (0.26–0.32 nm) is almost the same as that of the potassium ion (0.27 nm), but a ring of 15–18 atoms binds more strongly to the smaller sodium ion, and one of 18–21 atoms is optimal for the larger caesium ion. Such reagents can be used for extraction of metal ions, especially the alkali and alkaline earth metals, and can be used in ion-selective electrodes for such cations. Addition of chromophores to the basic crown structure produces spectrophotometric extractants and reagents that can be used in ion-selective opt(r)odes.

Cryptands are essentially 3-dimensional (cage) analogues of crown ethers. A simple series of cryptands is as follows:



They bind strongly with alkali metal ions that can be accommodated within the cage. Their uses are similar to those of the cryptands, as are those of the calixarenes and spherands, which are similar molecules with a partial cage structure.

Additional references

Lindsay, L.F., *The Chemistry of Macrocyclic Ligand Complexes*, Cambridge Univ. Press, Cambridge, 1989.

Cooper, S.R., (Ed.), *Crown Compounds. Towards Future Applications*, VCH, New York, 1992.

Hiraoka, M. (Ed.), *Crown Ethers and Analogous Compounds*, Elsevier, Amsterdam, 1992.

2.6. Dansyl compounds

These are compounds that are used to react with non-fluorescent organic compounds to produce fluorescent derivatives, which can then be determined directly by spectrofluorimetry, or by liquid chromatography with fluorescence detection. For example, amines may be determined by coupling with dansyl chloride (**5-Dimethylamino-1-naphthalenesulfonyl chloride**)

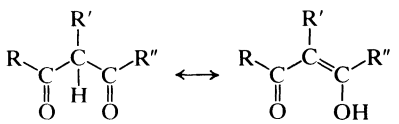
2.7. Diazo compounds

Diazonium compounds ($R–N_2^{\oplus}$) are used to couple to aromatic rings, thus producing intensely coloured derivatives which can be monitored by spectrophotometry. Reaction with 8-quinolinol (**8-Hydroxyquinoline**) is a typical example. They are also used for coupling with enzymes in order to produce immobilised enzymes in order to produce immobilised enzymes, or for labelling antibodies.

Diazo compounds such as **4-Diazobenzenesulfonic acid** gives colours on reaction with H_2S and certain other inorganic species.

2.8. β-Diketones

These compounds have the general formulae:



They form strongly bound chelates with a wide range of metal ions. Generally the chelates are uncharged, and are readily soluble in organic solvents. The aluminium chelate, for example, is AL_3. Such reagents are widely used for liquid-liquid extraction of metal ions. They also find use as spectrophotometric reagents, as ligands for producing volatile metal chelates which can be used for gas chromatographic separation of metal ions, and, more recently, for use in liquid chromatography of metal ions. Certain rare earth β-diketone chelates have also been used as fluorescent labels in immunoassay procedures

where a relatively long-lived emission is required to distinguish the analyte signal from endogenous matrix emissions.

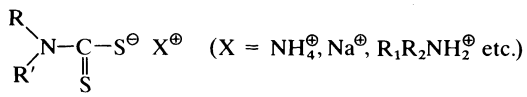
Additional references

Starý, J. and Hladký, E., Systematic Study of the Solvent Extraction of Metal β-Diketonates, *Anal. Chim. Acta*, 1963, **28**, 227.

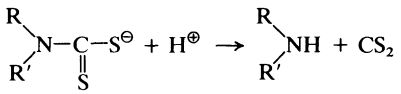
Mehrota, R.C., Bohra, R. and Gaur, D.P., *Metal β-Diketonates and Allied Derivatives*, Academic Press, London, 1978.

2.9. Dithiocarbamates

A wide range of dithiocarbamates has been investigated as potential analytical reagents for metal ions, largely as extractants followed by spectrophotometric measurement. The compounds have the general formula:



and form uncharged chelates with metal ions, such as CuL_2, by binding via the S and, probably, N atoms. The compounds break down in sufficiently acidic solution:



Additional references

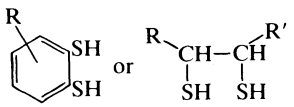
Thorn, G.D. and Ludwig, R.A., *The Dithiocarbamates and Related Compounds*, Elsevier, Amsterdam, 1962.

Hulanicki, A., Complexation Reactions of Dithiocarbamates, *Talanta*, 1967, **14**, 1371.

Bajo, S., Calculation of the Optimal Experimental Conditions for Liquid-liquid Extractions with Diethyldithiocarbamic acid, *Anal. Chim. Acta*, 1979, **105**, 281.

2.10. Dithiols

These are usually 1,2-dithiols:



which form precipitates with heavy metals and As and Sb in acidic aqueous media. The precipitate can usually be extracted into organic solvents for spectrophotometric measurements. Such reagents have also been used to prevent interference by certain metals in EDTA titrations.

2.11. Dithizone derivatives

Dithizone (PhN=NCSNHNHPh) forms uncharged, water insoluble complexes with most heavy metals, especially Hg (forming HgL_2), Ag and Cu, which can be extracted into organic solvents and measured spectrophotometrically. Various derivatives of dithizone have been prepared in an attempt to improve on its analytical properties and its stability. Its metal complexes are subject to photochemical decomposition. Dithizones are potentially capable of tautomerism to SH-forms, leading to difficulties of nomenclature and CAS registration (see note on page xi).

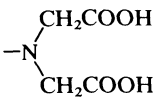
Additional references

Irving, H.M.N.H., *Dithizone*, Chemical Society, London, 1977.

Irving, H.M.N.H., The Analytical Applications of Dithizone, *Crit. Rev. Anal. Chem.*, 1980, **8**, 321.

2.12. EDTA-type compounds

Compounds containing the iminodiacetic acid functional group:

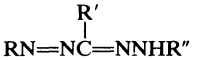


chelate with most metal ions via the nitrogen and oxygen atoms in many instances forming very strongly bound water soluble complexes. Molecules of this type, especially EDTA (**Ethylenediaminetetraacetic acid**) itself are used as complexiметric titrants for metal ions because the chelates formed are almost always 1 : 1 metal : ligand species, and are colourless unless the metal ion itself is coloured. Such compounds are also very useful masking agents for metal ions.

Introduction of the iminodiacetic acid group into highly coloured molecules produces chromogenic metal binding reagents that form water soluble complexes. Such reagents (of which **Xylenol orange** is typical) are employed as very sensitive spectrophotometric reagents or as indicators for complexiметric titrations.

2.13. Formazans

Formazans have the general formula:

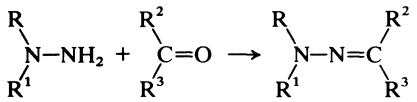


They bind transition metal ions to form highly coloured, extractable metal chelates.

Formazans exhibit tautomerism which can lead to difficulties with nomenclature and CAS registration (see note in Introduction).

2.14. Hydrazine derivatives and hydrazones

Hydrazones are formed from the reaction between hydrazine derivatives and carbonyl compounds:



These are usually highly coloured, and are widely used for detection and spectrophotometric determination of carbonyl compounds.

Many hydrazones form highly coloured chelates with metal ions, and thus find use as spectrophotometric reagents. **2-Pyridinecarboxaldehyde 2-pyridylhydrazone** is a typical example. **Luminol** is also a hydrazine derivative, widely used for its chemiluminescent property.

Additional references

Přibil, R., *Analytical Applications of EDTA and Related Compounds,* Pergamon, Oxford, 1972.

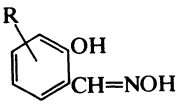
Kaytal, M. and Dutt, T., Analytical Applications of Hydrazones, *Talanta*, 1975, **22**, 151.

Singh, R.B., Jain, P. and Singh, R.P., Hydrazones as Analytical Reagents, *Talanta*, 1982, **29**, 77.

2.15. Hydroxylamine derivatives

A number of types of compound can be considered as hydroxylamine derivatives. *Hydroxamic acids* have the general formula RC(OH)NOH and can be used to precipitate or extract a range of metal ions, including Zr, Th, Fe and Cr. **Cupferron** (ammonium *N*-nitroso-*N*-phenylhydroxylamine) and *N*-substituted phenylhydroxylamines such as ***N*-Benzoyl-*N*-phenylhydroxylamine** behave similarly to the hydroxamic acids, and are used for similar purposes.

Numerous other oximes and nitroso compounds are also used as reagents for metal ions, including hydroxyoximes such as salicylaldoxime and derivatives:



α-Dioximes and α-ketomonoximes are discussed separately below.

Additional reference

Majundar, A.K., *N-Benzoylphenylhydroxylamine and its Analogues*, Pergamon, Oxford, 1972.

2.16. Organophosphorus compounds

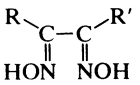
Such compounds find extensive use as metal ion extractants. Solutions of compounds such as **Tributylphosphate** (TBT) in cyclohexane or CCl_4 enable salts such as $UO_2(NO_3)_2$ and $Th(NO_3)_4$ to be extracted because the TBT solvates the metal ion via its strongly basic oxygen, forming, e.g. $UO_2(NO_3)_2 . 2TBT$. Phosphonium ions such as **Tetraphenylphosphonium (1+)** $[PPh_4]^{\oplus}$ are used as ion-pairing cations for the extraction of anions such as $ClO_4^{\ominus}$, $ReO_4^{\ominus}$ and $SbCl_6^{\ominus}$. Quaternary ammonium salts and arsonium salts behave similarly. Some phosphoric acids have been proposed as metal ion precipitants.

Additional reference

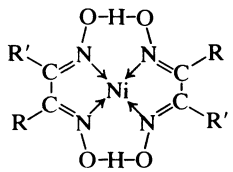
Burns, D.T., Ions Pairing: A Marriage of Analytical Convenience, *Anal. Proc.*, 1982, **19**, 355.

2.17. Oximes: α-dioximes

α-Dione dioximes:



have achieved greatest fame as precipitants for Ni and Pd ions, forming uncharged chelates such as:



The Ni and Pd chelates are insoluble in water not only because they are uncharged, but also because the molecules stack along an axis of Ni–Ni bonds. The complexes of other metal ions, such as $Co^{2\oplus}$ or $Fe^{2\oplus}$ are coloured but are soluble because of the lack of metal-metal bonding. Soluble complexes can be used for spectrophotometric measurements.

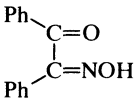
Additional references

Egneus, B., Investigation of Dioximes and their Metal Complexes: A Survey of the Literature since 1963, *Talanta*, 1972, **19**, 1387.

Singh, R.B., Garg, B.S. and Singh, R.P., Oximes as Spectrophotometric Reagents – A Review, *Talanta,* 1979, **26**, 425.

2.18. Oximes: α-ketomonoximes

α-Ketomonoximes have achieved limited popularity as analytical reagents, as precipitants or extractants for metal ions. 4-Isonitroso-3-methyl-*N*-phenyl-5-pyrazolone (**3-Methyl-1-phenyl-1H-pyrazole-4,5-dione 4-oxime**) and violuric acid (**2,4,5,6(1*H*,3*H*)-Pyrimidinetetrone 5-oxime**) give coloured precipitates or soluble complexes with several metal ions. α-Benzilmonoxime and related compounds behave similarly:



Ketomonoximes frequently exhibit tautomerism which can lead to difficulties with nomenclature and CAS registration (see note in Introduction).

2.19. Phenazines and Phenothiazines

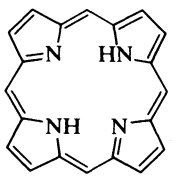
Phenazines form precipitates with Cu(*I*) and Hg, and form coloured complexes with Bi, Cd and Pb. **Phenothiazine** reacts with Ag, Fe and Pd.

2.20. Phenylfluorones

Phenylfluorones are a variety of chelating xanthene molecules which form sparingly soluble coloured complexes with certain inorganic species. Phenylfluorone (**2,6,7-Trihydroxy-9-phenyl-3*H*-xanthen-3-one**) itself, for example, forms a reddish suspension with Ge(*IV*), Ga(*III*), Sn(*IV*), SB(*III*) and other species. The coloured suspensions can be stabilized with a protective polymer such as poly(vinyl alcohol) for spectrophotometric measurement.

2.21. Porphines

These are molecules based on the porphyrin type structure:



They are used as chromogenic chelating agents for transition metals.

2.22. Quaternary ammonium salts

Compounds of general formula $RR^1R^2R^3N^{\oplus}X^{\ominus}$ are widely used as extractants by forming ion-pairs with anions, including anionic complexes (e.g. $PtCl_6^{2\ominus}$) and heteropoly anions (e.g. 12-molybdophosphate) as well as simple anions such as $SCN^{\ominus}$ and $MnO_4^{\ominus}$. Compounds of this type also find use as cationic surfactants.

Additional references

Bowd, A.J., Burns, D.T. and Fogg, A.G., Analytical Aspects of Organo P, As, Sb, S, Se, Te and Sn(IV) (Onium cations), *Talanta*, 1969, **16**, 719.

Keller, W.E., *Compendium of Phase-Transfer Reactions and Related Synthetic Methods*, Fluka, Buchs, 1979.

Burns, D.T., Ion Pairing: A Marriage of Analytical Convenience, *Anal. Proc.*, 1982, **19**, 355.

2.23. 8-Quinolinol derivatives

8-Quinolinol (**8-Hydroxyquinoline**, oxine, HQ) is a classical organic reagent for metal ions.

It forms coloured, often fluorescent metal chelates such as AlQ_3 and ZnQ_2. These complexes are uncharged and precipitate from aqueous solution, so can be used for gravimetric purposes. The chelates can be extracted into various water-insoluble organic solvents, thus providing a means of separating and preconcentrating metal ions, and of spectrophotometric or spectrofluorimetric determination. Numerous derivatives have been synthesised in attempts to improve the analytical properties of these reagents. The 8-thio derivative, **8-Quinolinethiol**, also complexes strongly with a wide range of metal ions, especially the 'heavy' and noble metals. Coloured precipitates are again formed.

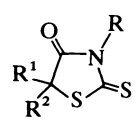
Additional references

Hollingshead, R.G.W., *Oxine and its Derivatives, Vols. 1–4,* Butterworths, London, 1954–6.

Starý, J., Systematic Study of the Solvent Extraction of Metal 8-Hydroxyquinolinates, *Anal. Chim. Acta*, 1963, **28**, 132.

2.24. Rhodanines

Rhodanines are 5-membered heterocyclic compounds of the general form:



They react with Cu(*I*), Ag(*I*), Hg(*I*), (*II*) and the noble metals. When R = H, reaction occurs with loss of $H^{\oplus}$, to give polymeric, insoluble complexes, with bonding to S and N. Incorporation of a chromogenic group at R^1R^2 gives highly coloured colloidal complexes. When R is an alkyl or aryl group, and

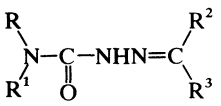
R^1R^2 is a chromogen, intense colours are again produced by the above metal ions, but the mechanism of the reaction is unclear.

Additional reference

Stephen, W.I. and Townshend, A., Some Derivatives of Rhodanine as Analytical Reagents, *Anal. Chim. Acta,* 1965, **33**, 257.

2.25. Semicarbazones

Semicarbazides react with carbonyl compounds to produce semicarbazones:



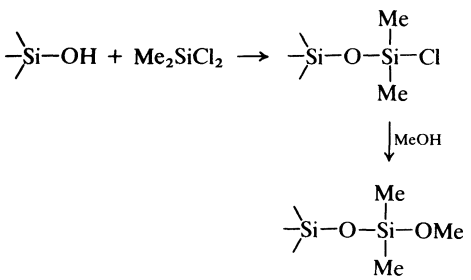
which are used for characterising carbonyl compounds. Many semicarbazones from highly coloured metal chelates which are used for spectrophotometric determination of metals. A few derivatives have also found use as gravimetric and spectrofluorimetric reagents.

Additional reference

Singh, R.B., Garg, B.S. and Singh, R.P., Analytical Applications of Thiosemicarbazones and Semicarbazones – A Review, *Talanta*, 1978, **25**, 619.

2.26. Silyl derivatives

There are many areas of analytical chemistry in which silyl compounds are useful. In gas chromatography, 'active' OH groups on the solid phase silicate material can be deactivated by silanization, by treatment, for example, with dimethyl dichlorosilane:



The volatility of many compounds can be increased by silanization, so as to improve their amenability to gas chromatographic separation. Trimethylsilylimidazole in pyridine is a typical reagent, useful for carbohydrate silylation. Silylating agents also find use in solid phase pretreatment for attachment of enzymes, antibodies or chelating moieties.

2.27. Thiazoles and related compounds

The most common thiazole used analytically is 2-mercaptobenzothiazole (**2-Benzothiazolethiol**), related to rhodanine, and which precipitates a range of metal ions ($Ag^{\oplus}$, $Pb^{2\oplus}$, $Cu^{\oplus}$, and the noble metals). **2-Mercaptobenzimidazole** and its derivatives behave similarly.

2.28. Thiourea derivatives

Thiourea (Tu) and its derivatives ($RR'NCSNR^2R^3$) form strongly bound, water soluble complexes with Ag and the noble metals in acidic media. The Ag complex, for example, is $[AgTu_3]^{\oplus}$, so that thiourea under these conditions serves as an excellent masking agent for Ag. As the pH is increased, however, the nature of the reaction changes, with the thiourea reacting similarly to dithizone or rhodanine, with release of a proton and forming a precipitate.

1-Phenylthiosemicarbazide and its derivatives react with many metal ions, including those of the noble metals, to give coloured complexes which may be used for spectrophotometric determination.

Additional reference

Campbell, M.J.M., *Coord. Chem. Revs.*, 1975, **15**, 279.

2.29. Triphenylmethane dyes

A number of valuable metallochromic reagents are based on the triphenylmethane structure. A typical example is **Pyrocatechol violet** which is an acid-base indicator, as well as forming coloured (usually blue) chelates with a wide range of metal ions. Compounds such as **Xylenol orange** are also based on this structure, with the addition of two iminodiacetic acid groups.

Highly fluorescent compounds such as **Rhodamine B** which are used as fluorescent sensitizers, or as a fluorescent ion-pair extractants for bulky anions, are also based on the triphenylmethane structure.

Additional reference

Fogg, A.G., Burgess, C. and Burns, D.T., Use of Basic Dyes in the Determination of Anions, *Talanta*, 1971, **18**, 1175.

2.30. Xanthates

The xanthates are compounds of the type $ROCSS^{\ominus}$, usually available as alkali metal salts. They form water insoluble complexes with a wide range of transition metal ions, which are readily extracted into organic solvents.

Additional reference

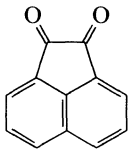
Donaldson, E.M., Solvent Extraction of Metal Xanthates, *Talanta*, 1976, **23**, 417.

A

Acenaphthenequinone A-00001

1,2-Acenaphthylenedione, 9CI. 1,2-Dioxoacenaphthene

[82-86-0]



$C_{12}H_6O_2$ M 182.178

Has bactericidal and fungicidal props. Yellow needles (AcOH). Mp 243-245°, Mp 261°.

Monohydrazone: Yellow prisms. Mp 241°.

Monophenylhydrazone: Orange needles (EtOH). Mp 179°.

Bisphenylhydrazone: Yellow needles (AcOH). Mp 219°.

Monothiosemicarbazone: [95264-76-9]. *2-(2-Oxo-1(2H)-acenaphthylenylidene)hydrazinecarbothioamide, 9CI*

$C_{13}H_9N_3OS$ M 255.300

Used as 3m*M* soln. in DMF for photometric detn. of Ru (λ_{max} 655 nm, ε 9800) and Pt (λ_{max} 515 nm, ε 12000), Os (λ_{max} 525 nm, ε 15000) and Ir (λ_{max} 520 nm, ε 4900). Cryst. (EtOH). Sol. DMF, EtOH.

Monoxime: [33489-49-5].

$C_{12}H_7NO_2$ M 197.193

Used as 0.1*M* soln. in EtOH for photometric detn. of Ru, Pt, Os, Rh. Prisms (EtOH), yellow cryst. (AcOH). Sol. EtOH, AcOH; spar. sol. H_2O. Mp 230° dec. (prisms), Mp 207° dec. (cryst.).

Dioxime: [1932-08-7].

$C_{12}H_8N_2O_2$ M 212.207

Used as 1m*M* EtOH soln. for extraction-photometric detn. of Co (λ_{max} 370 nm, ε 12800, $CHCl_3$), Ni, Cu. Cryst. Sol. EtOH, DMF, dioxan; insol. H_2O, C_6H_6. Mp 221-222°.

Org. Synth., 1944, **24**, 1 (*synth*)

Sah, P.T. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1950, **69**, 1545 (*synth, thiosemicarbazone*)

Nath Singh, S. *et al*, *Curr. Sci.*, 1967, **36**, 624 (*ir*)

Staples, T.L. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 5022 (*uv*)

Sindhwani, S.K. *et al*, *Anal. Chim. Acta*, 1971, **55**, 409 (*monoxime, detn, Ru*)

Cohen, A. *et al*, *J. Org. Chem.*, 1972, **37**, 3147 (*ms*)

Sindhwani, S.K. *et al*, *Talanta*, 1973, **20**, 248 (*monoxime, detn, Pt*)

Borisova, T., *Zh. Anal. Khim.*, 1973, **28**, 1820 (*detn, Ni, synth*)

Kuse, S. *et al*, *Anal. Chim. Acta*, 1974, **70**, 65 (*synth, use, dioxime*)

Singh, S.K. *et al*, *Analusis*, 1986, **14**, 247 (*thiosemicarbazone, detn, Ir*)

Singh, S.K. *et al*, *Bull. Chem. Soc. Jpn.*, 1986, **59**, 1223 (*thiosemicarbazone, detn, Ru, Pt*)

Acetaldehyde, 9CI A-00002

Ethanal

[75-07-0]

H_3CCHO

C_2H_4O M 44.053

Manuf. by hydration of acetylene, oxidn. of ethanol etc. Intermed. in respiration. Toxic intermed. in ethanol metab. in humans. Widely distributed in essential oils and other plant products. Chemical intermed. used in manuf. of pentaerythritol, peracetic acid, pyridines. Declining as source of acetic acid. Various acetals are used in perfumery. Misc. H_2O, org. solvs. d_4^{20} 0.778. Mp −121°. Bp 21°. pK_{a1} 13.57 (25°) (hydrate). n_D^{20} 1.3316. Readily polymerises. Crit. point 181.5°/63.2 atm.

▷ Mod. toxic, TLV 180. Extremely flammable, fl. p. −38°. AB1925000.

2,4-Dinitrophenylhydrazone: Yellow plates (EtOH) or orange cryst. Mp 163.5-164.5° (yellow form), Mp 146° (orange form).

Oxime: [107-29-9]. *Acetaldoxime. Aldoxime. Ethylidenehydroxylamine*

C_2H_5NO M 59.068

Colorimetric reagent for Co, Cu, Ni. Needles. Sol. H_2O. Mp 47°. Bp 115°. Exists in 2 cryst. modifications.

▷ Highly toxic. AB2975000.

Semicarbazone: Needles (H_2O or EtOH). Mp 163°.

Di-Me acetal: 1,1-Dimethoxyethane

$C_4H_{10}O_2$ M 90.122

Synthetic reagent. Bp 64.5°.

▷ Mod. toxic, highly flammable, fl. p. 1°.

Cyanohydrin: see *2-Hydroxypropanoic acid, H-00516*

Dimedone deriv.: Cryst. (EtOH). Mp 141-142°.

Wertheim, E., *J. Am. Chem. Soc.*, 1922, **44**, 2658 (*synth*)

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **3**, 339 (*use, oxime*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 4.

Austin, G.T., *Chem. Eng.* (*N.Y.*), 1974, **81**, 127 (*rev, manuf*)

Kalinowski, H.O. *et al*, *Org. Magn. Reson.*, 1974, **6**, 305 (*cmr*)

Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **1**, 97 (*bibl*)

Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 159.

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AAG250, AAH250.

Acetamide, 9CI A-00003

[60-35-5]

H_3CCONH_2

C_2H_5NO M 59.068

Isol. from some plants e.g. *Chimonanthus fragrans*. Solubiliser, plasticiser, stabiliser, used industrially as solv. in molten form. Dissolves virtually all classes of organic and inorganic compds. Deliquescent, hexagonal cryst. Odourless when pure but usually has characteristic "mouse" odour. V. sol. H_2O, EtOH; sol. $CHCl_3$; prac. insol. Et_2O. Mp 82-83°. Bp 222°, Bp_5 92°. Triboluminescent.

▷ Mild irritant, exp. carcinogen. AB4025000.

B,½ HBr: [20731-46-8].

Reagent for brominating acid-sensitive compds. Needles. Mp 138-139°.

Picrate: Mp 117°.

N-*Hydroxy*, N-*Ph:* see N-*Phenylhydroxylamine*, *P-00135*

Org. Synth., Coll. Vol., 1, 1932, 3 (*synth*)
Robson, J.H. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 498 (*deriv*)
Marakami, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1962, **35**, 11 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 3.
Ueki, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1971, **44**, 1108 (*deriv*)
Ottersen, T., *Acta Chem. Scand., Ser. A*, 1975, **29**, 944 (*cryst struct*)
Kerridge, D.H., *Chem. Soc. Rev.*, 1988, **17**, 181 (*rev*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AAI000.

Acetamidoxime, 8CI A-00004

N-*Hydroxyethanimidamide*, *9CI*

[22059-22-9]

$H_3CC(NH_2)=NOH$

$C_2H_6N_2O$ M 74.082
Used in photometric detn. of Ni. Cryst. Sol. EtOH, H_2O, dioxan. Mp 140°. Hygroscopic.

▷ AC6900000.

B,HCl: [5426-04-0].
Cryst. Mp 140-142°.

O-*Formyl:*
$C_3H_6N_2O_2$ M 102.093
Cryst. (hexane). Mp 29°.

O-*Ac:*
$C_4H_8N_2O_2$ M 116.119
Cryst. (C_6H_6). Mp 96°.

O-*Benzyl:*
$C_9H_{12}N_2O$ M 164.207
Pale-yellow oil. Bp 200°.

O-*Benzyl; B,HCl:* Cryst. Mp 163°.

N-*Ph:* [5661-30-3]. N-*Hydroxy*-N′-*phenylethanimidamide*, *9CI. Acetanilidoxime*
$C_8H_{10}N_2O$ M 150.180
Large brown-yellow plates. Mp 121°.

Nordmann, E., *Ber.*, 1884, **17**, 2746 (*synth, deriv*)
Lenaers, R. *et al*, *Helv. Chim. Acta*, 1962, **45**, 441 (*synth*)
Eloy, F. *et al*, *Bull. Soc. Chim. Belg.*, 1964, **73**, 518 (*deriv*)
Masuda, N. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1973, **22**, 1196; *CA*, **80**, 78089g (*detn, Ni*)
Bedford, C.D. *et al*, *J. Med. Chem.*, 1986, **29**, 2174.

(Acetato-*O*)phenylmercury A-00005

Phenylmercury acetate. Acetoxyphenylmercury. Maysan. Ceresol. Acetoxymercuribenzene

PhHgOAc

$C_8H_8HgO_2$ M 336.740
Bactericide, fungicide, algicide etc. Reference material used in elemental microanalysis. Needles (H_2O). Mp 146-147°.

▷ Highly toxic orally.

Bruker, A.B. *et al*, *Zh. Obshch. Khim.*, 1958, **28**, 2725.
Hutzinger, O. *et al*, *Int. J. Environ. Anal. Chem.*, 1971, **1**, 85 (*ms*)
Analyst (*London*), 1972, **97**, 740 (*microanal*)
Kamenar, B. *et al*, *Inorg. Chim. Acta*, 1972, **6**, 191 (*cryst struct*)
Sens, M.A. *et al*, *J. Magn. Reson.*, 1975, **19**, 323 (*nmr*)
Brown, A.J. *et al*, *J. Chem. Soc., Dalton Trans.*, 1976, 1589 (*cmr*)
Goggin, P.L. *et al*, *J. Chem. Res., Synop.*, 1978, 171 (*ir, raman*)
Schwartzman, G., *J. Pharm. Sci.*, 1978, **67**, 539 (*uv, ir*)
Fedorov, L.A. *et al*, *J. Struct. Chem.* (*Engl. Transl.*), 1978, **19**, 549 (*pmr*)
Pesticide Manual, 6th Ed., 1979, 416.
Michel, E. *et al*, *J. Organomet. Chem.*, 1981, **204**, 1 (*cmr, nmr*)
Kamenar, B. *et al*, *Croat. Chem. Acta*, 1984, **57**, 145; *CA*, **100**, 165859.
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 904.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 382.

Acetic acid, 9CI A-00006

Ethanoic acid

[64-19-7]

H_3CCOOH

$C_2H_4O_2$ M 60.052
Metabolic intermed., bacterial oxidn. prod. of ethanol, known since ancient times as dil. soln. (vinegar). Industrial and lab. solv., used for preserving foods. Major petrochemical used in manuf. of vinyl acetate and other acetate esters. Solv. in prodn. of terephthalic acid. Used as component of buffers; as masking agent for Al, La, Cr(*III*), Pb, Th; lead(*IV*) acetate used for photometric detn. of H_2O (λ_{max}400 nm) in pure solvs. Important industrial chemical, 33rd in order of volume for USA in 1990 (production 1.88 million tons/year). Liq. or cryst. with powerful vinegar odour. Misc. H_2O, EtOH, Et_2O; sol. most org. solvs.; insol. CS_2. d_4^{20} 1.049. Mp 16.7°. Bp_{31} 30°. Molecular Fp depression 39, molecular Bp elevation 29.9.

▷ Causes severe burns. TLV 25. Flammable. AF1340000.

Chloride: [75-36-5]. *Acetyl chloride*
C_2H_3ClO M 78.498
Acetylating agent. Reduces sulphoxides to sulphides. Used in titrimetric detn. of H_2O (e.g. 0.02%) in solvs. (acid-base reaction). Pungent liq. fuming in air. Sol. Et_2O, C_6H_6. Mp −112°. Bp 51-52°. Violently hydrol. by H_2O.

▷ Highly toxic and irritant, causes burns. Highly flammable, flash pt. 4°. AO6390000.

Amide: see *Acetamide*, *A-00003*

sec-*Pentyl ester:* see *3-Methyl-1-butanol*, *M-00147*

Hydrazide: [1068-57-1]. *Acethydrazide. Acetylhydrazide. Acetylhydrazine*
$C_2H_6N_2O$ M 74.082
Needles (EtOH). Sol. H_2O. Mp 67°. Bp_{18} 127°. Reduces $NH_3.AgNO_3$.

▷ Highly toxic. AI1225000.

2-Phenylhydrazide: see *Phenylhydrazine*, *P-00134*

2-(4-Nitrophenylhydrazide): [2719-13-3].
$C_8H_9N_3O_3$ M 195.177
Used as an acid-base indicator (pH range: 10.0-11.6; colour change: orange → red).

Thompson, C.D. *et al*, *Anal. Chem.*, 1970, **42**, 1474 (*detn, H_2O*)
Perrin, D.D., *Masking and Demasking of Chemical Reactions*, Interscience, New York, 1970.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, no. 682 (*occur*)
Lowry, R.P., *Hydrocarbon Process.*, 1974, **53**, 103 (*rev, bibl*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*use*)
Couperus, P.A. *et al*, *Org. Magn. Reson.*, 1978, **11**, 590 (*cmr*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **1**, 167 (*rev, bibl*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 3; **8**, 1.
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1305, 1306.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 159, 163.

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AAT250, ACF750, ACM750.

Acetone A-00007

2-Propanone, 9CI. Dimethyl ketone

[67-64-1]

H_3CCOCH_3

C_3H_6O M 58.080

A common constit. of plant tissues, e.g. *Ribes nigrum* volatiles. Widely used solvent. Major industrial intermed. used in manuf. of other solvs., methacrylates and bisphenol A. Forms acetonides with diols and Schiff bases with amines for gc or ms anal. Important industrial chemical, 43rd in order of volume for USA in 1990 (production 1.11 million tons/year). Volatile liq. Misc. H_2O, org. solvs. d_{25}^{25} 0.79. Mp −94°. Bp_{20} 56.2°. Crit. temp. 246.1°.

▷ Mod. toxic vapour, TLV 2400. Highly flammable, fl. p. −18°. AL3150000.

Di-Me acetal: [77-76-9]. *2,2-Dimethoxypropane, 9CI*
$C_5H_{12}O_2$ M 104.149
Reagent for synth. of acetonides and enol ethers. Bp_{20} 83°.

Anil: [1124-52-3]. *Isopropylideneaniline*
$C_9H_{11}N$ M 133.193
Bp_{20} 227-229°. The trivial name "acetone anil" has also been appl. to 1,2-Dihydro-2,2,4-trimethylquinoline.

Oxime: [127-06-0]. *Acetoxime*
C_3H_7NO M 73.094
Used for photometric detn. of Pt(*II*). Cryst. (EtOH). Sol. H_2O, EtOH, Et_2O, Me_2CO. Mp 61°. Bp 134-135°.
▷ AL6825000.

Semicarbazone: Needles (H_2O or Me_2CO). Mp 190-191° dec.
▷ Highly toxic. Emits toxic fumes when heated to dec.

2,4-Dinitrophenylhydrazone: [1567-89-1].
$C_9H_{10}N_4O_4$ M 238.202
Used as 0.05% EtOH soln. as acid-base indicator (pH range: 11.6-12.6; colour change: pale yellow → red). Yellow needles (EtOH). Sol. H_2O, EtOH, Et_2O. Mp 128°.

Hydrazone: [5281-20-9]. *Isopropylidenehydrazide*
$C_3H_8N_2$ M 72.110
Used for photometric detn. of V. Cryst. Sol. EtOH, Me_2CO. Bp 122-126°.

Thiosemicarbazone: [1752-30-3]. *2-(1-Methylethylidene) hydrazinecarbothioamide, 9CI*
$C_4H_9N_3S$ M 131.201
Used as 2.5% soln. in Me_2CO aq. for extraction-photometric detn. of Mo (λ_{max} 472 nm, ε 19000, $CHCl_3$). Yellow cryst. Sol. Me_2CO.
▷ AL7350000.

Chugreeva, N.V., *Zh. Anal. Khim.*, 1960, **15**, 391 (*use, 2,4-dinitrophenylhydrazone*)
Org. Synth., 1970, **50**, 3 (*synth*)
Panasuk, W.D. *et al*, *Zh. Neorg. Khim.*, 1971, **16**, 2725 (*use, oxime*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1972, **3**, 4; **5**, 226.
Fielding, J.C., *Propylene. Its Ind. Deriv.*, 1973, 214 (*rev*)
Tserkovnitskaya, I.A. *et al*, *CA*, 1980, **92**, 103709s (*use, hydrazone*)
Dixon, D.W. *et al*, *J. Org. Chem.*, 1985, **50**, 3194 (*deriv, synth, props*)
Thimmaiah, K.N. *et al*, *Microchem. J.*, 1985, **32**, 281 (*synth, detn, Mo*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 161.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ABC750, ABF000, DOM400, TFQ250.

Acetophenone, 8CI A-00008

1-Phenylethanone, 9CI. Methyl phenyl ketone. Hypnone. Acetylbenzene

[98-86-2]

$PhCOCH_3$

C_8H_8O M 120.151

Isol. from essential oils. Has soporific props. Solvent, resin intermed. Photochemical sensitiser. Used in extraction separation of Se from Te. Plates (freq. obt. as liq.). Sol. EtOH, Et_2O; insol. H_2O. d_4^{20} 1.029. Mp 20°. Bp 202°, Bp_5 67°. n_D^{20} 1.5342.

▷ AM5250000.

(E)-*Oxime:* [10341-75-0]. syn-*Oxime*
C_8H_9NO M 135.165
Mp 59.5-60.5°. pK_{a1} 11.35.

(Z)-*Oxime:* [50314-86-8]. anti-*Oxime*
C_8H_9NO M 135.165
Cryst. ($CHCl_3$/pet. ether). Mp 81-83°.

Hydrazone: [13466-30-3].
$C_8H_{10}N_2$ M 134.180
Cryst. (pet. ether). Mp 22°.

Phenylhydrazone: [583-11-9].
Needles (EtOH). Mp 106°.

(E)-*2,4-Dinitrophenylhydrazone:* [23245-99-0]. syn-*2,4-Dinitrophenylhydrazone*
Yellow cryst. Mp 147-147.5°.

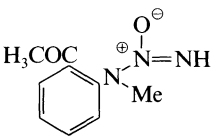
(Z)-*2,4-Dinitrophenylhydrazone:* anti-*2,4-Dinitrophenylhydrazone*
Red cryst. Mp 244-246°.

Registry of Mass Spectral Data, Wiley-Interscience, 180 (*ms*)
Sadtler Standard C-13 NMR Spectra, 550 (*cmr*)
Sadtler Standard Ultraviolet Spectra, 953 (*uv*)
Org. Synth., Coll. Vol., 1, 1932, 109 (*synth*)
Jordanov, N. *et al*, *Talanta*, 1968, **15**, 850 (*use*)
Aldrich Library of NMR Spectra, 1974, **6**, 6A (*pmr*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 5.
Aldrich Library of IR Spectra, 2nd Ed., 1975, 746H (*ir*)
Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1493 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ABH000.

3-(2-Acetophenyl)methyltriazene *N*-oxide A-00009

1-[2-(3-Methyl-2-triazenyl)phenyl]ethanone N-*oxide, 9CI. IG80*

[58100-47-3]



$C_9H_{11}N_3O_2$ M 193.205

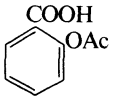
Used in photometric detn. of Co. Cryst. Sol. EtOH, $CHCl_3$; insol. H_2O.

Biswas, N.R. *et al*, *Indian J. Chem., Sect. A*, 1980, **19**, 58 (*use*)

2-Acetoxybenzoic acid A-00010

2-Acetyloxybenzoic acid, 9CI. Salicylic acid acetate, 8CI. Acetylsalicylic acid. ***Aspirin,*** **USAN**

[50-78-2]



$C_9H_8O_4$ M 180.160

Analgesic, antipyretic and antiinflammatory agent. Used as soln. in 10% ammonia for photometric detn. of Mn (λ_{max} 385 nm; in the presence of H_2O_2). Cryst. Mp 135° (rapid heat), Fp 118°. pK_a 3.38 (25°, 1.0*M* KCl). Ca salt used in combination with urea as Carbaspirin calcium, USAN.

▷ Mod. toxic. Exp. teratogen. VO0700000.

Me ester: [580-02-9].
$C_{10}H_{10}O_4$ M 194.187
Cryst. Mp 49°.

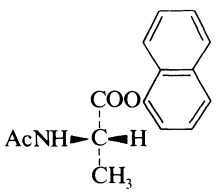
Et ester: [529-68-0].
$C_{11}H_{12}O_4$ M 208.213
Liq. Bp 272°.

Ph ester: [134-55-4]. *Acetylsalol. Phennin. Spiroform. Vesipyrin*
$C_{15}H_{12}O_4$ M 256.257
Analgesic, antipyretic, and antibacterial agent. Mp 97°. Bp_{11} 197-198°.

[5749-67-7]

Ciusa, R. *et al, Chem. Zentralbl.*, 1943, **2**, 615 (*synth*)
Henriques, H.P. *et al, Mikrochim. Acta*, 1971, 807 (*detn, Mn*)
Scott, K., *J. Magn. Reson.*, 1972, **6**, 55 (*nmr*)
Florey, K., *Anal. Profiles Drug Subst.*, 1979, **8**, 1 (*rev*)
Barnett, H.J.M. *et al, Acetylsalicylic Acid*, Raven Press, N.Y., 1982 (*book*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2601.
Rainsford, K.D., *Aspirin and the Salicylates*, Butterworths, London, 1984 (*book*)
Collier, H.O.J. *et al, Discoveries Pharmacol.*, 1984, **2**, 555 (*rev, pharmacol*)
Hallam, J. *et al, Int. Congr. Symp. Ser. R. Soc. Med.*, 1984 (*rev*)
Kim, Y. *et al, Chem. Pharm. Bull.*, 1985, **33**, 2641 (*cryst struct*)
Chang, C.J. *et al, Magn. Reson. Chem.*, 1986, **24**, 768 (*cmr*)
Pelz, J., *Pharmazie*, 1986, **41**, 733 (*history*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1120 (*synonyms*)
Vane, J.R. *et al, Aspirin and the Salicylates*, Ed., Chapman and Hall, 1992 (*book*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ADA725.

N-Acetylalanine 1-naphthyl ester A-00011



$C_{15}H_{15}NO_3$ M 257.288

(S)-form [69975-68-4]

L-form

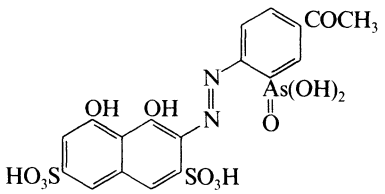
Chromogenic substrate for histochemical demonstration of ester proteases. Cryst. (Et_2O). Mp 105°.

Schaller, E. *et al, Anal. Biochem.*, 1979, **93**, 251 (*synth, ms*)

p-Acetylarsenazo A-00012

3-[(4-Acetyl-2-arsonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI

[87816-65-7]



$C_{18}H_{15}AsN_2O_{12}S_2$ M 590.376

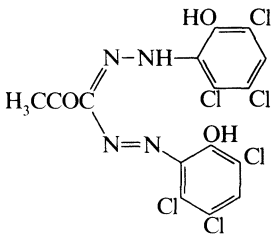
Used for photometric detn. of U, rare earth elements. Red cryst. powder. Sol. H_2O, alkalis; spar. sol. EtOH; insol. C_6H_6.

Lili, D. *et al, CA*, 1985, **102**, 16659g.
Yang, Q. *et al, CA*, 1985, **102**, 214276t.

3-Acetyl-1,5-bis[bis(3,5,6-trichloro-2-hydroxyphenyl)]formazan A-00013

1,5-Bis(2,3,5-trichloro-6-hydroxyphenyl)formazanyl methyl ketone, 8CI

[1565-68-0]



$C_{15}H_8Cl_6N_4O_3$ M 504.969

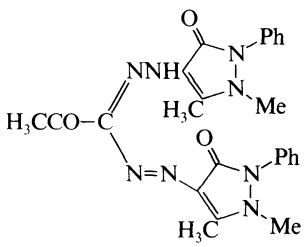
Used as 0.005% soln. in EtOAc for photometric detn. of Sc (λ_{max} 675 nm, ε 27000). Red-brown cryst. (C_6H_6). Sol. C_6H_6, EtOAc; insol. H_2O, Me_2CO. Mp 202-203°.

Dziomko, V.M. *et al, Zh. Anal. Khim.*, 1970, **25**, 267 (*synth, detn, Sc*)

3-Acetyl-1,5-bis(1,2-dihydro-1,5-dimethyl-3-oxo-2-phenyl-4-pyrazolyl)formazan A-00014

4,4'-(3-Acetyl-1,5-formazandiyl)bis(1,2-dihydro-1,5-dimethyl-2-phenyl-3H-pyrazol-3-one), 9CI. 1-(4-Antipyrinylazo)-1-(4-antipyrinylhydrazino)-2-propanone. Azonol A2

[118747-06-1]



$C_{25}H_{26}N_8O_3$ M 486.532

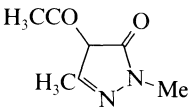
Used as 1m*M* soln. in 25% EtOH for photometric detn. of Cu(*II*) (λ_{max} 413 nm, ε 24000, pH 2.4). Dark red needles (EtOH). Sol. EtOH; sl. sol. H_2O. Mp 130° dec. pK_a 10.25 (1% EtOH).

Ishizuki, T. *et al, Anal. Chim. Acta*, 1988, **212**, 253 (*synth, use*)

4-Acetyl-2,4-dihydro-2,5-dimethyl-3*H*-pyrazol-3-one, 9CI A-00015

4-Acetyl-1,3-dimethyl-2-pyrazolin-5-one

[74937-11-4]



$C_7H_{10}N_2O_2$ M 154.168

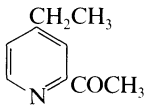
Used as 0.02*M* aq. soln. for sorption separation of U(*VI*). Cryst. (0.01*M* HCl). Sol. H_2O. Mp 122°.

King, J.N. *et al*, *Anal. Chim. Acta*, 1988, **207**, 137 (*synth, detn, U*)

2-Acetyl-4-ethylpyridine A-00016

4-Ethyl-2-pyridyl methyl ketone, 8CI. 1-(4-Ethyl-2-pyridinyl) ethanone

[59576-27-1]



$C_9H_{11}NO$ M 149.192

Liq. Bp_{11} 100-101°.

Oxime (Z-): [18103-85-0].

$C_9H_{12}N_2O$ M 164.207

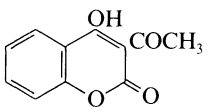
Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 325 nm, ε 11900, EtOH aq.), Cu(*I*) (λ_{max} 410 nm, ε 5800, EtOH aq.), extraction-photometric detn. of Fe(*II*) (λ_{max} 543 nm, ε 15100, isopentanol). Cryst. Sol. EtOH.

Case, F.H. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 5842 (*synth*)
Schilt, A. *et al*, *Talanta*, 1969, **16**, 448 (*detn, Co, Cu, Fe*)

3-Acetyl-4-hydroxy-2H-1-benzopyran-2-one, 9CI A-00017

3-Acetyl-4-hydroxycoumarin

[2555-37-5]



$C_{11}H_8O_4$ M 204.182

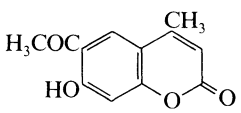
Used as a soln. in EtOH for gravimetric detn. of Ce, Th, Ti, U(*VI*), Zr; photometric detn. of Fe(*III*), U(*VI*). Cryst. (EtOH). Mp 138°.

Bhat, A.N. *et al*, *J. Inorg. Nucl. Chem.*, 1960, **4**, 136 (*detn, U*)
Bhat, A.N. *et al*, *Talanta*, 1960, **4**, 13; **5**, 271 (*detn, Th, U, Fe*)
Katyal, M. *et al*, *Talanta*, 1968, **15**, 1043 (*synth, use, pKa*)

6-Acetyl-7-hydroxy-4-methyl-2*H*-1-benzopyran-2-one, 9CI A-00018

6-Acetyl-7-hydroxy-4-methylcoumarin

[16555-98-9]



$C_{12}H_{10}O_4$ M 218.209

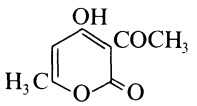
Used as 0.016*M* dioxan soln. for extraction-fluorimetric detn. of Be (λ_{max} 465 nm, 20% dioxan, pH 7.5-7.8, C_6H_6). Cryst. Sol. dioxan.

Yoshida, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1990, **338**, 738 (*synth, detn, Be*)

3-Acetyl-4-hydroxy-6-methyl-2*H*-pyran-2-one, 9CI A-00019

Dehydroacetic acid. Dehydracetic acid

[771-03-9]



$C_8H_8O_4$ M 168.149

Isol. from *Solandra nitida*. Fungicide used against moulds on fresh and dried fruit. Used as a 1% aq. soln. for separation and gravimetric detn. of Pd. Rhombic needles or plates (EtOH). Sol. H_2O, EtOH, Me_2CO, Et_2O. Mp 109°. Bp 270°, Bp_5 132-133°. pK_a 5.12 (25°).

▷ Highly toxic orally.

Me enol ether:

$C_9H_{10}O_4$ M 182.176

Yellow prisms (EtOH). Sol. H_2O. Mp 91°.

Et enol ether:

$C_{10}H_{12}O_4$ M 196.202

Mp 93-94°.

Anilide:

$C_{14}H_{13}NO_3$ M 243.262

Mp 115°.

Oxime:

$C_8H_9NO_4$ M 183.163

Mp 153-154°.

[520-45-6]

Berson, J.A., *J. Am. Chem. Soc.*, 1952, **74**, 5172 (*uv*)
Kiang, A. *et al*, *J. Chem. Soc.*, 1965, 2283 (*synth*)
Royals, E.E. *et al*, *J. Org. Chem.*, 1965, **30**, 1255 (*uv, ir, pmr, struct*)
Manku, G.S., *Anal. Chim. Acta*, 1971, **54**, 181 (*use*)
Manku, G.S., *Talanta*, 1971, **18**, 1079 (*use*)
Rivera, C. *et al*, *Experientia*, 1976, **32**, 1490 (*isol*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 537.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MFW500.

Acetyl methanesulfonate A-00020

Acetic acid anhydride with methanesulfonic acid, 9CI

[5539-53-7]

$AcOSO_2Me$

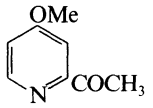
$C_3H_6O_4S$ M 138.144

Readily cleaves aliphatic ethers. Reagent for acetylating alcohols for gc anal. $Bp_{0.05}$ 100°, $Bp_{0.001}$ 70-72°.

Boehme, H. *et al*, *Justus Liebigs Ann. Chem.*, 1965, **688**, 78 (*synth*)
Schwartz, D.P., *Anal. Biochem.*, 1967, **71**, 24 (*use*)
Karger, M.H. *et al*, *J. Org. Chem.*, 1971, **36**, 528, 532, 540 (*synth, use*)
Modi, M.N. *et al*, *Indian J. Chem.*, 1973, **11**, 1049 (*synth*)
Corey, E.J. *et al*, *Tetrahedron Lett.*, 1973, 3153 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 5 (*use*)
Effenberger, F. *et al*, *Chem. Ber.*, 1983, **116**, 1183 (*synth, ir, pmr*)

2-Acetyl-4-methoxypyridine A-00021

1-[2-(4-Methoxypyridinyl)]ethanone, 9CI. 4-Methoxy-2-pyridyl methyl ketone, 8CI



$C_8H_9NO_2$ M 151.165

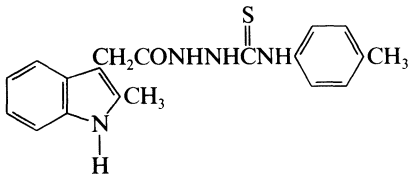
Oxime (Z-): [18103-86-1].
$C_8H_{10}N_2O_2$ M 166.179
Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 319 nm, ε 13500, EtOH aq.), Cu(*I*) (λ_{max} 400 nm, ε 4000, EtOH aq.), extraction-photometric detn. of Fe(*II*) (λ_{max} 543 nm, ε 11900, isopentanol). Cryst. Sol. EtOH.

Schilt, A. *et al*, *Talanta*, 1969, **16**, 448 (*detn, Co, Cu, Fe*)

3-Acetyl-2-methylindole *p*-tolylthiosemicarbazone A-00022

2-Methyl-1H-indole-3-acetic acid 2-[[(4-methylphenyl)amino]thioxomethyl]hydrazide

[54648-92-9]



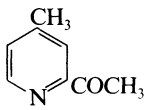
$C_{19}H_{20}N_4OS$ M 352.459
Used as a 0.01*M* soln. in MeOH for gravimetric and photometric detn. of Co, Cu, Hg, Zn. Cryst. Mp 187°.

Sengupta, A.K. *et al*, *Indian J. Chem., Sect. B*, 1983, **22**, 263 (*synth*)
Barsoum, B.N. *et al*, *J. Chin. Chem. Soc. (Taipei)*, 1985, **32**, 117; *CA*, 1986, **103**, 205016b (*synth, use*)

2-Acetyl-4-methylpyridine A-00023

1-(4-Methyl-2-pyridinyl)ethanone, 9CI. Methyl 4-methyl-2-pyridyl ketone, 8CI

[59576-26-0]



C_8H_9NO M 135.165
Cryst. (pet. ether). Sol. EtOH. Mp 33-34°. Bp_{15} 95-97°.

Oxime (E-): [23089-35-2].
$C_8H_{10}N_2O$ M 150.180
Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 325 nm, ε 11800, EtOH aq.), Cu(*I*) (λ_{max} 409 nm, ε 5300, EtOH aq.), extraction-photometric detn. of Fe(*II*) (λ_{max} 541 nm, ε 14000, isopentanol). Cryst. (C_6H_6/pet. ether). Mp 98-99°.

[18103-84-9]

Case, F.H. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 5842 (*synth*)
Case, F.H. *et al*, *J. Heterocycl. Chem.*, 1968, **5**, 161 (*synth, oxime*)
Schilt, A. *et al*, *Talanta*, 1969, **16**, 448 (*detn, Co, Cu, Fe*)

2-Acetyl-6-methylpyridine A-00024

1-(6-Methyl-2-pyridinyl)ethanone, 9CI. Methyl 6-methyl-2-pyridyl ketone, 8CI

[6940-57-4]

C_8H_9NO M 135.165
Liq. Bp_1 46°.

Oxime (E-): [23089-39-6].
$C_8H_{10}N_2O$ M 150.180
Used as a 0.01*M* soln. in EtOH for photometric detn. of Cu(*I*) (λ_{max} 422 nm, ε 8400, EtOH aq.). Cryst. (pet. ether). Sol. EtOH. Mp 49-50°.

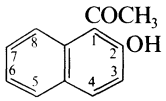
[18103-88-3]

Case, F.H. *et al*, *J. Heterocycl. Chem.*, 1968, **5**, 161 (*synth, oxime*)
Schilt, A. *et al*, *Talanta*, 1969, **16**, 448 (*detn, Cu*)
Amin, H.B. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1979, 624 (*synth*)

1-Acetyl-2-naphthol A-00025

1-(2-Hydroxy-1-naphthalenyl)ethanone, 9CI. 2-Hydroxy-1-acetonaphthone, 8CI. 1-Acetyl-2-hydroxynaphthalene

[574-19-6]



$C_{12}H_{10}O_2$ M 186.210
Needles (pet. ether). Mp 64°.

Me ether:
$C_{13}H_{12}O_2$ M 200.237
Cryst. (EtOH aq.). Mp 59°.

Benzoyl:
$C_{19}H_{14}O_3$ M 290.318
Mp 85-86°.

Oxime: [61537-74-4]. *2-Hydroxy-1-acetonaphthonoxime*
$C_{12}H_{11}NO_2$ M 201.224
Used as 1% EtOH soln. for detn. of Cu; gravimetric detn. of Pd(*II*) (pH 1.5), Ni, Mn. Cryst. Sol. EtOH. Mp 86°.

Hydrazone:
$C_{12}H_{12}N_2O$ M 200.240
Mp 130°.

Fries, K. *et al*, *Ber.*, 1921, **54**, 709; 1925, **58**, 2835.
Imoto, M., *CA*, 1938, **32**, 534.
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **3** (*synth, detn, Cu*)
Hunsberger, I.M., *J. Am. Chem. Soc.*, 1950, **72**, 5626 (*ir*)
Bergmann, E.D. *et al*, *J. Chem. Soc.*, 1950, 2351 (*uv*)
Joshi, G.G. *et al*, *J. Indian Chem. Soc.*, 1952, **29**, 225.
Dudek, G.O., *Spectrochim. Acta*, 1963, **19**, 691 (*pmr*)
Balakrishna, V.V. *et al*, *J. Indian Chem. Soc.*, 1986, **63**, 512 (*oxime, synth, use*)

2-Acetyl-1-naphthol A-00026

1-(1-Hydroxy-2-naphthalenyl)ethanone, 9CI. 1'-Hydroxy-2'-acetonaphthone. 2-Acetyl-1-hydroxynaphthalene

[711-79-5]

$C_{12}H_{10}O_2$ M 186.210
Green-yellow needles (EtOH), prisms (C_6H_6 or ligroin). Sol. AcOH, $CHCl_3$, CS_2, C_6H_6; insol. H_2O. Mp 103° (needles), Mp 98° (prisms). Bp 325° sl. dec. Pale-yellow soln. in most solvs., colourless in pet. ether.

Me ether:
$C_{13}H_{12}O_2$ M 200.237
Mp 49°.

Et ether:
$C_{14}H_{14}O_2$ M 214.263
Bp 320°.

Ac:
$C_{14}H_{12}O_3$ M 228.247
Mp 107°.

Oxime: [51864-09-6].
$C_{12}H_{11}NO_2$ M 201.224

Used as 1% EtOH soln. for gravimetric detn. of Ni (pH 8.5), Cu(*II*), Pd(*II*), Mn. Cryst. Sol. EtOH. Mp 168-169°.

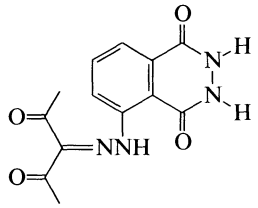
Phenylhydrazone: Mp 141°.

Witt, O.N. *et al*, *Ber.*, 1914, **47**, 3216.
Stroughton, R.W., *J. Am. Chem. Soc.*, 1935, **57**, 202.
Imoto, M., *CA*, 1938, **32**, 534.
Akram, M. *et al*, *Proc. - Indian Acad. Sci., Sect. A*, 1940, **11**, 149, 156; *CA*, **34**, 5436.
Hunsberger, I.M. *et al*, *J. Am. Chem. Soc.*, 1950, **72**, 5626 (*ir*)
Bergmann, E.D. *et al*, *J. Chem. Soc.*, 1950, 2351 (*uv*)
Matsui, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1973, **46**, 565.
Hauser, F.M. *et al*, *J. Org. Chem.*, 1978, **43**, 178.
Balakrishna, V.V. *et al*, *J. Indian Chem. Soc.*, 1986, **63**, 512 (*synth, use*)

5-[(1-Acetyl-2-oxopropyl)azo]-2,3-dihydro-1,4-phthalazinedione, 9CI A-00027

Phthalhydrazidylazoacetylacetone

[109632-03-3]



$C_{13}H_{12}N_4O_4$ M 288.262

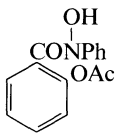
Used as 0.1% soln. in 50% EtOH as an acid-base chemiluminescent indicator. Yellow needles (EtOH). Sol. EtOH. Mp 312°.

Thankarajan, N. *et al*, *J. Indian Chem. Soc.*, 1986, **63**, 977 (*synth, use, ind*)
Thankarajan, N. *et al*, *Talanta*, 1987, **34**, 507 (*synth, use, ind*)

2-(Acetyloxy)-*N*-hydroxy-*N*-phenylbenzamide, 9CI A-00028

N-Phenyl-2-acetatosalicylohydroxamic acid, 8CI

[25004-85-7]



$C_{15}H_{13}NO_4$ M 271.272

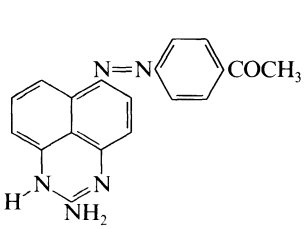
Used as a 0.3% soln. in $CHCl_3$ for photometric detn. of Nb, Ti. Needles (EtOH aq.). Spar. sol. H_2O; sol. EtOH, C_6H_6, $CHCl_3$.

Savariar, C.P. *et al*, *Anal. Chim. Acta*, 1969, **47**, 347 (*synth, detn, Ti*)
Savariar, C.P. *et al*, *Talanta*, 1970, **17**, 45 (*detn, Nb*)

6-(4-Acetylphenylazo)-2-aminoperimidine A-00029

1-[4-[(2-Amino-1H-perimidin-6-yl)azo]phenyl]ethanone, 9CI

[71759-46-1]



$C_{19}H_{15}N_5O$ M 329.360

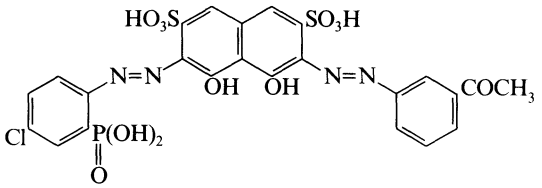
Used as a 0.74m*M* soln. in EtOH for indirect photometric detn. of $SO_4^{2\ominus}$ (λ_{max} 480 nm, ε 6100). Greenish needles (glac. AcOH). Sol. acids, EtOH, C_6H_6; insol. H_2O.

Toei, K. *et al*, *Anal. Chim. Acta*, 1977, **94**, 485 (*synth*)

3-[(3-Acetylphenyl)azo]-6-[(4-chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI A-00030

Chlorophosphonazo mA

[86167-87-5]



$C_{24}H_{18}ClN_4O_{12}PS_2$ M 684.984

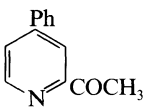
Used as 0.015% aq. soln. for photometric detn. of Ca (λ_{max} 630 nm, ε 3900). Dark cryst. powder. Sol. H_2O.

Qui, X. *et al*, *Analyst (London)*, 1983, **108**, 754 (*synth, use, detn, Ca*)

2-Acetyl-4-phenylpyridine A-00031

Methyl 4-phenyl-2-pyridyl ketone, 8CI

[52565-58-9]



$C_{13}H_{11}NO$ M 197.236

Cryst. (pet. ether). Mp 75-76°.

Oxime (E-): [23089-37-4].
$C_{13}H_{12}N_2O$ M 212.251
Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 338 nm, ε 16500, EtOH aq.), Cu(*I*) (λ_{max} 430 nm, ε 9700, EtOH aq.), extraction-photometric detn. of Fe(*II*) (λ_{max} 568 nm, ε 23400, isopentanol). Cryst. (C_6H_6). Sol. EtOH. Mp 132-133°.

Case, F.H. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 5842 (*synth*)
Case, F.H. *et al*, *J. Heterocycl. Chem.*, 1968, **5**, 161 (*synth, oxime*)
Schilt, A. *et al*, *Talanta*, 1969, **16**, 448 (*detn, Co, Cu, Fe*)

2-Acetyl-6-phenylpyridine A-00032

1-(6-Phenyl-2-pyridinyl)ethanone, 9CI. Methyl 6-phenyl-2-pyridyl ketone, 8CI

[59576-29-3]

$C_{13}H_{11}NO$ M 197.236

Cryst. (pet. ether). Mp 75-76°.

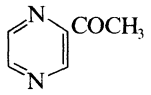
Oxime (E-): [23089-40-9].
$C_{13}H_{12}N_2O$ M 212.251
Used as a 0.01*M* soln. in EtOH for photometric detn. of Cu(*I*) (λ_{max} 422 nm, ε 3500). Cryst. (C_6H_6/pet. ether). Sol. EtOH. Mp 87-88°.

[18103-89-4]

Case, F.H. *et al*, *J. Heterocycl. Chem.*, 1968, **5**, 161 (*synth, oxime*)
Schilt, A. *et al*, *Talanta*, 1969, **16**, 448 (*oxime, detn, Cu*)

2-Acetylpyrazine A-00033

Methyl pyrazinyl ketone. 1-Pyrazinylethanone

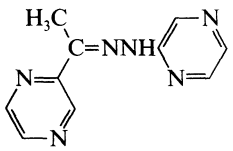


$C_6H_6N_2O$ M 122.126
Flavouring ingredient. Mp 31-33°. Bp_6 57-58°.
Thiosemicarbazone: Pale-yellow powder. Mp 236-237° dec.
2,4-Dinitrophenylhydrazone: Mp 239-240°.
2-Thiazolylhydrazone: [73568-92-0].
$C_9H_9N_5S$ M 219.270
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 527 nm, ε 18600), Cu(*I*) (λ_{max} 512 nm, ε 12600), Fe(*II*) (λ_{max} 631 nm, ε 5800), Ni (λ_{max} 495 nm, ε 27300). Cryst. (EtOH). Sol. common org. solvs. Mp 210°.

Kushner, S. *et al, J. Am. Chem. Soc.*, 1952, **74**, 3617 (*deriv*)
Rutner, H. *et al, J. Org. Chem.*, 1963, **28**, 1848 (*synth*)
Hirshberg, A. *et al, J. Heterocycl. Chem.*, 1966, **3**, 103 (*synth*)
French, A.F. *et al, J. Med. Chem.*, 1966, **9**, 585; *CA*, **65**, 7121e.
Spingam, N.E. *et al, J. Med. Chem.*, 1979, **22**, 1314.
Schilt, A.A. *et al, Talanta*, 1980, **27**, 55 (*thiazolylhydrazone, use*)

2-Acetylpyrazine pyrazinylhydrazone A-00034

2(1H)-Pyrazinone (1-pyrazinylethylidene)hydrazone, 9CI
[58495-44-6]

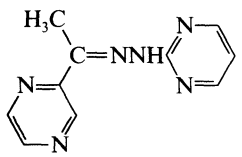


$C_{10}H_{10}N_6$ M 214.229
Used as a soln. in EtOH for photometric detn. of Cu(*I*) (λ_{max} 511 nm, ε 15400), Co (λ_{max} 528 nm, ε 22000), Ni (λ_{max} 498 nm, ε 35500), Fe(*II*). Cryst. Sol. common org. solvs.

Case, F.H., *J. Chem. Eng. Data*, 1976, **21**, 124 (*synth*)
Schilt, A.A. *et al, Talanta*, 1979, **26**, 373 (*use*)

2-Acetylpyrazine 2-pyrimidinylhydrazone A-00035

1-Pyrazinylethanone 2-pyrimidinylhydrazone, 9CI
[73569-02-5]

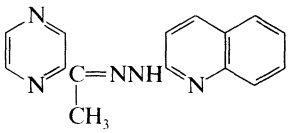


$C_{10}H_{10}N_6$ M 214.229
Used as 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 487 nm, ε 20400), Cu(*I*) (λ_{max} 467 nm, ε 12600), Fe(*II*) (λ_{max} 556 nm, ε 5400), Ni (λ_{max} 459 nm, ε 30200). Cryst. (MeOH aq.). Sol. common org. solvs. Mp 160°.

Schilt, A. *et al, Talanta*, 1980, **27**, 55 (*synth, use*)

2-Acetylpyrazine 2-quinolylhydrazone A-00036

2(1H)-Quinolinone (1-pyrazinylethylidene)hydrazone. 1-Pyrazinylethanone 2-quinolinylhydrazone
[82633-02-1]



$C_{15}H_{13}N_5$ M 263.301
Used as 0.01*M* EtOH soln. for photometric detn. of Fe(*II*) (λ_{max} 466 nm, ε 19800, pH 4), Zn (λ_{max} 488 nm, ε 30100), Ni (λ_{max} 502 nm, ε 20600), Co, Cu(*I*). Cryst. (MeOH). Sol. EtOH, MeOH. Mp 166°.

Schilt, A.A. *et al, Talanta*, 1982, **29**, 338 (*synth, use*)

2-Acetylpyrazine 3-quinolylhydrazone A-00037

1-Pyrazinylethanone 3-quinolinylhydrazone, 9CI
[82633-07-6]

$C_{15}H_{13}N_5$ M 263.301
Used as a 0.01*M* soln. in 0.05*M* HCl/EtOH for photometric detn. of Cu(*I*) (λ_{max} 556 nm, ε 2000). Cryst. (EtOH). Sol. common org. solvs. Mp 250°.

Schilt, A.A. *et al, Talanta*, 1980, **27**, 338 (*synth, detn, Cu*)

2-Acetylpyrazine 8-quinolylhydrazone A-00038

1-Pyrazinylethanone 8-quinolinylhydrazone, 9CI. 8(1H)-Quinolinone (1-pyrazinylethylidene)hydrazone
[82633-11-2]

$C_{15}H_{13}N_5$ M 263.301
Used as a 0.01*M* soln. in 0.05*M* HCl/EtOH for photometric detn. of Co, Cu(*I*), Fe(*II*) (λ_{max} 545 nm, ε 10000, pH 7). Cryst. (EtOH). Sol. common org. solvs. Mp 172°.

Schilt, A.A. *et al, Talanta*, 1980, **27**, 338 (*synth, detn, Co, Cu, Fe*)

2-Acetylpyridine A-00039

1-(2-Pyridinyl)ethanone, 9CI. Methyl 2-pyridyl ketone. 2-Acetopyridine
[1122-62-9]

C_7H_7NO M 121.138
Organoleptic. Bp 192°. Turns yellow in air.
B,HCl: Mp 183-185° dec.
B,MeI: Mp 161°.
B,EtI: Mp 205°.
Picrate: Yellow cryst. (EtOH). Mp 131°.
Oxime: [1758-54-9]. *Acepox*
$C_7H_8N_2O$ M 136.153
Plant protectant. Used for photometric detn. of Re (λ_{max} 490 nm, ε 3800). Prisms (EtOH). Sol. H_2O. Mp 121°.
Hydrazone: [59742-91-5].
$C_7H_9N_3$ M 135.168
Used as 0.5m*M* aq. soln. for fluorimetric detn. of Tc(*VII*) (λ_{max} 430 nm, 0.01-10μg/ml, ~1.4*M* HCl). Cryst. (EtOH). Sol. H_2O, EtOH.
Phenylhydrazone: [7734-05-6].
Yellow cryst. (EtOH). Mp 155°.
Thiosemicarbazone: [6839-90-3].
$C_8H_{10}N_4S$ M 194.260

Used as EtOH soln. or 1% Me_2CO aq. soln. for photometric detn. of Mo (λ_{max} 470 nm, ε 17000), V (λ_{max} 400 nm, ε 56000, pH 3.5). Cryst. (EtOH). Sol. EtOH, DMF, Me_2CO.

Ethylene ketal:

$C_9H_{11}NO_2$ M 165.191

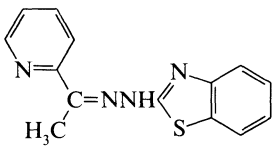
$Bp_{0.8}$ 91-95°.

Thompson, R.J. *et al*, *Anal. Chim. Acta*, 1964, **31**, 590 (*oxime, detn, Re*)
Miyajama, G. *et al*, *Chem. Pharm. Bull.*, 1972, **20**, 429 (*cmr*)
Lesman, T. *et al*, *Org. Mass Spectrom.*, 1973, **7**, 1321 (*ms*)
Seth-Paul, W.A., *Spectrochim. Acta, Part A*, 1974, **30**, 1817 (*ir*)
Reimann, E. *et al*, *Justus Liebigs Ann. Chem.*, 1976, 1351 (*synth*)
Klayman, D.L. *et al*, *J. Med. Chem.*, 1979, **22**, 855 (*synth, thiosemicarbazone*)
Grases, F. *et al*, *Anal. Chim. Acta*, 1984, **166**, 71 (*synth, detn, Tc*)
Thimmaiah, K.N. *et al*, *Microchem. J.*, 1985, **32**, 8 (*detn, Mo*)
Norman, M.H. *et al*, *J. Org. Chem.*, 1987, **52**, 226 (*deriv, synth, ir, pmr, cmr*)
Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1493 (*cmr*)

2-Acetylpyridine 2-benzothiazolylhydrazone A-00040

2(3H)-Benzothiazolone [1-(2-pyridinyl)ethylidene]hydrazone, 9CI

[99093-71-7]

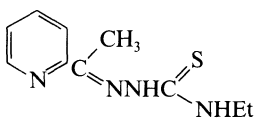


$C_{14}H_{12}N_4S$ M 268.342

Used as 2.5m*M* soln. in EtOH for extraction-photometric detn. of Fe (λ_{max} 418 nm, ε 45400, C_6H_6), Cd, Cu(*II*), Hg(*II*), Ni, Pd, V(*IV*), Zn. Light brown cryst. (EtOH aq.). Sol. EtOH, MeOH. Mp 110-112°. pK_{a1} 1.62; pK_{a2} 3.38; pK_{a3} 10.7 (μ = 0.2, 25°).

Odashima, T. *et al*, *Microchem. J.*, 1986, **33**, 138 (*synth, detn, Fe*)

4-Acetylpyridine 4-ethyl-3-thiosemicarbazone A-00041



$C_{10}H_{14}N_4S$ M 222.313

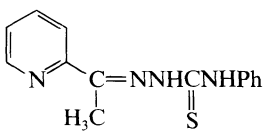
Used as 5m*M* MeOH soln. for chromatographic (hplc) sepn. of In, Co, Zn, Ni. Needles (MeOH aq.). Sol. MeOH; mod. sol. H_2O.

Main, M.V. *et al*, *Talanta*, 1991, **38**, 253 (*synth, use*)

2-Acetylpyridine phenylthiosemicarbazone A-00042

N-Phenyl-2-[1-(2-pyridinyl)ethylidene] hydrazinecarbothioamide, 9CI

[63698-06-6]



$C_{14}H_{14}N_4S$ M 270.357

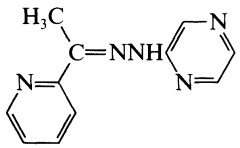
Used as a 0.1% soln. in DMF for extraction-photometric detn. of Fe(*II*) (λ_{max} 650 nm, ε 8800). Yellow cryst. (EtOH). Spar. sol. H_2O; sol. alkalis, acids, EtOH, C_6H_6, Me_2CO, $CHCl_3$. Mp 187-189°. pK_a 4.13.

Martinez, A.M.T. *et al*, *Anal. Chim. Acta*, 1977, **90**, 335 (*synth, detn, Fe*)

2-Acetylpyridine 2-pyrazinylhydrazone A-00043

2(1H)-Pyrazinone [1-(2-pyridinyl)ethylidene]hydrazone, 9CI

[58495-42-4]



$C_{11}H_{11}N_5$ M 213.241

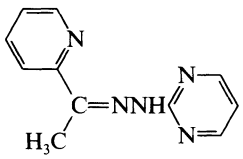
Used as a soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 475 nm, ε 16600), Co (λ_{max} 480 nm, ε 24000), Ni (λ_{max} 460 nm, ε 37500), Fe(*II*). Cryst. Sol. common org. solvs.

Case, F.H., *J. Chem. Eng. Data*, 1976, **21**, 124 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 373 (*use*)

2-Acetylpyridine 2-pyrimidinylhydrazone A-00044

1-(2-Pyridinyl)ethanone 2-pyrimidinylhydrazone, 9CI

[73569-00-3]



$C_{11}H_{11}N_5$ M 213.241

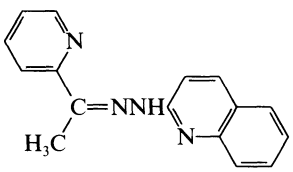
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 452 nm, ε 23700), Cu(*I*) (λ_{max} 426 nm, ε 6600), Fe(*II*) (λ_{max} 613 nm, ε 65000), Ni (λ_{max} 419 nm, ε 32100). Cryst. (C_6H_6). Sol. common org. solvs. Mp 153°.

Schilt, A.A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, use*)

2-Acetylpyridine 2-quinolylhydrazone A-00045

1-(2-Pyridinyl)ethanone 2-quinolinylhydrazone, 9CI

[70845-27-1]



$C_{16}H_{14}N_4$ M 262.313

Used as a 0.01*M* soln. in 0.05*M* HCl in EtOH for photometric detn. of Cu(*I*) (λ_{max} 525 nm, ε 2200). Cryst. (MeOH). Sol. common org. solvs. Mp 203°.

Schilt, A.A. *et al*, *Talanta*, 1982, **29**, 338 (*synth, use*)

2-Acetylpyridine 8-quinolylhydrazone A-00046

1-(2-Pyridinyl)ethanone 8-quinolinylhydrazone, 9CI

[82633-09-8]

$C_{16}H_{14}N_4$ M 262.313

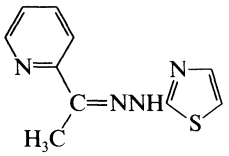
Used as a 0.01*M* soln. in 0.05*M* HCl in EtOH for photometric detn. of Co (λ_{max} 557 nm, ε 17000, pH 7), Cu(*I*), Fe(*II*) (λ_{max} 515 nm, ε 8600). Cryst. (EtOH). Sol. common org. solvs. Mp 168°.

Schilt, A.A. *et al*, *Talanta*, 1982, **29**, 338 (*synth, use*)

2-Acetylpyridine 2-thiazolylhydrazone A-00047

1-(2-Pyridinyl)ethanone 2-thiazolylhydrazone, 9CI

[73568-89-5]



$C_{10}H_{10}N_4S$ M 218.282

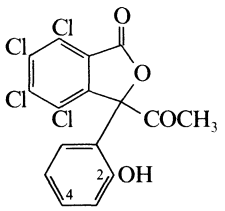
Used as 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 475 nm, ε 24300), Cu (λ_{max} 457 nm, ε 15100), Fe(*II*) (λ_{max} 488 nm, ε 8000), Ni (λ_{max} 442 nm, ε 35800). Cryst. (MeOH). Sol. common org. solvs. Mp 175°.

Schilt, A.A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, use*)

3-Acetyl-4,5,6,7-tetrachloro-3-(2-hydroxyphenyl)-1(3*H*)-isobenzofuranone, 9CI A-00048

3-Acetyl-4,5,6,7-tetrachloro-3-(o-hydroxyphenyl)phthalide

[62512-05-4]



$C_{16}H_8Cl_4O_4$ M 406.048

Used as a 0.1% soln. in EtOH as adsorption indicator for argentometric titrimetric detn. of $Cl^{\ominus}$, $I^{\ominus}$. Cryst.

Singh, E., *J. Indian Chem. Soc.*, 1976, **53**, 948, 950 (*detn, $I^{\ominus}$, $Cl^{\ominus}$*)

3-Acetyl-4,5,6,7-tetrachloro-3-(4-hydroxyphenyl)-1(3*H*)-isobenzofuranone, 9CI A-00049

3-Acetyl-4,5,6,7-tetrachloro-3-(p-hydroxyphenyl)phthalide

[62512-06-5]

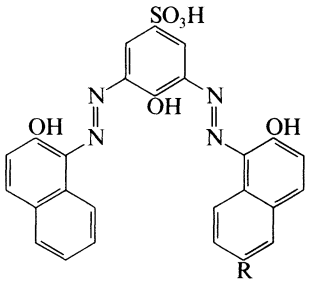
$C_{16}H_8Cl_4O_4$ M 406.048

Used as a 0.1% soln. in EtOH as adsorption indicator for argentometric titrimetric detn. of $Cl^{\ominus}$, $I^{\ominus}$. Cryst.

Singh, E., *J. Indian Chem. Soc.*, 1976, **53**, 948, 950 (*detn, $I^{\ominus}$, $Cl^{\ominus}$*)

Acid alizarin black SE A-00050

4-Hydroxy-3,5-bis(2-hydroxynaphthylazo)benzenesulfonic acid. C.I. Mordant black 10. Anthranol fast black SE. C.I. 21720



R = H

$C_{26}H_{18}N_4O_6S$ M 514.517

Strictly the name Acid alizarin black SE refers to the sodium salt. Used as 0.1% soln. in 2% NaCl soln. in titrimetry as metal indicator: Ca (pH 11.5, colour change red→blue); Mn (pH 11.5, colour change purple→blue). Dark blue cryst. powder. Sol. H_2O; sl. sol. EtOH.

Belcher, R. *et al*, *Chemist-Analyst*, 1958, **47**, 2; *CA*, **58**, 9850h.
Close, R.A. *et al*, *Anal. Chim. Acta*, 1960, **23**, 261.
Colour Index, 3rd Edn, 1971, **4**, 4163 (*synth*)

Acid alizarin black SN A-00051

6-Hydroxy-5-[[2-hydroxy-3-[(2-hydroxy-1-naphthalenyl)azo]-5-sulfophenyl]azo]-2-naphthalenesulfonic acid, 9CI. Acid chrome black NSN. Anthranol fast black SM. Diamond alizarin black SN. C.I. Mordant black 25. C.I. 21725

As Acid alizarin black SE, A-00050 with

R = SO_3H

$C_{26}H_{18}N_4O_9S_2$ M 594.582

Strictly the name Acid alizarin black SN refers to the disodium salt.

Di-Na salt: [3258-74-0].

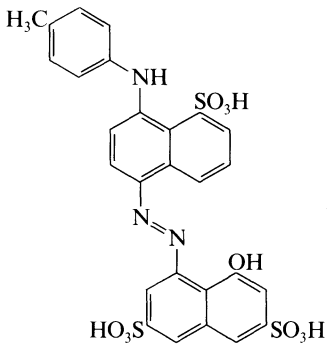
Used as 0.1% aq. soln. as metal indicator: Ba, Ca, Zn (pH 11.5; colour change red→blue), Mn, Ni (pH 10; colour change purple→blue), Cd (pH 8.5; colour change red→blue), Th (pH 4; colour change red→orange) and in photometric detn. of Cu, Th. Bluish cryst. powder. Sol. H_2O; sl. sol. EtOH; insol. Me_2CO.

Close, R.A. *et al*, *Anal. Chim. Acta*, 1960, **23**, 261 (*use*)
Kusakul, P. *et al*, *Anal. Chim. Acta*, 1965, **32**, 301 (*detn, Th*)
Hosain, M. *et al*, *Anal. Chim. Acta*, 1965, **33**, 164 (*detn, Cu*)
Colour Index, 3rd Edn, 1971, **4**, 4163 (*synth*)

Acid blue 89 A-00052

4-Hydroxy-5-[[4-[(4-methylphenyl)amino-5-sulfo-1-naphthalenyl]azo]-2,7-naphthalene]disulfonic acid, 9CI. C.I. 13405

[32651-57-3]



$C_{27}H_{21}N_3O_{10}S_3$ M 643.675

Strictly the name Acid blue 89 refers to the trisodium salt. Used as acid-base indicator (pH_T 11.29; colour: change blue→red). Dark red cryst. Sol. H_2O, EtOH. Available as trisodium salt.

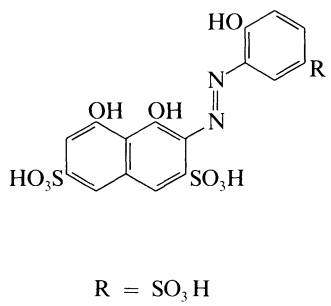
[10359-95-2]

Konopik, N. *et al*, *Monatsh. Chem.*, 1948, **79**, 586.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

Acid chrome blue K A-00053

4,5-Dihydroxy-3-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid. 7-(2-Hydroxy-5-sulfophenylazo) chromotropic acid. C.I. Mordant blue 31. C.I. 16675

[25849-37-0]



R = SO_3H

$C_{16}H_{12}N_2O_{12}S_3$ M 520.475

Strictly the name Acid chrome blue K applies to the trisodium salt.

Tri-Na salt: [3270-25-5].

Used as 0.1% aq. or EtOH soln. in photometric detn. of Nb, V, Zr, Mg (λ_{max} 505 nm); fluorimetric detn. of Al, Ga, Sc; as metal indicator for Ca (pH 12), Cd, Mg, Pb, Zn (pH 10), La, Th, Y. Bluish cryst. powder. Sol. H_2O, EtOH; spar. sol. Me_2CO. pK_{a1} 6.7; pK_{a2} 10.2; pK_{a3} 14.6.

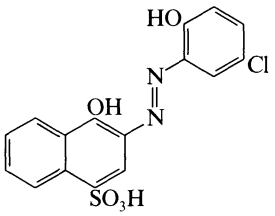
[25849-37-0]

Lazarev, A.I. *et al*, *Zavod. Lab.*, 1959, **25**, 542 (*detn, Cd, Zn*)
Korenman, I.M. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 36 (*detn, Al, Ga, Sc, Th, Y*)
Morachevskii, Y.V. *et al*, *Zh. Anal. Khim.*, 1961, **16**, 106 (*detn, V*)
Bezdekova, A. *et al*, *Collect. Czech. Chem. Commun.*, 1966, **31**, 199 (*pKa*)
Hiraki, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1972, **45**, 789 (*detn, Al, Ga. Sc*)
Tselinskii, Y.K. *et al*, *CA*, 1974, **81**, 57807v (*detn, Zn*)
Stolyarov, K.P. *et al*, *CA*, 1975, **82**, 50975k (*detn, Y, La*)

Acid chrome violet BR A-00054

3-[(5-Chloro-2-hydroxyphenyl)azo]-4-hydroxy-1-naphthalenesulfonic acid, 9CI. Omega chrome violet B. C.I. 14745. C.I. Mordant violet 40. Orthochrom violet BR. Poloxal bordeaux G

[1658-85-1]



$C_{16}H_{11}ClN_2O_5S$ M 378.792

Strictly the name Acid chrome violet BR applies to the monosodium salt.

Na salt: [5858-44-6].

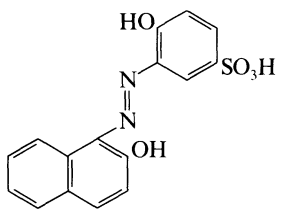
Metal indicator used in titrimetric detn. of Fe(*III*). Used as 0.25-1m*M* aq. soln. to give colour reactions with Co, Cu, In, Ga, Ni, Sc, Y, Zr. Red cryst. powder. Red in aq. soln., orange in EtOH soln. Sol. H_2O (red soln.), EtOH (orange soln.).

Belcher, R. *et al*, *Chemist-Analyst*, 1958, **47**, 2.
Korenman, I.M. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 36 (*use*)
Colour Index, 3rd Edn, 1971, **4**, 4069 (*synth*)
Basargin, N.N. *et al*, *Zavod. Lab.*, 1972, **38**, 773 (*detn, Zr*)
Basargin, N.N. *et al*, *CA*, 1974, **81**, 177647q, 177703e (*detn, Cu, Ga, Co, Ni*)

Acid chrome violet K A-00055

4-Hydroxy-3-[(2-hydroxy-1-naphthalenyl)azo]benzenesulfonic acid, 9CI. Solochrome violet RS. C.I. Mordant violet 5. Eriochrome violet B. Chrome fast violet B. Acid alizarin violet N. C.I. 15670

[3219-56-5]



$C_{16}H_{12}N_2O_5S$ M 344.347

Strictly the name Acid chrome violet K applies to the sodium salt. pK_{a2} 7.0; pK_{a3} 13.0. λ_{max} 501 nm (H_2O).

Na salt: [2092-55-9].

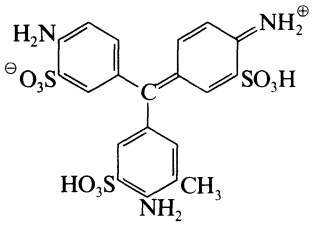
Commercially available. Used in photometric detn. of Si(*IV*), P(*V*) (indirectly), ClO_2, Al, Mo; as a metallochromic indicator in titrimetric detn. of Ca, Mg, Mn, Sr. Red-violet cryst. Sol. H_2O, EtOH; sl. sol. Me_2CO.

▷ DB7012000.

Belcher, R. *et al*, *Chem. Anal. (Warsaw)*, 1957, **46**, 86 (*detn, Mg, Mn*)
Budesinsky, B., *Collect. Czech. Chem. Commun.*, 1958, **23**, 895 (*detn, Ca, Sr*)
Coates, E. *et al*, *Trans. Faraday Soc.*, 1961, **57**, 1088 (*pKa*)
Arslanova, N.V. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 946 (*detn, P*)
Knechtel, J.R., *Anal. Chem.*, 1978, **50**, 202 (*detn, ClO_2*)
Pina, G.L., *Zh. Anal. Khim.*, 1978, **33**, 2377 (*detn, Si*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HLI000.

Acid fuchsin A-00056

2-Amino-5-[(4-amino-3-sulfophenyl)(4-imino-3-sulfo-2,5-cyclohexadien-1-ylidene)methyl]-3-methylbenzenesulfonic acid. Acid magenta. Acid rubin. C.I. Acid violet 19. C.I. 42685. Acid roseine. Acid fuchsine



$C_{20}H_{19}N_3O_9S_3$ M 541.583

Strictly the name Acid fuchsin applies to the disodium salt.

Di-Na salt: [3244-88-0].

Biological stain, indicator (pH range 12-14; colour change red → colourless). Olive to dark olive green powder. Sol. H_2O; sl. sol. EtOH.

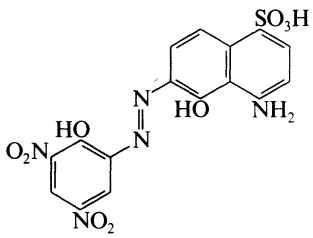
Ca salt: [123334-10-1].

Biological stain.

Colour Index, 3rd Edn, 1971, **4**, 4399 (*synth*)
H.J. Conn's Biological Stains, Lillie, R.D., Ed., 9th Edn., 1977, 285 (*use*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1538.
Sigma-Aldrich Library of Chemical Safety Data, 1988, **1**, 53A.

Acid monochrome green S A-00057

4-Amino-5-hydroxy-6-[(2-hydroxy-3,5-dinitrophenyl)azo]-1-naphthalenesulfonic acid, 9CI. C.I. Mordant green 14. C.I. 17125. Chrome fast green GW. Metachrome green G



$C_{16}H_{11}N_5O_9S$ M 449.357

Strictly the name Acid monochrome green S implies the sodium salt.

Na salt: [3687-83-0].

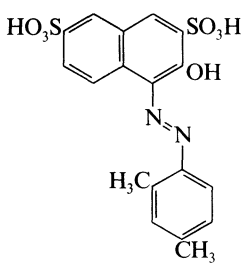
Orange cryst. Sol. H_2O; sl. sol. EtOH.

Bagreev, V.V., *Talanta*, 1968, **15**, 988 (*detn, Co*)
Colour Index, 3rd Edn, 1971, **4**, 4104 (*synth*)

Acid red 26 A-00058

4-[(2,4-Dimethylphenyl)azo]-3-hydroxy-2,7-naphthalenedisulfonic acid, 9CI. Ponceau red 2RL. C.I. 16150

[7481-49-4]



$C_{18}H_{16}N_2O_7S_2$ M 436.466

Strictly, the name Acid red 26 applies to the disodium salt.

Di-Na salt: [3761-53-3].

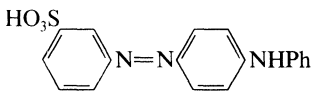
Used as a 0.5% aq. soln. for photometric detn. of Pd (λ_{max} 610 nm). Dark red cryst. powder. Sol. H_2O; spar. sol EtOH, Me_2CO; insol. Et_2O, C_6H_6.

▷ QJ6825000.

Popa, G. *et al*, *Stud. Cercet. Chim.*, 1964, **13**, 601; *CA*, **62**, 7105c (*detn, Pd*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FMU070.

Acid yellow 2G A-00059

3-[[4-(Phenylamino)phenyl]azo]benzenesulfonic acid, 9CI. C.I. Acid yellow 36. Metanil yellow. Victoria yellow. C.I. 13065



$C_{18}H_{15}N_3O_3S$ M 353.401

Strictly the name Acid yellow 2G applies to sodium salt.

Na salt: [587-98-4].

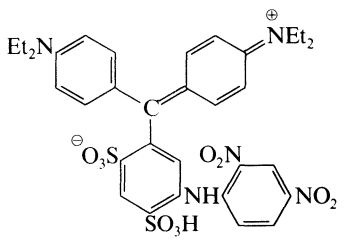
Used in photometric detn. of U(*III*), Zn, Pb (λ_{max} 410 nm, ε 45000); as 0.1% soln. as an indicator (pH range: 1.2-2.3; colour change: red→yellow). Dark yellow cryst. powder. Sol. H_2O, EtOH; mod. sol. Et_2O, Me_2CO, C_6H_6.

▷ DB7329500.

Welcher, F.S., *Organic Analytical Reagents*, Van Nostrand, 1948, **4**, 516 (*synth*)
Nemodruk, A.A. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2388.
Pyatnitskii, I.V. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 2176 (*detn, Pb*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MDM775.

Acilan fast green A-00060

N-[4-[[4-(*Diethylamino*)*phenyl*][5-[(2,4-*dinitrophenyl*)*amino*]-2,4-*disulfophenyl*]*methylene*]-2,5-*cyclohexadien-1-ylidene*]-N-*ethylethanaminium hydroxide inner salt, 9CI. C.I. Acid green 8. C.I. 42050*



$C_{33}H_{35}N_5O_{10}S_2$ M 725.799

Strictly the name Acilan fast green applies to sodium salt. Triphenylmethane basic dye.

Na salt: [6416-29-1].

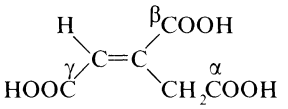
Used as 0.1% aq. soln. as redox indicator. Sol. H_2O, EtOH. E° +0.94-1.00 V, H_2SO_4.

Brazier, J.N. *et al*, *Anal. Chim. Acta*, 1965, **33**, 625.
Colour Index, 3rd Edn, 1971, **4**, 4383 (*synth*)

Aconitic acid A-00061

1-Propene-1,2,3-tricarboxylic acid, 9CI. Achilleaic acid. Citridinic acid. Equisetic acid. Pyrocitric acid

[499-12-7]



(E)-form

$C_6H_6O_6$ M 174.110

▷ UD2380000.

(E)-form [4023-65-8]

Isol. from *Asarum europaeum*, from cane-sugar molasses and other plant sources. Used to prod. unsatd. polyesters. Reagent used for fluorimetric anal. of tertiary amines. Leaflets (H_2O). Sol. H_2O, EtOH. Mp 194-195° dec. pK_{a1} 2.8; pK_{a2} 4.46 (25°). Decarboxylates at Mp to Itaconic acid. Mp variable with rate of htg.

α-Mono-Me ester: [65146-88-5].
$C_7H_8O_6$ M 188.137
Prisms (Me_2CO/C_6H_6). Mp 136-137°. Called 3-ester in CA.

β-Mono-Me ester: [65146-89-6].
$C_7H_8O_6$ M 188.137
Prisms (Me_2CO/C_6H_6). Mp 144-145°. Called 2-ester in CA.

γ-Mono-Me ester: [62424-07-1].
$C_7H_8O_6$ M 188.137
Prisms (Me_2CO/C_6H_6). Mp 154-155°. Called 1-ester in CA.

Tri-Me ester: [4271-99-2].
$C_9H_{12}O_6$ M 216.190
Sol. EtOH, Et_2O. Bp 270°, Bp_{14} 161°.

Triamide:
$C_6H_9N_3O_3$ M 171.155
Needles. Sol. hot H_2O, insol. EtOH, Et_2O. Turns brown at 250°. Sinters without melting at 260°.

Anhydride:
$C_6H_4O_5$ M 156.095
Mp 134-135°.

(Z)-form [585-84-2]

Mp 125°. Gives (*E*)-form on heating.

α-Mono-Me ester: [65146-85-2].
Prisms (Me_2CO/C_6H_6). Mp 101-102°.

β-Mono-Me ester: [65146-86-3].
Mp 102-104°.

γ-Mono-Me ester: [65146-87-4].
Prisms (Me_2CO/C_6H_6). Mp 126-127°.

Anhydride: [31511-11-2].
Mp 74°.

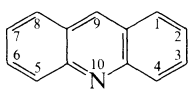
[20820-77-3, 65629-33-6]

Malachowski, R. *et al*, *Ber.*, 1928, **61**, 2521 (*synth, props*)
Org. Synth., Coll. Vol., 2, 1943, 12 (*synth*)
Krogh, A., *Acta Chem. Scand.*, 1969, **23**, 2932 (*isol*)
Bartos, J. *et al*, *Pure Appl. Chem.*, 1984, **56**, 467 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ADH000.

Acridine A-00062

Dibenzo[b,e]*pyridine. 9-Azaanthracene*

[260-94-6]



$C_{13}H_9N$ M 179.221

Obt. from coal tar. Parent compd. of many important dyes, alkaloids and antibacterials. Used for flotn. separation of $TeBr_6^{2\ominus}$; also for gravimetric detn. of Os. Needles or prisms. Sol. EtOH, Et_2O; sl. sol. H_2O. Mp 111° (sealed tube)(subl. >100°). Bp ~360° (345-346°). pK_a 5.60 (H_2O). Solutions show blue fluor. Five cryst. modifications known, all melting at ca. 106-111°. Triboluminescent.

▷ Flammable. Toxic, irritant. LD_{50} 400 mg/kg (s.c., mice). Nasal and skin irritant. AR7175000.

B,MeI: Red triclinic cryst.

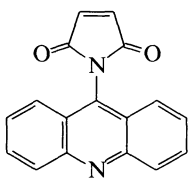
N-*Oxide:* [10399-73-2].
$C_{13}H_9NO$ M 195.220
Yellow needles (pet. ether). Mp 169°.

Radulescu, D. *et al*, *Chem. Ber.*, 1931, **64**, 2233 (*uv*)
Corwin, A.H., *Chem. Heterocycl. Compd.*, (Elderfield, R.C. Ed.), Wiley, N.Y., 1950, **1** (*rev*)
Albert, A., *The Acridines*, Arnold, London, 1951 (*props*)
Kokko, J.P. *et al*, *Spectrochim. Acta*, 1963, **19**, 1119 (*pmr*)
Beamish, F.E., *The Analytical Chemistry of the Noble Metals*, Pergamon, Oxford, 1966 (*detn, Os*)
Nakamura, K. *et al*, *J. Chem. Soc., Chem. Commun.*, 1970, 1135 (*cryst struct*)
Acheson, R.M., *Chem. Heterocycl. Compd.*, 2nd Ed. (Weissberger, A., Ed.), 1972, **9** (*rev, ir, uv, pmr, ms*)
Noeth, M. *et al*, *Chem. Ber.*, 1974, **107**, 3070 (*nmr*)
Skripchuk, V.G., *Zh. Anal. Khim.*, 1983, **38**, 2198 (*sepn, Te*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ADJ500.

1-(9-Acridinyl)-1*H*-pyrrole-2,5-dione, 9CI A-00063

N-(*9-Acridinyl*)*maleimide. NAM*

[49759-20-8]



$C_{17}H_{10}N_2O_2$ M 274.278

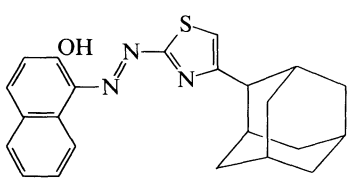
Fluorescent thiol reagent. Pale yellow prisms (Me_2CO). Mp 248° dec.

Takahashi, H. *et al*, *Agric. Biol. Chem.*, 1978, **42**, 769, 793; 1979, **43**, 1439 (*synth, use, ir, uv, pmr*)
Machida, M. *et al*, *Chem. Pharm. Bull.*, 1978, **26**, 596 (*synth, use*)
Hiroshi, O. *et al*, *Agric. Biol. Chem.*, 1985, **49**, 885 (*synth*)
Akasaka, K. *et al*, *Agric. Biol. Chem.*, 1986, **50**, 1139 (*use*)
Dasgupta, P.K. *et al*, *Anal. Chem.*, 1986, **58**, 2839 (*use*)
Hatakeyoma, E. *et al*, *Anal. Sci.*, 1989, **5**, 657 (*use*)

4-Adamantyl-2-(2-hydroxy-1-naphthalenylazo)thiazole A-00064

1-[(4-Tricyclo[3.3.1.1^{3,7}]dec-1-yl-2-thiazolyl)azo]-2-naphthalenol, 9CI

[61601-59-0]



$C_{23}H_{23}N_3OS$ M 389.520

Used as 1m*M* EtOH soln. for extraction-photometric detn. of Zn (λ_{max} 555 nm, ε 49000, $CHCl_3$), Cu(*II*) (λ_{max} 565 nm, ε 53000, $CHCl_3$). Cryst. Sol. EtOH, MeOH.

Pilipenko, A.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1976, **42**, 741 (*synth*)
Pilipenko, A.T. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 1116; 1983, **38**, 1787 (*detn, Zn, Cu*)

Adogen 364 A-00065

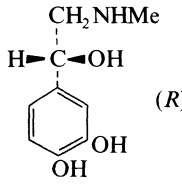
Liq. anion-exchanger. Trialkyl tertiary amine mixt. of C_8 and C_{10} chains with C_8 predominating. Used as soln. in toluene for extraction of Ga, In, Fe(*III*) from halide media. Oily liq. Sol. C_6H_6, toluene, acids; insol. H_2O. d 0.8. Av. MW 390.

Sherif, S.H. *et al*, *Talanta*, 1970, **17**, 137.

Adrenaline A-00066

4-[1-Hydroxy-2-(methylamino)ethyl]-1,2-benzenediol, 9CI. 3,4-Dihydroxy-α-[(methylamino)methyl]benzyl alcohol, 8CI. 1-(3,4-Dihydroxyphenyl)-2-methylaminoethanol. ***Epinephrine,*** **INN, USAN.** *Bronkaid. Epifrin. Glaucon. Bosmin*

[6912-68-1]



(*R*)-*form*

$C_9H_{13}NO_3$ M 183.207

Detected in callus tissue of *Portulaca grandiflora* (chirality not establ.)(Portulacaceae). Used in photometric detn. of Ti. Sol. alkalis, acids; sp. sol. H_2O, EtOH; insol. Et_2O. Mp 216° dec.

▷ High oral toxicity. Antidote; guanine. May cause contact dermatitis.

(R)-form [51-43-4]
L-form (obsol.)
Active constit. of the adrenal gland. Adrenergic agent, vasoconstrictor. White powder. Mp 216° dec. $[\alpha]_D^{20}$ −53° (c, 4 in 1*M* HCl).
▷ DO2625000.

B,HCl: Mp 157°.

Tartrate: [51-42-3]. ***Epinephrine bitartrate,*** **USAN.** *Epitrate. Suprarenin*
Ophthalmic adrenergic agent.
▷ DO3500000.

Cyclic borate: [5579-16-8]. ***Epinephryl borate,*** **USAN.** *Epinal*
Ophthalmic adrenergic agent.

N-*Me:* [554-99-4]. **N-*Methyladrenaline.*** *4-[2-(Dimethylamino)-1-hydroxyethyl]-1,2-benzenediol, 9CI*
$C_{10}H_{15}NO_3$ M 197.233
Alkaloid from tubers of *Aconitum nasutum* (Ranunculaceae).
▷ DO5425000.

(S)-form [150-05-0]
D-form (obsol.)
Light brown cryst. Mp 211-212°.
▷ DO2800000.

(±)-*form* [329-65-7] ***Racepinefrine, INN, USAN.*** *Vaponephrin*
Vasoconstrictor, often employed as bitartrate or borate. Microscopic cryst. Sl. sol. H_2O. Mp >230° dec.
▷ DO2975000.

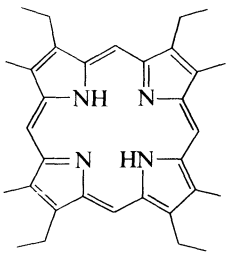
B,HCl: Racepinephrine hydrochloride, USAN
Di-Ac:
$C_{13}H_{17}NO_5$ M 267.281
Mp 168°.
Di-Ac; B,HCl: Mp 155-156°.

Abderhalden, E. *et al*, *Ber.*, 1904, **37**, 2022 (*isol*)
Ciocca, B., *Boll. Chim. Farm.*, 1934, **73**, 241; *CA*, **28**, 4398 (*synth*)
Pratesi, P. *et al*, *J. Chem. Soc.*, 1959, 4062 (*abs config*)
Payne, K.R., *Ind. Chem.*, 1961, **37**, 523 (*manuf, bibl*)
Thies, H. *et al*, *Arch. Pharm.* (*Weinheim, Ger.*), 1962, **295**, 194 (*uv*)
Jerman, L. *et al*, *Anal. Chim. Acta*, 1966, **36**, 240 (*use*)
Carlström, D., *Acta Crystallogr., Sect. B*, 1973, **29**, 161 (*cryst struct*)
Hawkins, C.J. *et al*, *Aust. J. Chem.*, 1973, **26**, 2553 (*resoln*)
Samokish, I.I. *et al*, *CA*, 1975, **84**, 102283 (*isol, deriv*)
Nagatsu, T., *Method. Chim.*, 1977, **11**, 194 (*rev*)
Szulczewski, D. *et al*, *Anal. Profiles Drug Subst.*, 1978, **7**, 193 (*rev*)
McLean, J.R., *Kirk-Othmer Encycl. Chem. Technol.*, 3rd Ed., Wiley, N.Y., 1978-1984, **9**, 241 (*rev*)
Weisser, U., *Med. Welt*, 1980, **31**, 40 (*synth*)
Lai, A. *et al*, *J. Chem. Soc., Faraday Trans. 2*, 1981, **77**, 227 (*cmr*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 336, 2041, 2042.
Endress, R. *et al*, *J. Plant Physiol.*, 1984, **115**, 291; *CA*, **101**, 127016u (*occur*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1288 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AES000, AES250, EBB500, MJV000, VGP000.

Aetioporphyrin II A-00067

3,7,13,17-Tetraethyl-2,8,12,18-tetramethylporphyrin. 2,3,6,7-Tetraethyl-1,4,5,8-tetramethylporphyrin. Etioporphyrin II

[448-70-4]



$C_{32}H_{38}N_4$ M 478.679

Synthetic; porphyrins of this type have not been found in nature but this struct. serves as a reference for "type II" porphyrins. Used as a 0.25m*M* DMF soln. for fluorimetric detn. of Zn (λ_{max} 578 nm, EtOH). Violet cryst. ($CHCl_3$/MeOH). Sol. Py, DMF, EtOH, Me_2CO, dioxan, $CHCl_3$. Mp 360-366°.

Fischer, H. *et al*, *Die Chemie des Pyrrols*, Akademische Verlag, Leipzig, Vol. II, (i), 1937, 197 (*struct*)
Corwin, A.H. *et al*, *J. Am. Chem. Soc.*, 1952, **74**, 5196 (*synth*)
Fakeeva, O.A. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 827 (*detn, Zn*)

Agar A-00068

Agar-agar

[9002-18-0]

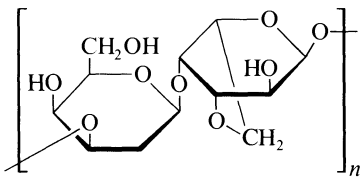
Mucilaginous substance extracted from red marine algae (Rhodophyceae). Used as protective colloid in photometric detn. of Sn, Mg, Si, $SO_4^{2\ominus}$. Used as a solid medium for the cultivation of bacteria. A thickener, stabiliser and gelling agent in the food industry. Strips or fine powder. Sl. sol. in hot H_2O. Consists of a mixt. of 2 polysaccharides, agarose and agaropectin.

Clark, R.E., *Analyst* (*London*), 1937, **62**, 661 (*detn, Sn*)
Bogan, E.J. *et al*, *Ind. Eng. Chem., Anal. Ed.*, 1942, **14**, 849 (*detn, $SO_4^{2\ominus}$*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1948, **4** (*use*)

Davidson, R.L., *Handb. Water-Soluble Gums Resins*, McGraw-Hill, N.Y., 1980, 7/1 (*rev*)
Glickmann, M., *Food Hydrocolloids*, CRC, Boca Raton, Florida, 1983, **2**, 73 (*rev*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AEX250.

Agarose A-00069

Neutral agarose



Composed of repeating units of β-D-Galp (1→4) 3,6-anhydro-α-L-Galp(1→3). Isol. from red seaweed agar. Gives gels of high strength at low concs. in water which are nearly transparent. These are used commercially as gelling agents and for biomedical applications, eg. electrophoresis media, chromatography and immunology assays. There are two other polysaccharides in agar, one is similar to agarose but with 4,6-acetals of pyruvic acid at some of the D-galactose units. The other contains fewer 3,6-anhydro-L-galactose units and is sulfated.

Percival, E., *The Carbohydrates*, 1970, **2B**, 553.
Batey, J.F. *et al*, *Carbohydr. Res.*, 1975, **43**, 133.
Turvey, J.R. *et al*, *Carbohydr. Res.*, 1976, **49**, 419.
Rees, D. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1977, **16**, 214.

Alamine A-00070

[58318-36-8]

Liq. anion exchanger; a mixt. of C_8-C_{10} chain tertiary amines. Used as a 1-10% soln. in xylene for extraction of Th and rare earth elements. Pale yellow oily liq.

De Amorim, H.A.L. *et al*, *CA*, 1976, **84**, 96823d.

Alamine oxide A-00071

Alam O

[39421-48-2]

Liq. anion-exchanger. Used as a soln. in $CHCl_3$ for extraction-separation of Co, Cu, Fe, Pu, U. Oily liq. Sol. C_6H_6, $CHCl_3$; insol. H_2O. Product of oxidation of Alamine 336S.

Kennedy, J. *et al*, *J. Inorg. Nucl. Chem.*, 1964, **26**, 601.
Leene, H.R. *et al*, *J. Chromatogr.*, 1971, **57**, 173 (*synth, use, Pu, U*)
de Jong, G.J. *et al*, *Fresenius' Z. Anal. Chem.*, 1978, **289**, 358 (*use, Co, Cu, Fe*)

Alamine 336 A-00072

Liq. anion exchanger; a mixt. of C_8-C_{10} straight chain tertiary amines. Used as a 1-10% soln. in xylene for extraction of actinides and transition metals. Pale yellow oily liq. Sol. C_6H_6, $CHCl_3$; insol. H_2O. Av. MW 392.

Green, H. *et al*, *Talanta*, 1973, **20**, 39.
Clark, J.R. *et al*, *Anal. Chem.*, 1981, **51**, 61.

Alamine 336S A-00073

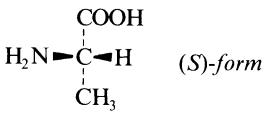
[39421-47-1]

Liq. anion exchanger; a mixt. of C_8-C_{10} chain tertiary amines. Used as a 1-10% soln. in xylene for extraction of Cd, Mn, Co. Pale yellow oily liq. Av. MW 392.

McDonald, C.W. *et al*, *Anal. Chem.*, 1973, **45**, 983.
Claasen, V.P. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **287**, 138.
de Jong, G.J. *et al*, *Fresenius' Z. Anal. Chem.*, 1978, **289**, 358.

Alanine A-00074

2-Aminopropanoic acid, 9CI. α-Alanine



(S)-form

$C_3H_7NO_2$ M 89.094

(R)-form [338-69-2]

D-form

Occurs in the cell walls of bacteria and in some higher plants. Prisms (EtOH aq.). Sol. hot H_2O. Mp 295-297° dec. $[\alpha]_D^{25}$ −1.8° (c, 1 in H_2O), $[\alpha]_D$ −14.6° (c, 1 in 5*M* HCl).

B,HCl: Sol. H_2O. $[\alpha]_D^{20}$ −10.3° (H_2O).

Et ester:

$C_5H_{11}NO_2$ M 117.147

Needles (EtOH aq.). Mp 104-105°. $[\alpha]_D^{20}$ +6.91° (EtOH).

Benzyl ester; B,HCl:

$C_{10}H_{13}NO_2$ M 179.218

Mp 139-140°. $[\alpha]_D^{25}$ +10.5° (c, 2 in 0.1*M* HCl).

Benzyl ester, p-*toluenesulphonate salt:* Mp 113-114°. $[\alpha]_D^{27}$ +6.9° (c, 2 in H_2O).

N-*Benzoyl:*

$C_{10}H_{11}NO_3$ M 193.202

Mp 151°. $[\alpha]_D$ −37.3° (c, 0.8 in KOH).

N-*Ac:*

$C_5H_9NO_3$ M 131.131

Mp 125°. $[\alpha]_D$ +66.5° (c, 2 in H_2O).

(S)-form [56-41-7]

L-form

Obt. from hydrolysates of many proteins. Insol. EtOH, sl. sol. H_2O. Mp 297° dec. $[\alpha]_D$ +14.6° (c, 1 in 5*M* HCl), $[\alpha]_D$ +1.8° (c, 1 in H_2O). *N*-Protected derivs. useful in peptide systems synth. have been listed alphabetically elsewhere.

B,HCl: Mp 204°. $[\alpha]_D^{20}$ +10.4° (H_2O).

Me ester; B,HCl: Mp 154-155°, Mp 109-110°.

Et ester; B,HCl: Mp 76°. $[\alpha]_D^{25}$ −11.4° (c, 2 in 5*M* HCl).

Benzyl ester; B,HCl: Mp 140°. $[\alpha]_D^{25}$ −10.9° (c, 2 in 0.1*M* HCl).

Benzyl ester, p-*toluenesulphonate salt:* Mp 114°. $[\alpha]_D^{13}$ −6.8° (c, 2 in H_2O).

N-*Ac:* Mp 125°. $[\alpha]_D$ −66.2° (c, 2 in H_2O).

N-*Benzoyl:* Mp 152-154°. $[\alpha]_D^{20}$ +37.1° (c, 0.7 in KOH).

N-*2,4-Dinitrophenyl:* Yellow plates (Et_2O/pet. ether). Mp 177°.

N-(*2-Hydroxyethyl*): [24560-77-8].

$C_5H_{11}NO_3$ M 133.147

Prod. by the seaweed *Petalonia jascia.*

Amide:

$C_3H_8N_2O$ M 88.109

Prisms ($CHCl_3$). Mp 72°. Hygroscopic.

(±)-form [302-72-7]

Reference material used in elemental microanalysis. Needles or prisms. Spar. sol. H_2O; insol. Et_2O. Mp 295° dec. pK_{a1} 2.35 (COOH); pK_{a2} 9.69 (NH_2) (25°).

Me ester:

$C_4H_9NO_2$ M 103.121

Bp_{15} 38-42°.

Me ester; B,HCl: Mp 158°.

Et ester: Bp_{11} 48°.

Et ester; B,HCl: Mp 64-68°, Mp 86-87° and 129°.

N-*Ac:* Mp 137-138°.

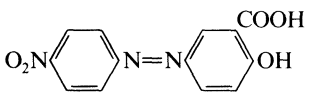
N-*Benzoyl:* Mp 165-166°.
N-*Et, Et ester:*
$C_7H_{15}NO_2$ M 145.201
Bp_{11} 48°.
N-*Di-Et, Et ester:*
$C_9H_{19}NO_2$ M 173.255
Bp_{13} 74°.
N-*Di-Et, nitrile:*
$C_7H_{14}N_2$ M 126.201
Bp_{15} 66°.
Amide: Mp 62°.
Amide; B,HCl: Mp 170°.
Nitrile; B,HCl:
$C_3H_6N_2$ M 70.094
Mp 115-117°, Mp 132-138° dec.

Org. Synth., Coll. Vol., 1, 1932, 20 (*synth*)
Biochem. Prep., 1949, **1**, 9.
Greenstein, J.P. *et al, Chemistry of the Amino Acids*, Wiley, N.Y., 1961, **3**, 1819 (*rev*)
Kost, A.N. *et al, Chem. Ind. (London)*, 1966, 1496 (*synth*)
Cavanaugh, J.R., *J. Am. Chem. Soc.*, 1967, **89**, 1558 (*pmr*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Lehmann, M.S. *et al, J. Am. Chem. Soc.*, 1972, **94**, 2657 (*cryst struct*)
Okawara, T. *et al, Bull. Chem. Soc. Jpn.*, 1973, **46**, 869 (*synth*)
Kiyooka, S. *et al, Bull. Chem. Soc. Jpn.*, 1976, **49**, 1897 (*synth*)
Krapcho, A. *et al, Tetrahedron Lett.*, 1976, 2205 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AFH600, AFH625.

Alizarine chrome orange G A-00075

2-Hydroxy-5-[(4-nitrophenyl)azo]benzoic acid, 9CI. 5-[(p-Nitrophenyl)azo]salicylic acid. 4'-Nitro-4-oxyazobenzene-3-carboxylic acid. Alizarine orange 2GN. C.I. Mordant orange 1. Azochromol orange R. Brasilon chrome orange R. Kenachrome orange. C.I. 14030. Numerous other proprietary names

[2243-76-7]



$C_{13}H_9N_3O_5$ M 287.231
Strictly the name Alizarine chrome orange G applies to the sodium salt. Available as acid or monosodium salt.

▷ VO5310000.

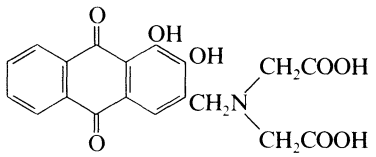
Na salt: Used as 0.1% aq. soln. as acid-base indicator, (pH range 10.1-12.1; colour change yellow→brown-red). Brown-yellow needles. Sol. EtOH, H_2O; spar. sol. Me_2CO; insol. $CHCl_3$, C_6H_6. Mp 253-257° dec. pK_a 11.05.

Meldola, R., *J. Chem. Soc.*, 1885, **47**, 666 (*synth*)
Hewitt, J.T. *et al, J. Chem. Soc.*, 1901, **79**, 53 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NEY000.

Alizarine fluorine blue A-00076

N-(*Carboxymethyl*)-N-[(*9,10-dihydro-3,4-dihydroxy-9,10-dioxo-2-anthracenyl*)*methyl*]*glycine, 9CI. 3-[Di(carboxymethyl)aminomethyl]-1,2-dihydroxyanthraquinone. 3,4-Dihydroxyanthraquinon-2-ylmethylimino-*N,N*-diacetic acid. Alizarin-3-methylimino-*N,N*-diacetic acid. Alizarine complexone*

[3952-78-1]



$C_{19}H_{15}NO_8$ M 385.329
Used as 0.5% soln. in dil. aq. NH_3 for photometric detn. of $F^{\ominus}$ (λ_{max} 620 nm, ε 14000), Al, Ge, Mo, Co, Ni, U. Orange cryst. (HCl). Sol. alkalis; spar. sol. H_2O; insol. acids, Et_2O. Mp 180° dec.

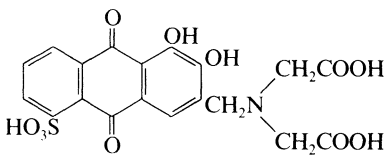
▷ AH0585000.

Leonard, M.A. *et al, J. Chem. Soc.*, 1960, 4474.
Belcher, R. *et al, Talanta*, 1961, **8**, 853, 863 (*detn, F*)
Langmyhr, F.J. *et al, Anal. Chim. Acta*, 1971, **57**, 341 (*mechanism*)
Ingman, F., *Talanta*, 1973, **20**, 999 (*detn, Al*)
Cheng, K.L. *et al, Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 247 (*use*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 135, 274.

Alizarine fluorine blue S A-00077

N-(*Carboxymethyl*)-N-[(*9,10-dihydro-3,4-dihydroxy-9,10-dioxo-8-sulfo-2-anthracenyl*)*methyl*]*glycine, 9CI. Alizarine fluorine blue sulfonate. 5-Sulfoalizarin complexone*

[55671-62-0]



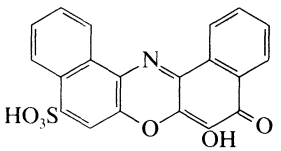
$C_{19}H_{15}NO_{11}S$ M 465.394
Strictly the name Alizarine fluorine blue S refers to the potassium salt.

K salt: [55671-61-9].
Used in photometric detn. of $F^{\ominus}$ (λ_{max} 635 nm). Hygroscopic orange-yellow cryst. Sol. alkalis; spar. sol. H_2O (5m*M*); insol. Me_2CO, Et_2O. pK_{a1} 2.7; pK_{a2} 6.1; pK_{a3} 10.2; pK_{a4} 12.5.

Leonard, M.A. *et al, Analyst (London)*, 1974, **99**, 645; 1975, **100**, 275 (*synth, detn, F*$^{\ominus}$)
Deane, S.F. *et al, Analyst (London)*, 1977, **102**, 340; 1978, **103**, 1134.

Alizarine green A-00078

*6-Hydroxy-5-oxo-5*H*-dibenzo*[a,j]*phenoxazine-9-sulfonic acid*



$C_{20}H_{11}NO_6S$ M 393.376
Strictly the name Alizarine green applies to the sodium salt.

Na salt: [55968-30-4].

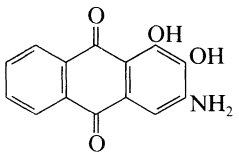
Dark greenish-blue cryst. powder. Sol. H_2O. Used as metal indicator in titrimetric detn. of Cd, Cu, Mn, Bi, Zn.

Simek, J. *et al*, *CA*, 1975, **83**, 90274h.

Alizarine maroon A-00079

3-Amino-1,2-dihydroxy-9,10-anthracenedione, 9CI. 3-Amino-1,2-dihydroxyanthraquinone. 3-Aminoalizarine

[3963-78-8]



$C_{14}H_9NO_4$ M 255.229

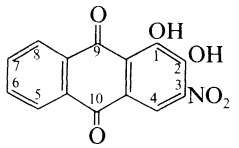
Used as a 5m*M* aq. soln. for photometric detn. of Se(*IV*) (λ_{max} 560 nm, ε 25000). Dark red cryst. (AcOH). Sol. alkalis; spar. sol. EtOH, H_2O. Mp >300°.

Idriss, K.A. *et al*, *Analyst* (*London*), 1982, **107**, 12.

Alizarine orange A-00080

1,2-Dihydroxy-3-nitro-9,10-anthracenedione, 9CI. 1,2-Dihydroxy-3-nitroanthraquinone. 3-Nitroalizarin. C.I. Mordant orange 14. C.I. 58015

[568-93-4]



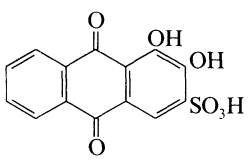
$C_{14}H_7NO_6$ M 285.212

Dye, insecticide stabiliser, indicator. Used as 1m*M* EtOH soln. for photometric detn. of Sn(*IV*) (ε 200000), Zr (λ_{max} 420 nm, ε 63000); acid base indicator (pH range 2.0-4.0; colour change: golden orange → yellow). Orange needles or plates (AcOH). Sol. EtOH. Mp 244° dec.

Barnett, E. de B. *et al*, *J. Chem. Soc.*, 1922, **121**, 1376 (*synth*)
Qureshi, G.A. *et al*, *Analyst* (*London*), 1979, **104**, 705 (*polarog*)
Pilipenko, A.T. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 126 (*detn, Zr*)
Flyantikova, G.V. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 1043 (*detn, Sn*)

Alizarine red S A-00081

9,10-Dihydro-3,4-dihydroxy-9,10-dioxo-2-anthracenesulfonic acid, 9CI. 1,2-Dihydroxyanthraquinone-3-sulfonic acid. 3-Alizarinsulfonic acid. Alizarine S. Alizarine carmine. C.I. Mordant red 3. C.I. 58005



$C_{14}H_8O_7S$ M 320.279

Strictly the name Alizarine red S applies to the sodium salt. The boron complex (Borosulfoalizarine) is used for photometric detn. of Ga, Yb.

Na salt: [130-22-3].

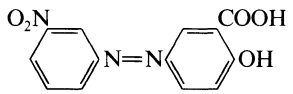
Used as soln. in acetate buffer for photometric detn. of Al, Be, Sc, rare earth elements, Zr, $F^{\ominus}$; acid-base indicator (pH 5.0-6.6). Orange-yellow needles (H_2O). Sol. H_2O; spar. sol. Me_2CO, EtOH.

Kawashima, T. *et al*, *Talanta*, 1961, **8**, 552 (*detn, rare earths*)
Kost, T., *Fresenius' Z. Anal. Chem.*, 1964, **203**, 260 (*detn, F*)
Corbett, J.A. *et al*, *Analyst* (*London*), 1966, **91**, 490 (*detn, Al*)
Zittel, H.E. *et al*, *Anal. Chem.*, 1967, **39**, 320 (*detn, Zr*)
Serdyuk, L.S. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 464 (*B complex*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, New York, 4th Ed., 1986, 784; *Part IIb: Individual Metals. Magnesium to Zinc*, John Wiley, New York, 4th Ed., 1989, 360.

Alizarine yellow G A-00082

2-Hydroxy-5-[(3-nitrophenyl)azo]benzoic acid, 9CI. 5-[(m-Nitrophenyl)azo]salicylic acid. Salicylic yellow. Metachrome yellow. C.I. Mordant yellow 1. C.I. 14025. Alizarin 2G. Chrome yellow G. Poloxal yellow GL. Numerous other proprietary names

[6283-26-7]



$C_{13}H_9N_3O_5$ M 287.231

Strictly the name Alizarin yellow G applies to the sodium salt.

Na salt: [584-42-9].

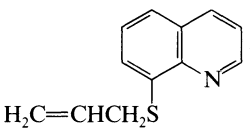
Commercially available. Used as 0.1% aq. soln. as acid-base indicator (pH 10.0-12.1; colour change light yellow→orange). Used for photometric detn. of Ga. Yellow cryst. powder. Sol. H_2O; spar. sol. EtOH, Me_2CO, 2-ethoxyethanol; insol. C_6H_6, $CHCl_3$. p*K*a 11.

Morgan, E.T. *et al*, *J. Chem. Soc.*, 1922, **121**, 2866 (*detn, Co*)
Croitoru, V. *et al*, *Chim. Anal.* (*Bucharest*), 1971, **1**, 229; *CA*, **76**, 148458v (*detn, Ga*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976.

Allthiox A-00083

8-(2-Propenylthio)quinoline, 9CI. Thiooxine allyl ether. Althiox

[36256-68-5]



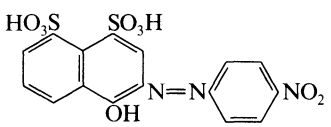
$C_{12}H_{11}NS$ M 201.292

Used as soln. in 40% EtOH in photometric detn. of Rh. Cryst. Sol. EtOH, Et_2O, C_6H_6; spar. sol. H_2O. Mp 67°.

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 870 (*detn, Rh*)

Alpha blue A-00084

4-Hydroxy-3-[(4-nitrophenyl)azo]-1,8-naphthalenedisulfonic acid. 2-(4'-Nitrophenylazo)-1-naphthol-4,8-disulfonic acid



$C_{16}H_{11}N_3O_9S_2$ M 453.410

Strictly the name Alpha blue applies to the disodium salt.

Di-Na salt: Used as acid-base indicator (test papers). Cryst. Sol. H_2O. pK_a 9.6.

Ferber, K.H., *Ind. Eng. Chem., Anal. Ed.*, 1946, **18**, 631 (*synth, props*)
Bishop, E., *Indicators*, Pergamon Oxford, 1972.

Aluminophthalexon A-00085

[65666-41-3]

Used in photometric detn. of Cr (ε 28000).

Novopol'tseva, V.M., *Khim. Khim. Tekhnol. (Minsk)*, 1977, **20**, 793; *CA*, **88**, 98625x.

Aluminophthalexon A A-00086

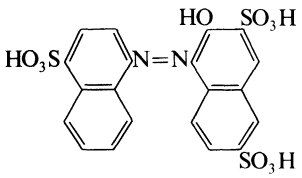
[65666-42-4]

Used for photometric detn. of Cr (ε 24000).

Novopolts'eva, V.M., *Khim. Khim. Tekhnol. (Minsk)*, 1977, **20**, 793 (*detn, Cr*)

Amaranth A-00087

3-Hydroxy-4-[(4-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI. C.I. Acid red 27, 8CI. FD and C Red No. 2. Azorubine S. C.I. 16185. Amaranth S. Amaranth R



$C_{20}H_{14}N_2O_{10}S_3$ M 538.536

Usually obt. as tri-Na salt, to which most synonyms refer. Used in dyeing, colour photography and food colouring. Used as its complex with Th in indirect photometric detn. of $F^{\ominus}$ and $S^{2\ominus}$. Sol. H_2O, EtOH, 2-ethoxyethanol. Banned by FDA for use in food, drugs and cosmetics.

Tri-Na salt: [915-67-3].

Dark-red-brown powder. Sol. H_2O.

▷ QJ6550000.

Knecht, O., *J. Soc. Dyers Colour.*, 1886, **2**, 24 (*synth*)
Lambert, J.L., *Anal. Chem.*, 1954, **26**, 558 (*detn, F*)
Lambert, J.L. *et al*, *Anal. Chem.*, 1955, **27**, 800 (*detn, S*)
Nursten, H.E., *J. Soc. Dyers Colour.*, 1973, **89**, 49 (*synth*)
Marmino, D.M., *J. Assoc. Off. Anal. Chem.*, 1974, **57**, 495 (*synth*)
Merck Index, 9th Ed., 1976, No. 378.
Fogg, M.G. *et al*, *Analyst (London)*, 1979, **104**, 723 (*anal*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FAG020.

Amberlite LA1, 9CI A-00088

[12642-13-6]

Liq. anion exchanger; a mixt. of *N*-dodecyl(trialkylmethyl) amines. Used for extraction-separation of many elements as a 1-10% soln. in xylene, or $CHCl_3$. Yellowish oily liq. Sol. C_6H_6, heptane, $CHCl_3$; insol. H_2O, acids.

Saas, A., *Analusis*, 1972, **1**, 507.
Kim, C.H. *et al*, *Talanta*, 1975, **22**, 739.
Minczewski, J. *et al*, *Separation and Preconcentration Methods in Inorganic Trace Analysis*, Horwood, Chichester, 1982, 29, 636.

Amberlite LA2, 9CI A-00089

[11128-96-4]

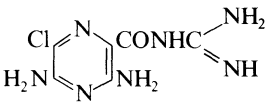
Liq. anion exchanger; a mixt. of *N*-lauryl(trialkylmethyl) amines. Used as a 1-10% soln. in xylene for extraction separation of Cd, Sn(*II*), Sn(*IV*), Te(*IV*). Yellowish oily liq.

Hofer, A., *Fresenius' Z. Anal. Chem.*, 1968, **240**, 229; 1969, **244**, 103.
Minczewski, J. *et al*, *Separation and Preconcentration Methods in Inorganic Trace Analysis*, Horwood, Chichester, 1982, 581.

Amiloride, BAN, INN A-00090

3,5-Diamino-N-(aminoiminomethyl)-6-chloropyrazinecarboxamide, 9CI. N-Amidino-3,5-diamino-6-chloropyrazinamide. Amipramidine. Amipramizide. Guanamprazine. Other proprietary names

[2609-46-3]



$C_6H_8ClN_7O$ M 229.628

Potassium-sparing diuretic. Used as a 0.01*M* aq. soln. for extraction-photometric detn. of $ClO_4^{\ominus}$ (ε 13000). Mp 240-241.5°.

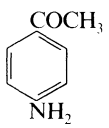
B,HCl: [2016-88-8]. *Amiloride hydrochloride, USAN* Cryst. + $2H_2O$. Mp 285-288° dec. (293.5° anhydr.).

Cragoe, E.J. *et al*, *J. Med. Chem.*, 1967, **10**, 66 (*synth, pharmacol*)
Smith, R.L. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 191 (*pmr, cmr, N-15 nmr, tautom*)
Burns, D.T. *et al*, *Anal. Chim. Acta*, 1980, **118**, 185 (*detn, $ClO^{\ominus}$*)
Hyams, D.E., *Int. Congr. Symp. Ser. R. Soc. Med.*, 1981, **44**, 65 (*rev*)
Laragh, J.H., *Curr. Ther. Res.*, 1982, **32**, 173 (*rev*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2304.
Mazzo, D.J., *Anal. Profiles Drug Subst.*, 1986, **15**, 1 (*rev*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 445 (*synonyms*)

4′-Aminoacetophenone, 8CI A-00091

1-(4-Aminophenyl)ethanone, 9CI

[99-92-3]



C_8H_9NO M 135.165

Reagent for Meerwein reactions. Used in photometric detn. of Ce, Pd. Cryst. (H_2O). Sol. hot acids, EtOH, C_6H_6; insol. H_2O. Mp 106°. Bp 293-295°.

▷ AM5500000.

N-*Ac:*
$C_{10}H_{11}NO_2$ M 177.202
Needles (H_2O or EtOH). Mp 166-169°.

N-*Benzoyl:*
$C_{15}H_{13}NO_2$ M 239.273
Plates (EtOH or $CHCl_3$). Mp 205°.

Oxime: [38063-81-9].
$C_8H_{10}N_2O$ M 150.180
Needles (EtOH). Mp 147-148°.

Semicarbazone: [18300-68-0].
Yellowish cryst. (EtOH). Mp 250°.

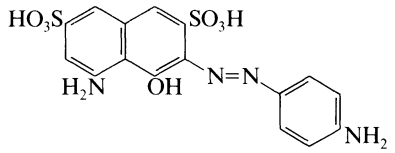
2,4-Dinitrophenylhydrazone: Mp 263°.

N-*Me:* [17687-47-7]. *1-[4-(Methylamino)phenyl]ethanone*
$C_9H_{11}NO$ M 149.192
Herbicide. Plates (H_2O). Mp 58-59°.

Leonard, N.J. *et al*, *J. Org. Chem.*, 1946, **11**, 405 (*synth*)
De Hovre, E., *Ing. Chim. (Brussels)*, 1953, **35**, 83; *CA*, **47**, 12114c (*detn, Pd*)
Somidevamma, G. *et al*, *Talanta*, 1967, **14**, 861 (*detn, Ce*)
Howe, I. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 7137 (*ms*)
Bloxidge, J. *et al*, *Org. Magn. Reson.*, 1970, **2**, 337 (*nmr*)
Wu, A., *J. Organomet. Chem.*, 1971, **33**, 53 (*nmr, ir*)
Ger. Pat., 2 210 564, (1972); *CA*, **77**, 151655 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 18.
Hinohaha, T. *et al*, *Nippon Kagaku Kaishi*, 1974, 297 (*uv*)

Haisa, M. *et al*, *Acta Crystallogr., Sect. B*, 1976, **32**, 1326 (*cryst struct*)
Penner, G.H. *et al*, *Can. J. Chem.*, 1989, **67**, 525 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AHR450.

5-Amino-3-[[4-aminophenyl]azo]-4-hydroxy-2,7-naphthalenedisulfonic acid A-00092



$C_{16}H_{14}N_4O_7S_2$ M 438.441

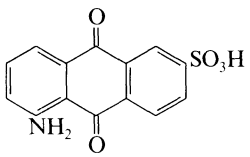
N⁴-*Ac: 3-[[4-(Acetylamino)phenyl]azo]-5-amino-4-hydroxy-2,7-naphthalenedisulfonic acid, 9CI*
$C_{18}H_{16}N_4O_8S_2$ M 480.478

N⁴-*Ac, Di-Na salt:* [36105-94-9].
Used as a 0.01% soln. in EtOH to give colour reaction with Pd. Cryst.

Popa, G. *et al*, *Zh. Anal. Khim.*, 1959, **14**, 322 (*use*)

5-Aminoanthraquinone-2-sulfonic acid A-00093

5-Amino-9,10-dihydro-9,10-dioxo-2-anthracenesulfonic acid, 9CI



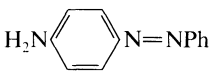
$C_{14}H_9NO_5S$ M 303.295

N-*Benzoyl:* N-(*9,10-Dihydro-9,10-dioxo-2-sulfoanthracenyl*) *benzenecarboxamide. 5-Benzamidoanthraquinone-2-sulfonic acid*
$C_{21}H_{13}NO_6S$ M 407.403
Used for indirect photometric detn. of Na. Yellow leaflets. Sol. H_2O, EtOH.

Fujinaga, T. *et al*, *Nippon Kagaku Kaishi*, 1964, **85**, 547.

4-Aminoazobenzene A-00094

4-(Phenylazo)benzenamine, 9CI. p-(*Phenylazo*)*aniline, 8CI*
[60-09-3]



$C_{12}H_{11}N_3$ M 197.239
Reagent for characterisation of diacids as *p*-phenylazoanils. Used as 0.02% soln. in EtOH for photometric detn. of SO_2 and S and phenols. Acid-base indicator. Orange needles with blue cast (EtOH). Sol. EtOH, acids, Et_2O; sl. sol. H_2O. Mp 126°. Bp >360°. pK_a 11.12.

▷ Exp. carcinogen. BY8225000.

B,HCl: [3457-98-5].
Reddish-blue needles. Mp >360°.
▷ BY8235000.

N-*Ac:* [4128-71-6].
$C_{14}H_{13}N_3O$ M 239.276
Golden needles (EtOH). Mp 144-146°.
▷ AE6300000.

N-*Benzoyl:*
$C_{19}H_{15}N_3O$ M 301.347
Orange cryst. (EtOH). Mp 211° (205°).

N-(*4-Methylbenzenesulfonyl*)*:* Red needles. Mp 187-189° dec.

N-*Me:*
$C_{13}H_{13}N_3$ M 211.266
Red needles. Mp 180°.

N-*Di-Me:* see *4-Dimethylaminoazobenzene, D-00778*

N-*Di-Et:* [2481-94-9].
$C_{16}H_{19}N_3$ M 253.346
Mp 97-98°.
▷ CX9871000.

N^α-*Oxide:* [95633-08-2]. *4-(Phenyl*-N,N,O-*azoxy*) *benzenamine, 9CI*
$C_{12}H_{11}N_3O$ M 213.238
Orange prismatic leaflets. Mp 142° (138°). Oxidised on the azo *N*-atom proximal to the *p*-aminophenyl residue.

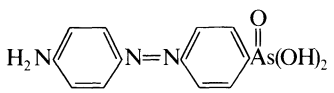
N^β-*Oxide:* [95633-07-1]. *4-(Phenyl*-O,N,N-*azoxy*) *benzenamine, 9CI*
$C_{12}H_{11}N_3O$ M 213.238
Pale-yellow cryst. Mp 136°. Oxidised on the azo *N*-atom distal to the *p*-aminophenyl residue.

[25548-34-9, 25548-35-0]

Berju, G., *Ber.*, 1884, **17**, 1400.
Staedel, W. *et al*, *Ber.*, 1886, **19**, 1954.
Higuchi, T. *et al*, *Anal. Chem.*, 1952, **24**, 685 (*use*)
Kniseley, S.J. *et al*, *Anal. Chem.*, 1966, **38**, 1270 (*detn*, SO_2)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 37.
Whitlock, L.R. *et al*, *Anal. Chem.*, 1972, **44**, 532 (*detn, phenols*)
Pentimalli, L., *Ann. Chim. (Rome)*, 1973, **63**, 727.
Ames, B.N. *et al*, *Proc. Natl. Acad. Sci. U.S.A.*, 1973, **70**, 2281 (*tox*)
Bhatt, A. *et al*, *Analyst (London)*, 1983, **108**, 374 (*detn, S*)
Chaube, A. *et al*, *Analyst (London)*, 1984, **109**, 391 (*detn, S*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, OH1875, PEH750, PEI000, PEI250.

4-Aminoazobenzene-4′-arsonic acid A-00095

4-[[(4-Aminophenyl)azo]phenyl]arsonic acid, 9CI
[6966-64-9]



$C_{12}H_{12}AsN_3O_3$ M 321.167
Cryst. (EtOH). Mp >360°.

▷ Toxic.

N-*Di-Me:* [622-68-4].
$C_{14}H_{16}AsN_3O_3$ M 349.220
Used as 0.5% soln. in 6*M* HCl for indirect photometric detn. of Zr; as 0.5% soln. in 1*M* HCl for photometric detn. of Ce(*IV*) (λ_{max} 490 nm), $F^{\ominus}$. Red cryst. (EtOH). Sol. EtOH, Me_2CO, acids, H_2O.

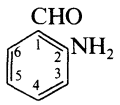
N-*Di-Me; B,HCl:* Cryst. Mp 203° dec.

Barrowcliff, M. *et al*, *J. Chem. Soc.*, 1909, **93**, 1896 (*deriv*)
Pauling, L. *et al*, *J. Am. Chem. Soc.*, 1942, **64**, 2994 (*synth*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1948, **4**, 59 (*synth, deriv, use*)
Eberle, A.R. *et al*, *Anal. Chem.*, 1962, **34**, 1176 (*detn, Zr*)
Smith, G.W. *et al*, *J. Mol. Spectrosc.*, 1964, **12**, 146 (*pmr*)
Elbeih, I.I. *et al*, *Fresenius' Z. Anal. Chem.*, 1975, **274**, 31 (*detn, Ce*)
Kumar, K. *et al*, *Can. J. Chem.*, 1977, **55**, 1444 (*raman*)

2-Aminobenzaldehyde, 9CI A-00096

Anthranilaldehyde, 8CI

[529-23-7]



C_7H_7NO M 121.138

Reagent for spectrophotometric anal. of aliphatic aldehydes. Leaflets. Mp 40°. Bp_2 80-85°.

N-*Me:* [7755-70-6].
C_8H_9NO M 135.165
Light-yellow liq. Bp_{10} 112°, Bp_1 77-78°.

N,N-*Di-Me:* [579-72-6].
$C_9H_{11}NO$ M 149.192
Yellow oil. Bp 244°, Bp_8 114-115°.

N-*Ac:* [13493-47-5].
$C_9H_9NO_2$ M 163.176
Needles (H_2O). Mp 70-71°.

N-*Benzoyl:* [33768-43-3].
$C_{14}H_{11}NO_2$ M 225.246
Needles (ligroin). Mp 74°.

Oxime: [3398-07-0].
$C_7H_8N_2O$ M 136.153
Cryst. (H_2O). Mp 137°.

Semicarbazone: Yellow. Mp 247°.

Org. Synth., Coll. Vol., 3, 1955, 56 (*synth*)
Albrecht, A.M. *et al, Anal. Chem.*, 1962, **34**, 398 (*use*)
Luk'yanchikova, G.I. *et al, CA*, 1963, **59**, 1441c (*use, deriv*)
UV Atlas of Organic Compounds, Butterworths/Verlag Chemie, 1968, D9/37 (*uv*)
Srivastava, M.P. *et al, Indian J. Pure Appl. Phys.*, 1972, **10**, 50 (*ir*)
Yoder, C.H. *et al, J. Org. Chem.*, 1976, **41**, 1511 (*cmr*)
Shapiro, B.L. *et al, J. Phys. Chem. Ref. Data*, 1977, **6**, 919 (*pmr*)
Zivanovic, L. *et al, CA*, 1988, **108**, 1379426; **109**, 98921t (*use, deriv*)

4-Aminobenzaldehyde, 9CI A-00097

[556-18-3]

C_7H_7NO M 121.138

Leaflets. Mp 71°. Polymerises readily under acidic conditions; the linear polymer is commercially available.

▷ CU4400000.

Oxime: [3419-18-9].
$C_7H_8N_2O$ M 136.153
Yellow cryst. Mp 124°.

Phenylhydrazone: [19098-48-7].
Leaflets (EtOH). Mp 156° (175°).

2,4-Dinitrophenylhydrazone: Light-brown cryst. Mp 192.5-194.5° dec.

N-*Ac:* [122-85-0].
$C_9H_9NO_2$ M 163.176
Needles. Mp 155°.

N-*Me:* [556-21-8].
C_8H_9NO M 135.165
Plates (H_2O). Mp 60-61°.

N,N-*Di-Me:* see *4-(Dimethylamino)benzaldehyde, D-00779*

N-*Et:*
$C_9H_{11}NO$ M 149.192
Needles (C_6H_6/ligroin). Mp 81-82°.

N,N-*Di-Et:* [120-21-8].
$C_{11}H_{15}NO$ M 177.246
Reagent for detn. of aromatic amines. Yellow needles (H_2O). Mp 41°. Bp_7 174°.

N-*Ac, thiosemicarbazone:* [104-06-3]. ***Thiacetazone,* BAN.** *Thioacetazone, INN. Thioparamizone. Amithiozone. TBI/698*
$C_{10}H_{12}N_4OS$ M 236.297
Antibacterial agent used in treatment of tuberculosis and leprosy. Reagent for spectrophotometric anal. of corticosteroids.

▷ AE3850000.

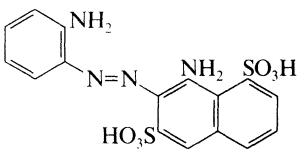
N-*Me,* N-*nitroso: 4-Methylnitrosoaminobenzaldehyde*
$C_8H_8N_2O_2$ M 164.163
Isol. from fungus *Clitocybe suaveolens*. Pale-yellow needles (EtOH aq.). Mp 81-82°.

Yamaguchi, I. *et al, Bull. Chem. Soc. Jpn.*, 1960, **33**, 1128 (*pmr*)
Herrmann, H., *Hoppe Seyler's Z. Physiol. Chem.*, 1961, **326**, 13 (*4-Methylnitrosoaminobenzaldehyde*)
Luk'yanchikova, G.I., *CA*, 1963, **59**, 1441c (*use, deriv*)
Org. Synth., Coll. Vol., 4, 1963, 31 (*synth*)
Lees, W.A. *et al, Tetrahedron*, 1963, **19**, 419 (*uv*)
Srivastava, M.P. *et al, Indian J. Pure Appl. Phys.*, 1972, **10**, 50 (*ir*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7572.
Zivanovic, L. *et al, CA*, 1988, **108**, 137942b; **109**, 98921t (*use, deriv*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FNF000.

Aminobenzene AE A-00098

8-Amino-7-(2-aminophenylazo)-1,6-naphthalenedisulfonic acid

[65848-28-4]



$C_{16}H_{14}N_4O_6S_2$ M 422.442

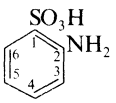
Used as 0.2% aq. soln. for photometric detn. of Co (λ_{max} 581 nm, ε 19000). Orange cryst. Sol. H_2O, EtOH; insol. C_6H_6. pK_{a1} 2.96 (μ = 1, 20°).

Kalenchenko, T.Y. *et al, CA*, 1970, **88**, 114765a.

2-Aminobenzenesulfonic acid, 9CI A-00099

Orthanilic acid, 8CI. Aniline-o-sulfonic acid

[88-21-1]



$C_6H_7NO_3S$ M 173.192

Used for photometric detn. of $NO_2^{\ominus}$, Os. Cryst. + $\frac{1}{2}$ H_2O. Mp 315° dec. pK_a 2.48 (25°).

Amide: [3306-62-5].
$C_6H_8N_2O_2S$ M 172.207
Needles. Mp 153°.

N-*Me:* [70916-29-9]. *2-(Methylamino)benzenesulfonic acid, 9CI*
$C_7H_9NO_3S$ M 187.219
Mp 182° dec., Mp 220° dec.

N-*Me, amide:* [21639-28-1].
$C_7H_{10}N_2O_2S$ M 186.234
Needles (H_2O). Mp 114.5-115.9°.

N-*Di-Me:* [14503-46-9]. *2-(Dimethylamino)benzenesulfonic acid*
$C_8H_{11}NO_3S$ M 201.246
Cryst. (H_2O). Mp 229-230°.

Org. Synth., Coll. Vol., 2, 1943, 471 (*synth*)
Brand, J.C.D., *J. Chem. Soc.*, 1952, 3927 (*deriv*)
Kresse, G. *et al, Chem. Ber.*, 1956, **89**, 1412 (*synth*)

Garcia-Gutierrez, A.G., *Quim. Ind. (Madrid)*, 1972, **18**, 5; *CA*, **78**, 131677j (*detn*, $NO_2^{\ominus}$)
Chakraborti, D., *Indian J. Chem., Sect. A*, 1976, **14**, 516 (*detn, Os*)
Bamfield, P. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1988, 691 (*synth*)

4-Aminobenzenesulfonic acid, 9CI A-00100

Aniline-p-*sulfonic acid. Sulfanilic acid*

[121-57-3]

$C_6H_7NO_3S$ M 173.192

Used as a 0.8% soln. in 25% AcOH for photometric detn. of $NO_2^{\ominus}$ (Griess method), Ce(*IV*) (λ_{max} 540 nm). Cryst. + $2H_2O$. pK_{a1} 3.24 (25°). Also used as Zn salt, Sulfanilate zinc, USAN.

▷ Emits highly toxic fumes on contact with acids or on heating to dec.

Me ester: [55034-26-9].
$C_7H_9NO_3S$ M 187.219
Mp 92°.

Amide: [63-74-1]. ***Sulfanilamide*, INN.** *Prontosil album. Numerous proprietary names*
$C_6H_8N_2O_2S$ M 172.207
Antibacterial chiefly of historical importance. Numerous derivs. have antibacterial props. Used for photometric detn. of $NO_2^{\ominus}$ and $NO_3^{\ominus}$. Leaflets (EtOH aq.). Sol. H_2O. Mp 165-166°. pK_{a1} 10.58 (20°, 0.1*M* KCl). Can be diazotised.
▷ WO8400000.

N-*Me:* [24447-99-2]. *4-(Methylamino)benzenesulfonic acid*
$C_7H_9NO_3S$ M 187.219
Used as an adsorption indicator for titrimetric detn. of $Cl^{\ominus}$. Plates (H_2O). Mp 244-245° dec.

N-*Me, amide:* [16891-79-5].
$C_7H_{10}N_2O_2S$ M 186.234
Plates (EtOH aq.). Mp 210-211°.

N-*Ac, amide:* [144-80-9]. ***Sulfacetamide*, INN.** *Albucid*
$C_8H_{10}N_2O_3S$ M 214.245
Antibacterial, freq. employed as Na salt (Sulphacetamide sodium, BAN). Mp 181-184°.
▷ AC8450000.

N-*Benzoyl, amide:* [127-71-9]. N-[(*4-Aminophenyl*)*sulfonyl*] *benzamide, 9CI.* N-*Sulfanilylbenzamide, 8CI.* ***Sulfabenzamide*, USAN, INN.** *Sulfabenzide*
$C_{13}H_{12}N_2O_3S$ M 276.315
Antibacterial. Sol. H_2O. Mp 181.2-182.3°. pK_a 4.57.
▷ CV5802500.

N-*Ph:* [101-57-5]. *Diphenylamine-4-sulfonic acid. 4-(Phenylamino)benzenesulfonic acid, 9CI*
$C_{12}H_{11}NO_3S$ M 249.290

N-*Ph, Ba salt:* [6211-24-1].
Used as a 0.2% aq. soln. as redox indicator; titrimetric detn. of Ce(*IV*), Sb(*III*), $NO_3^{\ominus}$. Cryst. powder. Sol. H_2O, EtOH; insol. Et_2O, C_6H_6. E° + 0.85V; λ_{max} 593 nm.

N-*Ph, Na salt:* [6152-67-6].
Indicator. Light yellow cryst.

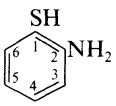
[127-56-0, 6209-17-2, 22484-64-6, 31884-76-1]

Gelmo, H., *J. Prakt. Chem.*, 1908, **77**, 369 (*synth*)
Kolthoff, I.M. *et al*, *J. Am. Chem. Soc.*, 1930, **52**, 4179; 1933, **55**, 1448 (*use*)
Sarver, L.A. *et al*, *J. Am. Chem. Soc.*, 1931, **53**, 2902 (*use*)
Org. Synth., Coll. Vol., 1, 1932, 8 (*deriv*)
Northey, E.H., *Chem. Rev.*, 1940, **27**, 85 (*rev, deriv*)
Fierz-David, H.E. *et al*, *Helv. Chim. Acta*, 1946, **29**, 1718 (*derivs*)
Stockdale, D., *Analyst (London)*, 1950, **75**, 150 (*use*)
Barnes, H. *et al*, *Analyst (London)*, 1951, **76**, 599 (*detn*, $NO_2^{\ominus}$)
Perrot, R., *Bull. Soc. Chim. Fr.*, 1951, 278 (*deriv*)
Saltzman, B.E., *Anal. Chem.*, 1954, **26**, 1949 (*detn*, $NO_2^{\ominus}$)
Sarma, P.L. *et al*, *Talanta*, 1966, **13**, 347 (*detn, Ce*)
Kieruczenkova, A., *Chem. Anal. (Warsaw)*, 1967, **12**, 1031 (*detn*, $NO_2^{\ominus}$)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 3 (*use, deriv*)
Alleaume, M. *et al*, *Acta Crystallogr., Sect. B*, 1968, **24**, 214 (*Sulfanilamide, cryst struct*)
Roeges, N., *J. Chem. Educ.*, 1968, **45**, 121 (*synth*)
Pollock, E.N., *Talanta*, 1969, **16**, 1323 (*detn, Ce*)
Tschernova, M.A. *et al*, *Zavod. Lab.*, 1973, **39**, 390 (*N-Me, synth, use*)
Rao, G. *et al*, *Anal. Chim. Acta*, 1975, **79**, 273 (*use*)
Rambaud, J. *et al*, *Bull. Soc. Chim. Fr.*, 1980, 51 (*Sulfabenzamide, cryst struct*)
Bult, A., *Pharm. Weekbl.*, 1981, **3**, 213; 1983, **5**, 77 (*deriv, cmr, tautom*)
Snell, F.D., *Photometric and Fluorimetric Methods of Analysis, Non-Metals*, John Wiley, New York, 1981, 559, 585.
Bult, A., *Met. Ions Biol. Syst.*, 1983, **16**, 261 (*derivs*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 419.
Pomerantz, M. *et al*, *J. Org. Chem.*, 1987, **52**, 159 (*cmr, N-15 nmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DUD000, SNH800, SNM500, SNP500, SNQ000.

2-Aminobenzenethiol, 9CI A-00101

o-*Aminophenyl mercaptan.* o-*Aminothiophenol.* o-*Mercaptoaniline*

[137-07-5]



C_6H_7NS M 125.194

Use in extraction-photometric detn. of Mo ($CHCl_3$), and as an indicator in potentiometric acid-base titrations. Needles. Mp 26°. Bp 234°, Bp_4 94-97°, Bp_6 125-127°. pK_{a1} 3.00; pK_{a2} 6.59 (20°).

▷ Mod. toxic (oral). DC0600000.

B,HCl: [3292-42-0].
Cryst. (H_2O). Mp 217°.
▷ DC0700000.

N-*Me:* [21749-63-3].
C_7H_9NS M 139.221
Bp_{18} 126-127°, Bp_{12} 115-120°.

S-*Me:* [2987-53-3]. o-*Thioanisidine*
C_7H_9NS M 139.221
Bp_{15} 133-134°.

N,N-*Di-Me:*
$C_8H_{11}NS$ M 153.248
Bp_5 87°.

N,S-*Di-Me:* [13372-62-8].
$C_8H_{11}NS$ M 153.248
$Bp_{0.06}$ 64°.

N,N,S-*Tri-Me:* [2388-50-3].
$C_9H_{13}NS$ M 167.274
Oil. Bp_{20} 130°.

N-*Et:* [1074-18-6].
$C_8H_{11}NS$ M 153.248
Bp_{20} 129-130°.

S-*Et:* [13920-91-7].
$C_8H_{11}NS$ M 153.248
Oil. Bp_{15} 144°.

N-*Ac:*
C_8H_9NOS M 167.231
Mp 114.5-115.5°.

N,S-*Di-Ac:*
$C_{10}H_{11}NO_2S$ M 209.268
Rods (EtOH). Mp 135°.

S-*Me*, N-*Ac:*
$C_9H_{11}NOS$ M 181.258
Mp 102-103°.

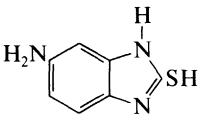
S-*Ph:*
$C_{12}H_{11}NS$ M 201.292
Cryst. Mp 42°.

Registry of Mass Spectral Data, Wiley-Interscience, 204 (*ms*)
Sadtler Standard C-13 NMR Spectra, 6431 (*cmr*)
Sadtler Standard Ultraviolet Spectra, 449 (*uv*)
Hofmann, A.W., *Ber.*, 1887, **20**, 2260 (*synth*)
Affsprung, H.E. *et al*, *Anal. Chim. Acta*, 1965, **32**, 496 (*use, indicator*)
Aldrich Library of NMR Spectra, 1974, **5**, 45A (*pmr*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 633H (*ir*)
Bag, S.P. *et al*, *Indian J. Chem.*, 1975, **13**, 1227 (*use, indicator*)
Chakrabarti, A.K. *et al*, *Talanta*, 1976, **23**, 736 (*detn, Mo*)
Takeuchi, H. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1988, 521 (*deriv, synth, ir, pmr, cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AIF500.

5-Amino-2-benzimidazolethiol, 8CI A-00102

5-Amino-2-mercaptobenzimidazole

[2818-66-8]



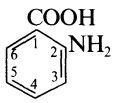
$C_7H_7N_3S$ M 165.218
Used as 0.5% soln. in dil. AcOH in photometric detn. of Rh, Pd. Cryst. Sol. alkalis, acids, EtOH; insol. H_2O. Mp 245°.

Sen Gupta, J.G., *Talanta*, 1961, **8**, 729, 785.

2-Aminobenzoic acid, 9CI A-00103

Anthranilic acid, 8CI. Vitamine L_1

[118-92-3]



$C_7H_7NO_2$ M 137.138
Prod. by bacteria and fungi. An important intermed. in the synth. of many compds., corrosion inhibitor for metals. Used as 3% aq. soln. of Na salt for gravimetric detn. of Co, Ni, Cu(*II*), Hg(*II*), Mn, Pb, Cd, U(*VI*), Zn. Leaflets. Sol. H_2O. Mp 144-148°. pK_{a1} 1.97; pK_{a2} 4.79 (25°), pK_{a1} 2.17; pK_{a2} 4.85 (25°, 0.1*M* KCl). Sublimes, triboluminescent.

▷ Mod. toxic orally. CB2450000.

B,HCl: [2099-63-0].
Mp 193-194°.

Me ester: [134-20-3].
$C_8H_9NO_2$ M 151.165
Found in essential oils, including bergamot, jasmine, ylang-ylang and neroli. Used in perfumery as artificial orange blossom fragrance, also employed extensively in the form of its Schiff's bases (e.g. with Hydroxycitronellal). Cryst. Mp 24-25°. Bp_{15} 133.5°. pK_a 2.32 (25°, 1% EtOH aq.). Steam-volatile.
▷ CB3325000.

Amide: [88-68-6]. *2-Aminobenzamide. Anthranilamide*
$C_7H_8N_2O$ M 136.153
Leaflets. Mp 109-111.5° dec.

Amide, N-hydroxy: [5623-04-1]. *2-Amino-N-hydroxybenzamide, 9CI. o-Aminobenzohydroxamic acid. N-Anthranilohydroxamic acid*
$C_7H_8N_2O_2$ M 152.152
Used as 0.1-1% soln. in 4-methyl-2-pentanone for photometric detn. of V(*V*). Cryst. Sol. H_2O, EtOH; spar. sol. Et_2O. Mp 149°.

N-*Me:*
$C_8H_9NO_2$ M 151.165
Plates (EtOH). Mp 175-182°.

Benzoylhydrazide: see *2-Aminobenzoic acid 2-benzoylhydrazide, A-00106*

Acetonehydrazide: see *2-Aminobenzoic acid (1-methylethylidene)hydrazide, A-00109*

Funk, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1935, **101**, 85; 1942, **123**, 241 (*detn, Pb, Hg, Zn, Cd*)
Kiba, T. *et al*, *Nippon Kagaku Kaishi*, 1940, **61**, 133 (*detn, metal pptn*)
Smith, P.A.S., *J. Am. Chem. Soc.*, 1954, **76**, 431.
Holmes, F. *et al*, *Anal. Chim. Acta*, 1956, **15**, 312 (*pptn*)
Morachevskii, Yu.G. *et al*, *Zh. Anal. Khim.*, 1959, **14**, 55 (*pptn*)
Chacrawarty, D. *et al*, *J. Pharm. Sci.*, 1969, **43**, 26 (*acetonehydrazide, synth*)
Dhaneshwar, N.N. *et al*, *Acta Crystallogr., Sect. B*, 1972, **28**, 647 (*cryst struct*)
Sutamihardja, T.M. *et al*, *Chem. Pharm. Bull.*, 1972, **20**, 2694.
Aldrich Library of NMR Spectra, 1974, **6**, 144D (*pmr*)
Dolgorev, A.V., *Zh. Anal. Khim.*, 1974, **29**, 721 (*acetonehydrazide, use*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 838G (*ir*)
Errede, L.A., *J. Org. Chem.*, 1976, **41**, 1763 (*synth*)
Boone, C.D.G. *et al*, *Acta Crystallogr., Sect. B*, 1977, **33**, 3205 (*cryst struct*)
Dougherty, C.J., *J. Chem. Educ.*, 1977, **54**, 643 (*synth*)
Pedersen, E.B., *Tetrahedron*, 1977, **33**, 217 (*synth*)
Bag, S.P. *et al*, *J. Indian Chem. Soc.*, 1983, **60**, 226 (*detn, V*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, API500, APJ250, EGM000.

3-Aminobenzoic acid, 9CI A-00104

[99-05-8]

$C_7H_7NO_2$ M 137.138
Used as 2% aq. soln. (neutralised with Na_2CO_3) in photometric detn. of Os. Needles (H_2O). Sol. alkalis, acids; spar. sol. H_2O. Mp 178°. pK_{a1} 3.07 (base); pK_{a2} 4.79 (acid) (25°).

▷ Causes exp. neoplasms. DG1225000.

Me ester: [4518-10-9].
$C_8H_9NO_2$ M 151.165
Leaflets (Et_2O). Mp 54°. Bp_1 126°.

Et ester: [582-33-2].
$C_9H_{11}NO_2$ M 165.191
Oil. Bp 294°, Bp_5 144°.

Chloride: [21563-72-4].
C_7H_6ClNO M 155.583
Mp 42°. Bp_{15} 125°.

Anhydride:
$C_{14}H_{12}N_2O_3$ M 256.260
Needles (C_6H_6). Mp 113-114°.

Amide: [3544-24-9].
$C_7H_8N_2O$ M 136.153
Cryst. (C_6H_6). Mp 115°.
▷ CU8992000.

N-*Ac:* [587-48-4].
$C_9H_9NO_3$ M 179.175
Needles (EtOH). Mp 248-249°. pK_{a1} 4.03 (25°).

N-*Benzoyl:* [587-54-2].

$C_{14}H_{11}NO_3$ M 241.246
Prisms (EtOH). Mp 248°.

N,N-*Di-Me:*
$C_9H_{11}NO_2$ M 165.191
Cryst. (H_2O). Mp 151°.

N-*Et:* [7085-93-0].
$C_9H_{11}NO_2$ M 165.191
Prisms. Mp 112°.

N,N-*Di-Et:* [25642-60-8].
$C_{11}H_{15}NO_2$ M 193.245
Prisms + $2H_2O$. Mp 90°.

Registry of Mass Spectral Data, Wiley-Interscience, 290 (*ms*)
Sadtler Standard C-13 NMR Spectra, 1231 (*cmr*)
Sadtler Standard Ultraviolet Spectra, 1802 (*uv*)
Majumdar, A.K. *et al*, *Fresenius' Z. Anal. Chem.*, 1961, **179**, 13 (*detn, Os*)
Neilson, T. *et al*, *J. Chem. Soc.*, 1962, 371 (*synth*)
Arora, S.K. *et al*, *Acta Crystallogr., Sect. B*, 1973, **29**, 1849 (*cryst struct*)
Aldrich Library of NMR Spectra, 1974, **6**, 147D (*pmr*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 840D (*ir*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AID625, AIH500.

4-Aminobenzoic acid, 9CI A-00105

Vitamin H'. PABA

[150-13-0]

$C_7H_7NO_2$ M 137.138
Prod. by yeasts and bacteria. Reagent for characterisation of aldoses. Used as a growth factor, an antirickettsial and as a sunscreen agent. Bacterial growth factor. Used as 1.5% soln. in 0.1*M* NaOH for gravimetric detn. of Cu(*II*). Yellowish-red prisms. Sol. H_2O, alkalis, EtOH, Et_2O, C_6H_6. d 1.374. Mp 188-188.5°. pK_{a1} 2.50; pK_{a2} 4.87 (25°).

▷ Mod. toxic. DG1400000.

Me ester: [619-45-4]. *Methyl 4-aminobenzoate*
Leaflets (EtOH aq.). Mp 112°.

Et ester: [94-09-7]. *Ethyl 4-aminobenzoate.* ***Benzocaine.*** *Anesthezin. Numerous proprietary names*
$C_9H_{11}NO_2$ M 165.191
Local anaesthetic. Used as 1% aq. soln.; gives specific colour reaction for Ce(*IV*). Needles (EtOH). Sol. EtOH, Et_2O, $CHCl_3$; sl. sol. H_2O. Mp 92°. Bp_{14} 183-184°.
▷ Highly toxic (oral), mild sensitiser. DG2450000.

Heptyl ester: [14309-40-1]. *Heptyl 4-aminobenzoate*
$C_{14}H_{21}NO_2$ M 235.325
Reagent for the indirect photometric detection of aliphatic compds. by reversed phase hplc. Mp 80.5°.

Amide:
$C_7H_8N_2O$ M 136.153
Light-yellow cryst. + $\frac{1}{2}H_2O$. Mp 183°.

N-*Me:* [10541-83-0]. *4-(Methylamino)benzoic acid*
$C_8H_9NO_2$ M 151.165
Cryst. (EtOH aq. or C_6H_6). Mp 168° (155-157°).

N-*Me, Me ester:* [18358-63-9].
$C_9H_{11}NO_2$ M 165.191
Plates (EtOH aq.). Mp 95.5°. pK_a 11.68 (25°).

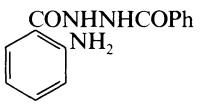
[577-48-0, 64059-66-1]

Registry of Mass Spectral Data, Wiley-Interscience, 290 (*ms*)
Sadtler Standard C-13 NMR Spectra, 3466, 6429 (*cmr*)
Sadtler Standard Ultraviolet Spectra, 15745, 16313 (*uv*)
Kremer, C.B., *J. Chem. Educ.*, 1956, **33**, 71 (*synth*)
Batalin, Ak. *et al*, *Khim. Khim. Tekhnol. (Minsk)*, 1962, **5**, 845; *CA*, **58**, 13117h (*use*)
Erdey, L. *et al*, *Talanta*, 1968, **15**, 149 (*detn, Cu*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 24.
Aldrich Library of NMR Spectra, 1974, **6**, 151C; **7**, 129A (*pmr*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 842D, 986B (*ir*)
Ali, S.L., *Anal. Profiles Drug Subst.*, 1983, **12**, 73 (*Benzocaine*)
Parkin, J.E., *J. Chromatogr.*, 1986, **351**, 532 (*use*)
Gasparro, F.P., *Photodermatology*, 1986, **3**, 6 (*rev*)
Togashi, A. *et al*, *Bull. Chem. Soc. Jpn.*, 1987, **60**, 1171 (*synth, heptyl ester*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 662, 1216 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AIH600, BPZ000, COK125, EFX000, MOT750.

2-Aminobenzoic acid 2-benzoylhydrazide A-00106

Anthranilic acid benzoylhydrazide

[28864-27-9]



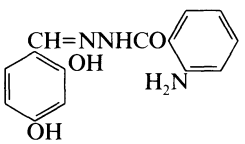
$C_{14}H_{13}N_3O_2$ M 255.276
Used as a 0.02*M* soln. in Me_2CO for photometric detn. of V. Pale yellow cryst. powder. Insol. H_2O; spar. sol. EtOH; sol. dioxan Me_2CO.

Karpova, O.I. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 1142 (*detn, V*)

2-Aminobenzoic acid [(2,4-dihydroxyphenyl)methylene]hydrazide, 9CI A-00107

Anthranilic acid resorcylalhydrazide. 2,4-Dihydroxybenzaldehyde 2-aminobenzoylhydrazone

[102915-34-4]



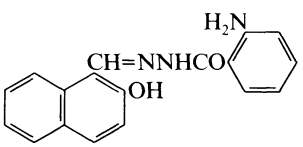
$C_{14}H_{13}N_3O_3$ M 271.275
Used as 2m*M* Me_2CO soln. for photometric detn. of V(*V*) (λ_{max} 400 nm, ε 13500, pH ~4.5). Cryst. (EtOH). Sol. EtOH, Me_2CO; mod. sol. H_2O. pK_{a2} 3.2; pK_{a3} 8.1.

Dudarev, V.I. *et al*, *Zh. Anal. Khim.*, 1986, **41**, 289 (*synth, detn, V*)

2-Aminobenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, 9CI A-00108

2-Hydroxy-1-naphthalenecarboxaldehyde 2-aminobenzoylhydrazone. Anthranilic acid β-hydroxynaphthalhydrazide. Hydrazo T

[50886-62-9]



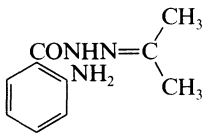
$C_{18}H_{15}N_3O_2$ M 305.335
Used as Me_2CO soln. for photometric detn. of Ti (ε 27000). Yellowish cryst. Sol. Me_2CO, EtOH, AcOH, $CHCl_3$. Mp 182°.

Dolgorev, A.V., *Zavod. Lab.*, 1973, **39**, 772 (*detn, Ti*)

2-Aminobenzoic acid (1-methylethylidene) hydrazide A-00109

Anthranilic acid acetonehydrazide

[53131-21-8]



$C_{10}H_{13}N_3O$ M 191.232

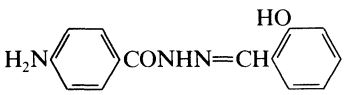
Used as a 0.05% soln. in Me_2CO for photometric detn. of V (λ_{max} 525 nm, ε 5100). Pale yellow cryst. powder. Insol. H_2O; spar. sol. EtOH; sol. dioxan, Me_2CO.

Chacrawarty, D. *et al*, *J. Pharm. Sci.*, 1969, **43**, 26 (*synth*)
Dolgorev, A.V. *et al*, *Zavod. Lab.*, 1974, **40**, 771 (*detn, V*)
Dolgorev, A.V., *Zh. Anal. Khim.*, 1974, **29**, 721 (*use*)

4-Aminobenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, 9CI A-00110

p-*Aminobenzoic acid salicoylhydrazide*

[50366-22-8]



$C_{14}H_{13}N_3O_2$ M 255.276

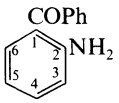
Used as a 0.5% soln. in EtOH for photometric detn. of Ti; extraction-photometric detn. of Fe, Ti, V. Cryst. (EtOH aq.). Sol. EtOH. Mp 230°.

Dolgorev, A.V. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1093 (*detn, Fe, Ti, V*)

2-Aminobenzophenone, 8CI A-00111

(*2-Aminophenyl*)*phenylmethanone*, *9CI*. o-*Aminodiphenyl ketone*. *2-Benzoylaniline*

[2835-77-0]



$C_{13}H_{11}NO$ M 197.236

Used as $CHCl_3$ soln. for extraction-photometric detn. of Pd (λ_{max} 475 nm, $CHCl_3$/benzyl alcohol). Pale-yellow cryst. (EtOH). Sol. $CHCl_3$, isopentanol, Et_2O; sl. sol. EtOH. Mp 110°.

B,HCl: [40318-20-5].
Needles. Mp 192-193° dec.

N-*Ac:* [85-99-4].
$C_{15}H_{13}NO_2$ M 239.273
Used as 4% soln. in EtOH for extraction-photometric detn. of Mo(*VI*). Cryst. (EtOH aq. or toluene). Sol. EtOH, Me_2CO, C_6H_6, $CHCl_3$. Mp 89°.

N-*Benzoyl:* [29670-64-2]. *2'-Benzoylacetanilide*, *9CI*
$C_{20}H_{15}NO_2$ M 301.344
Cryst. (EtOH aq.). Mp 91°.

(E)-*Oxime:* [15185-37-2].
$C_{13}H_{12}N_2O$ M 212.251
Cryst. (C_6H_6). Mp 127°.

(Z)-*Oxime:* [4844-60-4].
$C_{13}H_{12}N_2O$ M 212.251
Needles. Mp 156°.

2,4-Dinitrophenylhydrazone: Cryst. in two forms (EtOH). Mp 260-261°, Mp 235-236°.

N-*Me:* [1859-76-3].
$C_{14}H_{13}NO$ M 211.263
Yellow cryst. (ligroin). Mp 69°. Bp 280-290°, Bp_{12} 185-187°.

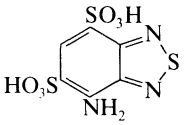
N,N-*Di-Me:* [36648-32-5].
$C_{15}H_{15}NO$ M 225.290
$Bp_{<1}$ 141-142°.

UV Atlas of Organic Compounds, Butterworths/Verlag Chemie, D11/11 (*uv*)
Org. Synth., Coll. Vol., 4, 1963, 34 (*synth*)
Sarkar, A.K. *et al*, *Anal. Chem.*, 1967, **39**, 1608 (*synth*)
Sarkar, A.K. *et al*, *Anal. Lett.*, 1969, **2**, 141 (*detn, Mo*)
Uhlemann, E. *et al*, *Z. Chem.*, 1970, **10**, 309 (*detn, Pd*)
Aldrich Library of NMR Spectra, 1974, **6**, 57B (*pmr*)
Heller, R. *et al*, *Org. Mass Spectrom.*, 1974, **9**, 1134 (*ms*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 779C (*ir*)
Walsh, D.A., *Synthesis*, 1980, 677 (*rev*)

7-Amino-2,1,3-benzothiadiazole-4,6-disulfonic acid, 9CI A-00112

4-Amino-5,7-disulfo-2,1,3-benzothiadiazole

[42219-49-8]



$C_6H_5N_3O_6S_3$ M 311.320

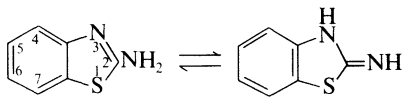
Used for photometric detn. of Rh. Cryst. Sol. H_2O.

Kukushkin, Y.N. *et al*, *Zh. Obshch. Khim.*, 1973, **43**, 503.

2-Aminobenzothiazole A-00113

2-Benzothiazolamine, *9CI*. μ-*Aminobenzthiazole*

[136-95-8]



$C_7H_6N_2S$ M 150.204

Amino-form predominates. Used as a soln. in EtOH aq. for gravimetric detn. of Hg and photometric detn. of Pd (λ_{max}370 nm). Leaflets (H_2O). Sol. Et_2O, EtOH, $CHCl_3$. Mp 132°, Mp 123°.

▷ Emits toxic fumes when heated to dec.. DL1050000.

2-N-*Ac:* [3028-06-6].
$C_9H_8N_2OS$ M 192.241
Mp 186°.

2-N-*Benzoyl:* [5005-14-1].
$C_{14}H_{10}N_2OS$ M 254.312
Mp 186°.

2-N-*Me:* [16954-69-1].
$C_8H_8N_2S$ M 164.231
Prisms (EtOH). Mp 138°.
▷ DL5775000.

2-N-*Ph:* [1843-21-6]. *2-Anilinobenzothiazole*
$C_{13}H_{10}N_2S$ M 226.301
Needles (EtOH). Mp 159°.

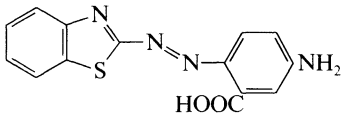
Imino-form

3-N-*Ac:*
$C_9H_8N_2OS$ M 192.241
Mp 158°.

Hugerschoff, A., *Ber.*, 1903, **36**, 3121, 3134 (*synth*)
Skraup, S., *Justus Liebigs Ann. Chem.*, 1919, **419**, 65.
Hunter, R.F., *J. Chem. Soc.*, 1926, 1394.
Fehlmann, M., *Acta Crystallogr., Sect. B*, 1970, **26**, 1736 (*cryst struct, deriv*)
Tandon, S.N. *et al*, *Mikrochim. Acta*, 1970, 1208 (*detn, Hg*)

Joshii, S.R. *et al*, *Indian J. Chem.*, 1973, **11**, 590 (*detn, Pd*)
Papenfuhs, T., *Angew. Chem., Int. Ed. Engl.*, 1982, **21**, 541 (*synth*)
Kaupp, G. *et al*, *Chem. Ber.*, 1986, **119**, 1525 (*uv, cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AIS500.

5-Amino-2-(2-benzothiazolylazo)benzoic acid A-00114



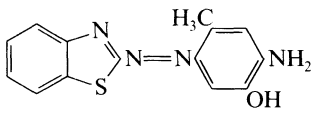
$C_{14}H_{10}N_4O_2S$ M 298.325

N-*Di-Et:* 2-(*Benzothiazolylazo*)-5-*diethylaminobenzoic acid*
$C_{18}H_{18}N_4O_2S$ M 354.432
Used as 1m*M* dioxan soln. for photometric detn. of Ni (λ_{max} 647 nm, ε 142000, 40% dioxan, pH 8), Co, Cu(*II*). Cryst. Mp 192°. pK_{a1} 1.4; pK_{a2} 4.97 (40% dioxan, μ = 0.1, 25°).

Furukawa, M. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1990, **39**, 589 (*synth, detn, Ni*)

2-Amino-5-(2-benzothiazolyl)-4-methylphenol A-00115

2-(4-Amino-5-hydroxy-2-methylphenylazo)thiazole



$C_{14}H_{12}N_4OS$ M 284.341

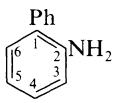
N-*Me:* [58795-12-3]. 5-(*2-Benzothiazolylazo*)-*4-methyl-2-(methylamino)phenol*, *9CI*
$C_{15}H_{14}N_4OS$ M 298.368
Used as a 2m*M* soln. in EtOH for photometric detn. of Bi (ε 48000). Dark red cryst. powder. Sol. alkalis, EtOH; spar. sol. H_2O.

Nevskaya, E.M. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1560.

2-Aminobiphenyl A-00116

[*1,1'-Biphenyl*]-*2-amine*, *9CI*

[90-41-5]



$C_{12}H_{11}N$ M 169.226
Fluorogenic reagent for the detn. of carbonyl compds. Cryst. (EtOH aq.). Mp 49-50°. Bp 299°, Bp_{15} 170°, Bp_5 145-148°. Steam-volatile.

▷ DU8850000.

N-*Formyl:*
$C_{13}H_{11}NO$ M 197.236
Needles (EtOH aq.). Mp 75°.

N-*Ac:* [2113-47-5]. *2-Acetamidobiphenyl*
$C_{14}H_{13}NO$ M 211.263
Needles (EtOH aq. or pet. ether). Mp 121°. Bp 355°.
▷ Exp. carcinogen. AE6000000.

N-*Benzoyl:*
$C_{19}H_{15}NO$ M 273.334
Leaflets (EtOH aq.). Mp 88°, Mp 102°.

N-*Me:* [14925-09-8]. *2-(Methylamino)biphenyl*
$C_{13}H_{13}N$ M 183.252
Bp_2 115-116°.

N-*Di-Me:* [6590-81-4]. *2-(Dimethylamino)biphenyl*
$C_{14}H_{15}N$ M 197.279
Mp 98-99°.

Dieteren, H.M.L. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1963, **82**, 5 (*synth, uv*)
Org. Synth., 1966, **46**, 85 (*synth*)
Lalancette, J.M. *et al*, *Can. J. Chem.*, 1971, **49**, 2990 (*synth*)
Nakai, T. *et al*, *Agric. Biol. Chem.*, 1974, **38**, 1209 (*use*)
Nakai, T. *et al*, *J. Chromatogr.*, 1974, **88**, 356 (*use*)
Takagi, K. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1977, 1148 (*synth, ir*)
Ohta, T. *et al*, *Tetrahedron Lett.*, 1977, 101 (*synth*)
Julliard, M. *et al*, *Tetrahedron Lett.*, 1977, 375 (*synth*)
Grant, C.B. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 2433 (*synth, pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BGE250, PDY000.

4-Aminobiphenyl A-00117

[*1,1'-Biphenyl*]-*4-amine*, *9CI*. *Xenylamine*

[92-67-1]

$C_{12}H_{11}N$ M 169.226
Formerly an important dyestuffs intermed. Used for pptn. of $SO_4^{2\ominus}$. Leaflets (EtOH aq.). Mp 52.9-53.6°. Bp 302°, Bp_{15} 191°, Bp_5 166°. Steam-volatile.

▷ Human carcinogen. Use prohibited in the UK under the Carcinogenic Substances Regulations 1967. DU8925000.

N-*Formyl:*
$C_{13}H_{11}NO$ M 197.236
Needles (EtOH aq.). Mp 172°.

N-*Ac:* [4075-79-0].
$C_{14}H_{13}NO$ M 211.263
Cryst. (MeOH aq.). Mp 171°.
▷ Carcinogen. AE6125000.

N-*Di-Ac:*
$C_{16}H_{15}NO_2$ M 253.300
Needles (pet. ether). Mp 120°.

N-*Benzoyl:*
$C_{19}H_{15}NO$ M 273.334
Cryst. (EtOH). Mp 229-230°.

N-(*4-Methylbenzenesulfonyl*): Mp 160°, Mp 254-255°.

N-*Et:* [68254-66-0]. *4-(Ethylamino)biphenyl*
$C_{14}H_{15}N$ M 197.279
Plates (pet. ether). Mp 67-69°.

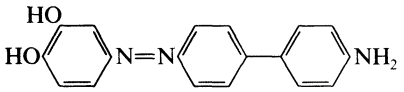
N-*Di-Me:* [1137-79-7]. *4-(Dimethylamino)biphenyl*
$C_{14}H_{15}N$ M 197.279
▷ Carcinogen.

Morgan, G.T. *et al*, *J. Soc. Chem. Ind., London*, 1930, **49**, 15T (*synth, bibl*)
Belcher, R. *et al*, *J. Chem. Soc.*, 1953, 1334 (*use*)
Dieteren, H.M.L. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1963, **82**, 5 (*synth, uv*)
Schulman, E.M. *et al*, *J. Org. Chem.*, 1974, **39**, 2686 (*cmr*)
Zheltov, A.Ya. *et al*, *Zh. Org. Khim.*, 1975, **11**, 1304 (*uv, N,N-Di-Me*)
Ohta, T. *et al*, *Tetrahedron Lett.*, 1977, 101 (*synth*)
Julliard, M. *et al*, *Tetrahedron Lett.*, 1977, 375 (*synth*)
Battersby, A.R. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1979, 2550 (*synth*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 175.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AJS100, BGF899, PDY500.

4-[(4′-Amino-(1,1′-biphenyl)-4-yl)azo]-1,2-benzenediol A-00118

4-Amino-4′-(3,4-dihydroxyphenylazo)biphenyl. 4-Catecholylazo-4′-aminobiphenyl

[80495-43-8]



$C_{18}H_{15}N_3O_2$ M 305.335

Used as 0.5m*M* EtOH soln. for photometric detn. of Zr (λ_{max} 560 nm, ε 52000, ~ 2*M* HCl). Insol. H_2O.

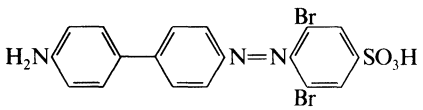
N-*Ac:* [80495-44-9]. *4-Catecholylazo-4′-acetylaminobiphenyl*

$C_{20}H_{17}N_3O_3$ M 347.373

Used as 0.5m*M* EtOH soln. for photometric detn. of Zr (λ_{max} 570 nm, ε 64000, ~2*M* HCl). Yellow cryst. (EtOH). Sol. EtOH, Et_2O.

Savos'kina, L.N. *et al, Zh. Anal. Khim.*, 1981, **36**, 1483 (*synth, detn, Zr*)

4-(4-Amino-4-biphenylylazo)-3,5-dibromobenzenesulfonic acid A-00119



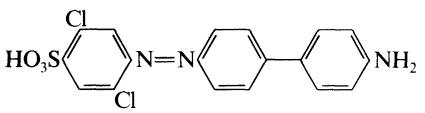
$C_{18}H_{13}Br_2N_3O_3S$ M 511.193

Acid-base indicator (pH $\frac{1}{2}$ 0.55; colour change: red → yellow). Used as a 1m*M* aq. soln. or in appropriate buffer soln.

Na salt: Orange cryst. powder. Sol. H_2O, EtOH; insol. C_6H_6.

Kuznetsov, V.I. *et al, Zh. Anal. Khim.*, 1956, **11**, 208 (*synth*)

4-[(4′-Amino-4-biphenylyl)azo]-2,5-dichlorobenzenesulfonic acid A-00120



$C_{18}H_{13}Cl_2N_3O_3S$ M 422.290

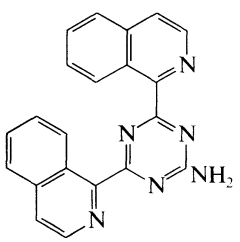
Na salt: Acid-base indicator (pH$_{\frac{1}{2}}$ 0.26; colour change: red → yellow); used as a 1m*M* aq. soln. or appropriate buffer soln. Orange cryst. powder. Sol. H_2O, EtOH; insol. C_6H_6.

Kuznetsov, V.I. *et al, Zh. Anal. Khim.*, 1956, **11**, 208 (*synth*)

2-Amino-4,6-bis(1-isoquinolyl)-1,3,5-triazine A-00121

1,1′-(6-Amino-s-triazine-2,4-diyl)diisoquinoline, 8CI

[17583-59-4]



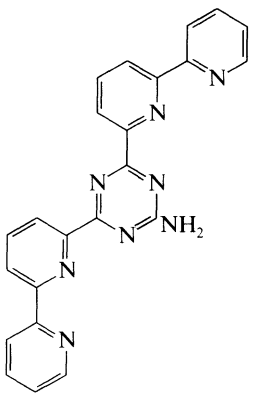
$C_{21}H_{14}N_6$ M 350.382

Gives colour reactions with Co, Cu(*I*), Fe(*II*) as a 5m*M* soln. in aq. EtOH. Cryst. (DMF). Sol. common org. solvs. Mp 286-288°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 483 (*synth*)
Schilt, A.A. *et al, Talanta*, 1970, **17**, 649 (*detn, Co, Cu, Fe*)

2-Amino-4,6-bis[6-(2-pyridyl)-2-pyridyl]-*s*-triazine, 8CI A-00122

[10495-75-7]



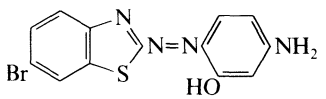
$C_{23}H_{16}N_8$ M 404.433

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co, Cu(*I*), Fe(*II*). Cryst. (DMF). Sol. common org. solvents. Mp 318-319°.

Case, F.H., *J. Org. Chem.*, 1966, **31**, 2398 (*synth*)
Schilt, A.A. *et al, Talanta*, 1968, **15**, 475 (*detn, Co, Cu, Fe*)

5-Amino-2-[(6-bromo-2-benzothiazolyl)azo]phenol A-00123

2-(5-Amino-2-hydroxyphenylazo)-6-bromobenzothiazole



$C_{13}H_9BrN_4OS$ M 349.210

N-*Di-Et:* [54776-51-1]. *2-[(6-Bromo-2-benzothiazolyl)azo]-5-(diethylamino)phenol, 9CI*

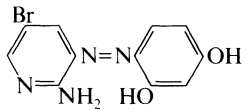
$C_{17}H_{17}BrN_4OS$ M 405.317

Used as a 0.05% soln. in DMF for photometric detn. of Hf, Zr (λ_{max} 520 nm, ε 44000). Red cryst. (DMF). Sol. EtOH, Me_2CO, alkalis; spar. sol. H_2O. Mp 209°.

Zhang, C.P. *et al, Talanta*, 1982, **29**, 1119.

4-[(2-Amino-5-bromo-3-pyridinyl)azo]-1,3-benzenediol A-00124

2-Amino-5-bromopyridylazoresorcinol. 2-Amino-5-bromo-3-(2,4-dihydroxyphenylazo)pyridine



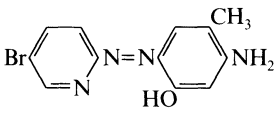
$C_{11}H_9BrN_4O_2$ M 309.122

Used as 0.9m*M* aq. soln. for sequential photometric detn. of Fe (ε 67000), Cu (ε 72000) and Zn (λ_{max} 510 nm, ε 91000). Cryst. (Et_2O) (as monohydrate, Na salt). Sol. H_2O, EtOH.

Seudeal, N.D. *et al, Microchem. J.*, 1986, **34**, 131 (*synth, use*)

5-Amino-2-[(5-bromo-2-pyridinyl)azo]-4-methylphenol A-00125

2-(4-Amino-2-hydroxy-5-methylphenylazo)-5-bromopyridine



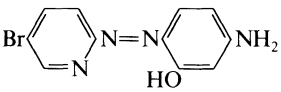
$C_{12}H_{11}BrN_4O$ M 307.149

N-*Et:* [14337-50-9]. *2-[(5-Bromo-2-pyridinyl)azo]-5-(ethylamino)-4-methylphenol, 9CI*
$C_{14}H_{15}BrN_4O$ M 335.203
Used as soln. in EtOH for titrimetric detn. of Tl. Orange red cryst. Mod. sol. alkalis, EtOH, Me_2CO.

Gusev, S.I. *et al, Zh. Anal. Khim.*, 1967, **22**, 863 (*detn, Tl*)

5-Amino-2-(5-bromo-2-pyridinylazo)phenol A-00126

2-(4-Amino-2-hydroxyphenylazo)-5-bromopyridine



$C_{11}H_9BrN_4O$ M 293.122
Mp 157-158°.

N-*Di-Me:* [50783-82-9]. *2-[(5-Bromo-2-pyridinyl)azo]-5-(dimethylamino)phenol, 9CI. 5-Br-DMPAP*
Used as an EtOH soln. for photometric detn. of Zn (λ_{max} 552 nm, ε 133000), Ni, Co, Cu, Cd, Fe(*III*), La, Mg, Mn, Pb. Dark red needles. Sol. C_6H_6, $CHCl_3$, EtOH; sl. sol. H_2O. Subl. 190°. $pK_{a1} < 1$; pK_{a2} 3.4; pK_{a3} 11.6.

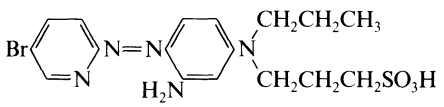
N-*Di-Et:* [14337-53-2]. *2-[(5-Bromo-2-pyridinyl)azo]-5-(diethylamino)phenol, 9CI. 5-Br-PADAP*
$C_{15}H_{17}BrN_4O$ M 349.229
Used as 0.02% soln. in EtOH for photometric detn. of Sb, Bi, Cd, Ce, Cr, Co (λ_{max} 586 nm, ε 91000), Cu, Fe, Pb, Pd, Hg, Ni (λ_{max} 560 nm, ε 121000), Zn, U and $CN^{\ominus}$ (indirectly). Dark brown-red cryst. Sol. EtOH; mod. sol. alkalis, Me_2CO; sl. sol. Et_2O. Mp 157-158°.

Gusev, S.I. *et al, Zh. Anal. Khim.*, 1969, **24**, 210 (*use*)
Johnson, D.A. *et al, Anal. Chim. Acta*, 1971, **53**, 73 (*detn, U*)
Shibata, S. *et al, Anal. Chim. Acta*, 1973, **66**, 397 (*N-Di-Me, synth, use*)
Zbiral, J. *et al, Fresenius' Z. Anal. Chem.*, 1981, **306**, 129 (*detn, Co*)
Wei Fu-sheng, *et al, Talanta*, 1981, **28**, 694 (*detn, $CN^{\ominus}$*)
Kubaň, V. *et al, Collect. Czech. Chem. Commun.*, 1983, **48**, 52 (*detn, Cd*)
Nonová, D. *et al, Mikrochim. Acta*, 1984, **1**, 143 (*detn, Cu*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 197, 397.
Langová, M. *et al, Collect. Czech. Chem. Commun.*, 1987, **52**, 878 (*detn, Ni*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIb: Individual Metals. Magnesium to Zinc*, John Wiley, New York, 4th Ed., 1989, 625 (*detn, U*)

3-[[3-Amino-4-[(5-bromo-2-pyridinyl)azo]phenyl]propylamino]-1-propanesulfonic acid, 9CI A-00127

2-(5-Bromo-2-pyridylazo)-5-(N-propyl-N-sulfopropylamino)aniline

[87035-61-8]



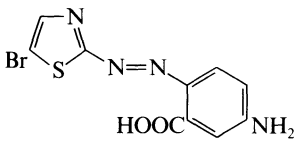
$C_{17}H_{22}BrN_5O_3S$ M 456.362

Na salt: [87035-60-7].
Used as a 1m*M* aq. soln. for photometric detn. of Fe(*II*) (λ_{max} 558 nm, ε 89000). Cryst. (H_2O). Sol. H_2O. Mp 235-240° (dec.).

Horiguchi, D. *et al, Anal. Chim. Acta*, 1983, **151**, 457.

5-Amino-2-(5-bromo-2-thiazolylazo)benzoic acid A-00128

5-Bromo-2-(4-amino-2-carboxyphenylazo)thiazole



$C_{10}H_7BrN_4O_2S$ M 327.161

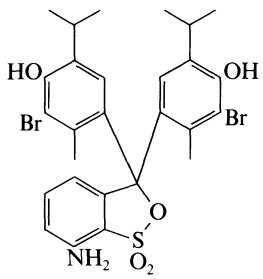
N-*Di-Et: 2-(5-Bromo-2-thiazolylazo)-5-(diethylamino)benzoic acid*
$C_{14}H_{15}BrN_4O_2S$ M 383.268
Used as 1m*M* dioxan soln. for photometric detn. of Ni (λ_{max} 635 nm, ε 112000, 40% dioxan, pH 8), Co, Cu(*II*). Cryst. Sol. dioxan, EtOH. Mp 160°. pK_{a1} 0.4; pK_{a2} 4.94 (40% dioxan, μ = 0.1, 25°).

Furukawa, M. *et al, Bunseki Kagaku (Jpn. Anal.)*, 1990, **39**, 589 (*synth, detn, Ni*)

Aminobromothymol blue A-00129

4,4'-(7-Amino-3H-2,1-benzoxathiol-3-ylidene)bis[2-bromo-3-methyl-6-(1-methylethyl)phenol] S,S-*dioxide, 9CI*

[134116-38-4]



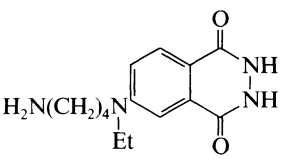
$C_{27}H_{29}Br_2NO_5S$ M 639.404
Used as an acid-base indicator (pH range 6.5-8.5, colour change: yellow → blue). Pink cryst. powder. Sol. EtOH, bases; insol. H_2O. pK_a 7.6.

Puschett, J.B. *et al, Talanta*, 1991, **38**, 335 (*synth, use*)

6-[(4-Aminobutyl)ethylamino]-2,3-dihydro-1,4-phthalazinedione, 9CI A-00130

N-(*4-Aminobutyl*)-N-*ethylisoluminol. ABEI*

[66612-29-1]



$C_{14}H_{20}N_4O_2$ M 276.338
Used in chemiluminescent assays. Cryst. (DMF). Mp 259-260°.

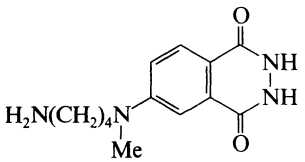
Schroeder, H.R. *et al, Methods Enzymol.*, 1978, **57**, 424 (*synth, use*)

Pazzagli, M. *et al*, *J. Steroid Biochem.*, 1981, **14**, 1005; 1983, **19**, 407 (*synth, use*)
Patel, A. *et al*, *Anal. Biochem.*, 1983, **129**, 162 (*synth, use*)
Klinger, W. *et al*, *Steroids*, 1983, **42**, 123 (*synth, use*)
Kawasaki, T. *et al*, *J. Chromatogr.*, 1985, **328**, 121 (*use*)
Yuki, H. *et al*, *Chem. Pharm. Bull.*, 1988, **36**, 1905 (*use*)

6-[(4-Aminobutyl)methylamino]-2,3-dihydro-1,4-phthalazinedione, 9CI A-00131

ABMI

[80944-69-0]



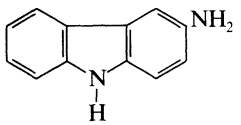
$C_{13}H_{18}N_4O_2$ M 262.311

Chemiluminescent label for steroids. Cryst. (DMF aq.).

Pazzagli, M. *et al*, *J. Steroid Biochem.*, 1981, **14**, 1005; 1983, **19**, 407 (*synth, use*)
Karatani, H., *Bull. Chem. Soc. Jpn.*, 1987, **60**, 2023 (*synth, ms*)

3-Aminocarbazole A-00132

9H-Carbazol-3-amine, 9CI



$C_{12}H_{10}N_2$ M 182.224

Mp 254° dec.

N-*Ac:* [57102-95-1].
$C_{14}H_{12}N_2O$ M 224.262
Needles (EtOH). Insol. H_2O. Mp 217°.

N-*Et:* [132-32-1]. *9-Ethyl-9H-carbazol-3-amine, 9CI. AEC*
Indicator for peroxidase activity. Mp 98-100°.

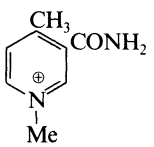
[57360-17-5]

Whitner, T., *J. Am. Chem. Soc.*, 1924, **46**, 2326 (*synth*)
Anderson, G. *et al*, *J. Chem. Soc.*, 1950, 2904.
Buu-Hoï, N.P. *et al*, *J. Org. Chem.*, 1950, **15**, 123 (*synth*)
Kaplow, L.S., *Am. J. Clin. Pathol.*, 1975, **63**, 451 (*use*)
De Jong, A.S.H. *et al*, *Histochem. J.*, 1985, **17**, 1119 (*use*)
Fritz, P. *et al*, *Acta Histochem., Suppl.*, 1986, **32**, 235 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AJV000.

3-(Aminocarbonyl)-1,4-dimethylpyridinium(1+), 9CI A-00133

3-Carbamoyl-1,4-dimethylpyridinium. DCP-Cl

[126077-63-2]



$C_8H_{11}N_2O^{\oplus}$ M 151.188 (ion)

Chloride: [110999-36-5].
$C_8H_{11}ClN_2O$ M 186.640
Used for fluorimetric detn. of aromatic aldehydes and phenylpyruvic acid. Powder. Mp 209-211° dec.

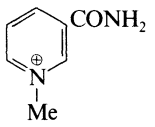
Iodide: [111025-40-2].
$C_8H_{11}IN_2O$ M 278.092
Powder. Mp 202-204°.

Sano, A. *et al*, *Anal. Sci.*, 1987, **3**, 359; 1988, **4**, 663 (*synth, use*)
Sano, A. *et al*, *Chem. Pharm. Bull.*, 1987, **35**, 3746 (*use*)

3-(Aminocarbonyl)-1-methylpyridinium(1+), 9CI A-00134

3-Carbamoyl-1-methylpyridinium, 8CI. 1-Methylnicotinamide

[3106-60-3]



$C_7H_9N_2O^{\oplus}$ M 137.161 (ion)

Urinary metabolite of nicotinic acid.

▷ UU3300000.

Chloride: [1005-24-9]. *Nicotinamide methochloride*
$C_7H_9ClN_2O$ M 172.614
Reagent for the fluorometric anal. of α-oxomethylene compds. Mp 244-245°.

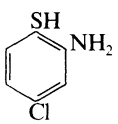
▷ UU1925000.

Iodide: [6456-44-6]. *Nicotinamide methiodide*
$C_7H_9IN_2O$ M 264.065
Yellowish-green prisms. Mp 204°.

Karrer, P. *et al*, *Helv. Chim. Acta*, 1936, **19**, 826 (*synth*)
Huff, J.W. *et al*, *J. Biol. Chem.*, 1943, **150**, 395 (*synth*)
Decker, R.H. *et al*, *Anal. Biochem.*, 1962, **3**, 357 (*synth, chloride*)
Long, K.R. *et al*, *J. Magn. Reson.*, 1972, **8**, 207 (*cmr*)
Freeman, G.R. *et al*, *Acta Crystallogr., Sect. B*, 1974, **30**, 431 (*cryst struct*)
Nakamura, H. *et al*, *J. Chromatogr.*, 1979, **168**, 407 (*use, chloride*)

2-Amino-4-chlorobenzenethiol, 9CI A-00135

[1004-00-8]



C_6H_6ClNS M 159.639

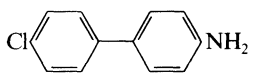
Used as a 4% soln. in EtOH for photometric detn. of Mo; indirect photometric detn. of P(*V*), Si(*IV*). Pale yellow cryst. Sol. alkalis, acids, EtOH; spar. sol. H_2O.

Kirkbright, G.F. *et al*, *Talanta*, 1964, **11**, 415 (*detn, Mo*)
Djurkin, V. *et al*, *Analyst (London)*, 1966, **91**, 89 (*detn, P*)
Trudell, L.A. *et al*, *Talanta*, 1972, **19**, 37 (*detn, Si*)

4-Amino-4′-chlorobiphenyl A-00136

4′-Chloro-[1,1′-biphenyl]-4-amine, 9CI. 4′-Chloroxenylamine

[135-68-2]



$C_{12}H_{10}ClN$ M 203.670

Used as a 0.2% soln. in 0.05% HCl aq. for turbidimetric detn. of $SO_4^{2\ominus}$. Plates (pet. ether). Mp 134°. pK_a 3.89 (4.00) (20°, 50% EtOH aq.).

N-*Ac:* [56474-80-7].
$C_{14}H_{12}ClNO$ M 245.708
Prisms (EtOH aq.). Mp 245°.

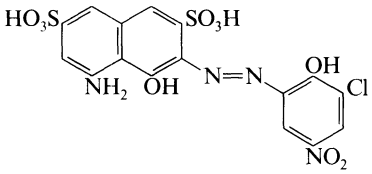
Gelmo, P., *Ber.*, 1906, **39**, 4175 (*synth*)
Belcher, R. *et al*, *J. Chem. Soc.*, 1953, 1334 (*synth*)
Parish, J.H. *et al*, *J. Chem. Soc.*, 1964, 4713 (*ir*)
Byron, D.J. *et al*, *J. Chem. Soc.*, 1966, 831.
Martin, J.M. *et al*, *Anal. Chim. Acta*, 1967, **39**, 175, 525 (*use*)

Zhettov, A.Y. *et al*, *J. Org. Chem. USSR (Engl. Transl.)*, 1970, **6**, 2573; 1975, **11**, 1288 (*synth, uv*)
Idoux, J.P. *et al*, *Tetrahedron*, 1977, **33**, 2369.

5-Amino-3-[(3-chloro-2-hydroxy-5-nitrophenyl)azo]-4-hydroxy-2,7-naphthalenedisulfonic acid, 9CI A-00137

Gallion

[3769-62-8]



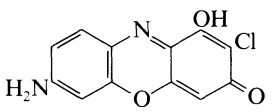
$C_{16}H_{11}ClN_4O_{10}S_2$ M 518.868

Used as aq. soln. for photometric detn. of Ga (λ_{max} 530 nm, ε 21000), In; metal indicator. Brown red cryst. powder. Sol. H_2O, EtOH; insol. Me_2CO, C_6H_6.

Lukin, A.M. *et al*, *Zh. Anal. Khim.*, 1958, **13**, 66 (*synth, detn, Ga*)
Devatova, T.M. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 1468 (*detn, Ga*)
Joshi, A.P. *et al*, *Mikrochim. Acta*, 1971, 526 (*detn, In*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 150 (*use*)

7-Amino-2-chloro-1-hydroxy-3*H*-phenoxazin-3-one, 8CI A-00138

[18821-44-8]

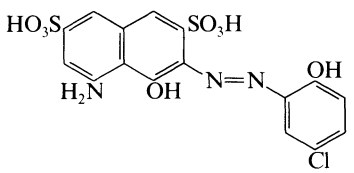


$C_{12}H_7ClN_2O_3$ M 262.652

Used as a 0.5m*M* soln. in EtOH as redox indicator for titanometry; acid-base indicator. Orange-red cryst. (by subl.). Sol. EtOH, Et_2O, C_6H_6. Mp 350°. pK_{a1} 4.6 (30% EtOH, μ = 0.07, KCl).

Stuzka, V. *et al*, *Monatsh. Chem.*, 1967, **98**, 1754 (*acid-base ind*)
Stuzka, V. *et al*, *CA*, 1969, **68**, 8945m (*use, titanometry*)

5-Amino-3-[(5-chloro-2-hydroxyphenyl)azo]-4-hydroxy-2,7-naphthalenedisulfonic acid A-00139



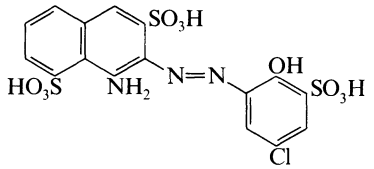
$C_{16}H_{12}ClN_3O_8S_2$ M 473.871

N-*Ac:* [65330-48-5]. *5-(Acetylamino)-3-[(5-chloro-2-hydroxyphenyl)azo]-4-hydroxy-2,7-naphthalenedisulfonic acid, 9CI*
$C_{18}H_{14}ClN_3O_9S_2$ M 515.908

N-*Ac, di-Na salt:* [6844-73-1]. *C.I. Mordant blue 18*
Used as a 1.4m*M* aq. soln. for photometric detn. of Ga (λ_{max} 560 nm, ε 4300). Orange-red cryst. Sol. H_2O. pK_{a3} 7.0; pK_{a4} 13.0.

Dev'atova, T.M., *Zh. Anal. Khim.*, 1968, **23**, 1468 (*detn, Ga*)

4-Amino-3-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-2,5-naphthalenedisulfonic acid A-00140



$C_{16}H_{12}ClN_3O_{10}S_3$ M 537.936

Used as 0.1% aq. soln. for photometric detn. of Pd (λ_{max} 556 nm, ε 10600). Dark red cryst. Sol. H_2O.

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 558 (*detn, Pd*)

4-Amino-3-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid A-00141

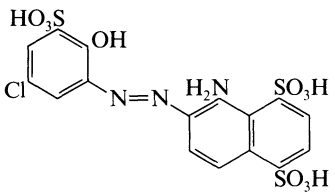
Chloroxaminazo

$C_{16}H_{12}ClN_3O_{10}S_3$ M 537.936

Used as 0.1% aq. soln. for photometric detn. of Pd (λ_{max} 573 nm, ε 16000). Dark red cryst. Sol. H_2O.

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 558 (*detn, Pd*)

5-Amino-6-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-1,4-naphthalenedisulfonic acid A-00142

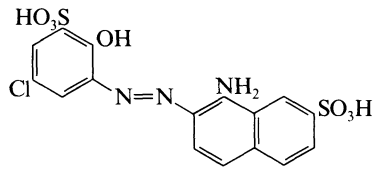


$C_{16}H_{12}ClN_3O_{10}S_3$ M 537.936

Used as 0.1% aq. soln. for photometric detn. of Pd (λ_{max} 573 nm, ε 16000). Dark red cryst. Sol. H_2O.

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 558 (*detn, Pd*)

8-Amino-7-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-2-naphthalenesulfonic acid A-00143



$C_{16}H_{12}ClN_3O_7S_2$ M 457.871

Used as 0.1% aq. soln. for photometric detn. of Pd (λ_{max} 556 nm, ε 9500). Dark red cryst. Sol. H_2O.

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 558 (*detn, Pd*)

8-Amino-7-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-3-naphthalenesulfonic acid A-00144

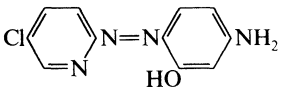
$C_{16}H_{12}ClN_3O_7S_2$ M 457.871

Used as 0.1% aq. soln. for photometric detn. of Pd (λ_{max} 554 nm, ε 9200). Dark red cryst. Sol. H_2O.

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 558 (*detn, Pd*)

5-Amino-2-[(5-chloro-2-pyridinyl)azo] phenol A-00145

2-(4-Amino-2-hydroxyphenylazo)-5-chloropyridine



$C_{11}H_9ClN_4O$ M 248.671

N-*Di-Me:* [50783-81-8]. *2-[(5-Chloro-2-pyridinyl)azo]-5-(dimethylamino)phenol, 9CI*
$C_{13}H_{13}ClN_4O$ M 276.725
Used as a 1m*M* soln. in EtOH or H_2O for extraction-photometric detn. of Cd, Co, Cu, Fe(*III*), La, Mg, Mn, Ni, Pb, V(*V*) (λ_{max} 586 nm, ε 55300, pH 3.8), Zn , (4-methyl-2-pentanone, C_6H_6, 1,2-dichloroethane). Dark red needles (EtOH aq.). Sol. C_6H_6, $CHCl_3$, EtOH, Me_2CO; spar. sol. H_2O. Subl. 190°. pK_{a1} <1; pK_{a2} 3.4; pK_{a3} 11.6.

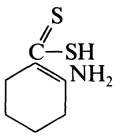
N-*Di-Et:* [26015-51-0]. *2-[(5-Chloro-2-pyridinyl)azo]-5-(diethylamino)phenol, 9CI*
$C_{15}H_{17}ClN_4O$ M 304.778
Used as 1m*M* soln. in EtOH in photometric detn. of Co (ε 106000) (2.5 *M* H_2SO_4). Dark cryst. powder. Sol. EtOH.

Shibata, S. *et al*, *Anal. Chim. Acta*, 1973, **66**, 397.
Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 810 (*use*)
Shen, N.K. *et al*, *Analyst (London)*, 1981, **106**, 1229 (*use*)
Olsina, R.A. *et al*, *Microchem. J.*, 1987, **36**, 348 (*detn, V*)

2-Amino-1-cyclohexene-1-dithiocarboxylic acid A-00146

2-Iminocyclohexanecarbodithioic acid, 9CI

[72272-49-2]



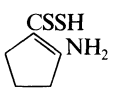
$C_7H_{11}NS_2$ M 173.303
Used as 1m*M* aq. soln. for photometric detn. of Ni (λ_{max} 535 nm, ε 28000, Me_2CO aq., pH 3-8). Cryst. Sol. Me_2CO, EtOH, dioxan, H_2O. Mp 107-108°.

Takeshima, T. *et al*, *J. Chem. Res., Synop.*, 1979, 140 (*synth*)
Safavi, A. *et al*, *Talanta*, 1991, **38**, 229 (*detn, Ni*)

2-Amino-1-cyclopentene-1-dithiocarboxylic acid A-00147

2-Amino-1-cyclopentene-1-carbodithioic acid, 9CI

[20735-33-5]

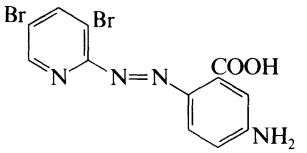


$C_6H_9NS_2$ M 159.276
Used as a 0.6% soln. in EtOH for photometric detn. of Ni and Os (λ_{max} 470 nm). Yellow cryst. (EtOH). Spar. sol. H_2O; sol. alkalis, acids, EtOH, C_6H_6, Et_2O.

Yokoyama, M. *et al*, *Anal. Chem.*, 1968, **40**, 1344 (*synth*)
Dutt, N.K. *et al*, *Anal. Chim. Acta*, 1969, **47**, 571.

5-Amino-2-[(3,5-dibromo-2-pyridyl)azo] benzoic acid A-00148

3,5-Dibromo-2-[(4-amino-2-carboxyphenyl)azo]pyridine



$C_{12}H_8Br_2N_4O_2$ M 400.029

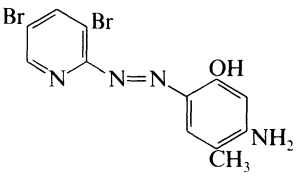
N-*Di-Et:* [84641-03-2]. *2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(diethylamino)benzoic acid, 9CI*
$C_{16}H_{16}Br_2N_4O_2$ M 456.136
Used as 0.05% soln. in DMF for extraction-photometric detn. of Fe(*II*) (λ_{max} 624 nm, ε 11000, $CHCl_3$). Cryst. Sol. DMF, EtOH.

N-*Propanesulfonic acid:* [102387-11-1]. *2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[(3-sulfopropyl)amino]benzoic acid*
$C_{15}H_{14}Br_2N_4O_5S$ M 522.173
Used as a 0.08m*M* aq. soln. of disodium salt for photometric detn. of Co(*III*), Cu, Ni, Zn. Dark red cryst. (H_2O) (as di-Na salt).

Horiguchi, O. *et al*, *Anal. Sci.*, 1985, **1**, 461 (*deriv, use*)
Furukawa, M. *et al*, *Chem. Express*, 1988, **3**, 283 (*synth*)
Sakai, T. *et al*, *Mikrochim. Acta*, 1989, **2**, 31 (*detn, Fe*)

5-Amino-2-[(3,5-dibromo-2-pyridyl)azo]-4-methylphenol A-00149

2-(4-Amino-2-hydroxy-5-methylphenylazo)-3,5-dibromopyridine



$C_{12}H_{10}Br_2N_4O$ M 386.045

N-*Et:* [14337-51-0]. *2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(ethylamino)-4-methylphenol, 9CI*
$C_{14}H_{14}Br_2N_4O$ M 414.099
Used as a soln. in EtOH for titrimetric detn. of Tl; as 0.2% soln. in EtOH in photometric detn. of Cu (λ_{max} 545 nm, ε 49000), Th; indicator used for complexometric titration of Pb. Orange-red cryst. Mod. sol. alkalis, EtOH, Me_2CO.

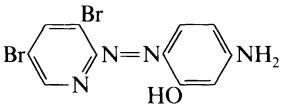
N-*Ethanesulfonic acid:* [86190-03-6]. *2-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]amino]ethanesulfonic acid, 9CI*
$C_{13}H_{12}Br_2N_4O_4S$ M 480.136
Used as a 1m*M* aq. soln. for photometric detn. of U (λ_{max} 578 nm, ε 63000), Zn, Ni, Co, Cu. Brown cryst. Sol. H_2O. pK_{a2} 2; pK_{a3} 10.7 (25°, μ = 0.1).

N-*Propanesulfonic acid:* [86190-01-4]. *3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]amino]-1-propanesulfonic acid, 9CI*
$C_{14}H_{14}Br_2N_4O_4S$ M 494.163
Used as a 1m*M* aq. soln. for photometric detn. of U (λ_{max} 575 nm, ε 54000), Zn, Co, Ni, Cu. Brown cryst. pK_{a2} 2.05; pK_{a3} 11.2 (25°, μ = 0.1).

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 863, 1190; 1973, **28**, 1064 (*synth, detn, Tl, Pb, Cu*)
Novoselova, E.A. *et al*, *CA*, 1981, **94**, 113860q (*detn, Th*)
Ohshita, K. *et al*, *Anal. Chim. Acta*, 1983, **149**, 269 (*synth, derivs, use*)

5-Amino-2-(3,5-dibromo-2-pyridylazo) phenol A-00150

3,5-Dibromo-2-(4-amino-2-hydroxyphenylazo)pyridine



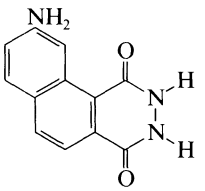
$C_{11}H_8Br_2N_4O$ M 372.018
Red needles.

N-*Di-Et:* [14337-54-3]. *2-[(3,5-Dibromo-2-pyridyl)azo]-5-(diethylamino)phenol, 8CI*
$C_{15}H_{16}Br_2N_4O$ M 428.126
Used as 0.5m*M* soln. in EtOH for photometric detn. of Ag (λ_{max} 570 nm, ε 7000) and U (λ_{max} 576 nm, ε 91000), Co(λ_{max} 590 nm, ε 96000), Cu(*II*) (λ_{max} 578 nm, ε 81000); extraction-detn. of Zr ($CHCl_3$) and Tl(*III*) (λ_{max} 580 nm, ε 120000, C_6H_6). Red needles. Sol. EtOH, Me_2CO, alkalis. Mp 159-160°.

Gusev, S.I. *et al, Zh. Anal. Khim.*, 1969, **24**, 210, 1148; 1977, **32**, 1363 (*detn, Co, Tl, Zr*)
Hung, S.G. *et al, Talanta*, 1982, **29**, 85 (*synth, detn, Ag*)
Shui-Chieh Hung, *et al, Talanta*, 1982, **29**, 85, 629 (*synth, detn, Ag, U*)
Ohshita, K. *et al, Anal. Chim. Acta*, 1985, **176**, 41 (*detn, Cu*)

9-Amino-2,3-dihydrobenzo[*f*]phthalazine-1,4-dione, 9CI A-00151

[2890-10-0]



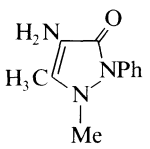
$C_{12}H_9N_3O_2$ M 227.222
Used for chemiluminescent detn. of Ag, Au, Cu. Cryst.

Pilipenko, L.A. *et al, Zh. Anal. Khim.*, 1977, **32**, 478 (*use*)
Pilipenko, L.A., *CA*, 1978, **88**, 81247c (*props*)

4-Amino-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI A-00152

4-Amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one. 4-Aminoantipyrine, 8CI. Ampyrone

[83-07-8]



$C_{11}H_{13}N_3O$ M 203.243
Metab. of antipyrine. Widely used pharmaceutical intermed., component of various colorimetric reagents. Used as 3% aq. soln. in photometric detn. of H_2O_2, phenols. Used for detn. of glucose in the presence of phenol and peroxidase. Light-yellow needles (C_6H_6). Sol. H_2O, acids, EtOH, $CHCl_3$; spar. sol. Et_2O. Mp 109°.

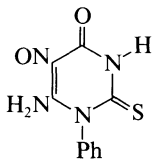
▷ CD2480000.

Knorr, L. *et al, Justus Liebigs Ann. Chem.*, 1896, **293**, 56 (*synth*)
Ettinger, M.B. *et al, Anal. Chem.*, 1951, **23**, 1783 (*detn, phenols*)
Shipileva, I.S. *et al, Dokl. Akad. Nauk SSSR, Ser. Khim.*, 1974, **217**, 365 (*ms*)
Bauminger, B.B., *J. Clin. Pathol.*, 1974, **27**, 1015 (*detn, glucose*)
Singh, S.P. *et al, J. Pharm. Sci.*, 1979, **68**, 470 (*cmr*)
Saito, Y. *et al, Talanta*, 1987, **34**, 667 (*detn, H_2O_2*)

6-Amino-2,3-dihydro-5-nitroso-1-phenyl-2-thioxo-4(1*H*)-pyrimidinone, 9CI A-00153

6-Amino-5-nitroso-4-oxo-1-phenyl-2-thioxo-1,2,3,4-tetrahydropyrimidine. 6-Amino-5-nitroso-1-phenyl-2-thiouracil, 8CI

[15836-99-4]



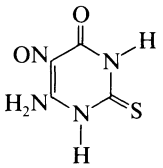
$C_{10}H_8N_4O_2S$ M 248.265
Used for photometric detn. of Fe(*II*) (λ_{max} 670 nm, ε53000). Cryst. Insol. H_2O; sol. Me_2CO, DMF, acids.

Kishikawo, T. *et al, Chem. Pharm. Bull.*, 1966, **14**, 1365 (*synth*)
Nakashima, K. *et al, CA*, 1978, **89**, 173049p (*detn, Fe*)

6-Amino-2,3-dihydro-5-nitroso-2-thioxo-4(1*H*)-pyrimidinone, 9CI A-00154

6-Amino-4-hydroxy-2-mercapto-5-nitrosopyrimidine

[1672-48-6]



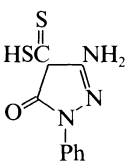
$C_4H_4N_4O_2S$ M 172.167
Used as a 1m*M* soln. in dil. HCl for photometric detn. of Co, Cu (λ_{max} 386 nm), Fe(*II*), Ni (λ_{max} 380 nm), Os (λ_{max} 440 nm, ε 4300), Ru (λ_{max} 530 nm, ε 15300). Cryst. (H_2O). Sol. acids, hot H_2O.

Waksmundzki, A. *et al, Chem. Anal. (Warsaw)*, 1964, **9**, 69.
Przeszlakowski, S. *et al, Chem. Anal. (Warsaw)*, 1964, **9**, 919 (*detn, Cu, Ni*)
Kushwaha, V. *et al, CA*, 1976, **85**, 86736j (*detn, Ru, Os*)
Jain, P. *et al, Curr. Sci.*, 1976, **45**, 178 (*detn, Co, Fe*)

3-Amino-4,5-dihydro-5-oxo-1-phenyl-1*H*-pyrazole-4-carbodithioic acid, 9CI A-00155

3-Amino-1-phenyl-5-pyrazolono-4-dithiocarboxylic acid

[7245-38-7]



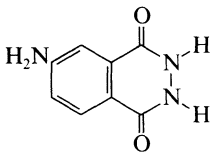
$C_{10}H_9N_3OS_2$ M 251.333
Used as a 5m*M* aq. soln. for extraction-photometric detn. of Ni (λ_{max} 500 nm, ε 28700, $CHCl_3$). Cryst. (EtOH). Sol. alkalis, Me_2CO, EtOH; spar. sol. H_2O, butanol; insol. $CHCl_3$, toluene. Mp 146-149°.

Papini, P. *et al, Gazz. Chim. Ital.*, 1966, **96**, 430 (*synth*)
Rudzit, G.P. *et al, CA*, 1979, **91**, 20372s (*detn, Ni*)

6-Amino-2,3-dihydro-1,4-phthalazinedione, 9CI A-00156

4-Aminophthalhydrazide. 4-Amino-1,2-benzenedicarbonylhydrazide. Isoluminol

[3682-14-2]



$C_8H_7N_3O_2$ M 177.162

Used for chemiluminescent detn. of Ag, Au, Cu. Reagent for protein binding assay for biotin, monitored by chemiluminescence. Yellowish needles + $1H_2O$. Mp 339° dec.

N,N-*Di-Me:* [18697-31-9]. *6-(Dimethylamino)-2,3-dihydro-1,4-phthalazinedione, 9CI*

$C_{10}H_{11}N_3O_2$ M 205.216

Used for chemiluminescent detn. of Ag, Au, Cu. Cryst.

N,N-*Di-Et:* [29415-71-2]. *6-(Diethylamino)-2,3-dihydro-1,4-phthalazinedione, 9CI*

$C_{12}H_{15}N_3O_2$ M 233.269

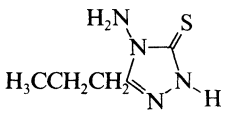
Used for chemiluminescent detn. of Ag, Au, Cu; used as 0.01m*M* soln. in aq. KOH for catalytic-fluorimetric detn. of Co (in the presence of H_2O_2, 0.8*M* KOH). Flesh-coloured cryst. Sol. acids, alkalis. Mp 297° dec. pK_a 2.6.

Curtius, T., *J. Prakt. Chem.*, 1907, **76**, 301 (*synth*)
Drew, H.D. *et al*, *J. Chem. Soc.*, 1937, 26 (*synth*)
Schroeder, H.R. *et al*, *Anal. Chem.*, 1976, **48**, 1933; 1978, **50**, 1114 (*use*)
Pilipenko, L.A. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 478 (*use*)
Dubovenko, L.I. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 695 (*synth, detn, Co*)
Olsson, T. *et al*, *Clin. Chim. Acta*, 1982, **122**, 125 (*use*)
Bélanger, A. *et al*, *Can. J. Chem.*, 1987, **65**, 1392 (*bibl*)

4-Amino-2,4-dihydro-5-propyl-3*H*-1,2,4-triazole-3-thione, 9CI A-00157

4-Amino-5-mercapto-3-propyl-1,2,4-triazole

[30342-87-1]



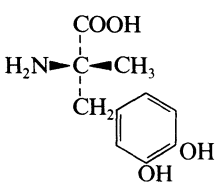
$C_5H_{10}N_4S$ M 158.227

Used as 0.025*M* Me_2CO soln. as a displacing agent in the complexometric (EDTA) detn. of Hg(*II*) and Tl(*III*). Cryst. Sol. Me_2CO. Mp 104°.

Gadiyar, H.R. *et al*, *Talanta*, 1982, **29**, 941 (*synth, detn, Hg*)
Shetty, N. *et al*, *Talanta*, 1988, **35**, 721 (*detn, Tl*)

2-Amino-3-(3,4-dihydroxyphenyl) propanoic acid A-00158

3-Hydroxy-α-methyltyrosine, 9CI. α-Methyl-β-(3,4-dihydroxyphenyl)alanine



$C_{10}H_{13}NO_4$ M 211.217

(*S*)-*form* [555-30-6]

L-form

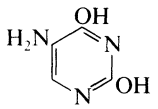
Used as 0.07*M* soln. in isopropanol for fluorimetric detn. of Tb(*III*) (λ_{max} 530-560 nm, pH 9.8-10.0). Cryst. Sol. isopropanol, EtOH, H_2O.

Kravchenko, T.B. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 2138 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DNA800.

5-Amino-2,4-dihydroxypyrimidine A-00159

5-Amino-2,4-(1H,3H)-pyrimidinedione, 9CI

[932-52-5]



$C_4H_5N_3O_2$ M 127.102

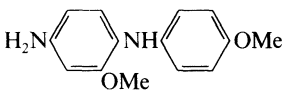
Used as a soln. in 0.1*M* NaOH for photometric detn. of Ru(*III*) (λ_{max} 480 nm, ε 7600), Os(*VIII*). Cryst. Sol. alkalis; spar. sol. H_2O.

▷ YQ8740000.

Kundra, S.K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 715 (*detn, Os, Ru*)

4-Amino-2,4′-dimethoxydiphenylamine A-00160

2-Methoxy-N-(4-methoxyphenyl)-1,4-benzenediamine. 2-Methoxyvariamine blue



$C_{14}H_{16}N_2O_2$ M 244.293

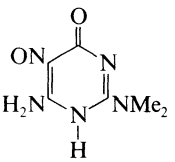
Used as 5m*M* soln. in EtOH as redox indicator. Cryst. Sol. dil. acids, EtOH, C_6H_6. E° + 0.636 V (pH 0, 30°).

Erdey, L. *et al*, *Talanta*, 1959, **3**, 54 (*use, ind*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

6-Amino-2-(dimethylamino)-5-nitroso-4(1*H*)-pyrimidinone, 9CI A-00161

4-Hydroxy-2-(dimethylamino)-5-nitroso-6-aminopyrimidine

[70700-44-6]



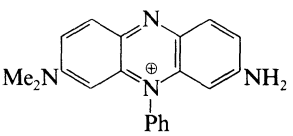
$C_6H_9N_5O_2$ M 183.169

Used for photometric detn. of Fe(*II*) (λ_{max} 395 nm, ε 30500); Co(*III*) (λ_{max} 395 nm, ε 63000). Cryst. Sol. EtOH, Me_2CO.

Tsuchiya, M., *CA*, 1979, **91**, 32339n (*detn, Fe, Co*)

3-Amino-7-(dimethylamino)-5-phenylphenazinium(1+), 9CI A-00162

Dimethylphenosafranine. C.I. Basic violet 5. C.I. 50205



$C_{20}H_{19}N_4^{\oplus}$ M 315.397 (ion)

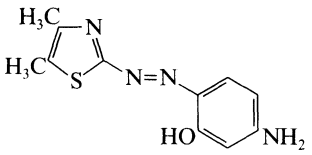
Strictly, the name dimethylphenosafranine applies to the chloride.

Chloride: [2390-56-9].
$C_{20}H_{19}ClN_4$ M 350.850
Redox indicator. Dark red cryst. Sol. H_2O, EtOH, Me_2CO. E° +0.286 V (30°).

Bindschedler, R., *Ber.*, 1883, 869 (*synth*)
Stichler, R.D. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 891.

5-Amino-2-[(4,5-dimethyl-2-thiazolyl)azo] phenol A-00163

2-(4-Amino-2-hydroxyphenylazo)-4,5-dimethylthiazole



$C_{11}H_{12}N_4OS$ M 248.308

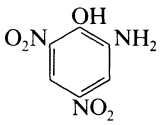
N-*Di-Et:* [92569-68-1]. *5-(Diethylamino)-2-[(4,5-dimethyl-2-thiazolyl)azo]phenol, 9CI*
$C_{15}H_{20}N_4OS$ M 304.415
Used as 0.025% soln. in EtOH for photometric detn. of Bi (λ_{max} 590 nm, ε 100000, 30% EtOH, pH 2.5-3.5). Purple-red cryst. (EtOH aq.). Sol. EtOH, Me_2CO; sl. sol. H_2O. Mp 119°.

Tongyue, C. *et al*, *Mikrochim. Acta*, 1985, **1**, 375 (*detn, Bi*)

2-Amino-4,6-dinitrophenol, 9CI A-00164

2-Hydroxy-3,5-dinitroaniline. Picramic acid. Picraminic acid

[96-91-3]



$C_6H_5N_3O_5$ M 199.123
Intermediate for azo dyestuffs. Used as a 0.1% soln. in EtOH for photometric detn. of Au(*III*), Ce(*IV*), Fe(*III*), V(*V*). Dark-red needles (EtOH), prisms ($CHCl_3$). Sol. EtOH, C_6H_6; v. spar. sol. H_2O. Mp 169°. pK_a 4.7.

▷ Toxic. SJ5800000.

N-*Ac:* [5422-72-0].
$C_8H_7N_3O_6$ M 241.160
Needles (H_2O). Mp 201°.

N-*Benzoyl:*
$C_{13}H_9N_3O_6$ M 303.231
Greenish-yellow needles (AcOH or xylene). Mp 299-300°.

N-(*4-Methylbenzenesulfonyl*):
$C_{13}H_{11}N_3O_7S$ M 353.312
Mp 191°.

O-*Ac:*
$C_8H_7N_3O_6$ M 241.160
Mp 193°.

O-*Benzoyl:*
$C_{13}H_9N_3O_6$ M 303.231
Mp 218-219°.

N-*Me:*
$C_7H_7N_3O_5$ M 213.149
Orange scales (EtOH aq.). Mp 144-145°.

N-*Di-Me:*
$C_8H_9N_3O_5$ M 227.176
Yellow microcryst. (AcOH). Mp 218-220°.

Me ether: 2-Methoxy-3,5-dinitroaniline. 2-Amino-4,6-dinitroanisole. 3,5-Dinitro-o-*anisidine*
$C_7H_7N_3O_5$ M 213.149
Violet needles (EtOH).

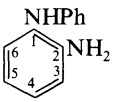
[831-52-7]

Clayton, E., *J. Soc. Dyers Colour.*, 1930, **46**, 365; *CA*, **25**, 926 (*use*)
Hodgson, H.H. *et al*, *J. Chem. Soc.*, 1945, 663 (*synth*)
Popa, G. *et al*, *Fresenius' Z. Anal. Chem.*, 1963, **184**, 353 (*detn, Au, Ce, Fe, V*)
Ger. Pat., 2 601 466, (1975); *CA*, **86**, 8574m.
Wyman, J.F., *Appl. Environ. Microbiol.*, 1979, **37**, 222 (*tox*)
Ger. Pat., 2 832 756, (1979); *CA*, **90**, 205764.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DUP400, PIC500.

2-Aminodiphenylamine A-00165

N-*Phenyl-1,2-benzenediamine, 9CI.* N-*Phenyl*-o-*phenylenediamine.* o-*Semidine*

[534-85-0]



$C_{12}H_{12}N_2$ M 184.240
Used as 1% soln. in 1*M* $HClO_4$ for extraction-photometric detn. of Se (λ_{max} 352 nm, ε 18100, hexanol, PhCl). Needles (H_2O). Sol. acids, C_6H_6, cyclohexane. Mp 79-80°.

B,HCl: Mp 115.5-117° dec.

2-N-*Ac:*
$C_{14}H_{14}N_2O$ M 226.277
Mp 121°.

2-N-*Benzoyl:*
$C_{19}H_{16}N_2O$ M 288.348
Mp 136°.

Kehrmann, F. *et al*, *Ber.*, 1913, **46**, 341 (*synth*)
Ariyoshi, H. *et al*, *Talanta*, 1960, **5**, 112 (*detn, Se*)
Ger. Pat., 2 213 895, (1972); *CA*, **78**, 85944 (*use*)
Kalyanaraman, V. *et al*, *J. Org. Chem.*, 1973, **38**, 507 (*bibl*)
Kasterka, B., *Mikrochim. Acta*, 1989, **1**, 337 (*detn, Se*)

4-Aminodiphenylamine A-00166

N-*Phenyl-1,4-benzenediamine, 9CI.* N-*Phenyl*-p-*phenylenediamine. Diphenyl black base P.* p-*Semidine*

[101-54-2]

$C_{12}H_{12}N_2$ M 184.240
Used in calico printing, dyeing of fur. Used as redox indicator. Needles (EtOH), cryst. (ligroin). Sol. EtOH, Et_2O, acids; insol. H_2O. Mp 66°, Mp 75°. $Bp_{0.026}$ 155°. E° +0.76V.

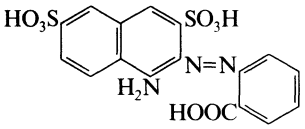
▷ High oral toxicity, exp. carcinogen. ST3150000.

N-*Ac:* [38674-90-7]. *4-(Acetylamino)diphenylamine*
$C_{14}H_{14}N_2O$ M 226.277
Used as redox indicator. Leaflets or needles. Sol. EtOH, acids; spar. sol. H_2O. Mp 158°. E_o + 0.70V.

Meyer, R., *Ber.*, 1920, **53**, 1265 (*synth*)
Oldfield, L.F. *et al*, *J. Phys. Colloid Chem.*, 1951, **55**, 1255 (*use*)
Shenai, V.A., *Text. Dyer Printer*, 1971, **5**, 29, 32 (*rev, use*)
Martynon, N.V. *et al*, *Khim. Promst. (Moscow)*, 1972, **48**, 824; *CA*, **78**, 42927g.
U.K. Pat., 1 304 525, (1973); *CA*, **78**, 124256t (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PFU500.

2-[(1-Amino-3,6-disulfo-2-naphthalenyl) azo]benzoic acid A-00167

4-Amino-3-[(2-carboxyphenyl)azo]-2,7-naphthalenedisulfonic acid. Carbaminazo



$C_{17}H_{13}N_3O_8S_2$ M 451.437

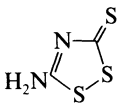
Used as 0.1% aq. soln. for photometric detn. of Pd (λ_{max} 576 nm, ε 18600). Dark red cryst. Sol. H_2O.

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 558 (*detn, Pd*)

5-Amino-1,2,4-dithiazolidine-3-thione, 8CI A-00168

5-Amino-3H-1,2,4-dithiazole-3-thione, 9CI. Isoperthiocyanic acid. 3-Imino-1,2,4-dithiazolidine-5-thione. Xanthan hydride

[6846-35-1]



$C_2H_2N_2S_3$ M 150.249

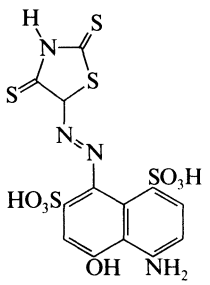
Exists as an imine-enamine tautomer. This substance and its derivs. are used as corrosion inhibitors and vulcanisation accelerators. Used as a 5% soln. in conc. H_2SO_4 for detn. of Bi, Fe(*II*), $NO_2^{\ominus}$. Yellow prisms (H_2O or DMSO aq.). Sol. $CHCl_3$, mod. sol. Me_2CO, EtOH, C_6H_6, insol. Et_2O, H_2O. Mp 200-202°.

▷ JO6500000.

Chattaway, F.D. *et al*, *J. Chem. Soc.*, 1897, **71**, 607 (*synth*)
Foss, O., *Acta Chem. Scand.*, 1956, **10**, 868 (*cryst struct*)
Cotton, F.A. *et al*, *Inorg. Chem.*, 1967, **6**, 229 (*synth*)
Seltzer, R. *et al*, *J. Org. Chem.*, 1970, **35**, 1665 (*synth*)
Petropol'skaya, V.M. *et al*, *CA*, 1972, **76**, 5575 (*manuf*)
Johar, G.S. *et al*, *Mikrochim. Acta*, 1972, 571 (*detn, $NO_2^{\ominus}$*)
Johar, G.S., *Talanta*, 1972, **19**, 1231 (*detn, Bi, Fe*)
Zhorkin, N.V. *et al*, *CA*, 1973, **78**, 124470 (*rev, bibl*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IBL000.

4-Amino-8-[(2,4-dithioxo-5-thiazolidinyl) azo]-5-hydroxy-1,7-naphthalenedisulfonic acid, 9CI A-00169

[36576-02-0]



$C_{13}H_{10}N_4O_7S_5$ M 494.575

Used as aq. soln. for photometric detn. of Pt(*II*) (λ_{max} 650 nm, ε 20000). Red cryst. powder. Sol. H_2O, EtOH, DMF.

Basargin, N.N. *et al*, *Zavod. Lab.*, 1972, **38**, 260 (*synth, detn, Pt*)

2-Aminoethanethiol A-00170

2-Aminoethyl mercaptan. 2-Mercaptoethylamine. Thioethanolamine. ***Cysteamine*, BAN.** *Mercaptamine, INN. Becaptan. Lambratene. Mercamin. Merkamin. Riacon. NSC 25116*

[60-23-1]

$HSCH_2CH_2NH_2$

C_2H_7NS M 77.150

Radioprotective agent, also used as antidote to paracetamol poisoning. Prolactin inhibitor. Masking agent in chelatometric titration of Ca, Mg, Mn. Used as 4% MeOH soln. of hydrochloride. Cryst. (EtOH). Sol. MeOH, EtOH; spar. sol. H_2O. Mp 99-100°. pK_{a1} 8.19; pK_{a2} 10.75 (25°).

▷ KJ0175000.

B,HCl: [156-57-0].
Mp 70.2-70.7°.
▷ Gives toxic fumes on heating to dec. or contact with H_2O. KJ0200000.

N-*Di-Me:* [108-02-1]. *2-(Dimethylamino)ethanethiol, 9CI, 8CI.* ***Captamine*, INN**
$C_4H_{11}NS$ M 105.204
Depigmentation agent. Liq. Bp 120-127°, Bp_{40} 45-47°. pK_{a1} 10.25 (SH) (H_2O, 20°), pK_{a1} 10.90 (25% EtOH, 20°).
▷ KJ1050000.

N-*Di-Me; B,HCl:* [13242-44-9]. *Captamine hydrochloride, USAN. NSC 45463*
Solid. Mp 156-157°.
▷ KJ1051000.

N-*Di-Me*, S-*Ac:*
$C_6H_{13}NOS$ M 147.241
Mp 145° (as hydrochloride).

N-*Di-Et:* [1942-52-5].
$C_6H_{15}NS$ M 133.257
Used as 0.1% aq. soln. for simultaneous photometric detn. of Rh and Pd (λ_{max} 258, 303 nm). Solid (as hydrochloride). Sol. H_2O, EtOH. pK_{a1} 7.69 (SH); pK_{a2} 11.01 (NEt_2).
▷ KJ0700000.

N-*Diisopropyl:* [5842-07-9].
$C_8H_{19}NS$ M 161.311
Bp_{16} 125-126°.
▷ KJ0875000.

[100-38-9, 20739-39-3, 58607-68-4]

Mills, E.J. *et al*, *J. Am. Chem. Soc.*, 1940, **62**, 1173 (*synth*)
Bestian, H., *Justus Liebigs Ann. Chem.*, 1950, **566**, 240 (*synth*)
Rachinskii, F.I. *et al*, *J. Gen. Chem. USSR* (*Engl. Transl.*), 1958, **28**, 3027 (*synth, bibl, derivs*)
Srivastava, S.C. *et al*, *Anal. Chem.*, 1963, **35**, 1165 (*N-di-Et, detn, Rh*)
Yamaguchi, K. *et al*, *Talanta*, 1963, **10**, 1041 (*use*)
Burke, R.W. *et al*, *Talanta*, 1963, **10**, 1267 (*N-di-Et, detn, Pd, Rh*)
Srivastava, S.C. *et al*, *Anal. Chim. Acta*, 1965, **32**, 309 (*N-di-Et, detn, Rh*)
Owen, T.C. *et al*, *J. Chem. Soc. C*, 1967, 1373 (*synth*)
Frenk, E. *et al*, *Arch. Dermatol.*, 1968, **97**, 465 (*pharmacol, deriv*)
Milvy, P., *Radiat. Res.*, 1971, **48**, 206 (*pharmacol*)
Bazzone, T.J., *J. Am. Chem. Soc.*, 1974, **96**, 1465 (*nmr*)
Szabo, S. *et al*, *Endocrinology* (*Baltimore*), 1981, **109**, 2255 (*props*)
Millard, W.J. *et al*, *Science* (*Washington, D.C.*), 1982, **217**, 452 (*props*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1041.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AJT250, DHO400, DIY600, DOY600, MCN750.

2-Aminoethanol A-00171

2-Hydroxyethylamine. Ethanolamine. Colamine

[141-43-5]

$H_2NCH_2CH_2OH$

C_2H_7NO M 61.083

Widely distributed in biol. tissues. Component of lecithin. Chemical intermed., org. base. Removes CO_2 and H_2S from gases. Reagent for fluorimetric anal. of carbohydrates by hplc. Viscous, hygroscopic liq. Misc. H_2O; spar. sol. C_6H_6, Et_2O. d_4^{25} 1.012. Bp 171°. pK_a 9.47. n_D^{20} 1.4539.

▷ Toxic vapour, irritant, TLV 8. KJ5775000.

N-*Ac:* [142-26-7]. N-(*2-Hydroxyethyl*)*acetamide*, *9CI*. N-*Acetylethanolamine*

$C_4H_9NO_2$ M 103.121

d_4^{20} 1.12. Bp 195-196°.

▷ AC3120000.

N-*Me:* [109-83-1]. *2-(Methylamino)ethanol*, *9CI*

C_3H_9NO M 75.110

In vivo precursor of Choline. Strongly basic liq. with fishy odour. Misc. H_2O, EtOH, Et_2O. d_4^{20} 0.94. Bp 155-156°, Bp_5 115-118°.

▷ KL6650000.

N-*Et:* [110-73-6]. *2-Ethylaminoethanol. 2-Hydroxydiethylamine*

$C_4H_{11}NO$ M 89.137

Corrosion inhibitor, fungicide, has antifertility props. Oily liq. with faint odour, fumes in air. Sol. H_2O. Bp 169-170°, Bp_{15} 75-76°. Spar. steam-volatile.

▷ Highly toxic. KK9100000.

N-*Isopropyl:* [109-56-8]. *2-Isopropylaminoethanol. 2-[(1-Methylethyl)amino]ethanol*, *9CI*. N-(*2-Hydroxyethyl*) *isopropylamine. Isopropylethanolamine*

$C_5H_{13}NO$ M 103.164

Shows antifertility props. Oil. Sol. H_2O. Bp_{13} 150-152°.

▷ KL5080000.

N-tert-*Butyl:* [4620-70-6]. *2-[(1,1-Dimethyl)amino]ethanol*, *9CI*. *2*-tert-*Butylaminoethanol*, *8CI*. N-tert-*Butylethanolamine*

$C_6H_{15}NO$ M 117.191

Intermed. for resins. Needles. Mp 43-45°. Bp 176-177°.

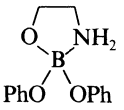
[20739-39-3]

Knorr, L., *Ber.*, 1897, **30**, 909 (*synth*)
Knorr, L. *et al*, *Ber.*, 1898, **31**, 1072 (*synth, derivs*)
Kawai, S., *Nippon Kagaku Kaishi*, 1923, **44**, 303.
Putokhin, N., *CA*, 1929, **23**, 2938.
Fr. Pat., 650 574, (1929); *CA*, **23**, 3232.
U.S. Pat., 1 904 013, (1933); *CA*, **27**, 3222.
Wenker, H., *J. Am. Chem. Soc.*, 1935, **57**, 1079 (*deriv*)
Org. Synth., Coll. Vol., 2, 1943, 183 (*deriv*)
Org. Synth., 1946, **26**, 38 (*derivs*)
Terakawa, T. *et al*, *Yakugaku Zasshi*, 1953, **73**, 1330.
Childress, S.J. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 3988 (*N-tert-*butyl)
Feuer, H. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 5124 (*deriv*)
Nikolaev, A.F. *et al*, *Zh. Obshch. Khim.*, 1963, **33**, 391.
Gelbard, G. *et al*, *Bull. Soc. Chim. Fr.*, 1969, 1161 (*synth, derivs*)
Bafford, R.A. *et al*, *Bull. Soc. Chim. Fr.*, 1973, 971 (*derivs*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 222.
Kato, T. *et al*, *Anal. Biochem.*, 1980, **106**, 238 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 175, 286.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DHO500, EEC600, EGA500, HKM000, INN400, MGG000.

(2-Aminoethoxy)diphenoxyborane A-00172

Boric acid (H_3BO_3) *2-aminoethyl diphenyl ester*, *10CI*, *9CI*

[51685-18-8]



$C_{14}H_{16}BNO_3$ M 257.096

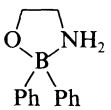
Intramolecularly coordinated. Nmr shift reagent for flavonoids; spray reagent for sugar detection after chromatog.

Niemann, G.J., *J. Chromatogr.*, 1979, **170**, 227 (*use*)
Homberg, H. *et al*, *Phytochemistry*, 1980, **19**, 2443 (*use*)

(2-Aminoethoxy)diphenylborane A-00173

(*2-Aminoethanolato*-N,O)*diphenylboron*, *10CI*. *Diphenylborinic acid 2-aminoethyl ester. Aminoethyl diphenylborinate. Hydroxydiphenylborane ethanolamine*

[15614-89-8]



$C_{14}H_{16}BNO$ M 225.097

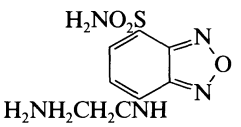
Intramolecularly coordinated cyclic molecule. Shows bactericidal, fungicidal and antiprotozoal props. Reagent for the detn. of flavonoids and other phenols. Cryst. (EtOH aq.). Mp 190-191° (186-188°). Air-stable.

Letsinger, R.L. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 2491 (*synth*)
Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1957, 989 (*synth*)
Bellamy, L.J. *et al*, *J. Chem. Soc.*, 1958, 2412 (*ir*)
Somaroo, B.H. *et al*, *J. Chromatogr.*, 1973, **87**, 290 (*use*)
Rettig, S.J. *et al*, *Can. J. Chem.*, 1976, **54**, 3130 (*cryst struct*)
Kliegel, W. *et al*, *Chem. Ber.*, 1977, **110**, 2067.
Hohaus, E. *et al*, *Int. J. Mass Spectrom. Ion Phys.*, 1979, **31**, 113 (*ms*)
Brasseur, T. *et al*, *J. Chromatogr.*, 1986, **351**, 351 (*use*)

7-[(2-Aminoethyl)amino]-4-benzofurazansulfonamide, 9CI A-00174

7-(2-Aminoethylamino)-4-(aminosulfonyl)-2,1,3-benzoxadiazole

[135406-33-6]



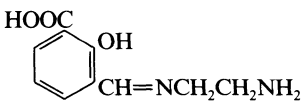
$C_8H_{11}N_5O_3S$ M 257.273

Fluorogenic reagent for carboxylic acids. Orange cryst. Mp 144-146°.

Toyooka, T. *et al*, *Analyst* (*London*), 1991, **116**, 609 (*synth, use*)

3-[[(2-Aminoethyl)imino]methyl]-2-hydroxybenzoic acid A-00175

Ethylenediamine-3-aldehydosalicylic acid

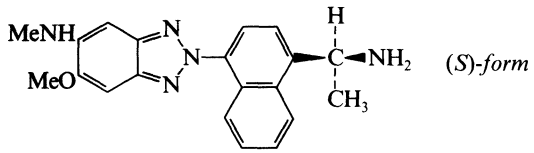


$C_{10}H_{12}N_2O_3$ M 208.216

Used as a 1% aq. soln. as metallochromic indicator in titrimetric detn. of Fe(*III*). Cryst. Sol. H_2O.

Poddar, S.N. *et al*, *CA*, 1963, **59**, 13326e (*detn, Fe*)
Poddar, S.N. *et al*, *Indian J. Chem.*, 1964, **2**, 12 (*detn, Fe*)

2-[4-(1-Aminoethyl)-1-naphthyl]-6-methoxy-*N*-methyl-2*H*-benzotriazol-5-amine A-00176



(*S*)-*form*

$C_{20}H_{21}N_5O$ M 347.419

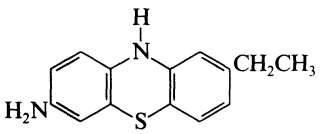
(S)-form

B,2HCl: [125272-63-1].
Fluorescence chiral derivatisation reagent for carboxylic acids. Light yellow needles (MeOH/Et_2O). Mp 255-257°. $[\alpha]_D^{25}$ −16.8° (c, 1 in MeOH).

Narita, S. *et al*, *Anal. Sci.*, 1989, **5**, 361 (*synth, use*)

7-Amino-2-ethylphenothiazine A-00177

8-Ethyl-10H-phenothiazin-3-amine, 9CI
[67615-62-7]

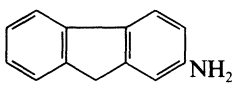


$C_{14}H_{14}N_2S$ M 242.344
Used for photometric detn. of Ti. Yellow cryst. powder. Sol. dil. HCl.

Chaudhary, R.C., *An. Quim.*, 1978, **74**, 172 (*detn, Ti*)

2-Aminofluorene A-00178

9H-Fluoren-2-amine, 9CI. 2-Fluorenamine
[153-78-6]



$C_{13}H_{11}N$ M 181.237
Cryst. (EtOH aq.). Mp 129°.
▷ LL5075000.

N,N-*Di-Me:* [13261-62-6].
$C_{15}H_{15}N$ M 209.290
Cryst. (EtOH). Mp 180°.
▷ LL5250000.

N-*Ac:*
$C_{15}H_{13}NO$ M 223.274
Cryst. (EtOH aq.). Mp 191°.
▷ Strong carcinogen.

N-*Hydroxy*-N-*nitroso:* N-(*2-Fluorenyl*)-N-*nitrosohydroxylamine.* N-*Hydroxy*-N-*nitroso-2-fluorenamine*
$C_{13}H_{10}N_2O_2$ M 226.234
Used as a satd. soln. of $NH_4^{\oplus}$ salt in MeOH for pptn. of Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Mn, Mg, Pb, Ni, Ag, Sr, Sn, Th, Sb, Zn. Cryst. (MeOH) (as $NH_4^{\oplus}$ salt). Mp 201-202° (as $NH_4^{\oplus}$ salt).

Bennett, C.W. *et al*, *J. Am. Chem. Soc.*, 1930, **52**, 3437.
Org. Synth., 1933, **13**, 74.
Buu-Hoï, Ng.Ph. *et al*, *Bull. Soc. Chim. Fr.*, 1946, 379.
Oesper, R.E. *et al*, *Anal. Chem.*, 1953, **25**, 908 (*deriv, use*)
Shendrikar, A.D., *Talanta*, 1969, **16**, 51 (*deriv, use*)
Fletcher, T.L. *et al*, *J. Org. Chem.*, 1970, **35**, 4231 (*synth*)
Mathieu, A. *et al*, *Bull. Soc. Chim. Fr.*, 1974, 299 (*nmr*)
Alper, H. *et al*, *Angew. Chem.*, 1977, **89**, 43 (*synth*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 332.
Patty's Ind. Hyg. Toxicol. (3rd Rev. Ed.), Vol. 2, Wiley, 1980, 2419.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DPJ600, FDI000.

Aminoguanidine A-00179

Hydrazinecarboximidamide, 9CI. Guanylhydrazine
[79-17-4]

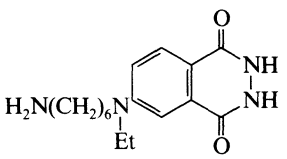
CH_6N_4 M 74.085
Used as a spray reagent for tlc detn. of sugars. Cryst. Sol. H_2O, EtOH; insol. Et_2O. pK_a 11.04. Dec. on melting.
▷ ME8225000.

B,HCl: Large prisms (EtOH aq.). Sol. H_2O, EtOH; insol. Et_2O. Mp 163°.

Smith, G.B.L. *et al*, *J. Am. Chem. Soc.*, 1935, **57**, 2730 (*synth*)
U.S. Pat., 1 990 511, (1935); *CA*, 1836, **29** (*synth*)
U.S. Pat., 2 033 203, (1936); *CA*, **30**, 2992 (*synth*)
Godfrey, L.E.A., *Chem. Ind. (London)*, 1962, 1584 (*rev*)
Martins, P.M. *et al*, *J. Chromatogr.*, 1968, **32**, 188 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AKC750.

6-[(6-Aminohexyl)ethylamino]-2,3-dihydro-1,4-phthalazinedione, 9CI A-00180

N-(*6-Aminohexyl*)-N-*ethylisoluminol. AHEI*
[66612-32-6]

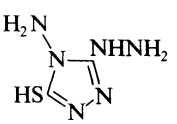


$C_{16}H_{24}N_4O_2$ M 304.391
Chemiluminescence tracer used for steroid hormone immunoassays.

Schroeder, H.R. *et al*, *Anal. Chem.*, 1978, **50**, 1114 (*use*)
Kohen, F. *et al*, *FEBS Lett.*, 1979, **104**, 201 (*use*)
Pazzagli, M. *et al*, *J. Steroid Biochem.*, 1983, **19**, 407 (*synth, uv, use*)

4-Amino-3-hydrazino-5-mercapto-1,2,4-triazole A-00181

4-Amino-5-thioxo-1,2,4-triazolidin-3-one 3-hydrazone, 9CI. 4-Amino-5-hydrazino-4H-1,2,4-triazole-3-thiol, 8CI. 4-Amino-3-hydrazino-1,2,4-triazoline-5-thione. Purpald
[1750-12-5]



$C_2H_6N_6S$ M 146.176
Several tautomers possible. Used for photometric detn. of aldehydes. Prisms (H_2O). Mp 240° dec.

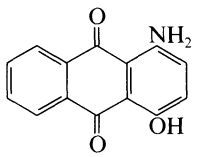
Potts, K.T. *et al*, *J. Org. Chem.*, 1968, **33**, 143 (*synth, ir*)

Kennard, G.H.L. *et al*, *J. Chem. Soc. B*, 1971, 270.
Dickenson, R.G. *et al*, *Aust. J. Chem.*, 1976, **29**, 459 (*use, bibl*)
Kurzer, F. *et al*, *Tetrahedron*, 1977, **33**, 1999 (*synth, ir*)
Durst, H.D. *et al*, *J. Chem. Educ.*, 1978, **55**, 206 (*use*)

1-Amino-4-hydroxyanthraquinone A-00182

1-Amino-4-hydroxy-9,10-anthracenedione, 9CI. C.I. Disperse red 15. C.I. Solvent red 53. Celliton fast pink B. C.I. 60710

[116-85-8]



$C_{14}H_9NO_3$ M 239.230

Dyestuff. Used as a soln. in MeOH for fluorimetric detn. of Be, Ga, Pr, Th; used as 0.05% EtOH soln. for kinetic fluorimetric detn. of Ce(*IV*) (λ_{max} 575 nm, 0.1-1 ppm), Zr. Pink plates (C_6H_6), violet needles (C_6H_6/pet. ether). Sol. EtOH, C_6H_6, Me_2CO. Mp 215° (207-209°).

▷ CB5600000.

Me ether: [116-83-6]. *1-Amino-4-methoxyanthraquinone*
$C_{15}H_{11}NO_3$ M 253.257
Needles (toluene). Mp 186°.
▷ CB5735100.

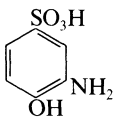
N-*Me:* [6373-16-6]. *1-Hydroxy-4-(methylamino) anthraquinone. C.I. Disperse blue 22*
$C_{15}H_{11}NO_3$ M 253.257
Dyestuff. Violet needles (butanol). Mp 171.5-172°.

Jain, A.K. *et al*, *Talanta*, 1972, **19**, 1481 (*use*)
Garg, S.P. *et al*, *J. Org. Chem.*, 1973, **38**, 1247 (*synth, bibl*)
Morley, J.O. *et al*, *J. Chem. Technol. Biotechnol.*, 1980, **30**, 409 (*synth*)
Flemming, C.A. *et al*, *Can. J. Chem.*, 1982, **60**, 624 (*synth*)
Salinas, F. *et al*, *Microchem. J.*, 1982, **27**, 32 (*detn, Ce*)
Idriss, K.A. *et al*, *Analyst (London)*, 1988, **113**, 1643 (*detn, Zr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AKE250.

3-Amino-4-hydroxybenzenesulfonic acid, 9CI A-00183

2-Aminophenol-4-sulfonic acid

[98-37-3]



$C_6H_7NO_4S$ M 189.192

Used as 1% aq. soln. of the Na salt for photometric detn. of Os. Rhombohedra (H_2O). Mp 155-156°. pK_{a1} 4.12; pK_{a2} 9.15 (20°).

O,N-*Di-Ac; B,HCl:*
$C_{10}H_{12}ClNO_6S$ M 309.727
Mp 43°.

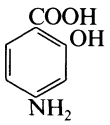
Anilide:
$C_{12}H_{12}N_2O_3S$ M 264.304
Mp 205° (172°).

Post, J., *Justus Liebigs Ann. Chem.*, 1880, **205**, 49 (*synth*)
Minevitch, J.R., *CA*, 1922, **16**, 2994 (*synth*)
Popov, A.M., *CA*, 1934, **28**, 1671; 1936, **30**, 7554 (*synth*)
Williams, T., *J. Chem. Soc.*, 1942, 708 (*deriv*)
Majumdar, A.K. *et al*, *Anal. Chim. Acta*, 1960, **22**, 306 (*detn, Os*)
Tripathi, S., *Indian J. Chem.*, 1973, **11**, 817 (*anal*)

4-Amino-2-hydroxybenzoic acid A-00184

p-*Aminosalicylic acid. PAS. Rezipas. Pamisyl. Propasa*

[65-49-6]



$C_7H_7NO_3$ M 153.137

Tuberculostatic, antibacterial, often administered as Na, K or Ca salt. Used as 10% aq. soln. of Na salt for photometric detn. of Fe(*III*) (λ_{max} 420 nm). Needles or plates (EtOH/Et_2O). Mp 147°, Mp 150-151°, 240° dec. pK_{a1} 2.05; pK_{a2} 3.66; pK_{a3} 13.74 (25°).

▷ Mod. toxic. VO1225000.

Na salt: [6018-19-5]. *Aminosalicylate sodium, USAN. Pamisyl sodium*
Antibacterial agent (tuberculostatic).

Ca salt: [6059-16-1]. *Aminosalicylate calcium, USAN*
Antibacterial agent (tuberculostatic).

Compd. with isonicotinoylhydrazide: [2066-89-9]. ***Pasiniazid,* INN.** *RD 328*
$C_{13}H_{14}N_4O_4$ M 290.278
Tuberculostatic. Yellow cryst. (MeOH). Mp 142-144°.

Me ester: [4136-97-4].
$C_8H_9NO_3$ M 167.164
Tuberculostatic. Pale-yellow cryst. Mp 120-121°, Mp 136° dec.

Et ester: [6059-17-2].
$C_9H_{11}NO_3$ M 181.191
Tuberculostatic. Prisms or tablets (EtOH). Mp 113-115°. $Bp_{0.3}$ 125-127°.
▷ VO1625000.

Ph ester: [133-11-9]. *Phenyl aminosalicylate, BAN, USAN.* ***Fenamisal,* INN.** p-*Aminosalol. Temposil. NSC 40144*
$C_{13}H_{11}NO_3$ M 229.235
Tuberculostatic. Cryst. (2-propanol). Mp 153°.

Nitrile: [67608-58-6]. *4-Amino-2-hydroxybenzonitrile. 5-Amino-2-cyanophenol*
$C_7H_6N_2O$ M 134.137
Yellow needles (EtOAc/C_6H_6). Mp 182°.

O-*Et*, N-*Ac*, *Me ester:* [59-06-3]. *Methyl 4-(acetylamino)-2-ethoxybenzoate, 9CI.* ***Ethopabate,* BAN.** *Ethyl pabate*
$C_{12}H_{15}NO_4$ M 237.255
Veterinary antiprotozoal drug. Pinkish-white cryst. (MeOH aq.). Mp 148-149°.

N-*Benzoyl:* [13898-58-3]. *4-(Benzamido)salicylic acid*
$C_{14}H_{11}NO_4$ M 257.245
Tuberculostatic. Needles. Mp 260-261°.

N-*Benzoyl, Ca salt (2:1):* [5631-00-5]. *Calcium benzamidosalicylate, BAN, INN. Benzoylpas calcium, USAN. Temposil. Benzapas. Therapas*

Me ether: [2486-80-8]. *4-Amino-2-methoxybenzoic acid*
$C_8H_9NO_3$ M 167.164
Mp 157-158°. pK_{a1} 2.24; pK_{a2} 4.42.

[133-09-5, 133-10-8, 133-15-3, 528-96-1, 537-20-2, 5631-00-5]

Drain, D.J. *et al*, *J. Chem. Soc.*, 1949, 1498 (*synth*)
Bavin, E.M. *et al*, *J. Pharm. Pharmacol.*, 1953, **5**, 849 (*pharmacol, N*-benzoyl)
Van der Stelt, C. *et al*, *Arzneim.-Forsch.*, 1954, **4**, 544 (*synth, pharmacol, N*-benzoyl)
Grimme, W. *et al*, *Chem. Ber.*, 1954, **87**, 179 (*deriv*)
Meyer, H.C., *Antibiot. Annu.*, 1957, 58, 614 (*Fenamisal*)
Lukasiak-Wardzińska, H. *et al*, *Chem. Anal. (Warsaw)*, 1958, **3**, 893 (*detn, Fe*)
Rogers, E.F. *et al*, *Proc. Soc. Exp. Biol. Med.*, 1964, **117**, 488 (*Ethopabate*)

Kakemi, K. *et al*, *Chem. Pharm. Bull.*, 1967, **15**, 1819 (*esters, props*)
Iyer, K.S.N. *et al*, *Indian J. Chem.*, 1970, **8**, 964 (*derivs, props*)
Bernheim, F., *Drill's Pharmacol. Med., 4th Ed.*, 4th Ed., McGraw-Hill, 1971 (*rev*)
CRC Atlas of Spectral Data and Physical Constants, 1973, b847 (*uv, ir, nmr, ms*)
Lin, C.T. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1978, 957, 963 (*cryst struct*)
Wesolowski, M., *Sci. Pharm.*, 1980, **48**, 393 (*synth, rev*)
Hassan, M.M.A., *Anal. Profiles Drug Subst.*, 1981, **10**, 1 (*rev*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7551-7554.
Bergeron, R.J. *et al*, *J. Org. Chem.*, 1987, **52**, 144 (*deriv, synth*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 438, 667, 2671, 3016 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AMM250, EEK100, SEP000.

4-Amino-4′-hydroxydiphenylamine A-00185

$C_{12}H_{12}N_2O$ M 200.240
Plates (H_2O or toluene). Mp 166°. pK_{a1} 6.6 (5.9).

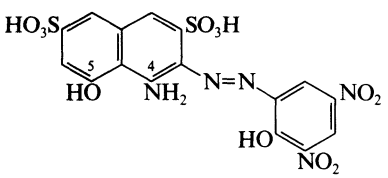
B,½H₂SO₄: C.I. Azoic diazo compound 35. C.I. 37255
Used as 1% aq. soln. as redox indicator. pK_{a1} 6.6 (30°). E° +0.712 V (30°).

Me ether: [101-64-4]. N-(*4-Methoxyphenyl*)-*1,4-benzenediamine*, *9CI. 4-Amino-4′-methoxydiphenylamine. Variamine blue. Variamine blue B*
$C_{13}H_{14}N_2O$ M 214.266
Used as 0.1-1% aq. soln. as a metallochromic indicator for titrimetric detn. of Cd, Cu, Fe(*III*), Pb, V(*V*), Zn; redox indicator. Needles (ligroin). Mp 102°. Bp_{12} 238°.

Et ether: [60457-49-0]. N-(*4-Ethoxyphenyl*)-*1,4-benzenediamine. 4-Amino-4′-ethoxydiphenylamine*
$C_{14}H_{16}N_2O$ M 228.293
Needles (ligroin). Mp 98-99°.

Jacobson, P. *et al*, *Ber.*, 1893, **26**, 693.
Ullmann, F. *et al*, *Ber.*, 1909, **42**, 1080.
Willstätter, R. *et al*, *Ber.*, 1909, **42**, 4139.
Erdey, L. *et al*, *Fresenius' Z. Anal. Chem.*, 1953, **137**, 140 (*use*)
Flaschka, H., *Mikrochim. Acta*, 1954, 361 (*detn, Fe*)
Wehber, P., *Mikrochim. Acta*, 1955, 927 (*detn, Cu*)
Erdey, L. *et al*, *Anal. Chim. Acta*, 1957, **17**, 458 (*detn, Cd, Pb, Zn*)
Jach, Z. *et al*, *Fresenius' Z. Anal. Chem.*, 1957, **154**, 185 (*use*)
Nakasaka, N. *et al*, *Anal. Chim. Acta*, 1966, **36**, 422 (*detn, Fe*)
Tanaka, M. *et al*, *Anal. Chim. Acta*, 1966, **36**, 515 (*detn, V*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

4-Amino-5-hydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI A-00186



$C_{16}H_{11}N_5O_{12}S_2$ M 529.421
Di-Na salt: [35794-22-0].
Used as a 0.1% aq. soln. to give colour reactions with Ga, In, La, Sc, Th. Cryst.

Korenman, I.M. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 36 (*detn, Ga, In, Sc, Th*)
Chernova, R.K. *et al*, *CA*, 1972, **76**, 132129c (*detn, La*)

5-Amino-4-hydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid A-00187

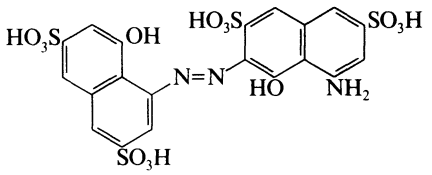
Dark green S. Picraminazo H acid. C.I. Mordant green 6. C.I. 17235. Pentachrome green G

$C_{16}H_{11}N_5O_{12}S_2$ M 529.421
Strictly, the trade names apply to the disodium salt.

Di-Na salt: [3769-61-7].
Used as a 0.015*M* aq. soln. for photometric detn. of Ga (λ_{max} 620 nm, ε 15000), V(*IV*) (λ_{max} 630 nm, ε 12400); used as a 1m*M* aq. soln. as metallochromic indicator for titrimetric detn. of Bi. Dark green cryst. powder. Sol. H_2O, EtOH; insol. C_6H_6, $CHCl_3$, CCl_4, Et_2O, Me_2CO. pK_{a1} 2.5; pK_{a2} 13.4 (μ = 0.1, 20°).

Korenman, I.M. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 36 (*use*)
Gusev, S.I., *Zh. Anal. Khim.*, 1966, **21**, 568 (*use*)
Devyatova, T.M. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 1468 (*detn, Ga*)
Zadumina, E. *et al*, *Khim. Khim. Tekhnol.* (*Minsk*), 1969, **12**, 1483 (*detn, V*)
Colour Index, 3rd Edn., 1971, **4**, 4106 (*synth*)

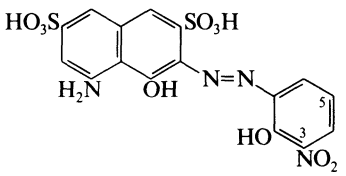
4-Amino-5-hydroxy-6-[(8-hydroxy-3,6-disulfo-1-naphthalenyl)azo]-2,7-naphthalene-2,7-disulfonic acid A-00188



$C_{20}H_{15}N_3O_{14}S_4$ M 649.614
Used as 0.05-0.1% aq. soln. for photometric detn. of Be; gives colour reactions with Be, Co. Cryst.

Kuznetsov, V.I., *Zh. Anal. Khim.*, 1955, **10**, 276 (*use*)

5-Amino-4-hydroxy-3-[(2-hydroxy-3-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI A-00189



$C_{16}H_{12}N_4O_{10}S_2$ M 484.424
Di-Na salt: Used as a 0.1% aq. soln. to give colour reactions with Al, Ga, In, Sc, Th, Zn. Cryst.

Korenman, I.M. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 36 (*use*)

5-Amino-4-hydroxy-3-[(2-hydroxy-5-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI A-00190

Palatine chrome green. Acid chrome dark green G. Chrome fast green G. Eriochrome green H. Omega chrome green F. Hydron II. C.I. 17223

[13301-33-2]
$C_{16}H_{12}N_4O_{10}S_2$ M 484.424
Strictly, the trivial names given apply to the disodium salt. pK_{a2} 5.0; pK_{a4} 12.5.
Di-Na salt: [3564-28-1].

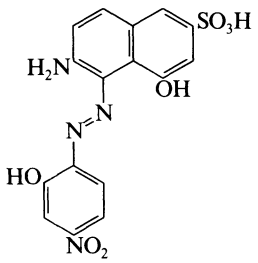
Used as a 1.4m*M* aq. soln. for photometric detn. of Ga (λ_{max} 600 nm, ε 10200); colorimetric detn. of Al, In, Th, Zn and as an indicator in titrimetric detn. of Ca, Ga. Orange-red cryst. Sol. H_2O.

Mustafin, I.S. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 20 (*detn, Ca*)
Korenmen, I.M., *Zh. Anal. Khim.*, 1960, **15**, 36 (*use*)
Kruchkova, E.S. *et al*, *Zavod. Lab.*, 1961, **27**, 668 (*detn, Ca*)
Meites, L., *Handbook of Analytical Chemistry*, McGraw-Hill, N.Y., 1963 (*detn, Ca, Ga*)
Dev'atova, T.M., *Zh. Anal. Khim.*, 1968, **23**, 1468.

6-Amino-4-hydroxy-5-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenesulfonic acid, 9CI A-00191

Gammaazonitrophenol

[120889-37-4]

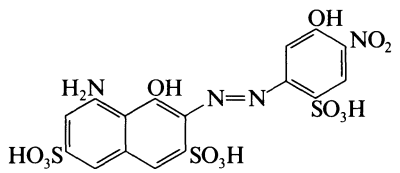


$C_{16}H_{12}N_4O_7S$ M 404.359

Used as 0.1% alkaline aq. soln. for photometric detn. of Co (ε 37000). Dark brown cryst. powder. Sol. alkalis.

Dedkova, V.P. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 1246, 2012 (*synth, detn, Co*)

5-Amino-4-hydroxy-3-[(2-hydroxy-3-nitro-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid A-00192

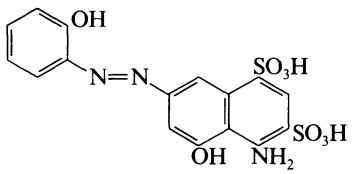


$C_{16}H_{12}N_4O_{13}S_3$ M 564.488

Metallochromic indicator used as 0.1% aq. soln. for titrimetric detn. of Ga. Dark red cryst. powder. Sol. H_2O, EtOH.

Korenman, I.M. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 36 (*detn, Ga*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*detn, Ga*)

4-Amino-5-hydroxy-7-[(2-hydroxyphenyl)azo]-1,3-naphthalenedisulfonic acid A-00193



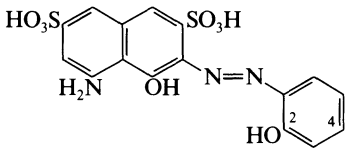
$C_{16}H_{13}N_3O_8S_2$ M 439.426

Used for titrimetric detn. of Ca, Mg. Blue-black amorphous powder. Sol. EtOH, H_2O. pK_{a1} 7.4; pK_{a2} 11.6 (μ = 0.1).

Diehl, H. *et al*, *Anal. Chem.*, 1960, **32**, 1120 (*synth, detn, Co, Mg*)

5-Amino-4-hydroxy-3-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI A-00194

[56973-25-2]



$C_{16}H_{13}N_3O_8S_2$ M 439.426

Used for titrimetric detn. of Ca, Mg. Blue-black amorph. powder. Sol. EtOH, H_2O. pK_{a1} 8.4; pK_{a2} 11.9 (μ = 0.1).

Diehl, H. *et al*, *Anal. Chem.*, 1960, **32**, 1120 (*synth, detn, Ca, Mg*)

5-Amino-4-hydroxy-3-[(4-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI A-00195

[84077-78-1]

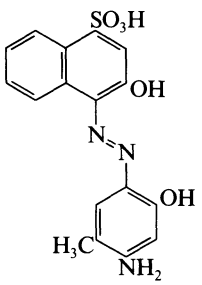
$C_{16}H_{13}N_3O_8S_2$ M 439.426

Used as 0.35m*M* aq. soln. for catalytic photometric detn. of Co (λ_{max} 548 nm, pH 12.5). Cryst. Sol. H_2O, EtOH.

4'-Me ether: [129738-72-3]. *5-Amino-4-hydroxy-3-[(4-methoxyphenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI*
$C_{17}H_{15}N_3O_8S_2$ M 453.453
Used as 0.35m*M* aq. soln. for catalytic photometric detn. of Co (λ_{max} 547 nm, pH 9). Cryst. Sol. H_2O, EtOH.

Watanabe, K. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1990, **39**, 375 (*synth, detn, Co*)

4-(4-Amino-2-hydroxy-5-methylphenylazo)-3-hydroxy-1-naphthalenesulfonic acid A-00196



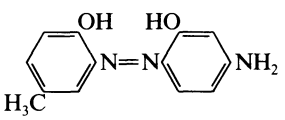
$C_{17}H_{15}N_3O_5S$ M 373.389

N-*Et:* [23204-20-8]. *4-[[4-(Ethylamino)-6-hydroxy-*m*-tolyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, 8CI. Ethylsulfonaphtholazoaminocresol*
$C_{19}H_{19}N_3O_5S$ M 401.442
Used as a 0.1% soln. in NH_3 buffer for photometric detn. of Ga (λ_{max} 580 nm, ε 55000); metallochromic indicator for titrimetric detn. of water hardness. Red-brown cryst. Mod. sol. EtOH, DMF, Me_2CO; sol. alkalis. Mp 234°. pK_{a1} 1.4; pK_{a2} 8.0; pK_{a3} 12.2 (μ = 0.5, 20°).

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 585, 1506 (*synth, use*)

5-Amino-2-(2-hydroxy-5-methylphenylazo)phenol A-00197

4-Amino-2,2'-dihydroxy-5'-methylazobenzene



$C_{13}H_{13}N_3O_2$ M 243.265

N,N-*Di-Me:* [50783-85-2]. *2-[[4-(Dimethylamino)-2-hydroxyphenyl]azo]-4-methylphenol, 9CI*

$C_{15}H_{17}N_3O_2$ M 271.318

Used as a 1m*M* soln. in EtOH or H_2O for extraction-photometric detn. of Al, Cd, Co, Cu, Fe(*III*), La, Mg, Mn, Ni, Zn. Orange-red needles (EtOH aq.). Sol. C_6H_6, $CHCl_3$, EtOH, Me_2CO; spar. sol. H_2O. Subl. 190°.

Shibata, S. *et al, Anal. Chim. Acta*, 1973, **66**, 397 (*synth, use*)

2-Amino-2-hydroxymethyl-1,3-propanediol, 9CI A-00198

Trimethylolaminomethane. Tris(hydroxymethyl) aminomethane. Aminotris(hydroxymethyl)methane. ***Trometamine,*** **USAN.** *Trometamol, BAN, INN, JAN. Trisamine. Tris buffer. Talatrol. THAM. NSC 6365. Other proprietary names*

[77-86-1]

$H_2NC(CH_2OH)_3$

$C_4H_{11}NO_3$ M 121.136

Used in the synth. of surfactants, vulcanisation accelerators and pharmaceuticals. Also a titrimetric standard, emulsifying agent and absorbent for acidic gases. Alkalizer and osmotic diuretic. Buffer component, acidimetric standard. Cryst. mass. Sol. H_2O, EtOH, insol. Et_2O. Mp 171-172°. Bp_{10} 219-220°. pK_a 8.08 (25°).

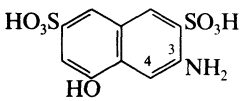
▷ Irritant. TY2900000.

Johnson, K. *et al, J. Org. Chem.*, 1943, **8**, 7 (*synth*)
Fossum, J.H. *et al, Anal. Chem.*, 1951, **23**, 491 (*purifn, use*)
Whitehead, T.H., *J. Chem. Educ.*, 1959, **36**, 297 (*use*)
Nahas, G.C., *Pharmacol. Rev.*, 1962, **14**, 447 (*rev*)
v. Artsdalen, E.R. *et al, J. Phys. Chem.*, 1971, **75**, 1338 (*pmr*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **1**, 961 (*manuf, use rev*)
Eur. Pat., 3 460, (1979); *CA*, **92**, 6045q (*synth*)
Kendi, E., *Z. Kristallogr.*, 1982, **160**, 139 (*cryst struct*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 260.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 245 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TEM500.

3-Amino-5-hydroxy-2,7-naphthalenedisulfonic acid, 9CI A-00199

2-Amino-8-naphthol-3,6-disulfonic acid. 2R-Acid

[90-40-4]



$C_{10}H_9NO_7S_2$ M 319.316

Used as aq. soln. for photometric detn. of Fe, Os, V. Cryst. powder. Sol. H_2O; insol. EtOH, C_6H_6, CCl_4.

Seth, R.L. *et al, Fresenius' Z. Anal. Chem.*, 1963, **194**, 271 (*detn, V*)
Agarwala, B.V. *et al, Mikrochim. Acta*, 1968, 442 (*detn, Fe*)
Agarwala, B.V. *et al, Talanta*, 1973, **20**, 129 (*detn, Os*)

4-Amino-5-hydroxy-2,7-naphthalenedisulfonic acid, 8CI, 9CI A-00200

8-Amino-1-naphthol-3,6-disulfonic acid. H acid

[90-20-0]

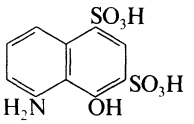
$C_{10}H_9NO_7S_2$ M 319.316

Used in azo dye manuf., in photography and also in corrosion prevention. Used for photometric detn. of aromatic amines by diazotization and coupling.

▷ QJ6180000.

U.S. Pat., 2 875 243, (1959); *CA*, **53**, 16094i (*synth*)
Kirk-Othmer Encycl. Chem. Technol., 2nd Ed., Wiley, N.Y., 1963-1971, **13**, 725 (*rev*)
Yoshie, T., *Bull. Chem. Soc. Jpn.*, 1965, **38**, 1419 (*uv*)
Cee, A. *et al, Mikrochim. Acta*, 1966, **1**, 295 (*use*)
Norwitz, G. *et al, Anal. Chem.*, 1981, **53**, 56; 1982, **54**, 807 (*use*)
Norwitz, G. *et al, Talanta*, 1984, **31**, 295; 1986, **33**, 311 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AKH000.

5-Amino-4-hydroxy-1,3-naphthalenedisulfonic acid A-00201



$C_{10}H_9NO_7S_2$ M 319.316

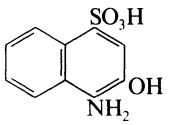
Fluorescent acid-base indicator. Used as an aq. soln. of Na salt (pH range: 10-12; colour change: violet → yellow-green). Cryst. Sol. H_2O, alkalis; insol. C_6H_6.

Deribéré, M. *et al, Anal. Chim. Acta*, 1936, **18**, 37, 120, 173, 289.
Deribéré, M. *et al, Fresenius' Z. Anal. Chem.*, 1939, **116**, 341.

4-Amino-3-hydroxy-1-naphthalenesulfonic acid, 9CI A-00202

1-Amino-2-naphthol-4-sulfonic acid

[116-63-2]



$C_{10}H_9NO_4S$ M 239.251

Intermediate for azo-dyestuff manuf. Used for photometric detn. of Si. Grey needles which turn red in exp. to light. Insol. cold EtOH, Et_2O, C_6H_6; spar. sol. H_2O.

O,N-*Di-Ac:*

$C_{14}H_{13}NO_6S$ M 323.326

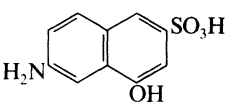
Mp 194-195° (as Py salt).

Fieser, L.F., *J. Am. Chem. Soc.*, 1935, **57**, 494 (*synth*)
Zaloudek, J. *et al, CA*, 1966, **64**, 15813h (*synth*)
Sorrentino, F.A. *et al, Microchem. J.*, 1970, **15**, 441 (*detn, Si*)

6-Amino-4-hydroxy-2-naphthalenesulfonic acid, 9CI A-00203

2-Amino-8-naphthol-6-sulfonic acid

[90-51-7]



$C_{10}H_9NO_4S$ M 239.251

Used as a 0.1% soln. in aq. NaOH for photometric detn. of Ru. Cryst. Sol. EtOH, alkalis; spar. sol. H_2O; insol. C_6H_6.

Popa, G. *et al, Anal. Chim. Acta*, 1965, **33**, 676 (*detn, Ru*)

7-Amino-4-hydroxy-2-naphthalenesulfonic acid, 9CI A-00204

6-Amino-1-naphthol-3-sulfonic acid. J acid

[87-02-5]

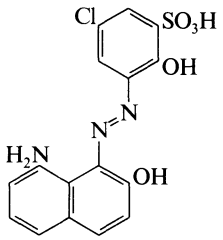
$C_{10}H_9NO_4S$ M 239.251

Dyestuff intermediate. Reagent for photometric detn. of formaldehyde. Mp >300°.

▷ QK1295500.

Sawicki, E. *et al*, *Anal. Chim. Acta*, 1963, **28**, 156 (*use*)
Czech, F.P., *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 1489 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AKI000.

3-[(8-Amino-2-hydroxy-1-naphthalenyl) azo]-5-chloro-2-hydroxybenzenesulfonic acid, 9CI A-00205



$C_{16}H_{12}ClN_3O_5S$ M 393.807

N-*Ac: C.I. Mordant black 38. 5-Chloro-3-(8-acetamido-2-hydroxy-1-naphthalenylazo)-2-hydroxybenzenesulfonic acid. 3-[[8-(Acetylamino)-2-hydroxy-1-naphthalenyl]azo]-5-chloro-2-hydroxybenzenesulfonic acid, 9CI. Omega chrome black blue G. Eriochrome grey SGL. Chrome fast grey GL. C.I. 18160*

$C_{18}H_{14}ClN_3O_6S$ M 435.844

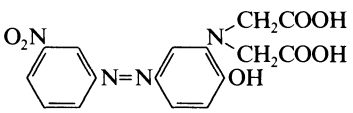
Used as a 0.1% aq. soln. of sodium salt as metallochromic indicator in titrimetric detn. of Ca, Cd, Mg, Mn, Ni, Pb, Sr, Zn. Orange-red cryst. (Na salt). Sol. H_2O; sl. sol. EtOH; insol. Me_2CO (Na salt). Strictly, the name Mordant black 38 applies to the sodium salt.

[6441-96-9]

Belcher, R. *et al*, *Chemist-Analyst*, 1958, **47**, 2 (*detn, Ca, Mg, Ni, Sr*)
Abd El Reheem, A.A. *et al*, *Fresenius' Z. Anal. Chem.*, 1959, **169**, 328; 1971, **256**, 356 (*detn, Ca, Cd, Mg, Mn, Pb, Zn*)

3-Amino-4-hydroxy-3′-nitroazobenzene-*N,N*-diacetic acid A-00206

N-[*2-Hydroxy-5-(3-nitrophenylazo)phenyl*]*iminodiacetic acid. HNPIDA*



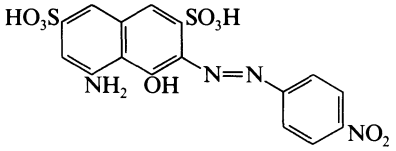
$C_{16}H_{14}N_4O_7$ M 374.309

Metallochromic indicator used as 0.1% aq. soln. in titrimetric detn. of Ca. Brown cryst. Sol. H_2O.

Chrzaszczewski, J. *et al*, *CA*, 1961, **55**, 4395g (*synth, detn, Ca*)

5-Amino-4-hydroxy-3-[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI A-00207

[53524-14-4]



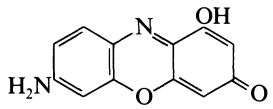
$C_{16}H_{12}N_4O_9S_2$ M 468.424

Used as 0.35m*M* aq. soln. for catalytic photometric detn. of Co (λ_{max} 542 nm). Cryst. Sol. H_2O, EtOH.

Watanabe, K. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1990, **39**, 375 (*synth, detn, Co*)

7-Amino-1-hydroxy-3*H*-phenoxazin-3-one, 8CI A-00208

[14331-04-5]



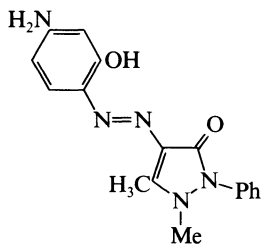
$C_{12}H_8N_2O_3$ M 228.207

Used as a 1m*M* soln. in EtOH as a redox indicator for titanometric detn. of Fe(*III*), Au(*III*), Ce(*IV*), $Cr_2O_7^{2\ominus}$, $VO_4^{3\ominus}$ and some organic compounds; redox indicator for stannometry; acid-base indicator. Orange cryst. (by subl.). Sol. Et_2O, EtOH. pK_{a1} 6.06 (30% EtOH, μ = 0.07). E° +0.337 V (pH 1.18).

Stuzka, V. *et al*, *Monatsh. Chem.*, 1967, **98**, 1754 (*use, acid-base ind*)
Ruzička, E. *et al*, *CA*, 1968, **69**, 40930j (*use, stannometry*)
Stuzka, V. *et al*, *CA*, 1969, **71**, 108668d (*use, titanometry*)

4-[[(4-Amino-2-hydroxyphenyl)]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI A-00209

[50886-45-8]



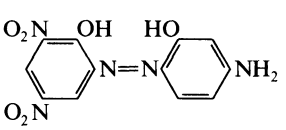
$C_{17}H_{17}N_5O_2$ M 323.354

Used for photometric detn. of Bi (λ_{max} 510 nm, ε 72200), Ga (λ_{max} 505 nm, ε 66000), In (λ_{max} 505 nm, ε 36700). Orange-red cryst. Mp 135° dec. pK_{a1} 10.46; pK_{a2} 10.41.

Smaglyuk, N.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1680 (*detn, Bi, Ga, Zn*)

2-(4-Amino-2-hydroxyphenylazo)-4,6-dinitrophenol A-00210

4′-Amino-2,2′-dihydroxy-3,5-dinitroazobenzene



$C_{12}H_9N_5O_6$ M 319.233

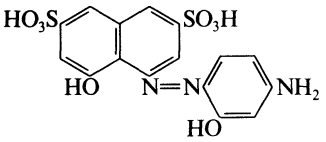
N,N-*Di-Me:* [50783-87-4]. *2-[[4-(Dimethylamino)-2-hydroxyphenyl]azo]-4,6-dinitrophenol, 9CI*

$C_{14}H_{13}N_5O_6$ M 347.287

Used as a 1m*M* soln. in EtOH or H_2O for extraction-photometric detn. of Al, Cd, Co, Cu, Fe(*III*), La, Mg, Mn, Ni, Zn. Dark brown amorphous powder. Sol. C_6H_6, $CHCl_3$, EtOH, Me_2CO; spar sol. H_2O.

Shibata, S. *et al, Anal. Chim. Acta*, 1973, **66**, 397 (*synth, use*)

4-(4-Amino-2-hydroxyphenylazo)-5-hydroxy-2,7-naphthalenedisulfonic acid A-00211



$C_{16}H_{13}N_3O_8S_2$ M 439.426

N-*Di-Et:* [3627-04-1]. *Beryllon III. 4-[[4-(Diethylamino)-2-hydroxyphenyl]azo]-5-hydroxy-2,7-naphthalenedisulfonic acid, 9CI*

$C_{20}H_{21}N_3O_8S_2$ M 495.533

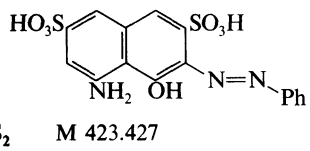
Used as 0.02% in aq. soln. of NaOH in photometric detn. of Be (λ_{max} 526 nm, ε 19000). Black cryst. Sol. H_2O.

Kuznetsov, V.I. *et al, Zh. Anal. Khim.*, 1955, **10**, 276; 1963, **18**, 160 (*synth, detn, Be*)

Pakalns, P. *et al, Analyst (London)*, 1965, **90**, 300 (*detn, Be*)

4-Amino-5-hydroxy-3-(phenylazo)-2,7-naphthalenedisulfonic acid, 9CI A-00212

[38304-37-9]



$C_{16}H_{13}N_3O_7S_2$ M 423.427

Di-Na salt: [56444-96-3].

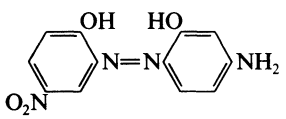
Used as a 0.01% soln. in EtOH to give colour reaction with Pd. Cryst.

Popa, G. *et al, Zh. Anal. Khim.*, 1959, **14**, 322 (*detn, Pd*)

2-(4-Amino-2-hydroxyphenylazo)-4-nitrophenol A-00213

4-Amino-2,2'-dihydroxy-5'-nitroazobenzene

[50783-86-3]



$C_{12}H_{10}N_4O_4$ M 274.235

N,N-*Di-Me: 2-[[4-(Dimethylamino)-2-hydroxyphenyl]azo]-4-nitrophenol, 9CI. 2-[1-(2-Hydroxy-5-nitrophenyl)azo]-5-dimethylaminophenol*

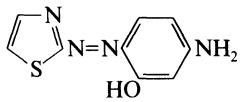
$C_{14}H_{14}N_4O_4$ M 302.289

Used as a 0.1% soln. in EtOH or H_2O for extraction-photometric detn. of Al, Cd, Co, Cu, Fe(*III*), La, Mg, Mn, Ni, Zn. Dark yellow-brown needles (EtOH aq.). Sol. C_6H_6, $CHCl_3$, EtOH, Me_2CO; spar. sol. H_2O.

Shibata, S. *et al, Anal. Chim. Acta*, 1973, **66**, 397 (*synth, use*)

2-(4-Amino-2-hydroxyphenylazo)thiazole A-00214

[13999-00-3]



$C_9H_8N_4OS$ M 220.254

N,N-*Di-Me:* [3695-43-0]. *5-(Dimethylamino)-2-(2-thiazolylazo)phenol, 9CI. TAM*

$C_{11}H_{12}N_4OS$ M 248.308

Used as 1m*M* soln. in EtOH or 0.02% in aq. Py for photometric detn. of U(*VI*) (λ_{max} 570 nm, ε 40000), Cu, Fe, Ni, Ta, Th; indicator in EDTA titrations; used as a 0.1% soln. in MeOH as metallochromic indicator in titrimetric detn. of Co, Cu, Ni, Pb, Zn; photometric detn. of Bi (λ_{max} 585 nm, ε 46000), Nb (λ_{max} 603 nm, ε 48000), Y (λ_{max} 575 nm, ε 72000). Red needles (EtOH aq.). Sol. EtOH, Me_2CO, $CHCl_3$; spar. sol. H_2O. Mp 216°. pK_{a2} 2.8; pK_{a3} 9.9.

N,N-*Di-Et:* [10558-42-6]. *2-(4-Diethylamino-2-hydroxyphenylazo)thiazole. 5-(Diethylamino)-2-(2-thiazolylazo)phenol, 9CI. 2-(2-Thiazolylazo)-5-diethylaminophenol*

$C_{13}H_{16}N_4OS$ M 276.362

Used as a 0.4-4m*M* soln. in propanol for photometric detn. of Co (λ_{max} 580 nm, ε 64000), Ir (λ_{max} 570 nm, ε 48000), Rh (λ_{max} 590 nm, ε 58000), U (λ_{max} 580 nm, ε 46000); extraction-photometric detn. of Hg ($CHCl_3$, λ_{max} 580 nm). Orange red cryst. Mod. sol. alkalis, EtOH, Me_2CO; sl. sol. H_2O. Mp 146-147°. pK_{a1} 3.20 (5.0); pK_{a2} 9.40 (11.20) (μ = 0.1).

[101412-82-2]

Skytte Jensen, B., *Acta Chem. Scand.*, 1960, **14**, 927, 965 (*use*)

Kasura, K. *et al, Chem. Anal. (Warsaw)*, 1968, **13**, 177 (*detn, Ni*)

Gusev, S.I. *et al, Zh. Anal. Khim.*, 1969, **24**, 210; 1975, **30**, 540 (*detn, U*)

Kolosova, I.V., *CA*, 1973, **78**, 37630s (*detn, Hg*)

Kiryukhina, N.N., *CA*, 1973, **79**, 73213n (*detn, Co*)

Tsurumi, C. *et al, Bunseki Kagaku (Jpn. Anal.)*, 1974, **23**, 143; 1975, **24**, 566; 1979, **28**, 754 (*detn, Nb, Bi, Th*)

Tsurumi, C. *et al, CA*, 1976, **84**, 25490g (*detn, Y*)

Shurupova, T.I. *et al, Zh. Anal. Khim.*, 1976, **31**, 2162; 1981, **36**, 926 (*detn, Ir*)

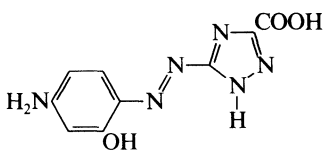
Goroshko, G.G. *et al, Zh. Anal. Khim.*, 1978, **33**, 1114 (*pKa, detn, Ir, Rh*)

Tsurumi, C. *et al, Analyst (London)*, 1981, **106**, 944 (*detn, Ta*)

Ueda, K. *et al, Bull. Chem. Soc. Jpn.*, 1981, **54**, 3763 (*detn, Fe*)

Goroshko, G.G. *et al, Zavod. Lab.*, 1984, **50**, 11 (*detn, Ir, Rh*)

5-(4-Amino-2-hydroxyphenylazo)-1*H*-1,2,4-triazole-3-carboxylic acid A-00215



$C_9H_8N_6O_3$ M 248.201

N-*Di-Et:* [74813-85-7]. *5-[[4-Diethylamino-2-hydroxyphenyl]azo]-1H-1,2,4-triazole-3-carboxylic acid, 9CI*

$C_{13}H_{16}N_6O_3$ M 304.308

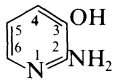
Used as 0.2% aq. soln. in photometric detn. of Co (λ_{max} 535 nm, ε 70000). Brown cryst. Sl. sol. H_2O.

Yusupov, M.Yu. *et al, Zavod. Lab.*, 1980, **46**, 390 (*detn, Co*)

2-Amino-3-hydroxypyridine A-00216

2-Amino-3-pyridinol, 9CI, 8CI. 3-Hydroxy-2-pyridinamine

[16867-03-1]



$C_5H_6N_2O$ M 110.115

Used as a soln. in 95% EtOH or 10% AcOH for photometric detn. of Fe(*III*), Os (λ_{max} 600 nm, ε 9000), Ru(*III*) (λ_{max} 510-525 nm, ε 4460). Cryst. (MeOH). Sol. EtOH, MeOH, acids, alkalis; spar. sol. H_2O. Mp 172°.

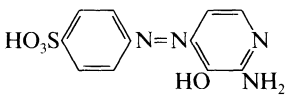
Picrate: Cryst. (EtOH aq.). Mp 256° dec.

Frazer, J. *et al*, *J. Chem. Soc.*, 1957, 4625 (*synth*)
Boyland, E. *et al*, *J. Chem. Soc.*, 1958, 4198 (*synth*)
Lewicka, K. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1959, **78**, 644 (*synth*)
Mehta, Y.L. *et al*, *J. Chin. Chem. Soc.* (*Peking*), 1974, **21**, 127 (*detn, Ru*)
Kushwaha, V. *et al*, *Talanta*, 1974, **21**, 763 (*detn, Ru, Fe*)
Mehta, Y.L. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 402 (*detn, Os*)
Mehta, Y.L. *et al*, *Talanta*, 1976, **23**, 53 (*detn, Os*)
Greuter, H. *et al*, *J. Heterocycl. Chem.*, 1977, **14**, 203 (*synth*)

4-[(2-Amino-3-hydroxy-4-pyridinyl)azo] benzenesulfonic acid, 9CI A-00217

2-Amino-3-hydroxy-4-(4-sulfophenylazo)pyridine

[65837-77-6]



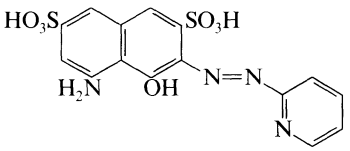
$C_{11}H_{10}N_4O_4S$ M 294.290

Used as 0.25% aq. soln. for photometric detn. of V(*V*) (λ_{max} 530 nm, ε 5450, pH 5-6). Cryst. Sol. H_2O.

Sharma, Y., *Mikrochim. Acta*, 1982, **2**, 305 (*synth, detn, V*)

5-Amino-4-hydroxy-3-(2-pyridinylazo)-2,7-naphthalenedisulfonic acid A-00218

Pyridylazo-H-acid



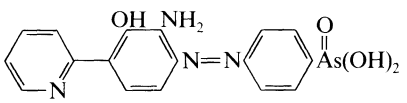
$C_{15}H_{12}N_4O_7S_2$ M 424.414

Used as a 0.1% aq. soln. as indicator for titrimetric detn. of Cu. Orange-red cryst. Mod. sol. H_2O.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*detn, Cu*)

[4-[1-[2-Amino-3-hydroxy-4-(2-pyridinyl) phenyl]azo]phenyl]arsonic acid, 9CI A-00219

[71316-35-3]



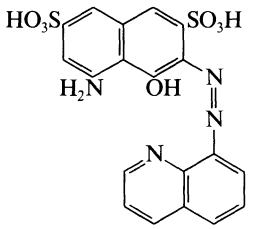
$C_{17}H_{15}AsN_4O_4$ M 414.251

Used as 1m*M* aq. soln. in for indirect photometric detn. of $CN^{\ominus}$. Orange cryst. Sol. H_2O.

Verma, Y.S. *et al*, *Mikrochim. Acta*, 1979, **1**, 445.

5-Amino-4-hydroxy-3-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, 9CI A-00220

[93201-59-3]



$C_{19}H_{14}N_4O_7S_2$ M 474.474

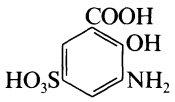
Used for photometric detn. of Co. Dark red cryst. powder. Spar. sol. H_2O, EtOH; sol. alkalis.

Li, Y. *et al*, *CA*, 1984, **101**, 221499a (*detn, Co*)

3-Amino-2-hydroxy-5-sulfobenzoic acid, 9CI A-00221

3-Aminosulfosalicylic acid

[6201-86-1]



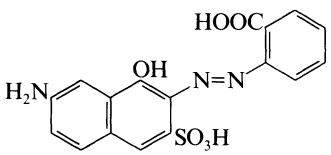
$C_7H_7NO_6S$ M 233.201

Used as a 1m*M* aq. soln. for fluorimetric detn. of Al (λ_{max} 460 nm). Cryst. (EtOH).

Alykov, N.M. *et al*, *Khim. Khim. Tekhnol.* (*Minsk*), 1974, **17**, 1254 (*use*)

2-[[7-Amino-1-hydroxy-3-sulfo-2-naphthalenyl]azo]benzoic acid, 9CI A-00222

7-Amino-3-(2-carboxyphenylazo)-4-hydroxy-2-naphthalenesulfonic acid



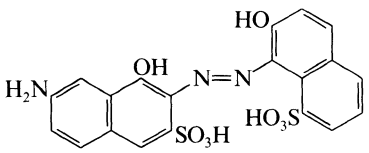
$C_{17}H_{13}N_3O_6S$ M 387.372

7-N-Ph: [6369-32-0]. *2-[[1-Hydroxy-7-(phenylamino)-3-sulfo-2-naphthalenyl]azo]benzoic acid, 9CI*
$C_{23}H_{17}N_3O_6S$ M 463.470
Used as a 0.05-0.1% aq, soln. to give colour reactions with Be, Co, Ni, Zn. Cryst. (as di-Na salt). Mod. sol. H_2O (di-Na salt).

Kuznetsov, V.I., *Zh. Anal. Khim.*, 1955, **10**, 276 (*use*)

8-(7-Amino-1-hydroxy-3-sulfophenylazo)-7-hydroxy-1-naphthalenesulfonic acid A-00223

Ponceau 3R. C.I. 17110 Acid dye



$C_{20}H_{15}N_3O_8S_2$ M 489.486

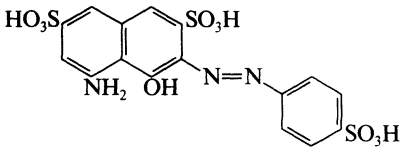
Strictly, the name Ponceau 3R applies to the disodium salt. This compound is sometimes confused with C.I. 16155 Food Red 6 having the same trade name.

Di-Na salt: Used as a 0.1-0.25% aq. soln. as metallochromic indicator in titrimetric detn. of Cu, Ni. Cryst. Sol. H_2O, EtOH.

Belcher, R. *et al*, *Chemist-Analyst*, 1957, **46**, 86 (*detn, Cu*)
Sanderson, I.P. *et al*, *Talanta*, 1962, **9**, 71; **10**, 247 (*detn, Cu*)
Meites, L., *Handbook of Analytical Chemistry*, McGraw-Hill, N.Y., 1963 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

5-Amino-4-hydroxy-3-[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI A-00224

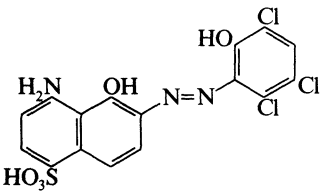
[52172-47-1]



$C_{16}H_{13}N_3O_{10}S_3$ M 503.491
Used as 0.35m*M* aq. soln. for catalytic photometric detn. of Co (λ_{max} 528 nm, pH 11.4). Orange-red cryst. Sol. H_2O, EtOH.

Watanabe, K. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1990, **39**, 375 (*synth, detn, Co*)

8-Amino-2-(2-hydroxy-3,5,6-trichlorophenylazo)-1-naphthol-5-sulfonic acid A-00225



$C_{16}H_{10}Cl_3N_3O_5S$ M 462.696
N-*Ac:* [3819-12-3]. *Solochrome fast blue B. 8-Acetamido-2-(2-hydroxy-3,5,6-trichlorophenylazo)-1-naphthol-5-sulfonic acid. Eriochrome navy blue BRL. Metachrome brilliant blue BL. Metomega chrome cyanine BLL. C.I. 17940. C.I. Mordant blue 7*
$C_{18}H_{12}Cl_3N_3O_6S$ M 504.733
Used as a 1:100 mixture with NaCl for titrimetric detn. of Cd, Mg, Mn(*II*), Pb, Zn. Blue-black cryst. with faint metallic lustre. Sol. H_2O, EtOH.

Mustafin, I.S. *et al*, *Zavod. Lab.*, 1958, **24**, 1060 (*detn, Cu, Mg, Zn*)
Abd El Raheem, A.A. *et al*, *Anal. Chim. Acta*, 1959, **20**, 133 (*detn, Cd, Mn, Pb, Zn*)
U.S. Pat., 2 933 490, (1960); *CA*, **54**, 20220h (*synth*)

N-(Aminoiminomethyl)benzamide, 9CI A-00226

[3166-00-5]

PhCONHC=NHNH$_2$

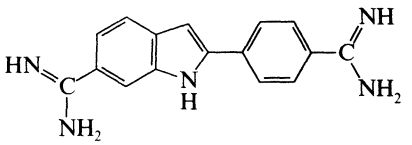
$C_8H_9N_3O$ M 163.179
Used as 0.1 *M* aq. soln. for flotation-photometric detn. of In. Cryst. (H_2O). Sol. H_2O; spar. sol. EtOH; insol. $CHCl_3$, C_6H_6. Mp 110°.

Piwowarska, B. *et al*, *Chem. Anal.* (*Warsaw*), 1986, **31**, 495 (*detn, In*)

2-[4-(Aminoiminomethyl)phenyl]-1*H*-indole-6-carboximidamide, 9CI A-00227

*2-(p-Amidinophenyl)-indole 5-carboxamidine, 8CI. 5-Amidino-2-(4-amidinophenyl)-1*H*-indole. DAPI*

[47165-04-8]



$C_{16}H_{15}N_5$ M 277.328
Fluorescent labelling reagent; reagent for fluorimetric microassay of DNA.

▷ NL5995050.

[28718-90-3]

Dann, O. *et al*, *Justus Liebigs Ann. Chem.*, 1971, **749**, 68 (*synth*)
Kapuscinski, J. *et al*, *Clin. Chem.* (*Winston-Salem, N.C.*), 1977, **83**, 252 (*use*)
van der Kooy, D. *et al*, *Science* (*Washington, D.C.*), 1979, **204**, 873 (*use*)
Schnedl, W. *et al*, *Eur. J. Cell Biol.*, 1980, **20**, 290 (*use*)
Matsumoto, S. *et al*, *J. Mol. Biol.*, 1981, **152**, 501 (*use*)
Manzini, G. *et al*, *Nucleic Acids Res.*, 1983, **11**, 8861; 1985, **13**, 8955 (*use*)
Katouzian-Safadi, M. *et al*, *Anal. Chim. Acta*, 1989, **176**, 416 (*use*)
Kubista, M. *et al*, *J. Am. Chem. Soc.*, 1989, **111**, 7031.

3-[(Aminoiminomethyl)thio]propanoic acid, 9CI A-00228

β-Isothioureidopropionic acid. Isothiourea-S-propanoic acid

[5398-29-8]

HN=C(NH$_2$)—S—CH$_2$CH$_2$COOH

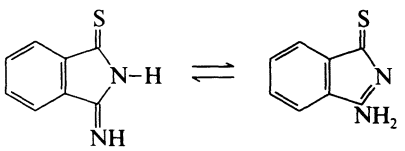
$C_4H_8N_2O_2S$ M 148.185
Used as a 2.5% soln. in aq. NH_3 to give colour reaction with Ni (λ_{max} 425 nm). Cryst. (hot H_2O). Mp 178-179°.

Gresham, T.L. *et al*, *J. Am. Chem. Soc.*, 1948, **70**, 1001 (*synth*)
Uhlig, L.J. *et al*, *Anal. Chem.*, 1951, **23**, 1014 (*detn, Ni*)
Vladzimirskaya, E. *et al*, *CA*, 1973, **79**, 65755a (*synth*)

3-Amino-1*H*-isoindole-1-thione, 9CI A-00229

1-Imino-3-thioisoindoline

[41848-35-5]

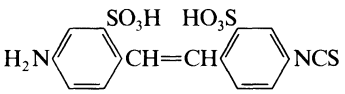


$C_8H_6N_2S$ M 162.215
Used as a 0.1-0.5% soln. in NaOH for gravimetric detn. of Cd, Cu, Hg, Rh. Golden needles. Mp 218° dec.

Baguley, M.E. *et al*, *J. Chem. Soc.*, 1957, 709 (*synth*)
Nigam, A.K. *et al*, *Indian J. Appl. Chem.*, 1972, **35**, 150; *CA*, **81**, 114169q (*detn, Cu*)
Nigam, A.K. *et al*, *J. Indian Chem. Soc.*, 1973, **50**, 158, 227; 1974, **51**, 912 (*detn, Cd, Rh, Hg*)

5-Amino-2-[2-(4-isothiocyanato-2-sulfophenyl)ethenyl]benzenesulfonic acid, 9CI A-00230

4-Amino-4′-isothiocyanatostilbene-2,2′-disulfonic acid



$C_{15}H_{12}N_2O_6S_3$ M 412.468

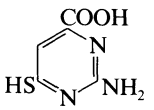
N-*Ac:* [27816-59-7]. *4-Acetamido-4′-isothiocyanatostilbene-2,2′-disulfonic acid. SITS*
$C_{17}H_{14}N_2O_7S_3$ M 454.505
Reagent used in the fluorescent labelling of proteins, etc. *trans*-Form predominates.

N-*Ac, di-Na salt:* [51023-76-8].
Moisture-sensitive pale yellow cryst. (NaCl aq.). Commercially available.

[19293-45-9]

Maddy, A.H., *Biochim. Biophys. Acta*, 1964, **88**, 390 (*synth, use*)
Marinetti, G.V. *et al, Biochim. Biophys. Acta*, 1967, **135**, 580 (*use*)
Benjaminson, M.A. *et al, Stain Technol.*, 1970, **45**, 57 (*props*)
Rothbarth, P.H. *et al, J. Immunol. Methods*, 1978, **19**, 101 (*use*)
Stoehr, M. *et al, Stain Technol.*, 1978, **53**, 205 (*use*)
Schmued, L.C. *et al, Brain Res.*, 1982, **249**, 137 (*use*)
Wessel, G.M. *et al, J. Histochem. Cytochem.*, 1986, **34**, 703 (*use*)
Horobin, R.W. *et al, J. Microsc. (Oxford)*, 1987, **146**, 87 (*synth, ir, nmr, use*)

2-Amino-6-mercapto-4-pyrimidinecarboxylic acid A-00231



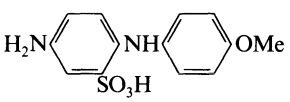
$C_5H_5N_3O_2S$ M 171.179
Cryst. + H_2O (DMF aq.). Mp 291-293°.

S-*Me:* [7249-72-1]. *2-Amino-6-(methylthio)-4-pyrimidinecarboxylic acid, 8CI*
$C_6H_7N_3O_2S$ M 185.206
Used as 0.05% soln. in aq. DMF for photometric detn. of Ag. Cryst. powder (DMF aq.). Mp 255°.

Davies, G.D. *et al, J. Org. Chem.*, 1961, **26**, 2755 (*synth*)
Chung, O.K. *et al, Anal. Chem.*, 1967, **39**, 383 (*detn, Ag*)

5-Amino-2-[(4-methoxyphenyl)amino]benzenesulfonic acid, 9CI A-00232

Variamine blue 2-sulfonic acid



$C_{13}H_{14}N_2O_4S$ M 294.331
Used as a redox indicator. Cryst. pK_{a1} 5.0 (30°). E° +0.78 V (30°).

Me ester:
$C_{14}H_{16}N_2O_4S$ M 308.357
Used as a redox indicator. Cryst. pK_{a1} 5.1 (30°). E° +0.786 V (30°).

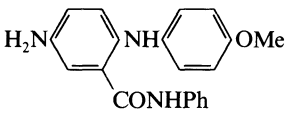
Anilide: N-*Phenyl-2-(4-methoxyphenylamino)-5-aminobenzenesulfonamide. Variamine blue 2-sulfonic acid anilide*
$C_{19}H_{19}N_3O_3S$ M 369.443
Used as a redox indicator. Cryst. pK_{a1} 4.1 (30°). E° +0.776 V (30°).

[58403-33-1]

Erdey, L. *et al, Talanta*, 1959, **3**, 54 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

5-Amino-2-[(4-methoxyphenyl)amino]-*N*-phenylbenzamide A-00233

Variamine blue 2-carbonic acid anilide



$C_{20}H_{19}N_3O_2$ M 333.389
Used as a redox indicator. Cryst. pK_{a1} 5.5 (30°). E° +0.754 V (30°).

Erdey, L. *et al, Talanta*, 1959, **3**, 54 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

5-Amino-*N*-(2-methoxyphenyl)-2-[(4-methoxyphenyl)amino]benzenesulfonamide A-00234

Variamine blue 2-sulfonic acid 2-methoxyanilide

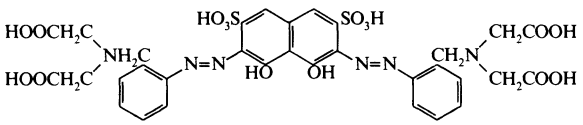
$C_{20}H_{21}N_3O_4S$ M 399.470
Used as a redox indicator. Cryst. pK_{a1} 5.1 (30°). E° +0.78 V (30°).

Erdey, L. *et al, Talanta*, 1959, **3**, 54 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

Aminomethylazo III A-00235

[(*1,8-Dihydroxy-3,6-disulfo-2,7-naphthylene*)*bis*(*azo-o-phenylenemethylenenitrilo*)]*tetraacetic acid, 8CI. 2,7-Bis*[*o-di*(*carboxymethyl*)*aminomethylphenylazo*]*chromotropic acid*

[1938-78-9]

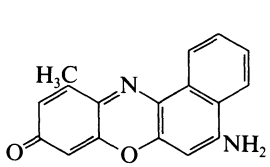


$C_{32}H_{30}N_6O_{16}S_2$ M 818.752
Used as a 0.01% aq. soln. for photometric detn. of Co, Cu, Mn, Ni, Th, U. Dark red cryst. powder. Sp. sol. H_2O; sol. alkalis. pK_{a1} 14.1; pK_{a2} 13.3; pK_{a3} 12.2.

Budesinsky, B. *et al, Fresenius' Z. Anal. Chem.*, 1965, **214**, 325.

5-Amino-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, 8CI A-00236

[17799-99-4]



$C_{17}H_{12}N_2O_2$ M 276.294
Used as a 0.1m*M* soln. in EtOH as an acid-base indicator; redox indicator for titanometric detn. of Fe(*III*), Au(*III*), Ce(*IV*), $Cr_2O_7^{2\ominus}$, $VO_4^{3\ominus}$ and some organic

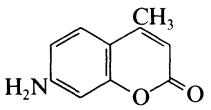
compds. Violet cryst. Sol. C_6H_6, Et_2O; sl. sol. EtOH. Mp >360°. pK_{a1} 5.15 (20% EtOH, μ = 0.07); pK_{a2} 12.15 (50% EtOH, μ = 0.07). E° + 0.310V (1*N* HCl, 50% EtOH, μ = 0.07).

Ruzička, E. *et al*, *Mikrochim. Acta*, 1968, 1299; 1969, 698 (*use, acid-base ind, redox ind*)
Ruzička, E. *et al*, *Monatsh. Chem.*, 1968, **99**, 838 (*use, synth*)

7-Amino-4-methyl-2*H*-1-benzopyran-2-one, 9CI A-00237

7-Amino-4-methylcoumarin. Coumarin 120. AMC

[26093-31-2]



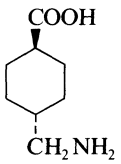
$C_{10}H_9NO_2$ M 175.187

Fluorescent labelling reagent for trace detn. of enzymes and saccharides. Laser dye. Commercially available. Light sensitive yellow rods (EtOH). Mp 223-226°.

Pechmann, H. *et al*, *Ber.*, 1899, **32**, 3696 (*synth*)
Cox, A.J. *et al*, *Appl. Phys. Lett.*, 1977, **31**, 389 (*use*)
Atkins, R.L. *et al*, *J. Org. Chem.*, 1978, **43**, 1975 (*synth*)
Krejcoves, J. *et al*, *Collect. Czech. Chem. Commun.*, 1979, **44**, 2211 (*ir, pmr, uv*)
Kanaoka, Y. *et al*, *Chem. Pharm. Bull.*, 1982, **30**, 1485; 1984, **32**, 3926 (*use*)
Prakash, C. *et al*, *Anal. Biochem.*, 1983, **128**, 41 (*use*)
Prasad, C.V. *et al*, *J. Liq. Chromatogr.*, 1983, **6**, 951 (*purifn, use*)
Sinha, P. *et al*, *Histochemistry*, 1984, **81**, 167 (*use*)
Pavlopoulos, T.G. *et al*, *Spectrochim. Acta, Part A*, 1986, 42, 47 (*use*)
Sigma-Aldrich Library of Chemical Safety Data, 1988, **1**, 190D.

4-(Aminomethyl)cyclohexanecarboxylic acid, 9CI, 8CI A-00238

[701-54-2]



$C_8H_{15}NO_2$ M 157.212

cis-form [1197-17-7]
Cryst. (Me_2CO aq.). Mp 236-238° dec.

B,HCl: [3667-38-7].
Prisms (Me_2CO aq.). Mp 195-197° dec.

N-*Ac:* [20704-65-8].
Prisms (EtOH). Mp 189-190°.

trans-form [1197-18-8] ***Tranexamic acid, BAN, USAN, INN, JAN.*** *Amstat. Cyclokapron*
Antiplasminic, haemostatic agent. Used as an internal standard for glc. anal. of amino acids. Cryst. (Me_2CO/EtOH aq.). V. spar. sol. EtOH, Et_2O. Mp 386-392° dec.

▷ GU8400000.

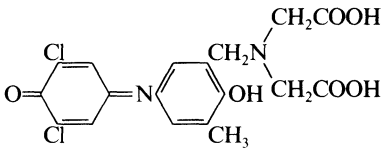
B,HCl: [3667-39-8].
Needles (Me_2CO aq.). Mp 238-242° dec.

N-*Ac:* [20704-66-9].
Prisms (Me_2CO). Mp 154-155°.

Levine, M. *et al*, *J. Org. Chem.*, 1959, **24**, 115 (*synth*)
Naito, T. *et al*, *Chem. Pharm. Bull.*, 1968, **16**, 728 (*synth, ir*)
Kaiser, F.E. *et al*, *J. Chromatogr.*, 1974, **94**, 113 (*use*)
Isoda, S. *et al*, *Chem. Pharm. Bull.*, 1979, **27**, 2735.
Nilsson, I.M., *J. Clin. Pathol.*, 1980, **14**, 41 (*rev*)
Yamazaki, K. *et al*, *Acta Crystallogr., Sect. B*, 1981, **37**, 1447 (*cryst struct*)
Pilbrant, A. *et al*, *Eur. J. Clin. Pharmacol.*, 1981, **20**, 65 (*pharmacol*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1726.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1002 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AJV500.

2-(Aminomethyl)-4-(3,5-dichloro-4-oxo-2,5-cyclohexylideneamino)-6-methylphenol-*N*,*N*-diacetic acid A-00239

N-[*2-Hydroxy-3-methyl-5-[(3,5-dichloro-4-oxo-2,5-cyclohexadien-1-ylidene)iminophenyl]methyl*]-N-(*carboxymethyl*)*glycine. Dichloroindo*-o-*cresol complexan*



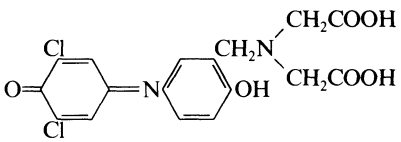
$C_{18}H_{16}Cl_2N_2O_6$ M 427.240

Metal indicator used as a 0.2% aq. soln. + NaCl for titrimetric detn. of Bi, Fe(*III*), Sc, Th. Dark violet cryst. powder. Sol. H_2O, alkalis; spar. sol. EtOH; insol. Et_2O, C_6H_6. Used as a 0.2% soln. of a mixt. with NaCl (1:50) in H_2O.

Svoboda, V. *et al*, *Collect. Czech. Chem. Commun.*, 1960, **25**, 1037.

2-(Aminomethyl)-4-(3,5-dichloro-4-oxo-2,5-cyclohexylideneamino)phenol-*N*,*N*-diacetic acid A-00240

N-[*2-Hydroxy-5-[(3,5-dichloro-4-oxo-2,5-cyclohexadien-1-ylidene)iminophenyl]methyl*]-N-(*carboxymethyl*)*glycine. Dichloroindophenol complexan*



$C_{17}H_{14}Cl_2N_2O_6$ M 413.213

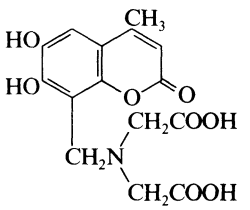
Used as metal indicator for titrimetric detn. of Bi, Fe(*III*), Th. Used as a 0.2% aq. soln. + NaCl. Dark violet cryst. powder. Sol. H_2O, alkalis; spar. sol. EtOH; insol. Et_2O, C_6H_6.

Svoboda, V. *et al*, *Collect. Czech. Chem. Commun.*, 1960, **25**, 1037.

8-(Aminomethyl)-6,7-dihydroxy-4-methylcoumarin-*N*,*N*-diacetic acid A-00241

N-(*Carboxymethyl*)-N-[(*6,7-dihydroxy-4-methyl-2-oxo*)-2H-*1-benzopyran-8-yl*]*methylglycine, 9CI. 4-Methylesculetin-8-methyleneiminodiacetic acid*

[54696-36-5]



$C_{15}H_{15}NO_8$ M 337.285

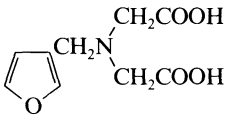
Used as metal fluorescent indicator for detn. of Ca, Cu. Grey cryst. Sol. alkalis; sl. sol. H_2O; insol. Me_2CO. Mp >300°. pK_{a1} 3.03; pK_{a2} 6.3; pK_{a3} 1.38 (0.1*M* KCl).

Huitnik, G.M. *et al*, *Talanta*, 1974, **21**, 1193 (*synth, nmr, detn, Ca, Cu*)

3-(Aminomethyl)furan-*N,N*-diacetic acid A-00242

N-(*Carboxymethyl*)-N-(*2-furanylmethyl*)*glycine*, *9CI*. *Furfuryliminodiacetic acid*

[57362-11-5]



$C_9H_{11}NO_5$ M 213.190

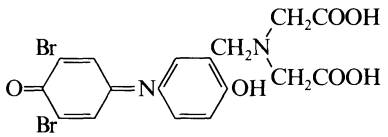
Used for photometric detn. of Cu, Zn, Ni, Co, Fe(*III*). Cryst. Sol. alkalis.

[57249-46-4]

Capitan, F. *et al*, *Afinidad*, 1975, **32**, 421 (*detn, Zn*)
Capitan, F. *et al*, *Bol. Soc. Quim. Peru*, 1975, **41**, 31 (*detn, Ni, Co*)
Alonso, E.T. *et al*, *Quim. Anal. (Madrid)*, 1975, **29**, 292 (*detn, Fe*)
Capitan, F. *et al*, *Ars Pharm.*, 1978, **19**, 151; *CA*, **90**, 33469w (*detn, Cu*)

4-[[(3-Aminomethyl)-4-hydroxyphenyl] imino]-2,6-dibromo-2,5-cyclohexadien-1-one-*N,N*-diacetic acid A-00243

N-[*2-Hydroxy-5-*[(*3,5-dibromo-4-oxo-2,5-cyclohexadien-1-ylidene*)*iminophenyl*]*methyl*]-N-(*carboxymethyl*)*glycine*. *2,6-Dibromoindophenol complexan*



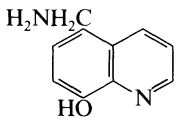
$C_{17}H_{14}Br_2N_2O_6$ M 502.115

Used as metal indicator for titrimetric detn. of Bi, Fe(*III*), Th. Used as a 0.2% aq. soln. + NaCl. Dark violet cryst. powder. Sol. H_2O, alkalis; spar. sol. EtOH; insol. Et_2O, C_6H_6.

Svoboda, V. *et al*, *Collect. Czech. Chem. Commun.*, 1960, **25**, 1037.

5-(Aminomethyl)-8-hydroxyquinoline A-00244

5-(*Aminomethyl*)*-8-quinolinol*



$C_{10}H_{10}N_2O$ M 174.202

B,2HCl: Light yellow needles (EtOH). Mp >360°.

N^5-*Dioctyl:* [102269-67-0]. *5-Dioctylaminomethyl-8-quinolinol*, *9CI*

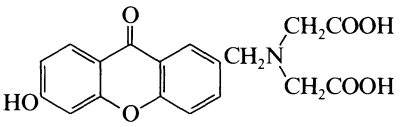
$C_{26}H_{42}N_2O$ M 398.631

Used as 0.01*M* $CHCl_3$ soln. for extraction-photometric detn. of Cu(*II*) (λ_{max} 410 nm). Greenish-orange oil. Sol. $CHCl_3$, hexane.

Ishidate, M. *et al*, *Chem. Ber.*, 1960, **93**, 2898 (*synth*)
Ohashi, K. *et al*, *Anal. Sci.*, 1985, **1**, 467 (*synth, deriv, detn, Cu*)

2-(Aminomethyl)-6-hydroxy-9*H*-xanthen-9-one-*N,N*-diacetic acid A-00245

Xanthone complexan



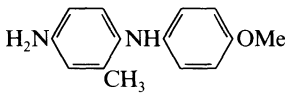
$C_{18}H_{15}NO_7$ M 357.319

Used as metallofluorescent indicator for titrimetric detn. of Bi, Ca, Cd, Co, Cu, Fe(*III*), Hg, Mg, Mn, Ni, Pb, Sr, Zn. Cryst.

Eggers, J.H., *Talanta*, 1960, **4**, 38 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 705 (*use, ind*)

4-Amino-2-methyl-4′-methoxydiphenylamine A-00246

N^1-(*4-Methoxyphenyl*)*-2-methyl-1,4-benzenediamine*. *2-Methylvariamine blue*



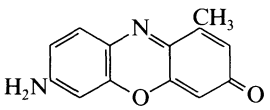
$C_{14}H_{16}N_2O$ M 228.293

Used as a 5m*M* soln. in EtOH as redox indicator. Cryst. Sol. dil. acids, EtOH, C_6H_6. E° + 0.686 V (pH 0, 30°).

Erdey, L. *et al*, *Talanta*, 1959, **3**, 54 (*use, ind*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 477 (*use, ind*)

7-Amino-1-methyl-3*H*-phenoxazin-3-one, 8CI A-00247

[493-42-5]



$C_{13}H_{10}N_2O_2$ M 226.234

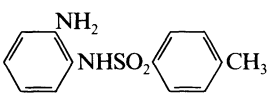
Used as a 0.5m*M* soln. in EtOH as redox indicator for titanometric detn. of Fe(*III*), Au(*III*), Ce(*IV*), $Cr_2O_7^{2\ominus}$, $VO_4^{3\ominus}$ and some organic compounds; redox indicator for stannometry. Orange-red cryst. (EtOH). Sol. EtOH, Et_2O, C_6H_6. E° + 0.352 V (pH 1.43).

Ruzička, E. *et al*, *Mikrochim. Acta*, 1967, 277 (*use, titanometry*)
Ruzička, E. *et al*, *CA*, 1968, **69**, 40930j (*use, stannometry*)

2-Amino-*N*-(4-methylphenyl) benzenesulfonamide, 9CI A-00248

o-(p-*Toluenesulfonamido*)*aniline*. *T-Sulfonamidine*

[27384-96-9]



$C_{13}H_{14}N_2O_2S$ M 262.332

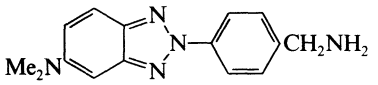
Used as 0.1% soln. in EtOH for gravimetric and photometric detn. of Cu (λ_{max} 455 nm, ε 2150). Cryst. (EtOH aq.). Mp 135-136°.

Billman, J.H. *et al*, *Anal. Chem.*, 1960, **32**, 1342; 1964, **36**, 552 (*synth, detn, Cu*)
Bamfield, P. *et al*, *CA*, 1976, **84**, 73936d (*synth*)

2-[4-(Aminomethyl)phenyl]-*N,N*-dimethyl-2*H*-benzotriazol-5-amine, 9CI A-00249

2-[4-(Aminomethyl)phenyl]-5-(dimethylamino)-2H-benzotriazole

[122842-37-9]



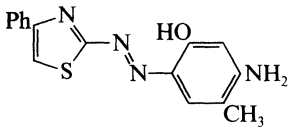
$C_{15}H_{17}N_5$ M 267.333

Fluorescent derivatisation reagent for carboxylic acids. Yellow needles (MeOH). Mp 127-128°.

Narita, S. *et al*, *Chem. Pharm. Bull.*, 1989, **37**, 831 (*synth, use*)

5-Amino-4-methyl-2-(4-phenyl-2-thiazolylazo)phenol A-00250

2-(4-Amino-2-hydroxy-5-methylphenylazo)thiazole



$C_{16}H_{14}N_4OS$ M 310.379

N-*Et:* [101373-14-2]. *5-(Ethylamino)-4-methyl-2-[(4-phenyl-2-thiazolyl)azo]phenol, 9CI*

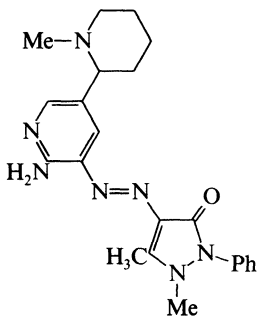
$C_{18}H_{18}N_4OS$ M 338.432

Used as 1m*M* EtOH soln. for extraction-photometric detn. of Cd (λ_{max} 580 nm, ε 55000, 0.1-4*M* NaOH, $CHCl_3$). Dark red cryst. (EtOH aq.). Sol. EtOH; sl. sol. H_2O. Mp 148-150°.

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1985, **40**, 2134 (*synth, detn, Cd*)

4-[[2-Amino-5-(1-methyl-2-piperidinyl)-3-pyridinyl]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI A-00251

[59104-65-3]



$C_{22}H_{27}N_7O$ M 405.502

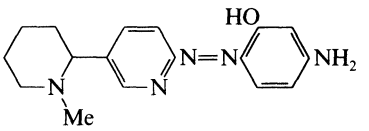
Used for photometric detn. of Co (λ_{max} 650 nm, ε 10400), Cu (λ_{max} 630 nm, ε 15000), Pd (λ_{max} 550nm, ε 11000). Orange-red cryst. Mp 144°. pK_{a1} 1.34; pK_{a2} 5.32; pK_{a3} 8.73.

Smaglyuk, N.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1680 (*detn, Co, Cu, Pd*)

5-Amino-2-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]phenol, 9CI A-00252

6'-[(4-Amino-2-hydroxyphenyl)azo]-1-methylanabasine, 8CI

[22271-58-5]



$C_{17}H_{21}N_5O$ M 311.386

Used as a 0.1% soln. in EtOH for photometric detn. of Be (λ_{max} 530 nm), Cu (λ_{max} 520 nm, ε 36400), Nb (λ_{max} 520 nm), $UO_2^{2\oplus}$ (λ_{max} 520 nm); as a metallochromic indicator in titrimetric detn. of Cu. Orange-red cryst. Sol. EtOH. λ_{max} 420 nm.

Turakhanova, S.T. *et al*, *Uzb. Khim. Zh.*, 1967, **11**, 23; 1968, **12**, 67; *CA*, 1968, **68**, 65412j; **70**, 73995h (*detn, Nb, U*)

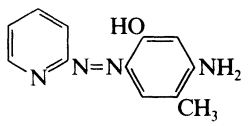
Dzhiyanbaeva, R.K. *et al*, *CA*, 1968, **69**, 92619j (*detn, Be*)

Karamaeva, G. *et al*, *CA*, 1969, **70**, 92886q; 1972, **77**, 172203z (*detn, Cu*)

Kagramanova, N.G. *et al*, *CA*, 1969, **71**, 56314p.

5-Amino-4-methyl-2-(2-pyridinylazo)phenol A-00253

2-(4-Amino-2-hydroxy-5-methylphenylazo)pyridine



$C_{12}H_{12}N_4O$ M 228.253

N-*Me: 4-Methyl-5-(methylamino)-2-(2-pyridinylazo)phenol*

$C_{13}H_{14}N_4O$ M 242.280

Used as a 0.1% soln. in EtOH for titrimetric detn. of Bi, In, Zn. Red cryst. (H_2O). Sol. MeOH, EtOH, isopentanol, dioxan, $CHCl_3$; mod. sol. C_6H_6, toluene, butanol, CCl_4; insol. H_2O. Mp 223°. pK_a 10.16.

N-*Et:* [13059-69-3]. *5-(Ethylamino)-4-methyl-2-(2-pyridinylazo)phenol, 9CI. PAAC*

$C_{14}H_{16}N_4O$ M 256.307

Used as a 0.1% aq. soln. for titrimetric detn. of Bi, Tl; as 0.1% EtOH soln. for photometric detn. of Co, In. Orange-red cryst. Mod. sol. EtOH, Me_2CO, alkalis; sl. sol. H_2O.

Et ether, N-*Et: 2-[(2-Ethoxy-4-ethylamino-5-methylphenyl)azo]pyridine. PAMB*

$C_{16}H_{20}N_4O$ M 284.360

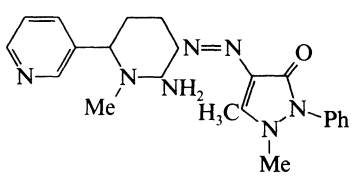
Used as 0.1% EtOH soln. for photometric detn. of In. Brown-red cryst. powder. Sol. EtOH, MeOH.

[10254-18-9]

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1964, **19**, 799, 964; 1966, **21**, 281; 1967, **22**, 863; 1968, **23**, 889 (*detn, Bi, Tl, Co, In*)

4-[[2-Amino-1-methyl-6-(3-pyridinyl)-3-piperidinyl]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI A-00254

[36517-00-7]

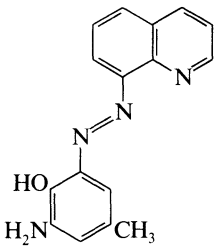


$C_{22}H_{27}N_7O$ M 405.502
Used as a soln. in EtOH for photometric detn. of Cu(*II*) (λ_{max} 630 nm, ε 15000), Co. Red-brown cryst. powder. Sol. EtOH, Me_2CO, $CHCl_3$, Et_2O; spar. sol. H_2O.

Smaglyuk, M.G. *et al*, *Uzb. Khim. Zh.*, 1971, **15**, 12; *CA*, **75**, 58362j (*use*)
Smaglyuk, M.G. *et al*, *CA*, 1974, **80**, 33508b (*use*)

2-Amino-4-methyl-6-(8-quinolylazo)phenol A-00255

8-(4-Amino-2-hydroxy-5-methylphenylazo)quinoline



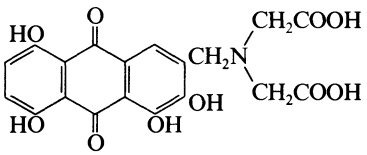
$C_{16}H_{14}N_4O$ M 278.313
N-*Et:* [42485-45-0]. *2-(Ethylamino)-4-methyl-5-(8-quinolinylazo)phenol*, *9CI*. *5-(8-Quinolylazo)-2-monoethylamino-*p*-cresol*
$C_{18}H_{18}N_4O$ M 306.366
Used as 0.01% soln. in propanol for photometric detn. of V(*V*) (λ_{max} 530 nm, ε 42000, propanol, aq.). Cryst. (EtOH). Sol. EtOH, MeOH, propanol, dioxan.

Dimova, L.M. *et al*, *Zh. Anal. Khim.*, 1986, **41**, 1832 (*synth, detn, V*)

3-(Aminomethyl)-1,2,5,8-tetrahydroxyanthraquinone-*N,N*-diacetic acid A-00256

N-(*Carboxymethyl*)-N-[(*9,10-dihydro-3,4,5,8-tetrahydroxy-9,10-dioxo-2-anthracenyl*)*methyl*]*glycine*, *9CI*. *Quinalizarin complexon*

[52086-66-5]



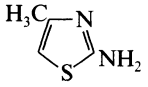
$C_{19}H_{15}NO_{10}$ M 417.328
Used as 1m*M* aq. soln. for photometric detn. of B (λ_{max} 610 nm, ε 18000, 94% H_2SO_4); $F^{\ominus}$ (λ_{max} 660 nm, in the presence of La) and alkaline earths. Orange cryst. Sol. H_2O, acids, alkalis.

Minin, A.A. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 2196 (*detn*, $F^{\ominus}$)
Aleksandrovana, B.G. *et al*, *CA*, 1977, **86**, 133008f (*use*)
Khakhalkina, I.G. *et al*, *Zavod. Lab.*, 1983, **49**, 14 (*synth, detn, B*)

2-Amino-4-methylthiazole A-00257

4-Methyl-2-thiazolamine, *9CI*

[1603-91-4]



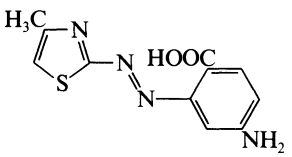
$C_4H_6N_2S$ M 114.171
Commercially available. Cryst. (EtOH). Sol. EtOH, H_2O. Mp 44-47°. Bp 231-232°, Bp_{20} 124-126°.

▷ XJ2620000.

Sprague, *et al*, *J. Am. Chem. Soc.*, 1946, **68**, 2155 (*synth*)
Tandon, S.N. *et al*, *Anal. Chim. Acta*, 1972, **59**, 311 (*use*)

5-Amino-2-(4-methyl-2-thiazolylazo) benzoic acid A-00258

2-(5-Amino-2-carboxyphenylazo)-4-methylthiazole

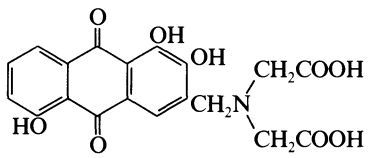


$C_{11}H_{10}N_4O_2S$ M 262.292
N-*Di-Et: 2-(4-Methyl-2-thiazolylazo)-5-diethylaminobenzoic acid*
$C_{15}H_{18}N_4O_2S$ M 318.399
Used as 1m*M* dioxan soln. for photometric detn. of Ni (λ_{max} 621 nm, ε 116000, 40% dioxan, pH 8), Fe(*III*), Co, Cu(*II*). Cryst. Sol. dioxan, EtOH. Mp 181°. pK_{a1} 1.8; pK_{a2} 5.20 (40% dioxan, μ = 0.1, 25°).

Furukawa, M. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1990, **39**, 589 (*synth, detn, Ni*)

3-(Aminomethyl)-1,2,5-trihydroxyanthraquinone-*N,N*-diacetic acid A-00259

N-(*Carboxymethyl*)-N-[[*9,10-dihydro-3,4,8-trihydroxy-9,10-dioxo-2-anthracenyl*]*methyl*]*glycine*



$C_{19}H_{15}NO_9$ M 401.329
Used as a 0.5% soln. in aq. dil. NH_3 as metallochromic indicator for titrimetric detn. of In (colour change: red → yellow). Yellow cryst. powder. Sol. alkalis; spar. sol. EtOH, Me_2CO, H_2O. Mp 203° dec.

Belcher, R. *et al*, *J. Chem. Soc.*, 1958, 2390 (*detn, In*)

3-(Aminomethyl)-1,2,7-trihydroxyanthraquinone-*N,N*-diacetic acid A-00260

N-(*Carboxymethyl*)-N-[(*9,10-dihydro-3,4,6-trihydroxy-9,10-dioxo-2-anthracenyl*)*methyl*]*glycine*, *9CI*. *Anthrapurpurin complexon*

[32446-72-3]

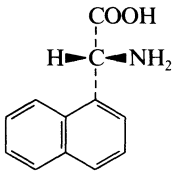
$C_{19}H_{15}NO_9$ M 401.329
Used as a 0.5% soln. in NH_3 aq. for photometric detn. of Ca, Mn(*II*) (λ_{max} 500 nm). Used as acid-base indicator (pH range: 5.0-12.5; colour change: yellow → red → blue); gives colour reactions with Mo, Pd, Ru(*III*), Sb, W(*VI*). Orange cryst. Spar. sol. H_2O, Et_2O; sol. alkalis, EtOH, Me_2CO.

Belcher, R. *et al*, *J. Chem. Soc.*, 1958, 2390.
Capitan, F. *et al*, *CA*, 1971, **74**, 106798; 150841s (*use, Mn*)
Capitan, F. *et al*, *An. Quim.*, 1972, **68**, 989 (*detn, Ca*)

α-Amino-1-naphthaleneacetic acid A-00261

1-Naphthylglycine

[13372-96-8]



$C_{12}H_{11}NO_2$ M 201.224

(R)-form [100896-07-9]

Solid. $[\alpha]_D^{25}$ +8.0° (c, 0.05 in H_2O).

N-(*3,5-Dinitrobenzoyl*): [122872-14-4]. N-(*3,5-Dinitrobenzoyl*)-*1-naphthylglycine*

$C_{19}H_{13}N_3O_7$ M 395.328

Chiral stationary phase for the sepn. of enantiomers by hplc. Mp 138.3°.

(±)-form [97611-60-4]

Cryst. Mp 199-201°.

Me ester; B,HCl: [86217-77-8].

Cryst. Mp 177-178.5°.

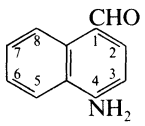
[13227-00-4, 70946-42-8, 74928-57-7, 110470-26-3, 110470-39-8, 110470-40-1, 115016-08-5, 121216-83-9, 127358-23-0]

Baumgarten, H.E. *et al*, *J. Org. Chem.*, 1966, **31**, 3708 (*synth*)
Bretschneider, T. *et al*, *Tetrahedron*, 1988, **44**, 5403 (*synth*)
Oi, N. *et al*, *J. Chromatogr.*, 1989, **462**, 382 (*synth, use, deriv*)
Williams, R.M. *et al*, *J. Org. Chem.*, 1990, **55**, 3723 (*synth*)

4-Amino-1-naphthalenecarboxaldehyde, 9CI A-00262

4-Amino-1-naphthaldehyde. 1-Amino-4-formylnaphthalene

[61757-43-5]



$C_{11}H_9NO$ M 171.198

Yellow needles (EtOH aq.). Mp 163°.

N,N-*Di-Me: 4-(Dimethylamino)-1-naphthalenecarboxaldehyde, 9CI*

$C_{13}H_{13}NO$ M 199.252

Reagent for sequence detn. of peptides by ms. Bp_{10} 190-195°, Bp_6 160-165°.

N,N-*Di-Me, 2,4-dinitrophenylhydrazone:* Brown silky needles. Mp 230-231°.

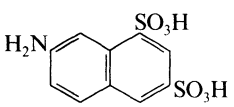
N,N-*Di-Me, semicarbazone:* Light yellow woolly needles. Mp 208-209°.

Thompson, H.W., *J. Chem. Soc.*, 1932, 2310 (*synth*)
Oda, R. *et al*, *Nippon Kagaku Zasshi*, 1962, **83**, 1292; *CA*, **59**, 11399h.
Banerji, J.C., *Indian J. Chem.*, 1968, **6**, 346 (*synth*)
Day, R.A. *et al*, *J. Org. Chem.*, 1973, **38**, 782 (*use*)
Patil, G.C. *et al*, *Org. Mass Spectrom.*, 1973, **7**, 817 (*use*)

7-Amino-1,3-naphthalenedisulfonic acid, 9CI A-00263

2-Naphthylamine-6,8-disulfonic acid. Amido G acid. Amino G acid

[86-65-7]



$C_{10}H_9NO_6S_2$ M 303.316

Acid-base fluorescent indicator (pH 12-14) used as an aq. soln. of salt. Needles + $4H_2O$ (H_2O). Sol. H_2O.

▷ QJ6132000.

Diethylamine salt: Mp 273-275° dec.

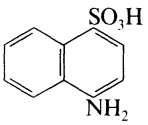
S-*Benzylisothiouronium salt:* Cryst. + $8H_2O$ (H_2O). Mp 276° dec.

Armstrong, H.E. *et al*, *Proc. Chem. Soc., London*, 1890, **6**, 128.
Dressel, O. *et al*, *Ber.*, 1894, **27**, 2152.
Bucherer, H.T., *J. Prakt. Chem.*, 1904, **70**, 358.
Fierz-David, H.E. *et al*, *Helv. Chim. Acta*, 1923, **6**, 1146.
Ofitzerov, V.V., *CA*, 1935, **29**, 1086, 2530.
Déribéré, E., *Fresenius' Z. Anal. Chem.*, 1939, **116**, 341 (*use, ind*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NBE850.

4-Amino-1-naphthalenesulfonic acid, 9CI A-00264

1-Naphthylamine-4-sulfonic acid. Naphthionic acid

[84-86-6]



$C_{10}H_9NO_3S$ M 223.252

Dyestuff intermediate. Needles + $\frac{1}{2}H_2O$ (H_2O). Spar. sol. H_2O with blue fluor., sol. MeOH. pK_a 2.68 (25°).

▷ QK1270000.

Na salt: [130-13-2].

Used as an aq. soln. as acid-base fluorescent indicator (pH range: 3-4; colour change: non fl.→blue; pH range: 10-12; colour change: blue→yellow-green). Needles (H_2O).

Amide: [5695-34-1].

$C_{10}H_{10}N_2O_2S$ M 222.267

Used as 0.05% soln. in EtOH as acid-base fluorescent indicator (pH range: 9.5-13.0, colour change: dark blue → white/blue). Cryst. Mp 241°. pK_{a1} 1.48; pK_{a2} 10.71 (25°).

Langguth, S., *Chim. Ind. (Paris)*, 1930, **24**, 31; *CA*, **24**, 5035 (*synth*)
Caullet, C. *et al*, *CA*, 1967, **67**, 58864 (*ir*)
Mayer, J. *et al*, *Bull. Soc. Chim. Fr.*, 1971, 4129 (*pKa*)
Kracmar, J. *et al*, *Pharmazie*, 1971, **26**, 155 (*uv*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 689 (*use, ind*)
Franc, J. *et al*, *J. Chromatogr.*, 1979, **170**, 89 (*chromatog*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ALI000.

5-Amino-1-naphthalenesulfonic acid, 9CI A-00265

1-Naphthylamine-5-sulfonic acid. Laurent's acid

[84-89-9]

$C_{10}H_9NO_3S$ M 223.252

Dyestuff intermediate. Needles + $1H_2O$. pK_a 3.62 (25°). Fairly readily oxid. acid and salts colour in moist air.

S-*Benzylthiouronium salt:* Mp 179°.

Amide: [32327-47-2].

$C_{10}H_{10}N_2O_2S$ M 222.267

Used as a 0.05% soln. in aq. EtOH as acid-base fluorescent indicator (pH range: 2.0-4.0. colour change; no fluorescence → yellow-orange; pH range: 9.5-13.0, colour change; yellow-orange → no fluorescence). Mp 241° (259-260°). pK_{a1} 2.89; pK_{a2} 10.16 (25°).

N-*Di-Me:* [4272-77-9]. *5-Dimethylamino-1-naphthalenesulfonic acid*

$C_{12}H_{13}NO_3S$ M 251.306

The acid and its derivs. cont. the fluorescent dansyl chromophore and are used in fluorimetric analysis. Leaflets + $1H_2O$. Green fluor. in soln.

N-*Di-Me, chloride:* see *5-(Dimethylamino)-1-naphthalenesulfonyl chloride, D-00796*

N-*Di-Me, hydrazide:* [33008-06-9]. *Dansylhydrazine*

$C_{12}H_{15}N_3O_2S$ M 265.335

Fluorimetric reagent for detn. of carbonyl compds. and reducing sugars. Mp 128-130°.

Erdmann, H., *Justus Liebigs Ann. Chem.*, 1893, **275**, 193 (*synth*)
Fussgänger, V., *Ber.*, 1902, **35**, 976 (*synth, deriv*)
Collonge, J. *et al*, *Bull. Soc. Chim. Fr.*, 1957, 1043.
Caullet, C. *et al*, *CA*, 1967, **67**, 58864 (*ir*)
Chayen, R. *et al*, *Anal. Biochem.*, 1971, **42**, 283 (*use, deriv*)
Mayer, J. *et al*, *Bull. Soc. Chim. Fr.*, 1971, 4129 (*pKa*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 689 (*use*)
Kirsche, C. *et al*, *Bull. Soc. Chim. Fr.*, 1975, 101.
Avigad, A., *J. Chromatogr.*, 1977, **139**, 343 (*use*)
Franc, J. *et al*, *J. Chromatogr.*, 1979, **170**, 89 (*chromatog*)
Anderson, J.H., *Anal. Biochem.*, 1986, **152**, 146 (*use*)

5-Amino-2-naphthalenesulfonic acid, 9CI A-00266

1-Naphthylamine-6-sulfonic acid. Cleve's acid

[119-79-9]

$C_{10}H_9NO_3S$ M 223.252

Dyestuff intermediate. Needles + $2H_2O$. V. spar. sol. H_2O. pK_a 3.71 (25°).

▷ QK1285000.

Na salt: [28907-84-8].

Cryst. + $2H_2O$ or plates + $4\frac{1}{2}$ H_2O. Sol. H_2O with blue fluor.

▷ QK1300000.

Amide: [13261-51-3]. *5-Amino-2-naphthalenesulfonamide*

$C_{10}H_{10}N_2O_2S$ M 222.267

Acid base fluorescent indicator (pH range 1.9-3.9, colour change: no fluorescence → green; pH range 9.6-13.0, colour change: green → no fluorescence). Used as a 0.05% soln. in aq. EtOH. Mp 218-219° dec. pK_{a1} 3.13; pK_{a2} 10.27 (25°).

Erdmann, H., *Justus Liebigs Ann. Chem.*, 1893, **275**, 193 (*synth*)
Collonge, J. *et al*, *Bull. Soc. Chim. Fr.*, 1957, 1043 (*chromatog*)
Schriever, K. *et al*, *Chem. Ber.*, 1958, **91**, 414.
Caullet, C. *et al*, *CA*, 1967, **67**, 58864.
Mayer, J. *et al*, *Bull. Soc. Chim. Fr.*, 1971, 4129 (*pKa*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 689 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ALI250, ALI500.

6-Amino-1-naphthalenesulfonic acid, 9CI A-00267

2-Naphthylamine-5-sulfonic acid. 2-Naphthionic acid

[81-05-0]

$C_{10}H_9NO_3S$ M 223.252

Needles (H_2O). Spar. sol. cold H_2O, mod. sol. hot. pK_a 4.03 (25°). Reddish-blue fluor. in aq. soln.

Na salt: [58306-87-9].

Used as a 1% aq. soln. as acid-base fluorescent indicator (pH range: 12-13; colour change: blue→violet). Needles (H_2O). Sol. H_2O.

S-*Benzylthiouronium salt:* Mp 172-174°.

Amide: [1206-43-5].

$C_{10}H_{10}N_2O_2S$ M 222.267

Used as 0.05% soln. in aq. EtOH. Acid-base fluorescent indicator (pH range: 1.9-3.9, colour change: no fluorescence → green, pH range 9.6-13.0, colour change: green → no fluorescence). Needles. Mp 165°. pK_{a1} 3.13; pK_{a2} 10.27 (25°).

Hennion, G.F. *et al*, *J. Am. Chem. Soc.*, 1943, **65**, 2468 (*synth*)
Collonge, J. *et al*, *Bull. Soc. Chim. Fr.*, 1957, 1043 (*chromatog*)
Caullet, C. *et al*, *CA*, 1967, **67**, 58864 (*ir*)
Mayer, J. *et al*, *Bull. Soc. Chim. Fr.*, 1971, 4129 (*pKa,*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 689 (*use, ind*)
Franc, J. *et al*, *J. Chromatogr.*, 1979, **70**, 89 (*chromatog*)

6-Amino-2-naphthalenesulfonic acid, 9CI A-00268

2-Naphthylamine-6-sulfonic acid. Bronner acid

[93-00-5]

$C_{10}H_9NO_3S$ M 223.252

Dyestuff intermediate. Leaflets + $1H_2O$. V. spar. sol. cold H_2O; spar. sol. hot.

Na salt: [58306-86-8].

Cryst. + $2H_2O$. Mod. sol. H_2O.

S-*Benzylthiouronium salt:* Cryst. + $10H_2O$. Mp 330° dec.

Amide: [27771-61-5]. *6-Amino-2-naphthalenesulfonamide*

Acid-base fluorescent indicator (pH range: 1.9-3.9, colour change: no fluorescence → blue; pH range: 9.6-13.0, colour change: blue → no fluorescence). Used as a 0.05% soln. in aq. EtOH. Cryst. pK_{a1} 3.06; pK_{a2} 10.33 (25°).

Green, A.G. *et al*, *J. Chem. Soc.*, 1918, **113**, 38 (*synth*)
Caullet, C. *et al*, *CA*, 1967, **67**, 58864 (*ir*)
Seliskar, C.J. *et al*, *CA*, 1969, **71**, 43974d (*uv*)
Mayer, J. *et al*, *Bull. Soc. Chim. Fr.*, 1971, 4129 (*pKa*)
Seliskar, C.J. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 5405 (*esr*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 689 (*use*)
Franc, J. *et al*, *J. Chromatogr.*, 1979, **70**, 89 (*chromatog*)

7-Amino-1-naphthalenesulfonic acid A-00269

$C_{10}H_9NO_3S$ M 223.252

Amide: [53669-09-3]. *7-Amino-1-naphthalenesulfonamide, 9CI*

$C_{10}H_{10}N_2O_2S$ M 222.267

Acid-base fluroescent indicator (pH range: 1.9-3.9, colour change: no fluorescence → blue; pH range: 9.6-13.0, colour change: blue → no fluorescence). Used as a 0.05% soln. in aq. EtOH. Cryst. pK_{a1} 2.97; pK_{a2} 10.17 (μ = 0, 25°).

Mayer, J. *et al*, *Bull. Soc. Chim. Fr.*, 1971, 4129 (*pKa*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

8-Amino-2-naphthalenesulfonic acid, 9CI A-00270

1-Naphthylamine-7-sulfonic acid. Cleve's O-*acid*

[119-28-8]

$C_{10}H_9NO_3S$ M 223.252

Dyestuff intermediate. Used as a 0.07-0.3% soln. in dil. AcOH for photometric detn. of $NO_2^{\ominus}$. Flakes + $1H_2O$. Mod. sol. H_2O. pK_a 3.64 (25°).

Na salt: [6322-37-8].

Needles + $\frac{1}{2}$ H_2O. Sol. H_2O. pK_{a1} 2.90; pK_{a2} 10.20 (25°).

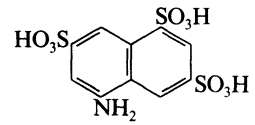
Amide: [13261-52-4].

$C_{10}H_{10}N_2O_2S$ M 222.267

Acid-base fluorescent indicator (pH 1.9-3.9, colour change: no fluorescence → green; pH range 9.6-13.0, colour change: green → no fluorescence); used as 0.05% soln. in 90% EtOH. Needles + $1\frac{1}{2}H_2O$. Mp 181°.

Erdmann, H., *Justus Liebigs Ann. Chem.*, 1895, **275**, 193 (*synth*)
Tomicek, O., *Collect. Czech. Chem. Commun.*, 1948, **13**, 116 (*use, ind*)
Collonge, J. *et al*, *Bull. Soc. Chim. Fr.*, 1957, 1043 (*chromatog*)
Schriever, K. *et al*, *Chem. Ber.*, 1958, **91**, 414.
Bunton, N.G. *et al*, *Analyst (London)*, 1969, **94**, 585 (*detn, $NO_2^{\ominus}$*)
Mayer, J. *et al*, *Bull. Soc. Chim. Fr.*, 1971, 4129 (*pKa*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 689 (*use, ind*)
Lepri, L. *et al*, *J. Chromatogr.*, 1974, **88**, 331 (*chromatog*)

5-Amino-1,3,7-naphthalenetrisulfonic acid A-00271



$C_{10}H_9NO_9S_3$ M 383.380

Used as 0.5m*M* aq. soln. for photometric detn. of Os, Ru. Cryst. (2-propanol aq.). Sol. H_2O.

Wingfield, H.C. *et al*, *Anal. Chim. Acta*, 1956, **14**, 446 (*detn, Os*)
Steele, E.L. *et al*, *Anal. Chim. Acta*, 1959, **20**, 211 (*detn, Ru*)

8-Amino-1,3,5-naphthalenetrisulfonic acid A-00272

$C_{10}H_9NO_9S_3$ M 383.380

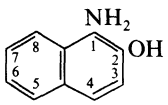
Used as 0.5m*M* aq. soln. for photometric detn. of Os (λ_{max} 555 nm). Cryst. (2-propanol aq.).

Steele, E.L. *et al*, *Anal. Chem.*, 1957, **29**, 1622 (*detn, Os*)
Steele, E.L. *et al*, *Anal. Chim. Acta*, 1959, **20**, 205 (*detn, Os*)

1-Amino-2-naphthalenol, 9CI A-00273

1-Amino-2-naphthol. 2-Hydroxy-α-naphthylamine

[2834-92-6]



$C_{10}H_9NO$ M 159.187

Leaflets (Et_2O). Spar. sol. Et_2O, sol. EtOH, AcOH, dil. acids, alkalis. Mp 150° dec., 175° dec.

Me ether:

$C_{11}H_{11}NO$ M 173.214

Prisms (MeOH). Mp 55°. $Bp_{0.05}$ 110°.

N-*Ac:*

$C_{12}H_{11}NO_2$ M 201.224

Leaflets (EtOH). Mp 235°.

N-*Octanesulfonyl:* [86252-97-3]. *1-Octanesulfonamido-2-naphthol.* N-*(2-Hydroxy-1-naphthalenyl)-1-octanesulfonamide, 9CI*

$C_{18}H_{25}NO_3S$ M 335.466

Used as a 0.1% soln. in PhCl for extraction separation of Cu(*II*), Co, Zn, Cd, Pb, Hg(*II*). Brown cryst. Sol. PhCl, cyclohexane, MeOH. Mp 71.5-72.5°.

Org. Synth., 1931, **21**, 8 (*synth*)
Fieser, L.F. *et al*, *J. Am. Chem. Soc.*, 1935, **57**, 491 (*synth*)
Ide, S. *et al*, *Anal. Chim. Acta*, 1983, **149**, 235 (*octanesulfonamide, synth, use*)

8-Amino-2-naphthalenol, 9CI A-00274

8-Amino-2-naphthol. 7-Hydroxy-α-naphthylamine

[118-46-7]

$C_{10}H_9NO$ M 159.187

Needles (EtOH). Sol. hot H_2O, EtOH. Mp 205-207°. Sol. in acids and alkalis with blue fluor.

▷ QL3331000.

Na salt: Derivatisation reagent for acyl halides for hplc anal.

N-*Ac:*

$C_{12}H_{11}NO_2$ M 201.224

Needles (AcOH aq.). Mp 164-165°.

Et ether: 2-Amino-8-ethoxynaphthalene

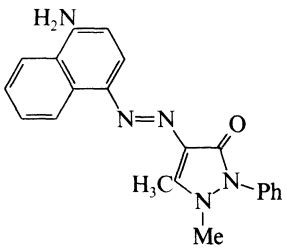
$C_{12}H_{13}NO$ M 187.241

Prisms (pet. ether). Mp 67°. Bp 315°.

Brown, W.F. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 1766 (*synth*)
Colgon, S.T. *et al*, *J. Chromatogr. Sci.*, 1988, **26**, 501 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ALJ750.

4-[(4-Amino-1-naphthalenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI A-00275

[28169-73-5]



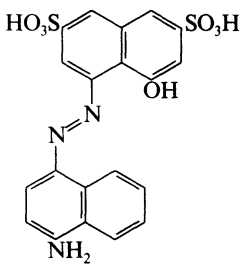
$C_{21}H_{19}N_5O$ M 357.414

Used as a 1m*M* soln. in dil. NaOH for photometric detn. of Bi, Co(*III*), Cu, Fe(*II*), Ga, In, Ni, Pd; extraction-photometric detn. of Au, Cd, Co, Cu, Fe, Mo, Pd, Ni, Zn. Orange-red cryst. Sol. alkalis, acids, EtOH, Me_2CO. Mp 172°. pK_{a1} 0.99; pK_{a2} 10.27. λ_{max} 460 nm (EtOH); λ_{max} 540 nm (1*M* HCl); λ_{max} 460 nm (1*M* KOH).

Pilipenko, A.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1973, **39**, 601 (*detn, Au, Cd, Co, Cu, Fe, Mo, Pd, Ni, Zn*)
Smaglyuk, N.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1680 (*detn, Bi, Co(III)*, Cu, Fe(*II*), Ga, In, Ni, Pd)

4-[(4-Amino-1-naphthalenyl)azo]-5-hydroxy-2,7-naphthalenedisulfonic acid, 9CI A-00276

4'-Amino-8-hydroxy-1,1'-azonaphthalene-3,6-disulfonic acid



$C_{20}H_{15}N_3O_7S_2$ M 473.486

N-*Et: Lanacyl violet BF(C). C.I. 13375 Acid dye*

$C_{22}H_{19}N_3O_7S_2$ M 501.540

N-*Et, di-Na salt:* [10214-18-3].

Acid-base indicator (pH range 11-13; colour change: violet → orange) used as aq. soln. Orange red cryst. powder. Sol. H_2O; sl. sol. EtOH.

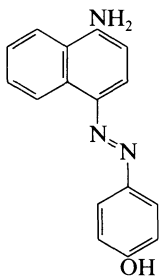
[89276-87-9]

Colour Index, 3rd Edn., 1971, **4**, 4053 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

4-(4-Amino-1-naphthalenylazo)phenol A-00277

4-(4-Hydroxyphenylazo)-1-naphthylamine

[74217-45-1]



$C_{16}H_{13}N_3O$ M 263.298

Et ether: [7654-27-5]. *4-[(4-Ethoxyphenyl)azo]-1-naphthalenamine, 9CI*

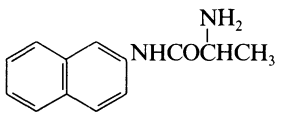
$C_{18}H_{17}N_3O$ M 291.352

Used as acid-base indicator (pH range: 2.2-4.0; colour change: violet → yellow). Orange cryst. (H_2O). Sol. EtOH, Et_2O, dil. acids.

Schulek, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1948, **128**, 398 (*use, ind*)

2-Amino-*N*-2-naphthalenylpropanamide, 9CI A-00278

Alanine β-naphthylamide



$C_{13}H_{14}N_2O$ M 214.266

(S)-form [720-82-1]

L-form

Used for photometric detn. of aminopeptidase. Derivatisation reagent for hplc resolution of carboxylic acid enantiomers. Cryst. (pet. ether). Mp 99-100°.

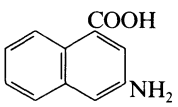
[2149-46-4, 20723-89-1]

Gomori, G., *Proc. Soc. Exp. Biol. Med.*, 1954, **87**, 559 (*synth, use*)
Goldstein, T.P. *et al*, *J. Med. Pharm. Chem.*, 1962, **5**, 852 (*synth*)
Fujimoto, Y. *et al*, *J. Chromatogr.*, 1987, **402**, 344 (*use*)

3-Amino-1-naphthoic acid, 8CI A-00279

3-Amino-1-naphthalenecarboxylic acid, 9CI

[32018-86-3]



$C_{11}H_9NO_2$ M 187.198

Used as a 0.1% soln. of sulfate in aq. EtOH as acid-base fluorescent indicator (pH range: 1.5-3: colour change: non-fluoresc. → green; pH range: 4-6: colour change: green → blue; pH range: 11.6-13: colour change: blue → non-fluoresc.). Straw-coloured needles. Sol. EtOH, Et_2O. Mp 181-182°. pK_{a1} 2.52; pK_{a2} 4.52 (20°, MeOH aq.), pK_{a1} 2.61; pK_{a2} (25°, H_2O).

Me ester:

$C_{12}H_{11}NO_2$ M 201.224

Rhombs (Et_2O), needles (MeOH aq.). Mp 72-73°.

N-*Ac:*

$C_{13}H_{11}NO_3$ M 229.235

Cream-coloured needles. Mp 254.5°.

Tomiček, O., *Chemical Indicators*, Butterworths, London (*use*)
Leuch, G.J. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 1831 (*synth*)
Elsevier's Encycl. Org. Chem., Ser. III, 1953, **12B**, 4185 (*bibl*)
Bryson, A. *et al*, *Aust. J. Chem.*, 1961, **14**, 237.
Krueger, P.J., *Spectrochim. Acta*, 1963, **19**, 705 (*ir*)
Mentre, I., *Ann. Chim. (Paris)*, 1973, **8**, 115 (*uv, bibl*)

3-Amino-2-naphthoic acid, 8CI A-00280

3-Amino-2-naphthalenecarboxylic acid, 9CI

[5959-52-4]

$C_{11}H_9NO_2$ M 187.198

Azo dyestuff intermediate, used in detection of Cu, Ni, Co. Yellow leaflets (EtOH aq.). Spar. sol. hot H_2O. Mp 219-220° (214°). Fluor. in soln.

▷ Mod. toxic. QL1400000.

Me ester: [21597-54-6].

$C_{12}H_{11}NO_2$ M 201.224

Mp 104-105°.

Et ester:

$C_{13}H_{13}NO_2$ M 215.251

Yellow needles (EtOH). Mp 117-118°.

N-*Ac:*

$C_{13}H_{11}NO_3$ M 229.235

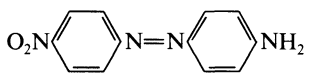
Prisms (EtOH aq.). Mp 246°.

Fierz-David, H.E. *et al*, *Helv. Chim. Acta*, 1922, **5**, 557 (*synth*)
Org. Synth., 1942, **22**, 19 (*synth*)
Elsevier's Encycl. Org. Chem., Ser. III, 1953, **12B**, 4209 (*bibl*)
Mentre, I. *et al*, *Bull. Soc. Chim. Fr.*, 1972, 2605 (*uv, bibl*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ALJ000.

4-Amino-4′-nitroazobenzene A-00281

4-[(4-Nitrophenyl)azo]benzenamine, 9CI. C.I. Disperse orange 3. C.I. 11005

[730-40-5]



$C_{12}H_{10}N_4O_2$ M 242.237

Used as a 5% soln. in Py as acid-base indicator for non-aq. titrations. Cryst. (toluene). Sol. Me_2CO, EtOH, 2-ethoxyethanol, toluene. Mp 216° (210-212°).

B,HCl: Steel-blue needles. Mp 193°.

N-*Ac:* [19680-34-3].

$C_{14}H_{12}N_4O_3$ M 284.274

Orange-red needles. Mp 245-246°.

N-*Me:* [31464-31-0].

$C_{13}H_{12}N_4O_2$ M 256.263

Blue prisms and needles (C_6H_6), plates (EtOH or AcOH). Mp 206-207°. Dichroic.

N-*Ac*, N-*Me:* [51095-63-7].

$C_{15}H_{14}N_4O_3$ M 298.301

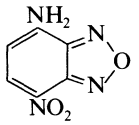
Orange-red needles. Mp 194-195°.

Witt, O.N. *et al*, *Ber.*, 1912, **45**, 1148 (*synth*)
Meyer, K.H. *et al*, *Ber.*, 1921, **54**, 2272 (*synth*)
v. Mechel, L. *et al*, *Helv. Chim. Acta*, 1941, **24**, 151E (*synth*)
Marple, L.W. *et al*, *Anal. Chem.*, 1963, **35**, 1305 (*use*)
Fritz, J.S. *et al*, *Talanta*, 1966, **13**, 939 (*use*)

4-Amino-7-nitrobenzofurazan A-00282

7-Nitro-2-benzofurazanamine, 9CI

[10199-91-4]



$C_6H_4N_4O_3$ M 180.123

Fluorogenic substance for determination of aminoacids, eg. in chymotrypsin. Orange microprisms by subl. Mp 237° dec.

4-N-Benzyl: [18378-20-6]. *7-Nitro-N-(phenylmethyl)-4-benzofurazanamine, 9CI. 4-Benzylamino-7-nitrobenzoxadiazole. BBD*

$C_{13}H_{10}N_4O_3$ M 270.247

Fluorescent labelling reagent for amino acids, peptides and proteins. Orange prisms (EtOH) or dark green cryst. (EtOH). Mp 214-215°.

4-N-Benzyl, 3-oxide: [18378-03-5]. *7-Benzylamino-4-nitrobenzofuroxan*

$C_{13}H_{10}N_4O_4$ M 286.246

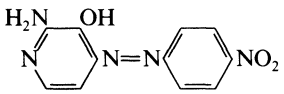
Red needles (EtOH). Mp 169-170°.

Boulton, A.J. *et al, J. Chem. Soc. B*, 1966, 1004 (*synth*)
Ghosh, P.B. *et al, Biochem. J.*, 1968, **108**, 155 (*use*)
Kenner, R.A. *et al, Biochemistry*, 1971, **10**, 4433 (*deriv, synth, use*)
Sato, E. *et al, Chem. Pharm. Bull.*, 1984, **32**, 336 (*uv, use*)
Heberer, H. *et al, J. Prakt. Chem.*, 1985, **327**, 487 (*deriv, synth, ir, uv*)

2-Amino-4-[(4-nitrophenyl)azo]-3-pyridinol, 9CI A-00283

2-Amino-3-hydroxy-4-(4-nitrophenylazo)pyridine

[96399-47-2]

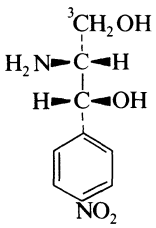


$C_{11}H_9N_5O_3$ M 259.224

Used as 0.4m*M* Me_2CO soln. for extraction-photometric detn. of Ag (λ_{max} 605 nm, ε 107000, C_6H_6), Cu(*II*) (λ_{max} 560 nm, ε 52000). Cryst. (Me_2CO). Sol. Me_2CO, DMF.

Salilas, M. *et al, Microchem. J.*, 1985, **31**, 61 (*synth, detn, Cu*)
Tarin, P. *et al, Mikrochim. Acta*, 1986, **1**, 97 (*detn, Ag*)

2-Amino-1-(4-nitrophenyl)-1,3-propanediol A-00284



$C_9H_{12}N_2O_4$ M 212.205

(1R,2R)-form [119-62-0]

Chloramphenicol base

Resolving agent for carboxylic acids. Cryst. (H_2O). Mp 162-163°. $[\alpha]_D^{25}$ −23.1° (c, 1.58 in MeOH).

N-*Ac:* [4423-58-9]. ***Corynecin I***

$C_{11}H_{14}N_2O_5$ M 254.242

Isol. from *Corynebacterium hydrocarboclastus* and *Nocardia parafinnica*. Active against gram-positive and -negative bacteria. Needles (EtOAc/pet. ether). Mp 133-134°. $[\alpha]_D$ −33° (c, 1 in EtOAc).

N-*Propanoyl:* [35098-52-3]. ***Corynecin II***

$C_{12}H_{16}N_2O_5$ M 268.269

From *C. hydrocarboclastus* and *N. paraffinica*. Active against gram-positive and -negative bacteria. Needles (dichloroethane). Mp 109.5-110.5°. $[\alpha]_D$ −27° (c, 0.75 in EtOAc).

N-(*2-Methylpropanoyl):* [18048-95-8]. ***Corynecin III***

$C_{13}H_{18}N_2O_5$ M 282.296

From *C. hydrocarboclastus* and *N. paraffinica*. Active against gram-positive and -negative bacteria. Needles (dichloroethane). Mp 131.5-133°. $[\alpha]_D$ −61° (c, 0.4 in EtOAc).

N,O^3-*Di-Ac:* [40958-11-0]. ***Corynecin IV***

$C_{13}H_{16}N_2O_6$ M 296.279

Isol. from *C. hydrocarboclastus*. Active against gram-positive and -negative bacteria. Needles (Et_2O/pet. ether). Mp 134-135°. $[\alpha]_D$ +20.6° (c, 0.6 in MeOH).

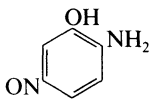
N-*Propanoyl*, O-*Ac:* [40958-12-1]. ***Corynecin V***

$C_{14}H_{18}N_2O_6$ M 310.306

From *C. hydrocarboclastus*. Active against gram-positive and -negative bacteria. Needles (Et_2O/pet. ether). Mp 93-95°. $[\alpha]_D$ +3.4° (c, 0.53 in EtOAc).

Long, L.M. *et al, J. Am. Chem. Soc.*, 1949, **71**, 2469 (*synth*)
Suzuki, T. *et al, Agric. Biol. Chem.*, 1972, **36**, 2223, 2229; 1974, **38**, 2183, 2471 (*isol, uv, ir, pmr, struct, manuf*)
Bhuta, P. *et al, J. Med. Chem.*, 1980, **23**, 1299 (*uv, cd, props*)
Japan. Pat., 80 34 680, (1980); *CA*, **94**, 82161 (*isol*)
Ladanyi, L. *et al, Chromatographia*, 1987, **24**, 477 (*use*)

2-Amino-5-nitrosophenol A-00285



$C_6H_6N_2O_2$ M 138.126

N,N-*Di-Et:* [6358-20-9]. *5-(Diethylamino)-2-nitrosophenol, 9CI*

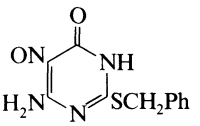
$C_{10}H_{14}N_2O_2$ M 194.233

Used as 0.02% soln. in 0.01*M* HCl for photometric detn. of Co. Cryst. (HCl aq.). Sol. acids, Et_2O.

Motomizu, S., *Anal. Chim. Acta*, 1973, **64**, 217.

6-Amino-5-nitroso-2-[(phenylmethyl)thio]-4(1*H*)-pyrimidinone, 9CI A-00286

[66604-43-1]



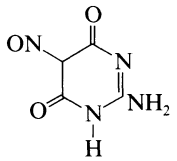
$C_{11}H_{10}N_4O_2S$ M 262.292

Used in extraction-photometric detn. of Co (λ_{max} 410 nm, ε 61000). Cryst. Sol. acids, EtOH, Et_2O, C_6H_6; insol. H_2O.

Nakashima, K. *et al, Bunseki Kagaku (Jpn. Anal.)*, 1978, **28**, 529; *CA*, **90**, 15751c.

2-Amino-5-nitroso-4,6(1*H*,5*H*)-pyrimidinedione, 9CI A-00287

[56983-60-9]



$C_4H_4N_4O_3$ M 156.101

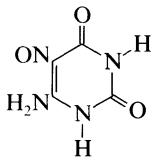
Used for photometric detn. of Co(*III*) (λ_{max} 375 nm, ε 51000). Cryst. Insol. H_2O; sol. Me_2CO, DMF, acids.

Traube, W., *Ber.*, 1893, **26**, 2551.
Tsuchiya, M., *Nippon Kagaku Kaishi*, 1977, 1844 (*detn, Co*)

6-Amino-5-nitroso-2,4(1*H*,3*H*)-pyrimidinedione, 9CI A-00288

4-Amino-5-nitrosopyrimidine-2,6-diol

[5442-24-0]



$C_4H_4N_4O_3$ M 156.101

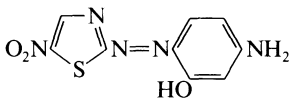
Used as a 0.01*M* aq. soln. for photometric detn. of Pd (λ_{max} 400 nm, ε19000), Fe(*II*) (λ_{max} 610 nm). Cryst. (EtOH). Sol. EtOH, Me_2CO, H_2O. Occurs in tautomeric equilibrium between keto and enol forms.

Singh, A.K. *et al*, *J. Indian Chem. Soc.*, 1975, **52**, 891 (*detn, Fe*)
Singh, A.K. *et al*, *Analyst (London)*, 1983, **108**, 1263 (*detn, Pd*)

5-Amino-2-(5-nitro-2-thiazolylazo)phenol A-00289

2-(4-Amino-2-hydroxyphenylazo)-5-nitrothiazole

[60488-36-0]



$C_9H_7N_5O_3S$ M 265.252

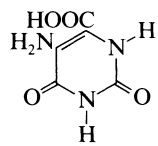
N,N-*Di-Me:* [50783-92-1]. *5-(Dimethylamino)-2-[(5-nitro-2-thiazolyl)azo]phenol, 9CI*
$C_{11}H_{11}N_5O_3S$ M 293.306
Used as a 1m*M* soln. in EtOH or H_2O for extraction-photometric detn. of Cd, Co, Cu, Fe(*III*), Mn, Ni, Pb, Zn. Dark purple amorph. powder. Sol. C_6H_6, $CHCl_3$, EtOH, Me_2CO; spar. sol. H_2O. Mp 172°.

Shibata, S. *et al*, *Anal. Chim. Acta*, 1973, **66**, 397 (*use, synth*)

5-Aminoorotic acid A-00290

5-Amino-1,2,3,6-tetrahydro-2,6-dioxo-4-pyrimidinecarboxylic acid, 9CI

[7164-43-4]



$C_5H_5N_3O_4$ M 171.112

Used as 0.01*M* soln. in aq. NH_3 for photometric detn. of Cu, Co, Os. Cryst. Sol. alkalis; spar. sol. H_2O. Mp >300°. λ_{max} 320 nm (dil. alkali).

▷ RM3190000.

Roy, B. *et al*, *Talanta*, 1983, **30**, 617 (*use*)

Aminooxoacetic acid hydrazide, 9CI A-00291

Semioxamazide, 8CI. Aminooxamide. Oxamic hydrazide

[515-96-8]

$H_2NCOCONHNH_2$

$C_2H_5N_3O_2$ M 103.080

Reagent for characterisation of aldehydes and ketones. Leaflets (H_2O). Mp 220-221° dec.

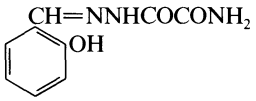
▷ AF2620000.

Kerp, W. *et al*, *Ber.*, 1897, **30**, 586 (*synth*)
Leonard, N.J. *et al*, *J. Org. Chem.*, 1950, **15**, 42 (*use*)
Tripathi, G.N.R. *et al*, *J. Mol. Struct.*, 1979, **54**, 19 (*ir, raman, struct*)

Aminooxoacetic acid [(2-hydroxyphenyl)methylene]hydrazide, 9CI A-00292

Salicylaldehyde semioxamazone, 8CI

[5663-69-4]



$C_9H_9N_3O_3$ M 207.188

Used as 0.2% DMF soln. for fluorimetric detn. of Al (λ_{max} 475 nm) and Ga (λ_{max} 475 nm) (DMF aq.) in drinking water. Cryst. (EtOH). Sol. DMF; sl. sol. H_2O. Mp 277-280°.

De Pablos, F. *et al*, *Analyst (London)*, 1986, **111**, 1159 (*synth, detn, Al*)
De Pablos, F. *et al*, *Talanta*, 1987, **34**, 835 (*detn, Ga*)

2-[(2-Amino-2-oxoethyl)amino]ethanesulfonic acid, 9CI A-00293

N-(*Carbamoylmethyl*)*taurine, 8CI. ACES*

[7365-82-4]

$H_2NCOCH_2NHCH_2CH_2SO_3H$

$C_4H_{10}N_2O_4S$ M 182.200

Good's buffer with pH range 6.0-7.5. Cryst. (EtOH aq.). Mp 293° dec. pK_a 6.9 (20°).

Good, N.E. *et al*, *Biochemistry*, 1966, **5**, 467 (*synth, use*)
Eastman Org. Chem. Bull., 1977, **49**, 4 (*rev*)

4-Amino-3-penten-2-one, 9CI A-00294

Fluoral P

[1118-66-7]

$H_3CCOCH{=}C(NH_2)CH_3$

C_5H_9NO M 99.132

Anal. reagent for aldehydes. Cryst. (Et_2O). Mp 42-43°. Bp_{10} 110-115°.

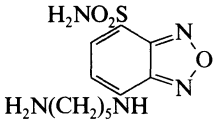
[23652-84-8, 80012-14-2]

Lacey, M.J., *Aust. J. Chem.*, 1970, **23**, 841 (*synth*)
Kloek, J.A. *et al*, *J. Org. Chem.*, 1978, **43**, 1460 (*synth*)
Compton, B.J. *et al*, *Anal. Chim. Acta*, 1980, **119**, 349 (*use*)
Baraldi, P.G. *et al*, *Synthesis*, 1983, 902 (*synth*)

7-[(5-Aminopentyl)amino]-4-benzofurazansulfonamide, 9CI A-00295

7-(5-Aminopentylamino)-4-(aminosulfonyl)-2,1,3-benzoxadiazole. APD-AP

[135406-32-5]



$C_{11}H_{17}N_5O_3S$ M 299.353

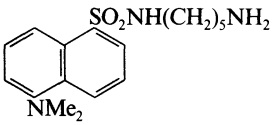
Fluorogenic reagent for carboxylic acids. Orange cryst. Mp 148-150°.

Toyooka, T. *et al*, *Analyst (London)*, 1991, **116**, 609 (*synth, use*)

N-(5-Aminopentyl)-5-(dimethylamino)-1-naphthalenesulfonamide, 9CI A-00296

Monodansylcadaverine

[10121-91-2]



$C_{17}H_{25}N_3O_2S$ M 335.469

Derivatisation reagent for hplc anal. of fatty acids. Cryst. (C_6H_6/EtOAc). Mp 134-136°.

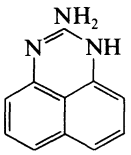
Narayanan, R. *et al*, *Biochem. Biophys. Res. Commun.*, 1976, **70**, 1122 (*synth*)

Junker-Bucheit, A. *et al*, *Fresenius' Z. Anal. Chem.*, 1988, **331**, 387 (*use*)

2-Aminoperimidine A-00297

1H-Perimidin-2-amine, 9CI

[28832-64-6]



$C_{11}H_9N_3$ M 183.212

Used for gravimetric, nephelometric and photometric detn. of $SO_4^{2\ominus}$ (λ_{max} 305.5 nm, ε 29000). Cryst. Sol. acids; insol. H_2O. Mp 239°.

▷ SD4391000.

B,HCl: Greyish cryst. (MeOH). Mp 282°.

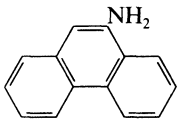
B,HBr: [40835-96-9].
Cryst. (H_2O). Sol. MeOH. Mp 265°.

Sachs, F., *Justus Liebigs Ann. Chem.*, 1909, **365**, 143 (*synth*)
Stephen, W.I., *Anal. Chim. Acta*, 1970, **50**, 413 (*synth, detn, $SO_4^{2\ominus}$*)
Burns, T. *et al*, *Mikrochim. Acta*, 1974, 245 (*detn, $SO_4^{2\ominus}$*)
Archer, A.W., *Analyst (London)*, 1975, **100**, 755.
McClure, E.L., *Anal. Chim. Acta*, 1976, **48**, 639 (*synth*)
Dasgupta, P.K. *et al*, *Anal. Chim. Acta*, 1977, **94**, 205 (*synth*)
Tôei, K. *et al*, *Anal. Chim. Acta*, 1977, **94**, 485.
Thorpe, M.C. *et al*, *J. Magn. Reson.*, 1977, **28**, 321 (*nmr*)
Dasgupta, P.K. *et al*, *Anal. Chem.*, 1978, **50**, 1793 (*use*)
Dasgupta, P.K. *et al*, *J. Org. Chem.*, 1979, **44**, 2502 (*synth*)
Suzuki, K.Y. *et al*, *Anal. Chim. Acta*, 1982, **136**, 435.
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 515 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ALR750.

9-Aminophenanthrene A-00298

9-Phenanthrenamine, 9CI. 9-Phenanthrylamine, 8CI

[947-73-9]



$C_{14}H_{11}N$ M 193.248

Fluorescence derivatisation reagent used in hplc of carboxylic acids. Mp 104°, Mp 139° (dimorph.).

▷ Exp. carcinogen. SG0175000.

B,HCl: [5328-67-6].
Prisms (EtOH/HCl). Mp 275° dec.

Picrate: Green needles (EtOH). Mp 190°.

N-*Ac:*
$C_{16}H_{13}NO$ M 235.285
Needles (EtOH). Mp 207-208°.
▷ Exp. carcinogen.

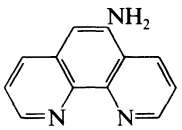
N-*Benzoyl:*
$C_{21}H_{15}NO$ M 297.356
Needles (EtOH). Mp 199°.

Schmidt, J. *et al*, *Ber.*, 1911, **44**, 1488.
Goldberg, M.A. *et al*, *J. Am. Chem. Soc.*, 1947, **69**, 260.
Ali, M.A. *et al*, *J. Chem. Soc.*, 1964, 387.
Martin, R.H. *et al*, *Tetrahedron*, 1965, **21**, 2435 (*pmr*)
Altiparmakian, R.H. *et al*, *J. Chem. Soc. C*, 1967, 1818.
Ikeda, M. *et al*, *J. Chromatogr.*, 1984, **305**, 261 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PDA750.

5-Amino-1,10-phenanthroline A-00299

1,10-Phenanthrolin-5-amine, 9CI

[54258-41-2]



$C_{12}H_9N_3$ M 195.223

Used as redox indicator for titrimetric detn. of Fe(*II*), Cu(*I*). Cryst. Sol. H_2O, EtOH, Me_2CO, C_6H_6. Mp 259-260°.

B,HBr: [22426-20-6].
Yellow solid. Mp 302-304°.

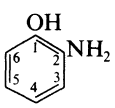
B,2HBr: [22426-19-3].
Yellow solid. Mp 281°.

Koft, E. *et al*, *J. Org. Chem.*, 1962, **27**, 865 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*detn, Cu, Fe*)
Gillard, R.D. *et al*, *J. Chem. Soc., Dalton Trans.*, 1974, 1217 (*deriv, ir, ms*)

2-Aminophenol, 9CI A-00300

o-*Hydroxyaniline. 1-Amino-2-hydroxybenzene. Questiomycin B*

[95-55-6]



C_6H_7NO M 109.127

Isol. from *Streptomyces* sp. Tuberculostatic. Possesses antibacterial props. Cryst. (H_2O). Mp 174°. pK_{a1} 4.78; pK_{a2} 9.97 (20°).

▷ Toxic by inhalation and skin contact. SJ4950000.

B,HCl: Mp 207°.

N-*Formyl:* [2843-27-8]. *2-Hydroxyformanilide*
$C_7H_7NO_2$ M 137.138
Needles (H_2O). Mp 129-129.5°.

N-*Ac:* [614-80-2]. *2-Acetamidophenol. 2-Hydroxyacetanilide*
$C_8H_9NO_2$ M 151.165
Plates (EtOH). Sol. hot H_2O. Mp 209°.
▷ Exp. carcinogen. AE4025000.

N-*Benzoyl:* [3743-70-2]. *2-Hydroxybenzanilide*
$C_{13}H_{11}NO_2$ M 213.235
Leaflets. Mp 167° dec.

Me ether: see *2-Methoxyaniline, M-00072*

N-*Di-Me:* [3743-22-4]. *2-(Dimethylamino)phenol. 2-Hydroxydimethylaniline*
$C_8H_{11}NO$ M 137.181
Prisms. Mp 45°. Bp 199-200°. pK_a 10.62 (25°, 0.1*M* KCl).

N-*Di-Me, Me ether:* [700-75-4]. *1-(Dimethylamino)-2-methoxybenzene. 2-Dimethylaminoanisole.* N-*Dimethyl-o-anisidine*
$C_9H_{13}NO$ M 151.208
Liq. Bp 210-212°.

N-*Methanesulfonyl:* N-(*2-Hydroxyphenyl*) *methanesulfonamide, 9CI*
$C_7H_9NO_3S$ M 187.219
Used as 0.01% soln. in PhCl for extraction-separation of Cu(*II*), Co, Zn, Cd, Pb, Hg(*II*). Cryst. (H_2O or $CHCl_3$). Sol. PhCl, $CHCl_3$, H_2O. Mp 116-118° (115-116°).

Forbes, W.F. *et al, Can. J. Chem.*, 1958, **36**, 1371; 1959, **37**, 1294 (*uv*)
Anzai, K. *et al, J. Antibiot., Ser. A*, 1960, **13**, 125 (*isol*)
Neilson, T. *et al, J. Chem. Soc.*, 1962, 371 (*synth*)
Portnaya, B.S. *et al, Zh. Org. Khim.*, 1965, 2202 (*synth*)
de Courville, A., *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1966, **262**, 1196.
Aldrich Library of NMR Spectra, 1974, **5**, 45C (*pmr*)
Aldrich Library of IR Spectra, 1975, **2**, 633F (*ir*)
Vogel, A.I., *Practical Organic Chemistry*, 4th Ed., Longmans, 1978, 662 (*synth*)
Korp, J.D. *et al, J. Cryst. Mol. Struct.*, 1981, **11**, 117 (*cryst struct*)
Ide, S. *et al, Anal. Chim. Acta*, 1983, **149**, 235 (*synth, use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 176.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ALT000, HIL000.

3-Aminophenol, 9CI A-00301

1-Amino-3-hydroxybenzene. m-*Hydroxyaniline*

[591-27-5]

C_6H_7NO M 109.127
Reagent for hplc anal. of aspirin. Prisms (toluene). Mp 124-126°. Bp_{11} 164°. pK_{a1} 4.37; pK_{a2} 9.82 (20°, 0.1*M* KCl).
▷ Mod. toxic. SJ4900000.

B,HCl: [51-81-0].
Prisms (H_2O). Mp 229°.

Forbes, W.F. *et al, Can. J. Chem.*, 1958, **36**, 1371; 1959, **37**, 1294 (*uv*)
Neilson, T. *et al, J. Chem. Soc.*, 1962, 371 (*synth*)
de Courville, A., *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1966, **262**, 1196.
McLafferty, F.W. *et al, Arch. Mass Spectral Data*, 1970, **1**, 284 (*ms*)
Aldrich Library of NMR Spectra, 1974, **5**, 51B (*pmr*)
Aldrich Library of IR Spectra, 1975, **2**, 635E (*ir*)
Verma, K.K. *et al, J. Pharm. Sci.*, 1987, **76**, 551 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ALT500, HIL500.

4-Aminophenol, 9CI A-00302

p-*Hydroxyaniline. Ursol P. Rodinal. Unal*

[123-30-8]

C_6H_7NO M 109.127
Photographic developer. Used for photometric detn. of $IO_3^{\ominus}$. Plates (H_2O). Mp 186°. pK_{a1} 5.29; pK_{a2} 10.46 (25°).
▷ Highly toxic, allergen. SJ5075000.

B,HCl: [51-78-5].
Prisms. Mp 306° dec.
▷ SJ6070000.

Me ether: see *4-Methoxyaniline, M-00073*

Et ether: see *4-Ethoxyaniline, E-00051*

N-*Ac:* [103-90-2]. *4-Hydroxyacetanilide. 4-Acetamidophenol.* N-(*4-Hydroxyphenyl*)*acetamide. Acetaminophen, USAN.* ***Paracetamol,* BAN, INN.** *Panadol. Tramil. Hedex. Numerous proprietary names*
$C_8H_9NO_2$ M 151.165
Widely used analgesic, antipyretic. Prisms (EtOH). Sol. hot H_2O. Mp 169-170.5°.
▷ AE4200000.

N-*Me:* [150-75-4].
C_7H_9NO M 123.154
Needles (C_6H_6). Mp 87°.
▷ Highly irritant, toxic. SL8225000.

N-*Me; B,*H_2SO_4: [55-55-0]. *Metol*
Photographic developer. Used as aq. soln. for detn. of Ag and for photometric detn. of $PO_4^{3\ominus}$, $SiO_4^{\ominus}$. Needles (H_2O). Sol. H_2O. Mp 250-260°.
▷ SL8650000.

N-*Me, Ac:* [579-58-8].
$C_9H_{11}NO_2$ M 165.191
Needles (pet. ether). Mp 43°. Bp_9 168.5°.

N-*Di-Me:* [619-60-3]. *4-Hydroxydimethylaniline. 4-(Dimethylamino)phenol.* ***Dimetamfenol.*** *DMAP*
$C_8H_{11}NO$ M 137.181
Antidote to cyanide poisoning. Mp 76-77°. Bp_{30} 165°.
▷ SL1120000.

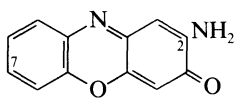
Boratynski, K., *Fresenius' Z. Anal. Chem.*, 1935, **102**, 421 ($PO_4^{3\ominus}$)
Wenger, P. *et al, Helv. Chim. Acta*, 1943, **26**, 1465 (*detn, Ag*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **1**, 235 (*use*)
Lambert, J.L. *et al, Anal. Chem.*, 1951, **23**, 1247 (*detn,* $IO_3^{\ominus}$)
Forbes, W.F. *et al, Can. J. Chem.*, 1958, **36**, 1371; 1959, **37**, 1294 (*uv*)
Neilson, T. *et al, J. Chem. Soc.*, 1962, 371 (*synth*)
de Courville, A. *et al, C. R. Hebd. Seances Acad. Sci. Ser. C*, 1966, **262**, 1196.
McLafferty, F.W. *et al, Arch. Mass Spectral Data*, 1970, **1**, 284 (*ms*)
Miyajima, G. *et al, Chem. Pharm. Bull.*, 1971, **19**, 2301 (*cmr*)
Aldrich Library of NMR Spectra, 1974, **5**, 57A (*pmr*)
Aldrich Library of IR Spectra, 1975, **2**, 639C (*ir*)
Holzbecher, Z., *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*detn,* $PO_4^{3\ominus}$, $SiO_4^{\ominus}$)
Ameer, B. *et al, Ann. Intern. Med.*, 1977, **87**, 202 (*rev, Paracetamol*)
Baehring-Kuhlmey, S.R., *Med. Actual.*, 1977, **13**, 480 (*rev, Dimetamfenol*)
Vogel, A.I., *Practical Organic Chemistry*, 4th Ed., Longmans, 1978, 723 (*synth*)
Lechat, P. *et al, Therapie*, 1978, **33**, 551 (*Paracetamol*)
Liedtke, R.K., *Med. Klin. (Munich)*, 1982, **77**, 551 (*Paracetamol*)

Weger, N.P., *Fundam. Appl. Toxicol.*, 1983, **3**, 387 (*Dimetamfenol*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ALT250, ALU500, HIM000, MGJ750.

2-Amino-3*H*-phenoxazin-3-one, 9CI, 8CI A-00303

Questiomycin A. AV toxin C

[1916-59-2]



$C_{12}H_8N_2O_2$ M 212.207

Isol. from *Acrospermum viticola, Brevibacterium iodinum, Calocybe gambosa, Microbispora aerata, Streptomyces thioluteus, Pycnoporus* sp. and *Waksmania* sp. Active against gram-positive bacteria, mycobacteria, *Candida albicans* and shows antitumour activity. Phytotoxin. Used as a 1m*M* soln. in EtOH as redox indicator for titanometric detn. of Fe(*III*), Au(*III*), $Cr_2O_7^{2\ominus}$, $VO_4^{3\ominus}$ and some organic compds.; redox indicator for stannometry. Dark-brown or red cryst. (EtOH). Sol. EtOH. Subl. 255-257°. Sometimes occurs in amorph. form with Mp 296-297°. E_0 + 0.372V (pH 0.92, 23°).

▷ SP7695000.

N-*Ac:* [1916-55-8]. N-(*3-Oxo-3*H*-phenoxazin-2-yl) acetamide, 9CI. 2-Acetamido-3*H*-phenoxazin-3-one*
$C_{14}H_{10}N_2O_3$ M 254.245
From *B. iodinum, M. aerata, S. thioluteus* and *W.* sp. Active against *Sarcina lutea* and *Trichophyton* sp. Used as a 1m*M* soln. in EtOH as redox indicator for titanometric detn. of Fe(*III*), Au(*III*), Ce(*IV*), $Cr_2O_7^{2\ominus}$, $VO_4^{3\ominus}$ and some organic compounds. Orange cryst. Sol. EtOH, Et_2O, C_6H_6. Subl. 165°. E° + 0.375V (pH 0.84, 23°).

Fischer, O. *et al*, *Ber.*, 1961, **27**, 2784 (*synth*)
Gerber, N.N. *et al*, *Biochemistry*, 1964, **3**, 598; 1966, **5**, 3824; *J. Org. Chem.*, 1967, **32**, 4055 (*isol, uv, ir, bibl*)
Ruzička, E. *et al*, *Mikrochim. Acta*, 1967, 277 (*use*)
Ruzička, E. *et al*, *CA*, 1968, **69**, 40930j (*stannometry*)
Ikekawa, T. *et al*, *Chem. Pharm. Bull.*, 1968, **16**, 1705 (*synth, ir*)
Sullivan, G. *et al*, *J. Pharm. Sci.*, 1971, **60**, 1097 (*isol*)
Baer, H. *et al*, *Pharmazie*, 1971, **26**, 108, 314 (*isol*)
Hishida, T. *et al*, *Chem. Lett.*, 1974, 293 (*synth*)
Schlunegger, U.V. *et al*, *Helv. Chim. Acta*, 1976, **59**, 1383 (*isol*)
Motohashi, N., *Yakugaku Zasshi*, 1983, **103**, 364 (*synth, props*)
Bolognese, A. *et al*, *J. Heterocycl. Chem.*, 1986, **23**, 1003 (*synth, pmr, uv, deriv*)
Kinjo, J. *et al*, *Tetrahedron Lett.*, 1987, **28**, 3697 (*isol*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, QCJ275.

7-Amino-3*H*-phenoxazin-3-one, 8CI A-00304

[3950-31-0]

$C_{12}H_8N_2O_2$ M 212.207

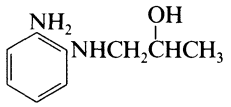
Used as a 0.5 m*M* soln. in EtOH as redox indicator for titanometric detn. of Fe(*III*), Au(*III*), Ce(*IV*), $Cr_2O_7^{2\ominus}$, $VO_4^{3\ominus}$ and some organic compounds; redox indicator for stannometry. Orange cryst. (EtOH). Sol. EtOH, Et_2O. E° + 0.374 V (pH 1.21).

Musso, H. *et al*, *Chem. Ber.*, 1961, **94**, 2551 (*synth*)
Ruzička, E. *et al*, *Mikrochim. Acta*, 1967, 277 (*use, titanometry*)
Ruzička, E. *et al*, *CA*, 1968, **69**, 40930j (*use, stannometry*)

1-[(2-Aminophenyl)amino]-2-propanol, 9CI A-00305

N-(*β-Hydroxypropyl*)-o-*phenylenediamine*

[63346-84-9]



$C_9H_{14}N_2O$ M 166.222

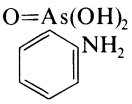
Used as 0.2m*M* soln. in MeOH for photometric detn. of Se (λ_{max} 348 nm, ε 2000). Cryst. (C_6H_6/MeOH). Sol. C_6H_6, $CHCl_3$, MeOH. Mp 85.5°.

Sawlewicz, J., *Acta Pol. Pharm.*, 1959, **16**, 479 (*synth*)
Kasterka, B., *Chem. Anal. (Warsaw)*, 1976, **21**, 1339; 1979, **24**, 329 (*detn, Se*)

2-Aminophenylarsonic acid, 9CI A-00306

2-Aminobenzenearsonic acid. o-*Aminophenylarsinic acid.* o-*Arsanilic acid*

[2045-00-3]



$C_6H_8AsNO_3$ M 217.056

Used in photometric detn. of $BrO_3^{\ominus}$; pptn. sepn. of Bi, Fe(*III*), Sb, Sn, Th, Ti, U, Zr. Reference material used in elemental microanalysis. Pale yellow needles (H_2O). V. sol. H_2O; spar. sol. Et_2O. Mp 153° dec. pK_{a1} 0.69 ($NH_3^{\oplus}$); pK_{a2} 3.79; pK_{a3} 8.93 (25°).

▷ Toxic.

Jacobs, W.A. *et al*, *J. Am. Chem. Soc.*, 1918, **56**, 1583 (*synth*)
MacDonald, J.C. *et al*, *Anal. Chim. Acta*, 1963, **28**, 383 (*detn, $BrO_3^{\ominus}$*)
Yasukouchi, K. *et al*, *CA*, 1968, **68**, 45536; **69**, 15327 (*synth*)
Modro, A. *et al*, *Pol. J. Chem. (Rocz. Chem.)*, 1969, **43**, 1493; *CA*, **72**, 11753.
Analyst (London), 1972, **97**, 740 (*microanal*)
Lehrl, L. *et al*, *J. Chromatogr.*, 1974, **88**, 331 (*chromatog*)
Chatterjee, A. *et al*, *Acta Crystallogr., Sect. B*, 1977, **33**, 104 (*struct*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1983 (*use*)

4-Aminophenylarsonic acid A-00307

4-Aminobenzenearsonic acid, 9CI. p-*Aminophenylarsonic acid.* p-*Aminophenylarsinic acid.* ***Arsanilic acid*, BAN, INN.** *Pro-gen. AS 101*

[98-50-0]

$C_6H_8AsNO_3$ M 217.056

Used in vet. treatment of enteritis and as a growth promoter. Also an antileukaemic drug. Used in photometric detn. of Zr. Needles (H_2O). Insol. Me_2CO, $CHCl_3$, C_6H_6; spar. sol. EtOH; sol. Et_2O, H_2O, conc. acids, alkalis. pK_{a1} 1.91 ($NH_3^{\oplus}$); pK_{a2} 4.13; pK_{a3} 9.19 (25°).

▷ Highly toxic. Carcinogen. CF7875000.

Mono Na salt: [127-85-5]. *Sodium arsanilate. Atoxyl*
Cryst. + $4H_2O$.
▷ CF9625000.

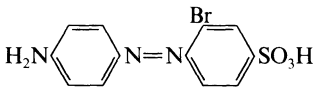
N-*Chloroacetyl:* [5425-62-7].
Plates (H_2O). Mod. sol. hot H_2O, AcOH, sol. hot EtOH. Mp 285° dec.

Org. Synth., Coll. Vol., 1, 1932, 63 (*synth*)
Chandelle, R., *Bull. Soc. Chim. Belg.*, 1941, **50**, 185 (*detn, Zr*)
Modro, A. *et al*, *Pol. J. Chem. (Rocz. Chem.)*, 1969, **43**, 1493; *CA*, **72**, 11753.

U.S. Pat., 3 763 201, (1973); *CA*, **79**, 137293 (*synth*)
Lehr, L. *et al*, *J. Chromatogr.*, 1974, **88**, 331 (*chromatog*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 12394.
Schmid, A., *CA*, 1983, **98**, 118960 (*rev*)
Chatterjee, A. *et al*, *Indian J. Phys., A*, 1983, **57**, 322 (*cryst struct*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 442 (*synonyms*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 185.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ARA250, ARA500.

4-(4-Aminophenylazo)-3-bromobenzenesulfonic acid A-00308

4'-Amino-2-bromoazobenzene-4-sulfonic acid



$C_{12}H_{10}BrN_3O_3S$ M 356.199

N-*Di-Me: 3-Bromo-4-[(4-dimethylaminophenyl)azo] benzenesulfonic acid. 2'-Bromo-4'-dimethylaminoazobenzene-4-sulfonic acid*
$C_{14}H_{14}BrN_3O_3S$ M 384.253
pKa_1 2.73 (50% EtOH).

N-*Di-Me, Na salt:* Used as aq. soln as acid-base indicator (pH range: 1.6 - 3.6; colour change red → yellow). Orange-red cryst. (EtOH). Sol. H_2O, EtOH; insol. C_6H_6.

N-*Ph: 4-[(4-Phenylaminophenyl)azo]-3-bromobenzenesulfonic acid*
$C_{18}H_{14}BrN_3O_3S$ M 432.297
Acid-base indicator used as an aq. soln. of the Na salt ($pH_{\frac{1}{2}}$ 0.68; colour change: red → yellow). Orange cryst. powder. Sol. EtOH, alkalis; spar. sol. H_2O.

Kuznetsov, V.I. *et al*, *Zh. Anal. Khim.*, 1952, **7**, 56; 1956, **11**, 208.

4-(4-Aminophenylazo)-3-chlorobenzenesulfonic acid A-00309

4'-Amino-2-chloroazobenzene-4-sulfonic acid

$C_{12}H_{10}ClN_3O_3S$ M 311.748
pKa_1 2.70 (50% EtOH).

N-*Di-Me: 3-Chloro-4-[(4-dimethylaminophenyl)azo] benzenesulfonic acid. 2-Chloro-4'-dimethylaminoazobenzene-4-sulfonic acid*
$C_{14}H_{14}ClN_3O_3S$ M 339.802

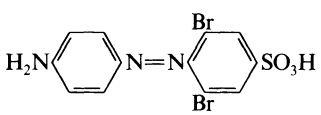
N-*Di-Me, Na salt:* Used as aq. soln. as acid-base indicator (pH range: 1.6 - 3.7; colour change red → yellow). Orange-red cryst. Sol. H_2O, EtOH; insol. C_6H_6.

N-*Ph: 3-Chloro-4-[(4-phenylamino)phenylazo] benzenesulfonic acid*
$C_{18}H_{14}ClN_3O_3S$ M 387.846
Acid-base indicator ($pH_{\frac{1}{2}}$ 0.76; colour change: red → yellow). Used as an aq. soln. of Na salt. Orange cryst. Sol. alkalis; sl. sol. H_2O.

Kuznetsov, V.I. *et al*, *Zh. Anal. Khim.*, 1952, **7**, 56; 1956, **11**, 208 (*use, indicator*)

4-(4-Aminophenylazo)-3,5-dibromobenzenesulfonic acid A-00310

4'-Amino-2,6-dibromoazobenzene-4-sulfonic acid



$C_{12}H_9Br_2N_3O_3S$ M 435.095

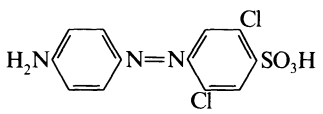
N-*Di-Me: 3,5-Dibromo-4-[(4-dimethylaminophenyl)azo] benzenesulfonic acid*
$C_{14}H_{13}Br_2N_3O_3S$ M 463.149

N-*Di-Me, Na salt:* Used as a 1m*M* aq. soln. as acid-base indicator ($pH_{\frac{1}{2}}$ = 0.5; colour change: red → yellow). Orange cryst. powder. Sol. H_2O, EtOH; insol. C_6H_6.

Kuznetsov, V.I. *et al*, *Zh. Anal. Khim.*, 1952, **7**, 56 (*synth*)

4-(4-Aminophenylazo)-2,5-dichlorobenzenesulfonic acid A-00311

4'-Amino-2,5-dichloroazobenzene-4-sulfonic acid



$C_{12}H_9Cl_2N_3O_3S$ M 346.193

N,N-*Di-Me:* [115525-78-5]. *2,5-Dichloro-4-[[4-(4-dimethylamino)phenyl]azo]benzenesulfonic acid*
$C_{14}H_{13}Cl_2N_3O_3S$ M 374.246
Used as a 0.5m*M* aq. soln. for extraction-photometric detn. of K (λ_{max} 430 nm, C_6H_6); used as aq. soln. of Na salt as an acid-base indicator (pH range: 1.4-3.2; colour change: red → yellow). Orange-red cryst. Sol. alkalis; spar. sol. H_2O.

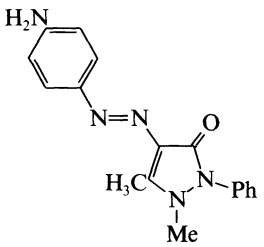
N,N-*Di-Et:* [86565-64-2]. *2,5-Dichloro-4-[[4-(4-diethylamino)phenyl]azo]benzenesulfonic acid*
$C_{16}H_{17}Cl_2N_3O_3S$ M 402.300
Used as a 0.5m*M* aq. soln. for extraction-photometric detn. of K (λ_{max} 450 nm). Orange-red cryst. Sol. alkalis; spar. sol. H_2O.

N,N-*Dibutyl:* [115525-79-6]. *2,5-Dichloro-4-[[4-(4-dibutylamino)phenyl]azo]benzenesulfonic acid*
Used as a 0.5m*M* aq. soln. for extraction-photometric detn. of K (λ_{max} 450 nm). Orange-red cryst. Sol. alkalis; spar. sol. H_2O.

Kuznetsov, V.I. *et al*, *Zh. Anal. Khim.*, 1952, **7**, 56 (*synth*)
Iwachido, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1985, **34**, 579 (*synth*)
Motomizu, S. *et al*, *Analyst* (*London*), 1988, **113**, 743 (*detn, K*)

4-[(4-Aminophenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI A-00312

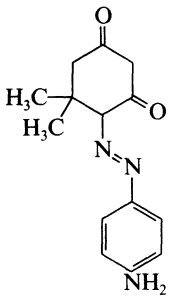
[53534-17-1]



$C_{17}H_{17}N_5O$ M 307.354
Gives colour reactions with Bi, Co, Cu, Fe, Ga, In, Ni, Pd. Orange-red cryst. Mp 162°. pK_{a1} 1.26; pK_{a2} 11.5.

Smaglyuk, N.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1680 (*use*)

4-[(4-Aminophenyl)azo]-5,5-dimethyl-1,3-cyclohexanedione A-00313



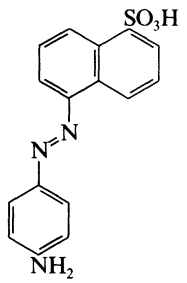
$C_{14}H_{17}N_3O_2$ M 259.307

N,N-*Di-Et:* [36478-11-2]. *4-[[4-(Diethylamino)phenyl]azo]-5,5-dimethyl-1,3-cyclohexanedione, 9CI*
$C_{18}H_{25}N_3O_2$ M 315.414
Used as an acid-base indicator (pH range: 4.5 - 6.0; colour change: yellow → red; pH range 9.3 - 10.5; colour change: red → yellow). Dark red cryst. (EtOH). Sol. AcOH, EtOH, Me_2CO, Et_2O, $CHCl_3$; spar. sol. H_2O. Mp 132-134°. pK_{a1} 5.40; pK_{a2} 9.80.

N-*Et*, N-*Hydroxy: 4-(4-N-Ethyl-N-hydroxyaminophenylazo)-5,5-dimethyl-1,3-cyclohexanedione*
$C_{16}H_{21}N_3O_3$ M 303.360
Used as an acid-base indicator (pH range: 3.8 - 4.6; colour change: yellow → red; pH range 9.5 - 10.5; colour change: red → yellow). Dark red cryst. (EtOH). Sol. AcOH, EtOH, Me_2CO; sl. sol. H_2O, CCl_4.

Madajova, V. *et al*, *Chem. Zvesti*, 1971, **25**, 343 (*pKa, use*)

5-(4-Aminophenylazo)-1-naphthalenesulfonic acid A-00314



$C_{16}H_{13}N_3O_3S$ M 327.363

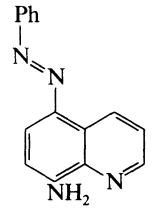
N,N-*Di-Me, chloride:* [116247-66-6]. *5-[[4-(Dimethylamino)phenyl]azo]-1-naphthalenesulfonyl chloride, 9CI. DABNS-5-CI*
$C_{18}H_{16}ClN_3O_2S$ M 373.862
Anal. reagent for amino acids. Brown-violet cryst. Mp 169-175°.

Wolski, T. *et al*, *Chem. Anal. (Warsaw)*, 1987, **32**, 233 (*synth, use*)

8-Amino-5-(phenylazo)quinoline A-00315

5-(Phenylazo)-8-quinolinamine, 9CI

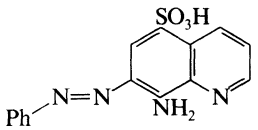
[7771-17-7]



$C_{15}H_{12}N_4$ M 248.287
Used as 0.12% EtOH soln. for extraction-photometric detn. of Pd(*II*) (λ_{max} 620 nm, ε 79000, 4-methyl-2-pentanone). Orange needles (EtOH aq.). Sol. EtOH, DMF, Me_2CO; insol. H_2O. Mp 132-133°.

Blanco, M. *et al*, *Mikrochim. Acta*, 1983, **3**, 11 (*synth, detn, Pd*)

8-Amino-7-(phenylazo)-5-quinolinesulfonic acid A-00316



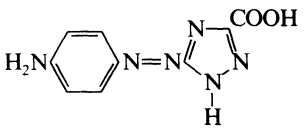
$C_{15}H_{12}N_4O_3S$ M 328.351

Na salt: [132412-57-8].
Used as 0.1m*M* EtOH soln. for fluorimetric detn. of Au (λ_{max} 380 nm, 1-300 ppb). Red cryst. (EtOH aq.). Sol. EtOH. Mp 239-241°.

Ruan Chuanmin, *et al*, *Analyst (London)*, 1991, **116**, 99 (*synth, detn, Au*)

5-[(4-Aminophenyl)azo]-1*H*-1,2,4-triazole-3-carboxylic acid, 9CI A-00317

[72553-18-5]



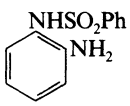
$C_9H_8N_6O_2$ M 232.201
Used for photometric detn. of Co. Orange cryst. Sol. alkalis, EtOH.

Israilov, M.A. *et al*, *CA*, 1980, **92**, 69040e.

N-(2-Aminophenyl)benzenesulfonamide, 9CI A-00318

Benzenesulfonic acid 2-aminoanilide

[43200-31-3]



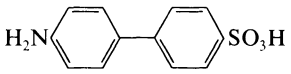
$C_{12}H_{12}N_2O_2S$ M 248.305
Used as a 0.2% soln. in 0.2*M* H_2SO_4 for gravimetric detn. of $NO_2^{\ominus}$. Cryst. (EtOH). Sol. Et_2O, EtOH.

Komar, N.P., *Zh. Anal. Khim.*, 1956, **11**, 259.

4-Aminophenylbenzenesulfonic acid A-00319

4'-Amino-4-biphenylsulfonic acid

[3365-89-7]



$C_{12}H_{11}NO_3S$ M 249.290

Needles. Mp >300°.

Amide: 4-Aminophenylbenzenesulfonamide. p-*Anilinebenzenesulfonamide*

$C_{12}H_{12}N_2O_2S$ M 248.305

Fluorescence acid-base indicator (pH range 3.0 - 4.0; non fluoresc. → blue). Used as a 0.05% soln. in 50% EtOH. Needles (EtOH). Sol. acids, EtOH, Me_2CO. Mp 262-263° dec.

Van Meter, C.J. *et al*, *J. Am. Chem. Soc.*, 1940, **62**, 3146 (*synth, amide*)

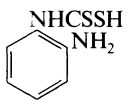
Novelli, A. *et al*, *J. Am. Chem. Soc.*, 1941, **63**, 854 (*synth, amide*)

Tomiček, O. *et al*, *Collect. Czech. Chem. Commun.*, 1948, **13**, 116 (*use*)

Cesare, F. *et al*, *Ann. Chim.* (*Rome*), 1950, **40**, 334 (*synth*)

2-Aminophenylcarbamodithioic acid, 9CI A-00320

o-*Aminophenyldithiocarbamic acid.* o-*Aminodithiocarbanilic acid*



$C_7H_8N_2S_2$ M 184.286

NH_4 salt: [49791-42-6].

Used as a 0.05% aq. soln. for photometric detn. of Cr(*VI*). Pale yellow cryst. (H_2O). Sol. H_2O; spar. sol. EtOH; insol. C_6H_6.

Gagliardi, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1955, **147**, 321 (*detn, Cr*)

4-Aminophenylcarbamodithioic acid A-00321

p-*Aminophenyldithiocarbamic acid.* p-*Aminodithiocarbanilic acid*

$C_7H_8N_2S_2$ M 184.286

NH_4 salt: [30714-43-3].

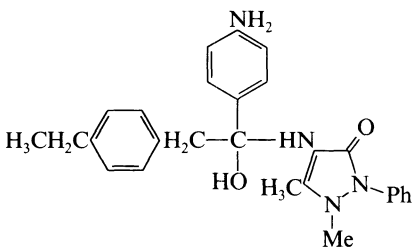
Used for gravimetric detn. of Ir. Pale yellow cryst. (H_2O). Sol. H_2O; spar. sol. EtOH; insol. C_6H_6.

Pshenitsyn, N.K. *et al*, *Zh. Neorg. Khim.*, 1957, **2**, 2375 (*detn, Ir*)

4-Aminophenyl-4-ethylbenzylaminoantipyrinylcarbinol A-00322

4-[p-*Amino-*α-[(p-*ethylbenzyl*)*amino*]-α-*hydroxybenzyl*] *antipyrine,8CI*

[33834-71-8]



$C_{27}H_{30}N_4O_2$ M 442.560

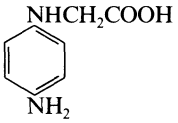
Used for photometric detn. of In. Red cryst. (C_6H_6). Sol. EtOH, Me_2CO; insol. H_2O.

Shmeleva, I.A. *et al*, *CA*, 1971, **75**, 83777f (*detn, In*)

N-(*p*-Aminophenyl)glycine, 8CI A-00323

p-*Aminohippuric acid*

[23227-24-9]



$C_8H_{10}N_2O_2$ M 166.179

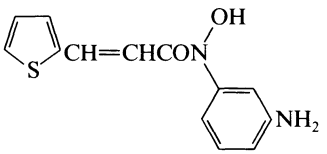
Used as a 0.1% aq. soln. for photometric detn. of Os. Cryst. (H_2O). Sol. hot H_2O, EtOH; sl. sol. Et_2O; insol. C_6H_6.

Popper, E. *et al*, *Rev. Roum. Chim.*, 1967, **12**, 999.

N-(3-Aminophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, 9CI A-00324

N-m-*Aminophenyl-2-thenylacrylohydroxamic acid*

[119581-95-2]



$C_{13}H_{12}N_2O_2S$ M 260.316

Used as a 0.1*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 545 nm, ε 8800, pH 3.5-7.5*M* HCl). Cryst. (C_6H_6). Sol. $CHCl_3$, C_6H_6.

Abbasi, S.A. *et al*, *Analyst* (*London*), 1988, **113**, 1561 (*synth, detn, V*)

N-(4-Aminophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, 9CI A-00325

N-p-*Aminophenyl-2-thenylacrylohydroxamic acid*

[119581-94-1]

$C_{13}H_{12}N_2O_2S$ M 260.316

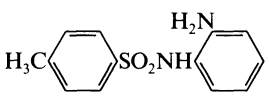
Used as a 0.1*M* soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 550 nm, ε 9100, 3.5-7.5*M* HCl). Cryst. (C_6H_6). Sol. $CHCl_3$, C_6H_6.

Abbasi, S.A. *et al*, *Analyst* (*London*), 1988, **113**, 1561 (*synth, detn, V*)

N-(2-Aminophenyl)-4-methylbenzenesulfonamide, 9CI A-00326

2-(4-Toluenesulfonamido)aniline

[3624-90-6]



$C_{13}H_{14}N_2O_2S$ M 262.332

Used as a 0.5% soln. in aq. EtOH for photometric detn. of Cu (λ_{max} 550 nm, ε 6620), gravimetric detn. of Cu. Cryst. (EtOH aq.). Mp 135-136°.

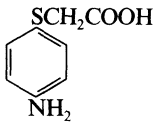
Billman, J.H. *et al*, *Anal. Chem.*, 1960, **32**, 1342; 1962, **34**, 1342; 1964, **36**, 552 (*synth, detn, Cu*)

Betteridge, D. *et al*, *Anal. Chim. Acta*, 1968, **42**, 293 (*phot, detn, Cu*)

[(4-Aminophenyl)thio]acetic acid, 9CI A-00327

p-Aminophenylmercaptoacetic acid

[104-18-7]



$C_8H_9NO_2S$ M 183.231

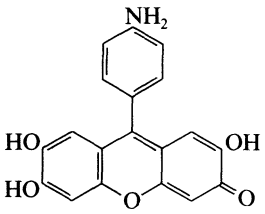
Used for photometric detn. of Fe. Cryst. Sol. H_2O, alkalis; insol. C_6H_6.

Fernandez-Gomez, E. *et al*, *CA*, 1979, **91**, 116661z (*detn, Fe*)

9-(4-Aminophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, 9CI A-00328

4-Aminophenylfluorone

[58093-33-7]



$C_{19}H_{13}NO_5$ M 335.315

Used as a 0.05% soln. in EtOH for photometric detn. of Mo, Sb. Red cryst. powder. Spar. sol. H_2O; sol. EtOH.

N-*Ac:* [72007-65-9]. *4-Acetamidophenylfluorone.* N-[*4-(2,6,7-Trihydroxy-3-oxo-3*H*-xanthen-9-yl)phenyl]acetamide, 9CI*

$C_{21}H_{15}NO_6$ M 377.353

Used as 0.02m*M* MeOH soln. for photometric detn. of Ge, Sn (*IV*), Ti, Pb, Cu, U(*VI*). Cryst. Sol. MeOH, EtOH; sl. sol. H_2O.

N,N-*Di-Et:* [72007-66-0]. *4-Diethylaminophenylfluorone. 9-(4-Diethylaminophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, 9CI*

$C_{23}H_{21}NO_5$ M 391.423

Used as 0.02m*M* MeOH soln. for photometric detn. of Ge, Sn(*IV*), Ti, Pb, Cu and U(*VI*). Cryst. Sol. MeOH, EtOH; sl. sol. H_2O.

Lu-Min-Lan, *CA*, 1960, **54**, 18181.

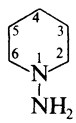
Nazarenko, V.A. *et al*, *Trihydroxyfluorones*, Nauka, Moscow, 1973 (*detn, Mo, Sb*)

Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1979, **298**, 150 (*synth, use*)

1-Aminopiperidine A-00329

1-Piperidinamine, 9CI

[2213-43-6]



$C_5H_{12}N_2$ M 100.163

Forms hydrazones with ketones suitable for gc. anal. Bp_{728} 145-146°.

▷ TM4165000.

B,HCl: [63234-70-8].
Mp 159-162°.

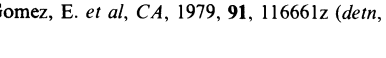
p-*Toluenesulfonate:* Colourless fine needles (EtOAc/hexane). Mp 106-109°.

Omietanski, G.M. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 3874 (*synth*)
Smith, P.A.S. *et al*, *J. Org. Chem.*, 1959, **24**, 1325 (*synth, bibl*)
Carpino, L.A. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 2728 (*synth*)
Vanden Heuval, W.J.A. *et al*, *J. Chromatogr.*, 1965, **18**, 391 (*use*)
Krueger, P.J. *et al*, *Can. J. Chem.*, 1970, **48**, 3236 (*ir*)
Gillis, R.G., *Org. Mass Spectrom.*, 1971, **5**, 1107 (*ms*)
Murakami, Y. *et al*, *Chem. Pharm. Bull.*, 1983, **31**, 423 (*synth*)

2-Amino-1-propene-1,1,3-tricarbonitrile, 9CI A-00330

2-Amino-1,1,3-tricyanopropene. Dimeric maloninitrile. Maleonitrile dimer

[868-54-2]



$C_6H_4N_4$ M 132.124

Dimer of Maleonitrile. Important intermed. in synth. of heterocycles esp. pyridines and pyrimidines. Used as a reagent for fluorimetric anal. of imidazoles, Cu. Yellowish monoclinic needles (EtOH). Mp 170-173°.

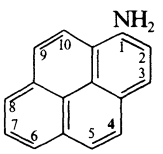
▷ UD2340000.

Carboni, R.A. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 2838 (*synth*)
Ritchie, K. *et al*, *Anal. Chem.*, 1969, **41**, 163 (*use*)
Klewe, B., *Acta Chem. Scand.*, 1971, **25**, 1999; 1972, **26**, 317 (*cryst struct*)
Takahashi, K., *Bull. Chem. Soc. Jpn.*, 1971, **44**, 3484 (*synth*)
Mittlebach, M. *et al*, *Monatsh. Chem.*, 1985, **116**, 689 (*synth*)
Gutierrez, M.C. *et al*, *Microchem. J.*, 1986, **34**, 332 (*use*)

1-Aminopyrene A-00331

1-Pyrenamine, 9CI

[1606-67-3]



$C_{16}H_{11}N$ M 217.270

Isol. from coal tar. Used as 0.05% soln. in conc. H_2SO_4 for photometric detn. of $NO_2^{\ominus}$, $NO_3^{\ominus}$. Pale-yellow needles (hexane). Sol. C_6H_6, Et_2O; insol. H_2O. Mp 117-118°. Conc. H_2SO_4 → colourless soln. with violet-blue fluor.

▷ Mutagen. UR2275000.

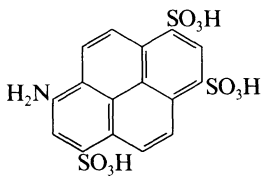
N-*Ac:*
$C_{18}H_{13}NO$ M 259.307
Needles (AcOH). Mp 260°.

N-*Me:* [22965-22-6].
$C_{17}H_{13}N$ M 231.296
Mp 82-83°.

Vollmann, H. *et al*, *Justus Liebigs Ann. Chem.*, 1937, **531**, 1.
Jones, R.N., *J. Am. Chem. Soc.*, 1945, **67**, 2127 (*uv*)
Lund, H. *et al*, *CA*, 1946, **40**, 6072.
Weigel, W. *et al*, *Justus Liebigs Ann. Chem.*, 1961, **647**, 108.
Sawicki, E. *et al*, *Anal. Chem.*, 1963, **35**, 1934 (*detn, $NO_2^{\ominus}$, $NO_3^{\ominus}$*)
Buu-Hoi, N.P. *et al*, *J. Chem. Soc.*, 1963, 956.
Martin, R.H. *et al*, *Bull. Soc. Chim. Belg.*, 1965, **74**, 418 (*pmr*)
Kosuge, T. *et al*, *Chem. Pharm. Bull.*, 1982, **30**, 1535 (*isol, tox*)
Tintel, C. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1983, **102**, 224 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PON000.

8-Amino-1,3,6-pyrenetrisulfonic acid, 9CI A-00332

[51987-58-7]



$C_{16}H_{11}NO_9S_3$ M 457.462

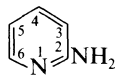
Fluorescent probe for thiamine and pyridinium ion.

Koller, E. *et al*, *Spectroscopy* (*Eugene, Oreg.*), 1988, **3**, 37 (*use*)

2-Aminopyridine A-00333

2-Pyridinamine, 9CI. α-Pyridylamine

[504-29-0]



$C_5H_6N_2$ M 94.116

Has anaesthetic props. Reagent for fluorescence labelling of sugars. Cryst. (ligroin). Mp 57.5°. Bp 204°, Bp_{20} 104-106°. Sublimes.

▷ Highly toxic by inhalation and skin contact, TLV 2. Emits toxic fumes on heating. US1575000.

B,HCl: Cryst. + $2H_2O$. Mp 86°.

Picrate: Yellow cryst. Mp 190°.

2-N-Ac:
$C_7H_8N_2O$ M 136.153
Cryst. (ligroin/C_6H_6). Mp 71°.

2-N-Benzoyl: [4589-12-2]. *N-2-Pyridinylbenzamide, 9CI. 2-Benzamidopyridine*
$C_{12}H_{10}N_2O$ M 198.224
Used for extraction-photometric detn. of Au(*III*) (λ_{max} 395 nm, ε 5200), Mo (λ_{max} 470 nm, ε 19000). Mp 85-87°, Mp 94°.

2-N-Me: 2-Methylaminopyridine
$C_6H_8N_2$ M 108.143
Mp 190° (as picrate).

2-N-Di-Me: 2-(Dimethylamino)pyridine
$C_7H_{10}N_2$ M 122.169
Bp 196°.

2-N-Di-Me, picrate: Yellow cryst. Mp 182°.

2-N-Et: 2-(Ethylamino)pyridine
$C_7H_{10}N_2$ M 122.169
Bp_4 79-82°.

2-N-Et; B,H_2SO_4: Mp 111-113°.

2-N-Isopropyl: [4214-72-6]. *N-(1-Methylethyl)-2-pyridinamine, 9CI. 2-(Isopropylamino)pyrimidine.* ***Isaxonine,* INN.** *Nerfactor*
$C_8H_{12}N_2$ M 136.196
Drug for treatment of neuropathic disorders; promotes nerve growth. Mp 27-28°. Bp_{12} 92-93°. Used as phosphate salt.

2-N-Octyl: [34366-90-0]. *2-Octylaminopyridine. 1-Octyl-2(1H)-pyridinamine, 9CI*
$C_{13}H_{22}N_2$ M 206.330
Used as 0.05*M* $CHCl_3$ soln. for extraction separation of Ir, Rh. Cryst. Sol. $CHCl_3$, 1,2-dichloroethane, $PhNO_2$, C_6H_6. pK_a 7.4.

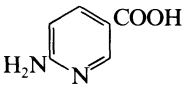
[65606-21-5]

Shriner, R.L. *et al*, *Chem. Rev.*, 1944, **35**, 351 (*N-benzoyl, synth*)
Adams, R. *et al*, *J. Am. Chem. Soc.*, 1949, **71**, 3539.
Brown, D.J. *et al*, *J. Chem. Soc.*, 1965, 5542 (*uv, synth*)
Buzas, A. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1966, **262**, 658 (*deriv*)
Kuthan, J. *et al*, *Z. Chem.*, 1968, **8**, 305 (*tautom*)
Belg. Pat., 788 648, (1973); *CA*, **79**, 96981a (*pharmacol*)
Chao, M. *et al*, *Acta Crystallogr., Sect. B*, 1976, **32**, 2920 (*cryst struct*)
Borshch, N.A. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 1805, 2181 (*N-octyl, synth, use*)
Hase, S. *et al*, *J. Biochem.* (*Tokyo*), 1981, **90**, 407, 1275 (*use*)
Patel, K.S. *et al*, *Talanta*, 1982, **29**, 791 (*N-benzoyl, detn, Mo*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 19357.
Patel, K.S. *et al*, *Anal. Chem.*, 1986, **58**, 1547 (*N-benzoyl, use*)
Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1493 (*cmr*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 176.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AMI000.

6-Amino-3-pyridinecarboxylic acid, 9CI A-00334

6-Aminonicotinic acid

[3167-49-5]



$C_6H_6N_2O_2$ M 138.126

Has tuberculostatic props. Cryst. + $2H_2O$ (AcOH aq.). Mp 310-312° dec.

B,HCl: Mp 194-195°.

Et ester: [39658-41-8].
$C_8H_{10}N_2O_2$ M 166.179
Mp 148°.

Amide: [329-89-5]. *6-Aminonicotinamide*
$C_6H_7N_3O$ M 137.141
Used as a 2% aq. soln. for gravimetric detn. of Fe.
Cryst. Mp 200°, Mp 239-240°.
▷ US4550000.

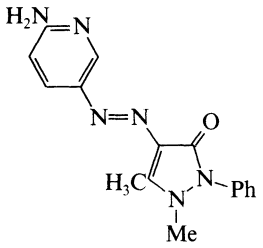
Hydrazide: [42596-56-5].
$C_6H_8N_4O$ M 152.155
Tuberculostatic. Mp 220-221°.
▷ Exp. teratogen.

Nitrile: [4214-73-7]. *6-Amino-3-pyridinecarbonitrile. 2-Amino-5-cyanopyridine*
$C_6H_5N_3$ M 119.126
Cryst. (H_2O, MeOH or C_6H_6). Mp 163-164°. Bp_{15} 240-250°.

Khaletskii, A.M. *et al*, *Zh. Obshch. Khim.*, 1954, **24**, 369; *CA*, **49**, 4643.
Dummel, R.J. *et al*, *J. Org. Chem.*, 1959, **24**, 1007 (*synth*)
Kajihara, S., *Nippon Kagaku Zasshi*, 1965, **86**, 839; *CA*, **65**, 16936 (*synth*)
Bajpaj, K. *et al*, *Fresenius' Z. Anal. Chem.*, 1976, **280**, 381 (*detn, Fe*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ALL250.

4-[(6-Amino-3-pyridinyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI A-00335

[59104-63-1]



$C_{16}H_{16}N_6O$ M 308.342

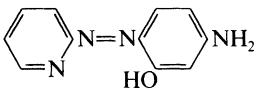
Gives colour reactions with Bi, Co, Cu, Fe, Ga, In, Ni, Pd. Orange-red cryst. Mp 83°. pK_{a1} 1.75; pK_{a2} 5.79; pK_{a3} 8.91.

Smaglyuk, N.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1680 (*use*)

5-Amino-2-(2-pyridinylazo)phenol A-00336

2-(4-Amino-2-hydroxyphenylazo)pyridine. PAPAP

[20716-31-8]



$C_{11}H_{10}N_4O$ M 214.226

N-*Di-Me:* [50783-80-7]. *5-(Dimethylamino)-2-(2-pyridinylazo)phenol, 9CI*

$C_{13}H_{14}N_4O$ M 242.280

Used as 1m*M* EtOH soln. for photometric detn. of Zn (λ_{max} 538 nm, ε 112000), Ni, Co, Cu; as 0.1% soln. in EtOH or H_2O for extraction-photometric detn. of Al, Cd, Fe(*III*), La, Mg, Mn. Dark red needles (EtOH aq.). Sol. EtOH, MeOH, C_6H_6, $CHCl_3$, Me_2CO; spar. sol. H_2O. Mp 174°. pK_{a1} <1; pK_{a2} 3.6; pK_{a3} 16.1 (MeOH aq.).

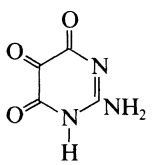
N-*Di-Et: 5-(Diethylamino)-2-(2-pyridinylazo)phenol, 9CI*

$C_{15}H_{18}N_4O$ M 270.333

Used as 0.1% EtOH soln. for extraction-photometric of Tl(*III*) (λ_{max} 500 nm, ε 29000, C_6H_6), U(*VI*) (ε 76000). Dark red cryst. powder. Sol. EtOH, $CHCl_3$, Me_2CO, Et_2O; insol. H_2O. Mp 109°.

Florence, T.M. *et al*, *Anal. Chem.*, 1969, **41**, 1652 (*synth, detn, U*)
Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1148 (*detn, Tl*)
Shibata, S. *et al*, *Anal. Chim. Acta*, 1973, **66**, 397 (*synth, use*)

2-Amino-4,5,6(1*H*)-pyrimidinetrione A-00337



$C_4H_3N_3O_3$ M 141.086

5-Oxime: [52011-72-0]. *Isonitrosomalonylguanidine*

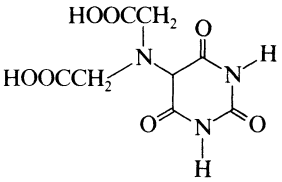
Used as a 0.2% soln. in dil. $HClO_4$ for photometric detn. of Co (λ_{max} 372 nm). Dark violet-blue cryst. (H_2O). Sol. hot H_2O.

Traube, W., *Ber.*, 1893, **26**, 2551 (*synth*)
Jean, M., *Anal. Chim. Acta*, 1952, **6**, 278 (*synth, use*)
Boulin, R. *et al*, *Anal. Chim. Acta*, 1971, **56**, 45 (*detn, Co*)

5-Amino-2,4,6-pyrimidinetrione-N^5,N^5-diacetic acid A-00338

N-(*Carboxymethyl*)-N-(*hexahydro-2,4,6-trioxo-5-pyrimidinyl*)*glycine, 9CI. Uramildiacetic acid*

[13055-06-6]



$C_8H_9N_3O_7$ M 259.175

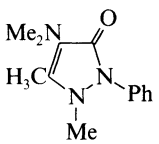
Used as a 0.07% soln. in dil. NaOH for photometric detn. of Be (λ_{max} 266 nm, ε 2100), Co (λ_{max} 266 nm). Cryst. Sol. alkalis.

Presas-Barrosa, M.J. *et al*, *Anal. Chim. Acta*, 1977, **88**, 395 (*detn, Be, Co*)

Aminopyrine A-00339

*4-(Dimethylamino)-1,2-dihydro-1,5-dimethyl-3*H*-pyrazol-3-one, 9CI. 4-(Dimethylamino)antipyrine, 8CI. 4-Dimethylamino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one.* ***Aminophenazone,*** **INN.** *Amidopyrine. Pyramidone. Amidazofen. Numerous proprietary names*

[58-15-1]



$C_{13}H_{17}N_3O$ M 231.297

Antipyretic, analgesic. Reagent for colorimetric anal. of phenols and anilines; used as 10% soln. in 0.1*M* H_2SO_4 for photometric detn. of Cu, Fe, platinum metals. Cryst. (toluene). Sol. H_2O, EtOH, $CHCl_3$, Et_2O, toluene, acids. Mp 107-109°.

▷ LD_{50} 98 mg/kg (rat, i.v.). CD2625000.

B,HCl: Deliquescent prisms. Mp 143-144°.

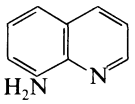
Cyclamate salt: [747-30-8]. *Aminophenazone cyclamate, INN*

Hart, E.R., *J. Pharmacol. Exp. Ther.*, 1947, **89**, 205 (*pharmacol*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, N.Y., 1947, **3**, 112 (*synth, use*)
Pesez, M. *et al*, *Ann. Pharm. Fr.*, 1967, **25**, 577 (*detn, phenols, anilines*)
Kametani, T. *et al*, *Chem. Pharm. Bull.*, 1967, **15**, 1305 (*synth*)
Tubaro, E. *et al*, *Arzneim.-Forsch.*, 1970, **20**, 1024 (*tox*)
Zadeczky, S., *Acta Pharm. Hung.*, 1973, **43**, 33 (*tlc*)
Singh, T.P. *et al*, *Curr. Sci.*, 1975, **44**, 153 (*cryst struct*)
Baidarovsteva, M.A. *et al*, *J. Chromatogr.*, 1975, **104**, 277 (*glc*)
Okada, J. *et al*, *Chem. Pharm. Bull.*, 1976, **24**, 61 (*nmr*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2609.
Carlsson, K.H. *et al*, *Naunyn-Schmiedeberg's Arch. Pharmakol.*, 1987, **335**, 154 (*pharmacol*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 2825.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DOT000.

8-Aminoquinoline A-00340

8-Quinolinamine, 9CI

[578-66-5]



$C_9H_8N_2$ M 144.176

Has tuberculostatic props. Used as a 0.05% soln. in dil. aq. HCl for photometric detn. of Pd; gravimetric detn. of Cu. Yellow cryst. (EtOH or ligroin). Mp 70°, Mp 63-64°, 65°. Bp_{20} 157-162°. Steam-volatile.

B,HCl: Dark-red cryst. Mp 208-209°.

8-N-Ac: [33757-42-5].
$C_{11}H_{10}N_2O$ M 186.213
Cryst. (EtOH). Mp 103°.

8-N-Benzoyl: [33757-48-1].
$C_{16}H_{12}N_2O$ M 248.284
Cryst. (EtOH). Mp 98°.

8-N-Methanesulfonyl: [10374-76-2]. N-*8-Quinolinylmethanesulfonamide, 8CI*
$C_{10}H_{10}N_2O_2S$ M 222.267
Used for extraction-sepn. of Cu(*II*), Co, Zn, Cd, Pb, Hg(*II*). Cryst. (cyclohexane). Sol. PhCl, cyclohexane, toluene. Mp 148-149°.

8-N-Ethanesulfonyl: [86252-96-2]. N-*8-Quinolinylethanesulfonamide, 9CI*
Used for extraction-sepn. of Cu(*II*), Co, Zn, Cd, Pb, Hg(*II*). Cryst. (cyclohexane). Mp 72-73.5°.

8-N-Butanesulfonyl: [86252-95-1]. N-*8-Quinolinyl-1-butanesulfonamide, 9CI*
$C_{13}H_{16}N_2O_2S$ M 264.348
Used as a 0.02*M* soln. in PhCl for extraction-sepn. of Cu(*II*), Co, Zn, Cd, Pb, Hg(*II*). Viscous oil. $Bp_{0.005}$ 170-195°.

8-N-Octanesulfonyl: [65286-40-0].
$C_{17}H_{24}N_2O_2S$ M 320.455
Used as a 0.02*M* soln. in PhCl for extraction-sepn. of Cu(*II*), Co, Zn, Cd, Pb, Hg(*II*). Yellow viscous oil. $Bp_{0.00038}$ 190-205°.

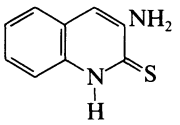
8-N-(4-Methylsulfophenyl): [10304-39-9]. N-(*8-Quinolyl*)-*4-toluenesulfonamide. 4-Methyl*-N-*8-quinolinylbenzenesulfonamide, 9CI*
$C_{16}H_{14}N_2O_2S$ M 298.365
Used as 1m*M* $CHCl_3$ or 0.1*M* soln. in EtOH for photometric detn. of Cu(*II*) (λ_{max} 370 nm, ε 7660); as Me_2CO soln. for pptn. of Ag, Co, Cu, Hg, Pb, Zn; fluorimetric detn. of Cd, Zn. Cryst. (EtOH). Sol. $CHCl_3$, C_6H_6. Mp 153-154°.

Dikshoorn, R.P., *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1929, **48**, 147.
Dewar, M.J.S. *et al*, *J. Chem. Soc.*, 1956, 2556 (*synth*)
Richardson, A. *et al*, *J. Org. Chem.*, 1960, **25**, 1138 (*synth*)
Billman, J.H. *et al*, *Anal. Chem.*, 1962, **34**, 408 (*synth, pptn*)
Gustin, V.K. *et al*, *Anal. Chem.*, 1963, **35**, 44 (*use*)
Haworth, D.T. *et al*, *Microchem. J.*, 1968, **13**, 158 (*N-4-methylsulfophenyl, detn, Cd, Zn*)
Haworth, D.T. *et al*, *Anal. Chem.*, 1969, **41**, 529 (*N-4-methylsulfophenyl, detn, Cu*)
Ide, S. *et al*, *Anal. Chim. Acta*, 1983, **149**, 235 (*sulfonyl derivs, use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AML250.

3-Amino-2(1*H*)-quinolinethione, 9CI A-00341

3-Amino-2-mercaptoquinoline

[71316-38-6]



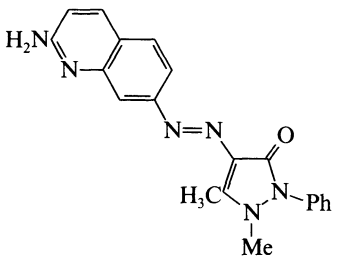
$C_9H_8N_2S$ M 176.242

Used for extraction-fluorimetric detn. of 1-naphthol and carbaryl.

Yoshida, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1979, **28**, 351 (*synth*)
Yoshida, T. *et al*, *Chem. Pharm. Bull.*, 1986, **34**, 3774; 1989, **37**, 1823 (*use*)

4-[(2-Amino-7-quinolinyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI A-00342

[59104-64-2]



$C_{20}H_{18}N_6O$ M 358.402

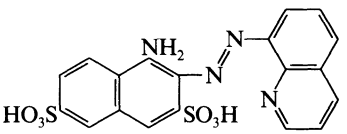
Gives colour reactions with Bi, Co, Cu, Fe, Ga, In, Ni, Pd. Orange-red cryst. Mp 97°. pK_{a1} 1.22; pK_{a2} 3.61; pK_{a3} 6.98.

Smaglyuk, N.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1680 (*use*)

8-Amino-7-(8-quinolinylazo)-3,6-naphthalenedisulfonic acid, 9CI A-00343

4-Amino-3-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid. Aminoquinoline F. Quinolinazo F

[42438-71-1]



$C_{19}H_{14}N_4O_6S_2$ M 458.475

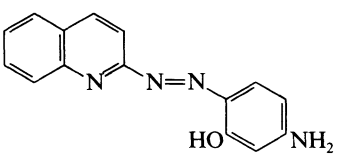
Incorr. named as 1,6-disulfonic acid by CA. Used as aq. soln. for photometric detn. of Pd, Rh, Zn (λ_{max} 584 nm, ε 19000). Brown cryst. powder. Sol. H_2O , EtOH.

Dedkov, Y.M., *Zh. Anal. Khim.*, 1971, **26**, 558 (*synth, use*)
Dedkov, Y.M. *et al*, *CA*, 1973, **79**, 13101q (*detn, Rh*)
Sturre, I.G. *et al*, *Zavod. Lab.*, 1975, **41**, 11 (*detn, Pd*)

5-Amino-2-(2-quinolinylazo)phenol, 9CI A-00344

2-(4-Amino-2-hydroxyphenylazo)quinoline

[81947-68-4]



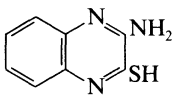
$C_{15}H_{12}N_4O$ M 264.286
Used as 0.14m*M* soln. in EtOH for photometric detn. of V, Ga (λ_{max} 540 nm, ε 64500, pH 2.4-5.4). Yellow cryst. Sol. EtOH.

Turakhanova, N.T. *et al*, *Zh. Anal. Khim.*, 1985, **40**, 2779; 1988, **43**, 1042 (*synth, detn, V, Ga*)

2-Amino-3-quinoxalinethiol A-00345

3-Amino-2(1H)-quinoxalinethione, 9CI

[34972-19-5]



$C_8H_7N_3S$ M 177.229
Used as 0.01*M* soln. in DMF for photometric detn. of Co, Ni, Cu, Pd. Yellow needles (DMF aq.). Spar. sol. H_2O; sol. EtOH, Me_2CO, DMF. Mp 285°. pK_{a1} 2.86; pK_{a2} 8.56 (50% EtOH).

N-*Me:*
$C_9H_9N_3S$ M 191.256
Used as 0.01*M* soln. in DMF for photometric detn. of Co, Ni, Cu, Pd, but less effective than parent compound. Mp 226°. pK_{a1} 3.12; pK_{a2} 9.07.

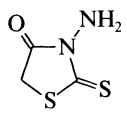
N-*Ph:* Mp 244°. May be used as photometric reagent but not nearly as effective as parent or *N*-Me compds.

Ohira, K. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1974, **23**, 658 (*synth, use*)

3-Aminorhodanine A-00346

3-Amino-2-thioxo-4-thiazolidinone, 9CI

[1438-16-0]

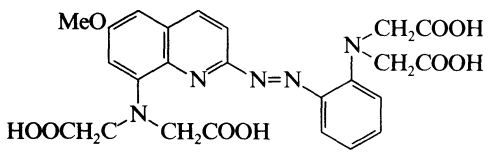


$C_3H_4N_2OS_2$ M 148.209
Used for photometric detn. of Au, Pd, Pt, Ir, Rh. Yellow cryst. (EtOH). Sol. acids, EtOH, Et_2O; spar. sol. H_2O.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*detn, noble metals*)

2-(2-Aminostyryl)-6-methoxy-8-aminoquinoline-*N,N,N',N'*-tetraacetic acid A-00347

N-[2-[2-[8-[Bis(carboxymethyl)amino]-6-methoxy-2-quinolinyl]ethenyl]phenyl]-N-(carboxymethyl)glycine, *9CI. Quene 1*



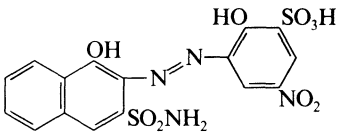
$C_{26}H_{25}N_3O_9$ M 523.498
(*E*)-*form* [86277-62-5]
Fluorescent intracellular pH indicator.

Tetrakis(acetoxymethyl) ester: [86293-31-4].
$C_{38}H_{41}N_3O_{17}$ M 811.752
Used in the pH detn. of intracellular fluid.

Rogers, J. *et al*, *FEBS Lett.*, 1983, **161**, 21 (*use*)
Rogers, J. *et al*, *J. Biol. Chem.*, 1983, **258**, 5994 (*synth, use*)

3-[[3-(Aminosulfonyl)-1-hydroxy-2-naphthalenyl]azo]-2-hydroxy-5-nitrobenzenesulfonic acid, 9CI A-00348

[33683-77-1]

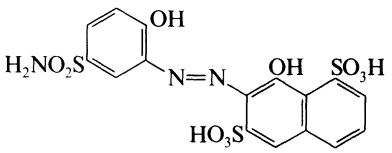


$C_{16}H_{12}N_4O_9S_2$ M 468.424
Used as a 0.6m*M* aq. soln. for photometric detn. of Ga (λ_{max} 560 nm, ε 15300). Orange-red cryst. Sol. H_2O. pK_{a2} 3.89; pK_{a3} 9.0.

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2350 (*detn, Ga*)

7-[[5-(Aminosulfonyl)-2-hydroxyphenyl]azo]-8-hydroxy-1,6-naphthalenedisulfonic acid, 9CI A-00349

[33683-73-7]



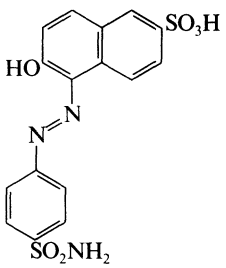
$C_{16}H_{13}N_3O_{10}S_3$ M 503.491
Used for photometric detn. of Al (λ_{max} 550 nm, ε 14000), Ga (λ_{max} 560 nm, ε 18400), In (λ_{max} 570 nm, ε 15200). Cryst. pK_{a1} 6.46.

Tiutiunnikova, P.D. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 508 (*detn, Al, Ga, In*)

5-[[4-(Aminosulfonyl)phenyl]azo]-6-hydroxy-2-naphthalenesulfonic acid, 9CI A-00350

1-[(4-Sulfamidophenyl)azo]-2-hydroxynaphthalene-6-sulfonic acid

[62936-58-7]



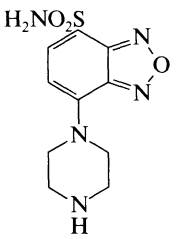
$C_{16}H_{13}N_3O_6S_2$ M 407.427
Used as a 0.1% soln. in 15% EtOH for photometric titrimetric detn. of Pd (λ_{max} 565 nm). Orange-red cryst. Sol. EtOH, Me_2CO.

Khalifa, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **284**, 46 (*detn, Pd*)

4-(Aminosulfonyl)-7-(1-piperazinyl)-2,1,3-benzoxadiazole, 9CI A-00351

7-(1-Piperazinyl)-4-benzofurazansulfonamide, 9CI. APD-PZ

[135406-31-4]



$C_{10}H_{13}N_5O_3S$ M 283.310

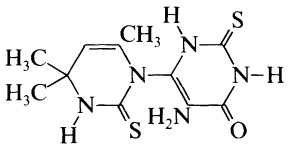
Fluorogenic reagent for carboxylic acids. Orange cryst. Mp 179-180°.

Toyooka, T. *et al*, *Analyst* (*London*), 1991, **116**, 609 (*synth, use*)

5′-Amino-2′,3,3′,4-tetrahydro-4,4,6-trimethyl-2,2′-dithioxo[1(2*H*),4′-bipyrimidin]-6′(1′*H*)-one, 9CI A-00352

1-(6-Amino-5-hydroxy-3-mercaptopyrimidyl)-4,4,6-trimethyl-1H,4H-pyrimidine-2-thiol

[67737-01-3]



$C_{11}H_{15}N_5OS_2$ M 297.404

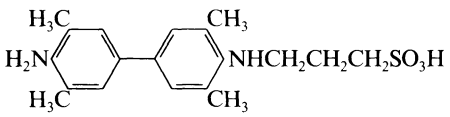
Used as 0.01*M* MeOH soln. for photometric detn. of Os (λ_{max} 520 nm, ε 14600, 50% MeOH, pH 4.5-8). Cryst. Sol. MeOH.

Mathes, R.A., *J. Am. Chem. Soc.*, 1953, **75**, 1747 (*synth*)
Singh, A.K. *et al*, *J. Indian Chem. Soc.*, 1979, **56**, 423 (*detn, Os*)

3-[[4′-Amino-3,3′,5,5′-tetramethyl[1,1-biphenyl]-4-yl]amino]-1-propanesulfonic acid A-00353

4-Amino-4′-sulfopropylamino-3,3′,5,5′-tetramethylbiphenyl

[102062-36-2]



$C_{19}H_{26}N_2O_3S$ M 362.492

Na salt: [102062-46-4].

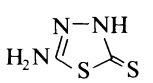
Chromogenic reagent for H_2O_2 or peroxidase. Sol. H_2O.

Ger. Pat., 3 443 415, (1986); *CA*, **104**, 203490y (*use*)

5-Amino-1,3,4-thiadiazoline-2(3*H*)-thione, 9CI A-00354

2-Amino-5-mercapto-1,3,4-thiadiazole

[2349-67-9]



$C_2H_3N_3S_2$ M 133.198

Used for gravimetric detn. of Ag, Bi, Co, Fe(*II*), Ni, Pb, Zn. Cryst. (H_2O). Mp 233-234° dec. pK_{a1} 6.74 (20°).

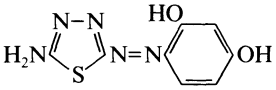
▷ XI4550000.

Petrow, V. *et al*, *J. Chem. Soc.*, 1958, 1508.
Sandstrom, J., *Acta Chem. Scand.*, 1962, **15**, 1295 (*synth*)
Domagalina, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1965, **207**, 411 (*detn, Ag, Co, Ni, Pb, Zn*)
Domagalina, E. *et al*, *Chem. Anal.* (*Warsaw*), 1966, **11**, 1087 (*detn, Bi, Fe*)
Downie, T.C. *et al*, *Acta Crystallogr., Sect. B*, 1972, **28**, 1584 (*cryst struct*)
Oteleanu, D., *Farmacia* (*Bucharest*), 1972, **20**, 525; *CA*, **78**, 111217 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AKM000.

4-[(5-Amino-1,3,4-thiadiazol-2-yl)azo]-1,3-benzenediol, 9CI A-00355

2-Amino-5-(2,4-dihydroxyphenylazo)-1,3,4-thiadiazole

[60592-95-2]



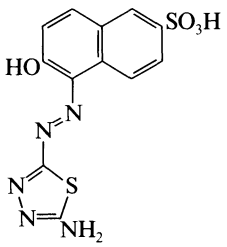
$C_8H_7N_5O_2S$ M 237.242

Used as a 0.1-0.3m*M* soln. in MeOH or acetate or borate buffer to give colour reactions with Co (λ_{max} 510 nm, ε 20200), Cu (λ_{max} 530 nm, ε 16500), Fe (λ_{max} 710 nm, ε10100), Ni (λ_{max} 502 nm, ε 27600). Red-orange needles (MeOH). Sol. EtOH. Mp 282-285°. pK_{a1} 7.34; pK_{a2} 10.87.

Domagalina, E., *Chem. Anal.* (*Warsaw*), 1976, **21**, 105, 411 (*synth, pKa, use*)

5-[(5-Amino-1,3,4-thiadiazol-2-yl)azo]-6-hydroxy-2-naphthalenesulfonic acid, 9CI A-00356

[60592-97-4]



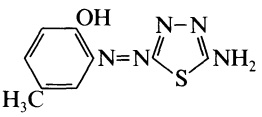
$C_{12}H_9N_5O_4S_2$ M 351.366

Used as a 0.1-0.3m*M* soln. in MeOH or acetate, or borate buffer to give colour reactions with Co (λ_{max} 574 nm, ε 17700), Cu, Fe, Ni (λ_{max} 554 nm, ε 17600). Red amorph. powder. Sol. EtOH. pK_{a1} 8.35.

Domagalina, E., *Chem. Anal.* (*Warsaw*), 1976, **21**, 105, 411 (*synth, pKa, use*)

4-[(5-Amino-1,3,4-thiadiazol-2-yl)azo]-4-methylphenol, 9CI A-00357

2-Amino-5-(2-hydroxy-5-methylphenylazo)-1,3,4-thiadiazole



$C_9H_9N_5OS$ M 235.269

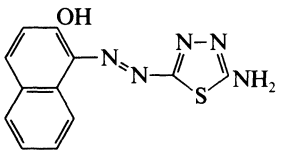
Used as a 0.1-0.3m*M* soln. in MeOH or acetate or borate buffer to give colour reactions with Cu (λ_{max} 620 nm, ε 5150), Co, Fe, Ni. Dark orange prisms (MeOH). Sol. EtOH. Mp 253-254°. pK_{a1} 9.47.

Domagalina, E., *Chem. Anal. (Warsaw)*, 1976, **21**, 105, 411 (*synth, pKa, use*)

1-[(5-Amino-1,3,4-thiadiazol-2-yl)azo]-2-naphthalenol, 9CI A-00358

2-Amino-5-(2-hydroxy-1-naphthylazo)-1,3,4-thiadiazole. Atidan

[36408-59-0]



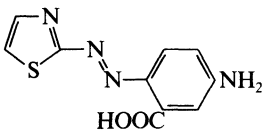
$C_{12}H_9N_5OS$ M 271.302

Used as 2m*M* soln. in MeOH for extraction-photometric detn. of Ni (λ_{max} 570 nm, ε16500). Red needles (MeOH). Sol. MeOH, EtOH, DMF, alkalis; spar. sol. H_2O. Mp 210°.

Domagalina, E. *et al*, *Chem. Anal. (Warsaw)*, Warsaw, 1971, **16**, 883 (*synth, use*)

5-Amino-2-(2-thiazolylazo)benzoic acid A-00359

2-(4-Amino-2-carboxyphenylazo)thiazole



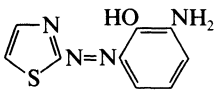
$C_{10}H_8N_4O_2S$ M 248.265

N-*Di-Et: 5-Diethylamino-2-(2-thiazolylazo)benzoic acid*
$C_{14}H_{16}N_4O_2S$ M 304.372
Used a 1m*M* dioxan soln. for photometric detn. of Ni (λ_{max} 615 nm, ε 109000, 40% dioxan, pH 8), Co, Cu(*II*). Cryst. Sol. dioxan, EtOH. Mp 170°. pK_{a1} 1.4; pK_{a2} 5.08 (40% dioxan, μ = 0.1, 25°).

Furukawa, M. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1990, **39**, 589 (*synth, detn, Ni*)

2-Amino-6-(2-thiazolylazo)phenol A-00360

2-(3-Amino-2-hydroxyphenylazo)thiazole



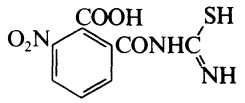
$C_9H_8N_4OS$ M 220.254

N,N-*Di-Et:* [26325-38-2]. *2-(Diethylamino)-6-(2-thiazolylazo)phenol, 9CI. 6-(2-Thiazolylazo)-2-diethylaminophenol*
$C_{13}H_{16}N_4OS$ M 276.362
Used as a 0.1% soln. in propanol for photometric detn. of Ir (λ_{max} 570 nm, ε 48000), Rh (λ_{max} 590 nm, ε 58000). Orange-red cryst. Sol. EtOH, Me_2CO, alkalis.

Goroshko, G.G. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 11 (*detn, Ir, Rh*)

2-[[(Aminothioxomethyl)amino]carbonyl]-6-nitrobenzoic acid, 9CI A-00361

[51031-98-2]



$C_9H_7N_3O_5S$ M 269.237

Used as a 0.5m*M* soln. in $CHCl_3$/pentanol for extraction-photometric detn. of Pd (λ_{max} 306 nm, ε 29000). Yellow-green cryst. (EtOH). Sol. EtOH, AcOH, Me_2CO, DMF; spar. sol. H_2O, C_6H_6; insol. CCl_4, $CHCl_3$. Mp 160°.

Ciba, J. *et al*, *Pol. J. Chem. (Rocz. Chem.)*, 1973, **47**, 1275; *CA*, **80**, 14760y (*synth*)

Gregorowicz, Z. *et al*, *Microchem. J.*, 1978, **23**, 517 (*detn, Pd*)

4-[(Aminothioxomethyl)amino]-4-oxobutanoic acid, 9CI A-00362

α-Oxothiourea-N-butanoic acid. Succinic acid monothioureide

[76265-98-0]

$HOOCCH_2CH_2CONHCSNH_2$

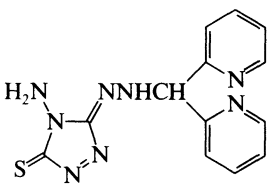
$C_5H_8N_2O_3S$ M 176.196

Used as 1m*M* aq. soln. for photometric detn. of Pd (λ_{max} 295 nm, ε 30000). Yellow cryst. (MeOH). Sol. MeOH, EtOH, H_2O. Mp 227°.

Buhl, F. *et al*, *Chem. Anal. (Warsaw)*, 1980, **25**, 335 (*synth, Pd*)

4-Amino-5-thioxo-1,2,4-triazolidin-3-one di-(2-pyridinylmethylene)hydrazone, 9CI A-00363

[99380-57-1]



$C_{13}H_{12}N_8S$ M 312.357

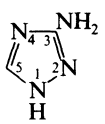
Used as 0.2% soln. in EtOH for photometric detn. of Co (λ_{max} 520 nm, ε 21000, pH ~8), Cu(*II*), Zn, Cd, Pb, Ni. Yellow cryst. (EtOH). Sol. EtOH, Me_2CO; spar. sol. H_2O. Mp 274-277°.

Samara, C. *et al*, *Microchem. J.*, 1986, **33**, 252 (*synth, use*)

3(5)-Amino-1,2,4-triazole A-00364

1H-1,2,4-Triazol-3-amine, 9CI. Amizol. Amitrole

[61-82-5]



$C_2H_4N_4$ M 84.080

Non-selective herbicide. Used for detn. of tryptophan in proteins. Cryst. (H_2O, EtOH or EtOAc). Mp 159°.

▷ Suspected carcinogen. Emits highly toxic fumes when slightly heated. XZ3850000.

B,HCl: Cryst. (EtOH). Mp 153°.

3-N-Ac: [5295-23-8].
$C_4H_6N_4O$ M 126.118
Mp 295-300° dec.

▷ AC9075000.

1H-form

*1-Ph: 3-Amino-1-phenyl-1,2,4-triazole. 1-Phenyl-1*H*-1,2,4-triazol-3-amine*
$C_8H_8N_4$ M 160.178
Cryst. (H_2O). Mp 150°.

1-Ph; B,HCl: Cryst. + $1H_2O$ (HCl aq.). Mp 187°.

*1-Ph, 3-*N*-Ac:* [31709-14-5].
$C_{10}H_{10}N_4O$ M 202.215
Cryst. (EtOH). Mp 168°.

2H-form

*2-Ph: 5-Amino-1-phenyl-1*H*-1,2,4-triazole. 1-Phenyl-1*H*-1,2,4-triazol-5-amine*
$C_8H_8N_4$ M 160.178
Cryst. (H_2O). Mp 157°.

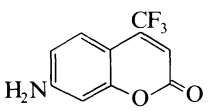
2-Ph, picrate: Yellow cryst. (H_2O). Mp 175°.

Cuneo, G., *Gazz. Chim. Ital.*, 1899, **29**, 16 (*1-Ph*)
Org. Synth., 1946, **26**, 11 (*synth*)
Grundmann, C. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 2839 (*synth*)
Gompper, R. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1963, **2**, 686 (*2-Ph*)
Barlin, G.B., *J. Chem. Soc. B*, 1967, 641 (*tautom*)
De Traglia, M.C. *et al*, *Anal. Biochem.*, 1979, **99**, 464 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 177.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AMY050.

7-Amino-4-(trifluoromethyl)-2*H*-1-benzopyran-2-one, 9CI A-00365

7-Amino-4-(trifluoromethyl)coumarin

[53518-15-3]



$C_{10}H_6F_3NO_2$ M 229.158
Laser dye. Fluorescent marker in proteinase detection. Mp 222°.

N-*Ac:* [78277-38-0].
$C_{12}H_8F_3NO_3$ M 271.195
Solid ($MeOH/Et_2O$). Mp 184°.

N-*Benzoyl:* [78277-39-1].
$C_{17}H_{10}F_3NO_3$ M 333.266
Solid (EtOAc). Mp 229.9°.

N-*Et:* [52840-38-7].
$C_{12}H_{10}F_3NO_2$ M 257.212
Solid (EtOH aq.). Mp 161.7°.

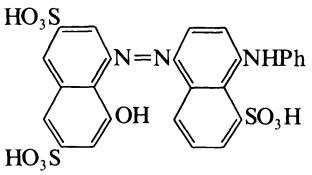
N-*Ph:* [78277-34-6].
$C_{16}H_{10}F_3NO_2$ M 305.256
Solid (EtOH aq.). Mp 161°.

Bissel, E.R. *et al*, *J. Org. Chem.*, 1980, **45**, 2283 (*synth, pmr, ir*)
Smith, R.E. *et al*, *Thromb. Res.*, 1980, **17**, 393; *CA*, **92**, 159413 (*derivs*)
Bissel, E.R. *et al*, *J. Chem. Eng. Data*, 1981, **26**, 348 (*derivs*)

Anazolene A-00366

4-Hydroxy-5-[[4-(phenylamino)-5-sulfo-1-naphthalenyl]azo]-2,7-naphthalenedisulfonic acid, 9CI. C.I. Acid blue 92, 8CI. Coomassie blue. Fast wool blue B. Fast acid blue RH. C.I. 13390

[7488-76-8]



$C_{26}H_{19}N_3O_{10}S_3$ M 629.648
Strictly the C.I. names refer to the trisodium salt.

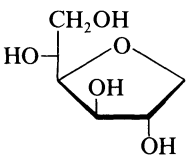
Tri-Na salt: [3861-73-2]. *Anazolene sodium, INN, USAN. Sodium anoxynaphthonate, BAN*
Dye used for detn. of blood volume and cardiac output. Acid-base indicator (pH_5 11.22; colour change: blue→pink). Blue cryst. Sol. H_2O, 2-ethoxyethanol; sl. sol. EtOH. λ_{max} 571 nm (H_2O).
▷ LD_{50} 450mg/kg (i.v., mouse). QJ6300000.

Ger. Pat., 108 546 (*synth*)
Konopik, N. *et al*, *Monatsh. Chem.*, 1948, **79**, 586; 1949, **80**, 420.
Anderson, N.M. *et al*, *J. Lab. Clin. Med.*, 1968, **72**, 705 (*synth, detn*)
Hitzenberger, G., *CA*, 1973, **79**, 123196g (*rev*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2149.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ADE750.

1,4-Anhydroglucitol, 9CI, 8CI A-00367

1,4-Anhydrosorbitol. Arlitan. Sorbitan

[27299-12-3]



$C_6H_{12}O_5$ M 164.158

D-form

Mp 115-116°. $[\alpha]_D^{27}$ −21.9° (c, 2.5 in H_2O).

5,6-O-Isopropylidene, 2-mesyl: [55730-74-0].
Mp 112°.

5,6-O-Isopropylidene, 2,3-dimesyl: [55730-75-1].
Mp 163-163.5°.

Tetra-Me ether:
$C_{10}H_{20}O_5$ M 220.265
Bp_{14} 170-174°. $[\alpha]_D^{22}$ −43° (c, 4.84 in EtOH).

6-Monododecanoyl ester: [1338-39-2]. *Sorbitan monolaurate, BAN, USAN. Sorbitan laurate, INN. Sorbester P12. Span 20*
$C_{18}H_{34}O_6$ M 346.463
Nonionic surface active agent. Used as a 0.1% soln. in toluene for extraction-photometric detn. of $SO_4^{2\ominus}$ (λ_{max} 600 nm, ε 15000, toluene).
▷ WG2920000.

6-Mono(9-octadecenoyl) ester: [1338-43-8]. *Sorbitan monooleate, BAN, USAN. Sorbitan oleate, INN. Sorbester P17. Span 80. NSC 406239*
$C_{24}H_{44}O_6$ M 428.608
Nonionic surface active agent.
▷ WG2932400.

6-Monohexadecanoyl ester: [26266-57-9]. *Sorbitan monopalmitate, BAN, USAN. Sorbitan palmitate, INN. Sorbester P16. Span 40*
$C_{22}H_{42}O_6$ M 402.570
Nonionic surface active agent.

6-Monooctadecanoyl ester: [1338-41-6]. *Sorbitan monostearate, BAN, USAN. Sorbitan stearate, INN. Sorbester P18. Span 60*
$C_{24}H_{46}O_6$ M 430.624
Nonionic surface active agent.
▷ WG2933500.

3,5,6-Tri(9-octadecenoyl) ester: [5960-06-5]. *Sorbitan trioleate, BAN, USAN. Sorbester P37. Span 85*
$C_{60}H_{108}O_8$ M 957.508
Nonionic surface active agent.

3,5,6-Trioctadecanoyl ester: [26658-19-5]. *Sorbitan tristearate, BAN, USAN. Sorbester P38. Span 65*
Nonionic surface active agent.

[26266-58-0]

Soltzberg, S. *et al, J. Am. Chem. Soc.*, 1946, **68**, 919.
Que, L.Jr. *et al, Biochemistry*, 1974, **13**, 146 (*cmr*)
Hanessian, S. *et al, Tetrahedron Lett.*, 1974, 3983.
Sato, S. *et al, Anal. Lett.*, 1981, **14**, 531 (*use*)
Sato, S. *et al, Anal. Chim. Acta*, 1982, **142**, 319 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SKV000, SKV100, SKV150.

Aniline, 8CI A-00368

Benzenamine, 9CI. Aminobenzene. Phenylamine

[62-53-3]

$PhNH_2$

C_6H_7N M 93.128
Manuf. mainly by cat. redn. of nitrobenzene. Used in manuf. of rubber chemicals, agricultural chemicals and dyestuffs and in prodn. of MDI group isocyanates used in polyurethanes. US prodn. ~ 200,000 tons/yr. Used for extraction of anionic compexes of Nb, V, Ta with polyphenols. Liq. which darkens on exp. to light. Mod. sol. H_2O (3.5% at 25°). d_{15}^{15} 1.0268. Mp −6°. Bp 184°, Bp_9 71°. pK_a 9.40. n_D^{20} 1.5855. Steam-volatile.
▷ Highly toxic by inhalation and skin absorption, TLV(skin) 10. Vigorously oxid. by some oxidants. Flash point 76° (closed cup). BW6650000.

B,HCl: [142-04-1]. *Aniline salt*
Important dyestuffs intermed. Cryst. Mp 198°. Bp 245°.
▷ Toxic, skin irritant. CY0875000.

N-*Ac:* [103-84-4]. *Acetanilide. N-Phenylacetamide. Antifebrin*
C_8H_9NO M 135.165
Formerly in use as an antipyretic. Used as 0.2*M* soln. in C_6H_6 for extraction-photometric detn. of Au(*III*) (λ_{max} 400 nm, ε 4300; bromide-5*M* HCl medium). Reference material used in elemental microanalysis. Cryst. (H_2O). Sol. C_6H_6, toluene, $CHCl_3$, 4-methyl-2-pentanone, EtOAc. Mp 115-116°.
▷ AD7350000.

N-*Di-Ac:* [1563-87-7]. N-*Acetyl*-N-*phenylacetamide, 9CI. Diacetanilide*
$C_{10}H_{11}NO_2$ M 177.202
Cryst. (pet. ether). Mp 34-36°. Bp_{11} 142°.

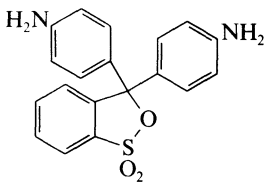
N-*Di-Me:* see N,N-*Dimethylaniline, D-00831*
N-*Di-Et:* see N,N-*Diethylaniline, D-00337*
N-*Ph:* see *Diphenylamine, D-01000*

Kirk-Othmer Encycl. Chem. Technol., **2**, 309 (*rev, props*)
Org. Synth., Coll. Vol., 1, 1932, 80, 82 (*derivs*)
Shriner, R.L. *et al, Chem. Rev.*, 1944, **35**, 351 (*synth, N-Ac*)
Org. Synth., Coll. Vol., 3, 1955, 10 (*derivs*)
Miyajima, G. *et al, Chem. Pharm. Bull.*, 1971, **19**, 2301 (*nmr*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Ali-Zade, I.D. *et al, Zh. Anal. Khim.*, 1974, **29**, 739 (*use*)
Wasylishen, R. *et al, Can. J. Chem.*, 1976, **54**, 833 (*nmr*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 21.
Vogel, A.I., *Practical Organic Chemistry*, 4th Ed., Longmans, 1978, 659 (*synth*)
Wasserman, H.J. *et al, Acta Crystallogr., Sect. C*, 1985, **41**, 783 (*cryst struct, N-Ac*)
Patel, K.S. *et al, Anal. Chem.*, 1986, **58**, 1547 (*use, N-Ac*)
Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1493 (*cmr*)
Penner, G.H. *et al, Can. J. Chem.*, 1989, **67**, 525 (*cmr, N-Ac*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 572, 586.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 182, 276.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AAQ500, AOQ000, BBL000, FNJ000, NJI700.

Anilinesulfonephthalein A-00369

*3,3-Bis(4-aminophenyl)-3*H*-2,1-benzoxathiole* S,S-*dioxide*

[4538-11-8]



$C_{19}H_{16}N_2O_3S$ M 352.413
Acid-base indicator. Cryst. with green-red lustre.

N,N′-*Di-Me:* N-*Methylanilinesulfonephthalein*
$C_{21}H_{20}N_2O_3S$ M 380.467
Used as a soln. in EtOH as acid-base indicator (pH range: 0.91-1.92; colour change: yellow → blue; pH range: 11.75-13.06; colour change: blue → yellow). Leaflets or prisms with green or bronze lustre. Sol. EtOH; insol. H_2O. pK_{a1} 1.36; pK_{a2} 12.94 (20°, KCl).

N,N′-*Di-Et:* N-*Ethylanilinesulfonephthalein*
$C_{23}H_{24}N_2O_3S$ M 408.520
Acid-base indicator (pH range: 0.91-1.52; colour change: yellow → blue; pH range: 11.75-13.06; colour change: blue → yellow). Used as EtOH soln. Leaflets or short columns or prisms with green or brown lustre. Sol. EtOH; insol. H_2O. pK_{a1} 1.73; pK_{a2} 13.20.

N,N′-*Bis(2-hydroxyethyl):* N-(*Hydroxyethyl*) *anilinesulfonephthalein*
$C_{23}H_{24}N_2O_5S$ M 440.519
Used as an EtOH soln. as an acid base indicator (pH range: 0.37-0.98; colour change: yellow → blue; pH range: 11.75-12.71; colour change: blue → yellow). Leaflets or short columns or prisms with green or bronze lustre. Sol. EtOH; insol. H_2O. pK_{a1} 0.51; pK_{a2} 12.49.

N,N′-*Dipropyl:* N-*Propylanilinesulfonephthalein*
$C_{25}H_{28}N_2O_3S$ M 436.574
Used as a soln. in EtOH as acid base indicator (pH range: 0.82-1.80; colour change: yellow → blue; pH range: 12.58-13.10; colour change: blue → yellow). Leaflets or short columns or prisms with green or bronze lustre. Sol. EtOH; insol. H_2O. pK_{a1} 1.57; pK_{a2} 13.11.

N,N′-*Dibenzyl:* N-*Benzylanilinesulfonephthalein*

$C_{33}H_{28}N_2O_3S$ M 532.662
Used as acid-base indicator (pH range: 0.3-1; colour change: yellow → blue; pH range: 12.1-12.8; colour change: blue → yellow). Leaflets with green lustre. Sol. EtOH, Me_2CO, C_6H_6; insol. H_2O. pK_{a1} 0.30; pK_{a2} 12.7.

N,N′-*Bis(2-methylphenyl)*: N-(o-*Methylphenyl*) *anilinesulfonephthalein*
$C_{33}H_{28}N_2O_3S$ M 532.662
Used as a soln. in EtOH as acid-base indicator (pH range: 9.84-11.3; colour change: blue → yellow). Leaflets or prisms with green or bronze lustre. Sol. EtOH; insol. H_2O. pK_{a2} 10.60 (20°, KCl).

N,N′-*Bis(2,4-dimethylphenyl)*: N-(o,p-*Dimethylphenyl*) *anilinesulfonephthalein*
$C_{35}H_{32}N_2O_3S$ M 560.715
Acid-base indicator (pH range: 9.84-11.3; colour change: yellow → blue, blue → yellow) used as EtOH soln. Leaflets with green lustre. Sol. EtOH; insol. H_2O. pK_{a1} 10.73.

N,N′-*Bis(2,4,5-trimethylphenyl)*: N-(*2,4,5-Trimethylphenyl*) *anilinesulfonephthalein*
$C_{37}H_{36}N_2O_3S$ M 588.769
Used as a soln. in EtOH as acid-base indicator (pH range: 9.84-11.30; colour change: blue → yellow). Leaflets, short columns or prisms with green or bronze lustre. Sol. EtOH; insol. H_2O. pK_{a2} 10.89.

N,N′-*Bis(4-aminophenyl)*: N-(p-*Aminophenyl*) *anilinesulfonephthalein*
$C_{31}H_{26}N_4O_3S$ M 534.637
Used as acid-base indicator (pH range: 9.8-11.3; colour change: violet → yellow). Leaflets or prisms with green or bronze lustre. Sol. EtOH, Me_2CO, C_6H_6, acids; insol. H_2O.

N,N′-*Bis(3-hydroxyphenyl)*: N-(*3-Hydroxyphenyl*) *anilinesulfonephthalein*
$C_{31}H_{24}N_2O_5S$ M 536.607
Used as a soln. in EtOH as acid base indicator (pH range: 9.87-11.30; colour change: blue → yellow). Leaflets or short columns or prisms with green or bronze lustre. Sol. EtOH; insol. H_2O. pK_{a2} 10.76.

N,N′-*Bis(4-ethoxyphenyl)*: N-(p-*Ethoxyphenyl*) *anilinesulfonephthalein*
$C_{35}H_{32}N_2O_5S$ M 592.714
Used as a soln. in EtOH as acid-base indicator (pH range: 10.5-11.3; colour change: yellow → blue). Leaflets or short columns or prisms with green or bronze lustre. Sol. EtOH; insol. H_2O. pK_a 11.48.

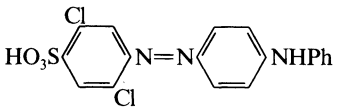
N,N′-*Bis(2-bromophenyl)*: N-(o-*Bromophenyl*) *anilinesulfonephthalein*
$C_{31}H_{22}Br_2N_2O_3S$ M 662.400
Acid-base indicator (pH range: 8.1-8.9; colour change: violet → yellow), used as a soln. in EtOH. Leaflets with green or bronze lustre. Sol. EtOH, Me_2CO, C_6H_6; insol. H_2O. pK_a 8.9.

Schwarzenbach, G. *et al*, *Helv. Chim. Acta*, 1937, **20**, 498, 627, 654 (*synth, use, pKa*)
Mohler, H. *et al*, *Helv. Chim. Acta*, 1937, **20**, 653 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 120.

4′-Anilino-2,5-dichloroazobenzene-4-sulfonic acid A-00370

2,5-Dichloro-4-[[4-(phenylamino)phenyl]azo]benzenesulfonic acid, 9CI. 4-(4-Anilinophenyl)azo-2,5-dichlorobenzenesulfonic acid

[99776-84-8]

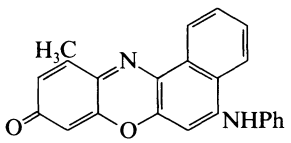


$C_{18}H_{13}Cl_2N_3O_3S$ M 422.290
Used as a 0.5m*M* aq. soln. for extraction-photometric detn. of K (λ_{max} 420 nm, C_6H_6). Orange-red cryst. Sol. alkalis; spar. sol. H_2O.

Iwachido, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1985, **34**, 579 (*detn, K*)
Iwachido, T. *et al*, *Anal. Sci.*, 1986, **2**, 493 (*detn, K*)
Motomizu, S. *et al*, *Analyst* (*London*), 1988, **113**, 743 (*detn, K*)

5-Anilino-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, 8CI A-00371

[17800-01-0]



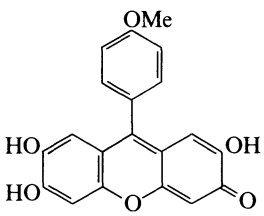
$C_{23}H_{16}N_2O_2$ M 352.392
Used as a satd. EtOH soln. as an acid-base indicator. Brown-violet cryst. Sol. C_6H_6, Et_2O; sl. sol. EtOH. Mp >360°. pK_{a1} 3.62 (EtOH, μ = 0.07).

Ruzička, E. *et al*, *Mikrochim. Acta*, 1968, 1299 (*use, ind*)
Ruzička, E. *et al*, *Monatsh. Chem.*, 1968, **99**, 838 (*synth*)

Anisylfluorone A-00372

*9-(4-Methoxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, 9CI*

[37569-53-2]

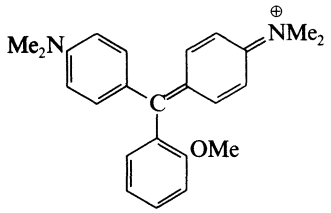


$C_{20}H_{14}O_6$ M 350.327
Used as a 0.05% soln. in EtOH for photometric detn. of B, Ge, Sn, Sb. Red cryst. powder. Insol. H_2O; sol. EtOH, alkalis.

Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1955, **10**, 289 (*use*)
Nazarenko, V.A. *et al*, *Trihydroxyfluorones*, Nauka, Moskva, 1973 (*use*)

o-Anize green A-00373

N-[*4*-[[*4*-(*Dimethylamino*)*phenyl*](*2-methoxyphenyl*) *methylene*]-*2,5-cyclohexadien-1-ylidene*]-N-*methylmethanaminium*(*1+*), *9CI*



$C_{24}H_{27}N_2O^{\oplus}$ M 359.490 (ion)

Strictly, the name *o*-Anize green applies to the chloride.

Chloride: [13393-34-5].

$C_{24}H_{27}ClN_2O$ M 394.943

Used as a 1m*M* aq. soln. for extraction-photometric detn. of Tl (on forming ion-pair with $TlBr_4^{\ominus}$). Green cryst. (aq. HCl). Sol. H_2O; insol. EtOH, CCl_4.

Constantinescu, C. *et al*, *Rev. Roum. Chim.*, 1976, **21**, 391 (*detn, Tl*)

p-Anize green A-00374

N-[*4*-[[*4*-(*Dimethylamino*)*phenyl*](*4-methoxyphenyl*) *methylene*]-*2,5-cyclohexadien-1-ylidene*]-N-*methylmethanaminium*(*1+*), *9CI*

$C_{24}H_{27}N_2O^{\oplus}$ M 359.490 (ion)

Strictly the name *p*-Anize green applies to the chloride.

Chloride: [4612-24-2].

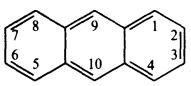
$C_{24}H_{27}ClN_2O$ M 394.943

Used as a 1m*M* aq. soln. for extraction-photometric detn. of Tl (on forming an ion-pair with $TlBr_4^{\ominus}$). Green cryst. (aq. HCl). Insol. C_6H_6, CCl_4; sol. H_2O.

Constantinescu, C. *et al*, *Rev. Roum. Chim.*, 1976, **21**, 391 (*detn, Tl*)

Anthracene A-00375

[120-12-7]



$C_{14}H_{10}$ M 178.233

Found in coal tar. Dyestuff intermed. Reference material used in elemental microanalysis. Monoclinic plates (EtOH), colourless with violet fluor. when pure. d_4^{25} 1.283. Mp 216.1°. Bp 339.9°. Strongly triboluminescent.

▷ Weak carcinogen, allergen, mild irritant. CA9350000.

Trinitrotoluene complex: Mp 162°.

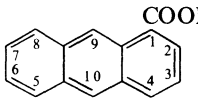
Picrate: Mp 138°.

Dumas, *et al*, *Justus Liebigs Ann. Chem.*, 1833, **5**, 10 (*isol*)
Clar, E., *Ber.*, 1932, **65**, 506; 1939, **72**, 1645 (*uv, purifn*)
Analyst (*London*), 1972, **97**, 740 (*microanal*)
Agranat, T. *et al*, *Synthesis*, 1974, 865 (*synth*)
Fleming, I. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1975, 964 (*synth*)
Hansen, P.E. *et al*, *Org. Magn. Reson.*, 1979, **12**, 50 (*cmr*)
Brock, C.P. *et al*, *Acta Crystallogr., Sect. B*, 1990, 795 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, APG500.

1-Anthracenecarboxylic acid, 9CI A-00376

Anthracene-α-carboxylic acid. α-Anthroic acid

[607-42-1]



$C_{15}H_{10}O_2$ M 222.243

Yellow needles (AcOH), yellow prisms (EtOAc or EtOH). Mod. sol. hot EtOH; insol. H_2O. Mp 251-252°. Subl.

Me ester: [25308-58-1].

$C_{16}H_{12}O_2$ M 236.270

Yellow plates (AcOH). Mp 108°.

Amide:

$C_{15}H_{11}NO$ M 221.258

Leaflets or needles (EtOH). Mp 260°.

▷ Exp. carcinogen.

Hydrazide: [92437-15-5].

$C_{15}H_{12}N_2O$ M 236.273

Fluorescence derivatisation reagent for carbonyl compds. Yellow needles (EtOH). Mp 250-253° dec.

Liebermann, C. *et al*, *Ber.*, 1904, **37**, 648 (*synth*)
Coulson, E.A., *J. Chem. Soc.*, 1930, 1931 (*synth*)
Dokunikhin, N.S. *et al*, *Zh. Obshch. Khim.*, 1964, **34**, 2374; *CA*, **61**, 9447c (*hydrazide, synth*)
Goto, J. *et al*, *Anal. Sci.*, 1989, **5**, 399 (*hydrazide, synth, use*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 382.

2-Anthracenecarboxylic acid, 9CI A-00377

Anthracene-β-carboxylic acid. β-Anthroic acid

[613-08-1]

$C_{15}H_{10}O_2$ M 222.243

Yellow leaflets (EtOH). Mod. sol. hot EtOH. Mp 281°.

Me ester: [25308-60-5].

$C_{16}H_{12}O_2$ M 236.270

Mp 128°.

Amide:

$C_{15}H_{11}NO$ M 221.258

Yellow plates (AcOH). Mp 293-295°.

▷ Exp. carcinogen.

Hydrazide: [2143-79-5].

$C_{15}H_{12}N_2O$ M 236.273

Fluorescence derivatisation reagent for carbonyl compds. Yellow needles (EtOH). Mp 241-244°.

Barnett, E. de B. *et al*, *Ber.*, 1924, **57**, 1775 (*synth*)
Ferrari, J.L. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 1247 (*hydrazide, synth*)
Goto, J. *et al*, *Anal. Sci.*, 1989, **5**, 399 (*hydrazide, synth, use*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 382.

9-Anthracenecarboxylic acid, 9CI A-00378

ms-*Anthracenecarboxylic acid.* ms-*Anthroic acid. Anthroic acid*

[723-62-6]

$C_{15}H_{10}O_2$ M 222.243

Pale-yellow needles (EtOH). Mp 207° dec.

▷ CB8764000.

Me ester: [1504-39-8].

$C_{16}H_{12}O_2$ M 236.270

Yellow prisms. Mp 111°.

Amide: [34810-13-4].

$C_{15}H_{11}NO$ M 221.258

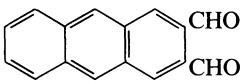
Cryst. (C_6H_6). Mp 219-219.5°.

Chloride: [16331-52-5]. *9-Anthracenecarbonyl chloride, 9CI. 9-Anthroyl chloride, 8CI*
Hplc derivatising agent for hydroxy compds. Dull yellow solid. Mp 93.5-94.5°.

Karrer, P. *et al, Helv. Chim. Acta*, 1919, **2**, 482 (*synth*)
Dufraisse, C. *et al, C. R. Hebd. Seances Acad. Sci.*, 1945, **221**, 625.
Goeckner, N.A. *et al, J. Org. Chem.*, 1973, **38**, 481 (*chloride, synth*)
Bayliss, M.A.J. *et al, J. Chromatogr.*, 1988, **445**, 393, 403 (*chloride, use*)

2,3-Anthracenedicarboxaldehyde A-00379

2,3-Diformylanthracene
[76197-35-8]

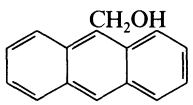


$C_{16}H_{10}O_2$ M 234.254
Precolumn labelling reagent for the peroxyoxalate chemiluminescence detn. of primary amines. Orange cryst. (C_6H_6). Mp 217°.

Mallouli, A. *et al, Synthesis*, 1980, 689 (*synth, uv*)
Kwakman, P.J.M. *et al, J. Chromatogr.*, 1990, **511**, 155 (*use*)

9-Anthracenemethanol, 9CI A-00380

9-(Hydroxymethyl)anthracene. 9-Anthrylcarbinol
[1468-95-7]



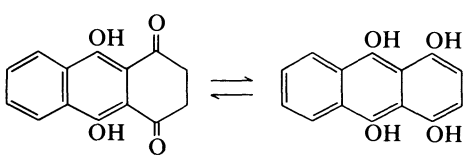
$C_{15}H_{12}O$ M 208.259
Reagent for fluorimetric detn. of carboxylic acids. Bright yellow needles (C_6H_6 or EtOH). Mp 162-164° (151-152°).

Ac: [16430-32-3].
$C_{17}H_{14}O_2$ M 250.296
Yellow needles (EtOH). Mp 111-112°.

Alder, K. *et al, Chem. Ber.*, 1953, **86**, 1312 (*synth*)
Métayer, M., *Bull. Soc. Chim. Fr.*, 1954, 614 (*synth*)
Hunter, W.T. *et al, J. Org. Chem.*, 1956, **21**, 1512 (*synth*)
Nakaya, Y. *et al, Bull. Chem. Soc. Jpn.*, 1967, **40**, 691 (*synth*)
Kornblum, N. *et al, J. Am. Chem. Soc.*, 1974, **96**, 590 (*use*)
Lingeman, H. *et al, J. Chromatogr.*, 1984, **290**, 215 (*use*)
Baty, J.D. *et al, J. Chromatogr.*, 1987, **395**, 403 (*use*)
van den Beld, C.M.B. *et al, Anal. Chim. Acta*, 1988, **205**, 15 (*use*)
Sweeting, L.M., *J. Phys. Chem.*, 1988, **92**, 5648 (*cryst struct*)

1,4,9,10-Anthracenetetrol A-00381

Leucoquinizarin, 8CI. 1,4,9,10-Tetrahydroxyanthracene
[476-60-8]



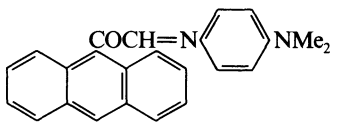
$C_{14}H_{10}O_4$ M 242.231
Used as 0.05% soln. in EtOH for photometric and fluorimetric detn. of Mg (λ_{max} 562 nm, ε 8100, pH 9.5), Be (λ_{max} 438 nm, ε 12000, pH 5.4). Cryst. in 2 forms, one yellow. Sol. EtOH. Mp 155°, Mp 131-136°.

9,10-Di-Ac:
$C_{18}H_{14}O_6$ M 326.305
Cryst. Mp 214-215°.

Zahn, K. *et al, Justus Liebigs Ann. Chem.*, 1928, **462**, 72 (*synth*)
Flett, M.S.C., *J. Chem. Soc.*, 1948, 1441 (*ir*)
Burstall, M.L., *J. Chem. Soc., Chem. Commun.*, 1965, 15.
Sterk, H., *Monatsh. Chem.*, 1969, **100**, 916 (*struct*)
Metwally, S.A. *et al, Indian J. Chem., Sect. B*, 1977, **15**, 165 (*ms*)
Allen, N.S. *et al, Chem. Ind. (London)*, 1979, 593 (*synth*)
Bello Lopez, M.A. *et al, Analyst (London)*, 1986, **111**, 429, 1293 (*detn, Mg, Be*)

1-(9-Anthracenyl)-2-[[4-(dimethylamino) phenyl]imino]ethanone, 9CI A-00382

[57400-09-6]

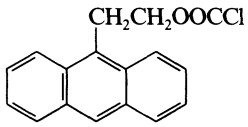


$C_{24}H_{20}N_2O$ M 352.435
Used as 0.01*M* soln. in Me_2CO for gravimetric detn. of Pd, Pt. Cryst.

Upadhyay, R.K. *et al, J. Indian Chem. Soc.*, 1974, **51**, 528 (*detn, Pd, Pt*)

2-(9-Anthracenyl)ethyl carbonochloridate, 9CI A-00383

2-(9-Anthryl)ethyl chloroformate. AEOC
[129948-83-0]

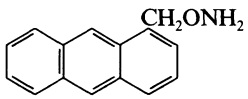


$C_{17}H_{13}ClO_2$ M 284.741
Derivatisation reagent for polyamines in hplc. Cryst. (pentane). Mp 86-87°.

Faulkner, A.J. *et al, Anal. Chem.*, 1991, **63**, 292 (*use*)

O-(1-Anthracenylmethyl)hydroxylamine A-00384

[125942-38-3]



$C_{15}H_{13}NO$ M 223.274
Fluorescence labelling reagent for hplc of carbonyl compds.

B,HCl: [125942-43-0].
Pale yellow cryst. (EtOH/Et_2O). Mp 159-162° dec.

Goto, J. *et al, Anal. Sci.*, 1989, **5**, 399 (*synth, use*)

O-(2-Anthracenylmethyl)hydroxylamine A-00385

[125942-39-4]

$C_{15}H_{13}NO$ M 223.274
Fluorescence labelling reagent for hplc of carbonyl compds.

B,HCl: Yellow cryst. (EtOH/Et_2O). Mp 213-218° dec.

Goto, J. *et al, Anal. Sci.*, 1989, **5**, 399 (*synth, use*)

O-(9-Anthracenylmethyl)hydroxylamine A-00386

[125942-40-7]

$C_{15}H_{13}NO$ M 223.274
Fluorescence labelling reagent for hplc of carbonyl compds.

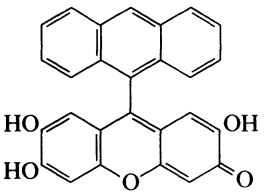
B,HCl: [125942-41-8].
Yellow cryst. (EtOH/Et_2O). Mp 180-182° dec.

Goto, J. *et al*, *Anal. Sci.*, 1989, **5**, 399 (*synth, use*)

Anthrafluorone A-00387

*9-(9-Anthracenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, 9CI*

[7194-31-2]



$C_{27}H_{16}O_5$ M 420.420

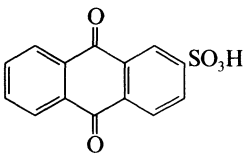
Used as a 0.05% soln. in EtOH for photometric detn. of Al, Te, W (λ_{max} 568 nm, ε 35200). Dark red cryst. powder. Spar. sol. H_2O; sol. EtOH, alkalis.

Poluetkova, V.A. *et al*, *Zh. Anal. Khim.*, 1964, **19**, 856 (*detn, W*)
Biryuk, E.A. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 459 (*use*)
Nazarenko, V.A. *et al*, *Trihydroxyfluorones*, Nauka, Moskva, 1973.
Shitareva, G.G. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1850 (*detn, Te*)

Anthraquinone-2-sulfonic acid A-00388

9,10-Dihydro-9,10-dioxo-2-anthracenesulfonic acid. β-Sulfoanthraquinone

[84-48-0]



$C_{14}H_8O_5S$ M 288.280

Used as 0.005% aq. soln. for photometric detn. of O_2. Electron acceptor in biological redox systems. Leaflets + $3H_2O$ (H_2O by addn. of HCl). Sol. H_2O, EtOH; insol. Et_2O.

Na salt: [131-08-8].
Cryst. + $1H_2O$. Spar. sol. H_2O. Known commercially as "silver salt".
▷ CB1095550.

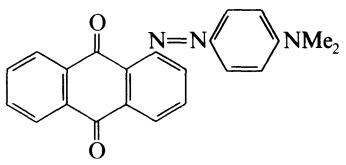
Me ester:
$C_{15}H_{10}O_5S$ M 302.307
Cryst. by subl. Mp 163.6-164.2°.

Amide:
$C_{14}H_9NO_4S$ M 287.295
Yellow cryst. (AcOH). Mp 261°.

Fierz-David, H.E., *Helv. Chim. Acta*, 1927, **10**, 216 (*synth*)
Lauer, K., *J. Prakt. Chem.*, 1931, **130**, 185 (*synth*)
Stafford, C. *et al*, *Anal. Chem.*, 1955, **27**, 2012.
Karasek, F.W. *et al*, *Anal. Chem.*, 1956, **28**, 233.
Silverman, L. *et al*, *Anal. Chim. Acta*, 1956, **14**, 514.
Kolesnik, Yu.A. *et al*, *CA*, 1967, **66**, 37202; **67**, 99896 (*uv, ir, isol*)
Kano, K. *et al*, *CA*, 1974, **81**, 90793 (*uv, esr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SER000.

Anthrazo A-00389

1-[[4-(Dimethylamino)phenyl]azo]-9,10-anthracenedione



$C_{22}H_{17}N_3O_2$ M 355.395

Strictly, the name Anthrazo applies to the hydrochloride.

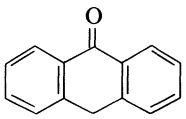
B,HCl: [4575-56-8].
Used as 1m*M* soln. for extraction-photometric detn. of Tl (λ_{max} 570 nm, ε 60000). Yellow cryst. Sol. H_2O.

Kish, P.P. *et al*, *Khim. Khim. Tekhnol. (Minsk)*, 1969, **12**, 1031; *CA*, **72**, 38483j (*detn, Tl*)

Anthrone, 8CI A-00390

9(10H)-Anthracenone, 9CI. 9,10-Dihydro-9-oxoanthracene. Carbothrone

[90-44-8]

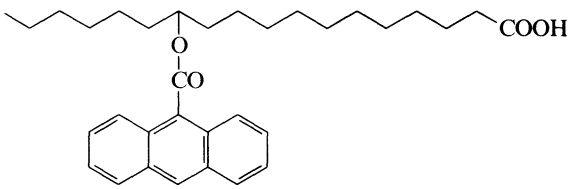


$C_{14}H_{10}O$ M 194.232

Used for colorimetric detn. of carbohydrates. Cryst. (C_6H_6/pet. ether). Mp 155°.

Org. Synth., Coll. Vol., 1, 1932, 52 (*synth*)
Jones, N., *J. Am. Chem. Soc.*, 1945, **67**, 2127 (*uv*)
Scott, T.A. *et al*, *Anal. Chem.*, 1953, **25**, 1956 (*use*)
Dische, Z., *Methods Carbohydr. Chem.*, Academic Press, 1962, **1**, 488.
Aldrich Atlas of IR Spectra, 2nd Ed., 1975, 659 (*ir*)
Jermyn, M.A., *Anal. Biochem.*, 1975, **68**, 332 (*use*)
Castelas, J. *et al*, *Phytochemistry*, 1977, **16**, 735 (*cmr*)
Almdal, K. *et al*, *Acta Chem. Scand., Ser. B*, 1986, **40**, 230 (*tautom*)

12-(9-Anthroyloxy)stearic acid A-00391



$C_{33}H_{44}O_4$ M 504.708

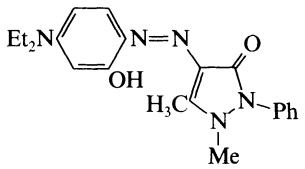
(±)-***form*** [30536-60-8]
Fluorescent probe used in cell membrane studies. Cryst. Mp 78-79°.

Waggoner, A. *et al*, *Proc. Natl. Acad. Sci. U.S.A.*, 1970, **67**, 579 (*synth*)
Podo, F. *et al*, *Proc. Natl. Acad. Sci. U.S.A.*, 1977, **74**, 1032 (*use*)

2-(4-Antipyrylazo)-5-diethylaminophenol A-00392

4-[[4-(Diethylamino)-2-hydroxyphenyl]azo]antipyrine, 9CI. 4-[[4-(Diethylamino)-2-hydroxyphenyl]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3H-pyrazol-3-one, 9CI

[10527-56-7]



$C_{21}H_{25}N_5O_2$ M 379.461

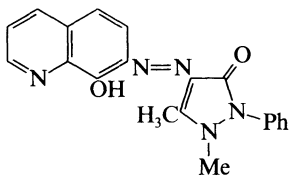
Used for photometric detn. of Hg, In. Red-brown cryst. Sol. MeOH, EtOH, Me_2CO, $CHCl_3$; spar. sol. H_2O, Et_2O. Mp 195°. pK_{a2} 13.

Gusev, S.I. *et al, Zh. Neorg. Khim.*, 1966, **11**, 1271 (*detn, In*)
Kolosova, I.V., *Khim. Khim. Tekhnol. (Minsk)*, 1969, **12**, 1329 (*detn, Hg*)

7-(4-Antipyrylazo)-8-hydroxyquinoline A-00393

1,2-Dihydro-4-[(8-hydroxy-7-quinolyl)azo]-1,5-dimethyl-2-phenyl-3H-pyrazol-3-one, 9CI

[54723-32-9]



$C_{20}H_{17}N_5O_2$ M 359.387

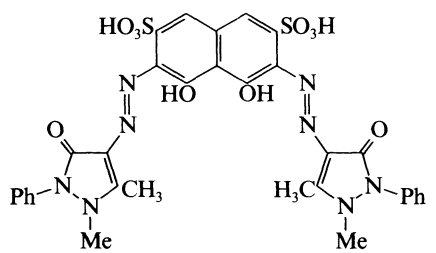
Used for photometric detn. of Au, Co (λ_{max} 490 nm, ε 19200), Cu (λ_{max} 505 nm, ε 24000), Ni (λ_{max} 485 nm, ε 19800); used as 1.3m*M* EtOH soln. for kinetic detn. of Ag (oxidn. of the azo-reagent with $S_2O_8^{2\ominus}$). Yellow cryst. Sol. alkalis, EtOH, C_6H_6; spar. sol. H_2O. Mp 170°, Mp 183°. pK_{a1} 1.1; pK_{a2} 8.94; pK_{a3} 9.97.

Smaglyuk, N.G. *et al, Zh. Anal. Khim.*, 1975, **30**, 1680 (*detn, Ni, Co*)
Talipov, S.T. *et al, CA*, 1976, **85**, 56102g, 136733d, 171135g (*detn, Ni, Co, Cu*)
Matat, L.M. *et al, Zh. Anal. Khim.*, 1982, **37**, 2165 (*synth, detn, Ag*)

Antipyrylazo III A-00394

3,6-Bis[(2,3-dihydro-1,5-dimethyl-3-oxo-2-phenyl-1H-pyrazol-4-yl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI. Antipyrine S. Diantipyrylazo

[14918-39-9]



$C_{32}H_{28}N_8O_{10}S_2$ M 748.753

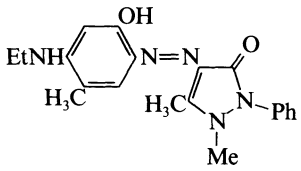
Used as a 0.01*M* aq. soln. for photometric detn. of Ca (λ_{max} 605 nm, ε 21500), lanthanides, Y. Greyish-green lustrous cryst. (H_2O). Sol. H_2O, alkalis; insol. C_6H_6, CCl_4.

Budesinsky, B.W. *et al, Anal. Chim. Acta*, 1966, **36**, 246; **71**, 343 (*detn, lanthanides, Ca*)
Savvin, S.B. *et al, Zh. Anal. Khim.*, 1971, **26**, 164 (*synth*)

5-(4-Antipyrylazo)-2-monoethylamino-*p*-cresol A-00395

4-[[4-(Ethylamino)-2-hydroxy-5-methylphenyl]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3H-pyrazol-3-one, 9CI

[10527-55-6]



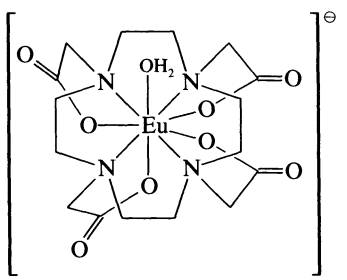
$C_{20}H_{23}N_5O_2$ M 365.434

Used for photometric detn. of In, U, Al, Ga, Fe(*III*). Red cryst. Sol. MeOH, $CHCl_3$; spar. sol. H_2O. Mp 224°. pK_{a1} 10.62.

Gusev, S.I. *et al, Zh. Neorg. Khim.*, 1966, **11**, 1271.
Gusev, S.I. *et al, Zh. Anal. Khim.*, 1974, **29**, 2427.
Biryuk, E.A. *et al, Zh. Anal. Khim.*, 1976, **31**, 1465.

Aqua[1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraacetato(4–)]europate(*III*) (1–) A-00396

[93426-81-4]



$C_{16}H_{26}EuN_4O_9^{\ominus}$ M 570.368 (ion)

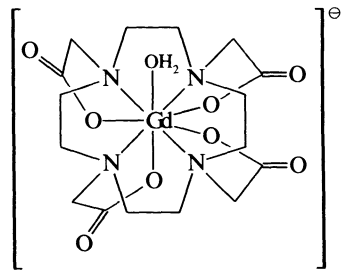
Proposed as axially symmetric nmr shift reagent.

Na salt: [88083-35-6].
Colourless cryst. + $4H_2O$. Sol. H_2O. 9-Coordinate; one H_2O coord.; distorted capped sq. antiprism.

[80927-24-8, 109955-51-3]

Desreux, J.F., *Inorg. Chem.*, 1980, **19**, 1319 (*synth, pmr*)
Bryden, C.C. *et al, Anal. Chem.*, 1981, **53**, 1418; 1982, **54**, 610 (*pmr, luminescence*)
Albin, M. *et al, Chem. Phys. Lett.*, 1982, **85**, 61 (*luminescence*)
Spirlet, M.R. *et al, Inorg. Chem.*, 1984, **23**, 359 (*cryst struct, synth*)
Brittain, H.G. *et al, Inorg. Chem.*, 1984, **23**, 4459 (*luminescence*)

Aqua[1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraacetato(4–)]gadolinate(*III*)(1–) A-00397



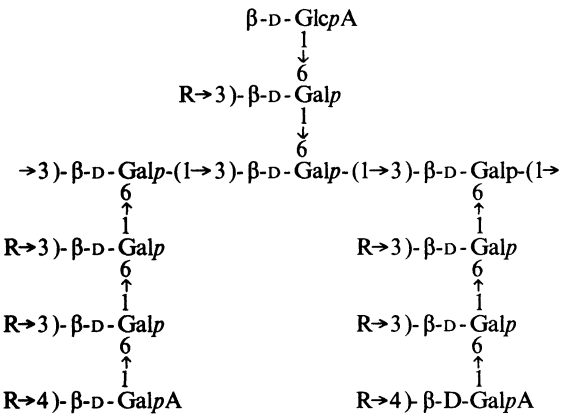
$C_{16}H_{26}GdN_4O_9^{\ominus}$ M 575.653 (ion)
Contrast-enhancing agent in magnetic resonance imaging.
Na salt: [92923-44-9].
Colourless cryst. (aq. Me_2CO). Sol. H_2O. Believed to be 9-coordinate as for Eu analogue. Presumably 4 H_2O of cryst.
Mg salt (2:1): [117584-76-6].
Colourless cryst. Sol. H_2O.
Ca salt (2:1): [117584-75-5].
Colourless cryst. Sol. H_2O.

[83678-67-5]

Belg. Pat., 898 708, (1984); *CA*, **101**, 216407 (*use*)
Magerstaedt, M. *et al*, *Magn. Reson. Med.*, 1986, **3**, 808.
Cacheris, W.P. *et al*, *Inorg. Chem.*, 1987, **26**, 958 (*synth*)
Hagan, J.F. *et al*, *Anal. Chem.*, 1988, **60**, 514 (*anal*)
Sherry, A.D., *J. Less-Common Met.*, 1988, **149**, 133 (*rev*)
Tweedle, M.F. *et al*, *Nucl. Med. Biol.*, 1988, **15**, 31 (*rev*)
Bosquet, J.C. *et al*, *Radiology*, 1988, **166**, 693.
Hernandez, G. *et al*, *Inorg. Chem.*, 1990, **29**, 5109 (*synth, relaxation*)
Dubost, J.-P. *et al*, *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1991, **312**, 349 (*cryst struct*)
Chang, C., *Eur. J. Solid State Inorg. Chem.*, 1991, **28**, 237 (*rev*)
Wang, X. *et al*, *Inorg. Chem.*, 1992, **31**, 1095 (*stability const*)

Arabic acid, 9CI, 8CI A-00398

[32609-14-6]



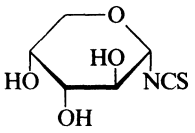
R = L-Araf(1→, L-Rhap(1→, α-D-Galp(1→3)-L-Araf(1→

Most common components

A highly branched polysaccharide composed of L-Arabinose, D-Galactose, L-Rhamnose and D-Gluconic acid in an approximate 3:3:1:1 ratio. Salt-free polysaccharide formed by precipitation from an acidified soln. of gum arabic.
Per-Ac: $[\alpha]_D$ −21° (c, 0.94 in $CHCl_3$).
Me ester: $[\alpha]_D^{19}$ −47° (c, 1.0 in $CHCl_3$).
Mixed salts: Gum arabic
Exudate from *Acacia senegal*. Used as protective colloid to prevent settling of ppts. in some photometric and turbidimetric detns. Yellowish-amber lumps. Dissolves slowly in H_2O.
Mixed salts, per-Me: $[\alpha]_D$ −48° (c, 1.0 in $CHCl_3$).

Smith, F. *et al*, *J. Chem. Soc.*, 1939, 1724; 1940, 1035.
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, NY, 1948.
Aspinal, G.O. *et al*, *J. Chem. Soc.*, 1963, 1696.
Aspinal, G.O., *The Carbohydrates*, (Pigman, W. *et al*, Ed.), Academic Press, 1970, **2B**, 523.

Arabinopyranosyl isothiocyanate A-00399

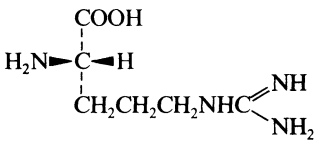


$C_6H_9NO_4S$ M 191.207
α-D-form
2,3,4-Tri-Ac: [62414-75-9].
$C_{12}H_{15}NO_7S$ M 317.319
Reagent used for the hplc resoln. of amino acids. Syrup.

Kinoshita, T. *et al*, *J. Chromatogr.*, 1981, **210**, 77 (*use*)
Ogura, H. *et al*, *Heterocycles*, 1982, **17**, 87 (*synth*)
Miller, K.J. *et al*, *J. Chromatogr.*, 1984, **307**, 335 (*use*)

Arginine, INN, USAN A-00400

2-Amino-5-[(aminoiminomethyl)amino]pentanoic acid, 9CI. 2-Amino-5-guanidinovaleric acid



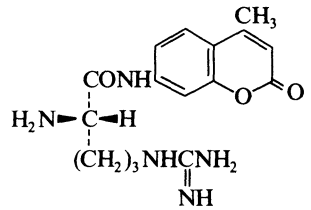
(S)-form

$C_6H_{14}N_4O_2$ M 174.202
(S)-form [74-79-3]
L-form
Found in seeds/shoots of pine, fir, acacia, arachis etc. and in many proteins. Diagnostic aid (pituitary function determination), ammonia detoxicant. Reagent for the fluorimetric anal. of reducing sugars by hplc. Plates or prisms + 2H_2O (H_2O), plates (EtOH). Mp 207°, Mp 244° dec. (anhyd. 105°). $[\alpha]_D$ +12.5° (c, 1 in H_2O), $[\alpha]_D^{25}$ +27.6° (c, 1 in 5*M* HCl). *N*-Protected derivs. useful in peptide synth. have been listed alphabetically elsewhere.
B,HCl: [1119-34-2]. *Arginine hydrochloride, USAN*
Mp 222° dec. (235°). $[\alpha]_D^{20}$ +12.1° (H_2O).
▷ CF1995500.
(±)-form [7200-25-1]
Mp 238° dec. pK_{a1} 2.17 (COOH); pK_{a2} 9.04 (NH_2); pK_{a3} 12.48 (guanido).

Org. Synth., 1932, **12**, 4 (*synth*)
Greenstein, J.P. *et al*, *Chemistry of the Amino Acids*, Wiley, N.Y., 1961, **3**, 1841 (*rev*)
Legrand, M. *et al*, *Bull. Soc. Chim. Fr.*, 1965, 679 (*cd*)
Bak, B. *et al*, *J. Mol. Spectrosc.*, 1968, **26**, 78 (*pmr*)
Voelter, W. *et al*, *Z. Naturforsch., B*, 1971, **26**, 213 (*cmr*)
Lehmann, M.S. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1973, 133 (*cryst struct*)
Torgerson, D.F. *et al*, *Biochem. Biophys. Res. Commun.*, 1974, **60**, 616 (*ms*)
Mikami, H. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1983, **32**, E207; *CA*, **99**, 63599s (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AQV980, AQW000.

7-Arginylamino-4-methylcoumarin A-00401

2-Amino-5-[(aminoiminomethyl)amino]-N-(4-methyl-2-oxo-2H-1-benzopyran-7-yl)pentanamide, 9CI



$C_{16}H_{21}N_5O_3$ M 331.374

(S)-form [65286-27-3]

Sensitive fluorogenic substrate for trypsin and papain.

B,HCl: [69304-16-1].

Mp 275° dec. $[\alpha]_D^{15}$ +91.9° (c, 1.01 in 25% AcOH).

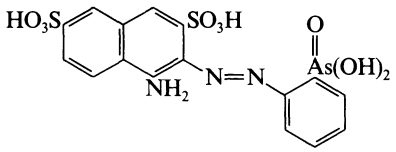
B,AcOH: [69439-40-3].

Mp 210-214.5° dec. $[\alpha]_D^{18}$ +82.3° (c, 0.5 in 50% AcOH).

Kanaoka, Y. *et al*, *Chem. Pharm. Bull.*, 1977, **25**, 3126 (*synth*)
Japan. Pat., 78 108 974, (1978); *CA*, **90**, 103829q.
Japan. Pat., 79 03 072, (1979); *CA*, **91**, 21129t (*synth*)
Japan. Pat., 79 09 273, (1979); *CA*, **91**, 21114j.

Arsaminazo A-00402

4-Amino-3-[(2-arsonophenyl)azo]-2,7-naphthalenedisulfonic acid



$C_{16}H_{14}AsN_3O_9S_2$ M 531.355

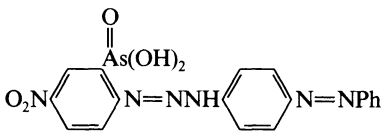
Used as 0.1% aq. soln. for photometric detn. of Pd. Dark red cryst. Sol. H_2O.

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 558 (*detn, Pd*)

Arsazen A-00403

5-Nitro-2-[3-[4-(phenylazo)phenyl]-1-triazenyl]phenylarsonic acid, 9CI

[3688-91-3]



$C_{18}H_{15}AsN_6O_5$ M 470.275

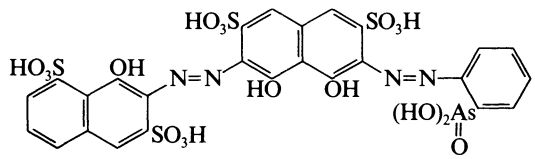
Used in photometric detn. of Pb, Pd. Yellow cryst. powder. Sol. dioxan, EtOH, alkalis; spar. sol. H_2O.

Lukin, A.M. *et al*, *Zavod. Lab.*, 1962, **28**, 398 (*detn, Pb*)
Pilipenko, A.T. *et al*, *Uzb. Khim. Zh.*, 1972, **38**, 268 (*detn, Pd*)

Arsenazo AE A-00404

7-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]-8-hydroxy-1,6-naphthalenedisulfonic acid, 9CI. 3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-[(1-hydroxy-3,8-disulfo-2-naphthyl)azo]-2,7-naphthalenedisulfonic acid, 8CI

[3867-33-2]



$C_{26}H_{19}AsN_4O_{18}S_4$ M 878.638

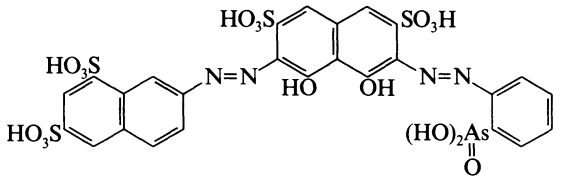
Gives colour reactions with La, Pr, Ga, Nd, Sm, Gd, Dy; used for extraction-photometric detn. of Pu(*IV*). Brown-red cryst. powder. Sol. H_2O, alkalis, EtOH.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 1075 (*use*)
Milyukova, M.S. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 751 (*detn, Pu*)
Akmaeva, N.L. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1482 (*use*)

Arsenazo AG A-00405

7-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]-1,3-naphthalenedisulfonic acid, 9CI. 3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-[(1,3-disulfo-7-naphthyl)azo]-2,7-naphthalenedisulfonic acid, 8CI

[37465-96-6]



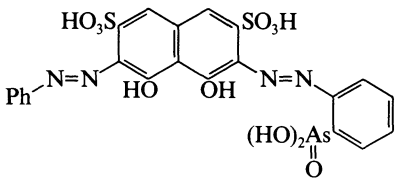
$C_{26}H_{19}AsN_4O_{17}S_4$ M 862.638

Gives colour reactions with lanthanides. Dark red cryst. Sol. H_2O.

Khramov, V.P. *et al*, *CA*, 1972, **77**, 28444m (*use*)
Khramov, V.P. *et al*, *Zh. Neorg. Khim.*, 1972, **17**, 2376 (*use*)

Arsenazo B A-00406

3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-(phenylazo)-2,7-naphthalenedisulfonic acid, 9CI



$C_{22}H_{17}AsN_4O_{11}S_2$ M 652.450

Sol. H_2O.

Di-Na salt: [14044-84-9].

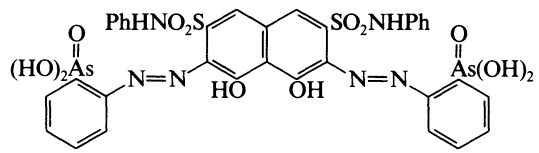
Used as 0.05% aq, soln. for photometric detn. of Cr(*III*) (λ_{max} 635 nm, ε 33000) Zr, Sc, Th, U, Pu; gives colour reactions with many metals. Dark red cryst. powder.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 1075 (*detn, Pu*)
Muk, A.A. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 1277 (*colour reactions*)
Muk, A.A. *et al*, *Anal. Chim. Acta*, 1969, **44**, 59 (*pKa*)
Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971.
Fu-Śheng Sun, *Talanta*, 1983, **30**, 446 (*synth, detn, Cr*)

Arsenazo DAL A-00407

[[1,8-Dihydroxy-3,6-bis[(phenylamino)sulfonyl]-2,7-naphthalenediyl]bis(azo-2,1-phenylene)]bisarsonic acid, 9CI

[14765-72-1]



$C_{34}H_{28}As_2N_6O_{12}S_2$ M 926.603

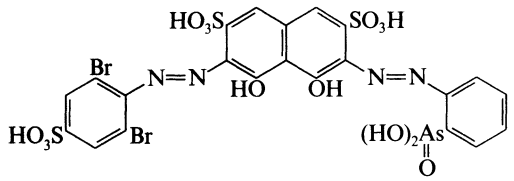
Used as 0.05% soln. in aq. NaOH in photometric detn. of Th. Dark red cryst. powder. Sol. alkalis; insol. H_2O.

Budešinsky, B. *et al*, *Talanta*, 1967, **14**, 523 (*detn, Th*)

Arsenazo DBS A-00408

3-[(2-Arsonophenyl)azo]-6-[(2,6-dibromo-4-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI

[94779-97-2]



$C_{22}H_{15}AsBr_2N_4O_{14}S_3$ M 890.306

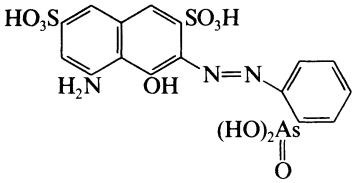
Used in photometric detn. of Ce (ε 120000). Dark red cryst. powder. Sol. alkalis, H_2O; spar. sol. EtOH, Et_2O.

Chen, Z. *et al*, *CA*, 1987, **106**, 168059g (*detn, Ce*)

Arsenazo H A-00409

5-Amino-3-[(2-arsonophenyl)azo]-4-hydroxy-2,7-naphthalenedisulfonic acid, 9CI

[23387-28-2]



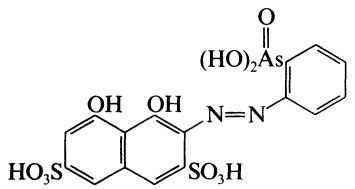
$C_{16}H_{14}AsN_3O_{10}S_2$ M 547.354

Used as 1m*M* aq. soln. for photometric detn. of Cu (λ_{max} 496 nm); used as a 0.05-0.1*M* aq. soln. to give colour reactions with Be, Ni. Red cryst. powder. Sol. H_2O.

Kuznetsov, V.I., *Zh. Anal. Khim.*, 1955, **10**, 276 (*detn, Be, Ni*)
Cherkesov, A.I. *et al*, *CA*, 1969, **70**, 83948j (*detn, Cu*)

Arsenazo I A-00410

3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI. O-(1,8-Dihydroxy-3,6-disulfo-2-naphthylazo)benzenearsonic acid. 2-(2-Arsonophenylazo)chromotropic acid. Neothovin. Neothoron. Uranon



$C_{16}H_{13}AsN_2O_{11}S_2$ M 548.339

pK_{a1} 0.6; pK_{a2} 0.8; pK_{a3} 3.5; pK_{a4} 8.2; pK_{a5} 11.6.

▷ Toxic.

Tri-Na salt: [520-10-5].

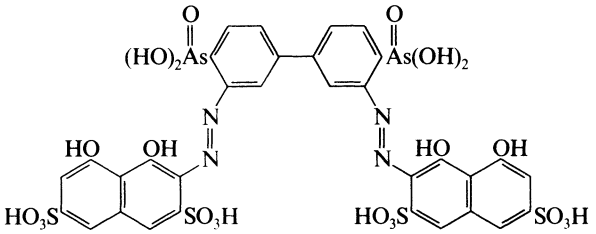
Used as 0.1% or 0.5% aq. soln. in photometric detn. of Th, Zr, Nb, Ta (pH 1-2); Sc, rare earth elements, U(*VI*) (pH 6-7); Be, Ca, Sr (pH 9-12); metal indicator in chelatometric titrn. of rare-earth elements, Th, Ca. Red cryst. powder. Sol. H_2O; insol. most org. solvs. Mp >300°.

Dunning, F. *et al*, *J. Am. Chem. Soc.*, 1927, **49**, 2869 (*synth*)
Fritz, J.S. *et al*, *Anal. Chem.*, 1957, **29**, 158 (*ind*)
Holcomb, H.P. *et al*, *Anal. Chem.*, 1960, **32**, 612 (*synth, detn, U*)
Onishi, H. *et al*, *Anal. Chim. Acta*, 1962, **26**, 528 (*detn, Th*)
Hiiro, K. *et al*, *Anal. Chim. Acta*, 1967, **37**, 209 (*detn, rare earth elements*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 159 (*use*)

Arsenazo II A-00411

3,3'-Bis[(4,4'-diarsono[1,1'-biphenyl]-3,3'-diyl)bis(azo)]-bis[4,5-dihydroxy-2,7-naphthalenedisulfonic acid], 9CI

[3861-75-4]



$C_{32}H_{24}As_2N_4O_{22}S_4$ M 1094.662

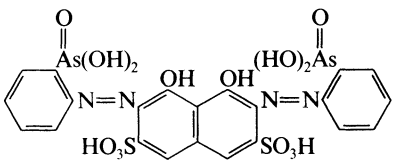
Used as 0.1% aq. soln. in photometric detn. of Th, Zr, rare earth elements (0.1-0.6*M* HCl). Dark red cryst. powder. Sol. H_2O, alkalis; spar. sol. EtOH.

Kuznetzov, V.I. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 175 (*use*)

Arsenazo III A-00412

3,6-Bis[(2-arsonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI. o-(1,8-Dihydroxy-3,6-disulfonaphthalene-2,7-bisazo)bisbenzenearsonic acid

[1668-00-4]



$C_{22}H_{18}As_2N_4O_{14}S_2$ M 776.378

Used as 0.05% aq. soln. in photometric detn. of Th (λ_{max} 655 nm, ε 115000), Zr, Hf (ε 120000, 9*M* HCl), U(*IV*) (ε 127000, 6-8*M* HCl), rare earth elements, Sc, Cr, Bi, Cd, Zn, Ca, Pd. Dark red cryst. powder. Sol. alkalis; spar. sol. H_2O; insol. EtOH, Et_2O. Mp >320°.

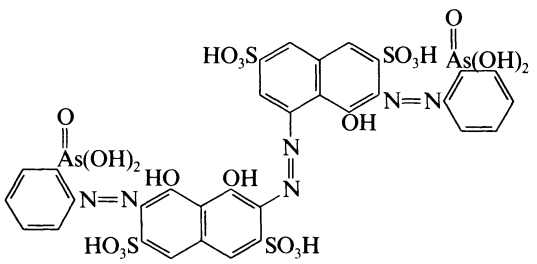
▷ Toxic.

Pauling, L. *et al*, *J. Am. Chem. Soc.*, 1944, **66**, 784 (*synth*)
Savvin, S.B., *Talanta*, 1961, **8**, 673; 1964, **11**, 1, 7 (*detn, Th, Zr, U, rare earth elements*)
Zaikovskii, P.V. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 1030; *CA*, **60**, 544 (*synth*)
Holsopple, H.L., *CA*, 1964, **61**, 684 (*synth*)
Alimarin, I.P. *et al*, *Pure Appl. Chem.*, 1966, **13**, 445 (*rev*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1231; 1980, **35**, 1485 (*mechanism*)
Akimova, T.G. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 2242 (*purif*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 165 (*use*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 2nd Ed., 1986, 468, 575, 611 (*use*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIb: Individual Metals. Magnesium to Zinc*, John Wiley, New York, 4th Ed., 1989, 460, 539, 627, 770.

Arsenazo IV A-00413

4,5,5'-Trihydroxy-3,4'-azobis[[6-(2-arsonophenyl)azo]-2,7-naphthalenedisulfonic acid], 9CI

[22318-07-6]



$C_{32}H_{24}As_2N_6O_{21}S_4$ M 1106.676

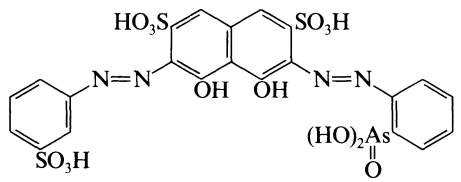
Used as 0.5m*M* aq. soln. in photometric detn. of Th (ε 110000). Dark red cryst. powder. Sol. alkalis, H_2O, EtOH.

Vasilenko, V.D. *et al*, *Khim. Khim. Tekhnol. (Minsk)*, 1968, **11**, 138; *CA*, **69**, 49000p (*detn, Th*)

Arsenazo M A-00414

3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI

[3563-69-7]



$C_{22}H_{17}AsN_4O_{14}S_3$ M 732.514

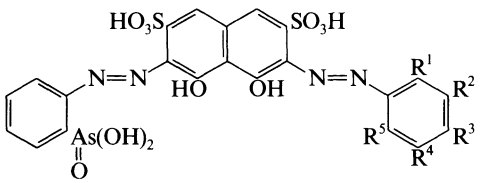
Used as 0.05% aq. soln. in photometric detn. of rare earth elements, La, Sc, Pb. Dark red cryst. Sol. H_2O, alkalis; sl. sol. EtOH; insol. Et_2O. pK_{a1} 0.7; pK_{a2} 3.5; pK_{a3} 6.5; pK_{a4} 8.0; pK_{a5} 9.5; pK_{a6} 10.6; pK_{a7} 13.0.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 31 (*detn, rare earths*)
Bocharova, R.I. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1505 (*detn*)
Spitsyn, P.K. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2121 (pK_a)

Arsenazo SA A-00415

3-[[4-(Aminosulfonyl)phenyl]azo]-6-[(2-arsonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI

[41743-76-4]



$R^1 = R^3 = R^4 = R^5 = H$
$R^2 = SO_2NH_2$

$C_{22}H_{18}AsN_5O_{13}S_3$ M 731.529

Gives colour reactions with lanthanides. Dark red cryst. powder. Sol. H_2O. pK_{a4} 8.5; pK_{a5} 10.5; pK_{a6} 11.3.

Khramov, V.P. *et al*, *Zh. Neorg. Khim.*, 1972, **17**, 2376 (*use*)

Arsenazo 4S3NB A-00416

3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-[(3-nitro-4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI

[41743-79-7]

As Arsenazo SA, A-00415 with

$R^1 = R^4 = R^5 = H$; $R^2 = NO_2$; $R^3 = SO_3H$

$C_{22}H_{16}AsN_5O_{16}S_3$ M 777.512

Gives colour reactions with lanthanides; used as aq. soln. Dark red cryst. Sol. H_2O. pK_{a5} 7.8; pK_{a6} 10.6.

Khramov, V.P. *et al*, *Zh. Neorg. Khim.*, 1972, **17**, 2376 (*use, pKa*)

Arsenazo SU A-00417

3-[2-(Arsonophenyl)azo]-4,5-dihydroxy-6-[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI

[38579-98-5]

As Arsenazo SA, A-00415 with

$R^1 = R^2 = R^4 = R^5 = H$; $R^3 = SO_3H$

$C_{22}H_{17}AsN_4O_{14}S_3$ M 732.514

Gives colour reactions with lanthanides. Brown red cryst. powder. Sol. H_2O. pK_{a5} 7.5; pK_{a6} 10.5.

Khramov, V.P. *et al*, *Zh. Neorg. Khim.*, 1972, **17**, 2376 (*use, pKa*)

Arsenazo T A-00418

3-[2-(Arsonophenyl)azo]-4,5-dihydroxy-6-[5-(N,N'-dimethylsulfonamido)-2-methoxy]-2,7-naphthalenedisulfonic acid

As Arsenazo SA, A-00415 with

$R^1 = OMe$, $R^4 = SO_2NMe_2$; $R^2 = R^3 = R^5 = H$

$C_{25}H_{24}AsN_5O_{14}S_3$ M 789.609

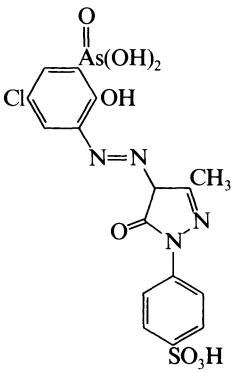
Used for photometric detn. of Pu (λ_{max} 635 nm, ε 35000), Th, U. Brown-red powder. Sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*detn, Pu*)

4-[4-[(3-Arsono-5-chloro-2-hydroxyphenyl)azo]-4,5-dihydro-3-methyl-5-oxo-1*H*-pyrazol-1-yl]benzenesulfonic acid, 9CI A-00419

4-[(3-Arsono-5-chloro-2-hydroxyphenyl)azo]-4,5-dihydro-3-methyl-1-(4-sulfophenyl)-5-pyrazolone

[65953-57-3]

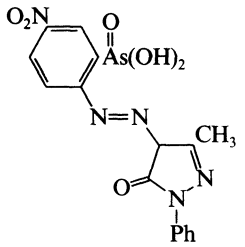


$C_{16}H_{14}AsClN_4O_8S$ M 532.749

Used as 0.004m*M* aq. soln. for fluorimetric detn. of Mg (λ_{max} 620 nm, pH 9.5-11.5). Cryst. Sol. H_2O.

Bozhevol'nov, E.A. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1734 (*synth, detn, Mg*)

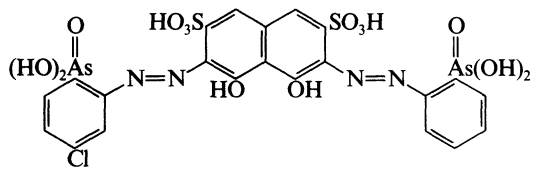
4-(2-Arsono-4-nitrophenylazo)-4,5-dihydro-3-methyl-1-phenyl-1*H*-pyrazol-5-one A-00420



$C_{16}H_{14}AsN_5O_6$ M 447.238
Used for photometric detn. of Na. Orange cryst. (BuOH). Sol. DMF; insol. $CHCl_3$. Mp 239-241°.

Markovich, I.S. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1097 (*detn, Na*)

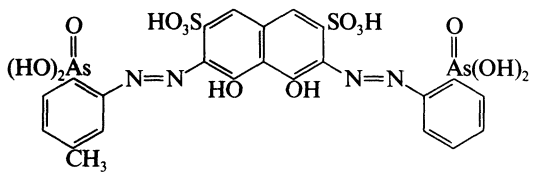
3-[(2-Arsonophenyl)azo]-6-[(2-arsono-5-chlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI A-00421



$C_{22}H_{17}As_2ClN_4O_{14}S_2$ M 810.823
Used for photometric detn. of rare earth elements, Th, U, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

3-[(2-Arsonophenyl)azo]-6-[(2-arsono-5-methylphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI A-00422

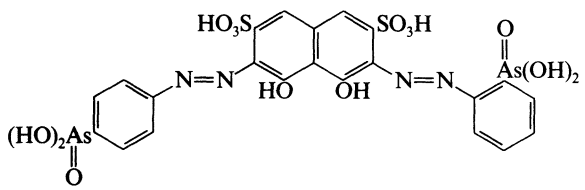


$C_{23}H_{20}As_2N_4O_{14}S_2$ M 790.405
Used for photometric detn. of rare earth elements, Th, U, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

3-[(2-Arsonophenyl)azo]-6-[(4-arsonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 8CI A-00423

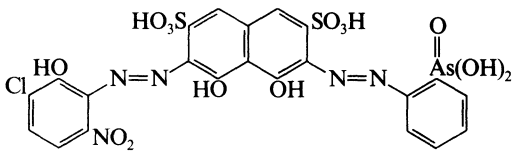
[29543-60-0]



$C_{22}H_{18}As_2N_4O_{14}S_2$ M 776.378
Used for photometric detn. of rare earth elements, Th, $UO_2^{2\oplus}$. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

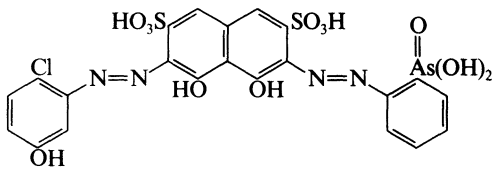
3-[(2-Arsonophenyl)azo]-6-[(3-chloro-2-hydroxy-5-nitrophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI A-00424



$C_{22}H_{15}AsClN_5O_{14}S_2$ M 747.892
Used for photometric detn. of La, Th, $UO_2^{2\oplus}$. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

3-[(2-Arsonophenyl)azo]-6-[(5-chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI A-00425

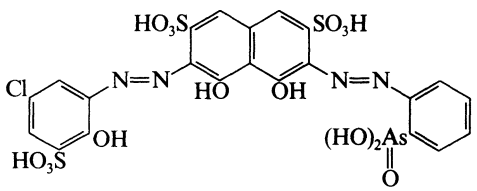


$C_{22}H_{16}AsClN_4O_{12}S_2$ M 702.894
Used for photometric detn. of La, Th, $UO_2^{2\oplus}$. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

3-[(2-Arsonophenyl)azo]-6-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 8CI A-00426

[14445-82-0]

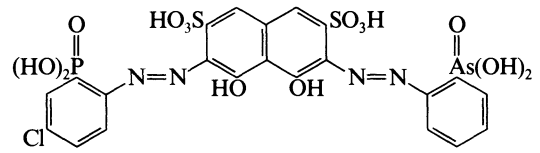


$C_{22}H_{16}AsClN_4O_{15}S_3$ M 782.959
Used for photometric detn. of Pd (λ_{max} 630 nm, ε 55000). Dark red cryst. (EtOH aq.). Sol. H_2O.

Savvin, S.B. *et al*, *Talanta*, 1969, **16**, 423 (*detn, Pd*)

3-[(2-Arsonophenyl)azo]-6-[(4-chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 8CI A-00427

[2590-82-1]



$C_{22}H_{17}AsClN_4O_{14}PS_2$ M 766.875

Used for photometric detn. of Th. Dark red cryst. powder. Mod. sol. H_2O.

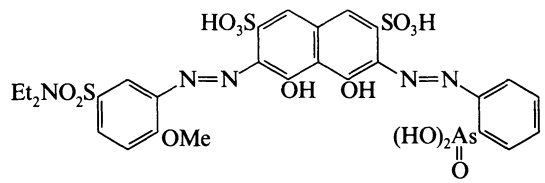
Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

Lukin, A.M. *et al*, *CA*, 1975, **82**, 50976m (*detn, Th*)

3-[(2-Arsonophenyl)azo]-6-[[5-(diethylsulfamoyl)-2-methoxyphenyl]azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI A-00428

Arsenazo-2-methoxy-5-diethylsulfamic acid

[14155-09-0]



$C_{27}H_{28}AsN_5O_{14}S_3$ M 817.663

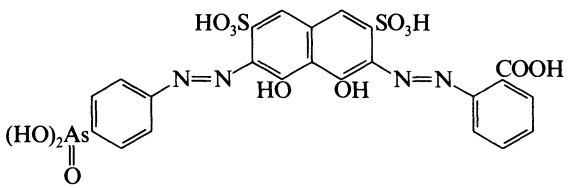
Used as 0.1% aq. soln. for extraction-photometric detn. of Pu(*IV*) (butanol). Dark red cryst. powder. Sol. H_2O, alkalis, EtOH.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 1075.

Milyukova, M.S. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 751.

2-[[7-[(4-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, 9CI A-00429

[26075-04-7]



$C_{23}H_{17}AsN_4O_{13}S_2$ M 696.460

Used as a 0.1% aq. soln. for photometric detn. of Ba (λ_{max} 640 nm, ε 35000), Ca, La (λ_{max} 710 nm), Sr; gives colour reactions with Co, Cu, Fe(*III*), Mn, Ni, Zn (dioxan aq., EtOH aq., Me_2CO aq.) Ce, Dy, La, Nd, Sm, Th, Y. Dark red cryst. powder. Sol. H_2O.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1460; 1971, **26**, 297 (*detn, Ca, Sr, La*)

Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 2320; 1973, **28**, 1888 (*detn, Co, Cu, Fe, Mn, Ni, Zn, Ba*)

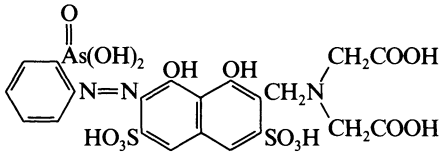
Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 722 (*detn, Dy, Th, Y*)

Basargin, N.N. *et al*, *CA*, 1974, **81**, 180649x (*detn, Ce, La, Nd, Sm*)

***N*-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]methyl]-*N*-(carboxymethyl)glycine, 9CI** A-00430

Arsenazo-khimdu

[33098-93-0]



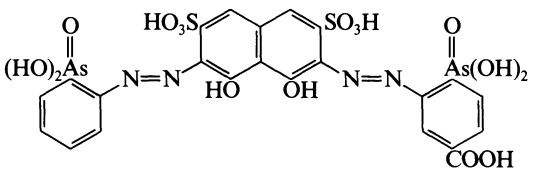
$C_{21}H_{20}AsN_3O_{15}S_2$ M 693.454

Used as 0.05% aq. soln. in photometric detn. of Th, Be, La, V, rare-earth elements. More selective than Arsenazo(*I*). Dark red cryst. powder. Sol. alkalis; spar. sol. H_2O, EtOH; insol. Et_2O.

Basargin, N.N. *et al*, *Zavod. Lab.*, 1971, **37**, 269 (*use*)

3-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-4-arsonobenzoic acid A-00431

2-(2-Arsono-5-carboxyphenylazo)-7-(2-arsonophenylazo) chromotropic acid



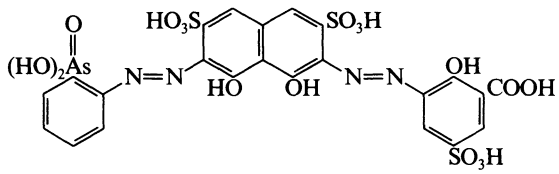
$C_{23}H_{18}As_2N_4O_{16}S_2$ M 820.388

Used for photometric detn. of rare earth elements, Th, U, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

3-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-2-hydroxy-5-sulfobenzoic acid, 8CI A-00432

3-(2-Arsonophenylazo)-6-(3-carboxy-2-hydroxy-5-sulfophenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid



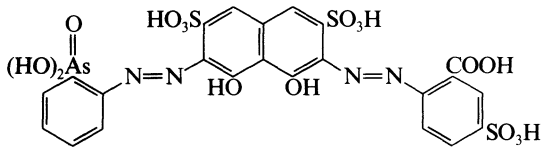
$C_{23}H_{17}AsN_4O_{17}S_3$ M 792.523

Used for photometric detn. of La, Sc, Th, $UO_2^{2\oplus}$. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

2-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-5-sulfobenzoic acid, 8CI A-00433

3-(2-Arsonophenylazo)-7-(2-carboxy-4-sulfophenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid. 2-(2-Arsonophenylazo)-7-(2-carboxy-4-sulfophenylazo) chromotropic acid



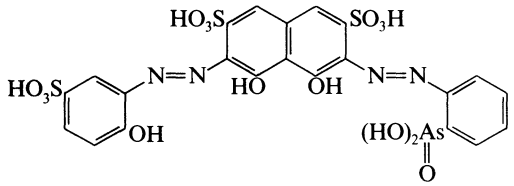
$C_{23}H_{17}AsN_4O_{16}S_3$ M 776.524

Used for photometric detn. of Al, Ba, Pb, Ni, rare earth elements. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI A-00434

[26102-89-6]



$C_{22}H_{17}AsN_4O_{15}S_3$ M 748.514

Used for photometric detn. of Al, Ga, In, La, Pd, Th, $UO_2^{2\oplus}$. Dark red cryst. powder. Mod. sol. H_2O.

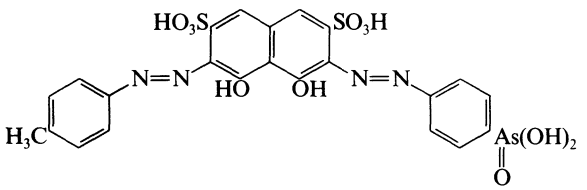
Savvin, S.B. *et al*, *CA*, 1970, **72**, 38508w (*detn, Al, Ga, In, Pd*)

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*detn, La, Th, U*)

3-[(4-Arsonophenyl)azo]-4,5-dihydroxy-6-[(4-methylphenyl)azo]-2,7-naphthalenedisulfonic acid A-00435

3-[(p-Arsonophenyl)azo]-4,5-dihydroxy-6-(p-tolylazo)-2,7-naphthalenedisulfonic acid, 8CI

[34716-81-9]



$C_{23}H_{19}AsN_4O_{11}S_2$ M 666.477

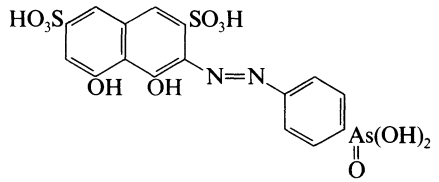
Gives colour reactions with Dy, Lu, Th, Y. Dark red cryst. powder. Mod. sol. H_2O.

Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 722 (*use*)

3-[(4-Arsonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid A-00436

p-*Arsonophenylazochromotropic acid*

[15475-87-3]



$C_{16}H_{13}AsN_2O_{11}S_2$ M 548.339

Used for photometric detn. of Nb. Dark red cryst. powder. Sol. H_2O; insol. Et_2O, C_6H_6.

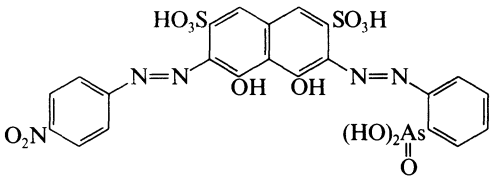
Perez-Bustamente, J.A., *Ph.D. Thesis, Universidad Complutense*, Madrid, 1967 (*synth*)

Sanz-Medel, A. *et al*, *Anal. Chem.*, 1980, **52**, 1035.

3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI A-00437

Arsenazo-p-NO_2

[22322-96-9]



$C_{22}H_{16}AsN_5O_{13}S_2$ M 697.448

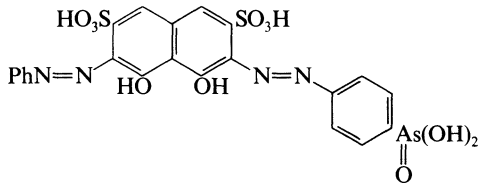
Used as 0.05% aq. soln. in photometric detn. of La (λ_{max} 665 nm, ε 62000) and other rare earth elements. Dark red cryst. Sol. alkalis, H_2O; spar. sol. EtOH, Et_2O. pK_a 7.4.

Perisic-Janjic, N.U. *et al*, *Anal. Chem.*, 1973, **45**, 798 (*detn, rare earths*)

Muk, A.A. *et al*, *Anal. Chem.*, 1974, **46**, 1121 (*detn, rare earths*)

3-[(4-Arsonophenyl)azo]-4,5-dihydroxy-6-(phenylazo)-2,7-naphthalenedisulfonic acid, 8CI A-00438

[22514-55-2]



$C_{22}H_{17}AsN_4O_{11}S_2$ M 652.450

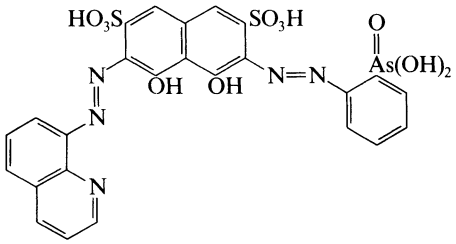
Gives colour reactions with Ce, Dy, La, Lu, Nd, Sm, Th, Y. Dark red cryst. powder. Mod. sol. H_2O.

Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 722 (*detn, Dy, Lu, Th, Y*)

Basargin, N.N. *et al*, *CA*, 1974, **81**, 180649x (*detn, Ce, La, Nd, Sm*)

3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, 8CI A-00439

[22106-87-2]

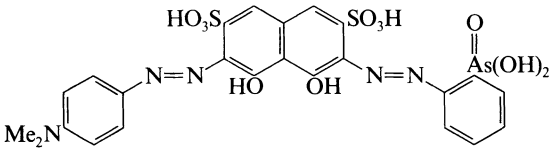


$C_{25}H_{18}AsN_5O_{11}S_2$ M 703.498

Used for extraction-photometric detn. of Cu (butanol). Dark red cryst. Sol. H_2O, EtOH.

Okhanova, L.A., *Zh. Anal. Khim.*, 1968, **23**, 1562 (*detn, Cu*)

3-[(2-Arsonophenyl)azo]-6-[(4-dimethylaminophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI A-00440

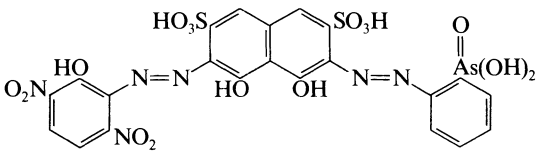


$C_{24}H_{22}AsN_5O_{11}S_2$ M 695.518

Used for photometric detn. of La, Th, $UO_2^{2\oplus}$. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

3-[(2-Arsonophenyl)azo]-6-[(3,5-dinitro-2-hydroxyphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI A-00441

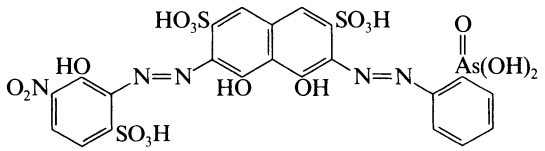


$C_{22}H_{15}AsN_6O_{16}S_2$ M 758.445

Used for photometric detn. of Nb, Th, U, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

3-[(2-Arsonophenyl)azo]-6-[(2-hydroxy-3-nitro-5-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 8CI A-00442



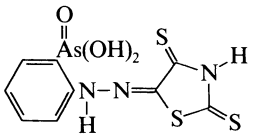
$C_{22}H_{16}AsN_5O_{17}S_3$ M 793.511

Used for photometric detn. of Bi, Pb, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

5-[(2-Arsonophenyl)azo]-2,4-thiazolidinedithione A-00443

Arsonobenzeneazothiorhodanine



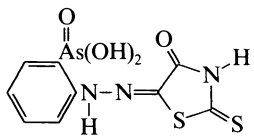
$C_9H_8AsN_3O_3S_3$ M 377.300

Used for photometric detn. of noble metals. Dark red cryst. powder. Sol. H_2O, EtOH; insol. C_6H_6.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*synth, use*)

5-[(2-Arsonophenyl)azo]-2-thioxo-4-thiazolidinone A-00444

Arsonobenzeneazorhodanine



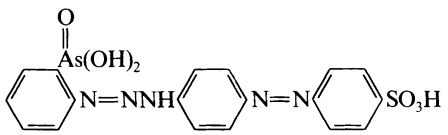
$C_9H_8AsN_3O_4S_2$ M 361.234

Various tautomers possible. Used for photometric detn. of platinum group metals. Dark red cryst. powder. Sol. H_2O, EtOH; insol. C_6H_6.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*synth, use*)

4-[4-(2-Arsonophenyltriazenyl)phenylazo] benzenesulfonic acid A-00445

2-[3-[4-(4-Sulfophenylazo)phenyl]-1-triazenyl]phenylarsonic acid



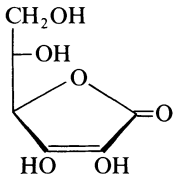
$C_{18}H_{16}AsN_5O_6S$ M 505.342

Used as 0.05% aq. soln. for photometric detn. of Pb (λ_{max} 430 nm). Orange-red cryst. Mod. sol. H_2O.

Lukin, A.M. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 295 (*detn, Pb*)

Ascorbic acid, BAN, INN, USAN A-00446

threo-*Hex-2-enonic acid γ-lactone, 9CI, 8CI.* threo-*Hexulosono-1,4-lactone-2,3-enediol. Hexuronic acid*



L-*form*

$C_6H_8O_6$ M 176.126

D-*form* [10504-35-5]

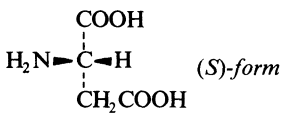
Mp 190° dec. $[\alpha]_D^{18}$ −23° (c, 2.0 in H_2O), $[\alpha]_D^{18}$ −48° (MeOH). Shows little antiscorbutic action.

L-form [50-81-7]
Vitamin C. Ascorbicap. Cebione. Cenolate. Cevalin. Numerous proprietary names
Occurs widely in animals and plants. Good sources are citrus fruits and hip berries. Isol. from ox adrenal cortex, lemons and paprika. Vitamin (antiscorbutic); urinary acidifier. Used as a reducing agent, masking agent in photometric detn. of Ti, Nb. Mp 190-192°. $[\alpha]_D^{25}$ +24° (c, 1.0 in H_2O), $[\alpha]_D^{18}$ +49° (MeOH). pK_{a1} 4.04; pK_{a2} 11.34 (25°, 0.1*M* KNO_3).
▷ CI7650000.
Brucine salt: Mp 216-217°.
Ca salt: $[\alpha]_D^{10}$ +91° (c, 0.3 in H_2O).
Na salt: Sodium ascorbate, INN
$[\alpha]_D$ +24° (c, 3.0 in H_2O).
Phenylhydrazone: Mp 216°.
*5,6-O-Cyclohexylidene: 5,6-O-Cyclohexylidene-L-*threo*-hex-2-enono-1,4-lactone*
$C_{12}H_{16}O_6$ M 256.255
Mp 185°. $[\alpha]_D$ +37.0° (c, 2.0 in MeOH).
*5,6-O-Isopropylidene: 5,6-O-Isopropylidene-L-*threo*-hex-2-enono-1,4-lactone*
$C_9H_{12}O_6$ M 216.190
Mp 220-222°. $[\alpha]_D^{20}$ +14° (c, 0.5 in EtOH).
2,3-Di-Me:
$C_8H_{12}O_6$ M 204.179
Mp 59° (hydrate). $[\alpha]_D$ +32° (MeOH).

Herbert, R.W. *et al, J. Chem. Soc.*, 1933, 1270.
Reichstein, T. *et al, Helv. Chim. Acta*, 1934, **17**, 311 (*synth*)
Hirst, E.L., *Fortschr. Chem. Org. Naturst.*, 1939, **2**, 132.
Janauer, G.E. *et al, Anal. Chim. Acta*, 1961, **24**, 270 (*detn, Nb*)
Korkisch, J. *et al, Anal. Chim. Acta*, 1963, **28**, 270 (*detn, Ti*)
Sawyer, D.T. *et al, Anal. Chem.*, 1966, **38**, 192 (*pmr*)
Pilipenko, A.T. *et al, Zavod. Lab.*, 1966, **32**, 3 (*rev, use*)
Hvoslef, J., *Acta Crystallogr., Sect. B*, 1969, **25**, 2214 (*cryst struct*)
Sadtler Standard Spectra, No. 3126, 1972 (*pmr*)
Berger, S., *Tetrahedron*, 1977, **33**, 1587 (*cmr*)
Crawford, T.C. *et al, Adv. Carbohydr. Chem.*, 1980, **37**, 7 (*rev*)
Sieb, P.A. *et al, Adv. Chem. Ser.*, 1982, **200**.
Al-Meshal, I.A. *et al, Anal. Profiles Drug Subst.*, 1982, **11**, 45 (*rev*)
Davies, M.B. *et al, Vitamin C: its Chemistry and Biochemistry*, RSC, 1991.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ARN000.

Aspartic acid A-00447

Aminobutanedioic acid, 9CI. Aminosuccinic acid. Asparagic acid. Asparaginic acid
[6899-03-2]



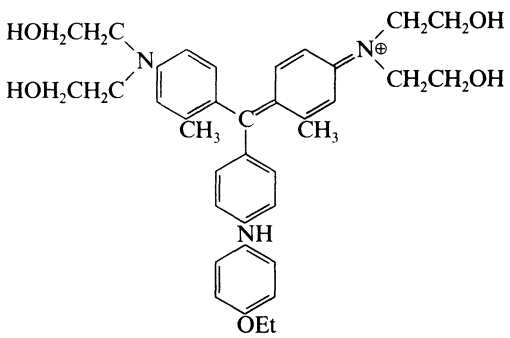
(S)-form

$C_4H_7NO_4$ M 133.104
(S)-form [56-84-8]
L-form
Found in sugar cane and sugar beet molasses and proteins/peptides. Made comly. by biotransformation of ammonium fumarate using *Escherischia alcalescens* immobilised on polymer gel. Leaflets (H_2O). Mp 269-271°. $[\alpha]_D^{25}$ +5.05° (c, 1 in H_2O), $[\alpha]_D$ +25.4° (c, 1 in 5*M* HCl). pK_{a1} 2.09; pK_{a2} 3.86; pK_{a3} 9.82 (25°). *N*-Protected derivs. useful in peptide synth. are listed alphabetically elsewhere.
(±)-form [617-45-8]
Used as a 0.02*M* aq. soln. for complexometric titrimetry of Be, Cu, Th. Monoclinic prisms. Insol. EtOH, Et_2O; sol. H_2O. Mp 278-280° (338-339°).

Biochem. Prep., 1952, **2**, 71 (*synth*)
Wood, J.W. *et al, J. Org. Chem.*, 1952, **17**, 891.
Greenstein, J.P. *et al, Chemistry of the Amino Acids*, Wiley, N.Y., 1961, **3**, 1856, 2759 (*rev*)
Org. Synth., Coll. Vol., 4, 1963, 55 (*synth*)
Fujiwara, S. *et al, Bull. Chem. Soc. Jpn.*, 1964, **37**, 344 (*pmr*)
Young, D.P., *Chem. Ind. (London)*, 1967, 1251.
Zintel, J.A. *et al, Can. J. Chem.*, 1969, **47**, 411 (*synth*)
Ressler, C. *et al, J. Org. Chem.*, 1971, **36**, 3960 (*1-mononitrile*)
Rao, S.T., *Acta Crystallogr., Sect. B*, 1973, **29**, 1718 (*cryst struct*)
Sergeev, G.M. *et al, CA*, 1977, **89**, 208521r (*use*)
Sergeev, G.M. *et al, Zavod. Lab.*, 1977, **43**, 1306 (*use*)
Harada, K. *et al, Bull. Chem. Soc. Jpn.*, 1983, **56**, 653 (*resoln*)
Zahradnik, J. *et al, Collect. Czech. Chem. Commun.*, 1985, **50**, 2122 (*manuf*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ARN830, ARN850.

Astracyanine B A-00448

Basic blue 18. C.I. 42705

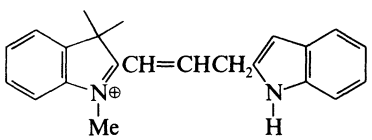


$C_{37}H_{46}N_3O_5^{\oplus}$ M 612.787 (ion)
Triarylmethane dye. Strictly the name Astracyanine B applies to the chloride.
Chloride: [5905-33-9].
$C_{37}H_{46}ClN_3O_5$ M 648.240
Used as redox indicator (transition range 1.08-1.12 V). Blue cryst. powder. Sol. H_2O, EtOH, Me_2CO; insol. CCl_4. E° + 1.10 V.

Brazier, J.N. *et al, Anal. Chim. Acta*, 1965, **33**, 625.

Astrafloxine FF A-00449

2-[3-(1,3-Dihydro-2H-indol-2-ylidene)-1-propenyl]-1,3,3-trimethyl-3H-indolium(1+), 9CI

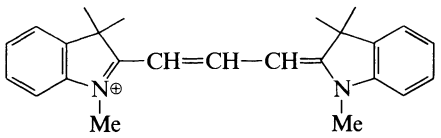


$C_{22}H_{23}N_2^{\oplus}$ M 315.437 (ion)
Strictly, the name Astrafloxine FF applies to the chloride. Tautomerism possible.
Chloride: [23134-01-2].
$C_{22}H_{23}ClN_2$ M 350.890
Used as a 1m*M* aq. soln. for extraction-photometric detn. of Hg (λ_{max} 568 nm, ε 102000). Forms ion pairs with $HgBr_3^{\ominus}$ and $HgI_3^{\ominus}$. Dark red bluish cryst. powder.

Kish, P.P. *et al, Zh. Anal. Khim.*, 1977, **32**, 1942.

Astrafloxine G A-00450

2-[3-(1,3-Dihydro-1,3,3-trimethyl-2H-indol-2-ylidene)-1-propenyl]-1,3,3-trimethyl-3H-indolium(1+), 9CI. C.I. Basic red 12. C.I. 48070. Aizen astraphloxine FF. Basic phloxine FF. Calcozine red BG. Cosmophloxine F



$C_{25}H_{29}N_2^{\oplus}$ M 357.517 (ion)

Basic dye. Strictly, the name Astrafloxine G applies to the chloride.

Chloride: [6320-14-5].

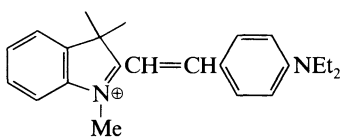
$C_{25}H_{29}ClN_2$ M 392.970

Used for extraction-photometric detn. of Re (ε 110000, C_6H_6), Ti(*III*). Violet cryst. powder. Sol. H_2O, EtOH, 2-ethoxyethanol; insol. C_6H_6, CCl_4.

Konig, W., *Ber.*, 1924, **57**, 685 (*synth*)
Borisova, I.A. *et al*, *Khim. Khim. Tekhnol.* (*Minsk*), 1973, 122; *CA*, **81**, 85607y.
Constantinescu, C. *et al*, *Rev. Chim.* (*Bucharest*), 1982, **33**, 167; *CA*, **97**, 119680g.

Astra violet 3R A-00451

2-[2-[4-(Diethylamino)phenyl]ethenyl]-1,3,3-trimethyl-3H-indolium(1+), 9CI. C.I. Basic violet 16. Basacryl brilliant red BG. Fabracyl violet 3RA. Maxilon brilliant red 2B. Viocryl violet 3RBS. Intradene brilliant red 2B. Aizen cathilon-red 5BH. C.I. 48013. Numerous other proprietary names



$C_{23}H_{29}N_2^{\oplus}$ M 333.495 (ion)

Strictly, the name Astra violet 3R applies to the chloride.

Chloride: [6359-45-1].

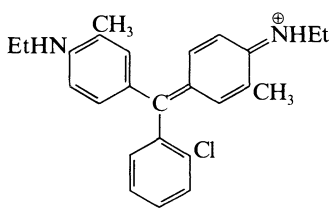
$C_{23}H_{29}ClN_2$ M 368.948

Used as 0.05% aq. soln. for photometric detn. of Au (forms ion-pair with the $Au(CN)_2^{\ominus}$ complex). Dark red-violet cryst. powder. Sol. H_2O, EtOH, Me_2CO; insol. C_6H_6, CCl_4.

Armeanu, V.Y. *et al*, *Anal. Chim. Acta*, 1969, **44**, 230 (*detn, Au*)
Colour Index, *3rd Edn*, 1971, **4**, 4437 (*synth*)

Astrazon blue B A-00452

4-[(2-Chlorophenyl)[4-(ethylimino)-3-methyl-2,5-cyclohexadien-1-ylidene]methyl]-N-ethyl-2-methylbenzenamine, 9CI. C.I. Basic blue 5. C.I. 42140. Astrarhoduline blue 5B. Atacryl blue 5B. Brilliant basic blue R. Elcozine basic blue 5R. Hidaco caribbean blue. Hispacril blue 5B. Primocyanine BX



$C_{25}H_{28}ClN_2^{\oplus}$ M 391.962 (ion)

Triphenylmethane basic dye. Strictly, the name Astrazon blue B applies to the chloride.

Chloride: [3943-82-6].

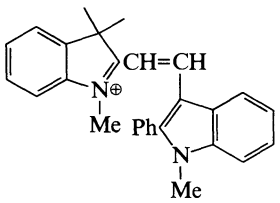
$C_{25}H_{28}Cl_2N_2$ M 427.415

Used as 2% aq. soln. in extraction-photometric detn. of Ga and Re. Bluish cryst. powder. Sol. EtOH, H_2O; insol. C_6H_6, CCl_4.

Armeanu, V.Y. *et al*, *Talanta*, 1967, **14**, 699.
Colour Index, *3rd Edn*, 1971, **4**, 4387 (*synth*)
Constantinescu, C. *et al*, *Rev. Chim.* (*Bucharest*), 1980, **25**, 1421; *CA*, **94**, 113901d.

Astrazon orange R A-00453

1,3,3-Trimethyl-2-[2-(1-methyl-2-phenyl-1H-indol-3-yl)ethenyl]-3H-indolium(1+), 9CI. C.I. Basic orange 22. C.I. 48040. Aizen cathilon orange RH. Atacryl orange LR. Catacryl orange R. Sumiacryl orange R



$C_{28}H_{27}N_2^{\oplus}$ M 391.535 (ion)

Strictly, the name Astrazon orange R applies to the chloride.

Chloride: [4657-00-5].

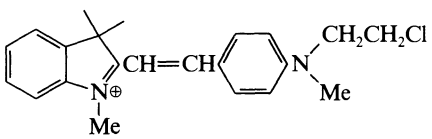
$C_{28}H_{27}ClN_2$ M 426.987

Used as a 7.5m*M* aq. soln. for extraction photometric detn. of Sn(*IV*) (λ_{max} 500 nm, C_6H_6/Me_2CO); acid base indicator. Orange cryst. (HCl aq.). Sol. H_2O, EtOH; insol. C_6H_6, CCl_4.

Colour Index, *3rd Edn*, 1971, **4**, 4438 (*synth*)
Abbadi, M.A. *et al*, *Zh. Org. Khim.*, 1972, **8**, 240g (*use*)
Popa, G. *et al*, *Rev. Chim.* (*Bucharest*), 1979, **30**, 686 (*detn, Sn*)

Astrazon pink FG A-00454

2-[2-[4-[(2-Chloroethyl)methylamino]phenyl]ethenyl]-1,3,3-trimethyl-3H-indolium, 9CI. Astrazon rose FG. C.I. Basic red 13. C.I. 48015. Aizen cathilon pink FGH. Atacryl pink G. Catacryl pink FG. Intradene brilliant pink G. Stanacrile pink G



$C_{22}H_{26}Cl_1N_2^{\oplus}$ M 353.913 (ion)

Methine basic dye. Strictly, the name Astrazon pink FG applies to the chloride.

Chloride: [3648-36-0].

$C_{22}H_{26}Cl_2N_2$ M 389.366

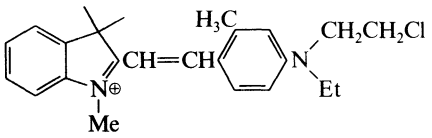
Used as aq. soln. in extraction-photometric detn. of Au, Th. Red cryst. Sol. H_2O, Et_2O.

Colour Index, *3rd Edn*, 1971, **4**, 4438 (*synth*)
Popa, G. *et al*, *Chim. Anal.* (*Bucharest*), 1972, **2**, 243; *CA*, **78**, 131666e (*use, Th*)
Nabivanets, B.I. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 2140 (*use, Au*)

Astrazon red 6B A-00455

2-[2-[4-[(2-Chloroethyl)ethylamino]-2-methylphenyl]ethenyl]-1,3,3-trimethyl-3H-indolium(1+), 9CI. C.I. Basic violet 7. C.I. 48020. Aizen cathilon red 6BH. Atacryl red 6B. Catacryl red 6B. Stenacrile brilliant red 6B. Sumiacryl red N6B

[6441-82-3]



$C_{24}H_{30}ClN_2^{\oplus}$ M 381.967 (ion)

Methine basic dye. Strictly, the name Astrazon red 6B applies to the chloride.

Chloride:

$C_{24}H_{30}Cl_2N_2$ M 417.420

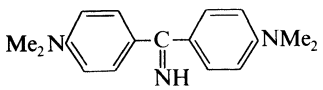
Used as 0.05% EtOH soln. in extraction-photometric detn. of Tl(*III*). Dark violet cryst. powder. Sol. EtOH; spar. sol. H_2O.

Colour Index, 3rd Edn, 1971, **4**, 4438.
Constantinescu, C. *et al*, *Rev. Chim. (Bucharest)*, 1981, **32**, 477; *CA*, **95**, 180184f.

Auramine A-00456

4,4'-Carbonimidoylbis[N,N-dimethylbenzenamine], 9CI. Bis(4-dimethylaminophenyl)methylenimine. 4,4'-Bisdimethylaminobenzophenone imide. Apyonin. Yellow pyoctenin. C.I. Solvent yellow 34

[492-80-8]



$C_{17}H_{21}N_3$ M 267.373

Non light-fast dye for solvents, oils, waxes, lacquers and inks. Used for photometric detn. of $PO_4^{3\ominus}$ (ε 460000). Yellow plates (EtOH). Sol. EtOH, Et_2O, acids; spar. sol. H_2O. Mp 136°.

▷ Highly toxic by skin absorption and inhalation. Human carcinogen, manuf. in the UK controlled by the Carcinogenic Substances Regulations, 1967. BY3500000.

B,HCl: [2465-27-2]. *C.I. Basic yellow 2*

Dye for silk, cotton, wool, leather, paper. Dye for inks; fluorescence probe; has some bacteriostatic activity. Golden-yellow plates + H_2O (H_2O). Spar. sol. cold H_2O. Mp 267°.

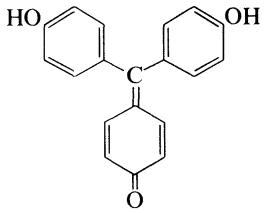
▷ BY3675000.

Lynch, D.F.J. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 2515 (*synth*)
Hellerman, L. *et al*, *J. Am. Chem. Soc.*, 1946, **68**, 1890 (*synth*)
Grishko, V.P. *et al*, *Zavod. Lab.*, 1984, **50**, 13 (*detn*, $PO_4^{\ominus}$)
Muralidharan, D. *et al*, *J. Chromatogr.*, 1986, **368**, 405 (*tlc*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 186.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IBA000, IBB000.

Aurin A-00457

4-[Bis(4-hydroxyphenyl)methylene]-2,5-cyclohexadien-1-one, 9CI. Corallin. C.I. 43800

[603-45-2]



$C_{19}H_{14}O_3$ M 290.318

Dye intermed. Acid-base indicator (pH range 6.9-8.0; colour change brown → red). Deep-red cryst. with metallic lustre. Sol. EtOH (yellow soln.), prac. insol. H_2O, C_6H_6. Dec. at 308-310°.

Na salt: Yellow corallin

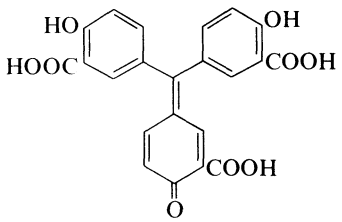
Yellow solid with green metallic lustre. Sol. H_2O (carmine red soln.).

Zulkowsky, K., *Justus Liebigs Ann. Chem.*, 1878, **194**, 109, 122 (*synth*)
Nencki, M. *et al*, *J. Prakt. Chem.*, 1881, **23**, 549 (*synth*)
Stora, C. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1949, **229**, 766 (*struct*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 125 (*use*)

Aurintricarboxylic acid A-00458

5-[(3-Carboxy-4-hydroxyphenyl)(3-carboxy-4-oxo-2,5-cyclohexadien-1-ylidene)methyl]-2-hydroxybenzoic acid, 9CI

[4431-00-9]



$C_{22}H_{14}O_9$ M 422.347

The struct. shown is that generally given in the lit. but Aurintricarboxylic acid actually appears to be a mixt. of polymeric species. Effective inhibitor of complement activity in pharmaceuticals. Potent inhibitor of cellular processes depending on the binding of nucleic acids to proteins. Appears to function as an oligonucleotide mimic.

Tri-NH_4 salt: [569-58-4]. *Aluminon*

$C_{22}H_{23}N_3O_9$ M 473.438

Commercially available. Used as 0.5% aq. soln. in photometric detn. Al, Be, rare earth elements, $F^{\ominus}$; metal indicator in titrimetric detn. of Al, In, Cu *et al*. Reddish-brown powder. Sol. H_2O; sl. sol. EtOH; insol. non-polar solvs.

▷ GU4800000.

Tri-Na salt: [13186-45-3]. *C.I. Mordant violet 39. C.I. 43810*

Dyestuff. Commercially available.

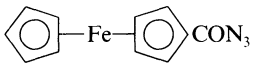
Org. Synth., Coll. Vol., 1, 1932, 54.
Smith, W.H. *et al*, *Anal. Chem.*, 1949, **21**, 1334 (*synth, use*)
Codell, M. *et al*, *Anal. Chem.*, 1953, **25**, 1437 (*detn, Al*)
Dhond, P.V. *et al*, *Anal. Chem.*, 1973, **45**, 1937 (*detn, Be*)
U.S. Pat., 4 007 270, (1977); *CA*, **86**, 177318 (*use*)
Cabrera, F. *et al*, *Analyst (London)*, 1981, **106**, 1296 (*detn, Al*)
Janowski, A. *et al*, *Pol. J. Chem. (Rocz. Chem.)*, 1982, **56**, 451 (*ir*)
Hulanicki, A. *et al*, *Pure Appl. Chem.*, 1983, **55**, 1137 (*use*)

Pannell, L.K. *et al*, *Anal. Chem.*, 1985, **57**, 1060 (*ms*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, New York, 4th Ed., 1986, 21.
Cushman, M. *et al*, *Tetrahedron*, 1990, **46**, 1491 (*struct, bibl*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AGW750.

(Azidocarbonyl)ferrocene, 9CI A-00459

3-Ferrocenoyl azide

[1273-85-4]



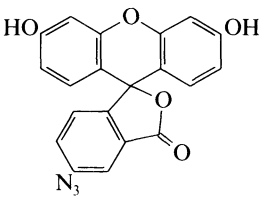
$C_{11}H_9FeN_3O$ M 255.059

Derivatisation reagent for alcohols used in hplc with electrochem. detn. Yellow prisms (Et_2O). Mp 84-85°.

Arimoto, F.S. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 6295 (*synth*)
Schlogl, K. *et al*, *Naturwissenschaften*, 1958, **45**, 337 (*synth*)
Shimaka, K. *et al*, *J. Chromatogr.*, 1986, **352**, 329 (*synth, use*)

Azidofluorescein A-00460

5-Azido-3',6'-dihydroxyspiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one



$C_{20}H_{11}N_3O_5$ M 373.324

Di-Ac: [77162-07-3]. *3',6'-Bis(acetyloxy)-5-azidospiro[isobenzofuran-1(3H), 9'-[9H]xanthen]-3-one, 9CI. Azidofluorescein diacetate. Azido-FDA*

$C_{24}H_{15}N_3O_7$ M 457.398

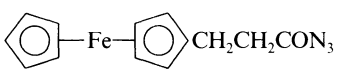
Fluorescent intracellular fluid pH indicator. Orange-red solid.

Rotman, A. *et al*, *Biochemistry*, 1981, **20**, 5995 (*synth, use*)
Rotman, A. *et al*, *Biochim. Biophys. Acta*, 1982, **720**, 75 (*use*)

(3-Azido-3-oxopropyl)ferrocene, 9CI A-00461

3-Ferrocenylpropionylazide

[102563-30-4]



$C_{13}H_{13}FeN_3O$ M 283.112

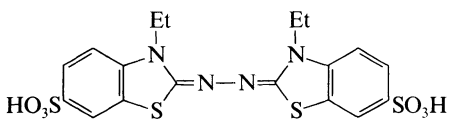
Derivatisation reagent for alcohols used in hplc (with electrochem. detn.). Yellow prisms (Et_2O). Mp 55-56°.

Shimaka, K. *et al*, *J. Chromatogr.*, 1986, **352**, 329 (*synth, use*)

2,2'-Azinobis[3-ethyl-2,3-dihydro-6-benzothiazolesulfonic acid], 9CI A-00462

2,2'-Azinodi(3-ethylbenzothiazoline)sulfonic acid

[28752-68-3]



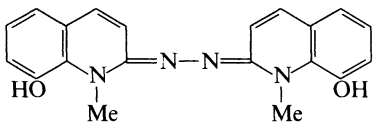
$C_{18}H_{18}N_4O_6S_4$ M 514.627

Used as a 1% soln. in phosphate buffer for photometric detn. of H_2O_2 (λ_{max} 420 nm, ε 51000). Yellow cryst. powder. Sl. sol. H_2O; sol. alkalis.

Hunig, S. *et al*, *Justus Liebigs Ann. Chem.*, 1964, **676**, 32 (*synth*)
Mahuzier, G. *et al*, *Anal. Chim. Acta*, 1975, **76**, 79.
Hasegawa, N. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1981, **30**, 470 (*detn H_2O_2*)

2,2'-Azinobis(8-hydroxy-1-methylquinoline) A-00463

8-Hydroxy-1-methyl-2(1H)-quinolinone azine



$C_{20}H_{18}N_4O_2$ M 346.388

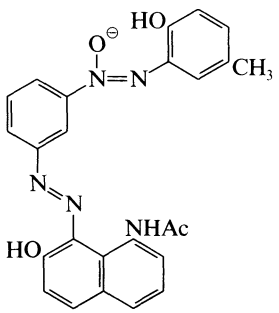
Used as a 0.1m*M* soln. in AcOH for photometric detn. of $NO_2^{\ominus}$. Glistening red plates (ethylcyclohexane/C_6H_6). Sol. C_6H_6. Mp 257-258°.

Fuchs, K. *et al*, *Ber.*, 1928, **61**, 57.
Sawicki, E. *et al*, *Anal. Chem.*, 1963, **35**, 2183 (*synth, detn, $NO_2^{\ominus}$*)

Azo-azoxy AN A-00464

8-Acetamido-1-[3-(2-hydroxy-5-methylphenylazoxy)phenylazo]-2-naphthol. N-[*7-Hydroxy-8-*[[m-[(*6-hydroxy-*m-*tolyl*)-NNO-*azoxy*]*phenyl*]*azo*]-*1-naphthyl*]*acetamide, 8CI*

[19343-40-9]



$C_{25}H_{21}N_5O_4$ M 455.472

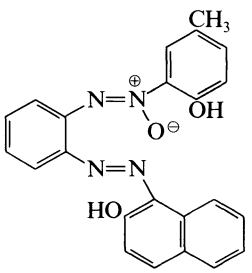
Used for extraction-photometric detn. of Ca, Cu, Sr. Brown cryst. powder. Spar. sol. EtOH; insol. H_2O.

Gorbenko, F.P., *CA*, 1968, **68**, 26573t.

Azo-azoxy BN A-00465

1-[[2-[(2-Hydroxy-5-methylphenyl)azoxy]phenyl]azo]-2-naphthalenol, 9CI. 1-[[o-[(*6-Hydroxy-*m-*tolyl*)-NNO-*azoxy*]*phenyl*]*azo*]-*2-naphthol, 8CI. Azo-azohydroxy BN*

[3837-14-7]



$C_{23}H_{18}N_4O_3$ M 398.420

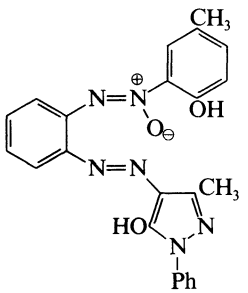
Used for extraction separation of Ca and photometric detn. of Cu, Co, Zn. Orange-red cryst. Sol. CCl_4, $CHCl_3$; spar. sol. 0.5*M* NaOH. Mp 230-231°. pK_{a1} 10.5; pK_{a2} 13.3.

Gorbenko, F.P. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 1198, 1397; 1968, **23**, 1139; 1969, **24**, 15; 1970, **25**, 1884.
Wieteska, E. *et al*, *Chem. Anal. (Warsaw)*, 1972, **17**, 85 (*detn, Co*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 181 (*use*)

Azo-azoxy PMP A-00466

4-[[2-[(2-Hydroxy-5-methylphenyl)-ONN-azoxy]phenyl]azo]-3-methyl-1-phenyl-1H-pyrazol-5-ol, 9CI. 4-[2-(2-Hydroxy-5-methylphenylazoxy)phenylazo]-3-methyl-1-phenyl-2-pyrazolin-5-one

[15175-31-2]



$C_{23}H_{20}N_6O_3$ M 428.449
Used for extraction separation of Sr from Ca, Ba. Sol. CCl_4, $CHCl_3$, C_6H_6; insol. H_2O.

Gorbenko, F.P. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 671.

Azobenzene-4-carboxylic acid A-00467

4-Phenylazobenzoic acid, 8CI. Benzeneazo-p-benzoic acid

[1562-93-2]

$C_{13}H_{10}N_2O_2$ M 226.234
Red leaflets with golden lustre (EtOH). Mp 249°.

Me ester: [2918-88-9].
$C_{14}H_{12}N_2O_2$ M 240.261
Orange-red cryst. (EtOH). Mp 123-124°.

Amide:
$C_{13}H_{11}N_3O$ M 225.249
Red cryst. Mp 224-225°.

Nitrile: 4-Cyanoazobenzene
$C_{13}H_9N_3$ M 207.234
Brown needles (C_6H_6). Mp 120-121°.

Hydrazide: Gives high-melting orange hydrazones with carbonyl compds. Mp 209°.

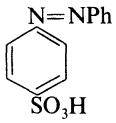
Chloride: [104-24-5].
Forms coloured esters with alcohols. Used for identification and chromatog. sepn. of alcohols, amines and phenols. Mp 92-94°.

Woolfolk, E.O. *et al*, *J. Org. Chem.*, 1955, **20**, 391; 1956, **21**, 436; 1957, **22**, 827 (*use, chloride*)
Syz, M. *et al*, *Helv. Chim. Acta*, 1965, **48**, 383 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 44, 832.
Bakke, J. *et al*, *Acta Chem. Scand.*, 1972, **26**, 355 (*synth*)

Azobenzene-4-sulfonic acid A-00468

4-Phenylazobenzenesulfonic acid, 9CI. p-*Sulfoazobenzene*

[2484-88-0]



$C_{12}H_{10}N_2O_3S$ M 262.289
Orange-red cryst. + $3H_2O$ (H_2O), cryst.(EtOH). Mp 127° (hydrate), Mp 82-83° (anhyd.).

Chloride: [58359-53-8].
$C_{12}H_9ClN_2O_2S$ M 280.734
Forms highly cryst. orange or red derivs. with amines. Derivatisation reagent for densitometric anal. of estrogens. Orange needles (Et_2O). Mp 82°.

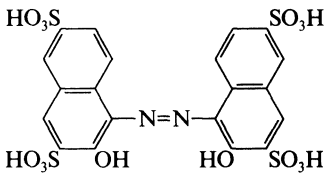
Amide: [77163-67-8].
$C_{12}H_{11}N_3O_2S$ M 261.304
Orange cryst. (EtOH).

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 832.
Penzes, L. *et al*, *J. Chromatogr.*, 1970, **51**, 322 (*use*)
Boto, K.G. *et al*, *Aust. J. Chem.*, 1974, **27**, 1215 (*synth*)

4,4′-Azobis[3-hydroxy-2,7-naphthalenedisulfonic acid], 9CI A-00469

2,2′-Dihydroxy-1,1′-azonaphthalene-3,3′,6,6′-tetrasulfonic acid

[76877-41-3]

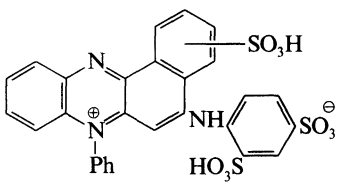


$C_{20}H_{14}N_2O_{14}S_4$ M 634.600
Used as 0.1m*M* aq. soln. as an indicator for complexonometric titration of Ca (λ_{max} 560 nm, pH 12). Dark violet cryst. Sol. H_2O. pK_{a1} 5.73; pK_{a2} 13.5 (25°, μ = 1).

Wada, H. *et al*, *Anal. Chim. Acta*, 1980, **121**, 265 (*synth, detn, Ca*)

Azocarmine B A-00470

5-[(2,4-Disulfophenyl)amino]-7-phenylsulfobenzo[a]phenazinium hydroxide inner salt. Azocarmine BX. C.I. Acid red 103. C.I. 50090



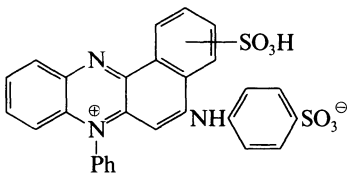
$C_{28}H_{21}N_3O_9S_3$ M 639.687
Strictly the name Azocarmine B applies to the disodium salt.

Di-Na salt: [25360-72-9].
Used as a 0.1% aq. soln. as indicator in bromatometric titrimetric detn. of As(*III*). Commercially available. Dark reddish blue cryst. powder. Sol. H_2O.

Colour Index, 3rd Ed., 1971, **4**, 4447 (*synth*)
Venkateswara Rao, N. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **285**, 125 (*use*)
Ramana, P.V. *et al*, *J. Indian Chem. Soc.*, 1980, **57**, 235 (*use*)

Azocarmine G A-00471

7-Phenylsulfo-5-[(4-sulfophenyl)amino]benzo[a]phenazinium hydroxide inner salt. Rosiniduline. C.I. Acid red 101. C.I. 50085



$C_{28}H_{19}N_3O_6S_2$ M 557.607

Strictly the name Azocarmine G applies to the sodium salt.

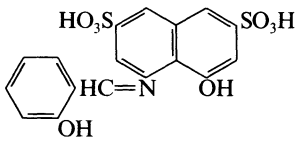
Na salt: [25641-18-3].

Used as a 0.1 % aq. soln. as indicator in bromatometric titrimetric detn. of As(*III*), Sb(*III*); redox indicator. Dark red cryst. powder. Sl. sol. H_2O.

Colour Index, 3rd Ed., 1971, **4**, 4447 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.
Venkateswara Rao, N. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **285**, 125 (*use*)
Ramana, P.V. *et al*, *J. Indian Chem. Soc.*, 1980, **57**, 235 (*use*)

Azomethine H A-00472

4-Hydroxy-5-[[(2-hydroxyphenyl)methylene]amino]-2,7-naphthalenedisulfonic acid, 9CI. 4-Hydroxy-5-(salicylideneamino)-2,7-naphthalenedisulfonic acid



$C_{17}H_{13}NO_8S_2$ M 423.424

Na salt: [32266-60-7].

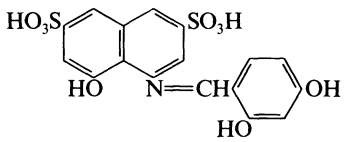
Used in photometric detn. of B, Th, V. Yellow cryst. powder. Sol. H_2O; spar. sol. EtOH, MeOH; insol. Et_2O, Me_2CO, $CHCl_3$. Mp 300° dec.

Poddar, S.N. *et al*, *Indian J. Chem.*, 1965, **3**, 407; 1966, **4**, 371 (*detn, Th, V*)
Basson, W.D. *et al*, *Analyst (London)*, 1969, **94**, 1135.
Schucker, G.D. *et al*, *Anal. Chim. Acta*, 1975, **75**, 95.
Yoshimura, K. *et al*, *Anal. Chim. Acta*, 1979, **109**, 115.
Krug, F.J. *et al*, *Anal. Chim. Acta*, 1981, **125**, 29.

Azomethine HR A-00473

4-[[(2,4-Dihydroxyphenyl)methylene]amino]-5-hydroxy-2,7-naphthalenedisulfonic acid, 9CI

[125552-97-8]



$C_{17}H_{13}NO_9S_2$ M 439.423

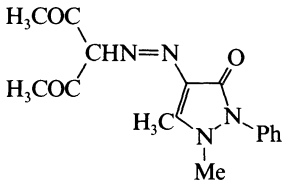
Used as 0.3% aq. soln. (in the presence of ascorbic acid) for photometric detn. of B (λ_{max} 425 nm, ε 20000, pH 7.5). Yellow powder. Sol. H_2O. pK_{a1} 4.2; pK_{a2} 6.8; pK_{a3} 9.5 (0.1*M* KCl, 25°).

Zenki, M. *et al*, *Fresenius' Z. Anal. Chem.*, 1989, **334**, 238 (*synth, detn, B*)

Azonol A1 A-00474

3-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1H-pyrazol-4-yl)azo]-2,4-pentanedione, 9CI. 3-(4-Antipyrylazo)-2,4-pentanedione

[26304-27-8]



$C_{16}H_{18}N_4O_3$ M 314.343

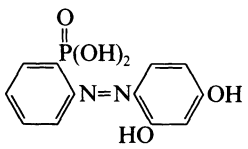
Used as a 0.5m*M* soln. in 20% EtOH for photometric detn. of Sc, heavy metals. Dark red needles (50% EtOH aq.). Sol. EtOH, Me_2CO; mod. sol. H_2O. Mp 148-150° (180°).

Budešinsky, B. *et al*, *Anal. Chim. Acta*, 1970, **49**, 231 (*synth*)
Ishizuki, T. *et al*, *Anal. Chim. Acta*, 1988, **212**, 253.

Azophosphon A-00475

[2-[(Dihydroxyphenyl)azo]phenyl]phosphonic acid, 9CI

[39275-94-0]



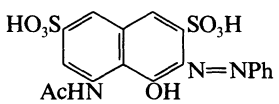
$C_{12}H_{11}N_2O_5P$ M 294.203

Used for photometric detn. of Sc (λ_{max} 415 nm, ε 14000). Yellow cryst. powder. Sol. H_2O, alkalis, EtOH.

Lukin, A.M. *et al*, *CA*, 1970, **73**, 31353d; 1973, **78**, 52300v.

Azorhodine 2G A-00476

5-(Acetylamino)-4-hydroxy-3-(phenylazo)-2,7-naphthalenedisulfonic acid, 9CI. C.I. Acid red 1. C.I. Food red 10. C.I. 18050. Brilliant acid red G. Fast crimson GR. Naphthazine rose 2G. Solar fast red 3G. Vopsider red ASTR G. Numerous other proprietary names



$C_{18}H_{15}N_3O_8S_2$ M 465.464

Strictly, the name Azorhodine 2G applies to the disodium salt.

▷ QJ6030000.

Di-Na salt: [3734-67-6].

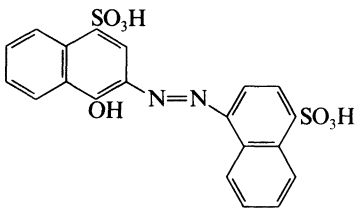
$C_{18}H_{13}N_3O_8S_2$ M 463.448

Used for photometric detn. of Pd; as 0.01% soln. in EtOH to give colour reactions with Fe(*III*), Pd. Dark red cryst. Sol. H_2O; sl. sol. EtOH; insol. Et_2O.

Popa, G. *et al*, *Zh. Anal. Khim.*, 1959, **14**, 322 (*detn, Pd*)
Mathur, J.N. *et al*, *Indian J. Appl. Chem.*, 1970, **33**, 209.
Colour Index, *3rd Edn*, 1971, **4**, 4116 (*synth*)
Nemodruk, A.A. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 326 (*detn, Fe*)

Azorubine A-00477

4-Hydroxy-3-[(4-sulfo-1-naphthalenyl)azo]-1-naphthalenesulfonic acid, 9CI. C.I. Chromotrope FB. C.I. Acid red 14. C.I. Food red 3. C.I. Mordant blue 79. C.I. 14720. Brilliant carmoisine. Lissamine red W. Nacarat. Numerous other proprietary names



$C_{20}H_{14}N_2O_7S_2$ M 458.472

Strictly, the name Azorubine applies to the disodium salt.

Di Na salt: [3567-69-9].

Used in photometric detn. of Mg, Pd, Cu, Sn, Cr. Dark red cryst. powder. Sol. H_2O; mod. sol. EtOH; insol. Me_2CO.

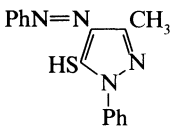
▷ QK1925000.

Colour Index, 3rd Edn, 1971, **4**, 4068 (*synth*)
Bosch Serrat, F., *An. Quim.*, 1972, **68**, 155; *CA*, **77**, 42752s (*detn, Mg*)
Bosch Serrat, F., *Inf. Quim. Anal.*, 1973, **27**, 14; *CA*, **79**, 111414p (*detn, Pd*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HJF500.

Azothiopyrine A-00478

5-Mercapto-3-methyl-1-phenyl-4-(phenylazo)-1H-pyrazole. 3-Methyl-1-phenyl-4-(phenylazo)-1H-pyrazole-5-thiol

[78431-22-8]



$C_{16}H_{14}N_4S$ M 294.379

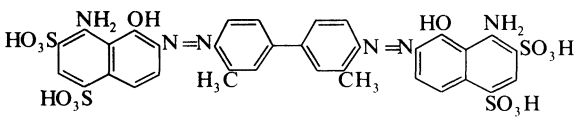
Used as 0.1% soln. in MeOH for extraction-photometric detn. of Ni, Co, (alkaline media), Ag, Cu, Hg, Pd (acid media). Reddish-orange needles (C_6H_6). Insol. H_2O; sol. C_6H_6, pet. ether, alkalis. Mp 100-101°.

Tanaka, T. *et al*, *Chem. Pharm. Bull.*, 1981, **29**, 445 (*synth*)

Azovan blue, BAN A-00479

6,6'-[3,3'-Dimethyl(1,1'-biphenyl)-4,4'-diyl]bis(azo)bis[4-amino-5-hydroxy-1,3-naphthalenedisulfonic acid], 9CI. Chlorazol sky blue FF. C.I. Direct blue 53. Diamine sky blue FF. Evablin. ***Evans blue,*** **USAN.** *T 1824*

[314-13-6]



$C_{34}H_{24}N_6Na_4O_{14}S_4$ M 960.818

Commonly used as tetra-Na salt. Diagnostic aid for measurement of blood volume. Dyestuff. Used as 0.04% aq. soln. in photometric detn. of Mg. Blue cryst. with brown/green lustre. Sol. H_2O, EtOH, acid, alkalis.

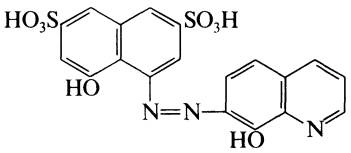
▷ QJ6440000.

Org. Synth., Coll. Vol., 2, 1943, 145 (*synth*)
Mani, R.S. *et al*, *Indian J. Chem.*, 1966, **4**, 498 (*synth*)
Chauhan, U.P. *et al*, *Talanta*, 1967, **14**, 575 (*use, detn, Mg*)
Gloria, T.S., *Rev. Bras. Farm.*, 1973, **54**, 55 (*pharmacol*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2123.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BGT250.

Azoxin H A-00480

4-Hydroxy-5[(8-hydroxy-7-quinolyl)azo]-2,7-naphthalenedisulfonic acid, 8CI

[28539-45-9]



$C_{19}H_{13}N_3O_8S_2$ M 475.459

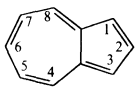
Used in photometric detn. of Hg (λ_{max} 540 nm, ε 35000). Dark red-brown cryst. powder + $3H_2O$. Sol. H_2O, EtOH, spar. sol. Me_2CO. pK_{a1} 8.7; pK_{a2} 12.8.

Cherkesov, A.I. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 466.

Azulene, 9CI A-00481

Bicyclo[5.3.0]deca-1,3,5,7,9-pentaene

[275-51-4]



$C_{10}H_8$ M 128.173

Aromatic hydrocarbon. Occurs in camomile and other essential oils. Used as a 0.1% soln. in glac. AcOH for photometric detn. of $NO_2^{\ominus}$ (λ_{max} 515 nm, ε 52000). Greenish-black cryst. or blue needles (hexane). Sol. conc. acids, C_6H_6; insol. H_2O. Mp 99°, Mp 93°. Isomerises to Naphthalene at 270°.

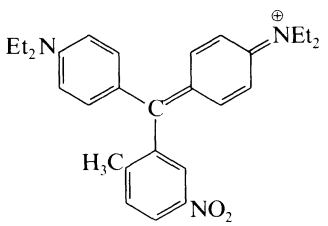
▷ CO4570000.

Plattner, Pl.A. *et al*, *Helv. Chim. Acta*, 1937, **20**, 224; 1952, **35**, 1036 (*synth, uv*)
Braude, E.A. *et al*, *J. Chem. Soc.*, 1953, 2208 (*synth*)
Garcia, E.E. *et al*, *Anal. Chem.*, 1967, **39**, 1605 (*detn, $NO_2^{\ominus}$*)
Jones, A.J. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 2386 (*cmr*)
Altridge, C.J. *et al*, *Organomet. Chem. Synth.*, 1971, **1**, 183 (*synth*)
Eland, J.H.D., *Int. J. Mass Spectrom. Ion Phys.*, 1972, **9**, 214.

B

Basic turquoise B-00001

N-[4-[[4-(Diethylamino)phenyl](2-methyl-5-nitrophenyl) methylene]-2,5-cyclohexadien-1-ylidene]-N-ethylethanaminium(1+), 9CI. C.I. Turquoise blue. Turquoise blue B. C.I. 42037



$C_{28}H_{34}N_3O_2^{\oplus}$ M 444.595 (ion)

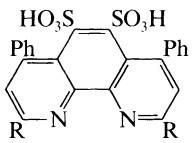
Strictly the name Basic turquoise applies to the trichlorozincate salt; also applies to the *N,N'*-di-Me compd.

Trichlorozincate: [7140-99-0].
$C_{28}H_{34}Cl_3N_3O_2Zn$ M 616.344
Used as 1m*M* aq. soln. for extraction-photometric detn. of Co (λ_{max} 610 nm, toluene/DMF). Cryst. (MeOH). Sol. H_2O.

Colour Index, 3rd Ed., 1971, **4**, 4382 (*synth*)
Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1987, **42**, 1082 (*detn, Co*)

Bathocuproinedisulfonic acid B-00002

2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline-5,6-disulfonic acid, 9CI



R = CH_3

$C_{26}H_{20}N_2O_6S_2$ M 520.586

Di-Na salt: [58814-68-9].
Used for photometric detn. of Fe, Cu. Hygroscopic light tan cryst. (H_2O). Sol. H_2O. Shows blue fluoresc.

[52698-84-7]

Zak, B., *Clin. Chim. Acta*, 1958, **3**, 328 (*use*)
Blair, D. *et al*, *Talanta*, 1961, **7**, 163 (*use*)
Quarmby, C. *et al*, *Analyst (London)*, 1967, **92**, 305 (*use*)
Fuhrman, D.L. *et al*, *Talanta*, 1967, **14**, 1199 (*use*)
West, T.S. *et al*, *The Determination of Trace Metals in Natural Waters*, Blackwell, Oxford, 1988, 52.

Bathophenanthrolinedisulfonic acid B-00003

4,7-Diphenyl-1,10-phenanthroline-5,6-disulfonic acid, 9CI

[28061-20-3]

As Bathocuproinedisulfonic acid, B-00002 with

R = H

$C_{24}H_{16}N_2O_6S_2$ M 492.532
Syrupy liq.

Di-Na salt: [52746-49-3].
Used for photometric detn. of Fe. Light tan cryst. (H_2O). Sol. H_2O.

Zak, B., *Am. J. Clin. Pathol.*, 1958, **29**, 590 (*use*)
Blair, D. *et al*, *Talanta*, 1961, **7**, 163 (*use*)

Benzaldehyde B-00004

[100-52-7]

PhCHO

C_7H_6O M 106.124

Found in plants, esp. in almond kernels. Derivs. (e.g. glyceryl acetal) are used as flavourings. Used for photometric detn. of O_3. Forms benzylidine derivs. with sugars for ms anal. Liq. with characteristic almond-type odour. V. spar. sol. H_2O, misc. org. solvs. d_4^{15} 1.0504. Mp −26°, Fp −56.9° to −55.6°. Bp 178-179°, Bp_{10} 62°. pK_a 14.90 (hydrate) (25°, 1% EtOH). Steam-volatile. Forms bisulphite compd. Slowly oxid. in air. Reduces $AgNO_3.NH_2$ but not Fehling's soln.

▷ Mod. toxic orally. Violently oxid. by 90% HCOOOH. CU4375000.

(E)-*Oxime:* [622-31-1]. *α-Oxime. α-Benzaldoxime*
C_7H_7NO M 121.138
Used as EtOH soln. for detn. of Co and Ni (pptn.). Needles. Sol. EtOH. Mp 35°. Bp_{10} 118-119°.

(Z)-*Oxime:* [622-32-2]. *β-Oxime*
Needles (Et_2O). Mp 130°. Gradually inverts to (*E*)-form, more rapidly on heating or by dil. acids.

Di-Et acetal: [774-48-1]. *(Diethoxymethyl)benzene. Diethoxyphenylmethane*
$C_{11}H_{16}O_2$ M 180.246
Liq. d_4^{25} 0.979. Bp 217-221°.

Semicarbazone: [1574-10-3].
Mp 222° (rapid heat, 233-235°).

Cyanhydrin: see *Mandelic acid, M-00007*

Hydrazone: [5281-18-5]. *Benzylidenehydrazine*
$C_7H_8N_2$ M 120.154
Leaflets. Mp 16°. Bp_{14} 140°.

Phenylhydrazone: [588-64-7].
Two forms known. Mp 157-158°, Mp 154-155°.

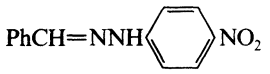
4-Nitrophenylhydrazone: Two forms known. Mp 234-236°, Mp 261-262°.

2,4-Dinitrophenylhydrazone: Mp 237°.

Briner, E. *et al*, *Helv. Chim. Acta*, 1937, **20**, 293.
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **3** (*synth, use, oxime*)
Org. Synth., 1971, **51**, 11, 20, 31; 1974, **54**, 42; 1977, **56**, 36 (*synth*)
Morris, W.W., *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 1037 (*ir*)
Naik, D.V. *et al*, *Acta Crystallogr., Sect. B*, 1974, **30**, 2396 (*cryst struct, semicarbazone*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 26.
Org. Synth., 1977, **56**, 36 (*synth*)
Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1493 (*cmr*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 627, 300.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 189.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BAY500.

Benzaldehyde (4-nitrophenyl)hydrazone, 9CI B-00005

[3078-09-9]

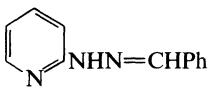


$C_{13}H_{11}N_3O_2$ M 241.249
Acid-base indicator (pH range: 11-12; colour change: yellow→red). Used as a 0.5% soln. in MeOH. Yellow cryst. (EtOH). Sol. EtOH; insol. H_2O. Mp 211°. pK_a 11.5.

Cuisa, R. *et al*, *Gazz. Chim. Ital.*, 1922, **52II**, 215 (*synth*)
O'Connor, R., *Anal. Chem.*, 1961, **33**, 1282 (*use*)

Benzaldehyde 2-pyridinylhydrazone, 9CI B-00006

[2719-73-5]

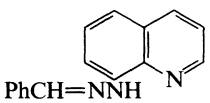


$C_{12}H_{11}N_3$ M 197.239
Used as 1% soln. in EtOH for photometric detn. of Co (λ_{max} 550 nm, ε 27000). Cryst. (EtOH). Sol. $CHCl_3$, C_6H_6, EtOH; insol. H_2O. Mp 140-141°.

Pflaum, R.T. *et al*, *Anal. Chem.*, 1971, **18**, 458 (*use*)

Benzaldehyde 8-quinolinylhydrazone, 9CI B-00007

[82633-14-5]



$C_{16}H_{13}N_3$ M 247.299
Used as a 0.01*M* soln. in 0.05*M* HCl in EtOH to give colour reaction with Cu(*I*). Cryst. (MeOH). Sol. common org. solvs. Mp 118°.

Schilt, A.A. *et al*, *Talanta*, 1980, **27**, 338 (*synth*, *use*)

Benzamide B-00008

[55-21-0]

C_7H_7NO M 121.138
Isol. from the leaves of *Homalium foetidum*. Plates (H_2O). Spar. sol. H_2O, Et_2O; sol. EtOH. Mp 130°. Bp 288° part. dec.

▷ CU8700000.

N-*Chloro:* [1821-34-7]. N-*Chlorobenzamide*, *9CI*
C_7H_6ClNO M 155.583
Used as titrant (0.033*M* aq. soln.) for potentiometric detn. of reductants (e.g. As(*III*), $I^{\ominus}$, $SO_3^{2\ominus}$, $S_2O_3^{2\ominus}$). Cryst. (H_2O). Sol. H_2O. Mp 116°.

N-*Bromo:* [19964-97-7].
C_7H_6BrNO M 200.034
Plates (C_6H_6). Mp 129-131°.

N-*Et:* [614-17-5].
$C_9H_{11}NO$ M 149.192
Needles (H_2O). Mp 70-71°. Bp 298-300°.

▷ CV4920000.

N-*Di-Et:* [1696-17-9].
$C_{11}H_{15}NO$ M 177.246
Bp 280-282°.

▷ CV4202000.

N-(*Aminoiminomethyl*): see N-(*Aminoiminomethyl*) *benzamide*, *A-00226*

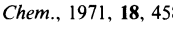
N-*Methylsulfonyl*, *oxime:* see N-*Methanesulfonylbenzamidoxime*, *M-00067*

Ellioth, G.R., *J. Chem. Soc.*, 1922, **121**, 203 (*synth*)
Kao, C.H. *et al*, *J. Chem. Soc.*, 1930, 2788 (*synth*)
Hauser, C.R. *et al*, *J. Am. Chem. Soc.*, 1937, **59**, 121 (*N-bromo*)
Singh, B. *et al*, *Fresenius' Z. Anal. Chem.*, 1963, **196**, 323.
Johns, S.R. *et al*, *Aust. J. Chem.*, 1969, **22**, 1315 (*isol*)
Blake, C.C.F. *et al*, *Acta Crystallogr., Sect. B*, 1972, **28**, 2201 (*cryst struct*)
Lord, G.H. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1973, 572 (*ms*)
Gottaroli, W., *Monatsh. Chem.*, 1975, **106**, 611 (*N-bromo*)
Jones, R.G. *et al*, *Org. Magn. Reson.*, 1978, **11**, 20 (*cmr*)
Calvert, D.J. *et al*, *Aust. J. Chem.*, 1979, **32**, 337 (*pmr*)
Nishinaga, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1979, 970 (*synth*)
Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1492 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BBB000, BCM250.

Benzamidine B-00009

Benzenecarboximidamide, *9CI*

[618-39-3]



$C_7H_8N_2$ M 120.154
Cryst. Mp 75-80°.

B,HCl: [1670-14-0].
Cryst. + $2H_2O$. Mp 72° (anhyd. 169°).

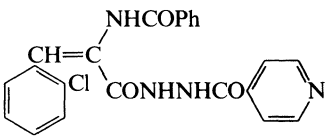
Picrate: Yellow needles (EtOH). Mp 236-237° (230°).

4-Methylbenzenesulfonyl: Mp 195°.

[59387-41-6]

Org. Synth., Coll. Vol., 1, 1932, 6 (*synth*)
Partridge, M.W. *et al*, *J. Chem. Soc.*, 1947, 390.
Ried, W. *et al*, *Chem. Ber.*, 1963, **96**, 1213 (*synth*)
Wagner, G. *et al*, *Pharmazie*, 1975, **30**, 444 (*ir*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 27.
Thailambal, V.G. *et al*, *Acta Crystallogr., Sect. C*, 1986, **42**, 587 (*cryst struct*)

α-Benzamido-*o*-chlorocinnamic acid isonicotinylhydrazide, 8CI B-00010

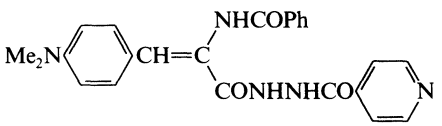


$C_{22}H_{17}ClN_4O_3$ M 420.854
Used for photometric detn. of Cu. Orange cryst. (EtOH).

Teodorescu, N. *et al*, *Fresenius' Z. Anal. Chem.*, 1967, **232**, 119 (*detn*, *Cu*)

1-[α-Benzamido-*p*-(dimethylamino) cinnamoyl]-2-isonicotinoylhydrazide, 8CI B-00011

[2134-08-9]



$C_{24}H_{23}N_5O_3$ M 429.477

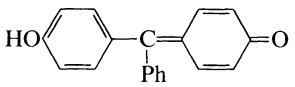
Used as 0.025*M* soln. in DMF as an acid-base indicator. Orange cryst. (EtOH). Sol. common org. solvs. Mp 273°.

Teodorescu, N. *et al*, *Rev. Roum. Chim.*, 1971, **16**, 63 (*synth, use*)

Benzaurin B-00012

4-[(4-Hydroxyphenyl)phenylmethylene]-2,5-cyclohexadien-1-one, 9CI. Phenolbenzein

[569-60-8]



$C_{19}H_{14}O_2$ M 274.318

Used as a 0.1% soln. in EtOH as an acid-base indicator (pH range: 6.0 - 7.6; colour change: yellow → red). Orange red cryst. Sol. EtOH; insol. H_2O.

Orndorff, W.R. *et al*, *J. Am. Chem. Soc.*, 1925, **47**, 2767 (*synth, use, ind*)

Bury, C.R., *J. Am. Chem. Soc.*, 1935, **57**, 2115 (*struct*)

Benzenebutane(dithioic)acid, 9CI B-00013

3-Phenylpropylxanthic acid

[128538-43-2]

$C_{10}H_{12}S_2$ M 196.337

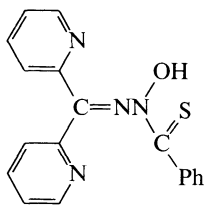
Used as 1% aq. soln. for extraction-separation of Tl(*I*) ($CHCl_3$). Yellow cryst. Sol. H_2O, alkalis, EtOH.

Schweitzer, G.K. *et al*, *Anal. Chim. Acta*, 1966, **35**, 467 (*sepn, Tl*)

Benzenecarbothioic acid 2-hydroxy(di-2-pyridinylmethylene)hydrazide, 9CI B-00014

Di-2-pyridinylmethanone 2-hydroxythiobenzoylhydrazone

[73697-18-4]



$C_{18}H_{14}N_4OS$ M 334.401

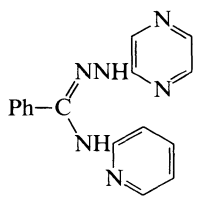
Used as 0.01*M* soln. in EtOH or Me_2CO for extraction-photometric detn. of Re (in the presence of $SnCl_2$, 4-methyl-2-pentanone). Orange red cryst. (EtOH). Sol. EtOH, Me_2CO, $CHCl_3$. Mp 82°.

Kettrup, A. *et al*, *Anal. Chim. Acta*, 1980, **115**, 383 (*synth, detn, Re*)

Benzenecarboximidic acid *N*-2-pyridinyl-2-pyrazinylhydrazone, 9CI B-00015

N-*2-Pyridylbenzamide pyrazinylhydrazone*

[58495-48-0]



$C_{16}H_{14}N_6$ M 290.327

Used as a soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 422 nm, ε 4200), Co (λ_{max} 446 nm, ε 11000), Fe(*II*). Cryst. Sol. common org. solvs.

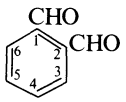
Case, F.H., *J. Chem. Eng. Data*, 1976, **21**, 124 (*synth*)

Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 373 (*use*)

1,2-Benzenedicarboxaldehyde, 9CI B-00016

o-*Phthalaldehyde, 8CI. 1,2-Diformylbenzene*

[643-79-8]



$C_8H_6O_2$ M 134.134

Fluorogenic reagent for amino acids. Cryst. (ligroin). Mp 55.5-56°. pK_{a1} 13.00 (hydrate) (25°). Steam-volatile. Non-benzenoid tautomers have been characterised in Ar matrix.

▷ TH6950000.

Tetra-Ac:

$C_{16}H_{18}O_8$ M 338.313

Mp 126-127°.

Bisphenylhydrazone: Mp 190-191°.

Aldrich Library of IR Spectra, **2**, 278H (*ir*)

Aldrich Library of NMR Spectra, **6**, 81B (*pmr*)

Chaudhuri, T.C., *J. Am. Chem. Soc.*, 1942, **64**, 315 (*synth*)

Caujolle, F. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1956, **243**, 1933 (*tox*)

Org. Synth., Coll. Vol., 4, 1963, 807 (*synth*)

Hervieu, J. *et al*, *J. Chromatogr.*, 1967, **29**, 274 (*chromatog*)

Person, M. *et al*, *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1972, **275**, 527; *CA*, **78**, 10865 (*polarog*)

Tomasik, P. *et al*, *Bull. Acad. Pol. Sci., Ser. Sci. Chim.*, 1974, **22**, 1065; *CA*, **82**, 124540 (*uv*)

Lee, K.S. *et al*, *Int. J. Biochem.*, 1978, **9**, 457 (*use, rev*)

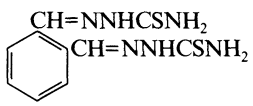
Gebicki, J. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1990, 765 (*tautom*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PHV500.

1,2-Benzenedicarboxaldehyde bis(thiosemicarbazone) B-00017

2,2'-(1,2-Phenylenedimethylidene) bishydrazinecarbothioamide, 9CI. o-Phthalaldehyde bis(thiosemicarbazone)

[58244-15-8]



$C_{10}H_{12}N_6S_2$ M 280.377

Used for photometric detn. of Pd (λ_{max} 405 nm, ε 11000, pH 3.0 - 4.5). Cryst. Sol. DMF.

Lopez, P.J. *et al*, *Quim. Anal. (Madrid)*, 1984, **3**, 226; *CA*, **103**, 47421y (*detn, Pd*)

1,2-Benzenedicarboxylic acid, 9CI B-00018

Phthalic acid, 8CI. Naphthalinic acid. Phthalinic acid. Alizarinic acid

[88-99-3]

$C_8H_6O_4$ M 166.133

Obt. industrially by oxidn. of *o*-Xylene and Naphthalene. Found in *Gibberella fujikuroi*. Esters are important plasticisers. Used for gravimetric detn. of Pb. Used as aq. soln. in buffer solns.; alkalimetric standard (as K salt). Plates (H_2O). Mod. sol. H_2O, EtOH; sol. hot H_2O, alkalis; spar. sol. Et_2O. Mp 210° dec., Mp 234°. pK_{a1} 2.95; pK_{a2} 5.41 (H_2O, 25°). Forms anhydride at Mp. Reports of the isoln. of phthalate esters as nat. prods. are in many and prob. all cases erroneous because of their ubiquitous presence in solvs., laboratory plastics, etc. as plasticisers.

▷ TH9625000.

Mono-Me ester: [4376-18-5].
$C_9H_8O_4$ M 180.160
Needles (C_6H_6). Mp 85°.

Di-Me ester: [131-11-3]. *Dimethyl phthalate*
$C_{10}H_{10}O_4$ M 194.187
Liq. Mp 0°. Bp 282.4°, Bp_2 116-116.5°.
▷ Toxic TLV 5, exp. carcinogen. TI1575000.

Di-Ph ester: [84-62-8]. *Diphenyl phthalate*
$C_{20}H_{14}O_4$ M 318.328
Reagent used for conversion of amino acids to *N*-phthalenyl derivs. without racemisation. Mp 74-76°.

Dichloride: [88-95-9].
$C_8H_4Cl_2O_2$ M 203.024
Reagent for converting acids and anhydrides to acid chlorides. Mp 15-16°. Bp 281°, Bp_{22} 153.3°.

Imide: see *Phthalimide, P-00223*

Anhydride: see *Phthalic anhydride, P-00222*

Monothioureide: [36053-26-6]. *2-[[(Aminothioxomethyl) amino]carbonyl]benzoic acid, 9CI*
$C_9H_8N_2O_3S$ M 224.240
Used as 1% MeOH soln. for photometric detn. of Pd (λ_{max} 360, 428 nm). Cryst. Sol. MeOH, EtOH.

Registry of Mass Spectral Data, Wiley-Interscience, 543 (*ms*)
Sadtler Standard C-13 NMR Spectra, 979 (*cmr*)
Sadtler Standard Ultraviolet Spectra, 1730 (*uv*)
Kolthoff, I.M. *et al*, *Ind. Eng. Chem., Anal. Ed.*, 1943, **15**, 174 (*buffer*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, N.Y., 1947, **2**, 75 (*use*)
Cross, B.E. *et al*, *J. Chem. Soc.*, 1963, 2937 (*isol*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 347, 883.
Gregorowicz, Z. *et al*, *Chem. Anal. (Warsaw)*, 1972, **17**, 727 (*synth, detn, Pd*)
Burger, K., *Organic Reagents in Metal Analysis*, Akadémiai Kiadó, Budapest, 1973 (*use*)
Aldrich Library of NMR Spectra, 1974, **6**, 153B (*pmr*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 843D (*ir*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **17**, 732 (*rev*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DEH200, DJX000, DTR200, DVL700, PHW250.

1,3-Benzenedicarboxylic acid B-00019

Isophthalic acid. m-*Phthalic acid*

[121-91-5]

$C_8H_6O_4$ M 166.133
Found in the rhizome of *Iris versicolor*. Esters form polymers with a variety of compds. Needles (H_2O or EtOH). Mp 345-347°, Mp 348°. pK_{a1} 3.50; pK_{a2} 4.50 (25°). Subl.

▷ NT2007000.

Mono-Me ester:
$C_9H_8O_4$ M 180.160
Mp 193°.

Mono-Et ester:
$C_{10}H_{10}O_4$ M 194.187
Mp 115-117°.

Di-Me ester: [1459-93-4].
$C_{10}H_{10}O_4$ M 194.187
Corrosion inhibitor for steel welds and used in manuf. of polyesters. Needles (EtOH aq.). Mp 67.8-68.3°. Bp 282°, Bp_{12} 124°.
▷ NT2540000.

Di-Et ester: [636-53-3].
$C_{12}H_{14}O_4$ M 222.240
Used in manuf. of polyesters. Mp 11.5°. Bp 285°, Bp 302°, $Bp_{2.4}$ 170-170.5°.
▷ NT2500000.

Dichloride: [99-63-8].
$C_8H_4Cl_2O_2$ M 203.024
Mp 43-44°. Bp 276°.
▷ NT2625000.

Monoamide: [4481-28-1]. *Isophthalamic acid*
$C_8H_7NO_3$ M 165.148
Needles (MeOH). Mp 280°.

Diamide: [1740-57-4].
$C_8H_8N_2O_2$ M 164.163
Mp 280°.

Diamide, N,N′-OH: [20073-81-8]. *Isophthaldihydroxamic acid. N,N′-Dihydroxybenzenedicarboxamide, 9CI. N,N′-Dihydroxyisophthalamide*
$C_8H_8N_2O_4$ M 196.162
Used as a 0.4*M* aq. soln. for extraction-photometric detn. of Mn (λ_{max} 480 nm, ε 8500), V, Mo(*VI*) (λ_{max} 350 nm, ε 6050). Cryst. Sol. H_2O, EtOH.

Dinitrile: [626-17-5]. *1,3-Dicyanobenzene*
$C_8H_4N_2$ M 128.133
Mp 161.5-162°.
▷ CZ1900000.

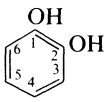
[91816-63-6]

Aldrich Library of IR Spectra, 2nd Ed., 843F (*ir*)
Aldrich Library of NMR Spectra, **6**, 153 (*pmr*)
Morton, A.A. *et al*, *J. Am. Chem. Soc.*, 1943, **65**, 1339 (*synth*)
Derrissen, J.L., *Acta Crystallogr., Sect. B*, 1974, **30**, 2764 (*cryst struct*)
Salinas, F. *et al*, *Anal. Lett.*, 1983, **16**, 999, 1449 (*detn, V, Mn*)
Salinas, F. *et al*, *Microchem. J.*, 1985, **31**, 113; **32**, 383 (*detn, Mn, Mo*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IMJ000, IML000, IMO000, PHX550.

1,2-Benzenediol, 9CI B-00020

Pyrocatechol, 8CI. Catechol. 1,2-Dihydroxybenzene. Pyrocatechuic acid

[120-80-9]



$C_6H_6O_2$ M 110.112
Isol. from various plant sources and by hydrol. of tannins. Used as 5% aq. soln. for photometric detn. of Nb, Os, Ta, Ti, W; complexing agent of some metals (e.g. Al, Ti) (anionic complexes associated with basic dyes). Needles (H_2O). Sol. H_2O, EtOH. Mp 105°. Bp 240°. pK_{a1} 9.23; pK_{a2} 13.0 (25°). Sublimes. Steam-volatile.

▷ Toxic by skin absorption, irritant, causes burns, TLV 20. Explodes on contact with conc. nitric acid. UX1050000.

Mono-Ac:

$C_8H_8O_3$ M 152.149
Leaflets. Mp 57-58°. Bp_{102} 189-191°.

Di-Ac: [635-67-6].
$C_{10}H_{10}O_4$ M 194.187
Needles (EtOH). Mp 63.5°.

Monobenzoyl: [5876-92-6].
$C_{13}H_{10}O_3$ M 214.220
Cryst. (EtOH/Et_2O). Mp 131°.

Dibenzoyl: [643-94-7].
$C_{20}H_{14}O_4$ M 318.328
Cryst. Mp 84°.

Mono-Me ether: see *2-Methoxyphenol, M-00102*

Di-Me ether: see *1,2-Dimethoxybenzene, D-00766*

Mono-Et ether: [94-71-3]. *2-Ethoxyphenol*
$C_8H_{10}O_2$ M 138.166
Mp 28-29°. Bp 217°. pK_{a1} 10.11 (25°).

Di-Et ether: [2050-46-6]. *1,2-Diethoxybenzene*
$C_{10}H_{14}O_2$ M 166.219
Mp 43-45°.
▷ CZ5580000.

Me-Et ether: [17600-72-5]. *1-Ethoxy-2-methoxybenzene*
$C_9H_{12}O_2$ M 152.193
Bp 207-209°.

O-β-D-*Glucopyranosyl:*
$C_{12}H_{16}O_7$ M 272.254
Isol. from leaves of *Gaultheria ovatifolia*, also in *G. humifusa*. Amorph. yellowish powder. Mp 130-140°. $[\alpha]_D^{22}$ −79° (c, 0.3 in EtOH).

Registry of Mass Spectral Data, Wiley, 128 (*ms*)
Sadtler Standard C-13 NMR Spectra, 4428 (*cmr*)
Sadtler Standard Ultraviolet Spectra, 2572 (*uv*)
Org. Synth., Coll. Vol., 1, 1932, 149.
Rosotte, R. *et al*, *Chim. Anal.* (*Paris*), 1959, **41**, 229 (*detn, Ta*)
Ackermann, G. *et al*, *Talanta*, 1962, **9**, 1015 (*detn, Nb*)
Towers, G.H.N. *et al*, *Phytochemistry*, 1966, **5**, 677 (*glucoside*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 1348 (*detn, W*)
Gibalo, I.M. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1531 (*detn, Nb*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, no. 179 (*occur*)
Aldrich Library of NMR Spectra, 1974, **4**, 133C (*pmr*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 590F (*ir*)
Snell, F.D., *Photometric and Fluorimetric Methods of Analysis, Metals, Part 2*, John Wiley, New York, 1978, 1427.
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **13**, 39 (*rev*)
Press, J.B., *Synth. Commun.*, 1979, 407 (*synth*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 232.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CCP850, CCP900.

1,3-Benzenediol, 9CI B-00021

Resorcinol, 8CI. 1,3-Dihydroxybenzene. Astriderm. Resorcin. Rezacuid

[108-46-3]

$C_6H_6O_2$ M 110.112
Keratolytic, antiseptic. Used as 5% EtOH soln. for photometric detn. of Co, Zn, $NO_2^{\ominus}$, $NO_3^{\ominus}$. Platelets (EtOH). Sol. Et_2O, H_2O, EtOH. Mp 111°. Bp 280°. pK_{a1} 9.30; pK_{a2} 11.06 (20°).
▷ Mod. toxic, irritant, TLV 45. VG9625000.

Mono-Ac: [102-29-4]. *3-Acetoxyphenol.* ***Resorcinol monoacetate,* USAN.** *Euresol*
$C_8H_8O_3$ M 152.149
Antiseborrheic, keratolytic agent. Oil. Bp 283°. Component of Sulforcin.
▷ VH2750000.

Di-Ac: [108-58-7].
$C_{10}H_{10}O_4$ M 194.187
Liq. Bp 278°.
▷ VH0580000.

Monobenzoyl: [136-36-7].
$C_{13}H_{10}O_3$ M 214.220
Leaflets (EtOH aq.). Mp 135-136°.
▷ VH2800000.

Dibenzoyl: [94-01-9].
$C_{20}H_{14}O_4$ M 318.328
Mp 117°.
▷ VH0590000.

Mono-Me ether: [150-19-6]. m-*Methoxyphenol*
$C_7H_8O_2$ M 124.139
Oil. Bp 244°. pK_a 9.65 (25°).
▷ SL7524000.

Mono-Et ether: [621-34-1]. m-*Ethoxyphenol*
$C_8H_{10}O_2$ M 138.166
Liq. Bp 246-247°. pK_a 9.66 (25°).

Di-Et ether: [2049-73-2]. *1,3-Diethoxybenzene*
$C_{10}H_{14}O_2$ M 166.219
Prisms. Fp 12.4°. Bp 235°.

Me-Et ether: [25783-45-3]. *1-Ethoxy-3-methoxybenzene*
$C_9H_{12}O_2$ M 152.193
Liq. Bp 216°.

Registry of Mass Spectral Data, Wiley, 128 (*ms*)
Sadtler Standard C-13 NMR Spectra, 4428 (*cmr*)
Sadtler Standard Ultraviolet Spectra, 2572 (*uv*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, N.Y., 1947, **1**, 176 (*use*)
Aldrich Library of NMR Spectra, 1974, **4**, 136D (*pmr*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 593A (*ir*)
Varagnat, J., *Kirk-Othmer Encycl. Chem. Technol.*, 3rd Ed., Wiley, N.Y., 1978-1984, **13**, 39 (*rev*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1637, 1638.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 1467.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HNH500, RDZ900, REA000, REA100, REF050.

1,4-Benzenediol, 9CI B-00022

Hydroquinone, 8CI, USAN. Hydroquinol. 1,4-Dihydroxybenzene. Quinol. Pyrogentisinic acid. Arctuvin. Eldopaque. Eldoquin. Pyrogentisic acid. Arctuvin

[123-31-9]

$C_6H_6O_2$ M 110.112
Isol. from plant sources, eg. *Pyrola rotundifolia* and by hydrol. of plant tannins. Depigmentor, antiseptic. Used as 0.05% soln. in conc. H_2SO_4 for photometric detn. of Nb, Ta, W. Needles (H_2O). Mp 172°. Bp_{730} 285°. pK_{a1} 9.91; pK_{a2} 11.56 (20°). Component of Artra and Solaquin.
▷ Toxic and irritant, TLV 2. Skin contact may cause dermatitis and vapour can damage eyes. MX3500000.

Mono-Ac: [3233-32-7].
$C_8H_8O_3$ M 152.149
Prisms (pet. ether). Mp 62-63°. Bp_{11} 160-162°.

Di-Ac: [1205-91-0].
$C_{10}H_{10}O_4$ M 194.187
Cryst. (EtOH). Mp 123-124°.

Monobenzoyl: [2444-19-1].
$C_{13}H_{10}O_3$ M 214.220
Needles (EtOH). Mp 162-163°.

Dibenzoyl: [14210-97-0].
$C_{20}H_{14}O_4$ M 318.328
Needles (C_6H_6). Mp 199°.

Mono-Me ether: [150-76-5]. *4-Methoxyphenol.* ***Mequinol,* INN**

$C_7H_8O_2$ M 124.139
Isol. from leaves of *P. secunda*. Depigmentor. Leaflets (H_2O). Mp 53°. Bp 243°, Bp_{12} 128°. pK_{a1} 10.12 (25°, 0.1*M* KCl).
▷ SL7700000.

Mono-Et ether: [622-62-8]. *4-Ethoxyphenol*
$C_8H_{10}O_2$ M 138.166
Isol. from star anise oil (*Illicium anisatum*), *I. verum* and *Empleurum serrulatum*. Leaflets (H_2O). Mp 66-67°. Bp 246-247°. pK_{a1} 10.13 (25°).

Di-Et ether: [122-95-2]. *1,4-Diethoxybenzene*
$C_{10}H_{14}O_2$ M 166.219
Prisms. Mp 72°.

Me-Et ether: [5076-72-2]. *1-Ethoxy-4-methoxybenzene*
$C_9H_{12}O_2$ M 152.193
Mp 39°. Bp_{754} 216-217°.

Registry of Mass Spectral Data, Wiley, 128 (*ms*)
Sadtler Standard C-13 NMR Spectra, 38 (*cmr*)
Sadtler Standard Ultraviolet Spectra, 60 (*uv*)
Waterbury, G.R. *et al*, *Anal. Chem.*, 1957, **29**, 1474; 1958, **30**, 1007 (*detn, Nb, Ta*)
Brun, R., *J. Soc. Cosmet. Chem.*, 1960, **11**, 571 (*Mequinol*)
Hibbits, J.O. *et al*, *Talanta*, 1961, **8**, 209 (*detn, Nb*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, nos. 203, 205, 208.
Aldrich Library of NMR Spectra, 1974, **4**, 140B (*pmr*)
Norwitz, G. *et al*, *Anal. Chim. Acta*, 1974, **69**, 59 (*detn, W*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 594F (*ir*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 341.
Varagnat, J., *Kirk-Othmer Encycl. Chem. Technol.*, 3rd Ed., Wiley, N.Y., 1978-1984, **13**, 39 (*rev*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1612, 1619.
Lai, A. *et al*, *Magn. Reson. Chem.*, 1985, **23**, 379 (*cmr*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 422.
Penner, G.H. *et al*, *Can. J. Chem.*, 1989, **67**, 525 (*cmr, 4-methoxyphenol*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 357.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EFA100, HIH000, MFC700.

Benzeneethane(dithioic) acid, 9CI B-00023

Phenyldithioacetic acid

[5873-91-6]

$PhCH_2CSSH$

$C_8H_8S_2$ M 168.283
Orange liq. with penetrating odour. Dec. on attempted dist.

Et_4N salt: Gives colour reaction with transition metals. Orange-red cryst. (EtOH/Et_2O). Sol. H_2O, EtOH, $CHCl_3$, Me_2CO, 1,2-dichloroethane. pK_{a1} 2.05.

[20155-37-7]

Houben, J., *Ber.*, 1906, **39**, 3227 (*synth*)
Borgeson, R.W. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 1455 (*synth*)
Apsit, A.A. *et al*, *Latv. PSR Zinat. Akad. Vestis*, 1968, **4**, 400 (*use, deriv*)

Benzeneseleninic acid, 9CI B-00024

Phenylselenious acid

[6996-92-5]

PhSe(O)OH

$C_6H_6O_2Se$ M 189.072
Reagent for acetoxyselenation of alkenes and rearr. of hydroxamic acids. Plates (H_2O). Mp 124-125°. pK_a 4.70 (25°, 4% MeOH).

NH_4 salt: Used as 20% aq. soln. for gravimetric detn. of Sc, Zr. Plates (H_2O). Sol. H_2O.

Anhydride: [17697-12-0]. *Benzeneseleninic anhydride*
$C_{12}H_{10}O_3Se_2$ M 360.129
Reagent for regiospecific hydroxylations and oxidn. of phenols to *ortho*-quinones. Fairly stable solid. Mp 164°. Slowly hydrol. in moist atmosphere.

Pyman, F.L., *J. Chem. Soc.*, 1919, 167 (*synth*)
Behaghel, O. *et al*, *Ber.*, 1933, **66**, 708 (*synth*)
Bryden, J.H. *et al*, *Acta Crystallogr.*, 1954, **7**, 833 (*cryst struct*)
Alimarin, I.P. *et al*, *Zh. Anal. Khim.*, 1958, **13**, 332; 1961, **16**, 412 (*detn, Zr, Sc*)
de Filipp, D. *et al*, *J. Chem. Soc. B*, 1971, 1065 (*ir*)
Rebane, E., *Chem. Scr.*, 1974, **5**, 5 (*ms*)
Barton, D.H.R. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1977, 567; 1981, 1473 (*deriv*)
Saleh, G. *et al*, *Chem. Ber.*, 1979, **112**, 355 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 139; **8**, 28.
Faehl, L.G. *et al*, *J. Org. Chem.*, 1979, **44**, 2357 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BBR325.

Benzenesulfinic acid, 9CI B-00025

[618-41-7]

$PhSO_2H$

$C_6H_6O_2S$ M 142.178
Used as a 5m*M* aq. soln. for gravimetric detn. of Th, Zr; photometric detn. of quinones. Prisms. Mp 83-84°. pK_a 1.29 (20°). Dec. at *ca.* 100°.

Me ester: [670-98-4].
$C_7H_8O_2S$ M 156.205
$Bp_{0.45}$ 76-78°, $Bp_{0.04}$ 59-60°.
▷ Skin irritant.

Chloride: [4972-29-6].
C_6H_5ClOS M 160.624
Plates. Mp 38°. Hydrol. by H_2O.
▷ Explodes after prolonged storage in glass.

Anhydride:
$C_{12}H_{10}O_3S_2$ M 266.341
Mp 67°.

Amide: [16066-31-2].
C_6H_7NOS M 141.193
Mp 121°.

Dimethylamide: [5539-54-8].
$C_8H_{11}NOS$ M 169.247
Bp_{2-3} 90°.

Anilide:
$C_{12}H_{11}NOS$ M 217.291
Mp 112-114°.

Azide: [21230-20-6]. *Benzenesulfinyl azide*
$C_6H_5N_3OS$ M 167.191
Prepd. in solution, dec. at r.t.
▷ Concentrated solutions explosive above 0°.

Alimarin, I.P. *et al*, *Zh. Anal. Khim.*, 1957, **23**, 658; 1958, **24**, 804 (*detn, Zr, Th*)
Kobayashi, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1966, **39**, 1788 (*uv, ir*)
Reinheckel, H. *et al*, *Chem. Ber.*, 1966, **99**, 1718 (*synth*)
Org. Synth., 1966, **46**, 62 (*ester*)
Horner, L. *et al*, *Chem. Ber.*, 1970, **103**, 2718 (*synth*)
Exner, O. *et al*, *J. Chem. Soc. B*, 1970, 278 (*conformn*)
Maricich, T.J. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 7770; 1984, **49**, 1928, 1931 (*azide, synth, ir*)

Cahiez, G. *et al*, *J. Organomet. Chem.*, 1976, **121**, 123 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 374 (*deriv*)
Stadnik, A.S. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 1801 (*detn, quinones*)
Oae, S. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1978, 913 (*synth*)
Nokami, J. *et al*, *Tetrahedron Lett.*, 1979, 3659 (*synth*)
Kamiyama, T. *et al*, *Chem. Pharm. Bull.*, 1988, **36**, 2652 (*synth*)
Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1493 (*cmr*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 571.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BBR380, BBR390.

Benzenesulfonic acid, 9CI B-00026

$PhSO_3H$

$C_6H_6O_3S$ M 158.178
Plates + $1\frac{1}{2}$ H_2O. Mp 43-44° (anhyd. 65-66°). pK_a −2.7. Deliquescent.
▷ Toxic, irritant, causes burns.

Na salt: [515-42-4].
Leaflets + $1H_2O$. Mp *ca.* 450° dec.
▷ DB7350000.

Me ester: [80-18-2].
$C_7H_8O_3S$ M 172.204
d_4^{17} 1.273. Bp_{15} 150°.

Et ester: [515-46-8].
$C_8H_{10}O_3S$ M 186.231
Spar. sol. H_2O. d_4^{17} 1.219. Bp_{15} 156°.

Ph ester: [4358-63-8].
$C_{12}H_{10}O_3S$ M 234.275
Mp 34-35°.

Amide: [98-10-2].
$C_6H_7NO_2S$ M 157.193
Mp 147-148°, Mp 156°. pK_{a1} 10.00 (20°, 0.1*M* KCl).
▷ DA9380000.

Amide, N-*chloro:* [80-16-0]. ***Chloramine B.*** N-*Chlorobenzenesulfonamide*, *9CI. Annogen. Chlorseptal (new form). Chlorogen. Neomagnol*
$C_6H_6ClNO_2S$ M 191.638
Antibacterial, disinfectant (as Na salt trihydrate).

Amide, N-*chloro*, *Na salt:* [127-52-6].
Oxidising agent; used as titrant for reducing substances (eg. $Br^{\ominus}$). Cryst. + $1H_2O$. Mod. sol. H_2O; insol. $CHCl_3$. Mp 190°.
▷ May decompose violently if heated above 180°.

Amide, N,N-*dichloro:* [473-29-0]. ***Dichloramine B.*** N,N-*Dichlorobenzenesulfonamide*, *9CI*
$C_6H_5Cl_2NO_2S$ M 226.082
Used as 0.1*M* soln. in AcOH for indirect titrimetric detn. of $CN^{\ominus}$ and $NCS^{\ominus}$ (with the use of $I^{\ominus}$ and $S_2O_3^{2\ominus}$). Cryst. powder. Sol. AcOH.

Amide, N-*bromo:* [16917-09-2]. ***Bromamine B***
$C_6H_6BrNO_2S$ M 236.089
Used for indirect titrimetric detn. of $I^{\ominus}$ and $NCS^{\ominus}$. Cryst. (H_2O).

Amide, N-*hydroxy:* [599-71-3]. *Benzenesulfohydroxamic acid.* N-*Hydroxybenzenesulfonamide*, *9CI. Benzenesulfonylhydroxylamine. Piltoy's acid*
$C_6H_7NO_3S$ M 173.192
Used for extraction-photometric detn. of Nb (λ_{max} 320 nm, $CHCl_3$). Plates (H_2O). Sol. H_2O, Me_2CO, EtOH, Et_2O, AcOH. Mp 126° dec. (109-110°).
▷ MX9350000.

Anilide: [1678-25-7].
$C_{12}H_{11}NO_2S$ M 233.290
Mp 110°.
▷ Causes exp. neoplasms. DB3500000.

Chloride: [98-09-9].
$C_6H_5ClO_2S$ M 176.623
Reagent for prep. of benzenesulfonates and for Hinsberg's separation of primary, secondary and tertiary amines. d_{15}^{15} 1.384. Mp 14.5°. Bp 251-252°, Bp_{10} 120°.
▷ Toxic, irritant, causes burns. Violent reaction with DMSO. DB8750000.

Anhydride: [512-35-6].
$C_{12}H_{10}O_5S_2$ M 298.340
Reagent for Friedel-Crafts synth. of sulphones. Cryst. (Et_2O). Mp 92°, Mp 88.5-91.5°. Bp_{10} 240° dec.

2-Phenylhydrazide: [6596-69-6].
$C_{12}H_{12}N_2O_2S$ M 248.305
Used as 2% EtOH soln. for pptn. separation and gravimetric detn. of Se. Cryst. Sol. EtOH. Mp 148-150° dec.

Azide:
▷ Crude material explodes on heating.

[39510-76-4]

Guyot, A., *Chim. Ind. (Milan)*, 1919, **2**, 879 (*synth*)
Davies, W. *et al*, *J. Chem. Soc.*, 1931, 2104 (*deriv*)
Org. Synth., Coll. Vol., 1, 1932, 84 (*deriv*)
Field, L., *J. Am. Chem. Soc.*, 1952, **74**, 394 (*anhydride*)
Maltseva, E.H., *Zh. Anal. Khim.*, 1955, **10**, 380 (*use*)
Fedorov, V.P., *Zh. Anal. Khim.*, 1956, **11**, 250 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 46; **5**, 22.
Gibalo, I.M., *Zh. Anal. Khim.*, 1971, **26**, 2145 (*use*)
Soothill, R.J. *et al*, *Org. Mass Spectrom.*, 1972, **6**, 141 (*ms*)
Heintzelman, R.W. *et al*, *Synthesis*, 1976, 731 (*Chloramine B*)
Guthrie, P.J., *Can. J. Chem.*, 1978, **56**, 2342.
Birchall, J.D. *et al*, *J. Chem. Soc., Dalton Trans.*, 1978, 604 (*cmr*)
Diwan, J.K. *et al*, *Talanta*, 1978, **25**, 44 (*phenylhydrazide, synth, detn, Se*)
Kim, Y.H. *et al*, *Tetrahedron Lett.*, 1978, 1211 (*synth*)
Yathirajan, H.S. *et al*, *Talanta*, 1980, **27**, 52 (*synth, titrant*)
Mahadevappa, D.S. *et al*, *Microchem. J.*, 1982, **27**, 77 (*synth, use*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2219 (*Chloramine*)
Scholz, J.N. *et al*, *Tetrahedron*, 1989, **45**, 7695 (*synth, cryst struct, bibl*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 191, 489.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BBR500, BBR750, BBS750, SFV275.

3-(Benzenesulfonylamino)propanoic acid B-00027

N-*Benzenesulfonyl-β-alanine*, *9CI.* N-(*Phenylsulfonyl*)-*β-alanine*

[31867-78-4]

$PhSO_2NHCH_2CH_2COOH$

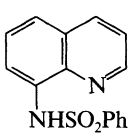
$C_9H_{11}NO_4S$ M 229.256
Used as a 3.5% soln. in dil. KOH as masking agent for $Hg^{2\oplus}$. Cryst. Sol. alkalis.

Pechmann, H.V., *Justus Liebigs Ann. Chem.*, 1891, **264**, 289 (*synth*)
Ghosh, N.N. *et al*, *Bull. Chem. Soc. Jpn.*, 1971, **44**, 407 (*use*)

8-(Benzenesulfonylamino)quinoline B-00028

N-*8-Quinolinylbenzenesulfonamide*, *9CI*

[16082-59-0]



$C_{15}H_{12}N_2O_2S$ M 284.338

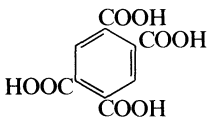
Used for extraction-fluorimetric detn. of Cd, Zn ($CHCl_3$). Cryst. (Me_2CO). Sol. EtOH, Me_2CO; spar. sol. H_2O.

Serebryakova, G.V. *et al*, *CA*, 1967, **66**, 72198f.

1,2,4,5-Benzenetetracarboxylic acid, 9CI B-00029

Pyromellitic acid

[89-05-4]



$C_{10}H_6O_8$ M 254.153

Used as 2% aq. soln. for gravimetric detn. of Hf, Th, Zr. Prisms + $2H_2O$ (H_2O). Mp 275° (anhyd.), Mp 259°, 262°. pK_{a1} 1.87; pK_{a2} 2.72; pK_{a3} 4.30; pK_{a4} 5.52 (25°).

▷ Highly irritant. DB9275000.

1,4-Di-Me ester:

$C_{12}H_{10}O_8$ M 282.206

Mp 176-177°.

Tetra-Me ester: [635-10-9].

$C_{14}H_{14}O_8$ M 310.260

Leaflets (MeOH). Mp 143-144°.

Tetra-Et ester: [6634-01-1].

$C_{18}H_{22}O_8$ M 366.367

Mp 54°.

Dianhydride: [89-32-7]. *1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone. Pyromellitic anhydride*

$C_{10}H_2O_6$ M 218.122

Forms charge-transfer complexes with aromatic hydrocarbons etc. Anal. reagent for amines and alcohols. Needles. Mp 286°. Sublimes.

▷ DB9300000.

González-Sánchez, F., *Spectrochim. Acta*, 1958, **12**, 17 (*ir*)
Siggia, S. *et al*, *Anal. Chem.*, 1961, **33**, 900; 1965, **37**, 600 (*dianhydride, use*)
Bailey, W.J. *et al*, *J. Org. Chem.*, 1962, **27**, 3479 (*synth*)
Mukherji, A.K., *Anal. Chem.*, 1964, **36**, 1064 (*detn, Zr, Hf*)
Mukherji, A.K., *Fresenius' Z. Anal. Chem.*, 1965, **209**, 321 (*detn, Th*)
Soyer, N. *et al*, *Bull. Soc. Chim. Fr.*, 1975, 2121 (*synth*)
Selig, W., *Microchem. J.*, 1976, **21**, 92 (*dianhydride, use*)
Bruck, D. *et al*, *Tetrahedron Lett.*, 1977, 4121 (*conformn, pmr, cmr*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 949.

Benzenethiol, 9CI B-00030

Thiophenol. Phenyl mercaptan. Mercaptobenzene

[108-98-5]

PhSH

C_6H_6S M 110.179

Reagent for alkene isomerisations. K deriv. used for epoxide cleavages. Na deriv. used to demethylate acetylcholine for gc. anal. Liq. with penetrating odour. d_4^{25} 1.973. Bp 169.5°, Bp_{30} 77°.

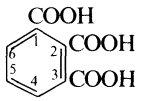
▷ Toxic, irritant, causes dermatitis. Violent explosion has resulted during prep. from benzenediazonium chloride. DC0525000.

Org. Synth., Coll. Vol., 1, 1932, 504 (*synth, bibl*)
Lawesson, S.-O. *et al*, *Acta Chem. Scand.*, 1966, **20**, 2325 (*ms*)
Wagner, A.W., *Chem. Ber.*, 1966, **99**, 375 (*synth*)
Jenden, D.L. *et al*, *Anal. Chem.*, 1968, **40**, 125; 1972, **44**, 1879 (*use*)
Jones, I.W. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1973, 1125 (*uv*)
Overman, L.E. *et al*, *Synthesis*, 1974, 59 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 585; **7**, 367; **8**, 420.
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 586.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 191.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PFL850.

1,2,3-Benzenetricarboxylic acid, 9CI B-00031

Hemimellitic acid

[569-51-7]



$C_9H_6O_6$ M 210.143

Needles (H_2O). d^{20} 1.546. Mp 194-197° dec. pK_{a1} 2.62; pK_{a2} 3.82; pK_{a3} 5.51 (25°, 0.1*M* KCl).

Monohydrate: Needles. Mp 223-224°.

Dihydrate: Plates.

Tri-Na salt: [55680-81-4].

Used for fluorescence detn. of Cu, V.

2-Me ester: [31158-53-9].

$C_{10}H_8O_6$ M 224.170

Mp 203-205°.

1,3-Di-Me ester:

$C_{11}H_{10}O_6$ M 238.196

Mp 148-150°.

Tri-Me ester: [2672-57-3].

$C_{12}H_{12}O_6$ M 252.223

Plates (MeOH). Mp 102°.

Tri-Et ester: [56366-05-3].

$C_{15}H_{18}O_6$ M 294.304

Mp 39°.

Anhydride:

$C_9H_4O_5$ M 192.128

Mp 196°.

Imide:

$C_9H_5NO_4$ M 191.143

Mp 247°.

Trinitrile: [38700-18-4]. *1,2,3-Benzenetricarbonitrile, 9CI. 1,2,3-Tricyanobenzene*

$C_9H_3N_3$ M 153.143

Cryst. (C_6H_6). Mp 173°.

Graebe, C. *et al*, *Justus Liebigs Ann. Chem.*, 1896, **290**, 217 (*synth*)
Koh, K., *Anal. Chim. Acta*, 1970, **52**, 503 (*detn, Cu, V*)
Takusagawa, F. *et al*, *Bull. Chem. Soc. Jpn.*, 1973, **46**, 2998 (*cryst struct*)
Mo, F. *et al*, *Acta Crystallogr., Sect. B*, 1975, **31**, 192 (*cryst struct*)
Ferris, J.P. *et al*, *J. Org. Chem.*, 1990, **55**, 5601 (*trinitrile*)

1,2,4-Benzenetricarboxylic acid, 9CI B-00032

Trimellitic acid

[528-44-9]

$C_9H_6O_6$ M 210.143

Used as a 2% aq. soln. for gravimetric detn. of Hf, Th, Zr; fluorescence detn. of Cu, V. Cryst. (AcOH or EtOH aq.). Sol. H_2O, Et_2O, EtOH. Mp 229-230°, Mp 238°. pK_{a1} 2.42; pK_{a2} 3.71; pK_{a3} 5.01 (25°, 0.1*M* KCl).

▷ DC1980000.

1-Me ester: [13912-71-5].

$C_{10}H_8O_6$ M 224.170

Cryst. in two forms. Mp 177°, Mp 203.5-205.5°. pK_{a1} 2.74; pK_{a2} 4.11 (25°).

2-Me ester: [13940-95-9].

$C_{10}H_8O_6$ M 224.170

Mp 208°. pK_{a1} 2.59; pK_{a2} 4.00.

4-Me ester: [29639-49-4].
$C_{10}H_8O_6$ M 224.170
Leaflets (H_2O). Mp 145-147°. pK_{a1} 2.54; pK_{a2} 4.96.
1,2-Di-Me ester: [54699-35-3].
$C_{11}H_{10}O_6$ M 238.196
Needles (CS_2, C_6H_6 or Et_2O/pet. ether). Mp 115.5-117° (solidifies and remelts at 121°). pK_a 3.47 (25°).
Tri-Me ester: [2459-10-1].
$C_{12}H_{12}O_6$ M 252.223
Thick oil. Fp −13°. Bp_{12} 194°.
Tri-Et ester: [14230-18-3].
$C_{15}H_{18}O_6$ M 294.304
Bp_{28} 238°.
1-Amide:
$C_9H_7NO_5$ M 209.158
Yellowish cryst. ($MeOH/C_6H_6$). Mp 185-186°. pK_{a1} 3.36 (25°).
2-Amide:
$C_9H_7NO_5$ M 209.158
Cryst. ($MeOH/C_6H_6$). Mp 199-200°. pK_{a1} 3.12 (25°).
4-Amide:
$C_9H_7NO_5$ M 209.158
Cryst. (Et_2O/C_6H_6). Mp 166°.
2-Nitrile: 2-Cyano-1,4-benzenedicarboxylic acid
$C_9H_5NO_4$ M 191.143
Yellow amorph. mass.
Anhydride: [552-30-7]. *1,3-Dihydro-1,3-dioxo-5-isobenzofurancarboxylic acid, 9CI. Anhydrotrimellitic acid*
$C_9H_4O_5$ M 192.128
Component of many polymers. Needles. Mp 162.5-163.5° (157°). Bp_{14} 240-245°.
▷ Irritant by inhalation. Strong sensitiser. DC2050000.
Trinitrile: [10347-14-5]. *1,2,4-Tricyanobenzene*
$C_9H_3N_3$ M 153.143
Mp 125°.

Schultze, W., *Justus Liebigs Ann. Chem.*, 1908, **359**, 129 (*synth*)
Morgan, G.T. *et al*, *J. Chem. Soc.*, 1929, 2551 (*synth*)
Mukherji, A.K., *Anal. Chem.*, 1964, **36**, 1064 (*detn, Zr, Hf*)
Mukherji, A.K., *Fresenius' Z. Anal. Chem.*, 1965, **209**, 321 (*detn, Th*)
Koh, K., *Anal. Chim. Acta*, 1970, **52**, 503 (*detn, Cu, V*)
Takusagawa, F. *et al*, *Bull. Chem. Soc. Jpn.*, 1973, **46**, 2960 (*cryst struct*)
Kalalova, E. *et al*, *Z. Chem.*, 1973, **13**, 348 (*ir*)
Bruck, D. *et al*, *Tetrahedron Lett.*, 1977, 4121 (*conformn, pmr, cmr*)
Sucrow, W. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1979, **18**, 149 (*synth*)
Acheson, R.M. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1979, 591 (*derivs*)
Hanack, M. *et al*, *Chem. Ber.*, 1989, **122**, 1665 (*trinitrile*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TKV000.

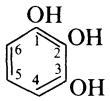
1,3,5-Benzenetricarboxylic acid, 9CI B-00033

Trimesic acid
[554-95-0]
$C_9H_6O_6$ M 210.143
Isol. from leaves of *Talauma mexicana*. Used as a 2% aq. soln. for gravimetric detn. of Hf, Th, Zr. Needles or prisms (H_2O). Mp *ca.* 380°.
Tri-Na salt: [17274-08-7].
Sol. H_2O, EtOH.
Mono-Me ester:
$C_{10}H_8O_6$ M 224.170
Cryst. + H_2O (H_2O). Mp 205-208° (anhyd.).
Tri-Me ester: [2672-58-4].
$C_{12}H_{12}O_6$ M 252.223
Needles. Mp 144°.
Tri-Et ester: [4105-92-4].
$C_{15}H_{18}O_6$ M 294.304
Prisms or needles (EtOH). Mp 133.5-134.5°.

Ullmann, F. *et al*, *Ber.*, 1903, **36**, 1797 (*synth*)
Pallares, E.S. *et al*, *CA*, 1948, **42**, 2730 (*isol*)
Mukherji, A.K., *Anal. Chem.*, 1964, **36**, 1064 (*detn, Zr, Hf*)
Mukherji, A.K., *Fresenius' Z. Anal. Chem.*, 1965, **209**, 321 (*detn, Th*)
Sakakibara, T. *et al*, *Tetrahedron Lett.*, 1971, 4719 (*synth*)
Sucrow, W. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1979, **18**, 149 (*synth*)

1,2,3-Benzenetriol, 9CI B-00034

Pyrogallol, 8CI. 1,2,3-Trihydroxybenzene. Pyrogallic acid
[87-66-1]



$C_6H_6O_3$ M 126.112
Widespread in plants. Obt. commercially by decarboxylation of gallic acid (from galls). Reducing agent used in gas analysis, as photographic developer, etc. Used as 5% aq. soln. for gravimetric detn. of Sb, Bi, Mo, Ta, Th; photometric detn. of Ta. Plates or needles. V. sol. H_2O, EtOH, Et_2O; sl. sol. $CHCl_3$,C_6H_6. Mp 133-134°. Bp 309°, Bp_{12} 171.5°. pK_{a1} 9.28; pK_{a2} 11.34 (20°, μ = 0.1). Bitter taste. Readily absorbs O_2.
▷ Highly toxic, an exp. carcinogen. Causes kidney and liver damage etc. Readily absorbed through skin. UX2800000.
Tri-Ac: [525-52-0].
$C_{12}H_{12}O_6$ M 252.223
Mp 165°.
Tribenzoyl:
$C_{27}H_{18}O_6$ M 438.436
Prisms (EtOH). Mp 89-90°.
1-Me ether: [934-00-9]. *3-Methoxy-1,2-benzenediol, 9CI. 3-Methoxycatechol*
$C_7H_8O_3$ M 140.138
Isol. from the trunkwood of *Machaerium kuhlmanii*. Needles. Mp 38-41°. Bp_{10} 129°.
1-Me ether, di-Ac:
$C_{11}H_{12}O_5$ M 224.213
Plates (EtOH). Mp 91-93°.
2-Me ether: [29267-67-2]. *2-Methoxy-1,3-benzenediol, 9CI. 2-Methoxyresorcinol*
$C_7H_8O_3$ M 140.138
Cryst. (C_6H_6). Mp 85-87°. Bp_{24} 154-155°.
2-Me ether, di-Ac:
$C_{11}H_{12}O_5$ M 224.213
Plates (EtOH). Mp 91-54°.
1,2-Di-Me ether: [5150-42-5]. *2,3-Dimethoxyphenol*
$C_8H_{10}O_3$ M 154.165
Oil. Bp 233-234°, Bp_{17} 124-125°.
1,2-Di-Me ether, benzoyl: [18093-00-0].
$C_{15}H_{14}O_4$ M 258.273
Needles (pet. ether). Mp 55-57°.
1,3-Di-Me ether: [91-10-1]. *2,6-Dimethoxyphenol. Syringol*
$C_8H_{10}O_3$ M 154.165
Isol. from maple syrup and from seed oil of *Artemisia herba-alba* prob. as degradn. artifact. Spar. sol. H_2O. Mp 55-56°. Bp 262-267°.
▷ SL0900000.
1,3-Di-Me ether, Ac: [944-99-0].
$C_{10}H_{12}O_4$ M 196.202
Cryst. (EtOH aq.). Mp 53.5°.
Tri-Me ether: [634-36-6]. *1,2,3-Trimethoxybenzene*
$C_9H_{12}O_3$ M 168.192
Needles (EtOH aq.). Mp 47°. Bp 241°.

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **1**, 161 (*use*)
Hunt, E.C. *et al*, *Analyst (London)*, 1954, **79**, 345 (*detn, Ta*)
Webb, H.W. *et al*, *Analyst (London)*, 1963, **88**, 142 (*detn, Nb*)
Šantavý, F. *et al*, *Collect. Czech. Chem. Commun.*, 1972, **37**, 1825 (*uv*)
Shipchandler, M.T. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1975, 1400 (*synth*)
Ollis, W.D. *et al*, *Phytochemistry*, 1978, **17**, 1383 (*isol, 3-methoxy-1,2-benzenediol*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **18**, 670 (*rev*)
Green, K., *J. Org. Chem.*, 1991, **56**, 4325 (*2-Me ether*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DOJ200, PPQ500.

1,2,4-Benzenetriol, 9CI, 8CI B-00035

1,2,4-Trihydroxybenzene. Hydroxyhydroquinone. Hydroxyquinol

[533-73-3]

$C_6H_6O_3$ M 126.112

Constit. of the sponge *Axinella polycapella*. Also isol. from the fruiting bodies of *Gomphidus* spp. Antibacterial agent. Used as 1% aq. soln. for photometric detn. of Os. Plates (Et_2O). Sol. H_2O. Mp 140.5° subl. pK_{a1} 9.08; pK_{a2} 11.82 (20°).

▷ DC4200000.

Picrate: Orange-red needles. Mp 96°.

Tri-Ac: [613-03-6].
$C_{12}H_{12}O_6$ M 252.223
Cryst. (EtOH). Mp 96-97°.

1-Me ether: [6100-60-3]. *4-Methoxy-1,3-benzenediol. 4-Methoxyresorcinol*
$C_7H_8O_3$ M 140.138
Prisms (C_6H_6). Mp 66-67°.

1-Me ether, 2,4-di-Ac:
$C_{11}H_{12}O_5$ M 224.213
Prisms (MeOH). Mp 62-64°.

2-Me ether: [824-46-4]. *2-Methoxy-1,4-benzenediol. Methoxyhydroquinone. Methoxyquinol*
$C_7H_8O_3$ M 140.138
Plates (H_2O or C_6H_6). Mp 88° (84°).

2-Me ether, 1,4-di-Ac:
$C_{11}H_{12}O_5$ M 224.213
Needles (MeOH). Mp 93-94°.

2-Me ether, 1-O-β-D-glucopyranoside: [31427-08-4].
$C_{13}H_{18}O_8$ M 302.280
Found in oat seedings. Mp 202°. The struct. of this as the 1- rather than the 4-glucoside has been disputed.

Tri-Me ether: [135-77-3]. *1,2,4-Trimethoxybenzene*
$C_9H_{12}O_3$ M 168.192
Liq. Bp 247°.

Org. Synth., Coll. Vol., 1, 1932, 317 (*deriv*)
Kirk-Othmer Encycl. Chem. Technol., 2nd Ed., Wiley, N.Y., 1963-1971, **16**, 190 (*rev*)
Wawrzyczek, W. *et al*, *Fresenius' Z. Anal. Chem.*, 1967, **228**, 433 (*detn, Os*)
von Ardenne, R. *et al*, *Z. Naturforsch., C*, 1974, **29**, 446; 1981, **36**, 488 (*isol*)
Chatterjee, A. *et al*, *Tetrahedron*, 1976, **32**, 2407 (*synth*)
Wratten, S.J. *et al*, *Experientia*, 1981, **37**, 13 (*isol*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BBU250.

1,3,5-Benzenetriol B-00036

1,3,5-Trihydroxybenzene. Phloroglucin. Phloroglucinol. Dilospan S. Spasfon-Lyoc

[108-73-6]

$C_6H_6O_3$ M 126.112

Isol. from *Eucalyptus kino* and *Acacia arabica*. Spasmolytic agent, used as mixt. with trimethyl ether. Anal. reagent used for the detn. of aldehydes. Leaflets or plates + $2H_2O$ (H_2O). Mod. sol. H_2O. Mp 117° (dihydrate), Mp 217-219° (anhyd.) (rapid heat), Mp 200-209° (slow heat). pK_{a1} 7.97; pK_{a2} 9.23 (20°).

▷ SY1050000.

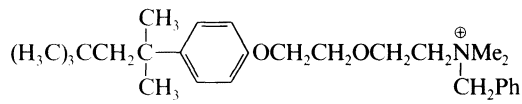
Tri-Ac: [2999-40-8].
$C_{12}H_{12}O_6$ M 252.223
Cryst. Mp 104°.

Org. Synth., Coll. Vol., 1, 1932, 455 (*synth*)
Pridham, J.B. *et al*, *Biochem. J.*, 1960, **74**, 42P.
Arison, B.H. *et al*, *J. Am. Chem. Soc.*, 1963, **85**, 627 (*pmr, derivs*)
Anger, V. *et al*, *Fresenius' Z. Anal. Chem.*, 1964, **203**, 422 (*use*)
Clifford, M.N., *J. Chromatogr.*, 1974, **94**, 321 (*use*)
McKillop, A. *et al*, *Synth. Commun.*, 1974, **4**, 35 (*synth*)
Highet, R.J. *et al*, *J. Org. Chem.*, 1988, **53**, 2843 (*tautom, props*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PGR000, TKY250.

Benzethonium(1+) B-00037

N,N-*Dimethyl*-N-[2-[2-[4-(*1,1,3,3-tetramethylbutyl*)*phenoxy*]*ethoxy*]*ethyl*]*benzenemethanaminium*(*1+*), *9CI. Benzyldimethyl*[2-[2-(p-*1,1,3,3-tetramethylbutylphenoxy*)*ethoxy*]*ethyl*]*ammonium. Hyamine 1622. Diisobutylphenoxyethoxyethyldimethylbenzylammonium* (*1+*). *Numerous proprietary names*

[10172-60-8]



$C_{27}H_{42}NO_2^{\oplus}$ M 412.634 (ion)
Antiseptic detergent.

Chloride: [121-54-0]. *Benzethonium chloride, BAN, INN. Phemerol chloride*
$C_{27}H_{42}ClNO_2$ M 448.087
Used as aq. soln. for extraction separation of Th, Zr, Mo, Fe, Zn, Cd; extraction-photometric detn. of Co (as SCN complex, C_6H_6). Topical antiinfective agent. Plates + $1H_2O$ ($CHCl_3/Et_2O$). V. sol. H_2O, sol. Me_2CO, EtOH, $CHCl_3$. Mp 164-166°, Mp 184-186°.
▷ Severe eye irritant. LD_{50} 30 mg/kg (mouse, i.v.).
BO7175000.

Rawlins, A.L. *et al*, *J. Am. Pharm. Assoc.*, 1943, **32**, 11.
Finnegan, J.K. *et al*, *J. Pharmacol. Exp. Ther.*, 1953, **109**, 422 (*pharmacol*)
Wilson, A.M. *et al*, *Anal. Chem.*, 1962, **34**, 203 (*rev*)
Gundersen, N. *et al*, *Anal. Chim. Acta*, 1968, **42**, 330 (*use*)
El-Yamani, I.S. *et al*, *Talanta*, 1978, **25**, 714; 1984, **31**, 627 (*detn, Zr, Th*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2207.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 7603 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BEN000.

Benzil, 8CI B-00038

Diphenylethanedione, 9CI. Dibenzoyl. Bibenzoyl. Diphenyl α,α-diketone. Diphenylglyoxal

[134-81-6]

PhCOCOPh

$C_{14}H_{10}O_2$ M 210.232
Yellow prisms (EtOH). Mp 95°. Bp 346-348°, Bp_{12} 188°.

▷ DD1925000.

(E)-*Monoxime:* [574-15-2]. α-*Monoxime. Diphenylethanedione monoxime*
$C_{14}H_{11}NO_2$ M 225.246
Used for photometric detn. of Co, Cu, Ni. Cryst. + ½ C_6H_6 (C_6H_6). Sol. Et_2O, EtOH, Me_2CO; insol. H_2O. Mp 137-138°, Mp 140°. pK_{a1} 8.6 (25°).

(Z)-*Monoxime:* [574-16-3]. β-*Monoxime*
$C_{14}H_{11}NO_2$ M 225.246
Leaflets. Mp 62-63°, Mp 70° (unsolvated 113-114°).

(E)-*Monoxime*, O-*Me:*
$C_{15}H_{13}NO_2$ M 239.273
Mp 64-65°.

(Z)-*Monoxime*, O-*Me:*
$C_{15}H_{13}NO_2$ M 239.273
Mp 62-63°.

(E,E)-*Dioxime:* [522-34-9]. (E,E)-*Diphenylglyoxime*. anti-*Dioxime*. α-*Dioxime*
$C_{14}H_{12}N_2O_2$ M 240.261
Used as a 0.025% soln. in MeOH for extraction-photometric detn. of Ni, Fe(*II*) (λ_{max} 559 nm, ε 18000). Leaflets (C_6H_6). Sol. EtOH, C_6H_6, Me_2O, Et_2O; insol. H_2O. Mp 235-237°, Mp 238° dec. pK_{a1} 10.3; pK_{a2} 11.9 (20°).

(E,Z)-*Dioxime:* (E,Z)-*Diphenylglyoxime*. amphi-*Dioxime*. γ-*Dioxime*
$C_{14}H_{12}N_2O_2$ M 240.261
Cryst. + EtOH (EtOH). Mp 164-165°. Forms (*Z,Z*)-dioxime at Mp.

(Z,Z)-*Dioxime:* [572-45-2]. (Z,Z)-*Diphenylglyoxime*. syn-*Dioxime*. β-*Dioxime*
$C_{14}H_{12}N_2O_2$ M 240.261
Mp 207° dec.

Monosemicarbazone: Mp 174-175° dec. (rapid heat).

Disemicarbazone: Leaflets. Mp 243-244° dec.

Monohydrazone: [5344-88-7].
$C_{14}H_{12}N_2O$ M 224.262
Cryst. Mp 151°.

Dihydrazone: [4702-78-7].
$C_{14}H_{14}N_4$ M 238.291
Needles (EtOH). Mp 134°.

Monophenylhydrazone: [6630-86-0].
$C_{20}H_{16}N_2O$ M 300.359
Cryst. (EtOH). Mp 134°.

Bisphenylhydrazone: Benzil osazone
$C_{26}H_{22}N_4$ M 390.487
Needles. Mp 225° (rapid heat). Three stereoisomers known (cf. oximes).

Anil: Phenyliminodeoxybenzoin
$C_{20}H_{15}NO$ M 285.345
Yellow prisms (EtOH). Mp 105°.

Bis(2-pyridinylhydrazone): see *Diphenylethanedione bis(2-pyridinylhydrazone), D-01012*

Mono(2-quinolinylhydrazone): see *Diphenylethanedione mono(2-quinolinylhydrazone), D-01014*

Mono(pyrazinylhydrazone): see *Diphenylethanedione mono(pyrazinylhydrazone), D-01013*

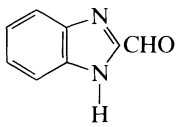
[14090-77-8]

Auwers, K. *et al*, *Ber.*, 1888, **21**, 792 (*synth, resoln, dioximes*)
Forster, M.D., *J. Chem. Soc.*, 1909, 425 (*synth, E-monoxime*)
Taylor, T.W.J. *et al*, *J. Chem. Soc.*, 1930, 2303 (*synth, E, Z-monoximes*)
Org. Synth., Coll. Vol., 1, 1932, 80 (*synth*)
Hatt, H.H. *et al*, *J. Chem. Soc.*, 1936, 93 (*synth*)
Bowie, J.H. *et al*, *Aust. J. Chem.*, 1968, **21**, 1247 (*ms*)
Ueda, K. *et al*, *Nippon Kagaku Zasshi*, 1971, **92**, 1160 (*monoxime, detn, Co, Cu, Ni*)
Ho, T., *Synthesis*, 1972, 697 (*synth*)
Kuse, S. *et al*, *Anal. Chim. Acta*, 1974, **70**, 65 (*detn, Ni*)
Olah, G.A. *et al*, *J. Org. Chem.*, 1975, **40**, 2102 (*cmr*)
Einaga, H. *et al*, *Mikrochim. Acta*, 1976, **1**, 67 (*detn, Fe(II)*)
Savostina, V.M. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 556.
Odou, G. *et al*, *Acta Crystallogr., Sect. A*, 1978, **34**, 459 (*cryst struct*)
Lee, D.G. *et al*, *Synthesis*, 1978, 462 (*synth*)
Ivanova, E.K. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1107.
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 339 (*use, dioxime*)
Garmash, A.V. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 872.
Firouzabadi, H. *et al*, *Synthesis*, 1986, 946 (*synth*)
Olah, G.A. *et al*, *J. Org. Chem.*, 1991, **56**, 902 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BBY750.

1*H*-Benzimidazole-2-carboxaldehyde B-00039

2-Formylbenzimidazole

[3314-30-5]



$C_8H_6N_2O$ M 146.148
Exists as cyclic semiaminal dimer in solid state. Powder. Mp 235° dec.

1-Benzyl: 1-(Phenylmethyl)-1H-benzimidazole-2-carboxaldehyde, 9CI
$C_{15}H_{12}N_2O$ M 236.273

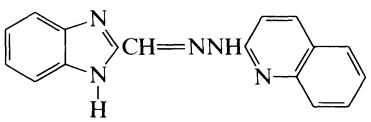
1-Benzyl, oxime: [62209-30-7].
$C_{15}H_{13}N_3O$ M 251.287
Used as a 0.02% soln. in $CHCl_3$ for extraction-photometric detn. of Co, Cu. Cryst. (C_6H_6). Sol. C_6H_6, EtOH, $CHCl_3$; insol. H_2O.

[6816-39-3]

Hensel, H.R. *et al*, *Chem. Ber.*, 1965, **98**, 1325 (*struct*)
Chernov'yants, M.S. *et al*, *CA*, 1977, **87**, 94945h.
Ooi, H.C. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1982, 2871 (*synth*)

1*H*-Benzimidazole-2-carboxaldehyde 2-quinolinylhydrazone, 9CI B-00040

[35907-44-9]



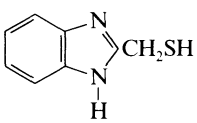
$C_{17}H_{13}N_5$ M 287.323
Used as a soln. in EtOH for fluorimetric detn. of Zn (λ_{max} 485 nm, ε 13000). Red cryst. (EtOH). Sol. EtOH, C_6H_6; insol. H_2O. Mp 283-284°.

Ryan, D.E. *et al*, *Anal. Chim. Acta*, 1972, **58**, 101.

1*H*-Benzimidazole-2-methanethiol, 9CI B-00041

2-(Mercaptomethyl)benzimidazole

[4344-85-8]

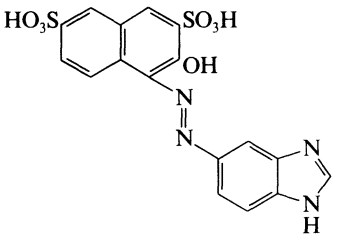


$C_8H_8N_2S$ M 164.231
Used as a soln. in 0.5*M* NaOH for amperometric titrimetric detn. of Ag, Cu, Pd. Sol. H_2O, EtOH.

Bera, B.C. *et al*, *Talanta*, 1966, **13**, 1186 (*detn, Ag, Cu, Pd*)

4-(1*H*-Benzimidazol-5-ylazo)-3-hydroxy-2,7-naphthalenedisulfonic acid, 9CI B-00042

[73170-31-7]



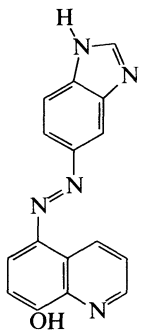
$C_{17}H_{12}N_4O_7S_2$ M 448.436

Used for photometric detn. of Co, Cu, Ni. Red cryst. (EtOH). Sol. EtOH, alkalis; spar. sol. H_2O.

Khater, M.M. *et al*, *Mikrochim. Acta*, 1979, **2**, 501.

5-(1*H*-Benzimidazol-5-ylazo)-8-quinolinol, 9CI B-00043

[73170-29-3]



$C_{16}H_{11}N_5O$ M 289.296

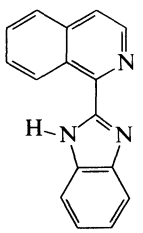
Used for photometric detn. of Co, Cu, Ni. Red cryst. (EtOH). Sol. EtOH, C_6H_6; insol. H_2O.

Khater, M.M. *et al*, *Mikrochim. Acta*, 1979, **2**, 501.

1-(2-Benzimidazolyl)isoquinoline, 8CI B-00044

2-(1-Isoquinolyl)benzimidazole

[17583-61-8]



$C_{16}H_{11}N_3$ M 245.283

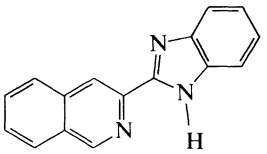
Used as 5m*M* soln. in aq. EtOH to give colour reactions with Co, Cu(*I*), Fe(*II*). Cryst. (C_6H_6). Sol. common org. solvs. Mp 211-212°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 483 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

3-(2-Benzimidazolyl)isoquinoline, 8CI B-00045

2-(3-Isoquinolyl)benzimidazole

[6528-66-1]



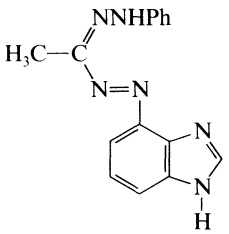
$C_{16}H_{11}N_3$ M 245.283

Used as 5m*M* soln. in aq. EtOH to give colour reactions with Co, Cu(*I*), Fe(*II*). Cryst. (C_6H_6). Sol. common org. solvs. Mp 176-177°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 483 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

1-(1*H*-Benzimidazol-4-yl)-3-methyl-5-phenylformazan, 9CI B-00046

[37724-22-4]



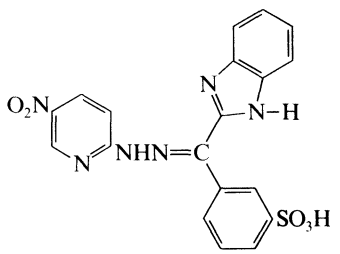
$C_{15}H_{14}N_6$ M 278.316

Used for photometric detn. of Cu. Violet cryst. Sol. EtOH.

Sidorova, L.P. *et al*, *CA*, 1972, **77**, 152061y (*detn, Cu*)

3-[1*H*-Benzimidazol-2-yl[(5-nitro-2-pyridinyl)hydrazono]methyl] benzenesulfonic acid, 9CI B-00047

[132499-97-9]



$C_{19}H_{14}N_6O_5S$ M 438.423

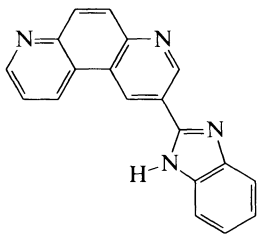
Used as 1m*M* soln. in 0.01*M* NaOH for photometric detn. of Ni (λ_{max} 409 nm, ε 87000, pH 6.5-9), Co (λ_{max} 517 nm, ε 66500), Cu(*II*), Fe(*II*), Zn. Cryst. Sol. H_2O, EtOH, DMF, alkalis. Mp 300° dec. pK_{a4} 3.58; pK_{a5} 10.6.

Kohata, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1990, **63**, 3398 (*synth, use*)
Ishii, H. *et al*, *Bull. Chem. Soc. Jpn.*, 1990, **63**, 3405 (*detn, Ni*)
Ishii, H. *et al*, *Anal. Chim. Acta*, 1991, **244**, 223 (*detn, Co*)

2-(2-Benzimidazolyl)-4,7-phenanthroline, 8CI B-00048

2-[2-(4,7-Phenanthrolyl)]benzimidazole

[14044-50-9]



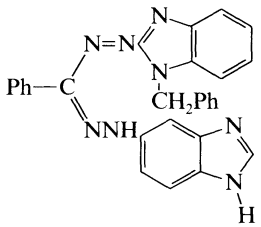
$C_{19}H_{12}N_4$ M 296.331

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 603 nm, ε 11900). Cryst. (C_6H_6). Sol. common org. solvs. Mp 271-272° (as hydrate).

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*detn, Fe*)

5-(1*H*-Benzimidazol-5-yl)-3-phenyl-1-[1-(phenylmethyl)-1*H*-benzimidazol-2-yl] formazan, 9CI B-00049

[52479-84-2]



$C_{28}H_{22}N_8$ M 470.535

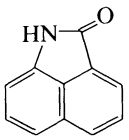
Used as EtOH soln. for photometric detn. of Zn (ε 51000) and Pb (ε 10500). Cryst. Sol. EtOH. DMF.

Podchainova, V.N. *et al*, *CA*, 1974, **80**, 103463j (*detn, Zn*)
Podchainova, V.N. *et al*, *Zh. Obshch. Khim.*, 1974, **44**, 618 (*detn, Zn, Pb*)

Benz[*cd*]indol-2-(1*H*)-one, 9CI B-00050

Naphthostyril. 2H-Benzo[cd]*isoindol-2-one. 8-Amino-1-naphtholactam*

[130-00-7]



$C_{11}H_7NO$ M 169.182

Fine needles (EtOH). Mod. sol. boiling H_2O, spar. sol. Et_2O. Mp 180-181°. Sol. EtOH → green fluor.

N-*Ac:* [58779-65-0].
$C_{13}H_9NO_2$ M 211.220
Mp 125°.

N-*Benzoyl:*
$C_{18}H_{11}NO_2$ M 273.290
Mp 170°.

N-*Me:* [1710-20-9].
$C_{12}H_9NO$ M 183.209
Cryst. (C_6H_6/pet. ether). Mp 78-80°.

N-*Ph:* [1830-57-5].
$C_{17}H_{11}NO$ M 245.280
Yellow needles (pet. ether). Mp 104-105°.

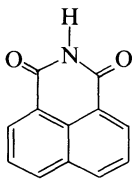
N-*Chloromethyl:* [114044-23-4]. *1-Chloromethylbenz*[cd]*indol-2(1H)-one*
$C_{12}H_8ClNO$ M 217.654
Reagent for the derivatisation and fluorometric detn. of carboxylic acids. Cryst. (cyclohexane). Mp 141°.

Rule, H.G. *et al*, *J. Chem. Soc.*, 1934, 137; 1935, 318 (*synth*)
Dokunitchin, N.S. *et al*, *CA*, 1963, **58**, 6772b (*synth*)
Protiva, M. *et al*, *Collect. Czech. Chem. Commun.*, 1985, **50**, 1888 (*deriv*)
Wendelin, W. *et al*, *J. Heterocycl. Chem.*, 1987, **24**, 1381 (*synth, ir, uv, use, deriv*)

1*H*-Benz[*de*]isoquinoline-1,3(2*H*)-dione, 9CI B-00051

Naphthalimide, 8CI

[81-83-4]



$C_{12}H_7NO_2$ M 197.193

Parent compd. of many dyes, fluorescent brighteners and dye intermediates. Needles (Et_2O or EtOH). Mp 300°. Subl. undec.

N-*Me:* [2382-08-3].
$C_{13}H_9NO_2$ M 211.220
Prisms (EtOH). Mp 228-229° (206.5°).

N-*Amino:* [5690-46-0].
$C_{12}H_8N_2O_2$ M 212.207
Golden needles ($MeNO_2$). Mp 265-266° (262°).

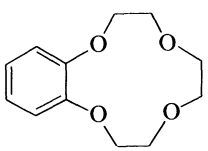
N-*Hydroxy:* [7797-81-1]. *2-Hydroxy-1H-benz*[de]*isoquinoline-1,3(2H)-dione, 9CI. Naphthalhydroxamic acid*
$C_{12}H_7NO_3$ M 213.192
Used as 0.025% soln. in $EtNH_2$ for photometric detn. of Ca. Sol. alkalis.

Behr, A. *et al*, *Justus Liebigs Ann. Chem.*, 1874, **172**, 263 (*synth*)
Triader, P., *Analyst (London)*, 1960, **85**, 889 (*detn, Ca*)
Carpino, L.A. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 2728 (*amino*)
Nishizaki, S., *Nippon Kagaku Zasshi*, 1965, **86**, 696 (*ir*)
Schindlbauer, H., *Monatsh. Chem.*, 1973, **104**, 848 (*methyl*)
Shalabaev, S.B. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, **27**, 44 (*synth*)
Bigotto, A. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1979, 1502 (*uv*)

Benzo-12-crown-4 B-00052

2,3,5,6,8,9-Hexahydro-1,4,7,10-benzotetraoxacyclododecine, 9CI

[14174-08-4]



$C_{12}H_{16}O_4$ M 224.256

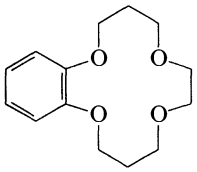
Used in extraction photometric detn. of Na. Cryst. Sol. C_6H_6, toluene, $CHCl_3$. Mp 46-47°, Mp 44-44.5°.

Pedersen, C.J., *J. Am. Chem. Soc.*, 1967, **89**, 7017 (*synth*)
Pacey, C.J. *et al*, *Synth. Commun.*, 1981, **11**, 323 (*synth*)
Czech, B.P. *et al*, *J. Heterocycl. Chem.*, 1985, **22**, 1297 (*synth*)
Zhang, F. *et al*, *CA*, 1987, **106**, 77835r (*detn, Na*)

Benzo-14-crown-4 B-00053

3,4,6,7,10,11-Hexahydro-2H,9H-1,5,8,12-benzotetraoxacyclotetradecin, 9CI

[88718-32-5]



$C_{14}H_{20}O_4$ M 252.310

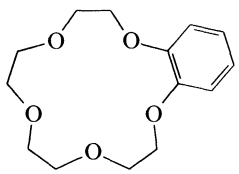
Used as 0.7m*M* CH_2Cl_2 soln. for extraction-photometric detn. of Li (in the presence of picrate, pH ~ 13). Cryst. Sol. $CHCl_3$, CH_2Cl_2.

Wu, Y.P. *et al*, *Anal. Chim. Acta*, 1984, **162**, 285 (*detn, Li*)

Benzo-15-crown-5 B-00054

2,3,5,6,8,9,11,12-Octahydro-1,4,7,10,13-benzopentaoxacyclopentadecine, 9CI

[14098-44-3]



$C_{14}H_{20}O_5$ M 268.309

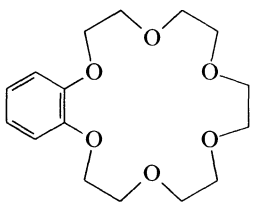
Crown ether. Used for complexing and extraction-separation of group I and II metal ions. Cryst. (toluene). Sl. sol. H_2O; sol. C_6H_6, toluene, $CHCl_3$. Mp 79-81°.

Wada, F. *et al*, *Chem. Lett.*, 1980, 1189.
Poonia, N.S. *et al*, *Indian J. Chem., Sect. A*, 1980, **19**, 37.
Yoshio, M. *et al*, *Anal. Lett.*, 1982, **15**, 1197 (*rev*)

Benzo-18-crown-6 B-00055

2,3,5,6,8,9,11,12,14,15-Decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecine, 9CI

[14098-24-9]



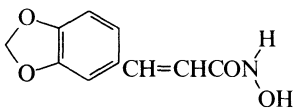
$C_{16}H_{24}O_6$ M 312.362

Used for extraction-photometric detn. of K, Na. Cryst. Sol. C_6H_6, toluene; spar. sol. H_2O. Mp 42-45°.

Motomizu, S. *et al*, *Anal. Chim. Acta*, 1988, **214**, 289 (*detn, K, Na*)
Motomizu, S. *et al*, *Analyst (London)*, 1988, **113**, 743 (*detn, K*)

3-(1,3-Benzodioxol-5-yl)-*N*-hydroxy-2-propenamide, 9CI B-00056

3,4-(Methylenedioxy)cinnamohydroxamic acid



$C_{10}H_9NO_4$ M 207.185

N-*Ph:* [29265-66-5]. *3-(1,3-Benzodioxol-5-yl)-N-hydroxy-N-phenyl-2-propenamide, 9CI*

$C_{16}H_{13}NO_4$ M 283.283

Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of Ti (λ_{max} 400 nm, ε 17000), V (λ_{max} 540 nm, ε 7400). Cryst. Sol. $CHCl_3$.

N-(*3-Methylphenyl*): [29265-67-6]. *3-(1,3-Benzodioxol-5-yl)-N-hydroxy-N-(3-methylphenyl)-2-propenamide, 9CI*

$C_{17}H_{15}NO_4$ M 297.310

Used as 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 570 nm, ε 7500, 4*M* HCl). Cryst. Sol. $CHCl_3$.

N-(*4-Methylphenyl*): [29265-68-7]. *3-(1,3-Benzodioxol-5-yl)-N-hydroxy-N-(4-methylphenyl)-2-propenamide, 9CI*

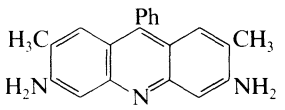
Used as 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 570 nm, ε 7500, 4*M* HCl). Cryst. Sol. $CHCl_3$.

Bhura, D.C. *et al*, *J. Chem. Eng. Data*, 1969, **14**, 276, 278 (*synth*)
Bhura, D.C. *et al*, *Anal. Chim. Acta*, 1971, **53**, 379 (*detn, V*)
Bhura, D.C. *et al*, *Analusis*, 1980, **8**, 108 (*deriv, detn, Ti*)
Bhura, D.C. *et al*, *Chem. Anal. (Warsaw)*, 1980, **25**, 143 (*detn, V*)

Benzoflavine B-00057

2,7-Dimethyl-9-phenyl-3,6-acridinediamine, 9CI

[6359-38-2]



$C_{21}H_{19}N_3$ M 313.401

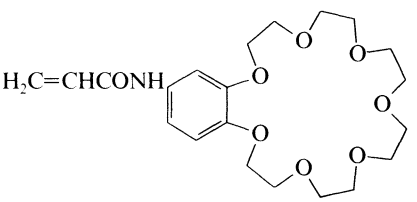
Acid-base fluorescence indicator (pH range: 0-1.7; colour change: yellow→green). Used as a 1% soln. in EtOH. Orange cryst. (C_6H_6). Sol. EtOH, Me_2CO, acids, C_6H_6; insol. H_2O.

Jensen, K.A. *et al*, *Fresenius' Z. Anal. Chem.*, 1933, **94**, 177.

N-(1,4,7,10,13,16,19-Benzoheptaoxacycloheneicosin-21-yl)-2-propenamide, 9CI B-00058

Acryloylaminobenzo-21-crown-7

[84740-96-5]



$C_{21}H_{31}NO_8$ M 425.478

Used as 0.5m*M* $CHCl_3$ soln. for extraction separation of Cs, Rb, K. Fine cryst. Sol. DMF, $CHCl_3$. Mp 98.5-101°.

Kimura, K. *et al*, *Fresenius' Z. Anal. Chem.*, 1982, **313**, 132 (*synth, use*)

Benzoic acid, 9CI B-00059

[65-85-0]

PhCOOH

$C_7H_6O_2$ M 122.123

Widespread in plants esp. in essential oils, mostly in esterified form. Obt. in 17th Century by sublimation of *Styrax* spp. resin. Preservative in the food industry. Used in manuf. of preservatives, plasticisers, alkyd resin coatings and caprolactam. Antiseptic and expectorant.

Used as alkalimetric standard; in photometric detn. of U and Zr (anionic complexes associated with basic dyes). Reference material used in elemental microanalysis. Leaflets or needles (H_2O). V. spar. sol. H_2O. Mp 122°. Bp 249°, Bp_{10} 133°, Subl. *ca.* 100°. Steam-volatile.

▷ Toxic by skin absorption. DG0875000.

Me ester: [93-58-3]. *Methyl benzoate*
$C_8H_8O_2$ M 136.150
Used in perfumery and flavourings. Liq. d_{25}^{25} 1.09. Fp −12.3°. Bp 199.6°, Bp_{24} 96-98°.
▷ DH3850000.

Benzyl ester: [120-51-4]. ***Benzyl benzoate*, USAN.** *Ascabin. Benylate. Vanzoate. Numerous proprietary names*
$C_{14}H_{12}O_2$ M 212.248
Contained in Peru balsam. Isol. from other plants e.g. *Jasminum* spp., ylang-ylang oil. Insect repellant component. Acaricide and pediculicide. Used in perfumery as fixative and in food flavouring. Leaflets. d^{18} 1.11. Mp 21° (19.5°). Bp 323-324° (316-317°), $Bp_{0.1}$ 80-82°. Spar. steam-volatile.
▷ Mod. toxic, LD_{50} 1.5 g/kg. DG4200000.

Chloride: [98-88-4]. *Benzoyl chloride*
C_7H_5ClO M 140.569
Polymerisation catalyst, benzoylating agent. Can be used for synth. of aliphatic acid chlorides. Used to derivatise steroids and carbohydrates for chromatog. Fuming liq. d_{15}^{15} 1.22. Fp −1°. Bp 197°.
▷ Highly irritant, causes burns, violent reaction with dimethyl sulphoxide. DM6600000.

Anhydride: [93-97-0]. *Benzoic anhydride*
$C_{14}H_{10}O_3$ M 226.231
Cross-linking agent for polymers. Acylation and decarboxylating agent, can be used in polymer-linked form. Can be used to prep. derivs. of e.g. glycosphingolipids for hplc. Rhombic prisms. d_4^{15} 1.99. Mp 42°. Bp 360°.
▷ Mild irritant and allergen.

Amide: see *Benzamide, B-00008*

Hydrazide: [613-94-5]. *Benzoylhydrazine*
$C_7H_8N_2O$ M 136.153
Used as 0.2*M* aq. soln. for photometric detn. of V (λ_{max} 400 nm, ε 9000); as 0.1*M* aq. soln. for photometric detn. of $IO_4^{\ominus}$. Cryst. (H_2O). Sol. H_2O, acids, EtOH, C_6H_6, Me_2CO. Mp 112.5°.

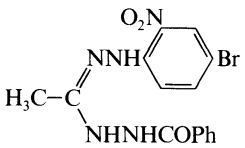
Hydroxamate: see N-*Hydroxybenzamide, H-00109*

Org. Synth., Coll. Vol., 1, 1932, 75, 361 (*synth, deriv*)
Jesson, J.P. *et al, Proc. R. Soc. London, A*, 1962, **268**, 68 (*raman*)
Beynon, J.H. *et al, Z. Naturforsch., A*, 1965, **20**, 883 (*ms*)
Moeken, H.H. *et al, Anal. Chim. Acta*, 1967, **37**, 480 (*detn, U*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 49, 1004; **5**, 23, 24.
Evans, H.B. *et al, J. Phys. Chem.*, 1968, **72**, 2552 (*pmr*)
Escarrilla, A.M. *et al, Anal. Chim. Acta*, 1969, **45**, 199 (*use*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Bel'tyukova, S.V. *et al. Zh. Anal. Khim.*, 1972, **27**, 191 (*detn, Zr*)
Fitzpatrick, F.A. *et al, Anal. Chem.*, 1973, **45**, 2310 (*chloride, use*)
Morris, W.W., *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 1037 (*ir*)
Dubey, S.C. *et al, Talanta*, 1977, **24**, 266 (*detn, U*)
Pilipenko, A.T. *et al, Zh. Anal. Khim.*, 1977, **32**, 1369 (*hydrazide, detn, V*)
Fauvet, G. *et al, Acta Crystallogr., Sect. B*, 1978, **34**, 1376 (*cryst struct, nitrile*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **3**, 778 (*rev*)
White, C.A. *et al, Carbohydr. Res.*, 1979, **76**, 1 (*chloride, use*)
Rama Rao, A.V. *et al, Chem. Ind. (London)*, 1984, 270 (*synth*)
Ullman, M.D. *et al, Methods Enzymol.*, 1987, **138**, 117 (*use, anhydride*)
Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1493 (*cmr*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 193.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BBV250, BCL750, BCM000, BDM500, BQK250, EGR000, IOD000, MHA750.

Benzoic acid [1-[2-(4-bromo-2-nitrophenyl) hydrazino]ethylidene]hydrazide, 9CI **B-00060**

2-Benzoyl-4-(2-nitro-4-bromophenyl)acetohydrazidine

[93245-55-7]



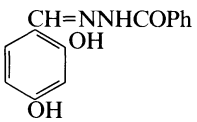
$C_{15}H_{14}BrN_5O_3$ M 392.211
Used as 6m*M* Me_2CO soln. for photometric detn. of Ni (λ_{max} 340 nm, ε 14400, pH 7.9-9.2, 20% Me_2CO). Orange cryst. Sol. Me_2CO, DMF; insol. H_2O, EtOH. Mp 221°. pK_{a1} 4.2; pK_{a2} 9.2.

Dudareva, G.N. *et al, Zh. Anal. Khim.*, 1984, **39**, 1285 (*synth, detn, Ni*)

Benzoic acid [(2,4-dihydroxyphenyl) methylene]hydrazide, 9CI **B-00061**

Benzoic acid resorcylalhydrazide. 2,4-Dihydroxybenzaldehyde benzoylhydrazone

[71040-04-5]



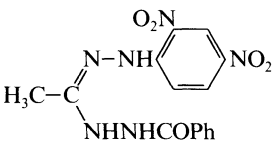
$C_{14}H_{12}N_2O_3$ M 256.260
Used as 2m*M* Me_2CO soln. for photometric detn. of V(*V*) (λ_{max} 390 nm, ε 10800, pH 3.5). Cryst. (EtOH). Sol. EtOH, Me_2CO; mod. sol. H_2O. pK_{a2} 3.2; pK_{a3} 7.5.

Dudarev, V.I. *et al, Zh. Anal. Khim.*, 1986, **41**, 289 (*synth, detn, V*)

Benzoic acid [1-[2-(2,4-dinitrophenyl) hydrazino]ethylidene]hydrazide, 9CI **B-00062**

2-Benzoyl-4-(2,4-dinitrophenyl)acetohydrazidine

[93245-56-8]



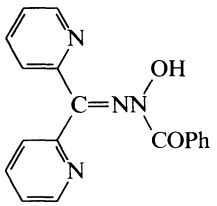
$C_{15}H_{14}N_6O_5$ M 358.313
Used as 6m*M* Me_2CO soln. for photometric detn. of Ni (λ_{max} 410 nm, ε 17000, pH 7.5-10, 20% Me_2CO). Yellow cryst. Sol. Me_2CO, DMF; insol. H_2O, EtOH. Mp 246°. pK_{a1} 2.3; pK_{a2} 9.1.

Dudareva, G.N. *et al, Zh. Anal. Khim.*, 1984, **39**, 1285 (*detn, Ni*)

Benzoic acid 2-hydroxy(di-2-pyridinylmethylene)hydrazide, 9CI B-00063

Di-2-pyridinylmethanone 2-hydroxybenzoylhydrazone

[73697-21-9]



$C_{18}H_{14}N_4O_2$ M 318.334

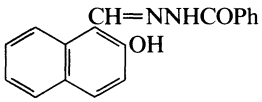
Used as 0.01*M* soln. in EtOH or Me_2CO for extraction-photometric detn. of Re (in the presence of $SnCl_2$, 4-methyl-2-pentanone). Orange red cryst. (EtOH). Sol. EtOH, Me_2CO, $CHCl_3$. Mp 169-170°.

Kettrup, A. *et al*, *Anal. Chim. Acta*, 1980, **115**, 383 (*synth, detn, Re*)

Benzoic acid [(2-hydroxy-1-naphthalenyl) methylene]hydrazide, 9CI B-00064

Benzoic acid 2-hydroxynaphthalhydrazide. 2-Hydroxy-1-naphthalenecarboxaldehyde benzoylhydrazone

[15017-21-7]



$C_{18}H_{14}N_2O_2$ M 290.321

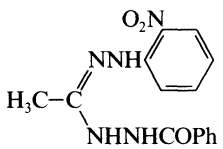
Used as a 0.1m*M* Me_2CO soln. for fluorimetric detn. of Al (λ_{max} 475 nm, pH 3-4, 60% Me_2CO). Yellow cryst. (EtOH). Sol. EtOH, Me_2CO; sl. sol. H_2O.

Dorgorev, A.V. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 2357 (*synth, detn, Al*)

Benzoic acid [1-[2-(2-nitrophenyl) hydrazino]ethylidene]hydrazide, 9CI B-00065

2-Benzoyl-4-(2-nitrophenyl)acetohydrazidine

[54928-38-0]



$C_{15}H_{15}N_5O_3$ M 313.315

Used as 6m*M* Me_2CO soln. for photometric detn. of Ni (λ_{max} 340 nm, ε 20000, pH 7.3-9.1, 20% Me_2CO). Yellow cryst. Sol. Me_2CO, DMF; insol. H_2O, EtOH. Mp 184°. pK_{a1} 4.3; pK_{a2} 9.4.

Dudareva, G.N. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 1285 (*synth, detn, Ni*)

Benzoic acid [1-[2-(4-nitrophenyl) hydrazino]ethylidene]hydrazide, 9CI B-00066

2-Benzoyl-4-(4-nitrophenyl)acetohydrazidine

[54928-42-6]

$C_{15}H_{15}N_5O_3$ M 313.315

Used as 6m*M* Me_2CO soln. for photometric detn. of Ni (λ_{max} 560 nm, ε 31300, pH 7.2-8.7, 20% Me_2CO). Orange cryst. Sol. Me_2CO, DMF; insol. H_2O, EtOH. Mp 190°. pK_{a1} 1.5; pK_{a2} 9.6.

Dudareva, G.N. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 1285 (*synth, detn, Ni*)

Benzoic ethylcarbonic anhydride B-00067

Benzoic acid anhydride with ethyl hydrogen carbonate, 9CI

[3741-66-0]

PhCOOCOOEt

$C_{10}H_{10}O_4$ M 194.187

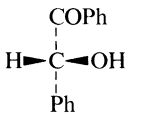
Reagent for amino acid sequence anal. by ms. Cryst. (pet. ether). Mp 70-72°.

Windholz, T.B., *J. Org. Chem.*, 1960, **25**, 1703 (*synth*)
Kamerling, J.P. *et al*, *Org. Mass Spectrom.*, 1968, **1**, 351 (*use*)

Benzoin B-00068

1,2-Diphenyl-2-hydroxyethanone. α-Hydroxybenzyl phenyl ketone. Benzoylphenylcarbinol

[119-53-9]



(R)-form

$C_{14}H_{12}O_2$ M 212.248

▷ DI1590000.

(R)-form [5928-66-5]

Needles. Mp 131-132.5°. $[\alpha]_D^{12}$ −117.5° (Me_2CO).

Ac:

$C_{16}H_{14}O_3$ M 254.285

Needles. $[\alpha]_D^{14}$ −217.7° ($CHCl_3$).

Me ether:

$C_{15}H_{14}O_2$ M 226.274

Mp 53-54°. $[\alpha]_D^{12}$ −88.2° ($CHCl_3$), $[\alpha]_D^{11}$ −94.3° (EtOH).

(S)-form [5928-67-6]

Needles. Mp 131-132.5°. $[\alpha]_D^{25}$ +118.4° (Me_2CO).

(E)-*Oxime:*

$C_{14}H_{13}NO_2$ M 227.262

Mp 164°. $[\alpha]_D^{24}$ +3.0° ($CHCl_3$).

(±)-form [579-44-2]

Used in test for S (H_2S with $Pb^{2\oplus}$) and for B (fluorescence). Topical protectant. Prisms (EtOH). Mp 133-134°. Bp_{768} 344°, Bp_{12} 194°. Enolises to β-dihydroxystilbene.

Ac: [62398-10-1].

Prisms. Mp 83°.

Benzoyl:

$C_{21}H_{16}O_3$ M 316.356

Needles (EtOH), prisms (Et_2O). Mp 125°.

Me ether: [5987-95-1].

Needles. Mp 49°.

(E)-*Oxime:* [574-13-0]. *α-Oxime.* ***Cupron***

Used as 0.2% soln. in $CHCl_3$ in extraction separation of Mo, W (from conc. HCl media) and of V (pH 2-4); also in pptn. of Cu, Pd, Bi, Au. Light sensitive prisms. Sol. EtOH, Et_2O, Me_2CO; insol. H_2O. Mp 151-152°.

(Z)-*Oxime:* [7110-50-1]. *β-Oxime*

Prisms. Mp 99°.

Semicarbazone: Prisms. Mp 206° dec.

2,4-Dinitrophenylhydrazone: [13804-47-2].

Orange-yellow cryst. Mp 234°.

Thiosemicarbazone: [87051-83-0]. *Benzointhiosemicarbazone*

$C_{15}H_{15}N_3OS$ M 285.369

Used as EtOH soln. for colorimetric detn. of Pd, Cu, Pt, Ni. Cryst. (EtOH). Sol. C_6H_6, CCl_4, EtOH. Mp 179°. pK_a 1.13.

[441-38-3, 8050-35-9, 57794-28-2]

Org. Synth., Coll. Vol., 1, 1932, 94 (*synth*)
White, C.E. *et al*, *Anal. Chem.*, 1947, **19**, 802 (*detn, B*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, N.Y., 1947, **3**, 239 (*synth, use, E-oxime*)
Gianturco, M. *et al*, *Gazz. Chim. Ital.*, 1952, **82**, 429 (*synth, thiosemicarbazone*)
Watson, M.B. *et al*, *Chem. Ind. (London)*, 1954, 658 (*abs config*)
Ory, H.A. *et al*, *Analyst (London)*, 1957, **82**, 189 (*detn, S*)
Peng, P.Y. *et al*, *Anal. Chim. Acta*, 1963, **29**, 325 (*detn, W*)
Kenyon, J. *et al*, *J. Chem. Soc.*, 1965, 435 (*resoln*)
Hoenes, H.J. *et al*, *Talanta*, 1969, **4**, 250.
Bock, R. *et al*, *Fresenius' Z. Anal. Chem.*, 1970, **250**, 358 (*oxime, detn, V*)
Kreiser, W., *Justus Liebigs Ann. Chem.*, 1971, **745**, 164 (*synth*)
Couvert, O. *et al*, *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1972, **274**, 296 (*pmr*)
Desai, M. *et al*, *Indian J. Appl. Chem.*, 1972, **35**, 507; *CA*, **99**, 186547p (*synth, detn, Ga*)
Desai, M. *et al*, *Z. Anorg. Allg. Chem.*, 1972, **259**, 367 (*detn, Fe*)
Ohgo, Y. *et al*, *Chem. Lett.*, 1974, 1327 (*synth*)
Kudo, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1975, **48**, 2969.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 34.
Hakimelahi, G.H. *et al*, *Helv. Chim. Acta*, 1977, **60**, 342 (*synth*)
Haisa, M. *et al*, *Acta Crystallogr., Sect. B*, 1980, **36**, 2832 (*cryst struct*)
Donaldson, E.M., *Talanta*, 1980, **27**, 79 (*oxime, detn, Mo*)
Aznarez, J. *et al*, *CA*, 1982, **100**, 150200n (*use*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 274.
Davis, F.A. *et al*, *J. Org. Chem.*, 1989, **54**, 2021 (*synth, deriv, pmr, ir*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BCP250, BCP500.

Benzophenone, 8CI B-00069

Diphenylmethanone, 9CI. Diphenyl ketone

[119-61-9]

PhCOPh

$C_{13}H_{10}O$ M 182.221

Constit. of *Pseudomonas putida*, also occurs in Baltic Sea shale tar. Fixative for heavy perfumes, esp. soaps. Used in the manuf. of antihistamines, hypnotics and insecticides. Rhombic prisms (stable form), monoclinic prisms (labile form). Insol. H_2O. d_4^{18} 1.11. Mp 48.5-49° (stable form), Mp 26° (labile form). Bp_{100} 224-224°, Bp_{10} 157.6°.

▷ DI9950000.

Di-Me acetal: [2235-01-0]. *1,1'-(Dimethoxymethylene) bisbenzene, 9CI. Dimethoxydiphenylmethane*
$C_{15}H_{16}O_2$ M 228.290
Plates (EtOH). Mp 106-109°. Bp 288-290°.

Di-Et acetal: [6397-77-9]. *1,1'-(Diethoxymethylene) bisbenzene, 9CI. Diethoxydiphenylmethane*
$C_{17}H_{20}O_2$ M 256.344
Prisms (EtOH). Mp 51-52°. Bp 294-295°.

Oxime: [574-66-3].
$C_{13}H_{11}NO$ M 197.236
Cryst. (ligroin). Sol. Et_2O, Me_2CO; mod. sol. $CHCl_3$, C_6H_6; spar. sol. H_2O.
▷ DJ1810000.

Hydrazone: [5350-57-2].
$C_{13}H_{12}N_2$ M 196.251
Mp 98°. Bp_{55} 225-230°.

Semicarbazone: Mp 167°.

Thiosemicarbazone: [7341-60-8].
$C_{14}H_{13}N_3S$ M 255.343
Used as EtOH soln. for photometric detn. of Cu (λ_{max} 360 nm, ε 13200). Cryst. Sol. DMF, EtOH.

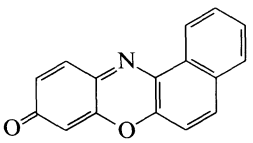
Phenylhydrazone: [574-61-8].
Needles. Mp 137°.

2,4-Dinitrophenylhydrazone: Mp 238°.

Barton, D.H.R. *et al*, *J. Chem. Soc.*, 1962, 470 (*azine, synth, uv, ir*)
Morrison, J.D. *et al*, *J. Org. Chem.*, 1972, **37**, 1034 (*use*)
Grimaud, M. *et al*, *Bull. Soc. Chim. Fr.*, 1974, 1935 (*uv*)
Herman, F.L., *Diss. Abstr. Int., B*, 1976, **16**, 6169; *CA*, **85**, 93411c (*use*)
Groebal, B.T. *et al*, *Chem. Ber.*, 1977, **110**, 854 (*use*)
Loletta, M. *et al*, *Inorg. Chim. Acta*, 1977, **24**, 195 (*pmr, cmr*)
Vogel, A.I., *Textbook of Practical Organic Chemistry*, 4th Ed., Longman, London, 1978, 775 (*synth*)
Gowda, H.S., *Indian J. Chem., Sect. A*, 1983, **22**, 1086 (*detn, Cu*)
Abraham, R.J. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1988, 1429 (*conformn*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BCS250.

9-Benzo[*a*]phenoxazin-9-one, 8CI B-00070

[731-72-6]



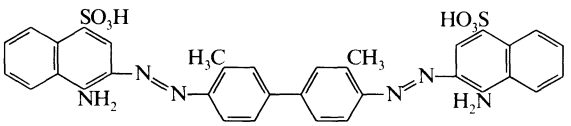
$C_{16}H_9NO_2$ M 247.253

Used as a satd. soln. in EtOH as a redox indicator for titanometry; acid-base indicator. Violet cryst. Sol. Et_2O, C_6H_6; sl. sol. EtOH.

Stransky, Z. *et al*, *Chem. Zvesti*, 1968, **22**, 341, 424 (*use, ind*)
Stuzka, V. *et al*, *CA*, 1969, **71**, 108668d (*use, titanometry*)

Benzopurpurine 4B B-00071

3,3'-[(3,3'-Dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)]bis[4-amino-1-naphthalenesulfonic acid], 9CI. C.I. Direct red 2. C.I. 23500



$C_{34}H_{28}N_6O_6S_2$ M 680.764

Strictly, the name Benzopurpurine 4B applies to the disodium salt.

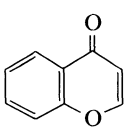
Di-Na salt: [992-59-6].
Used for photometric detn. of Pd (λ_{max} 610 nm). Red cryst. (H_2O). Sol. EtOH, Me_2CO, H_2O; insol. C_6H_6, CCl_4.
▷ QK1765000.

Baiulescu, G. *et al*, *An. Univ. Bucuresti, Chim.*, 1970, **19**, 107; *CA*, **75**, 136759k.

4*H*-1-Benzopyran-4-one, 9CI B-00072

Chromone. Benz-γ-pyrone. Benzopyrone

[491-38-3]



$C_9H_6O_2$ M 146.145
Reagent for the identification of amines. Needles (H_2O or pet. ether). Mp 59°. Sublimes. Steam-volatile.

▷ GB7887000.

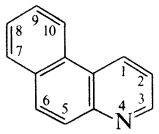
B,HCl: Mp 101-102°.

Gomberg, M. *et al, Justus Liebigs Ann. Chem.*, 1910, **376**, 228.
Schönberg, A. *et al, J. Am. Chem. Soc.*, 1950, **72**, 3396.
Badawi, M.M. *et al, Indian J. Chem.*, 1965, **5**, 63 (*nmr*)
Badawi, M.M. *et al, Chem. Ind. (London)*, 1966, 498 (*ms*)
Kostka, K. *et al, Chem. Anal. (Warsaw)*, 1969, **14**, 1145; *CA*, **72**, 128486n (*use*)
Ellis, G.P. *et al, J. Chem. Soc., Perkin Trans. 1*, 1981, 2557 (*cmr*)

Benzo[*f*]quinoline, 9CI B-00073

1-Azaphenanthrene. β-Naphthoquinoline (obsol.). Naphtho[2',1':2,3]pyridine (obsol.)

[85-02-9]



$C_{13}H_9N$ M 179.221
Used in iodometric detn. of Cd. Leaflets (H_2O or pet. ether). Mp 94°. Bp_{721} 350°, Bp_{22} 210-215°.

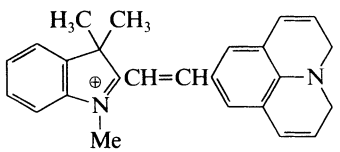
▷ Mutagen. DK1428000.

B,H_2SO_4: Yellow needles. Mp 90°.
B,MeCl: Needles (EtOH/Et_2O). Mp 236° (anhyd.).
B,MeI: Yellow needles (H_2O or EtOH). Mp 200-205° dec.

v. Braun, J. *et al, Ber.*, 1922, **55**, 1714.
Clem, W.J. *et al, J. Am. Chem. Soc.*, 1940, **62**, 2349.
Uhle, F.C. *et al, J. Org. Chem.*, 1945, **10**, 76.
Kröller, E.Z., *Z. Lebensm.-Unters. -Forsch.*, 1964, **125**, 401 (*detn, Cd*)
Jutz, C. *et al, Angew. Chem., Int. Ed. Engl.*, 1972, **11**, 315.
Nasipuri, D. *et al, Indian J. Chem., Sect. B*, 1976, **14**, 819.
Kosuge, T. *et al, Chem. Pharm. Bull.*, 1978, **26**, 611 (*tox*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BDB750.

2-[2-(3*H*,5*H*-Benzo[*i,j*]quinolizin-9-yl) ethenyl]-1,3,3-trimethyl-3*H*-indolium(1+), 9CI B-00074

2-Pyrido[1,2,3-i,j]quinolinyl-6-vinyl-1,3,3-trimethyl-3H-indolium



$C_{25}H_{25}N_2^{\oplus}$ M 353.486 (ion)
Basic cyanine dye.

Iodide:
$C_{25}H_{25}IN_2$ M 480.390
Used as 1m*M* aq. soln. for photometric detn. of Pb. Cryst. (MeOH). Sol. H_2O, EtOH; insol. $CHCl_3$.

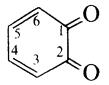
[125232-87-3]

Kish, P.P. *et al, Zh. Anal. Khim.*, 1989, **44**, 313 (*detn, Pb*)

1,2-Benzoquinone B-00075

3,5-Cyclohexadiene-1,2-dione, 9CI. o-*Quinone*

[583-63-1]



$C_6H_4O_2$ M 108.096
Mp 60-70° dec. Exists in two modifications, red and colourless prisms. Red form is dione, other form's struct. not satisfactorily shown.

▷ DK2490000.

Monoxime: [13168-78-0]. *2-Nitrosophenol*
$C_6H_5NO_2$ M 123.111
Used as metallochromic indicator for titrimetric detn. of Co, Cu, Fe, Ni, Zn; acid-base indicator. Green needles (pet. ether).
▷ Explodes on heating or contact with acids.

Dioxime: [14208-17-4].
$C_6H_6N_2O_2$ M 138.126
Tan needles (EtOH aq.). Mp 148-149°. pK_{a1} 6.93.

Bis-2,4-dinitrophenylhydrazone: Cryst. (DMF or MeOH). Mp 268°.

Willstätter, R. *et al, Ber.*, 1908, **41**, 2580 (*synth*)
Brockhaus, R., *Justus Liebigs Ann. Chem.*, 1968, **712**, 214 (*synth*)
Thomson, R.H., *Naturally Occurring Quinones*, Academic Press, London, 1971 (*uv*)
Berger, S. *et al, Tetrahedron*, 1972, **28**, 3123 (*cmr*)
Hollenstein, R. *et al, Helv. Chim. Acta*, 1973, **56**, 320 (*pmr, cmr*)
Durst, H.D. *et al, J. Org. Chem.*, 1975, **40**, 268 (*synth*)
Cheng, K.L. *et al, Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 295 (*use*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 575 (*deriv*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 417 (*deriv*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BDC250, NLF300.

1,4-Benzoquinone, 8CI B-00076

2,5-Cyclohexadiene-1,4-dione, 9CI. Quinone. p-*Benzoquinone*

[106-51-4]

$C_6H_4O_2$ M 108.096
Component of arthropod defensive secretions; isol. from the grasshopper *Romalea microptera*. Metab. of *Streptothrix chromogena*. Dienophile, H acceptor for Oppenauer oxidns., mild dehydrogenating agent. Reagent for the spectrophotometric detn. of amines and amino acids. Used as a 0.34m*M* soln. in DMSO for fluorimetric detn. of $CN^{\ominus}$. Yellow cryst. with penetrating chlorine-like odour (pet. ether or H_2O). Sol. EtOH, Et_2O; v. spar. sol. H_2O. Mp 117°. Sublimes. Steam-volatile.

▷ Irritant, causes dermatitis and conjunctivitis. Highly toxic. DK2625000.

Dioxime: [105-11-3].
$C_6H_6N_2O_2$ M 138.126
Pale-yellow cryst. Mp 240° dec.
▷ DK4900000.

Monosemicarbazone: Yellow cryst. Mp 178° dec.
Disemicarbazone: Red cryst. Mp 241-243° dec.
1,4-Benzenediol complex (1:1): [106-34-3]. *Quinhydrone*
Red-brown needles. Mp 171°.
▷ VA4550000.

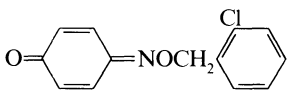
Mono(ethylene ketal): [35357-34-7]. *7,10-Dioxaspiro[5.4]deca-2,5-dien-4-one*
$C_8H_8O_3$ M 152.149

Needles (C_6H_6/cyclohexane). Mp 52-53°.
Bis(ethylene ketal): [35357-33-6].
$C_{10}H_{12}O_4$ M 196.202
Cryst. (C_6H_6). Mp 235-236°.
Chloroimine: see *4-(Chloroimino)-2,5-cyclohexadien-1-one, C-00164*

Evans, T.W. *et al, J. Am. Chem. Soc.*, 1930, **52**, 3204 (*complex*)
Org. Synth., Coll. Vol., 1, 1932, 482 (*synth*)
Org. Synth., Coll. Vol., 2, 1943, 553 (*synth*)
Flaig, W. *et al, Justus Liebigs Ann. Chem.*, 1958, **618**, 117 (*uv*)
Guilbault, G.G. *et al, Anal. Chem.*, 1965, **37**, 1395 (*detn, CN*$^{\ominus}$)
Norris, R.K. *et al, Aust. J. Chem.*, 1966, **19**, 617 (*pmr*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 49.
Kikot, B.S. *et al, J. Gen. Chem. USSR* (*Engl. Transl.*), 1968, **38**, 883 (*ir*)
Heiss, J. *et al, Org. Mass Spectrom.*, 1969, **2**, 1325 (*ms*)
Eisner, T. *et al. Science* (*Washington, D.C.*), 1971, **172**, 277 (*isol*)
Berger, S. *et al. Tetrahedron*, 1972, **28**, 3123 (*cmr*)
Heller, J.E. *et al, Helv. Chim. Acta*, 1973, **56**, 272 (*deriv, synth, ir, pmr*)
Lorenz, K. *et al, Clin. Chem.* (*Winston-Salem, N.C.*), 1974, **20**, 1553 (*use*)
v. Bolhuis, F. *et al, Acta Crystallogr., Sect. B*, 1978, **34**, 1015 (*cryst struct*)
Hassan, S.S.M. *et al, Talanta*, 1985, **32**, 301 (*use*)
Caparelli, M.P. *et al, J. Org. Chem.*, 1987, **52**, 5360 (*synth*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 1193.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DVR200, QFJ000, QQS200.

1,4-Benzoquinone *O*-(2-chlorobenzyl) oxime B-00077

2-Chloro-O-benzylquinone monoxime



$C_{13}H_{10}ClNO_2$ M 247.680
Used as a 0.34m*M* soln. in DMSO for fluorimetric detn. of $CN^{\ominus}$. Yellow cryst. (EtOH). Sol. EtOH, $CHCl_3$, Me_2CO. Mp 97-98°.

Guilbault, G.G. *et al, Anal. Chem.*, 1965, **37**, 1395 (*detn, CN*$^{\ominus}$)

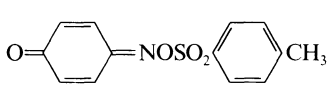
1,4-Benzoquinone *O*-(4-chlorobenzyl) oxime B-00078

4-Chloro-O-benzylquinone monoxime

$C_{13}H_{10}ClNO_2$ M 247.680
Used as a 0.34m*M* soln. in DMSO for fluorimetric detn. of $CN^{\ominus}$. Yellow cryst. (EtOH). Sol. EtOH, Me_2CO, $CHCl_3$. Mp 101-102°.

Guilbault, G.G. *et al, Anal. Chem.*, 1965, **37**, 1395 (*detn, CN*$^{\ominus}$)

1,4-Benzoquinone mono[*O*-[(*p*-methylphenyl)sulfonyl]]oxime B-00079

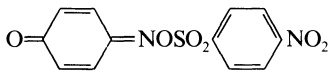


$C_{13}H_{11}NO_4S$ M 277.300
Used as a 0.34m*M* soln. in DMSO for fluorimetric detn. of $CN^{\ominus}$. Yellow cryst. (CCl_4). Sol. EtOH, $CHCl_3$, Me_2CO. Mp 132°.

Guilbault, G.G. *et al, Anal. Chem.*, 1965, **37**, 1395.

1,4-Benzoquinone mono[*O*-[(*p*-nitrophenyl) sulfonyl]oxime], 8CI B-00080

[7239-22-7]

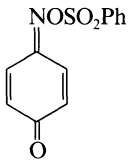


$C_{12}H_8N_2O_6S$ M 308.271
Used as a 0.34m*M* soln. in DMSO for fluorimetric detn. of $CN^{\ominus}$. Yellow cryst. (CCl_4). Sol. EtOH, $CHCl_3$, Me_2CO. Mp 164-165°.

Guilbault, G.G. *et al, Anal. Chem.*, 1965, **37**, 1395 (*detn, CN*$^{\ominus}$)

1,4-Benzoquinone mono[*O*-phenylsulfonyl] oxime B-00081

O-Phenylsulfonylquinone monoxime

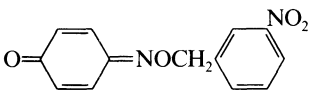


$C_{12}H_9NO_4S$ M 263.273
Used as a 0.34m*M* soln. in DMSO for fluorimetric detn. of $CN^{\ominus}$. Yellow cryst. (CCl_4). Sol. EtOH, $CHCl_3$, Me_2CO. Mp 130-131°.

Guilbault, G.G. *et al, Anal. Chem.*, 1965, **37**, 1395 (*detn, CN*$^{\ominus}$)

1,4-Benzoquinone *O*-(*m*-nitrobenzyl)oxime B-00082

O-(m-*Nitrobenzyl*)-p-*benzoquinone oxime*



$C_{13}H_{10}N_2O_4$ M 258.233
Used as a 0.34m*M* soln. in DMSO for fluorimetric detn. of $CN^{\ominus}$. Yellow cryst. (EtOH). Sol. EtOH, Me_2CO, $CHCl_3$. Mp 113-114°.

Guilbault, G.G. *et al, Anal. Chem.*, 1965, **37**, 1395 (*detn, CN*$^{\ominus}$)

1,4-Benzoquinone *O*-(*p*-nitrobenzyl)oxime B-00083

O-(p-*Nitrobenzyl*)-p-*benzoquinone oxime*

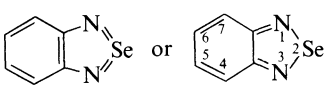
$C_{13}H_{10}N_2O_4$ M 258.233
Used as a 0.34m*M* soln. in DMSO for fluorimetric detn. of $CN^{\ominus}$. Yellow cryst. (EtOH). Sol. EtOH, $CHCl_3$, Me_2CO. Mp 157-158°.

Guilbault, G.G. *et al, Anal. Chem.*, 1965, **37**, 1395 (*detn, CN*$^{\ominus}$)

2,1,3-Benzoselenadiazole-*Se*^{IV}, 9CI B-00084

Benzo[c]*selenadiazole. 3,4-Benzo-1,2,5-selenodiazole. Piaselenole*

[22706-23-6]



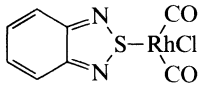
$C_6H_4N_2Se$ M 183.071
Used as a 1% soln. in EtOH for indirect photometric detn. of Pd. Needles (H_2O or by subl) with odour of Quinoline. Sol. EtOH, C_6H_6. Mp 75°.

Hinsberg, O., *Ber.*, 1889, **22**, 2897 (*synth*)
Parker, C.A. *et al, Analyst* (*London*), 1962, **87**, 559 (*synth*)
Bunting, T.G. *et al, Anal. Chem.*, 1968, **40**, 435 (*detn, Pd*)
Cheeseman, G.W.H. *et al, Org. Magn. Reson.*, 1974, **6**, 430 (*cmr*)

Pedersen, C.L. *et al*, *Acta Chem. Scand., Ser. B*, 1975, **29**, 483 (*ms*)
Gomes, A.C. *et al*, *Acta Crystallogr., Sect. C*, 1989, **45**, 73 (*cryst struct*)

(2,1,3-Benzothiadiazole-S^2) dicarbonylchlororhodium, 9CI B-00085

[76791-04-3]



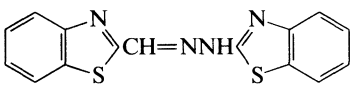
$C_8H_4ClN_2O_2RhS$ M 330.556
Reagent for the detn. of NH_3 and primary amines.

[64588-36-9]

Kukushkin, Yu.N. *et al*, *J. Gen. Chem. USSR* (*Engl. Transl.*), 1977, **47**, 1725 (*synth*)
Kukushkin, Yu.N. *et al*, *Zh. Prikl. Khim.* (*Leningrad*), 1986, **59**, 707; *CA*, **105**, 34852f (*use*)

2-Benzothiazolecarboxaldehyde 2-benzothiazolylhydrazone B-00086

[18672-66-7]

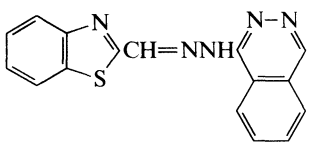


$C_{15}H_{10}N_4S_2$ M 310.403
Used for photometric detn. of Co, Cu (λ_{max} 464 nm, ε 32500), Ni. Cryst. Sol. Me_2CO, EtOH.

Uno, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1961, **10**, 822 (*detn, Co, Cu, Ni*)

2-Benzothiazolecarboxaldehyde 1(2*H*)-phthalazinylidenehydrazone, 9CI B-00087

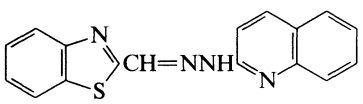
[73448-67-6]



$C_{16}H_{11}N_5S$ M 305.362
Used as $CHCl_3$ soln. for extraction-photometric detn. of Pd (λ_{max} 587 nm, ε 16800). Cryst. Sol. $CHCl_3$.

Otomo, M. *et al*, *Microchem. J.*, 1980, **25**, 75 (*synth, detn, Pd*)
Nakagawa, T. *et al*, *Analyst* (*London*), 1985, **110**, 387 (*detn, Pd*)

2-Benzothiazolecarboxaldehyde 2-quinolylhydrazone B-00088

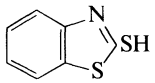


$C_{17}H_{12}N_4S$ M 304.375
Used as C_6H_6 soln. for extraction-photometric detn. of Pd (λ_{max} 647 nm, ε 21400), Cu (λ_{max} 523 nm, ε 75000). Cryst. (EtOH). Sol. C_6H_6, dioxan. Mp 281-283°. pK_{a2} 3.2; pK_{a3} 5.2; pK_{a4} 13.1 (25°, 20% aq. dioxan, 0.1*M* $NaClO_4$).

Otomo, M. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1977, **26**, 455 (*synth, Pd*)
Otomo, M. *et al*, *Microchem. J.*, 1978, **23**, 297 (*synth, detn, Cu*)
Nakagawa, T. *et al*, *Analyst* (*London*), 1985, **110**, 387 (*detn, Pd*)

2-Benzothiazolethiol, 8CI B-00089

2-Mercaptobenzothiazole



$C_7H_5NS_2$ M 167.255
Used as 1% soln. in $CHCl_3$ for separation pptn. of Au, $I^{\ominus}$; photometric detn. of Pd, Os, Rh, Se, Ni (λ_{max} 750 nm). Needles. Sol. alkalis, $CHCl_3$; spar. sol. EtOH, Et_2O; insol. H_2O. Mp 177-181°.

S-*Me:*
$C_8H_7NS_2$ M 181.282
Prisms (EtOH aq.). Mp 52°. Bp 291-300°, $Bp_{0.5}$ 116°.

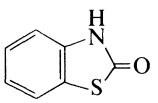
S-*Et:*
$C_9H_9NS_2$ M 195.309
Cryst. (EtOH). Mp 26°. Bp_6 148-150°.

S-*Benzyl:*
$C_{14}H_{11}NS_2$ M 257.380
Mp 149-150°.

Mercaptobenzthiazyl ether: 2,2'-Dithiobisbenzthiazole
Rubber vulcanisation accelerator. Needles (C_6H_6). Insol. EtOH, alkalis. Mp 186°.

Jacobson, P. *et al*, *Ber.*, 1891, **24**, 1403.
Rassow, B. *et al*, *Chem. Zentralbl.*, 1916, **2**, 394.
Welcher, J.F., *Organic Analytical Reagents*, Van Nostrand, N.Y., 1948, **4**, 109.
Kiprianov, A.I. *et al*, *Zh. Obshch. Khim.*, 1949, **19**, 1523; *CA*, **44**, 3487.
Fry, D.J. *et al*, *J. Chem. Soc.*, 1951, 1723.
Moore, C.G. *et al*, *J. Chem. Soc.*, 1952, 4237.
Walliczek, E.G., *Talanta*, 1964, **11**, 573 (*detn, Ni*)
Bera, C.C. *et al*, *Analyst* (*London*), 1968, **93**, 50 (*detn, Se*)
Sohar, P. *et al*, *J. Heterocycl. Chem.*, 1969, **6**, 163.
Kujawa, R., *Mikrochim. Acta*, 1969, 193 (*detn, $I^{\ominus}$*)
Fries, J. *et al*, *Organic Reagents for Trace Analysis*, E. Merck, Darmstadt, 1977, 302.

2(3*H*)-Benzothiazolone, 9CI B-00090



C_7H_5NOS M 151.189
Major tautomer of 2-Hydroxybenzothiazole, H-00125. Prod. by a *Micrococcus* sp. found in *Tedania ignis*. Needles (EtOH). Mp 138-139°.

N-*Me:* [2786-62-1]. *3-Methyl-2-benzothiazolone*
C_8H_7NOS M 165.215
Cryst. (H_2O). Mp 70-71°.

N(*?*)-*Ac:*
$C_9H_7NO_2S$ M 193.226
Needles (EtOH aq.). Mp 50°.

N-*Me, hydrazone:* [1128-67-2]. *MBTH*
$C_8H_9N_3S$ M 179.245
Used as a 0.25% aq. soln. of hydrochloride for photometric detn. of H_2O_2 (λ_{max} 442 nm, ε 36000) and aldehydes. Yellow cryst. (EtOH). Sol. dil. acids, EtOH, Me_2CO, C_6H_6. Mp 144°.
▷ DL7160000.

N-*Me, hydrazone; B,HCl:* [14448-67-0].
Mp 264-266°.

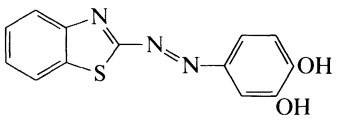
Mills, W.H. *et al*, *J. Chem. Soc.*, 1927, 2738 (*synth*)
Davies, W.H. *et al*, *J. Chem. Soc.*, 1942, 304 (*deriv*)
Sawicke, E. *et al*, *Anal. Chem.*, 1961, **33**, 93 (*use, deriv*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 672 (*deriv*)
Hauser, T.R. *et al*, *Anal. Chem.*, 1968, **40**, 231 (*detn, H_2O_2*)
Sohar, P. *et al*, *J. Heterocycl. Chem.*, 1969, **6**, 163.

Aboulezz, A.F. *et al*, *Egypt. J. Chem.*, 1973, **16**, 355; *CA*, **81**, 152075.
Fife, T.H. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 5878 (*synth, deriv*)
Faure, R. *et al*, *Org. Magn. Reson.*, 1978, **11**, 617 (*tautom, cmr*)
Rudd, S. *et al*, *Acta Crystallogr., Sect. C*, 1984, **40**, 2118 (*cryst struct, deriv*)
Safanda, J. *et al*, *Collect. Czech. Chem. Commun.*, 1984, **49**, 1869 (*use, deriv*)
Konishi, K. *et al*, *Synthesis*, 1984, 254 (*synth*)
D'Amico, J.J. *et al*, *J. Heterocycl. Chem.*, 1986, **23**, 641 (*synth, pmr*)
Stierle, A.A. *et al*, *Tetrahedron Lett.*, 1991, **32**, 4847 (*isol*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MHJ250.

4-(2-Benzothiazolylazo)-1,2-benzenediol, 9CI B-00091

4-(2-Benzothiazolylazo)pyrocatechol. 2-(3,4-Dihydroxyphenylazo)benzothiazole

[95833-36-6]



$C_{13}H_9N_3O_2S$ M 271.299

Used as 2m*M* DMF soln. for photometric detn. of Fe(*II*) (λ_{max} 615 nm, ε 110000, 40% Me_2CO, pH 6.3-6.8). Cryst. Sol. DMF, Me_2CO, EtOH, dioxan.

Ueda, K. *et al*, *Mikrochim. Acta*, 1984, **3**, 103 (*synth, detn, Fe*)
Wang Zhen-Pu, *et al*, *Mikrochim. Acta*, 1990, **3**, 311 (*synth, detn, Fe*)

4-(2-Benzothiazolylazo)-1,3-benzenediol, 9CI B-00092

[3706-50-1]

$C_{13}H_9N_3O_2S$ M 271.299

Used as 0.05% soln. in 0.5*M* NaOH in 50% EtOH for photometric detn. of Fe(*II*) (λ_{max} 750 nm, ε 11400, pH 8). Red cryst. Sol. EtOH, alkalis.

1-Me ether: [95833-34-4]. *2-(2-Benzothiazolylazo)-5-methoxyphenol, 9CI*

$C_{14}H_{11}N_3O_2S$ M 285.326

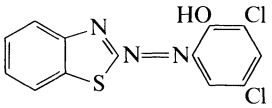
Used as 0.05% soln. in 0.5*M* NaOH in 50% EtOH for photometric detn. of Fe(*II*) (λ_{max} 768 nm, ε 4500, pH 8-8.5). Red cryst. Sol. EtOH, alkalis.

Ueda, K. *et al*, *Mikrochim. Acta*, 1984, **3**, 103 (*synth, detn, Fe*)

2-(2-Benzothiazolylazo)-4,6-dichlorophenol, 9CI B-00093

2-(3,5-Dichloro-2-hydroxyphenylazo)thiazole

[51101-43-0]



$C_{13}H_7Cl_2N_3OS$ M 324.189

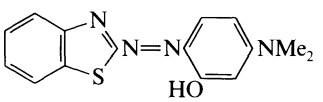
Used as a 1m*M* soln. in Me_2CO for photometric detn. of Cd (λ_{max} 550 nm; ε38800). Reddish-brown cryst. powder (EtOH). Sol. alkalis, EtOH, Me_2CO; insol. H_2O.

Armeanu, V. *et al*, *Rev. Roum. Chim.*, 1973, **18**, 1475.

2-(2-Benzothiazolylazo)-5-(dimethylamino)phenol, 9CI B-00094

2-(4-Dimethylamino-2-hydroxyphenylazo)benzothiazole

[95833-35-5]



$C_{15}H_{14}N_4OS$ M 298.368

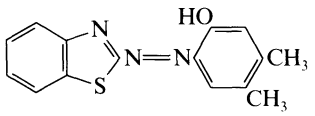
Used as 0.2m*M* xylene soln. for extraction-photometric detn. of Cd (λ_{max} 600 nm, ε 45000, 1*M* NaOH aq. medium), Fe(*II*). Violet needles ($CHCl_3$). Sol. $CHCl_3$, xylene. Subl. 200°.

Ueda, K. *et al*, *Mikrochim. Acta*, 1984, **2**, 13 (*synth, detn, Fe*)
Grudpan, K. *et al*, *Talanta*, 1989, **36**, 1005 (*synth, detn, Cd*)

2-[(2-Benzothiazolyl)azo]-4,5-dimethylphenol, 9CI B-00095

2-[(2-Hydroxy-4,5-dimethylphenyl)azo]benzothiazole

[67508-90-1]



$C_{15}H_{13}N_3OS$ M 283.353

Used for extraction-photometric detn. of Cd (λ_{max} 600 nm, xylene). Red cryst. powder (EtOH). Sol. EtOH, Me_2CO, alkalis; insol. H_2O, CCl_4.

Dragusin, E. *et al*, *Rev. Chim. (Bucharest)*, 1978, **29**, 257.

2-(2-Benzothiazolylazo)-4,6-dimethylphenol, 9CI B-00096

2-(2-Hydroxy-3,5-dimethylphenylazo)benzothiazole

[67913-14-8]

$C_{15}H_{13}N_3OS$ M 283.353

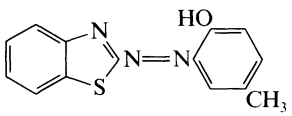
Used for extraction-photometric detn. of Cu (λ_{max} 635 nm, ε 16000). Red cryst. powder. Sol. EtOH, Me_2CO, alkalis; insol. H_2O, CCl_4.

Arias-Leon, J.J. *et al*, *An. Quim.*, 1978, **74**, 606.

2-(2-Benzothiazolylazo)-4-methylphenol, 9CI B-00097

2-(2-Hydroxy-5-methylphenylazo)benzothiazole

[2938-24-1]



$C_{14}H_{11}N_3OS$ M 269.326

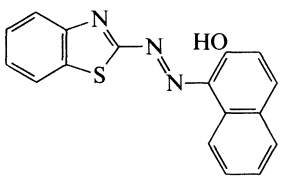
Used as a soln. in EtOH for photometric detn. of Tl. Red cryst. powder. Sol. EtOH, Me_2CO, alkalis; insol. CCl_4, H_2O.

Gusev, S.J. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 279.

1-(2-Benzothiazolylazo)-2-naphthalenol, 9CI B-00098

2-(2-Hydroxy-1-naphthylazo)benzothiazole

[3012-50-8]



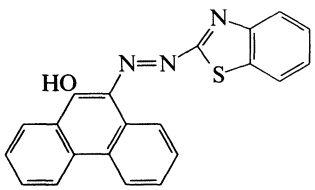
$C_{17}H_{11}N_3OS$ M 305.359

Used as a 1m*M* soln. in dioxan for photometric detn. of Zn. Orange-red cryst.

Kawase, A., *Talanta*, 1965, **12**, 195 (*detn, Zn*)
Kawase, A., *Bunseki Kagaku* (*Jpn. Anal.*), 1968, **17**, 56 (*detn, Zn*)

10-(2-Benzothiazolylazo)-9-phenanthrenol B-00099

[25058-64-4]



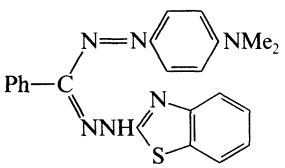
$C_{21}H_{13}N_3OS$ M 355.419

Incorr. descr. by CA as 1-(2-benzothiazolylazo)-9-phenanthrenol. Used as a 1m*M* soln. in dioxan for photometric detn. of Co (λ_{max} 560 nm, ε 50000); for extraction-photometric detn. of Cu, Zn. Dark red cryst. powder. Sol. EtOH, Me_2CO; insol. H_2O.

Kawase, A., *Bunseki Kagaku* (*Jpn. Anal.*), 1969, **18**, 463 (*detn, Cu, Zn*)
Okawa, S. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1982, **31**, 373.

5-(2-Benzothiazolyl)-1-[4-(dimethylamino) phenyl]-3-phenylformazan B-00100

[32003-70-6]



$C_{22}H_{20}N_6S$ M 400.506

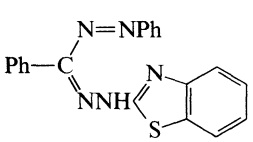
Used as a 1m*M* soln. in Me_2CO for photometric detn. of Cd. Brown cryst. (MeOH aq.). Sol. Me_2CO, EtOH, $CHCl_3$, C_6H_6, CCl_4, DMF.

Holevinskaya, L.M. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1756 (*detn, Cd*)

5-(2-Benzothiazolyl)-1,3-diphenylformazan, 8CI B-00101

1-(2-Benzothiazolyl)-3,5-diphenylformazan

[21326-44-3]



$C_{20}H_{15}N_5S$ M 357.438

Used as a 1m*M* soln. in Me_2CO for photometric detn. of Cd, Cu (λ_{max} 635 nm), Ni (λ_{max} 628 nm); metallochromic indicator for titrimetric detn. of Cu; acid-base indicator. Green cryst. (MeOH). Mp 183-185°.

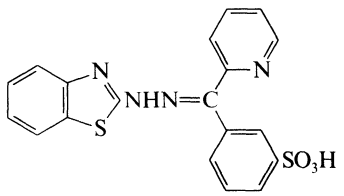
[21542-41-6]

Kawase, A., *Bunseki Kagaku* (*Jpn. Anal.*), 1967, **16**, 1364 (*synth*)
Bednyagina, N.P. *et al*, *Khim. Geterotsikl. Soedin.*, 1968, 902 (*synth*)
Kholevinskaya, L.V. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1756.
Kiyokawa, M. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1972, **21**, 244 (*detn, Cu*)

3-[(2-Benzothiazolylhydrazono)-2-pyridinylmethyl]benzenesulfonic acid, 9CI B-00102

(2-Pyridyl)(3-sulfophenyl)methanone 2-benzothiazolylhydrazone

[94787-51-6]



$C_{19}H_{14}N_4O_3S_2$ M 410.477

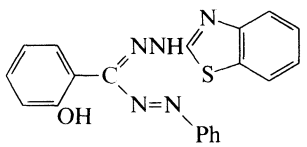
Used as 0.01*M* soln. in 0.01*M* NaOH for photometric detn. of Fe(*II*) (λ_{max} 409 nm, ε 35000), Cu, Co, Cd, Ni, Zn. Cryst. (EtOH aq.). Sol. alkalis, EtOH. Mp 280° dec.

Aita, T. *et al*, *Analyst* (*London*), 1984, **109**, 1139 (*synth, use*)

5-(2-Benzothiazolyl)-3-(2-hydroxyphenyl)-1-phenylformazan B-00103

2-[5-(2-Benzothiazolyl)-1-phenylformazanyl]phenol, 9CI

[62164-46-9]



$C_{20}H_{15}N_5OS$ M 373.437

Used as 1m*M* EtOH soln. for photometric detn. of Hg(*II*) (λ_{max} 520 nm, ε 25000, pH 6-9, 40% EtOH). Cryst. Sol. EtOH, Me_2CO.

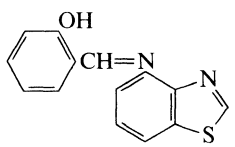
2-Me ether: [62164-47-0]. *5-Benzothiazolyl-3-(2-methoxyphenyl)-1-phenylformazan*
$C_{21}H_{17}N_5OS$ M 387.464
Used as 1m*M* EtOH soln. for photometric detn. of Hg(*II*) (λ_{max} 490 nm, ε 18500, pH 5-6, EtOH). Cryst. Sol. EtOH, Me_2CO.

Dubinina, L.V. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 1547 (*synth, detn, Hg*)

2-[(4-Benzothiazolylimino)methyl]phenol, 9CI B-00104

4-N-Salicylidenaminobenzothiazole

[41228-94-8]

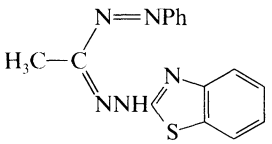


$C_{14}H_{10}N_2OS$ M 254.312
Used for fluorimetric detn. of Zn. Cryst.

Shimidzu, N. *et al*, *Chem. Pharm. Bull.*, 1973, **21**, 184, 762 (*detn, Zn*)

5-(2-Benzothiazolyl)-3-methyl-1-phenylformazan, 8CI B-00105

[26705-82-8]

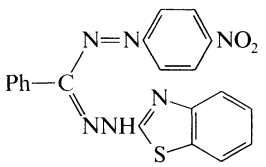


$C_{15}H_{13}N_5S$ M 295.367
Used as a 1m*M* soln. in Me_2CO for photometric detn. of Cd. Orange-yellow cryst. (MeOH aq.). Sol. Me_2CO, EtOH, $CHCl_3$, C_6H_6, CCl_4, DMF. Mp 108-110°.

Bednyagina, N.P. *et al*, *Khim. Geterotsikl. Soedin.*, 1969, 877 (*synth*)
Holevinskaya, L.M. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1756 (*detn, Cd*)

5-(2-Benzothiazolyl)-1-(4-nitrophenyl)-3-phenylformazan B-00106

[16586-60-0]



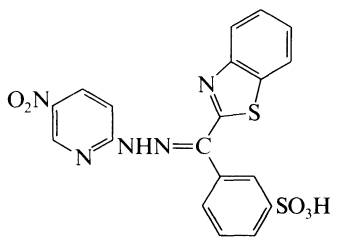
$C_{20}H_{14}N_6O_2S$ M 402.436
Used as a 1m*M* soln. in Me_2CO for photometric detn. of Cd. Brown cryst. (MeOH aq.). Sol. Me_2CO, EtOH, $CHCl_3$, C_6H_6, CCl_4, DMF. Mp 213-214°.

Bednyagina, N.P. *et al*, *Khim. Geterotsikl. Soedin.*, 1967, 342 (*synth*)
Holevinskaya, L.M. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1756 (*detn, Cd*)

3-[2-Benzothiazolyl[(5-nitro-2-pyridinyl)hydrazono]methyl]benzenesulfonic acid, 9CI B-00107

α-(2-Benzothiazolyl)-α-(5-nitro-2-pyridyl)hydrazono-3-toluenesulfonic acid

[132499-96-8]

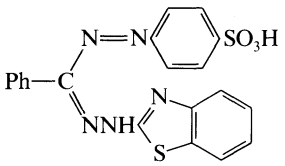


$C_{19}H_{13}N_5O_5S_2$ M 455.474
Used as 1m*M* soln. in 0.01*M* NaOH for photometric detn. of Co (λ_{max} 538 nm, ε 58000), Cu(*II*), Fe(*II*), Ni, Zn. Cryst. Sol. H_2O, EtOH, DMF, alkalis. Mp 315° dec. pK_{a4} 1.32; pK_{a5} 10.7.

Kohata, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1990, **63**, 3398 (*synth, use*)
Ishii, H. *et al*, *Anal. Chim. Acta*, 1991, **244**, 223 (*detn, Co*)

1-(2-Benzothiazolyl)-3-phenyl-5-(4-sulfophenyl)formazan B-00108

4-[1-(2-Benzothiazolyl)-3-phenyl-5-formazano]benzenesulfonic acid, 9CI



$C_{20}H_{15}N_5O_3S_2$ M 437.502
Na salt: [37829-05-3].
Used as metallochromic indicator for titrimetric detn. of Cu. Dark violet needles (MeOH). Sol. H_2O, EtOH. pK_{a2} 1.63; pK_{a3} 8.25 (30°).

Matsushima, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1971, **20**, 1310 (*synth, detn, Cu*)

1-Benzo[*b*]thien-2-yl-4,4,4-trifluoro-1,3-butanedione, 9CI B-00109

3-Thionaphthoyltrifluoroacetone

[399-80-4]

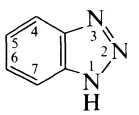
$C_{12}H_7F_3O_2S$ M 272.247
Used as a 2-10% soln. in EtOH for extraction separation of Hf, Zr, extraction-photometric detn. of Ce(*IV*) (λ_{max} 424 nm), Cr(*III*), Cu ($CHCl_3$), Fe(*III*), Hf, U (λ_{max} 408 nm, ε 17000), Zr. Cryst. Sol. EtOH. Mp 58-59°.

Gerard, J. *et al*, *Mikrochim. Acta*, 1969, 724 (*detn, Fe, synth*)
Holland, W.J. *et al*, *Mikrochim. Acta*, 1970, 297 (*detn, Ce*)
Johnston, J.R. *et al*, *Mikrochim. Acta*, 1971, 886; 1972, 126, 321, 608 (*detn, U, Cu, Cr, Hf, Zr*)

1*H*-Benzotriazole B-00110

Aziminobenzene (*obsol.*). *Azimidobenzene* (*obsol.*)

[95-14-7]



$C_6H_5N_3$ M 119.126
Used for pptn. separation and gravimetric detn. of Cd, Co, Ni, Zn. The benzotriazolyl group is an extremely versatile substituent showing props. of leaving group, electron donor and ability to promote adjacent proton loss. Needles (C_6H_6). Sol. C_6H_6. Mp 100°. pK_{a1} 1.6; pK_{a2} 8.64 (20°).

▷ Mod. toxic. Can detonate during vac. dist.. DM1225000.

N-*Ac:* [18773-93-8].
$C_8H_7N_3O$ M 161.163
Mp 51°.

N-*Benzoyl:* [4231-62-3].
$C_{13}H_9N_3O$ M 223.234
Mp 112°.

1-Et:
$C_8H_9N_3$ M 147.179
Bp_{10} 150°.

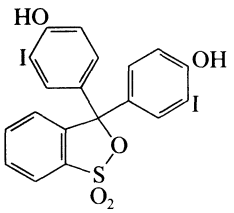
1-Benzyl:

$C_{13}H_{11}N_3$ M 209.250
Plates (MeOH). Mp 114-115°.

Cheng, K.L., *Anal. Chem.*, 1954, **26**, 1036 (*use*)
Boyer, J.H., *Heterocycl. Compd.*, (Elderfield, R.C., Ed.), 1961, **7**, 384 (*rev*)
Hibbits, J.O. *et al*, *Talanta*, 1961, **8**, 104 (*detn, Cd*)
Carbon, J.A., *J. Org. Chem.*, 1962, **27**, 185 (*synth*)
Sharma, H.L., *Bull. Chem. Soc. Jpn.*, 1965, **38**, 1086 (*use*)
Rees, C.W. *et al*, *J. Chem. Soc., Chem. Commun.*, 1971, 532.
Katritzky, A.R. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1987, 781 (*derivs*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 576.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 193.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BDH250.

4,4′-(3*H*-2,1-Benzoxathiol-3-ylidene)bis[2-iodophenol] *S,S*-dioxide B-00111

3,3′-Diiodophenolsulfonephthalein

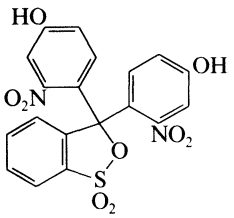


$C_{19}H_{12}I_2O_5S$ M 606.176
Acid-base indicator (pH range: 5.7 - 7.3; colour change: yellow → purple) used as aq. soln. Cryst. (AcOH). Sol. H_2O.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 116.

4,4′-(3*H*-2,1-Benzoxathiol-3-ylidene)bis[3-nitrophenol] *S,S*-dioxide B-00112

3,3′-Dinitrophenolsulfonephthalein



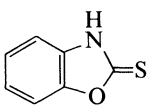
$C_{19}H_{12}N_2O_9S$ M 444.378
Acid-base indicator (pH range: 2.6 - 3.9; colour change: yellow → violet, pH range: 11.5-14, colour change violet → yellow). Light yellow cryst. Sol. H_2O. Mp 187-188°.

Nagase, Y. *et al*, *CA*, 1960, **50**, 14648a.

2(3*H*)-Benzoxazolethione, 9CI B-00113

2-Benzoxazolinethione, 8CI

[2382-96-9]



C_7H_5NOS M 151.189
Reagent for prepn. of sulfides. Used as 0.15% soln. in aq. dioxan for photometric detn. of Os, Pd. Needles (H_2O). Spar. sol. H_2O, EtOH. Mp 196°. pK_a 6.33 (25°). HCl at 170° → CO_2 + H_2S + 2-Aminophenol.

▷ DM4882500.

NH-form

3-Ac: [37441-95-5].
$C_9H_7NO_2S$ M 193.226
Plates. Mp 117°.

3-Me: [13673-63-7].
C_8H_7NOS M 165.215
Needles (EtOH). Mp 132°.

3-Et: [40888-01-5].
C_9H_9NOS M 179.242
Cryst. (C_6H_6). Mp 112°.

3-Benzyl: [87707-51-5].
$C_{14}H_{11}NOS$ M 241.313
Cryst. (C_6H_6). Mp 167-169.5°.

SH-form

S-*Me:*
C_8H_7NOS M 165.215
Cryst. + $1H_2O$. Mp 30° (hydrate), Mp 8° (anhyd.). Bp_{20} 148-150°.

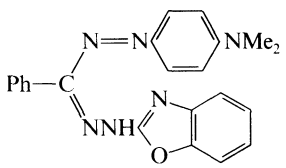
S-*Et:*
C_9H_9NOS M 179.242
$Bp_{4.5-5}$ 114-115°.

S-*Ph:*
$C_{13}H_9NOS$ M 227.286
Yellow oil. Bp_{14} 195-196°.

Kalckhoff, H., *Ber.*, 1883, **16**, 1825.
Fry, D.J. *et al*, *J. Chem. Soc.*, 1951, 1716, 1723.
Zinner, H. *et al*, *Chem. Ber.*, 1956, **89**, 1012.
Arita, T. *et al*, *Anal. Chim. Acta*, 1963, **29**, 500 (*detn, Pd*)
Groth, F., *Acta Chem. Scand.*, 1973, **27**, 945 (*cryst struct*)
DeJongh, D.C., *Adv. Mass Spectrom.*, 1974, **6**, 99 (*ms*)
Lowakina, L.N. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 527 (*detn, Os*)
Yamato, M. *et al*, *Chem. Pharm. Bull.*, 1983, **31**, 1733 (*derivs*)
Sih, J.C. *et al*, *J. Org. Chem.*, 1983, **48**, 3842 (*use*)
Sugimoto, H. *et al*, *J. Org. Chem.*, 1988, **53**, 2263 (*synth*)

5-(2-Benzoxazolyl)-1-[4-(dimethylamino) phenyl]-3-phenylformazan, 8CI B-00114

[32003-74-0]

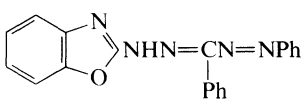


$C_{22}H_{20}N_6O$ M 384.440
Used as a 1 m*M* soln. in Me_2CO for photometric detn. of Cd. Brown cryst. (MeOH aq.). Sol. Me_2CO, EtOH, $CHCl_3$, C_6H_6, CCl_4, DMF.

Holevinskaya, L.M. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1756 (*detn, Cd*)

5-(2-Benzoxazolyl)-1,3-diphenylformazan, 9CI B-00115

[21326-47-6]

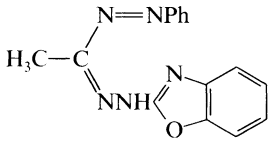


$C_{20}H_{15}N_5O$ M 341.371
Used as a 1m*M* soln. in Me_2CO for photometric detn. of Cd (λ_{max} 610 nm, ε 46700). Reddish-brown cryst. powder. Sol. EtOH, C_6H_6, Me_2CO, $CHCl_3$ CCl_4; insol. H_2O.

Holevinskaya, L.M. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 265.

5-(2-Benzoxazolyl)-3-methyl-1-phenylformazan, 8CI B-00116

[26705-85-1]



$C_{15}H_{13}N_5O$ M 279.301

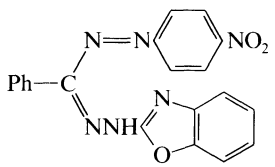
Used as a 1 m*M* soln. in Me_2CO for photometric detn. of Cd. Red cryst. (EtOH aq.). Sol. Me_2CO, EtOH, $CHCl_3$, C_6H_6, CCl_4, DMF. Mp 160-162°.

Bednyagina, N.P. *et al*, *Khim. Geterotsikl. Soedin.*, 1969, 877 (*synth*)

Holevinskaya, L.M. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1756 (*detn, Cd*)

5-(2-Benzoxazolyl)-1-(4-nitrophenyl)-3-phenylformazan B-00117

[16586-65-5]



$C_{20}H_{14}N_6O_3$ M 386.369

Used as a 1 m*M* soln. in Me_2CO for photometric detn. of Cd. Brown cryst. (MeOH aq.). Sol. Me_2CO, EtOH, $CHCl_3$, C_6H_6, CCl_4, DMF. Mp 174-175°.

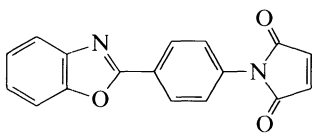
Bednyagina, N.P. *et al*, *Khim. Geterotsikl. Soedin.*, 1967, 342 (*synth*)

Holevinskaya, L.M. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1756 (*detn, Cd*)

1-[4-(2-Benzoxazolyl)phenyl]-1*H*-pyrrole-2,5-dione, 9CI B-00118

N-[*4-(2-Benzoxazolyl)phenyl]maleimide*

[16707-41-8]



$C_{17}H_{10}N_2O_3$ M 290.278

Fluorescent label for thiol groups. Yellow cryst. (Me_2CO). Mp 208-210°.

Kanaoka, Y. *et al*, *Chem. Pharm. Bull.*, 1967, **15**, 1738; 1968, **16**, 1747 (*synth, use*)

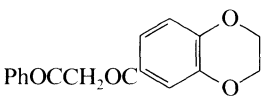
Papadakis, N. *et al*, *Biochemistry*, 1977, **16**, 1890 (*use*)

Miners, J.O. *et al*, *J. Chromatogr.*, 1983, **275**, 89 (*use*)

6-(Benzoylacetyl)-1,4-benzodioxan B-00119

1-(1,4-Benzodioxan-6-yl)-3-phenyl-1,3-propanedione, 8CI

[5533-81-3]



$C_{17}H_{14}O_4$ M 282.295

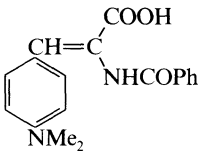
Used for photometric detn. of Ti. Cryst. (EtOH). Sol. EtOH, Me_2CO, C_6H_6; insol. H_2O.

Ramonaite, S. *et al*, *CA*, 1970, **73**, 31302m.

2-(Benzoylamino)-3-[4-(dimethylamino)phenyl]-2-propenoic acid, 9CI B-00120

p-*Dimethylaminobenzylidene*-N-*benzoylaminoacetic acid*

[3626-95-7]



$C_{18}H_{18}N_2O_3$ M 310.352

Used as a 0.02m*M* aq. soln. for catalytic fluorimetric detn. of Cu. Cryst. Sol. alkalis.

Kreingold, S.M., *Zh. Anal. Khim.*, 1963, **18**, 942 (*detn, Cu*)

2-[[(Benzoylamino)thioxomethyl]amino]benzoic acid, 9CI B-00121

o-(*2-Benzoylthioureido*)*benzoic acid*

[13277-24-2]

$C_{15}H_{12}N_2O_3S$ M 300.337

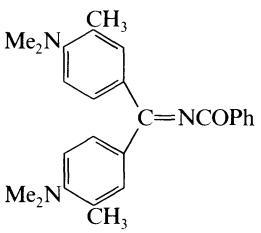
Used as a 1% soln. in EtOH for photometric detn. of Os. Cryst. (EtOH). Sol. EtOH. Mp 160°.

Douglas, I.B. *et al*, *J. Am. Chem. Soc.*, 1934, **56**, 719 (*synth*)

Majumdar, A.K. *et al*, *Anal. Chim. Acta*, 1966, **35**, 479 (*use*)

Benzoylauramine G B-00122

N-[*Bis*[*4-(dimethylamino)-3-methylphenyl*]*methylene*]*benzamide*



$C_{26}H_{29}N_3O$ M 399.535

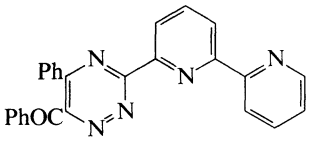
Acid-base indicator (pH range 5.0-5.6; colour change: violet→pale yellow). As a 0.25% soln. in MeOH. Yellow needles (PhCl). Sol. EtOH, C_6H_6, Me_2CO; insol. H_2O. Mp 177-178°.

Scanlan, J.T. *et al*, *Ind. Eng. Chem., Anal. Ed.*, 1935, **7**, 125; *CA*, **29**, 2875b.

6-Benzoyl-3-(2,2′-bipyridin-6-yl)-5-phenyl-1,2,4-triazine B-00123

(3-[2,2′-Bipyridin-6-yl]-5-phenyl-1,2,4-triazin-6-yl) phenylmethanone, 9CI

[37004-76-5]



$C_{26}H_{17}N_5O$ M 415.453

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 608 nm, ε 11200). Cryst. (2-methoxyethanol). Sol. common org. solvs. Mp 194°.

Case, F.H., *J. Heterocycl. Chem.*, 1972, **9**, 457 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

N′-Benzoyl-*N*,*N*-[bis(2-hydroxyethyl)] thiourea B-00124

N-[[*Bis*(*2-hydroxyethyl*)*amino*]*thioxomethyl*]*benzamide, 9CI*

[56003-84-0]

$PhCONHCSN(CH_2CH_2OH)_2$

$C_{12}H_{16}N_2O_3S$ M 268.336

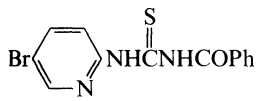
Used as a 1% soln. in EtOH for photometric detn. of Os(*VIII*). Cryst. (EtOH). Sol. EtOH, Me_2CO; spar. sol. H_2O.

Bhoval, S.K., *Indian J. Chem.*, 1975, **13**, 92 (*detn, ??*)

N-Benzoyl-*N*′-(5-bromo-2-pyridyl)thiourea B-00125

N-[[(*5-Bromo-2-pyridinyl*)*amino*]*thioxomethyl*]*benzamide, 9CI*

[31430-37-2]



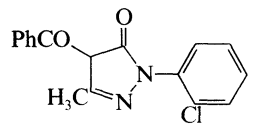
$C_{13}H_{10}BrN_3OS$ M 336.211

Used for extraction-photometric detn. of Ir, Pd, Ru; photometric detn. of Os (λ_{max} 630 nm, ε 36000). Cryst. (EtOH). Sol. EtOH, C_6H_6, Me_2CO; spar. sol. H_2O.

Das, D.K. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **286**, 249.
Shome, Y. *et al*, *CA*, 1981, **94**, 18494c (*use*)

4-Benzoyl-2-(2-chlorophenyl)-2,4-dihydro-5-methyl-3*H*-pyrazol-3-one, 9CI B-00126

[125670-26-0]



$C_{17}H_{13}ClN_2O_2$ M 312.755

Used as 0.01*M* cyclohexane soln. for extraction separation of Zn. Cryst. (dioxan aq., MeOH). Sol. cyclohexane, MeOH, dioxan. Mp 130.5°. pK_{a1} 3.45.

Ozaki, T. *et al*, *Anal. Chim. Acta*, 1989, **226**, 187 (*synth, detn, Zn*)

4-Benzoyl-2-(4-chlorophenyl)-2,4-dihydro-5-methyl-3*H*-pyrazol-3-one, 9CI B-00127

[125670-60-2]

$C_{17}H_{13}ClN_2O_2$ M 312.755

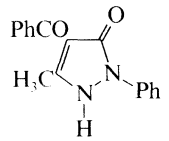
Used as 0.01*M* cyclohexane soln. for extraction separation of Zn. Cryst. (dioxan aq., MeOH). Sol. cyclohexane, MeOH, dioxan. Mp 143.5°. pK_{a1} 3.64.

Ozaki, T. *et al*, *Anal. Chim. Acta*, 1989, **226**, 187 (*synth, detn, Zn*)

4-Benzoyl-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one B-00128

4-Benzoyl-3-methyl-1-phenyl-5-pyrazolone

[4551-69-3]



$C_{17}H_{14}N_2O_2$ M 278.310

Used as a 0.1% soln. in $CHCl_3$/butanol for photometric detn. of V, extraction-photometric detn. of Fe(*III*), (λ_{max} 500 nm ε 4950, $CHCl_3$), Ca, U(*IV*), Li and rare earths; as 0.01*M* C_6H_6 soln. for extraction separation of Lu(*III*). Cream cryst. (MeOH aq.). Sol. EtOH, C_6H_6, Me_2CO, $CHCl_3$, dioxan, cyclohexane, heptane. Mp 120°, Mp 92-92.5°. pK_{a1} 8.1.

Jensen, B.S. *et al*, *Acta Chem. Scand.*, 1959, **13**, 1668 (*synth*)
Zolotov, Yu.A. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 659 (*synth, detn, Ca*)
Chmutova, M.K. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 711 (*sepn, Fe*)
Rao, G.N. *et al*, *Microchem. J.*, 1976, **21**, 1 (*detn, Fe*)
Nurtaeva, A.K. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 1735 (*detn, rare earths*)
Akama, Y. *et al*, *Analyst* (*London*), 1981, **106**, 250 (*detn, V*)
Talavera Coronel, F. *et al*, *Talanta*, 1982, **29**, 119 (*detn, U*)
Umetani, S. *et al*, *Talanta*, 1987, **34**, 779 (*detn, Li*)
Mukai, H. *et al*, *Anal. Chim. Acta*, 1990, **239**, 277 (*synth, use*)

β-Benzoyl-α-(ethanol)thiourea B-00129

N-[[(*2-Hydroxyethyl*)*amino*]*thioxomethyl*]*benzamide, 9CI*. N-*Benzoyl*-N′-(*2-hydroxyethyl*)*thiourea*

[29146-60-9]

$PhCONHCSNHCH_2CH_2OH$

$C_{10}H_{12}N_2O_2S$ M 224.283

Used as a 1% soln. in EtOH for photometric detn. of Os(*VIII*). Cryst. (EtOH). Sol. EtOH, Me_2CO; spar. sol. H_2O. Mp 128°.

Bhoval, S.K., *Indian J. Chem.*, 1975, **13**, 92 (*detn, Os*)

N-Benzoyl-*N*′-(ethoxycarbonylmethyl) selenourea B-00130

N-(*Benzoylselenocarbamoyl*)*glycine ethyl ester, 8CI*

[14205-33-5]

$PhCONHC(Se)NHCH_2COOEt$

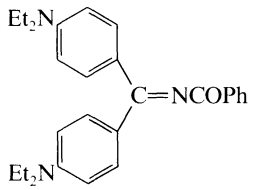
$C_{12}H_{14}N_2O_3Se$ M 313.214

Used as a 0.1% soln. in CS_2 for photometric detn. of Pd. Cryst. (EtOH). Sol. EtOH, C_6H_6. Mp 133-134°.

Bendito, D., *Fresenius' Z. Anal. Chem.*, 1967, **231**, 315 (*synth, use*)

Benzoylethylauramine B-00131

N-[*Bis*[*4-(diethylamino)phenyl*]*methylene*]*benzamide*



$C_{28}H_{33}N_3O$ M 427.588

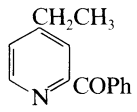
Used as acid-base indicator (pH range 4.0-5.2; colour change: blue→yellow). Yellow needles (MeOH). Sol. EtOH, C_6H_6, Me_2CO; insol. H_2O. Mp 165°.

Reid, J.D. *et al. J. Am. Chem. Soc.*, 1936, **58**, 1430.

2-Benzoyl-4-ethylpyridine B-00132

4-Ethyl-2-pyridinylphenylmethanone

[18103-79-2]



$C_{14}H_{13}NO$ M 211.263

Liq. Bp_3 172-176°.

Oxime (E-): [18150-10-2].

Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 341 nm, ε 12400, EtOH aq.), Cu(*I*) (λ_{max} 425 nm, ε 10000, EtOH aq.), extraction-photometric detn. of Fe(*II*) (λ_{max} 548 nm, ε 16500, isopentanol). Cryst. (C_6H_6/pet. ether). Sol. EtOH. Mp 134-135°.

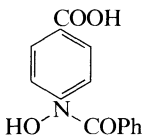
Oxime (Z-): [18150-11-3].

Cryst. (C_6H_6). Mp 150-151°.

[58088-26-9]

Case, F.H. *et al, J. Heterocycl. Chem.*, 1968, **5**, 161 (*synth*)
Schilt, A. *et al, Talanta*, 1969, **16**, 448 (*detn, Co, Cu, Fe*)

4-(Benzoylhydroxyamino)benzoic acid, 9CI B-00133



$C_{14}H_{11}NO_4$ M 257.245

Me ester: [67467-52-1].

$C_{15}H_{13}NO_4$ M 271.272

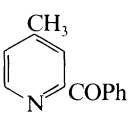
Used as 2m*M* $CHCl_3$ soln. for extraction-photometric detn. of Co, Cu(*II*), Fe(*II, III*), Ti, V(*V*) (pH ~5). Cryst. Sol. $CHCl_3$, EtOH. pK_a 8.12.

Vernon, F. *et al, Anal. Chim. Acta*, 1978, **98**, 349 (*synth, use*)

2-Benzoyl-4-methylpyridine B-00134

4-Methyl-2-pyridinylphenylmethanone

[18103-77-0]



$C_{13}H_{11}NO$ M 197.236

Oil. Bp_3 160-165°.

Oxime (E-): [18150-08-8].

Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 334 nm, ε 12100, EtOH aq.), Cu(*I*) (λ_{max} 422 nm, ε 8400, EtOH aq.), extraction-photometric detn. of Fe(*II*) (λ_{max} 546 nm, ε 15900, isopentanol). Cryst. (C_6H_6). Sol. EtOH. Mp 163-164°.

[18150-09-9, 58088-24-7]

Case, F.H. *et al, J. Heterocycl. Chem.*, 1968, **5**, 161 (*synth*)
Schilt, A. *et al, Talanta*, 1969, **16**, 448 (*detn, Co, Cu, Fe*)

2-Benzoyl-6-methylpyridine B-00135

(*6-Methyl-2-pyridinyl*)*phenylmethanone. Phenyl 2-(6-methylpyridyl)ketone*

$C_{13}H_{11}NO$ M 197.236

Oil. Bp_3 152-156°, $Bp_{0.1}$ 100-104°.

Oxime (E-): [18150-06-6].

Used as a 0.01*M* soln. in EtOH for photometric detn. of Cu(*I*) (λ_{max} 432 nm, ε 9100, EtOH aq.). Cryst. (C_6H_6). Sol. EtOH. Mp 156-157°.

Oxime (Z-): [18150-05-5].

Cryst. (C_6H_6/pet. ether). Mp 141-142°.

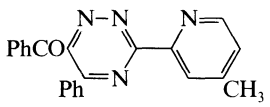
[23287-86-7]

Case, F.H. *et al, J. Heterocycl. Chem.*, 1968, **5**, 161 (*synth*)
Pemberton, J.R. *et al, Talanta*, 1969, **16**, 393 (*synth, use*)
Schilt, A. *et al, Talanta*, 1969, **16**, 448 (*detn, Cu*)
Donetti, A. *et al, Synthesis*, 1980, 1009 (*synth*)

6-Benzoyl-3-(4-methyl-2-pyridyl)-5-methyl-1,2,4-triazine B-00136

[*3-(4-Methyl-2-pyridinyl)-5-phenyl-1,2,4-triazin-6-yl*]*phenylmethanone, 9CI*

[37004-74-3]



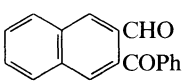
$C_{22}H_{16}N_4O$ M 352.395

Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Cu(*I*) (λ_{max} 490 nm, ε 5900), Fe(*II*) (λ_{max} 572 nm, ε 23400). Cryst. (EtOH). Sol. common org. solvs. Mp 158-159°.

Case, F.H., *J. Heterocycl. Chem.*, 1972, **9**, 457 (*synth*)
Schilt, A.A. *et al, Talanta*, 1977, **24**, 685 (*detn, Cu, Fe*)

3-Benzoyl-2-naphthalenecarboxaldehyde, 9CI B-00137

[129762-84-1]



$C_{18}H_{12}O_2$ M 260.292

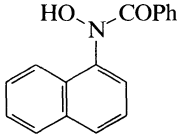
Fluorogenic reagent for amino acids.

Hsieh, Y.Z. *et al, J. Microcolumn Sep.*, 1989, **1**, 96; *CA*, **113**, 164706n (*synth, use*)

N-Benzoyl-*N*-(1-naphthyl)hydroxylamine B-00138

N-*Hydroxy*-N-*1-naphthalenylbenzamide, 9CI*

[29556-18-1]

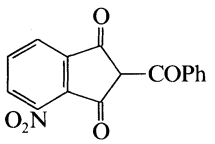


$C_{17}H_{13}NO_2$ M 263.295
Used as a 1% soln. in EtOH for pptn. of Al, Cu, Fe, Hf, Mn, Pb, Sn(*II*), Sn(*IV*), Ti, Zr. Cryst. Sol. common org. solvs.; spar. sol. H_2O (0.013 g per 100 cm^3, 25°). Mp 164°.

Lutwick, G.D. *et al*, *Can. J. Chem.*, 1954, **32**, 949 (*use*)
Shendrikar, A.D. *et al*, *Talanta*, 1969, **16**, 51 (*use*)

2-Benzoyl-4-nitro-1*H*-indene-1,3(2*H*)-dione, 9CI B-00139

[52191-54-5]



$C_{16}H_9NO_5$ M 295.251
Used as a 5m*M* soln. in 0.1*M* NaOH for extraction-photometric detn. of Cu, Fe, U(*VI*). Sol. EtOH; spar. sol. H_2O. pK_{a1} 1.20 (0.1*M* HCl, 10% EtOH), pK_{a1} 1.27 (0.1*M* NaOH, 20% EtOH).

Apsitis, A.A. *et al*, *Zh. Obshch. Khim.*, 1981, **51**, 2577 (*synth*)
Apsitis, A.A. *et al*, *Latv. PSR Zinat. Akad. Vestis, Fiz. Teh. Zinat. Ser.*, 1983, 207; *CA*, **99**, 63418g (*use*)

2-Benzoyl-5-nitro-1*H*-indene-1,3(2*H*)-dione, 9CI B-00140

[52191-55-6]

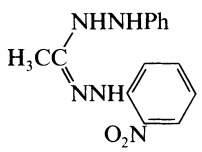
$C_{16}H_9NO_5$ M 295.251
Used as a 5m*M* soln. in 0.1*M* NaOH for extraction-photometric detn. of Cu, Fe, U(*VI*). Sol. EtOH; spar. sol. H_2O. pK_{a1} 1.26 (0.1*M* HCl, 30% EtOH); pK_{a2} 1.42 (0.1*M* NaOH, 40% EtOH).

Apsitis, A.A. *et al*, *Zh. Obshch. Khim.*, 1981, **51**, 2577 (*synth*)
Apsitis, A.A., *CA*, 1983, **99**, 63418g (*use*)

2-Benzoyl-4-(2-nitrophenyl)acetohydrazine B-00141

N-(*2-Nitrophenyl*)*ethanehydrazonic acid 2-phenylhydrazide*, *9CI*

[123132-59-2]



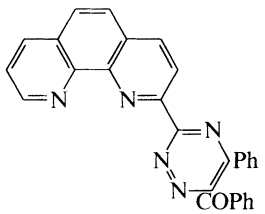
$C_{14}H_{15}N_5O_2$ M 285.305
Used as 0.006% Me_2CO soln. for photometric detn. of Ni (λ_{max} 580 nm). Brown-orange cryst. Sol. Me_2CO, MeOH, EtOH, dioxan, DMF.

Dudareva, G.N. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 883 (*synth, use*)

6-Benzoyl-3-(1,10-phenanthrolin-2-yl)-5-phenyl-1,2,4-triazine B-00142

[*3-(1,10-Phenanthrolin-2-yl)-5-phenyl-1,2,4-triazin-6-yl*] *phenylmethanone*, *9CI*

[37004-77-6]

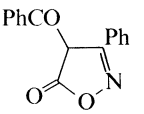


$C_{28}H_{17}N_5O$ M 439.475
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 623 nm, ε 9900). Cryst. (2-methoxyethanol). Sol. common org. solvs. Mp 182° (as monohydrate).

Case, F.H. *et al*, *J. Heterocycl. Chem.*, 1972, **9**, 457 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

4-Benzoyl-3-phenyl-5(4*H*)-isoxazolone, 9CI B-00143

[41836-94-6]



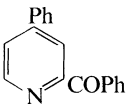
$C_{16}H_{11}NO_3$ M 265.268
Used as 0.01*M* $CHCl_3$ soln. for extraction separation of Th from U(*VI*), La, Ce, Eu (pH 0.5-1). Cryst. Sol. $CHCl_3$.

Korte, F. *et al*, *Chem. Ber.*, 1961, **94**, 1956 (*synth*)
Jyothi, A. *et al*, *Talanta*, 1990, **37**, 431 (*use*)

2-Benzoyl-4-phenylpyridine B-00144

4-Phenyl-2-pyridinylphenylmethanone

[18103-82-7]



$C_{18}H_{13}NO$ M 259.307
Cryst. (C_6H_6/pet. ether). Mp 63-64°.

Oxime (E-): [18150-03-3].
Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 350 nm, ε 15600, EtOH aq.), Cu(*I*) (λ_{max} 441 nm, ε 13800, EtOH aq.), extraction-photometric detn. of Fe(*II*) (λ_{max} 556 nm, ε 25700, isopentanol). Cryst. (C_6H_6). Sol. EtOH. Mp 166-167°.

Oxime (Z-): [18150-04-4].
Cryst. (C_6H_6). Mp 186-187°.

Case, F.H. *et al*, *J. Heterocycl. Chem.*, 1968, **5**, 161 (*synth*)
Schilt, A. *et al*, *Talanta*, 1969, **16**, 448 (*detn, Co, Cu, Fe*)

2-Benzoyl-6-phenylpyridine B-00145

(*6-Phenyl-2-pyridinyl*)*phenylmethanone*

[18103-80-5]

$C_{18}H_{13}NO$ M 259.307
Cryst. (C_6H_6/pet. ether). Mp 65-66°.

Oxime: [18150-07-7].
$C_{18}H_{14}N_2O$ M 274.321

Used as 0.01*M* soln. in EtOH for photometric detn. of Cu(*I*) (λ_{max} 429 nm, ε 4900, EtOH). Cryst. (C_6H_6). Sol. EtOH. Mp 168-169°.

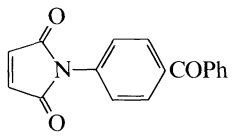
[58088-27-0]

Case, F.H. *et al*, *J. Heterocycl. Chem.*, 1968, **5**, 161 (*synth*)
Schilt, A. *et al*, *Talanta*, 1969, **16**, 448 (*detn, Cu*)

1-(4-Benzoylphenyl)-1*H*-pyrrole-2,5-dione, 9CI B-00146

N-(*4-Benzoylphenyl*)*maleimide*. *4-Maleimidobenzophenone*

[92944-71-3]



$C_{17}H_{11}NO_3$ M 277.279

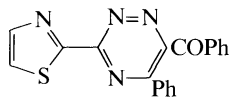
Reagent used in the anal. of mercapto compds., e.g. captopril.

Sanzhizhapov, D.B. *et al*, *CA*, 1984, **101**, 210913e (*synth*)
Japan. Pat., 59 204 171, (1984); *CA*, **102**, 113288t (*synth*)
Hayashi, K. *et al*, *J. Chromatogr.*, 1985, **338**, 161 (*use*)

6-Benzoyl-5-phenyl-3-(2-thiazolyl)-1,2,4-triazine B-00147

Phenyl[*5-phenyl-3-(2-thiazolyl)-1,2,4-triazin-6-yl*]*methanone*, *9CI*

[37004-78-7]



$C_{19}H_{12}N_4OS$ M 344.396

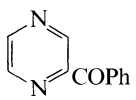
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 562 nm, ε 5200). Cryst. (EtOH). Sol. common org. solvs. Mp 200-201°.

Case, F.H., *J. Heterocycl. Chem.*, 1972, **9**, 457 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

Benzoylpyrazine B-00148

Phenylpyrazinylmethanone, *9CI*

[3430-09-9]



$C_{11}H_8N_2O$ M 184.197

Cryst. (diisopropyl ether). Mp 50-52°.

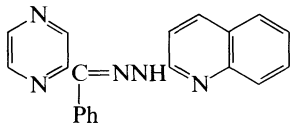
2-Pyrimidinylhydrazone: [73569-03-6].
$C_{15}H_{12}N_6$ M 276.300
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 498 nm, ε 22400), Cu(*I*) (λ_{max} 441 nm, ε 18800), Fe(*II*) (λ_{max} 425 nm, ε 26600), Ni (λ_{max} 473 nm, ε 34200). Cryst. (C_6H_6). Sol. common org. solvs. Mp 226°.

Grutzmacher, H.-F. *et al*, *Org. Mass Spectrom.*, 1979, **14**, 567 (*ms*)
Schilt, A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, use, deriv*)
Hermann, C.K.F. *et al*, *J. Heterocycl. Chem.*, 1987, **24**, 1061 (*synth*)
Heinisch, G. *et al*, *Synthesis*, 1988, 119 (*synth, pmr*)

2-Benzoylpyrazine 2-quinolylhydrazone B-00149

2(1H)-Quinolinone (*phenylpyrazinylmethylene*)*hydrazone*, *9CI*

[82633-03-2]



$C_{20}H_{15}N_5$ M 325.372

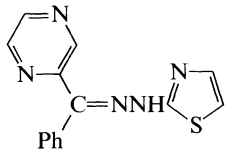
Used as 0.01*M* EtOH soln. for photometric detn. of Fe(*II*) (λ_{max} 471 nm, ε 22200, pH 4), Ni (λ_{max} 502 nm, ε 20600), Co, Cu(*I*). Cryst. (EtOH). Sol. EtOH. Mp 227°.

Schilt, A.A. *et al*, *Talanta*, 1982, **29**, 338 (*synth, use*)

2-Benzoylpyrazine 2-thiazolylhydrazone B-00150

Phenylpyrazinylmethanone 2-thiazolylhydrazone

[73568-93-1]



$C_{14}H_{11}N_5S$ M 281.340

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 541 nm, ε 21800), Cu(*I*) (λ_{max} 528 nm, ε 13500), Fe(*II*) (λ_{max} 644 nm, ε 7000), Ni (λ_{max} 508 nm. ε 34000). Cryst. (EtOH). Sol. common org. solvs. Mp 210° dec.

Schilt, A.A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, detn, Co, Cu, Fe, Ni*)

2-Benzoylpyridine B-00151

Phenyl-2-pyridinylmethanone, *9CI*. *Phenyl 2-pyridyl ketone*, *8CI*

[91-02-1]

$C_{12}H_9NO$ M 183.209

d_0^{20} 1.156. Mp 42-44°. Bp 317°, Bp_{10} 170-172°.

▷ OB6400000.

(E)-*Oxime:* [14178-31-5].
$C_{12}H_{10}N_2O$ M 198.224
Cryst. Mp 165-167°.

(Z)-*Oxime:* [14178-30-4].
$C_{12}H_{10}N_2O$ M 198.224
Used as 1% soln. in 95% EtOH for photometric detn. of Re (λ_{max} 510 nm, ε 7250), Fe; simultaneous extraction-photometric detn. of Au(*III*) and Pd(*II*) ($CHCl_3$). Pale-yellow prisms. Sol. EtOH, MeOH, acids. Mp 150-152°.

(E)-*Phenylhydrazone:* Yellow needles. Mp 77°.

(Z)-*Phenylhydrazone:* Yellow cryst. (EtOH). Mp 136-137°.

Picrate: Cryst. (EtOH or Me_2CO). Mp 130°.

Hydrazone: [56009-91-7].
$C_{12}H_{11}N_3$ M 197.239
Used for photometric detn. of Fe(*III*) (λ_{max} 480 nm, ε 9550); fluorimetric detn. of Cu(*II*) (λ_{max} 435 nm, pH 9). Cryst. (EtOAc). Sol. EtOH, Et_2O, Me_2O, EtOAc; insol. H_2O.

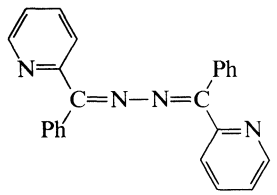
Tschitschibabin, A.E., *Chem. Zentralbl.*, 1902, **1**, 206.
Crook, K.E. *et al*, *J. Am. Chem. Soc.*, 1930, **52**, 4006.

Huntress, E.H. *et al*, *J. Am. Chem. Soc.*, 1948, **70**, 3702, 3703 (*oxime, synth*)
Troysi-Grassellini, M., *CA*, 1959, **53**, 18588i (*cryst struct*)
Guyon, J. *et al*, *Anal. Chem.*, 1964, **36**, 1058 (*oxime, detn, Re*)
Chernin, R. *et al*, *Anal. Chem.*, 1964, **36**, 1093 (*use, oxime, detn, Fe*)
Brown, E.V. *et al*, *Org. Mass Spectrom.*, 1972, **6**, 479 (*ms*)
Graciani Constanta, E. *et al*, *An. Quim.*, 1974, **70**, 695.
Bhaskare, C.K. *et al*, *Anal. Chim. Acta*, 1974, **73**, 405 (*oxime, use*)
Shapiro, B.L. *et al*, *J. Phys. Chem. Ref. Data*, 1977, **6**, 919 (*pmr*)
Grases, F. *et al*, *Anal. Chim. Acta*, 1981, **125**, 21 (*hydrazone, synth, detn, Cu*)

2-Benzoylpyridine azine B-00152

Phenyl-2-pyridinylmethanone (phenyl-2-pyridinylmethylene) hydrazone, 9CI. Phenyl-2-pyridyl ketone azine

[30742-81-5]



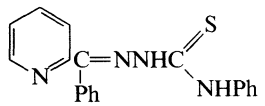
$C_{24}H_{18}N_4$ M 362.433
Used as a 0.1% soln. in EtOH for photometric detn. of Pd (λ_{max} 425 nm, ε 10400), Fe (λ_{max} 630 nm). Cryst.

Luque de Castro, M.D. *et al*, *An. Quim.*, 1976, **72**, 382 (*detn, Fe*)
Luque de Castro, M.D. *et al*, *Quim. Anal. (Barcelona)*, 1977, **31**, 141 (*detn, Fe*)
Garcia-Vargas, M. *et al*, *Microchem. J.*, 1978, **23**, 366 (*detn, Pd*)

2-Benzoylpyridine phenylthiosemicarbazone B-00153

N-*Phenyl-2-(phenyl-2-pyridinylmethylene) hydrazinecarbothioamide*

[65518-40-3]



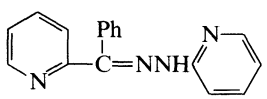
$C_{19}H_{16}N_4S$ M 332.428
Used as 0.1% soln. in DMF for extraction-photometric detn. of Fe(*II*) (λ_{max} 670 nm, ε 11000), Fe(*III*) (λ_{max} 395 nm, ε 27000). Yellow cryst. (EtOH). Sol. $CHCl_3$; spar. sol. H_2O; mod. sol. alkalis, acids. Mp 152-154°.

Martinez-Aguilar, M.T. *et al*, *Mikrochim. Acta*, 1977, **II**, 631.

2-Benzoylpyridine 2-pyridylhydrazone B-00154

Phenyl-2-pyridyl ketone 2-pyridylhydrazone, 8CI

[24929-06-4]



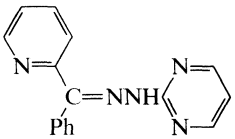
$C_{17}H_{14}N_4$ M 274.324
Used as a 0.02*M* soln. in dil. HCl for photometric detn. of Co, Cu, Ni, Zn. Pale yellow cryst. (EtOH). Sol. EtOH, C_6H_6, acids; insol. H_2O. Mp 113-114°.

Going, I.E. *et al*, *Anal. Chem.*, 1970, **42**, 1098.

2-Benzoylpyridine 2-pyrimidinylhydrazone B-00155

Phenyl-2-pyridinylmethanone 2-pyrimidinylhydrazone, 9CI

[73569-01-4]



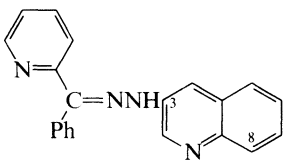
$C_{16}H_{13}N_5$ M 275.312
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 435 nm, ε 10300). Cryst. (MeOH). Sol. common org. solvents. Mp 195°.

Schilt, A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, detn, Cu*)

2-Benzoylpyridine 3-quinolylhydrazone B-00156

Phenyl-2-pyridinylmethanone 3-quinolinylhydrazone, 9CI

[82633-06-5]



$C_{21}H_{16}N_4$ M 324.384
Used as a 0.01*M* soln. in 0.05*M* HCl in EtOH for photometric detn. of Cu(*I*) (λ_{max} 463 nm, ε 4900). Cryst. (MeOH). Sol. common org. solvents. Mp 180°.

Schilt, A.A. *et al*, *Talanta*, 1982, **29**, 338 (*synth, detn, Cu*)

2-Benzoylpyridine 8-quinolylhydrazone B-00157

Phenyl-2-pyridinylmethanone 8-quinolinylhydrazone, 9CI. [(2-Pyridyl)phenyl]-N-8-quinolylhydrazone

[82633-10-1]

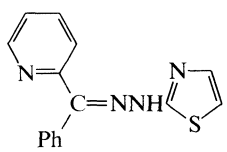
$C_{21}H_{16}N_4$ M 324.384
Used as a 0.01*M* soln. in 0.05*M* HCl in EtOH for photometric detn. of Co (λ_{max} 569 nm, ε 20000, pH 7), Cu(*I*), Fe(*II*). Cryst. (MeOH). Sol. common org. solvents. Mp 145°.

Schilt, A.A. *et al*, *Talanta*, 1980, **27**, 338 (*synth, use*)

2-Benzoylpyridine 2-thiazolylhydrazone B-00158

Phenyl-2-pyridinylmethanone 2-thiazolylhydrazone, 9CI

[73568-90-8]



$C_{15}H_{12}N_4S$ M 280.353
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 495 nm, ε 26700), Cu (*I*) (λ_{max} 476 nm, ε 17000), Fe(*II*) (λ_{max} 597 nm, ε 9200), Ni (λ_{max} 459 nm, ε 40400). Cryst. (MeOH). Sol. common org. solvs. Mp 164°.

Schilt, A.A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, detn, Co, Cu, Fe, Ni*)

N-Benzoyl-*N'*-(2-pyridyl)thiourea B-00159

N-[[(*2-Pyridinyl)amino]thioxomethyl]benzamide, 9CI*

[4921-86-2]

$C_{13}H_{11}N_3OS$ M 257.315

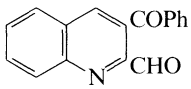
Used as a 0.1m*M* or 1% soln. in EtOH for photometric detn. of Cu (λ_{max} 430 nm, ε 3100); as 1% soln. in 30% AcOH for gravimetric and extraction-photometric detn. of Os, Ir, Rh (λ_{max} 350 nm, ε 18000, $CHCl_3$). Cryst. Sol. Me_2CO, EtOH, $CHCl_3$, C_6H_6, H_2O, AcOH. Mp 144°.

Das, M.K. *et al*, *Microchem. J.*, 1970, **15**, 540 (*detn, Cu*)
Wandalkar, D.N. *et al*, *Fresenius' Z. Anal. Chem.*, 1976, **280**, 220 (*detn, Os*)
Shome, S.C. *et al*, *J. Indian Chem. Soc.*, 1977, **54**, 599; 1980, **57**, 139 (*synth, detn, Os*)

3-Benzoyl-2-quinolinecarboxaldehyde, 9CI B-00160

BQCA

[53326-91-3]



$C_{17}H_{11}NO_2$ M 261.279

Used for fluorimetric detn. of amino acids and amines. Yellow cryst.

Beale, C.S. *et al*, *Anal. Chem.*, 1988, **60**, 1765 (*synth, use*)
Beale, C.S. *et al*, *Talanta*, 1989, **36**, 321 (*synth, use*)

Benzoylthiourea B-00161

Benzoylthiocarbamide

[614-23-3]

$PhCONHC(S)NH_2$

$C_8H_8N_2OS$ M 180.230

Used to enhance brightness in copper plating. Prisms (EtOH). Mp 172°.

▷ YS1450000.

N,N-*Di-Ph:* [70989-46-7]. N,N-*Diphenyl*-N'-*benzoylthiourea*
$C_{20}H_{16}N_2OS$ M 332.425
Used as toluene soln. for extraction separation of Pd(*II*). Cryst. (EtOH). Sol. toluene, C_6H_6, EtOH. Mp 151°.

N,N-*Dihexyl:* [80457-30-3]. N,N-*Dihexyl*-N'-*benzoylthiourea*
$C_{20}H_{32}N_2OS$ M 348.552
Used as toluene soln. for extraction separation of Pd, Pt, Ru, Rh. Cryst. (EtOH). Sol. toluene, C_6H_6, EtOH, $CHCl_3$, decane. Mp 59°.

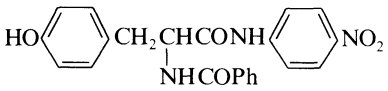
N-*Ph*, N'-*Thiobenzoyl:* see N-[(*Phenylamino)thioxomethyl*] *benzenecarbothioamide, P-00088*

N-(*2-Pyridyl*), N'-*Benzoyl:* see N-*Benzoyl*-N'-(*2-pyridyl*) *thiourea, B-00159*

Chocholousek, J. *et al*, *CA*, 1962, 57, 9587b (*use*)
Bhattacharya, A.K., *J. Indian Chem. Soc.*, 1966, **43**, 742; *CA*, **67**, 21554g (*synth*)
Koenig, K.H. *et al*, *Fresenius' Z. Anal. Chem.*, 1985, **321**, 457 (*synth, use*)
Vest, P. *et al*, *Fresenius' Z. Anal. Chem.*, 1989, **335**, 759 (*derivs, synth, detn, Pd*)

N-Benzoyltyrosine 4-nitroanilide B-00162

BTpNA



$C_{22}H_{19}N_3O_5$ M 405.409

(±)-*form*

Substrate for the detn. of chymotrypsin activity. Cryst. (EtOH aq.). Mp 227-228°.

Bundy, H.F., *Anal. Biochem.*, 1962, **3**, 431 (*synth*)

Benzylamine, 8CI B-00163

Benzenemethanamine, 9CI. α-Aminotoluene. Moringine

[100-46-9]

$PhCH_2NH_2$

C_7H_9N M 107.155

Alkaloid from *Moringa oleifera* and *M. pteryosperma* (Moringaceae). Reagent for gc anal. of alkyl isocyanates. d_4^{19} 0.983. Bp 185°, Bp_{12} 90°. n_D^{20} 1.5401. Absorbs CO_2 from air.

▷ Highly irritant, causes burns.

B,HCl: [3287-99-8].
Mp 255-257°.
▷ DP5425000.

B,HBr: [37488-40-7].
Mp 204°.

B,HI: Leaflets. Mp 162°.

B,H_2SO_4*:* [2208-34-6].
Needles. Mp 93°.

Picrate: Mp 194°.

N-*Benzoyl:* [1485-70-7]. N-*Benzylbenzamide*
$C_{14}H_{13}NO$ M 211.263
Leaflets. Mp 105-106°.

N-*4-Methylbenzenesulfonyl:* Mp 185°.

N-*Me:* [103-67-3].
$C_8H_{11}N$ M 121.182
Minor constit. of Ma Huang (from *Ephedra* sp.). Bp 180-181°, Bp_{14} 78°.

N-*Me; B,HCl:* Needles (EtOH/Et_2O). Mp 178°.

N,N-*Di-Me:* [103-83-3].
$C_9H_{13}N$ M 135.208
Corrosive liq. Bp 181°, Bp_{15} 66-67°. Steam-volatile.
▷ Flammable. DP4500000.

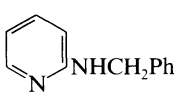
N,N-*Di-Me; B,HCl:* Mp 175°.

Chen, A.L. *et al*, *J. Am. Pharm. Assoc.*, 1931, **20**, 339 (*isol, deriv*)
Chakravarti, R.N., *CA*, 1955, **50**, 16891f (*isol*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967. **1**, 51.
Witanowski, M. *et al*, *Can. J. Chem.*, 1969, **47**, 1321 (*nmr*)
Egli, R.A., *Helv. Chim. Acta*, 1970, **53**, 47 (*synth*)
Lichter, R.L. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 2495 (*nmr*)
Shapiro, M.J., *J. Org. Chem.*, 1976, **41**, 3197 (*cmr*)
Knights, R.J. *et al*, *Anal. Biochem.*, 1977, **77**, 106 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 194.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BDY000, DQP800.

2-Benzylaminopyridine B-00164

2-[(Phenylmethyl)amino]pyridine

[6935-27-9]



$C_{12}H_{12}N_2$ M 184.240
Used as 0.1*M* soln. in aq. HCl for photometric detn. of Nb. Cryst. (C_6H_6). Insol. H_2O; sol. acids, EtOH, Me_2CO, C_6H_6.

Pilipenko, A.T. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 1330.

N-Benzylaniline B-00165

N-*Phenylbenzenemethanamine*, *9CI*. N-*Phenylbenzylamine*, *8CI*

[103-32-2]

$PhNHCH_2Ph$

$C_{13}H_{13}N$ M 183.252
Catalyst in cross-linking reactions. Used in extraction-separation of Ga, In, Tl(*III*), Mo, Re, Th, U. Granules (pet. ether). Mp 37-39°. Bp 306-307°, Bp_{37} 201-203°.

B,HCl: [2290-89-3].
Mp 214-216°.

N-*Ac:* [6840-29-5].
$C_{15}H_{15}NO$ M 225.290
Mp 58°.

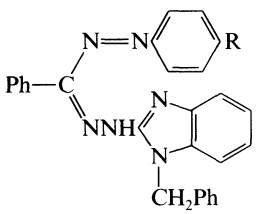
N-*Benzoyl:* [19672-91-4].
$C_{20}H_{17}NO$ M 287.360
Mp 107°.

N-*Nitroso: Phenylbenzylnitrosamine*
$C_{13}H_{12}N_2O$ M 212.251
Yellow needles. Mp 58°.

Org. Synth., Coll. Vol., 1, 1932, 102 (*synth*)
Schellenberg, K.A., *J. Org. Chem.*, 1963, **28**, 3259 (*synth*)
Eisch, J.J. *et al*, *J. Org. Chem.*, 1966, **31**, 453 (*synth, ir, pmr*)
Gagliardi, E. *et al*, *Mikrochim. Acta*, 1968, 1259 (*detn*)
Khosla, M.M. *et al*, *Anal. Chim. Acta*, 1971, **54**, 315; 1972, **61**, 156 (*detn, Ga, Th*)
Khosla, M.M. *et al*, *Talanta*, 1974, **21**, 411 (*detn, Ga, In, Tl*)

5-(1-Benzyl-1*H*-benzimidazol-2-yl)-1-[4-(dimethylamino)phenyl]-3-phenylformazan B-00166

[32003-67-1]



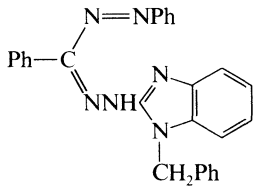
R = NMe_2

$C_{29}H_{27}N_7$ M 473.579
Used as a 1m*M* soln. in Me_2CO for photometric detn. of Cd. Brown cryst. (MeOH aq.). Sol. Me_2CO, EtOH, $CHCl_3$, C_6H_6, CCl_4, DMF.

Holevinskaya, L.M. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1756 (*detn, Cd*)

5-(1-Benzyl-1*H*-benzimidazol-2-yl)-1,3-diphenylformazan B-00167

[21326-41-0]



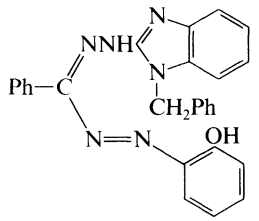
$C_{27}H_{22}N_6$ M 430.511
Used as a 1m*M* soln. in Me_2CO for photometric detn. of Cd. Brown cryst. (pet. ether/heptane). Sol. Me_2CO, EtOH, $CHCl_3$, C_6H_6, CCl_4, DMF. Mp 70-72°.

Bednyagina, N.P. *et al*, *Khim. Geterotsikl. Soedin.*, 1968, 902 (*synth*)
Holevinskaya, L.M. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1756 (*detn, Cd*)

5-(1-Benzyl-2-benzimidazolyl)-1-(2-hydroxyphenyl)-3-phenylformazan B-00168

2-[3-Phenyl-5-[1-(phenylmethyl)-1H-benzimidazol-2-yl]-1-formazano]phenol, *9CI*

[94816-77-0]



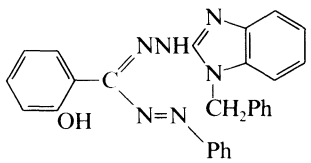
$C_{27}H_{22}N_6O$ M 446.510
Used as 0.02% soln. in Me_2CO for photometric detn. of Y, Sc (λ_{max} 660 nm, ε 18000). Red-brown cryst. Sol. EtOH, Me_2CO, $CHCl_3$; insol. H_2O. Mp 126°.

Marina, N.V. *et al*, *Zavod. Lab.*, 1984, **50**, 4 (*synth, use, detn, Sc, Y*)

5-(1-Benzyl-2-benzimidazolyl)-3-(2-hydroxyphenyl)-1-phenylformazan B-00169

2-[1-Phenyl-5-[1-(phenylmethyl)-1H-benzimidazol-2-yl]formazanyl]phenol, *9CI*

[62164-51-6]



$C_{27}H_{22}N_6O$ M 446.510
Used as 1m*M* EtOH soln. for photometric detn. of Hg(*II*) (λ_{max} 350 nm, ε 19500, pH 5-6, Me_2CO). Cryst. Sol. EtOH, Me_2CO.

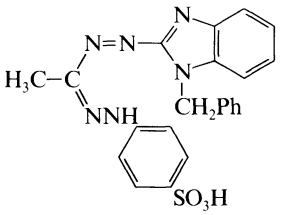
2-Me ether: [62164-52-7]. *5-(1-Benzyl-2-benzimidazolyl)-3-(2-methoxyphenyl)-1-phenylformazan*
$C_{28}H_{24}N_6O$ M 460.537
Used as 1m*M* EtOH soln. for photometric detn. of Hg(*II*) (λ_{max} 500 nm, ε 27500, pH 5-6, EtOH). Cryst. Sol. EtOH, Me_2CO.

Dubinina, L.V. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 1547 (*synth, detn, Hg*)

p-[1-(1-Benzyl-2-benzimidazolyl)-3-methyl-5-formazano]benzenesulfonic acid, 8CI B-00170

1-(1-Benzyl-2-benzimidazolyl)-3-methyl-5-p-sulfophenylformazan

[31830-33-8]



$C_{22}H_{20}N_6O_3S$ M 448.504

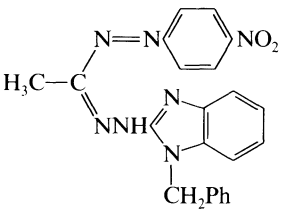
Used as EtOH soln. for photometric detn. of Cu (λ_{max} 545 nm, ε 25000, pH 4-9). Cryst. Sol. EtOH, DMF.

Malkina, T.G. *et al*, *CA*, 1970, **74**, 119716f (*detn*, *Cu*)
Podchainova, V.N. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 822 (*detn*, *Cu*)

1-(1-Benzyl-1*H*-benzimidazol-2-yl)-3-methyl-5-(4-nitrophenyl)formazan B-00171

3-Methyl-1-(4-nitrophenyl)-5-[1-(phenylmethyl)-1H-benzimidazol-2-yl]formazan, *9CI*

[61007-32-7]



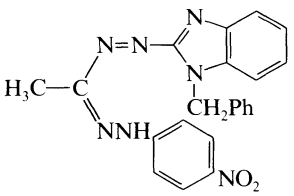
$C_{22}H_{19}N_7O_2$ M 413.438

Used as a 0.2% soln. in CCl_4 for extraction-photometric detn. of Tl (λ_{max} 670 nm, ε 24500, CCl_4). Sol. EtOH, $CHCl_3$, C_6H_6, CCl_4.

Dement'eva, M.I. *et al*, *Zavod. Lab.*, 1975, **41**, 1319 (*detn*, *Tl*)

5-(1-Benzyl-1*H*-benzimidazol-2-yl)-3-methyl-1-(4-nitrophenyl)formazan B-00172

[28780-04-3]



$C_{22}H_{19}N_7O_2$ M 413.438

Used as EtOH soln. for photometric detn. of Tl(*III*) (λ_{max} 670 nm, ε 23000). Cryst. Sol. EtOH, DMF.

Podchainova, V.N. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 822 (*detn*, *Tl*)

5-(1-Benzyl-1*H*-benzimidazol-2-yl)-1-(4-nitrophenyl)-3-phenylformazan B-00173

[32003-66-0]

As 5-(1-Benzyl-1*H*-benzimidazol-2-yl)-1-[4-(dimethylamino)phenyl]-3-phenylformazan, B-00166 with

$R = NO_2$

$C_{27}H_{21}N_7O_2$ M 475.509

Used as a 1m*M* soln. in Me_2CO for photometric detn. of Cd. Brown cryst. (MeOH aq.). Sol. Me_2CO, EtOH, $CHCl_3$, C_6H_6, CCl_4, DMF.

Holevinskaya, L.M. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1756 (*detn*, *Cd*)

Benzyl bromide B-00174

(Bromomethyl)benzene, *9CI*. *α-Bromotoluene*, *8CI*

[100-39-0]

$PhCH_2Br$

C_7H_7Br M 171.036

Benzylating agent showing selectivity. Reagent for anal. of ethylenethiourea in apples. Liq. d_0^{22} 1.438. Mp −4°. Bp 198°, Bp_{80} 127°.

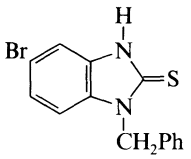
▷ Lachrymator, causes burns. XS7965000.

Schramm, J., *Ber.*, 1885, **18**, 606 (*synth*)
Newsome, W.H., *J. Agric. Food Chem.*, 1972, **20**, 967 (*use*)
Olah, G.A. *et al*, *Synthesis*, 1974, 653 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 25.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 195.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BEC000.

1-Benzyl-5-bromo-1,3-dihydro-2*H*-benzimidazole-2-thione B-00175

5-Bromo-1,3-dihydro-1-(phenylmethyl)-2H-benzimidazole-2-thione, *9CI*. *1-Benzyl-5-bromo-2-mercaptobenzimidazole*

[30769-98-3]



$C_{14}H_{11}BrN_2S$ M 319.224

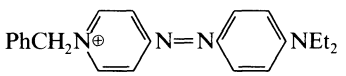
Used as a 3 m*M* soln. in EtOH for photometric detn. of Te(*IV*). Cryst. (EtOH aq.). Sol. EtOH; mod. sol. H_2O.

Melchekova, Z.E. *et al*, *Zavod. Lab.*, 1976, **42**, 257 (*detn*, *Te*)

N-Benzyl-4-(4-diethylaminophenylazo)pyridinium(1+) B-00176

4-[[4-(Diethylamino)phenyl]azo]-1-(phenylmethyl)pyridinium(1+), *9CI*

[75885-29-9]



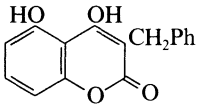
$C_{22}H_{25}N_4^{\oplus}$ M 345.466 (ion)

Cationic azo dye; occurs as salt with halide or other anion. Used as aq. soln. Forms extractable ion-pairs with Co, Ni and other metals (as anionic complexes) which are used in sensitive extraction-photometric detn. of metals. Cryst. Sol. H_2O.

Motomizu, S. *et al*, *Anal. Chim. Acta*, 1980, **120**, 267 (*synth*, *use*)

3-Benzyl-4,5-dihydroxycoumarin B-00177

4,5-Dihydroxy-3-phenylmethyl-2H-1-benzopyran-2-one



$C_{16}H_{12}O_4$ M 268.268

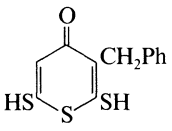
Used for photometric detn. of Ti(*IV*), U(*VI*). Cryst. (EtOH). Mp 259-260°.

Katyal, M. *et al*, *Talanta*, 1968, **15**, 1043 (*synth, use*)

3-Benzyl-2,6-dimercapto-4*H*-thiopyran-4-one B-00178

2,6-Dimercapto-3-(phenylmethyl)-4H-thiopyran-4-one

[1768-87-2]



$C_{12}H_{10}OS_3$ M 266.408

Used as 0.01*M* soln. in 0.3*M* aq. KOH for photometric detn. of Se(*IV*), Te(*IV*), Sn(*IV*); as 0.1m*M* aq. soln. for photometric detn. of Bi (λ_{max} 430 nm, ε 38900), Sn (λ_{max} 430 nm, ε 24900). Yellow cryst. powder. Sol. alkalis; spar. sol. H_2O.

Usatenko, Y.I. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 462; 1967, **22**, 1823 (*detn, Bi, Sn*)

Arishkevich, A.M. *et al*, *CA*, 1972, **76**, 80775p (*detn, Se, Te*)

Benzyldimethyldodecylammonium(1+) B-00179

N-*Dodecyl*-N,N-*dimethylbenzenemethanaminium*, *9CI*. *Benzododecinium*. *Ajatin*. *Sterinol*

[10328-35-5]

$H_3C(CH_2)_{11}N^{\oplus}Me_2CH_2Ph$

$C_{21}H_{38}N^{\oplus}$ M 304.538 (ion)

Phase-transfer catalyst. Disinfectant and antiseptic. Sol. H_2O, acids; spar. sol. EtOH; insol. CCl_4.

Bromide: [7281-04-1].

$C_{21}H_{38}BrN$ M 384.442

Used as 10% aq. soln. for photometric detn. of Be (λ_{max} 610 nm, ε 105000); extraction of V(*V*) (C_6H_6/octanol, pH 3.8), $[Fe(CN)_6]^{4\ominus}$; extraction of Prussian blue. Cryst. Sol. H_2O. Mp 47°.

▷ BO7875000.

Chloride: [139-07-1]. *Benzododecinium chloride*, *INN*

$C_{21}H_{38}ClN$ M 339.991

Mp 31-32°.

Cella, J.A. *et al*, *J. Am. Chem. Soc.*, 1952, **74**, 2061 (*synth*)

Stepanenko, B.N. *et al*, *CA*, 1968, **69**, 106057 (*synth*)

Namba, Y. *et al*, *CA*, 1971, **74**, 125014 (*synth*)

Bartecki, A. *et al*, *Nukleonika*, 1973, **18**, 71; *CA*, **79**, 35617q (*detn, V*)

Galik, A. *et al*, *Talanta*, 1974, **21**, 307.

Palacek, J. *et al*, *Synthesis*, 1976, 550 (*use*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 16 (*use*)

Kwapulińska, G. *et al*, *Mikrochim. Acta*, 1984, **1**, 333 (*detn, Be*)

He, H., *CA*, 1986, **104**, 206795 (*synth*)

Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 6402.

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BEM000, BEO000.

Benzyldimethyloctadecylammonium(1+) B-00180

N,N-*Dimethyl*-N-*octadecylbenzenemethanaminium(1+)*, *9CI*

[37612-69-4]

$H_3C(CH_2)_{17}N^{\oplus}Me_2CH_2Ph$

$C_{27}H_{50}N^{\oplus}$ M 388.699 (ion)

Perchlorate:

$C_{27}H_{50}ClNO_4$ M 488.149

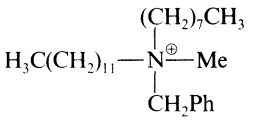
Used as 0.02% aq. soln. for extraction-photometric detn. of Fe(*III*) (ε 31700, 1,2-dichloroethane). Cryst. Sol. H_2O.

Alferov, E.A. *et al*, *Zavod. Lab.*, 1976, **42**, 19 (*detn, Fe*)

Benzyldodecylmethyloctylammonium(1+), 8Cl B-00181

N-*Dodecyl*-N-*methyl*-N-*octylbenzenemethanaminium(1+)*, *9CI*

[47636-72-6]



$C_{28}H_{52}N^{\oplus}$ M 402.725 (ion)

Chloride: [40002-60-6]. *Moonion A-9Q-08*

$C_{28}H_{52}ClN$ M 438.178

Used as a 5% soln. in $CHCl_3$ for extraction-photometric detn. of U(*VI*) (λ_{max} 655 nm, ε 56000). Cryst. Sol. EtOH, $CHCl_3$, Me_2CO.

Bromide: [38012-14-5].

$C_{28}H_{52}BrN$ M 482.629

Used as soln. in 4-methyl-2-pentanone for extraction-detn. of Pb in Cu, Ni, Al metals and copper-base alloys by atomic absorption.

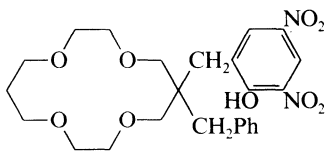
Tsukahara, I. *et al*, *Anal. Chim. Acta*, 1972, **61**, 33 (*detn, Pb*)

Fukamachi, K. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1972, **21**, 1165 (*detn, U*)

6-Benzyl-6-(2-hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane B-00182

2,4-Dinitro-6-[[6-(phenylmethyl)-1,4,8,11-tetraoxacyclotetradec-6-yl]methyl]phenol, *9CI*

[106419-39-0]



$C_{24}H_{30}N_2O_9$ M 490.509

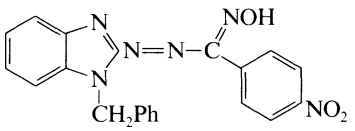
Used as soln. in 1,2-dichloroethane for extraction separation of Li (λ_{max} 371 nm, ε 15000) from other alkali metals (selectivity ratio Li/Na 100). Yellowish brown liq. Sol. $CHCl_3$, 1,2-dichloroethane.

Kimura, K. *et al*, *J. Org. Chem.*, 1987, **52**, 836 (*synth, use*)

1-Benzyl-2-(α-hydroxyimino-4-nitrobenzyl)-1*H*-imidazole B-00183

*2-[[(Hydroxyimino)(4-nitrophenyl)methyl]azo]-1-(phenylmethyl)-1*H*-benzimidazole, 9CI*

[76128-58-0]



$C_{21}H_{16}N_6O_3$ M 400.396

Used as 0.05% EtOH soln. for photometric detn. of Cu (λ_{max} 500 nm, ε 7100), Ni, Co. Yellow cryst. (EtOH). Sol. EtOH, DMF, Me_2CO. pK_a 7.96.

Dubinina, L.F. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1700 (*synth, detn, Cu, Ni, Co*)

O-Benzylhydroxylamine B-00184

O-(*Phenylmethyl*)*hydroxylamine, 9CI. α-Benzylhydroxylamine. Benzyloxyamine*

[622-33-3]

$PhCH_2ONH_2$

C_7H_9NO M 123.154

Derivatisation reagent for carbonyl compds. Liq. Bp_{30} 118-119°, Bp_{15} 90°. Steam-volatile.

B,HCl: [2687-43-6].
Leaflets. Subl. 230-250°.
▷ NC3040000.

N-*2,4-Dinitrophenyl:* Yellow needles (EtOH). Mp 141°.

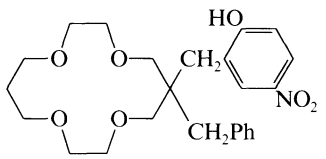
N-*Me:* [22513-22-0].
$C_8H_{11}NO$ M 137.181
Light yellow oil.

Anderson, N.H. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1975, 825 (*pmr, synth*)
Magin, D.F., *J. Chromatogr.*, 1979, **178**, 219 (*use*)
Sharma, S.K. *et al*, *J. Med. Chem.*, 1989, **32**, 357 (*synth, deriv, ir, pmr*)

6-Benzyl-6-(2-hydroxy-5-nitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane B-00185

2-Nitro-6-[[6-(phenylmethyl)-1,4,8,11-tetraoxacyclotetradec-6-yl]methyl]phenol, 9CI

[106419-38-9]



$C_{24}H_{31}NO_7$ M 445.511

Used as 1,2-dichloroethane soln. for extraction separation of Li (λ_{max} 411 nm, ε 21000) from other alkali metals (selectivity ratio Li/Na 200). Pale yellow solid (MeOH). Sol. MeOH, 1,2-dichloroethane. Mp 105°.

Kimura, K. *et al*, *J. Org. Chem.*, 1987, **52**, 836 (*synth, use*)

Benzyl iodide B-00186

Iodomethylbenzene. α-Iodotoluene

[620-05-3]

$PhCH_2I$

C_7H_7I M 218.037

Used as derivatisation reagent for benzylation of acids for gc anal. Colourless or pale yellow needles (MeOH). Mp 24.5°. Bp_{10} 93°.

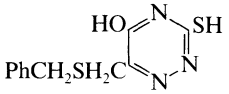
▷ Mod. irritant. XT2830000.

Dunges, W., *Anal. Chem.*, 1973, **45**, 963 (*use*)
Harrison, A.G. *et al*, *Can. J. Chem.*, 1976, **54**, 3439 (*ms*)
Shapiro, M.J., *J. Org. Chem.*, 1976, **41**, 3197 (*nmr*)
Jung, M.E. *et al*, *Tetrahedron Lett.*, 1977, **31**, 2659 (*synth*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 411.

6-[(Benzylmercapto)methyl]-5-hydroxy-3-mercapto-1,2,4-triazine B-00187

*6-[(Benzylthio)methyl]-3-mercapto-*as*-triazin-5-ol, 8CI*

[24558-44-9]



$C_{11}H_{11}N_3OS_2$ M 265.359

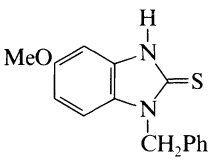
Used as 0.1% soln. in 0.2*M* NaOH for photometric detn. of Os (λ_{max} 430 nm). Cryst. Sol. alkalis.

Lazar, C. *et al*, *Anal. Chim. Acta*, 1969, **47**, 166 (*detn, Os*)

1-Benzyl-5-methoxy-1,3-dihydro-2*H*-benzimidazole-2-thione B-00188

*1,3-Dihydro-5-methoxy-1-(phenylmethyl)-2*H*-benzimidazole-2-thione, 9CI. 1-Benzyl-5-methoxy-2-mercaptobenzimidazole*

[30912-05-1]



$C_{15}H_{14}N_2OS$ M 270.354

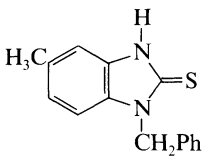
Used as a 3 m*M* soln. in EtOH for photometric detn. of Te(*IV*) (λ_{max} 440 nm, ε 29500). Cryst. (EtOH aq.). Sol. EtOH; mod. sol. H_2O.

Melchekova, Z.E. *et al*, *Zavod. Lab.*, 1976, **42**, 257 (*detn, Te*)

1-Benzyl-5-methyl-2,3-dihydro-2*H*-benzimidazole-2-thione B-00189

*1,3-Dihydro-5-methyl-1-(phenylmethyl)-2*H*-benzimidazole-2-thione, 9CI. 1-Benzyl-5-methyl-2-mercaptobenzimidazole*

[30769-97-2]



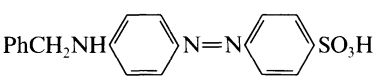
$C_{15}H_{14}N_2S$ M 254.355

Used as a 3 m*M* soln. in EtOH for photometric detn. of Te(*IV*). Cryst. (EtOH aq.). Sol. EtOH; mod. sol. H_2O.

Melchekova, Z.E. *et al*, *Zavod. Lab.*, 1976, **42**, 257 (*detn, Te*)

Benzyl orange B-00190

4-[[4-[(Phenylmethyl)amino]phenyl]azo]benzenesulfonic acid, 9CI. 4'-Benzylaminoazobenzene-4-sulfonic acid



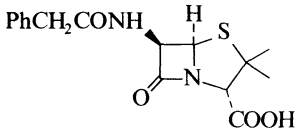
$C_{19}H_{17}N_3O_3S$ M 367.428
Strictly, the name Benzyl orange applies to the sodium salt.

Na salt: [36402-77-4].
Used as a 0.01% aq. soln. as acid-base indicator (pH range: 1.9 - 3.3; colour change: red → yellow). Orange-red cryst. powder. Sol. EtOH; spar. sol. cold H_2O.

El-Sebai, A.I. *et al*, *Pharmazie*, 1971, **26**, 615.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 86.

Benzylpenicillin, INN B-00191

6-(Phenylacetamido)penicillanic acid. Penicillin G. Penicillin II. Phenylacetylpenin. Numerous proprietary names
[61-33-6]



$C_{16}H_{18}N_2O_4S$ M 334.395
Antibiotic from *Pencillium* spp. and also other fungal spp. Shows activity against gram-positive bacteria. Starting material for production of 6-Aminopenicillanic acid. Used as a 5% soln. in acetate buffer for gravimetric detn. of Fe. Cryst. $[\alpha]_D$ +282° (EtOH). Production enhanced by adding Phenylacetic acid to fermentation.
▷ Toxic. XH9400000.

Na salt: [69-57-8].
Needles (butanol aq.). Sol. H_2O, MeOH. Mp 215° dec. $[\alpha]_D^{25}$ +301° (H_2O).
▷ Exp. carcinogen. XH9800000.

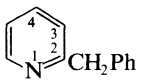
K salt: [113-98-4].
Needles (butanol aq.). Sol. H_2O. Mp 214-217° dec. $[\alpha]_D^{22}$ +285° (H_2O).
▷ XH9700000.

Me ester: Needles (EtOAc/hexane). Mp 97-98°. $[\alpha]_D$ +286° ($CHCl_3$).

Chain, E.B. *et al*, *Antibiotics*, Oxford University Press, 1949, **2** (*rev*)
The Chemistry of Penicillin, Princeton University Press, 1949 (*rev*)
Malissa, H., *Mikrochim. Acta*, 1951, 120; 1954, 413 (*detn, Fe*)
Sheehan, J.C. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 2983 (*synth*)
Bycroft, B.W. *et al*, *J. Chem. Soc., Chem. Commun.*, 1975, 923 (*biosynth*)
Bachi, M.D. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1980, 11 (*synth*)
Morin, R.B. *et al*, *Chem. and Biol. of β-Lactam Antibiotics*, (Eds.), Vol. 1, Academic Press, N.Y., 1982 (*book*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 22, 125, 141, 181.
Kirschbaum, J., *Anal. Profiles Drug Subst.*, 1986, **15**, 427 (*rev*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BDY669, BFC750, BFD000, BFD250, PAQ100.

2-Benzylpyridine, 8CI B-00192

2-(Phenylmethyl)pyridine, 9CI. Phenyl-2-pyridylmethane
[101-82-6]



$C_{12}H_{11}N$ M 169.226
Liq. d_0^0 1.067. Bp_{742} 276°, Bp_1 93-94°. Compd. with unspecified substitution (Benzylpyridine) is used for extraction of Se.

Picrate: Prisms (C_6H_6). Mp 140-141°.
[42010-21-9]

Laforge, F.B., *J. Am. Chem. Soc.*, 1928, **50**, 2484.
Bryans, F. *et al*, *J. Chem. Soc.*, 1929, 549.
Veer, W.L.C. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1946, **65**, 793.
Benkeser, R.A. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 5861.
Jerchel, D. *et al*, *Chem. Ber.*, 1960, **93**, 2966.
Mitra, R.B. *et al*, *Indian J. Chem.*, 1973, **11**, 965.
Hall, S.S. *et al*, *J. Heterocycl. Chem.*, 1987, **24**, 1205 (*synth, ir, pmr, ms*)
Ejaz, M. *et al*, *Talanta*, 1987, **34**, 337 (*use*)

2-Benzyl-2-thiopseudourea, 8CI B-00193

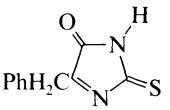
Phenylmethyl carbamimidothioate, 9CI
[621-85-2]

$C_8H_{10}N_2S$ M 166.246
B,HCl: [538-28-3]. *S-Benzylthiuronium chloride*
$C_8H_{11}ClN_2S$ M 202.707
Reference material used in elemental microanalysis. Reagent for the isolation and identification of org. acids. Dimorphic. Mp 146-148°, Mp 172-174° (2 forms).

Donleavy, J.J., *J. Am. Chem. Soc.*, 1936, **58**, 1004 (*synth, use*)
Friediger, A. *et al*, *Acta Chem. Scand.*, 1955, **9**, 1425 (*use*)
Analyst (*London*), 1972, **97**, 740 (*microanal*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BEU500.

5-Benzyl-2-thioxo-4-imidazolidinone B-00194

5-(Phenylmethylene)-2-thioxo-4-imidazolidinone, 9CI
[583-46-0]

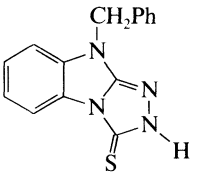


$C_{10}H_8N_2OS$ M 204.252
Various tautomers possible. Used as a 0.01 or 0.2% soln. in EtOH for photometric detn. of Ag, Au, Cu, Hg, Pd, Pt. Cryst. Sol. EtOH.

Turkevich, N.M. *et al*, *Zh. Anal. Khim.*, 1956, **11**, 180.

9-Benzyl-*s*-triazolo-[4,3-*a*]-benzimidazole-3-thione B-00195

2,9-Dihydro-9-(phenylmethyl)-3H-1,2,4-triazolo-[4,3-a] benzimidazole-3-thione, 9CI
[4290-99-7]

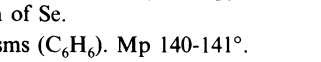


$C_{15}H_{12}N_4S$ M 280.353
Used as 0.2% AcOH soln. for extraction-photometric detn. of Pd, Pt, Au, Os, Ru (6-7*M* HCl, $CHCl_3$). Yellowish cryst. Sol. AcOH, hot EtOH, alkalis.

Radushev, A.V. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 742 (*synth, use*)

Benzyltriphenylphosphonium(1+), 8CI B-00196

Triphenyl(phenylmethyl)phosphonium(1+), 9CI
[15853-35-7]



$C_{25}H_{22}P^{\oplus}$ M 353.422 (ion)

Converted by base to benzyltriphenylphosphorane, a Wittig reagent. Used as material for phosphate-selective electrodes.

Chloride: [1100-88-5].
$C_{25}H_{22}ClP$ M 388.875
Used in gravimetric detn. of Ir (0.4*M* HCl). Cryst. ($CHCl_3$/pet. ether). Mp 343-345° (338°).

Bromide: [1449-46-3].
$C_{25}H_{22}BrP$ M 433.326
Cryst. (EtOH). Mp 295° (285°).

Iodide: [1243-97-6].
$C_{25}H_{22}IP$ M 480.327
Hexagonal prisms (EtOH).
▷ TA1846500.

Triodide: [72974-99-3].
$C_{25}H_{22}I_3P$ M 734.136
Mp 164-166°.

Pentaiodide: [72975-00-9].
$C_{25}H_{22}I_5P$ M 987.945
Mp 92-96°.

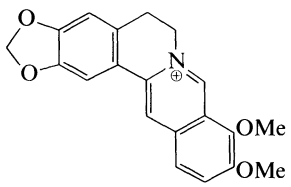
Heptaiodide:
$C_{25}H_{22}I_7P$ M 1241.754
Mp 105-107°.

Kröehnke, F., *Chem. Ber.*, 1950, **83**, 291 (*bromide*)
Neeb, R., *Fresenius' Z. Anal. Chem.*, 1960, **177**, 420 (*chloride, detn, Ir*)
Witschard, G. *et al*, *Spectrochim. Acta*, 1963, **19**, 1905 (*ir*)
Skapski, A.C. *et al*, *J. Cryst. Mol. Struct.*, 1974, **4**, 77 (*cryst struct*)
Nanjo, M. *et al*, *Anal. Chim. Acta*, 1975, **77**, 19 (*use*)
Albright, T.A. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 2946 (*nmr*)
Ostoja Starzewski, K.A. *et al*, *Phosphorus Relat. Group V Elem.*, 1976, **6**, 177 (*cmr*)
Verstuyft, A.W. *et al*, *Inorg. Chem.*, 1977, **16**, 2776 (*pmr, cmr, nmr*)
Kostina, V.G. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 2165), 1979, **49**, 2452 (*polyiodides*)
Havens, S. *et al*, *J. Polym. Sci., Polym. Chem. Ed.*, 1981, **19**, 1349 (*chloride*)
Archer, S.J. *et al*, *Phosphorus Sulfur Relat. Elem.*, 1981, **11**, 101 (*iodide, cryst struct*)
Maccarone, E. *et al*, *Gazz. Chim. Ital.*, 1982, **112**, 25; *CA*, **97**, 23908.
Makovestskii, Yu.P. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1989), 1982, **52**, 2235 (*polyiodides, uv*)

Berberine B-00197

5,6-Dihydro-9,10-dimethoxybenzo[g]-*1,3-benzodioxolo*[5,6-a] *quinolizinium*(1+), *9CI. Umbellatine. Berbericine. Natural yellow 18. C.I. 75160*

[2086-83-1]



$C_{20}H_{18}NO_4^{\oplus}$ M 336.366 (ion)

Quaternary alkaloid from many *Berberis* and *Mahonia* spp. (Berberidaceae) and very many other spp. in several different families. Pharmacol. extensively studied. Shows a wide variety of pharmacol. effects including respiratory stimulation, transient hypotension, convulsion. Cholinesterase, tyrosine decarboxylase and tryptophanase inhibitor. Antianaemic agent. Shows antibacterial and antifungal props. and some cytotoxic and antineoplastic activity. Of clinical use in treatment of gastrointestinal disorders, has been used for cholera and infantile diarrhoea. Of rel. low toxicity.

▷ Toxic, LD_{50} 27.5 mg/kg. DR9870000.

Hydroxide: [117-74-8].
$C_{20}H_{19}NO_5$ M 353.374
Mp 145° ($CHCl_3$ solvate). Forms hydrate, Mp variable, dec. *ca.* 160°.
▷ DR9866500.

Sulfate: [633-66-9].
Mp 274°.
▷ DR9867000.

Chloride: [633-65-8].
Used as fluorescent stain for heparin in mast cells.

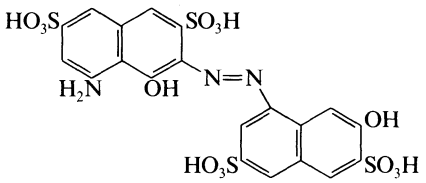
Iodide: [4263-84-7].
$C_{20}H_{18}INO_4$ M 463.271
Mp 250° dec.

[633-65-8]

Perkin, W.H. *et al*, *J. Chem. Soc.*, 1925, **127**, 740 (*synth*)
Haworth, R.D. *et al*, *J. Chem. Soc.*, 1927, 548 (*synth*)
Kametani, T. *et al*, *J. Chem. Soc. C*, 1969, 2036 (*synth, ir*)
Preininger, V. *et al*, *Collect. Czech. Chem. Commun.*, 1970, **35**, 124 (*isol, uv*)
Jewers, K. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1972, 1393 (*pmr*)
Wu, W.-N. *et al*, *J. Nat. Prod.* (*Lloydia*), 1977, **40**, 384 (*isol*)
Dimlich, R.V.W. *et al*, *Stain Technol.*, 1980, **55**, 217 (*use*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 524.
Berlin, G. *et al*, *Agents Actions*, 1984, **14**, 401.
Bhakuni, D.S. *et al*, *Alkaloids* (*N.Y.*), 1986, **28**, 78 (*rev, pharmacol*)
Schiff, P.L., *Alkaloids: Chem. Biol. Perspect.*, Wiley, N.Y., 1987, **5**, 363 (*rev, pharmacol*)
Blaskó, G. *et al*, *Heterocycles*, 1988, **27**, 911 (*cmr*)
Janssen, R.H.A.M. *et al*, *Phytochemistry*, 1989, **28**, 2833 (*pmr, cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BFN500.

Beryllon I B-00198

5-Amino-4-hydroxy-3-[(*7-hydroxy-3,6-disulfo-1-naphthalenyl*) *azo*]-*2,7-naphthalenedisulfonic acid. 8'-Amino-1',7-dihydroxy-1,2'-azonaphthalene-3,3',6,6'-tetrasulfonic acid*



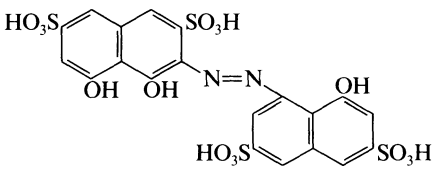
$C_{20}H_{15}N_3O_{14}S_4$ M 649.614
Used for photometric detn. of Be. Dark red powder. Sol. H_2O.

Lukin, A.N. *et al*, *Zh. Anal. Khim.*, 1956, **11**, 393.

Beryllon II B-00199

4,5-Dihydroxy-3-[(*8-hydroxy-3,6-disulfo-1-naphthalenyl*)*azo*]-*2,7-naphthalenedisulfonic acid, 9CI. 2-(8-Hydroxy-3,6-disulfo-1-naphthylazo)chromotropic acid. 1',8,8'-Trihydroxy-1,2'-azonaphthalene-3,3',6,6'-tetrasulfonic acid*

[480-29-5]



$C_{20}H_{14}N_2O_{15}S_4$ M 650.599

Strictly, the name Beryllon II applies to the tetrasodium salt. Used as 0.02% aq. soln. for photometric detn. of Be (λ_{max} 630 nm, ε 12000), Mg. Red brown cryst. powder. Sol. H_2O, EtOH; spar. sol. Me_2CO; insol. C_6H_6.

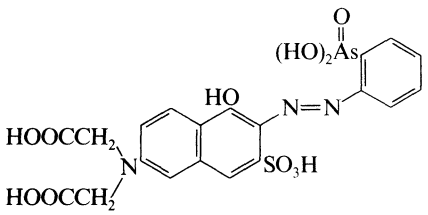
[51550-25-5]

Lukin, A.M. *et al*, *Zh. Anal. Khim.*, 1956, **11**, 393 (*synth*)
Adamovich, L.P. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 292 (*detn, Be*)
Kasiura, K., *Chem. Anal. (Warsaw)*, 1971, **16**, 407 (*detn, Be*)

Beryllon IV B-00200

[[6-[(o-Arsonophenyl)azo]-5-hydroxy-7-sulfo-2-naphthyl] imino]diacetic acid, 8CI

[3861-82-3]

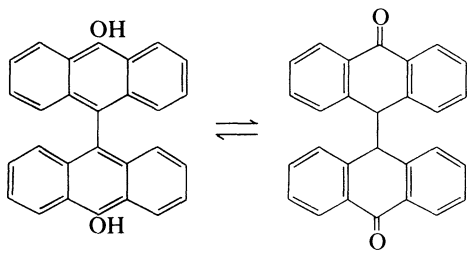


$C_{20}H_{18}AsN_3O_{11}S$ M 583.363
Used in photometric detn. of Be. Sol. H_2O.

Kuznetsov, V.I. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 160 (*synth, detn, Be*)
Budanova, L.M. *et al*, *Zavod. Lab.*, 1966, **32**, 401 (*detn, Be*)

Bianthranol B-00201

Bianthrol. Bianthrone. Dianthranol



$C_{28}H_{18}O_2$ M 386.449

Enol-form [16014-05-4]

[9,9'-Bianthracene]-10,10'-diol, 9CI. 10,10'-Bi-9-anthrol
Leaflets. Sol. alkalis, spar. sol. EtOH. Mp *ca.* 230°.
Deep-green col. with $FeCl_3$, yellow soln. in conc. H_2SO_4.

Di-Ac:
$C_{32}H_{22}O_4$ M 470.523
Mp 284°. Mauve fluor. in pet. ether soln.

Dibenzoyl:
$C_{42}H_{26}O_4$ M 594.665
Mp >350°.

Di-Me ether: [10294-75-4].
$C_{30}H_{22}O_2$ M 414.503
Mp 245°.

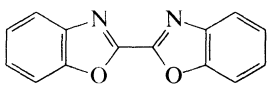
Oxo-form [434-84-4]

[9,9-Bianthracene]-10,10'(9H,9'H)-dione, 9CI. 10,10'-Bianthrone
Used as a 8m*M* soln. in H_2SO_4 for photometric detn. of $NO_3^{\ominus}$ (λ_{max} 500 nm). Cryst. ($CHCl_3$/hexane). Sol. H_2SO_4, C_6H_6, $CHCl_3$, H_2O. Mp *ca.* 250° dec.

Meyer, H., *Ber.*, 1909, **42**, 143.
Barnett, E. de B. *et al*, *J. Chem. Soc.*, 1923, **123**, 387.
Fischer, C.H. *et al*, *J. Org. Chem.*, 1941, **6**, 169.
Schönberg, A. *et al*, *J. Chem. Soc.*, 1944, **67**, 307.
Navratil, B. *et al*, *Anal. Chim. Acta*, 1974, **68**, 217 (*detn, $NO_3^{\ominus}$*)
Chauhan, Y.S. *et al*, *Indian J. Chem.*, 1975, **13**, 38.
Oka, K. *et al*, *J. Org. Chem.*, 1978, **43**, 4533.

2,2'-Bibenzoxazole, 9CI B-00202

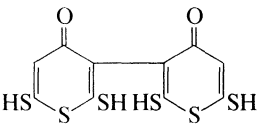
[7210-07-3]



$C_{14}H_8N_2O_2$ M 236.229
Used as metallochromic indicator for titrimetric detn. of Ca. Cryst. (EtOH). Sol. common org. solvs. Mp 262-263°.

Nabutaka, I., *Bunseki Kagaku (Jpn. Anal.)*, 1962, **11**, 1061 (*detn, Ca*)
Yoshifuji, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1982, **55**, 873 (*synth*)

3,3'-Bi[2,6-dimercapto-4*H*-thiopyran-4-one] B-00203



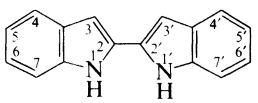
$C_{10}H_6O_2S_6$ M 350.552
Used as a 0.1m*M* aq. soln. for photometric detn. of Bi, Sn (λ_{max} 430 nm, ε 25600). Cryst.

Usatenko, Y.I. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 462; 1967, **22**, 1823 (*detn, Sn, Bi*)

2,2'-Bi-1*H*-indole, 9CI B-00204

2,2'-Biindolyl

[40899-99-8]



$C_{16}H_{12}N_2$ M 232.284
Gives colour reaction with Fe(*II*). Cryst. (EtOAc). Mp 308-310°.

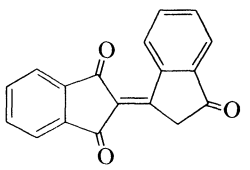
1,1'-Di-Me:
$C_{18}H_{16}N_2$ M 260.338
Yellow cryst. (CH_2Cl_2/Et_2O). Mp 170°.

Brandt, W., *Chem. Rev.*, 1954, **54**, 959 (*use*)
Faseeh, S.A. *et al*, *J. Chem. Soc.*, 1957, 4141 (*synth*)
Bergman, J. *et al*, *Tetrahedron*, 1979, **36**, 1439 (*ir, ms*)
Capuano, L. *et al*, *Chem. Ber.*, 1988, **121**, 2259 (*synth, pmr*)
Pindur, U. *et al*, *Tetrahedron*, 1989, **45**, 6427 (*deriv*)

Bindone B-00205

2-(2,3-Dihydro-3-oxo-1H-inden-1-ylidene)-1H-indene-1,3(2H)-dione, 9CI. [$\Delta^{1,2'}$-Biindan]-1',3,3'-trione, 8CI. 2-(3-Oxo-1-indanylidene)-1,3-indanedione. 2'-Dionylidene-1,3-indanedione. Anhydrobisindandione. Biindone

[1707-95-5]



$C_{18}H_{10}O_3$ M 274.275
Used as colorimetric reagent for amines. Yellow plates. Mp 208-210°, Mp 206-208°. Shows solv.-dependent tautom. Solns. in nonpolar solvs. are yellow, in EtOH violet-red becoming more intense on addn. of H_2O.

▷ NK6050000.

enol-form

Deep-violet mass. Struct. apparently not investigated; 3 isomeric enols possible.

Me ether:

$C_{19}H_{12}O_3$ M 288.302
Red-violet cryst. Mp 213° (196°).

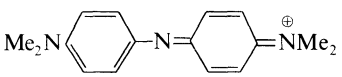
Et ether:

$C_{20}H_{14}O_3$ M 302.329
Mp 164-165°.

Hantzsch, A. *et al*, *Justus Liebigs Ann. Chem.*, 1912, **392**, 322 (*tautom, uv*)
Singewald, A., *Fresenius' Z. Anal. Chem.*, 1958, **164**, 219 (*use*)
Murdock, K.C., *J. Org. Chem.*, 1959, **24**, 845 (*synth*)
Zagata, R. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Khim.*, 1960, **135**, 77; *CA*, **60**, 14014b (*struct*)
Zagata, R. *et al*, *CA*, 1962, **50**, 5890f (*synth*)
Tirzitis, G. *et al*, *CA*, 1963, **59**, 519b (*synth*)
Bravic, G. *et al*, *Cryst. Struct. Commun.*, 1976, **5**, 5 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ONY000.

Bindschedler's green B-00206

N-[*4*-[[*4*-(*Dimethylamino*)*phenyl*]*imino*]-*2,5-cyclohexadien-1-ylidene*]-N-*methylmethanaminium*(*1+*), *9CI*



$C_{16}H_{20}N_3^{\oplus}$ M 254.354 (ion)
Indamine basic dye.

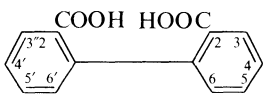
Chloride: [4486-05-9].
$C_{16}H_{20}ClN_3$ M 289.807
Used in anal. of hydrazo compds. Dyestuff. Used in extraction-photometric detn. of Hg (λ_{max} 740 nm, ε 170000). Green solid. V. sol. H_2O.

Bindschedler, R., *Ber.*, 1883, **16**, 864 (*synth*)
Wieland, H., *Ber.*, 1915, **48**, 1078 (*synth*)
Shine, H.J. *et al*, *Anal. Chem.*, 1958, **30**, 383 (*synth, detn, Hg*)
Tsubouchi, M., *Anal. Chem.*, 1970, **42**, 1087 (*detn, Hg*)

2,2′-Biphenyldicarboxylic acid B-00207

Diphenic acid

[482-05-3]



$C_{14}H_{10}O_4$ M 242.231
Used for gravimetric detn. of Th (pH 4.5-8.6). Leaflets (H_2O or AcOH). Mp 232-233°. pK_{a1} 3.53; pK_{a2} 5.42 (H_2O), pK_{a1} 7.7; pK_{a2} 12.7 (MeOH).

Mono-Me ester: [6926-84-7].
$C_{15}H_{12}O_4$ M 256.257
Plates (MeOH aq.). Mp 110-111°.

Di-Me ester:
$C_{16}H_{14}O_4$ M 270.284
Cryst. (MeOH). Mp 74°. Bp_{14} 204-206°.

Et ester: [27428-70-2].
$C_{16}H_{14}O_4$ M 270.284
Mp 91-92°.

Di-Et ester:
$C_{18}H_{18}O_4$ M 298.338
Mp 42°.

Anhydride:
$C_{14}H_8O_3$ M 224.215
Cryst. (Ac_2O). Mp 217°. Sublimes.

Dichloride:
$C_{14}H_8Cl_2O_2$ M 279.121
Mp 94°, Mp 97°.

Monoamide:
$C_{14}H_{11}NO_3$ M 241.246
Cryst. (EtOH). Mp 193°.

Diamide:
$C_{14}H_{12}N_2O_2$ M 240.261
Cryst. (EtOH). Mp 212°.

Imide: Diphenimide
$C_{14}H_9NO_2$ M 223.231
Mp 219°.

Mononitrile: 2′-Cyanobiphenyl-2-carboxylic acid
$C_{14}H_9NO_2$ M 223.231
Mp 170-172°.

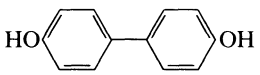
Dinitrile: 2,2′-Dicyanobiphenyl
$C_{14}H_8N_2$ M 204.231
Needles (pet. ether). Mp 171-172°.

Underwood, H.W. *et al*, *J. Am. Chem. Soc.*, 1924, **46**, 2069; 1929, **51**, 583.
Org. Synth., Coll. Vol., 1, 1932, 222 (*synth*)
Williamson, B. *et al*, *J. Am. Chem. Soc.*, 1941, **63**, 3018 (*uv*)
Korchemnaya, E.K. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1515 (*use*)
Dashevskii, M.M. *et al*, *CA*, 1970, **72**, 31494 (*synth*)
Sheley, C.F. *et al*, *Org. Mass Spectrom.*, 1974, **9**, 731 (*ms, pmr*)
Kolthoff, I.M. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 7465.
Fronczek, F.R. *et al*, *Acta Crystallogr., Sect. C*, 1987, **43**, 1615 (*cryst struct*)
Knapp, S. *et al*, *J. Am. Chem. Soc.*, 1990, **112**, 3452 (*nitrile*)

4,4′-Biphenyldiol B-00208

4,4′-Dihydroxybiphenyl. p,p′-*Diphenol*

[92-88-6]



$C_{12}H_{10}O_2$ M 186.210
Polymer intermediate. Used for photometric detn. of $Br^{\ominus}$ (λ_{max} 339 nm). Needles or plates (EtOH). Mp 286° (274-275°). pK_{a1} 10.40; pK_{a2} 11.70 (20°, 50% MeOH aq.).

▷ DV4725000.

Di-Ac: [32604-29-8].
$C_{16}H_{14}O_4$ M 270.284
Needles (Me_2CO). Mp 160-161°.

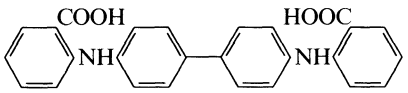
Di-Me ether: [2132-80-1]. *4,4′-Dimethoxybiphenyl*
$C_{14}H_{14}O_2$ M 214.263
Leaflets. Mp 176-177° (173°).

Musso, H. *et al*, *Chem. Ber.*, 1961, **94**, 356.
Chiraleu, F., *Rev. Roum. Chim.*, 1966, **11**, 999 (*ir*)
Hay, A.S., *J. Org. Chem.*, 1969, **34**, 1160 (*synth*)
Hutzinger, O. *et al*, *J. Chromatogr.*, 1974, **97**, 233 (*tlc*)
Mentasti, E. *et al*, *Anal. Chim. Acta*, 1975, **78**, 227 (*use*)
Lotjonen, S. *et al*, *Finn. Chem. Lett.*, 1978, 260 (*cmr*)
Tamura, Y. *et al*, *Synthesis*, 1978, 822 (*synth*)
Jackisch, M.A. *et al*, *Acta Crystallogr., Sect. C*, 1990, **46**, 919 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BGG500.

2,2′-([1,1′-Biphenyl]-4,4′-diyldiimino) bisbenzoic acid B-00209

Diphenylbenzidine-2,2′-dicarboxylic acid. N,N′-*Bis*(*2-carboxyphenyl*)*benzidine*

[53036-42-3]



$C_{26}H_{20}N_2O_4$ M 424.455

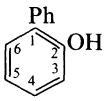
Used as a 0.1 or 1% soln. in conc. H_2SO_4 for photometric detn. of V (λ_{max} 559 nm, ε 42700); redox indicator (colour change: colourless → blue). Cryst. powder. Sol. alkalis, conc. acids.

Frumina, N.S. *et al*, *Talanta*, 1969, **16**, 138 (*detn, V*)

2-Biphenylol, 8CI B-00210

2-Hydroxybiphenyl. o-*Phenylphenol*

[90-43-7]



$C_{12}H_{10}O$ M 170.210

Reagent for the anal. of aromatic acetals and aldehydes. Needles (pet. ether). Mp 56°. Bp 275°, Bp_{14} 145°.

▷ DV5775000.

Ac: [3271-80-5].
$C_{14}H_{12}O_2$ M 212.248
Needles (pet. ether). Mp 62.5-63°. Bp_{15} 164-165°.

Benzoyl: [5449-49-0].
$C_{19}H_{14}O_2$ M 274.318
Cryst. Mp 73-76°.

4-Methylbenzenesulfonyl: Mp 64-66°.

Me ether: [86-26-0]. *2-Methoxybiphenyl. Methyl diphenyl ether*
$C_{13}H_{12}O$ M 184.237
Perfumery ingredient. Prisms (pet. ether). Mp 29°. Bp 274°, Bp_{18} 159-160°.
▷ BZ8835000.

Et ether: [6734-91-4]. *2-Ethoxybiphenyl*
$C_{14}H_{14}O$ M 198.264
Prisms (pet. ether). Mp 34°. Bp 276°.

Ph ether: [6738-04-1]. *2-Phenoxybiphenyl*
$C_{18}H_{14}O$ M 246.308
Mp 49.5°.

Hirsch, R., *Ber.*, 1890, **23**, 3705 (*synth*)
v. Auwers, K. *et al*, *J. Prakt. Chem.*, 1924, **108**, 99 (*deriv*)
Musso, H. *et al*, *Chem. Ber.*, 1959, **92**, 3101 (*ir*)
Wenkert, E. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 4671 (*deriv*)
Trible, M.T. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 379 (*pmr*)
Drapala, T. *et al*, *Pol. J. Chem.* (*Rocz. Chem.*), 1974, **48**, 965 (*ir, uv*)
Asabe, Y. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1975, **24**, 160; *CA*, **83**, 22035f (*use*)
Robbiani, R. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1977, **16**, 120 (*ms*)
Lotjonen, S. *et al*, *Finn. Chem. Lett.*, 1978, 260; *CA*, **90**, 120562q (*cmr*)
Perrin, M. *et al*, *Acta Crystallogr., Sect. C*, 1987, **43**, 980 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BGJ250, PEG000.

4-Biphenylol, 8CI B-00211

4-Hydroxybiphenyl. p-*Phenylphenol*

[92-69-3]

$C_{12}H_{10}O$ M 170.210

Colorimetric reagent for acetaldehyde. Needles or plates (EtOH aq.). Mp 164-165°. Bp 305-308°. Sublimes.

▷ DV5850000.

Ac: [148-86-7].
$C_{14}H_{12}O_2$ M 212.248
Plates (EtOH). Mp 88-89°.

Benzoyl: [2170-13-0].
$C_{19}H_{14}O_2$ M 274.318
Cryst. Mp 121°, Mp 150°.

4-Methylbenzenesulfonyl: Plates (AcOH). Mp 177°.

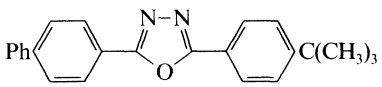
Me ether: [613-37-6]. *4-Methoxybiphenyl*
$C_{13}H_{12}O$ M 184.237
Plates (EtOH). Mp 91-92°. Bp_{18} 174°.
▷ Exp. carcinogen. BZ8850000.

Hirsch, R., *Ber.*, 1890, **23**, 3705 (*synth*)
Werner, A. *et al*, *Justus Liebigs Ann. Chem.*, 1902, **322**, 135 (*deriv*)
Raiford, L.C. *et al*, *J. Am. Chem. Soc.*, 1925, **47**, 1454 (*derivs*)
Bell, F. *et al*, *J. Chem. Soc.*, 1926, 3044.
Schulman, E.M. *et al*, *J. Org. Chem.*, 1974, **39**, 2686 (*cmr*)
Robbiani, R. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1977, **16**, 120 (*ms*)
Dagani, D. *et al*, *Anal. Biochem.*, 1978, **87**, 455 (*use*)
Bourelle-Wargnier, F. *et al*, *J. Chem. Soc., Chem. Commun.*, 1979, 584 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BGJ500, PEG250.

2-(4-Biphenylyl)-5-(4-*tert*-butylphenyl)-1,3,4-oxadiazole B-00212

2-[1,1′-Biphenyl]-4-yl-5-[4-(1,1-dimethylethyl)phenyl]-1,3,4-oxadiazole, 9CI. Butyl-PBD. BPBD

[15082-28-7]



$C_{24}H_{22}N_2O$ M 354.451

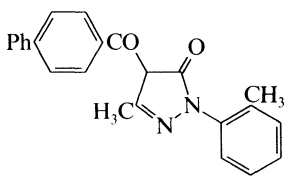
Liquid scintillation solute. Mp 133-138°.

Kowalski, E. *et al*, *Int. J. Appl. Radiat. Isot.*, 1967, **18**, 307 (*synth*)
Pfeffer, M. *et al*, *Anal. Biochem.*, 1971, **39**, 46 (*use*)

4-([1,1′-Biphenyl]-4-ylcarbonyl)-2,4-dihydro-5-methyl-2-(2-methylphenyl)-3*H*-pyrazol-3-one, 9CI B-00213

3-Methyl-4-(p-*phenylbenzoyl*)-*1-*o-*tolyl-5-pyrazolone*

[123035-90-5]



$C_{24}H_{20}N_2O_2$ M 368.434

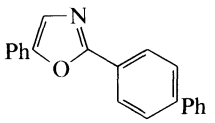
Used as 0.01*M* C_6H_6 soln. for extraction separation of Li and Na. Cryst. (dioxan aq.). Sol. dioxan, cyclohexane, C_6H_6, $CHCl_3$. Mp 176°.

Mukai, H. *et al*, *Anal. Chim. Acta*, 1989, **220**, 111 (*synth, use*)

2-[1,1′-Biphenyl]-4-yl-5-phenoxazole, 9CI B-00214

BPO

[852-37-9]



$C_{21}H_{15}NO$ M 297.356

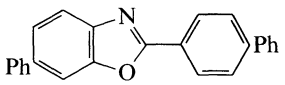
Used in liquid scintillation spectrometry. Mp 115-118°.

Balaban, A.T. *et al*, *Tetrahedron*, 1963, **19**, 169 (*synth*)
Langenscheidt, E., *Liq. Scintill. Counting*, 1971, **1**, 23 (*spectra*)
Borisevich, N.A. *et al*, *Opt. Commun.*, 1980, **33**, 203 (*use*)

2-(4-Biphenylyl)-6-phenylbenzoxazole B-00215

2-[1,1′-Biphenyl]-4-yl-6-phenylbenzoxazole, 9CI. PBBO

[17064-47-0]



$C_{25}H_{17}NO$ M 347.415

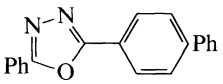
Laser dye. Used in liquid scintillation spectrometry. Mp 198-199°.

Kowalski, E. *et al*, *Int. J. Appl. Radiat. Isot.*, 1967, **18**, 307 (*synth*)
Birks, J.B. *et al*, *Liq. Scintill. Counting*, 1972, 1 (*props*)
Speiser, S. *et al*, *Appl. Phys. B*, 1985, **38**, 191; 1986, **39**, 155 (*props*)

2-[1,1′-Biphenyl]-4-yl-5-phenyl-1,3,4-oxadiazole, 9CI B-00216

PBD

[852-38-0]



$C_{20}H_{14}N_2O$ M 298.343

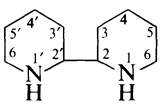
Used in liquid scintillation spectrometry, laser dye. Cryst. (toluene). Mp 167-169°.

Hayes, F.N. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 1850 (*synth*)
Kowalski, E. *et al*, *Int. J. Appl. Radiat. Isot.*, 1967, **18**, 307 (*use*)
Myer, J.A. *et al*, *Nature (London)*, 1970, **225**, 540 (*use*)
Maeda, M. *et al*, *Jpn. J. Appl. Phys.*, 1972, **11**, 692 (*use*)
Milcent, R. *et al*, *J. Heterocycl. Chem.*, 1983, **20**, 77 (*synth*)

2,2′-Bipiperidine, 9CI, 8CI B-00217

2,2′-Bipiperidyl

[531-67-9]



$C_{10}H_{20}N_2$ M 168.281

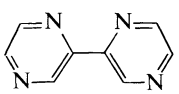
Gives colour reaction with Fe(*II*). Liq. Sol. H_2O, Et_2O, Me_2CO, EtOH, $CHCl_3$, C_6H_6. Bp 259°, $Bp_{0.05}$ 60°.

Picrate: Cryst. Mp 120°.

Smith, C.R., *J. Am. Chem. Soc.*, 1928, **50**, 1936 (*synth*)
Morgan, G.T. *et al*, *J. Chem. Soc.*, 1932, 20.
Krumholtz, P., *J. Am. Chem. Soc.*, 1953, **75**, 2163 (*synth, use*)

2,2′-Bipyrazine B-00218

[10199-00-5]



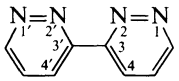
$C_8H_6N_4$ M 158.162

Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*) (λ_{max} 512 nm, ε 1700), Cu(*I*) (λ_{max} 460 nm, ε 1500). Cryst. (hexane). Sol. C_6H_6, Me_2CO, EtOH, dil. HCl. Mp 183-184°.

Lafferty, J.J. *et al*, *J. Org. Chem.*, 1967, **32**, 1591 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn, Fe, Cu*)

3,3′-Bipyridazine, 9CI B-00219

[10198-96-6]



$C_8H_6N_4$ M 158.162

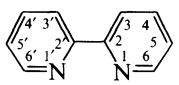
Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*) (λ_{max} 517 nm, ε 6350), Cu(*I*) (λ_{max} 473 nm, ε 5700). Cryst. (Et_2O). Sol. C_6H_6, dil. HCl. Mp 224-226°.

Lafferty, J.J. *et al*, *J. Org. Chem.*, 1967, **32**, 1591 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn, Cu, Fe*)
Maeda, M. *et al*, *Chem. Pharm. Bull.*, 1970, **18**, 1548 (*detn, Fe*)

2,2′-Bipyridine, 9CI B-00220

2,2′-Bipyridyl. α,α′-Bipyridyl. Bipy

[366-18-7]



$C_{10}H_8N_2$ M 156.187

Used in photometric detn. of Fe(*II*) (λ_{max} 522 nm, ε 8700, pH 2-9); as a masking agent for Zn, Cd, Cu. Fe(*II*) chelate is used as a redox indicator. Complexing agent for prepn. of inorganic complexes. Prisms (pet. ether). Sol. H_2O, EtOH, Et_2O, C_6H_6, $CHCl_3$, dil. acids. Mp 69.5°. Bp 272.5°. pK_{a1} 4.30 (25°, H_2O). Fe^{II} salts → red col.

▷ Highly toxic orally. DW1750000.

1-Oxide: [33421-43-1].
$C_{10}H_8N_2O$ M 172.186
Mp 59°.

1,1′-Dioxide: [7275-43-6].
$C_{10}H_8N_2O_2$ M 188.185
Mp 310° dec.

Fresenius, W. *et al*, *Fresenius' Z. Anal. Chem.*, 1965, **209**, 340 (*detn, Fe*)
Schilt, A.A., *Analytical Applications of 1,10-Phenanthroline and Related Compounds*, Pergamon, London, 1969 (*use*)
Nordén, B. *et al*, *Acta Chem. Scand.*, 1972, **26**, 429 (*spectra*)
French, W.J. *et al*, *Analyst (London)*, 1972, **97**, 828 (*detn, Fe*)
Org. Synth., Coll. Vol., 5, 1973, 102.
Keats, N.G. *et al*, *J. Heterocycl. Chem.*, 1976, **13**, 369 (*ms*)
Cheng, K.L., *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 309 (*use*)
Wenkert, D. *et al*, *J. Org. Chem.*, 1983, **48**, 283 (*oxides*)
Moran, D.B. *et al*, *J. Heterocycl. Chem.*, 1986, **23**, 1071 (*monoxide*)
Almenningen, A. *et al*, *Acta Chem. Scand.*, 1989, **43**, 932 (*ed, struct, bibl*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BGO500.

2,3′-Bipyridine, 9CI B-00221

2,3′-Dipyridyl. ***Isonicoteine***

[581-50-0]

$C_{10}H_8N_2$ M 156.187

Occurs in tobacco (*Nicotiana tabacum*)(Solanaceae) and the marine hoplonemertine *Amphiporus angulatus*. Used for extraction-photometric detn. of Cu(*II*), and for extraction of Sc. Liq. Insol. H_2O. d_{20}^4 1.140. Bp 298°. n_D^{20} 1.6223.

▷ Neurotoxin.

B,2HClO₄: Mp 215-216°.
Picrate: Mp 153-154°.
Dipicrate: Mp 165-168°.
1′-Oxide:

$C_{10}H_8N_2O$ M 172.186
Cryst. + $1H_2O$ (Me_2CO/hexane). Mp 78°.
1,1′-Dioxide:
$C_{10}H_8N_2O_2$ M 188.185
Cryst. (MeOH). Mp 240-243°.

[42907-60-8]

Smith, J.R., *J. Am. Chem. Soc.*, 1930, **52**, 397 (*synth*)
Morgan, G.T. *et al*, *J. Chem. Soc.*, 1932, 20 (*synth*)
Späth, E. *et al*, *Ber.*, 1936, **69**, 2448 (*isol*)
Talipov, S.T., *Uzb. Khim. Zh.*, 1963, 22 (*detn, Cu*)
Leete, E., *J. Am. Chem. Soc.*, 1969, **91**, 1697 (*synth*)
Alimarin, I.P. *et al*, *CA*, 1973, **78**, 8393m (*sepn, Sc*)
Kem, W.R. *et al*, *Experientia*, 1976, **32**, 684 (*isol, ms*)
Leete, E. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 6326 (*biosynth*)
Moran, D.B. *et al*, *J. Heterocycl. Chem.*, 1986, **23**, 1071 (*oxides*)

4,4′-Bipyridine, 9CI B-00222

4,4′-Bipyridyl

[553-26-4]

$C_{10}H_8N_2$ M 156.187
Used for microcrystalline detn. of Pd(*II*), Pt(*IV*). Mp 114°. Bp 305°. Sublimes.

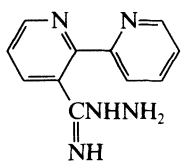
▷ DW1760000.

B,HCl: [27926-72-3].
Needles $+2H_2O$ (H_2O).
B,2MeCl: see *1,1′-Dimethyl-4,4′-bipyridinium(2+), D-00841*
N-*Oxide:* [39182-30-4].
$C_{10}H_8N_2O$ M 172.186
Needles (Me_2CO). Mp 180°.
N,N′-*Dioxide:* [24573-15-7].
$C_{10}H_8N_2O_2$ M 188.185
Cryst. + $\frac{1}{2}H_2O$ (EtOH). Mp 335°.

Smith, C.R., *J. Am. Chem. Soc.*, 1924, **46**, 414 (*synth*)
Schaeffer, H.F. *et al*, *Mikrochim. Acta*, 1970, 148 (*use*)
Emsley, J.W. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1975, 1541 (*struct*)
Keats, N.G. *et al*, *J. Heterocycl. Chem.*, 1976, **13**, 753 (*ms*)

[2,2′-Bipyridine]-6-carboximidic acid hydrazide B-00223

[10495-77-9]



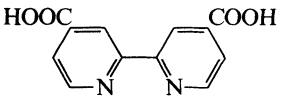
$C_{11}H_{11}N_5$ M 213.241
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 510 nm), Fe(*II*) (λ_{max} 550 nm, ε 8700). Cryst. (C_6H_6). Sol. common org. solvs. Mp 155-156°.

Case, F.H., *J. Org. Chem.*, 1966, **31**, 2398 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 475 (*detn, Fe, Co*)

[2,2′-Bipyridine]-4,4′-dicarboxylic acid, 9CI B-00224

2,2′-Bipyridyl-4,4′-dicarboxylic acid. 2,2′-Biisonicotinic acid

[6813-38-3]



$C_{12}H_8N_2O_4$ M 244.206
Used as redox indicator. Cryst. powder. Sol. alkalis. Mp 384-388°.

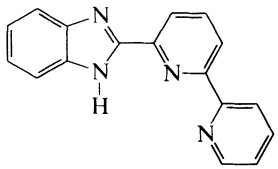
Di-Me ester: [71071-46-0].
$C_{14}H_{12}N_2O_4$ M 272.260
Cryst. (Me_2CO/$CHCl_3$). Mp 208-210°.
Diamide:
$C_{12}H_{10}N_4O_2$ M 242.237
Cryst. (1,2-ethanediol). Mp 251° dec.
Dichloride: [72460-28-7].
$C_{12}H_6Cl_2N_2O_2$ M 281.097
Cryst. (heptane). Mp 141-143°.

Maerker, G. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 2745 (*synth, amide*)
Schilt, A.A., *Analytical Applications of 1,10-Phenanthroline and Related Compounds*, Pergamon, Oxford, 1969 (*use, ind*)
Bos, K.D. *et al*, *Synth. Commun.*, 1979, **9**, 497 (*synth*)
Elliott, C.M. *et al*, *J. Am. Chem. Soc.*, 1982, **104**, 7519 (*synth*)
Evers, R.C. *et al*, *J. Polym. Sci., Polym. Chem. Ed.*, 1986, **24**, 1863 (*synth*)

2-(2,2′-Bipyridin-6-yl)benzimidazole B-00225

2-[6-(2-Pyridyl)-2-pyridyl]benzimidazole, 8CI

[14044-49-6]

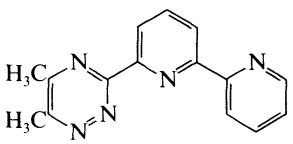


$C_{17}H_{12}N_4$ M 272.309
Used as a 5 m*M* soln. in 50% EtOH aq. for photometric detn. of Cu(*I*) (λ_{max} 425 nm, ε 16000), Fe(*II*) (λ_{max} 558 nm, ε 8400). Cryst. (C_6H_6). Sol. common org. solvents. Mp 221-222°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*detn, Cu, Fe*)

3-[2,2′-Bipyridin-6-yl]-5,6-dimethyl-1,2,4-triazine, 9CI B-00226

[31696-81-8]



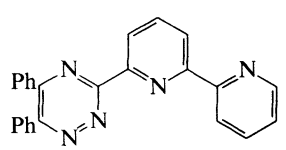
$C_{15}H_{13}N_5$ M 263.301
Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Co (λ_{max} 514 nm, ε 1830), Cu(*I*) (λ_{max} 425 nm, ε 3700), Fe(*II*) (λ_{max} 555 nm, ε 9900). Cryst. (C_6H_6). Sol. common org. solvents. Mp 149-150°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 173 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*use*)

3-(2,2′-Bipyridin-6-yl)-5,6-diphenyl-1,2,4-triazine B-00227

5,6-Diphenyl-3-[6-(2-pyridyl)-2-pyridyl]-as-triazine, 8CI

[10495-78-0]



$C_{25}H_{17}N_5$ M 387.443

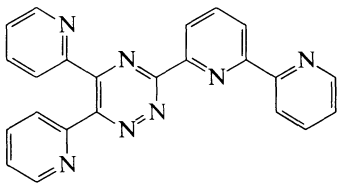
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 544 nm, ε 2600), Cu(*I*) (λ_{max} 470 nm, ε 2700), Fe(*II*) (λ_{max} 590 nm, ε 12500). Cryst. (EtOH). Sol. common org. solvs. Mp 184-185°.

Case, F.H., *J. Org. Chem.*, 1966, **31**, 2398 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 475 (*detn, Co, Cu, Fe*)

3-(2,2′-Bipyridin-6-yl)-5,6-di-2-pyridyl-1,2,4-triazine B-00228

5,6-Di-2-pyridyl-3-[6-(2-pyridyl)-2-pyridyl]-as-triazine, 8CI

[10495-79-1]



$C_{23}H_{15}N_7$ M 389.418

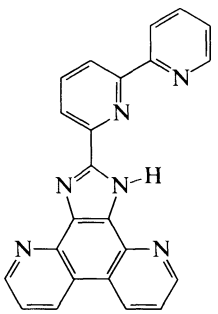
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 555 nm, ε 2700), Cu(*I*) (λ_{max} 450 nm, ε 3400), Fe(*II*) (λ_{max} 601 nm, ε 11900). Cryst. (EtOH). Sol. common org. solvs. Mp 164-165°.

Case, F.H., *J. Org. Chem.*, 1966, **31**, 2398 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 475 (*detn, Co, Cu*)

2-(2,2′-Bipyridin-6-yl)-1*H*-imidazo[4,5-*f*][4,7]phenanthroline B-00229

2-[6-(2-Pyridyl)-2-pyridyl]-1H-imidazo[4,5-f][4,7]phenanthroline, 8CI

[14040-63-2]



$C_{23}H_{14}N_6$ M 374.404

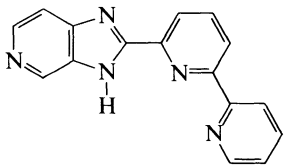
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 570 nm, ε 7000). Cryst. (EtOH). Sol. common org. solvs., dil. HCl. Mp 315-316°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*detn, Fe*)

2-(2,2′-Bipyridin-6-yl)-1*H*-imidazo[4,5-*c*]pyridine B-00230

2-[6-(2-Pyridyl)-2-pyridyl]-1H-imidazo[4,5-c]pyridine, 8CI

[14241-38-4]



$C_{16}H_{11}N_5$ M 273.296

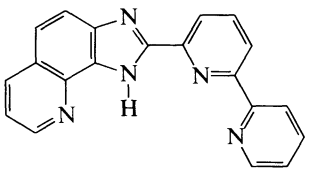
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 415 nm, ε 14400), Fe(*II*) (λ_{max} 566 nm, ε 9600). Cryst. (EtOH aq.). Sol. common org. solvents, dil. HCl. Mp 241-242°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*detn, Cu, Fe*)

2-(2,2′-Bipyridin-6-yl)-3*H*-imidazo[4,5-*h*]quinoline B-00231

2-[6-(2-Pyridyl)-2-pyridyl]-3H-imidazo[4,5-h]quinoline, 8CI

[14044-52-1]



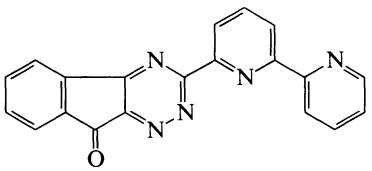
$C_{20}H_{13}N_5$ M 323.356

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 554 nm, ε 7300), Cu(*I*) (λ_{max} 425 nm, ε 15400). Cryst. (C_6H_6). Sol. common org. solvs. Mp 179-180°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*detn, Fe, Cu*)

3-[2,2′-Bipyridin-6-yl]-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, 9CI B-00232

[37004-81-2]



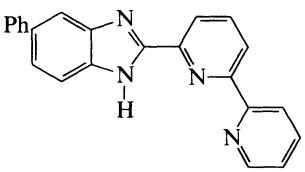
$C_{20}H_{11}N_5O$ M 337.340

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 600 nm, ε 11800). Cryst. (2-methoxyethanol). Sol. common org. solvents. Mp 256°.

Case, F.H., *J. Heterocycl. Chem.*, 1972, **9**, 457 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

2-(2,2′-Bipyridin-6-yl)-5-phenylbenzimidazole B-00233

5-Phenyl-2-[6-(2-pyridyl)-2-pyridyl]benzimidazole



$C_{23}H_{16}N_4$ M 348.406

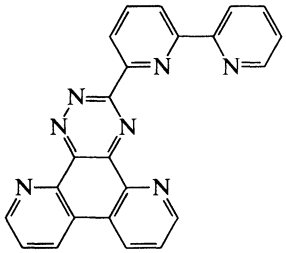
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 570 nm, ε 7000). Cryst. (C_6H_6). Sol. common org. solvents. Mp 170-171°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*detn, Fe*)

3-(2,2′-Bipyridin-6-yl)-1,2,4-triazino[5,6-*f*][4,7]phenanthroline B-00234

2-[6-(2-Pyridyl)-2-pyridyl]-as-triazino[5,6-f][4,7]phenanthroline, 8CI

[10495-80-4]



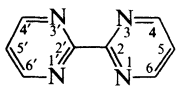
$C_{23}H_{13}N_7$ M 387.403

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 579 nm, ε 3100), Cu(*I*) (λ_{max} 540 nm, ε 2400), Fe(*II*) (λ_{max} 660 nm, ε 12000). Cryst. (DMF). Sol. common org. solvs. Mp 372°.

Case, F.H., *J. Org. Chem.*, 1966, **31**, 2398 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 475 (*detn, Co, Cu, Fe*)

2,2′-Bipyrimidine B-00235

[34671-83-5]



$C_8H_6N_4$ M 158.162

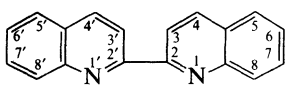
Complexing agent. Used as a 2% aq. soln. for photometric detn. of Fe(*II*). Cryst. (EtOAc/pet. ether). Sol. H_2O. Mp 113-115°. Dimeric in H_2O soln.

Bly, D.D. *et al*, *J. Org. Chem.*, 1962, **27**, 2945 (*synth*)
Bly, D.D., *Anal. Chem.*, 1963, **35**, 1386 (*detn, Fe*)
Dose, E.V. *et al*, *Inorg. Chem.*, 1978, **17**, 2660 (*synth, use*)

2,2′-Biquinoline, 9CI B-00236

2,2′-Biquinolyl. Cuproine

[119-91-5]



$C_{18}H_{12}N_2$ M 256.306

Used as 0.03% soln. in isopentanol for specific photometric detn. of Cu (λ_{max} 546 nm, ε 6400). Leaflets. Sol. org. solvs.; insol. H_2O. Mp 196°.

B,2Me₂SO₄: [26723-70-6].
Cryst. (EtOH aq.). Mp 260°.

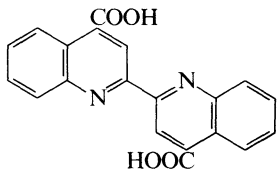
1,1′-Dioxide: [6495-83-6].
$C_{18}H_{12}N_2O_2$ M 288.305
Cryst. (MeOH) (anhyd.). Mp 257° dec., Mp 248-250°. Also forms hydrates.

Smirnoff, A.P., *Helv. Chim. Acta*, 1921, **4**, 807 (*synth*)
Wilbaut, J.P. *et al*, *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1935, **54**, 804 (*synth*)
Hoste, J. *et al*, *Anal. Chim. Acta*, 1953, **9**, 263 (*detn, Cu*)
Pflaum, R.T. *et al*, *Anal. Chem.*, 1955, **27**, 253 (*detn, Cu*)
Natsume, S. *et al*, *Chem. Pharm. Bull.*, 1966, **14**, 557 (*oxide*)
Case, F.H. *et al*, *J. Heterocycl. Chem.*, 1966, **3**, 170 (*oxide*)
Irving, H.M. *et al*, *Talanta*, 1968, **15**, 1953 (*detn, Cu*)
Folting, K. *et al*, *Acta Crystallogr., Sect. B*, 1977, **33**, 3540 (*cryst struct*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 331 (*use*)
Wakabayashi, S. *et al*, *Bull. Chem. Soc. Jpn.*, 1989, **62**, 2338 (*synth*)
Iyoda, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1990, **63**, 80 (*synth*)

[2,2′-Biquinoline]-4,4′-dicarboxylic acid, 9CI B-00237

2,2′-Bicinchoninic acid

[1245-13-2]

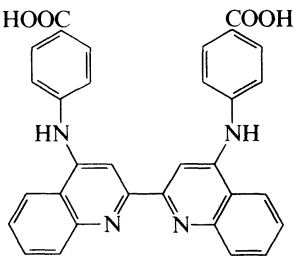


$C_{20}H_{12}N_2O_4$ M 344.326

Used as a 0.5m*M* soln. in dil. KOH or 0.1% soln. in 2% KI soln. for photometric detn. of Cu; titrimetric detn. of Cu, Mg; used in detn. of protein conc. Cryst. Sol. EtOH, alkalis; insol. H_2O.

Tikhonov, V.N. *et al*, *Khim. Khim. Tekhnol. (Minsk)*, 1961, **4**, 25 (*synth*)
Mustafin, I.S. *et al*, *Zavod. Lab.*, 1963, **29**, 782 (*detn, Cu*)
Tikhonov, V.N. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 390; 1972, **27**, 673 (*detn, Cu, Mg*)
Buhl, F. *et al*, *Chem. Anal. (Warsaw)*, 1974, **19**, 361 (*detn, Cu*)
Noskova, N.N. *et al*, *CA*, 1975, **83**, 110722h (*detn, Cu*)
Smith, P.K. *et al*, *Anal. Biochem.*, 1985, **150**, 76 (*use*)

4,4′-([2,2′-Biquinoline]-4,4′-diyldiimino) bisbenzoic acid, 9CI B-00238



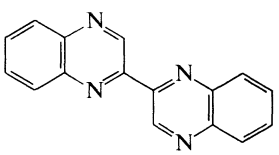
$C_{32}H_{22}N_4O_4$ M 526.550

Di-Et ester: [29197-37-3].
$C_{36}H_{30}N_4O_4$ M 582.657
Used in specific extraction-photometric detn. of Cu(*I*), (λ_{max} 556 nm, ε 17400, butanol). Yellow cryst. (EtOH). Sol. EtOH, butanol; C_6H_6; insol. H_2O. Mp 247°.

Gershuns, A.L. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1970, **36**, 595 (*synth*)
Gershuns, A.L. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 2048 (*detn Cu*)

2,2′-Biquinoxaline, 9CI B-00239

[27739-37-3]



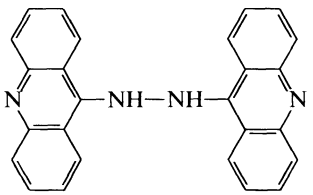
$C_{16}H_{10}N_4$ M 258.282

Used as a 0.005% soln. in 6*M* HCl for photometric detn. of Ti(*III*) (λ_{max} 680 nm, ε 29000), Sn(*II*) (λ_{max} 675 nm, ε 20600); potentiometric detn. of Zn; complexing agent for Cu. Sol. dil. acids, Et_2O, Me_2CO, EtOH.

Baranowski, R. *et al*, *Chem. Anal.* (*Warsaw*), 1974, **19**, 997 (*detn, Sn*)
Baranowski, R. *et al*, *Fresenius' Z. Anal. Chem.*, 1974, **269**, 122 (*detn, Zn*)
Gershuns, A.L. *et al*, *CA*, 1975, **83**, 34950p (*detn, Cu*)
Baranowski, R. *et al*, *Microchem. J.*, 1975, **20**, 1 (*detn, Sn*)
Sidorov, E.O. *et al*, *CA*, 1976, **85**, 33085q (*synth*)
Baranowski, R. *et al*, *Mikrochim. Acta*, 1976, **2**, 151 (*detn, Ti*)

N,N'-Bis(9-acridinyl)hydrazine B-00240

[3548-08-1]



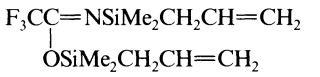
$C_{26}H_{18}N_4$ M 386.455
Used as acid-base indicator (colour change: rose → yellow). Cryst.

Ladanyi, L. *et al*, *CA*, 1972, **77**, 83158r (*use*)
Pham Hai Tung, *et al*, *CA*, 1972, **77**, 93428y (*use*)

N,O-Bis(allyldimethylsilyl) trifluoroacetamide B-00241

Dimethyl-2-propenylsilyl N-(*dimethyl-2-propenylsilyl*)-*2,2,2-trifluoroethanimidate*, *9CI. BADMSTFA*

[126235-52-7]



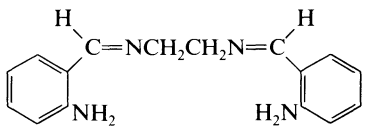
$C_{12}H_{22}F_3NOSi_2$ M 309.478
Silylation reagent for prostaglandins and steroids. Oil. Bp_4 67-70°.

Steffenrud, S. *et al*, *J. Chromatogr. Sci.*, 1989, **27**, 545 (*synth, use*)

N,N'-Bis(*o*-aminobenzylidene) ethylenediamine B-00242

N, N'-*Bis*(*2-aminophenyl*)*methylene-1,2-ethanediamine*, *9CI*

[4408-47-3]



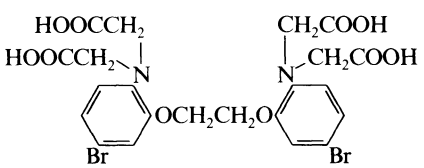
$C_{16}H_{18}N_4$ M 266.345
Used for photometric detn. of Co, Ni. Cryst. (EtOH). Sol. EtOH, Me_2CO, C_6H_6 insol. H_2O.

Berge, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1965, **213**, 346.

1,2-Bis(2-amino-5-bromophenoxy)ethane-*N,N,N',N'*-tetraacetic acid B-00243

N,N'-[*1,2-Ethanediylbis*[*oxy*(*4-bromo-2,1-phenylene*)]]*bis*[N-(*carboxymethyl*)*glycine*], *9CI. Dibromo-BAPTA*

[111248-72-7]



$C_{22}H_{22}Br_2N_2O_{10}$ M 634.231
Calcium buffer and indicator.

Tetra-Et ester: [73630-12-3].
$C_{30}H_{38}Br_2N_2O_{10}$ M 746.446
Mp 125-127°.

[73630-11-2]

Tsien, R.Y., *Biochemistry*, 1980, **19**, 2396 (*synth, use*)
Harrison, S.M. *et al*, *Biochim. Biophys. Acta*, 1987, **925**, 133 (*use*)

Bis(2-aminoethyl) disulfide B-00244

2,2'-Dithiobisethanamine, *9CI*. *2,2'-Dithiobisethylamine*, *8CI*. *Cystamine. Cystineamine. L 1591*

[51-85-4]

$H_2NCH_2CH_2SSCH_2CH_2NH_2$

$C_4H_{12}N_2S_2$ M 152.284
Radioprotective agent. Viscous oil. Dec. on dist.
▷ KR7175000.

B,2HCl: [56-17-7].
Prisms (EtOH). Mp 212°.
▷ KR7260000.

Dipicrate: Yellow cryst. Mp 204°.
N,N'-*Bisacrylyl:* [60984-57-8]. N,N'-(*Dithiodi-2,1-ethanediyl*)*bis-2-propenamide*
$C_{10}H_{16}N_2O_2S_2$ M 260.381
Used for making polyacrylamide gels which are soluble in thiol reagents. Mp 119-123°.

Johnston, T.P. *et al*, *J. Org. Chem.*, 1961, **26**, 3780 (*synth*)
Wallace, T.J. *et al*, *Chem. Ind.* (*London*), 1966, 1558 (*synth*)
Owen, T.C., *J. Chem. Soc. C*, 1967, 1373 (*synth*)
Castle, R.N. *et al*, *J. Heterocycl. Chem.*, 1968, **5**, 113 (*synth*)
Wilson, G.E. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 1465 (*pmr*)
Hansen, J.N. *et al*, *Anal. Biochem.*, 1976, **76**, 37; 1980, **105**, 192; 1981, **116**, 146 (*synth, props, use, bisacrylyl*)
Foye, W.O. *et al*, *J. Pharm. Sci.*, 1976, **65**, 1247 (*synth, props*)
Vedavathi, B.M. *et al*, *Curr. Sci.*, 1979, **48**, 1028 (*cryst struct*)
Gosselet, M. *et al*, *Eur. Polym. J.*, 1979, **15**, 1079 (*synth, bisacrylyl*)
Yamaguchi, H. *et al*, *CA*, 1982, **97**, 143983 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CQJ750, MCN500.

Bis(2-aminoethyl)dithiocarbamic acid B-00245

Bis(*2-aminoethyl*)*carbamodithioic acid*, *9CI*

[31635-89-9]

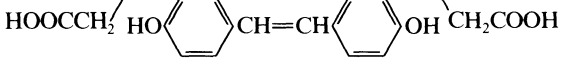
$(H_2NCH_2CH_2)_2NCSSH$

$C_5H_{13}N_3S_2$ M 179.310
Used for photometric detn. of Mo(*VI*). Cryst.

Deshmukh, G.S. *et al*, *Indian J. Chem.*, 1969, **9**, 498.

3,3'-Bis(aminomethyl)-4,4'-dihydroxystilbene-*N,N,N',N'*-tetraacetic acid B-00246

3,3'-[*Vinylenebis*[(*6-hydroxy*-m-*phenylene*)*methylenenitrilo*]] *tetraacetic acid*, *8CI*



$C_{24}H_{26}N_2O_{10}$ M 502.477

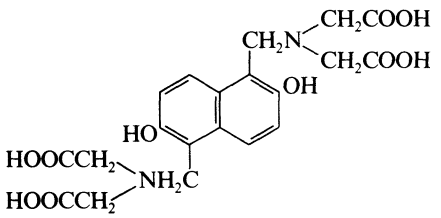
(E)-form [23191-11-9]
Used as fluorescent indicator for Cd. Cryst. (hot H_2O). Sol. alkalis; sl. sol. H_2O.

Tamkina, V.Y. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 894 (*detn, Cd*)

1,5-Bis(aminomethyl)-2,6-naphthalenediol-*N,N,N',N'*-tetraacetic acid B-00247

[(*2,6-Dihydroxy-1,5-naphthylene*)*bis*(*methylenenitrilo*)] *tetraacetic acid, 8CI*

[22919-40-0]



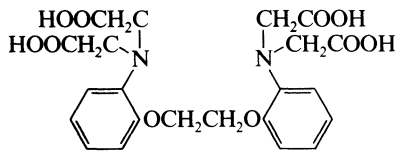
$C_{20}H_{22}N_2O_{10}$ M 450.401
Used as a 0.1m*M* aq. soln. of di-Na salt for fluorimetric detn. of Ba, Ca, Ce, Mg, Sr. Cryst. (H_2O). Sol. EtOH, hot H_2O, alkalis.

Budesinsky, B. *et al*, *Talanta*, 1969, **16**, 399.

1,2-Bis(2-aminophenoxy)ethane-*N,N,N',N'*-tetraacetic acid B-00248

N,N'-[*1,2-Ethanediylbis*(*oxy-2,1-phenylene*)]*bis*[N-(*carboxymethyl*)*glycine*], *9CI. BAPTA*

[85233-19-8]



$C_{22}H_{24}N_2O_{10}$ M 476.439
Highly selective buffer and optical indicator for cellular $Ca^{2\oplus}$ ions. Mp 172-178°.

Tetra-Me ester:
$C_{26}H_{32}N_2O_{10}$ M 532.546
Cryst. Mp 95-97°.

Tetra-Et ester: [73630-07-6].
$C_{30}H_{40}N_2O_{10}$ M 588.653
Mp 95-97°.

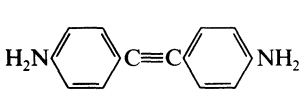
[73630-08-7]

Tsien, R.Y., *Biochemistry*, 1980, **19**, 2396 (*synth, pmr, uv, use*)
Chaincone, E. *et al*, *J. Biol. Chem.*, 1986, 261, 16306 (*use*)
Adams, S.R. *et al*, *J. Am. Chem. Soc.*, 1989, **111**, 7957 (*deriv, synth, use*)

Bis(4-aminophenyl)acetylene B-00249

4,4'-(1,2-Ethynediyl)bisbenzenamine, 9CI. 4,4'-Ethynylenedianiline, 8CI. 4,4'-Diaminotolane

[6052-15-9]



$C_{14}H_{12}N_2$ M 208.262
Used for gravimetric detn. of $SO_4^{2\ominus}$. Pale-yellow needles (EtOH). Mod. sol. Me_2CO. Mp 236°.

Di-Ac:
$C_{18}H_{16}N_2O_2$ M 292.337
Mp 281°.

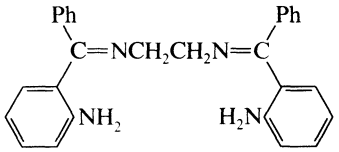
Dibenzoyl:
$C_{28}H_{20}N_2O_2$ M 416.478
Mp 332°.

Ruggli, P. *et al*, *Helv. Chim. Acta*, 1938, **21**, 38 (*synth*)
Belcher, R. *et al*, *Anal. Chim. Acta*, 1953, **8**, 122 (*synth, detn, $SO_4^{2\ominus}$*)
Litvinenko, L.M. *et al*, *Zh. Obshch. Khim.*, 1958, **28**, 2046 (*synth*)
Berry, R.W.H. *et al*, *Tetrahedron*, 1960, **10**, 109 (*ir*)
Bazhin, N.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1966, 1154 (*nmr*)
Veschambre, H. *et al*, *Bull. Soc. Chim. Fr.*, 1967, 134 (*uv*)

N,N'-Bis(*o*-amino-α-phenylbenzylidene) ethylenediamine, 8CI B-00250

N,N'-*Bis*(o-*aminobenzophenone*)*ethylenediimine*

[29055-00-3]



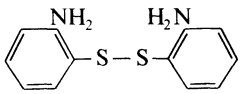
$C_{28}H_{26}N_4$ M 418.540
Used as 0.02% soln. in C_6H_6 for extraction-photometric detn. of Co, Ni, Pd, Pt. Pale yellow cryst. (C_6H_6). Sol. EtOH, Me_2CO, C_6H_6, acids; insol. H_2O. Mp 136-137°.

Uhlemann, E. *et al*, *Anal. Chim. Acta*, 1968, **42**, 247 (*use*)

Bis(2-aminophenyl) disulfide B-00251

2,2'-Dithiobisbenzenamine, 9CI. 2,2'-Dithiodianiline, 8CI. 2,2'-Diaminodiphenyl disulfide. Intramine

[1141-88-4]



$C_{12}H_{12}N_2S_2$ M 248.372
Vulcanizing agent for urethane rubbers, shows bactericidal and fungicidal activity. Used as EtOH soln. for photometric detn. of Pt(*IV*) (λ_{max} 725 nm, ε 54800). Leaflets or needles (EtOH aq.). Sol. acids, EtOH; spar. sol. H_2O. Mp 93°.

▷ Toxic. BX9540000.

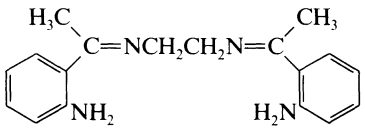
Dipicrate: Mp 141°.
2,2'-N-Di-Ac: [3095-79-2].
$C_{16}H_{16}N_2O_2S_2$ M 332.447
Mp 156°.

Gialdi, F. *et al*, *Farmaco, Ed. Sci.*, 1959, **14**, 216 (*synth*)
Davara, A.C., *CA*, 1968, **68**, 95438 (*synth, nmr, ir*)
Uemura, S. *et al*, *Bull. Chem. Soc. Jpn.*, 1977, **50**, 220 (*synth*)
Shapiro, B.L. *et al*, *J. Phys. Chem. Ref. Data*, 1977, **6**, 919 (*nmr*)
Bag, S.P. *et al*, *Talanta*, 1977, **24**, 128 (*use*)
Higashi, L.S. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 8101 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DXJ800.

N,N'-Bis[1-(2-aminophenyl)]ethylidene-1,2-ethanediamine B-00252

N, N'-*Bis*(o-*amino*-α-*methylbenzylidene*)*ethylenediamine*, *8CI*

[21338-92-1]

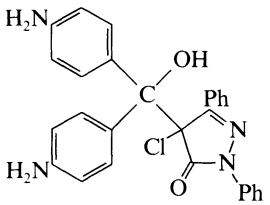


$C_{18}H_{22}N_4$ M 294.399

Used as 0.02% soln. in C_6H_6 for extraction-photometric detn. of Co, Cu, Ni, Pd,Pt. Pale yellow cryst. (C_6H_6). Sol. EtOH, Me_2CO, C_6H_6, acids; insol. H_2O. Mp 153-156°.

Uhlemann, E. *et al*, *Anal. Chim. Acta*, 1968, **42**, 247.

4-[Bis(4-aminophenyl)hydroxymethyl]-4-chloro-2,4-dihydro-2,5-diphenyl-3*H*-pyrazol-3-one, 9CI B-00253



$C_{28}H_{23}ClN_4O_2$ M 482.968

$N^4,N^4,N^{4'},N^{4'}$-*Tetra-Me:* [30535-22-9].

$C_{32}H_{31}ClN_4O_2$ M 539.075

Used as 3m*M* aq. soln. (with 3% Me_2CO) for co-pptn. sepn. of Pd, Pt and Rh (0.2-0.5*M* H_2SO_4, 1.5*M* KI). Dark green cryst. powder. Sol. Me_2CO, EtOH; sl. sol. H_2O.

$N^4,N^4,N^{4'},N^{4'}$-*Tetra-Et:* [81195-42-8].

$C_{36}H_{39}ClN_4O_2$ M 595.182

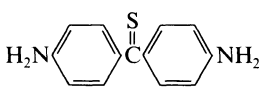
Used as 3m*M* aq. soln. (with 3% Me_2CO) for co-pptn. sepn. of Pd, Pt and Rh (0.2-0.5*M* H_2SO_4, 1.5*M* KI). Dark green cryst. powder. Sol. Me_2CO, EtOH.

Chelnokova, M.N. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1368 (*use*)

Bis(4-aminophenyl)methanethione B-00254

4,4'-Diaminothiobenzophenone

[59142-17-5]



$C_{13}H_{12}N_2S$ M 228.317

N,N'-*Di-Et:* [25642-33-5]. *Bis*[*4*-(*diethylamino*)*phenyl*] *methanethione*, *9CI*. *4,4'-Bis*(*diethylamino*) *thiobenzophenone*

$C_{21}H_{28}N_2S$ M 340.532

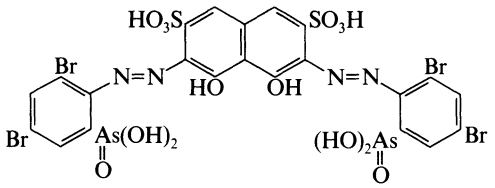
Used as 0.08% EtOH soln. for sensitive photometric detn. of Pt(*IV*) (λ_{max} 500 nm). Dark red cryst. (EtOH). Sol. EtOH; insol. H_2O.

Madelung, W., *J. Prakt. Chem.*, 1926, **114**, 1 (*synth*)

Chang Wen Bao, *et al*, *Microchem. J.*, 1989, **39**, 149 (*detn*, *Pt*)

3,6-Bis[(2-arsono-4,6-dibromophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 8CI B-00255

Tetrabromoarsenazo III



$C_{22}H_{14}As_2Br_4N_4O_{14}S_2$ M 1091.962

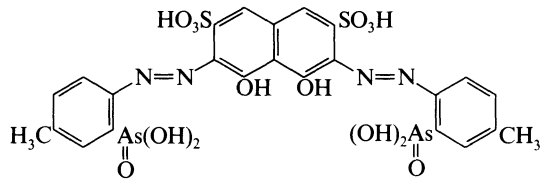
Used for photometric detn. of Be, Cu, Th, U(*VI*). Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

3,6-Bis[(2-arsono-4-methylphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI B-00256

p-*Dimethylarsenazo III*

[61996-72-3]



$C_{24}H_{22}As_2N_4O_{14}S_2$ M 804.431

Used as 0.05% aq. soln. for photometric detn. of Th (λ_{max} 690 nm, ε 11000), rare earth elements, U, Zn. Dark red cryst. (MeOH). Sol. H_2O; insol. C_6H_6.

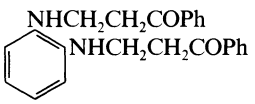
Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

Luk'yanov, V.F. *et al*, *Zavod. Lab.*, 1976, **42**, 1302.

N,N'-Bis(4-benzoylethyl)-1,2-benzenediamine B-00257

3',3''-(o-*Phenylenediimido*)*dipropiophenone*, *8CI*. N,N'-*Bis*(*2-benzoylethyl*)-o-*phenylenediamine*

[3506-47-6]



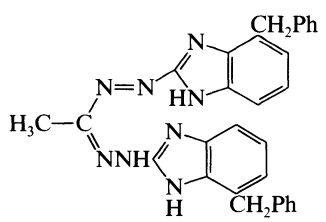
$C_{24}H_{24}N_2O_2$ M 372.466

Used as a 0.1% soln. in AcOH for photometric detn. of Se (λ_{max} 508 nm). Cryst. Sol. EtOH, Me_2CO.

Ramanauskas, E. *et al*, *CA*, 1970, **73**, 52028s (*detn*, *Se*)

1,5-Bis(7-benzyl-2-benzimidazolyl)-3-methylformazan, 8CI B-00258

[1182-75-8]

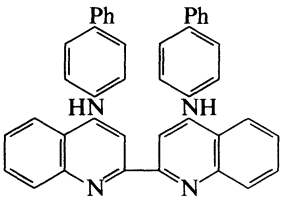


$C_{30}H_{26}N_8$ M 498.589
Used as 0.01% soln. in $CHCl_3$ for extraction-photometric detn. of Tl(*III*). Cryst. (EtOH). Sol. $CHCl_3$, DMF, EtOH.

Lomonosov, S.A. *et al*, *Zh. Anal. Khim.*, 1964, **19**, 1062 (*detn, Tl*)
Bednaeva, N.P. *et al*, *Zh. Obshch. Khim.*, 1964, **34**, 1288 (*synth*)

4,4′-Bis(4-biphenylylamino)-2,2′-biquinoline B-00259

[29197-35-1]



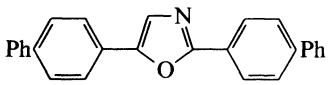
$C_{42}H_{30}N_4$ M 590.726
Used as a soln. in butanol for photometric detn. of Cu (λ_{max} 550 nm, ε 14500). Cryst. (EtOH). Sol. hot EtOH, DMF, dioxan; insol. H_2O. Mp 320-321°.

Gershuns, A.L. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1970, **36**, 595; *CA*, **73**, 98771 (*detn, Cu*)

2,5-Bis([1,1′-biphenyl]-4-yl)oxazole, 9CI B-00260

BBO

[2083-09-2]



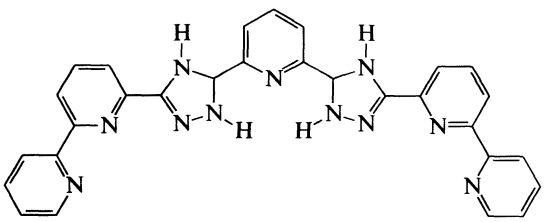
$C_{27}H_{19}NO$ M 373.453
Laser dye. Scintillator solute. Cryst. ($CHCl_3$/EtOH). Mp 232-233°.

Balaban, A.T. *et al*, *Tetrahedron*, 1963, **19**, 169 (*synth, uv*)
Birks, J.B. *et al*, *Liq. Scintill. Counting*, 1972, 1 (*use*)
Fouassier, J.P. *et al*, *J. Photochem.*, 1977, **7**, 17 (*use*)
Slomka, I. *et al*, *Opt. Appl.*, 1979, **9**, 25 (*use*)

2,6-Bis[3-(2,2′-bipyridin-6-yl)-1,2,4-triazolin-5-yl]pyridine B-00261

6,6″-[2,6-Pyridinediyl bis(4,5-dihydro-1H-1,2,4-triazole-5,3-diyl)]bis[2,2′-bipyridine], 9CI

[35171-35-8]



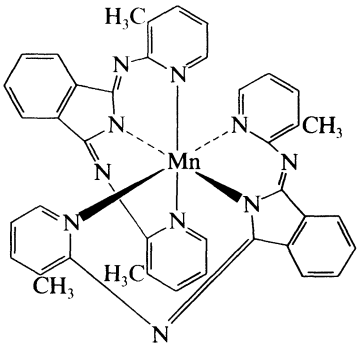
$C_{29}H_{23}N_{11}$ M 525.574
Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*) (λ_{max} 550 nm, ε 9600, EtOH aq.). Cryst. (2-methoxyethanol). Sol. common org. solvents. Mp 251°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 1043 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

Bis[bis(3-methyl-2-pyridylimino)isoindolinato-*N,N′,N″*]manganese(*II*) B-00262

Bis[N-(*3-methyl-2-pyridinyl*)-*1*-[(*3-methyl-2-pyridinyl*)*imino*]-*1*H-*isoindol-3-aminato*]*manganese, 11CI*

[79062-03-6]



$C_{40}H_{32}MnN_{10}$ M 707.698
mer-Octahedral. Synth. from the ligand + NaOH in MeOH + $Mn^{2\oplus}$. Nmr shift reagent. Cryst.; forms a $\frac{1}{2}CH_2Cl_2$ solvate. 4-Methyl-2-pyridylimino deriv. also known.

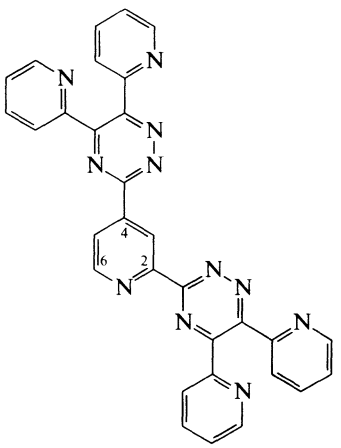
[87802-52-6]

Gagné, R.T. *et al*, *Inorg. Chem.*, 1981, **20**, 3260 (*synth, props*)
Domaille, P.J. *et al*, *Inorg. Chem.*, 1983, **22**, 3944 (*synth, cryst struct*)
Gmelin Handbook Inorg. Chem., Syst. No. 56, 1988, **D6**, 223 (*rev, bibl*)

2,4-Bis[5,6-bis(2-pyridyl)-1,2,4-triazin-3-yl]pyridine B-00263

3,3′-(2,4-Pyridinediyl)bis[5,6-di-2-pyridinyl-1,2,4-triazine], 9CI

[35221-88-6]



$C_{31}H_{19}N_{11}$ M 545.565
Used as a 5 m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*) (λ_{max} 565 nm, ε 16000, EtOH aq.). Cryst. (DMF). Sol. common org. solvs. Mp 287-288°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 1043 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

2,6-Bis[5,6-bis(2-pyridyl)-1,2,4-triazin-3-yl]pyridine B-00264

2,2′-(2,6-Pyridinediyl)bis[5,6-di-2-pyridinyl-1,2,4-triazine], 9CI

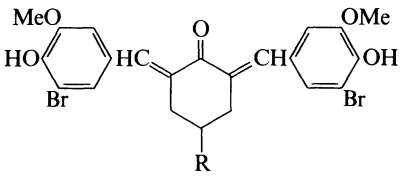
[35171-29-0]

$C_{31}H_{19}N_{11}$ M 545.565
Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*) (λ_{max} 470 nm, ε 16900, EtOH aq.). Cryst. (DMF). Sol. common org. solvs. Mp 264-265°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 1043 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*use*)

2,6-Bis(3-bromo-4-hydroxy-5-methoxybenzylidene)cyclohexanone B-00265

Di-5-bromovanillidenecyclohexanone



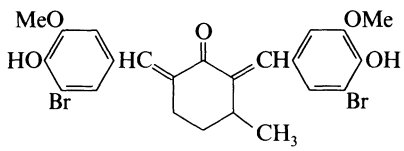
R = H

$C_{22}H_{20}Br_2O_5$ M 524.205
Used as a 0.1% EtOH soln. as acid-base indicator (pH range: 7.2-8.6; colour change: yellow → red). Yellow cryst. Sol. EtOH. Mp 222-224°.

Samdahl, B., *J. Pharm. Chim.*, 1930, **11**, 8 (*use*)

2,6-Bis(3-bromo-4-hydroxy-5-methoxybenzylidene)-3-methyl-1-cyclohexanone B-00266

Di-5-bromovanillidene-m-*methylcyclohexanone*



$C_{23}H_{22}Br_2O_5$ M 538.232
Used as 0.1% soln. in EtOH as an acid-base indicator (pH range: 7.2-8.6; colour change: yellow → red). Yellow cryst. Sol. EtOH, Me_2CO; insol. H_2O. Mp 120°.

Samdahl, B., *J. Pharm. Chim.*, 1930, **11**, 8 (*use*)

2,6-Bis(3-bromo-4-hydroxy-5-methoxybenzylidene)-4-methyl-1-cyclohexanone B-00267

Di-5-bromovanillidene-p-*methylcyclohexanone*

As 2,6-Bis(3-bromo-4-hydroxy-5-methoxybenzylidene) cyclohexanone, B-00265 with

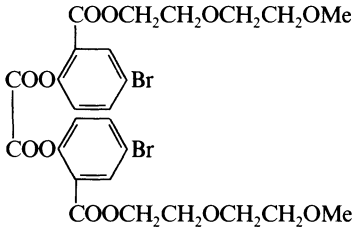
R = CH_3

$C_{23}H_{22}Br_2O_5$ M 538.232
Used as a 0.1% EtOH soln. as acid-base indicator (pH range: 7.2-8.6; colour change: yellow-green → orange-red). Yellow cryst. Sol. EtOH, Me_2CO; insol. H_2O. Mp 189°.

Samdahl, B., *J. Pharm. Chim.*, 1930, **11**, 8 (*use*)

Bis[4-bromo-2-[[2-(2-methoxyethoxy)ethoxy]carbonyl]phenyl] ethanedioate, 9CI B-00268

Bis[2-(3,6-dioxaheptyloxycarbonyl)-4-bromophenyl]oxalate
[126192-51-6]



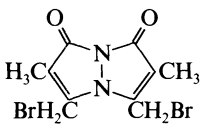
$C_{26}H_{28}Br_2O_{12}$ M 692.308
Chemiluminescence reagent for detn. of H_2O_2 and fluorescent compds. Sol. MeCN. Mp 69-72°. λ_{max} 286 nm.

Difluoro analogue: [126192-49-2]. *Bis[4-fluoro-2-[[2-(2-methoxyethoxy)ethoxy]carbonyl]phenyl]ethanedioate*
$C_{26}H_{28}F_2O_{12}$ M 570.497
Chemiluminescent reagent for detn. of H_2O_2 and fluorescent compds. Mp 62-63°.

Nakashima, K. *et al*, *Analyst* (*London*), 1989, **114**, 1413 (*synth, use*)

3,5-Bis(bromomethyl)-2,6-dimethyl-1*H*,7*H*-pyrazolo[1,2-*a*]pyrazole-1,7-dione, 9CI B-00269

Dibromobimane
[68654-25-1]

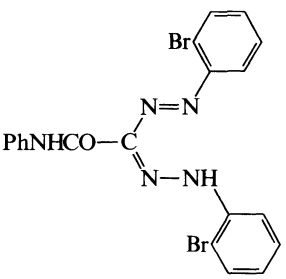


$C_{10}H_{10}Br_2N_2O_2$ M 350.009
Fluorescent label for thiol groups, e.g. in proteins. Yellow cryst. (EtOAc). Mp 176-177°.

Kosower, N.S. *et al*, *Proc. Natl. Acad. Sci. U.S.A.*, 1979, **76**, 3382 (*use*)
Kosower, E.M. *et al*, *J. Am. Chem. Soc.*, 1980, **102**, 4983 (*synth, pmr, ir, uv*)
Kosower, N.S. *et al*, *Biochim. Biophys. Acta*, 1982, **622**, 201 (*use*)
Kosower, N.S. *et al*, *Methods Enzymol.*, 1987, **143**, 76 (*rev*)

1,5-Bis(2-bromophenyl)-*N*-phenyl-3-formazancarboxamide, 9CI B-00270

Formazan F51
[112756-83-9]



$C_{20}H_{15}Br_2N_5O$ M 501.179

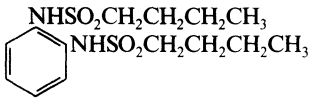
Used as 4m*M* soln. in CH_2Cl_2 for extraction separation of Ag. Cryst. Sol. CH_2Cl_2, $CHCl_3$, toluene.

Grote, M. *et al*, *Anal. Chim. Acta*, 1988, **207**, 171 (*synth, detn, Ag*)

N,N'-Bis(butanesulfonyl)-1,2-benzenediamine B-00271

N,N'-*1,2-Phenylenebis-1-butanesulfonamide*, *9CI*. *1,2-Bis(butanesulfonamido)benzene*. N,N'-*Bis(butanesulfonyl)*-O-*phenylenediamine*

[78755-54-1]



$C_{14}H_{24}N_2O_4S_2$ M 348.487

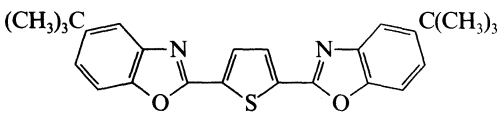
Used as 0.01% soln. in PhCl for extraction separation of Cu(*II*), Co, Zn, Cd, Pb, Hg(*II*). Cryst. (Et_2O at −10°). Sol. PhCl, toluene, Et_2O.

Ide, S. *et al*, *Anal. Chim. Acta*, 1983, **149**, 235 (*synth, use*)

2,5-Bis[5-*tert*-butyl-2-benzoxazolyl] thiophene B-00272

2,2'-(2,5-Thiophenediyl)bis[5-(1,1-dimethylethyl) benzoxazole], *9CI*. *BBOT*

[7128-64-5]



$C_{26}H_{26}N_2O_2S$ M 430.570

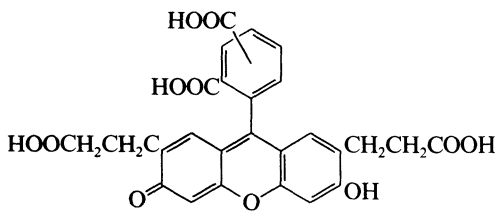
Solute used for scintillation counting. Laser dye. Cryst. (dioxan/EtOH). Mp 199-202°.

Maeda, M. *et al*, *Jpn. J. Appl. Phys.*, 1974, **13**, 827 (*use*)
Slomka, I. *et al*, *Opt. Appl.*, 1979, **9**, 25 (*use*)
Seha, Z. *et al*, *Helv. Chim. Acta*, 1980, **63**, 413 (*synth*)

2',7'-Bis(carboxyethyl)carboxyfluorescein B-00273

ar-*Carboxy-3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H)-9'-[9H]xanthene]-2:7'-dipropanoic acid*, *9CI*. *BCECF*

[85138-49-4]



$C_{27}H_{20}O_{11}$ M 520.448

Fluorescent pH indicator for intracellular fluid. Brick-red powder. pK_a 7.0 (37°).

Tetrakis(acetoxymethyl) ester:

$C_{39}H_{36}O_{19}$ M 808.702

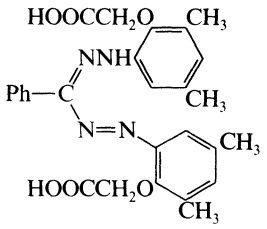
Used in the pH detn. of intracellular fluid.

Rink, T.J. *et al*, *J. Cell Biochem.*, 1982, **95**, 189 (*synth, use*)
Graber, M.L. *et al*, *Anal. Biochem.*, 1986, **156**, 202 (*use*)

1,5-Bis[2-(carboxymethoxy)-3,5-dimethylphenyl]-3-phenylformazan B-00274

2,2'-[(3-Phenyl-1,5-formazandiyl)bis[(4,6-dimethyl-2,1-phenylene)oxy]]bisacetic acid, *9CI*

[60129-47-7]



$C_{27}H_{28}N_4O_6$ M 504.541

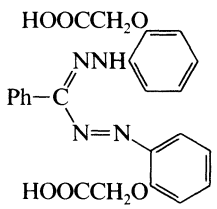
Used as 0.05% soln. in EtOH for photometric detn. of Li (λ_{max} 590 nm, ε 15000), Ni (λ_{max} 620 nm, ε 33000). Dark violet cryst. (EtOH). Sol. EtOH, Me_2CO, aq. buffer solns. (pH > 7). Mp 174-175°.

Zelichenko, S.L. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 2311 (*synth, detn, Li*)
Podchainova, N.V. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 822 (*detn, Li*)
Ostrovskaya, V.M. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 1548 (*detn, Ni*)

1,5-Bis[2-(carboxymethoxy)phenyl]-3-phenylformazan B-00275

2,2'-[(3-Phenyl-1,5-formazandiyl)bis(2,1-phenylene)oxy] bisacetic acid, *9CI*

[57252-81-0]



$C_{23}H_{20}N_4O_6$ M 448.434

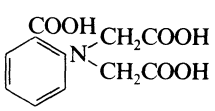
Used as 0.05% soln. in EtOH for photometric detn. of Ni (λ_{max} 620 nm, ε 33000), Li (λ_{max} 580 nm, ε 7600). Dark red cryst. (EtOH). Sol. EtOH, Me_2CO, aq. buffer solns. (pH > 7). Mp 186°. pK_{a1} 4.0; pK_{a2} 4.6; pK_{a3} 10.9.

Zelichenko, S.L. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 2311 (*synth, detn, Li*)
Ostrovskaya, V.M. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 1548 (*detn, Ni*)

2-[Bis(carboxymethyl)amino]benzoic acid, 9CI B-00276

N-(*2-Carboxyphenyl*)*iminodiacetic acid*. N,N-*Bis(carboxymethyl)anthranilic acid*. *Anthranilicdiacetic acid*. *Cpida*

[1147-65-5]



$C_{11}H_{11}NO_6$ M 253.211

Used as 0.01*M* aq. soln. of disodium salt for photometric detn. of Sc, Y, La, Ga, In. Cryst. Sol. alkalis; spar. sol. H_2O; insol. C_6H_6, H_2O.

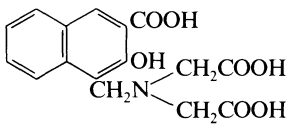
Young, A. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 800 (*synth*)

Dragulescu, C. *et al*, *Talanta*, 1966, **13**, 1451, 1543 (*use*)
Swaminathan, K. *et al*, *Acta Crystallogr., Sect. C*, 1991, **47**, 119 (*cryst struct*)

4-[[Bis(carboxymethyl)amino]methyl]-3-hydroxy-2-naphthoic acid, 8CI B-00277

4-(Aminomethyl)-3-hydroxy-2-naphthoic acid-N,N-*diacetic acid*

[21542-48-3]



$C_{16}H_{15}NO_7$ M 333.297

Used as 0.1-1 m*M* aq. soln. for fluorimetric detn. of Be (λ_{max} 450 nm), La, Lu (λ_{max} 460 nm). Cryst. (H_2O) (as Na salt). Sol. H_2O.

Budešinsky, B. *et al*, *Anal. Chim. Acta*, 1968, **42**, 455 (*synth, use*)

3,12-Bis(carboxymethyl)-6,9-dioxa-3,12-diazatetradecanedioic acid, 9CI B-00278

Ethylenebis(oxyethylenenitrilo)tetraacetic acid, 8CI. Ethylene glycol bis[2-[bis(carboxymethyl)amino]ethyl] ether. Ethylene glycol bis(2-aminoethyl ether)-N,N,N′,N′-*tetraacetic acid. EGTA.* ***Egtazic acid,*** **INN, USAN**

[67-42-5]

$$(HOOCCH_2)_2NCH_2CH_2OCH_2CH_2OCH_2CH_2N(CH_2COOH)_2$$

$C_{14}H_{24}N_2O_{10}$ M 380.351

Chelating agent, e.g. used in detn. of Ca in presence of Mg. Biochemistry much investigated.

▷ LD_{50} 150 mg/kg (mouse, i.p.). AH3760000.

Na salt: [31571-71-8].
Used as aq. soln. as a titrant in chelatometric titration; masking agent. Cryst. Sol. H_2O, EtOH, DMF, acids, alkalis. pK_{a1} 2.00; pK_{a2} 2.65; pK_{a3} 8.85; pK_{a4} 9.46.

U.K. Pat., 695 346, (1953); *CA*, **48**, 11486i (*manuf*)
Schmid, R.W. *et al*, *Anal. Chem.*, 1957, **29**, 264 (*use*)
Sudmeier, J.L. *et al*, *Anal. Chem.*, 1964, **36**, 1698 (*pmr*)
Fr. Pat., 1 381 847, (1964); *CA*, **62**, 9014d (*manuf*)
Wynn, J.E. *et al*, *Toxicol. Appl. Pharmacol.*, 1970, **16**, 807 (*use, tox*)
Přibil, R., *Analytical Applications of EDTA and Related Compounds*, Pergamon, Oxford, 1972 (*use*)
Ahamd, N. *et al*, *Microchem. J.*, 1977, **22**, 38 (*use*)
Fu Chung Chang, *et al*, *Mikrochim. Acta*, 1979, **2**, 219 (*masking*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press Boca Raton, 1982.
Freeman, M.A. *et al*, *Inorg. Chem.*, 1982, **21**, 567.
Bers, D.H. *et al*, *Am. J. Physiol.*, 1983, **242c**, 404 (*detn, Ca*)
Schauer, C.K. *et al*, *Acta Crystallogr., Sect. C*, 1988, **44**, 981 (*cryst struct, complexes*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EIT000.

Bis(carboxymethyl)dithiocarbamic acid B-00279

N-(*Carboxymethyl*)-N-(*dithiocarboxy*)*glycine*, *9CI*

[36061-59-3]

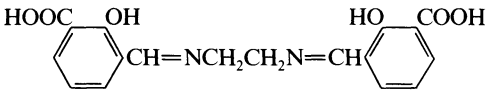
$$(HOOCCH_2)_2NCSSH$$

$C_5H_7NO_4S_2$ M 209.247

Used as a 0.1*M* soln. in dil. aq. NaOH as masking agent in detn. of Zn with dithizone. Cryst. (H_2O). Sol. hot H_2O, EtOH, Me_2CO, alkalis.

Hulanicki, A. *et al*, *Talanta*, 1967, **14**, 677.

N,N′-Bis[3-carboxysalicylidene] ethylenediamine B-00280



$C_{18}H_{16}N_2O_6$ M 356.334

Di-Na salt: Used as a 8% aq. soln. as metallochromic indicator in titrimetric detn. of Fe(*III*). Yellow cryst. (EtOH). Mp 242°.

Poddar, S.N. *et al*, *Indian J. Chem.*, 1964, **2**, 12 (*detn, Fe*)

Bis(2-chloroethyl) phosphate, 9CI B-00281

Bis(2-chloroethyl) hydrogen phosphate. Bis(2-chloroethyl) phosphoric acid

$$(ClCH_2CH_2O)_2P(O)OH$$

$C_4H_9Cl_2O_4P$ M 222.992

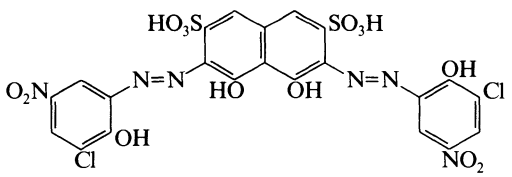
Fluoride: Bis(2-chloroethyl) phosphorofluoridate. Bis(2-chloroethyl) phosphoryl fluoride
$C_4H_8Cl_2FO_3P$ M 224.983
Liq. Bp_{23} 159-160°.

Chloride: [6087-94-1]. *Bis(2-chloroethyl) phosphorochloridate. Bis(2-chloroethyl) phosphoryl chloride*
$C_4H_8Cl_3O_3P$ M 241.437
Derivatisation reagent for glc anal. of nitrosamines. Liq. Insol. H_2O. d_4^{20} 1.46. Bp_2 116-117°. n_D^{20} 1.4710.
▷ Pungent.

Amide: Bis(2-chloroethyl) phosphoramidate
$C_4H_{10}Cl_2NO_3P$ M 222.007
Solid. Insol. $CHCl_3$. Mp 77°.

Cook, H.G. *et al*, *J. Chem. Soc.*, 1949, 635 (*chloride, fluoride, synth, tox*)
Goldwhite, H. *et al*, *J. Chem. Soc.*, 1955, 2040 (*fluoride*)
Walsh, E.N., *J. Am. Chem. Soc.*, 1959, **81**, 3028 (*amide*)
Pudovik, A.N. *et al*, *Zh. Obshch. Khim.*, 1966, **36**, 1454 (*synth, chloride*)
Idowu, I.R. *et al*, *Talanta*, 1987, **34**, 441 (*use*)

3,6-[Bis(3-chloro-2-hydroxy-5-nitrophenyl) azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI B-00282



$C_{22}H_{12}Cl_2N_6O_{14}S_2$ M 719.406

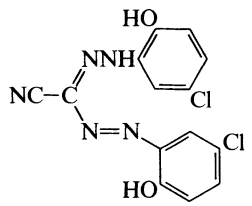
Used for photometric detn. of Al, Ga, Nb, Sc, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

1,5-Bis(5-chloro-2-hydroxyphenyl)-3-cyanoformazan B-00283

1,5-Bis(5-chloro-2-hydroxyphenyl)-3-formazancarbonitrile

[84890-01-7]



$C_{14}H_9Cl_2N_5O_2$ M 350.163

Used as a 0.05% soln. in EtOH for photometric detn. of alkali metals. Red cryst. (EtOH). Sol. EtOH, Et_2O.

Feng, Y. *et al*, *CA*, 1983, **98**, 118664w (*use*)

Bis[(chloromethyl)dimethylsilyl]amine B-00284

1-(Chloromethyl)-N-[(chloromethyl)dimethylsilyl]-1,1-dimethylsilanamine, 9CI. 1,3-Bis(chloromethyl)-1,1,3,3-tetramethyldisilazane, 8CI

[14579-91-0]

$ClCH_2SiMe_2NHSiMe_2CH_2Cl$

$C_6H_{17}Cl_2NSi_2$ M 230.283

Silylation reagent used in gc analysis of steroids. Liq. d^{20} 1.0543. Bp_{10} 103-105°, Bp_7 95.5°. n_D^{25} 1.4671.

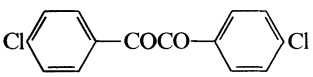
▷ JM9210000.

Schmidt, M. *et al*, *Inorg. Chem.*, 1962, **1**, 909 (*synth*)
Nametkin, N.S. *et al*, *Khim. Geterotsikl. Soedin.*, 1967, 148.
Brooks, C.J.W. *et al*, *Anal. Lett.*, 1972, **5**, 611 (*use*)
Hammar, C.G., *Biomed. Mass Spectrom.*, 1978, **5**, 25 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BIL250.

Bis(4-chlorophenyl)ethanedione, 9CI B-00285

4,4'-Dichlorobenzil, 8CI. Di-p-chlorophenyl diketone

[3457-46-3]



$C_{14}H_8Cl_2O_2$ M 279.121

Yellow needles. Mp 199°.

Monophenylhydrazone: Mp 178°, Mp 200°.

Dioxime: [23766-37-2].

$C_{14}H_{10}Cl_2N_2O_2$ M 309.151

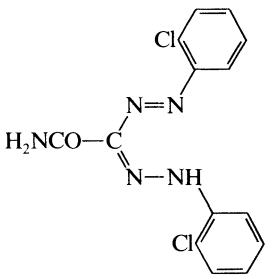
Used as 1m*M* EtOH soln. for extraction-photometric detn. of Ni (λ_{max} 414 nm, ε 14200), Co, Cu. Needles (MeOH aq.). Sol. MeOH, EtOH. Mp 226° dec.

Kenner, J. *et al*, *J. Chem. Soc.*, 1910, **97**, 1967.
Boulton, A.J. *et al*, *J. Chem. Soc. C*, 1969, 1901.
Cumper, C.W.N. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1972, 106 (*synth, struct*)
Kuse, S. *et al*, *Anal. Chim. Acta*, 1974, **70**, 65 (*dioxime, detn, Ni*)
Macaione, D.P. *et al*, *Synthesis*, 1974, **10**, 716.
Dillard, J.G. *et al*, *Org. Mass Spectrom.*, 1975, **10**, 28 (*ms*)
Cremlyn, R.J. *et al*, *J. Heterocycl. Chem.*, 1987, **24**, 117 (*synth*)

1,5-Bis(2-chlorophenyl)-3-formazancarboxamide, 9CI B-00286

Formazan F52

[69211-10-5]



$C_{14}H_{11}Cl_2N_5O$ M 336.179

Used as 4m*M* soln. in CH_2Cl_2 for extraction separation of Ag. Cryst. Sol. CH_2Cl_2, $CHCl_3$.

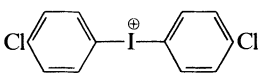
N-*Ph:* [62526-02-7]. *1,5-Bis(2-chlorophenyl)-N-phenyl-3-formazancarboxamide, 9CI. Formazan F43*

$C_{20}H_{15}Cl_2N_5O$ M 412.277

Used as a 0.01*M* soln. in toluene for extraction separation of Pd from Pt and of Ag from Cu(*II*); photometric detn. of Pd(*II*) (λ_{max} 623 nm, ε 10400). Orange cryst. (EtOH). Sol. toluene, 1,2-dichloroethane, EtOH, dioxan, MeOH; spar. sol. H_2O.

Kettrup, A. *et al*, *Zh. Anal. Khim.*, 1978, **293**, 115 (*synth, detn, Pd*)
Kettrup, A. *et al*, *CA*, 1979, **90**, 33455p (*N-Ph, detn, Pd*)
Grote, M. *et al*, *Fresenius' Z. Anal. Chem.*, 1980, **300**, 280; 1982, **310**, 269 (*N-Ph, synth*)
Grote, M. *et al*, *Talanta*, 1984, **31**, 755 (*N-Ph, use*)
Grote, M. *et al*, *Anal. Chim. Acta*, 1988, **207**, 171 (*synth, detn, Ag*)

Bis(4-chlorophenyl)iodonium(1+), 9CI B-00287



$C_{12}H_8Cl_2I^{\oplus}$ M 350.005 (ion)

Chloride: [34220-01-4].

$C_{12}H_8Cl_3I$ M 385.458

Used as a 1.2% aq. soln. for extraction-photometric detn. of Co; gravimetric detn. of $PO_4^{3\ominus}$; gives colour reaction with Bi, Co. Cryst. Mp 229°.

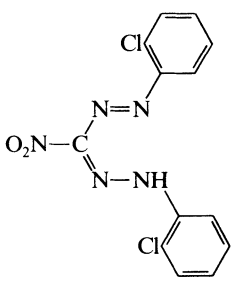
[26018-88-2]

Potratz, H.A. *et al*, *Anal. Chem.*, 1949, **21**, 1276 (*detn, Bi, Co*)
Bowd, A.J. *et al*, *Mikrochim. Acta*, 1965, 1151; 1967, 560 (*detn, Co, $PO_4^{3\ominus}$*)

1,5-Bis(2-chlorophenyl)-3-nitroformazan, 9CI B-00288

Formazan F54

[99514-57-5]



$C_{13}H_9Cl_2N_5O_2$ M 338.152

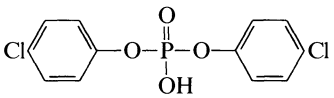
Used as 4m*M* soln. in toluene for extraction separation of Ag. Cryst. Sol. toluene, $CHCl_3$.

Grote, M. *et al*, *Anal. Chim. Acta*, 1988, **207**, 171 (*synth, detn, Ag*)

Bis(4-chlorophenyl) phosphate, 9CI B-00289

Bis(4-chlorophenyl) hydrogen phosphate. Bis(4-chlorophenyl) phosphoric acid

[4795-31-7]



$C_{12}H_9Cl_2O_4P$ M 319.080

Used for gravimetic detn. of Fe(*III*) and for extraction of rare earth elements. Needles or plates. Mp 133-135°.

Chloride: [15074-53-0]. *Bis(4-chlorophenyl) phosphorochloridate. Bis(4-chlorophenyl) phosphoryl chloride. Bis(4-chlorophenyl) chlorophosphate*

$C_{12}H_8Cl_3O_3P$ M 337.525

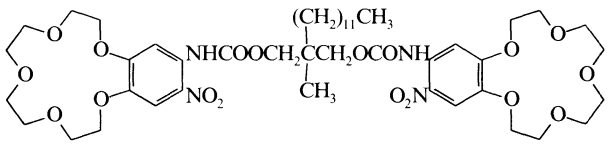
Phosphorylating agent for nucleosides. Cryst. (ligroin). Mp 56-57°. Bp_8 219°, $Bp_{0.1}$ 164-176°.

Zetsche, F. *et al*, *Helv. Chim. Acta*, 1926, **9**, 420, 979 (*synth, use*)
Rosenmund, K.W. *et al*, *Arch. Pharm. (Weinheim, Ger.)*, 1943, **281**, 317 (*synth, chloride*)
Krasovec, F. *et al*, *Radiochim. Acta*, 1966, **6**, 114 (*use*)
Reimschüssel, W. *et al*, *Int. J. Chem. Kinet.*, 1980, **12**, 979 (*chloride, synth, props*)
Daskalov, H.P. *et al*, *Bull. Chem. Soc. Jpn.*, 1981, **54**, 3076 (*chloride, use*)

2,2′-Bis[3,4-(15-crown-5)-2-nitrophenylcarbamoxymethyl] tetradecane B-00290

(2,3,5,6,8,9,11,12-Octahydro-16-nitro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl)carbamic acid 2-dodecyl-2-methyl-1,3-propanediyl ester, 9CI

[99348-39-7]



$C_{46}H_{70}N_4O_{18}$ M 967.075

Used in detn. of K in urine and blood analysis (liq. membrane ion-selective electrodes). Yellow solid. Sl. sol. H_2O. Mp 71-72°.

Wang, K. *et al*, *Anal. Sci.*, 1990, **6**, 715 (*use*)
Lindner, E. *et al*, *Mikrochim. Acta*, 1990, **1**, 157 (*synth, use*)
Dinten, O. *et al*, *Anal. Chem.*, 1991, **63**, 596 (*detn, K*)

N,N-Bis(2,3,5,6,9,10,12,13,15,16-decahydro-8*H*-1,7,4,7,11,14-benzodioxatetrathiacyclononadecin-19-yl)pentanediamide, 9CI B-00291

1,3-Bis[(2,3-benzo-1,4-dioxa-7,10,14,17-tetrathiacyclononadecenyl)aminocarbonyl]propane

[81810-65-3]

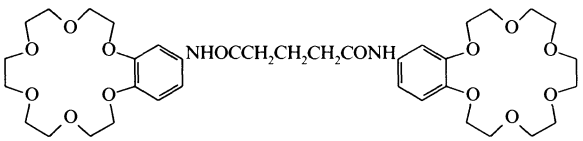
$C_{39}H_{58}N_2O_6S_8$ M 907.425

Used as 0.05m*M* soln. in $CHCl_3$ for selective extraction separation of Ag from Cu, Hg, Pb and other metals. Cryst. Sol. $CHCl_3$.

Oue, M. *et al*, *J. Polym. Sci., Polym. Chem. Ed.*, 1985, **23**, 2033 (*synth*)
Oue, M. *et al*, *Anal. Chim. Acta*, 1987, **194**, 293 (*use*)

N,N′-Bis(2,3,5,6,8,9,11,12,14,15-decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl) pentanediamide, 9CI B-00292

[69067-18-1]



$C_{37}H_{54}N_2O_{14}$ M 750.839

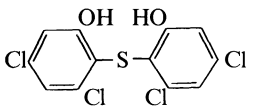
Used as 0.1-0.5m*M* $CHCl_3$ soln. for extraction of Ag, Tl(*I*), alkali and alkali earth metals. Cryst. Sol. $CHCl_3$.

Kimura, K. *et al*, *Anal. Lett. Part A:*, 1978, **11**, 821 (*synth*)
Maeda, T. *et al*, *Fresenius' Z. Anal. Chem.*, 1979, **298**, 363; 1982, **313**, 407 (*detn, Ag, Tl*)
Kimura, K. *et al*, *Talanta*, 1979, **26**, 945 (*alkali and alkali earth metals*)

Bis(2,4-dichloro-6-hydroxyphenyl)disulfide B-00293

*2,2′-Thiobis[4,6-dichlorophenol], 9CI, 8CI. **Bithionol,** BAN, INN. Actamer. Anafongine. Bacterostat CS 1. Bisoxyphen. Bitin. Lorothidol. Nobacter (obsol.). Prevenol*

[97-18-7]



$C_{12}H_6Cl_4O_2S$ M 356.055

Bactericide, anthelmintic, algicide, formerly used in soaps and cosmetics. Used for photometric detn. of Fe. Cryst. Sol. dil. alkalis. d 1.736. Mp 185.5-186.5°.

▷ Mod. toxic, causes photosensitivity and cross-sensitisation, banned in cosmetics by the FDA. SN0525000.

Di-Na salt: [6385-58-6]. *Bithionolate sodium, USAN. Sodium bitionolate, INN. Vancide BN*

▷ SN0700000.

S-*Oxide:* [844-26-8]. ***Bithionoloxide,* INN.** *Bitin* S. *Disto 5. Distobitin. Neodistol. Sulfene (soviet)*

$C_{12}H_6Cl_4O_3S$ M 372.054

Anthelmintic. Needles. Mp 220°.

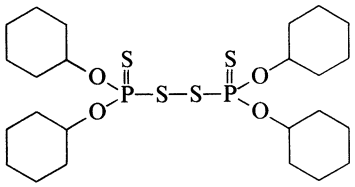
▷ SM8800000.

Adams, J.B., *J. Pharm. Pharmacol.*, 1958, **10**, 507, 516 (*synth, pharmacol*)
U.S. Pat., 2 849 494, (1958); *CA*, **53**, 4212e (*synth, props*)
Takubo, T. *et al*, *Yakugaku Zasshi*, 1958, **78**, 482; *CA*, **52**, 17268g (*synth, deriv*)
Anon, *CA*, 1968, **68**, 72211w (*tox*)
Fogg, A.G. *et al*, *Anal. Chim. Acta*, 1969, **45**, 196; **47**, 151 (*detn. Fe*)
Ivanova, T.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1971, 435 (*ir*)
Denisova, L.I. *et al*, *Khim.-Farm. Zh.*, 1973, **7**, 33 (*pharmacol, synth*)
Guilhon, J. *et al*, *Bull. Acad. Vet. Fr.*, 1979, **52**, 225 (*rev, deriv*)
Virin, L.I. *et al*, *Zh. Org. Khim.*, 1979, **15**, 991 (*ms*)
Sakamoto, M. *et al*, *J. Toxicol. Sci.*, 1981, **6**, 307 (*metab*)

Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2210.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TFD250.

Bis(dicyclohexyloxyphosphinothioyl) disulfide B-00294

Thioperoxydiphosphoric acid tetracyclohexylester, 9CI
Tetracyclohexyl thioperoxydiphosphorate
[7539-17-5]

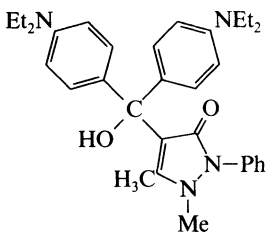


$C_{24}H_{44}O_4P_2S_4$ M 586.821
Used for extraction-photometric detn. of Cu, Pd. Cryst. Sol. Me_2CO, EtOH, C_6H_6.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 136 (*detn, Pd*)
Shishlov, A.N. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 454 (*detn, Cu*)

4-[Bis[4-(diethylamino)phenyl] hydroxymethyl]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI B-00295

Chromethylpyrazole
[13153-59-8]

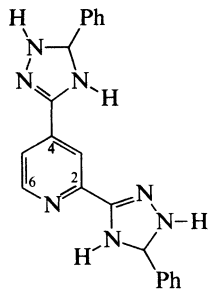


$C_{32}H_{40}N_4O_2$ M 512.694
Used as a 1m*M* soln. in 1*N* H_2SO_4 for extraction-photometric detn. of Ta (λ_{max} 590 nm, ε 91000, C_6H_6), Sn, Re (λ_{max} 635 nm, ε 44000). Cryst. Sol. C_6H_6, hot conc. H_2SO_4; insol. H_2O.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 574 (*detn, Re*)
Zhivopistsev, V.P. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 761 (*detn, Sn*)
Freidenzon, L.N. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 1754.

2,4-Bis(4,5-dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)pyridine, 9CI B-00296

2,4-Bis(5-phenyl-1,2,4-triazolin-3-yl)pyridine
[35171-30-3]



$C_{21}H_{19}N_7$ M 369.428
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 535 nm, ε 11500, EtOH aq.). Cryst. (EtOH). Sol. common org. solvs. Mp 155-156°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 1043 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*use*)

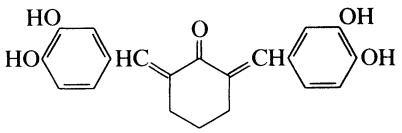
2,6-Bis(4,5-dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)pyridine, 9CI B-00297

2,6-Bis(5-phenyl-1,2,4-triazolin-3-yl)pyridine
[26728-26-7]

$C_{21}H_{19}N_7$ M 369.428
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 560 nm, ε 1500, EtOH aq.). Cryst. (EtOH). Sol. common org. solvs. Mp 172-173°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 1043 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*use*)

2,6-Bis(3,4-dihydroxybenzylidene) cyclohexanone B-00298

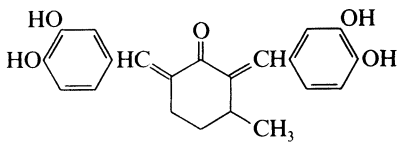


$C_{20}H_{18}O_5$ M 338.359
Used as a soln. in EtOH as acid-base indicator ($pH_{\frac{1}{2}}$ = 11.8; colour change: yellow → violet). Yellow leaflets. Spar. sol. EtOH. Mp 242-245°.

Di(3-Et ether): 2,6-Bis(3-ethoxy-4-hydroxybenzylidene) cyclohexanone
$C_{24}H_{26}O_5$ M 394.466
Used as soln. in EtOH as acid-base indicator (pH range: 8-10.4; colour change: yellow → red). Yellow leaflets. Spar. sol. EtOH. Mp 158°.

Samdahl, B., *J. Pharm. Chim.*, 1930, **11**, 8 (*use, ind*)

2,6-Bis(3,4-dihydroxybenzylidene)-3-methyl-1-cyclohexanone B-00299



$C_{21}H_{20}O_5$ M 352.386
Used as a soln. in EtOH as acid-base indicator ($pH_{\frac{1}{2}}$ = 11.8; colour change: yellow → violet). Yellow leaflets. Sol. EtOH, Me_2CO; insol. H_2O. Mp 242-245°.

Di(3-Et ether): 2,6-Bis(3-ethoxy-4-hydroxybenzylidene)-3-methyl-1-cyclohexanone
$C_{25}H_{28}O_5$ M 408.493
Used as a soln. in EtOH as acid-base indicator ($pH_{\frac{1}{2}}$ = 11.8; colour change: yellow → violet). Yellow leaflets. Spar. sol. EtOH; insol. H_2O.

Samdahl, B., *J. Pharm. Chim.*, 1930, **11**, 8 (*use, ind*)

2,6-Bis(3,4-dihydroxybenzylidene)-4-methyl-1-cyclohexanone B-00300

$C_{21}H_{20}O_5$ M 352.386
Used as a soln. in EtOH as acid-base indicator ($pH_{\frac{1}{2}}$ = 11.8; colour change: yellow → violet). Yellow leaflets. Sol. EtOH, Me_2CO; insol. H_2O. Mp 221-223°.

Di(3-Et ether): 2,6-Bis(3-ethoxy-4-hydroxybenzylidene)-4-methyl-1-cyclohexanone

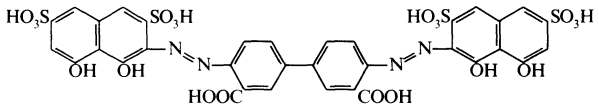
$C_{25}H_{28}O_5$ M 408.493
Used as a soln. in EtOH as acid-base indicator (pH range: 8-10.4; colour change: yellow → red). Yellow leaflets. Sl. sol. EtOH; insol. H_2O. Mp 148-149°.

Samdahl, B., *J. Pharm. Chim.*, 1930, **11**, 8 (*use*)

4,4′-Bis[(1,8-dihydroxy-3,6-disulfo-2-naphthyl)azo]-3,3′-biphenyldicarboxylic acid, 9CI B-00301

Bianthrazochrome

[3440-25-3]



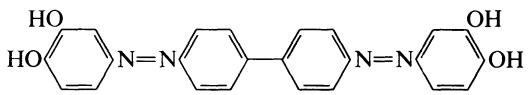
$C_{34}H_{22}N_4O_{20}S_4$ M 934.827
Used as a 1m*M* aq. soln. for photometric detn. of Co (λ_{max} 665 nm, ε 8800). Red cryst. (H_2O). Sol. alkalis; mod. sol. H_2O.

Basargin, N.N. *et al*, *Azerb. Khim. Zh.*, 1970, **3**, 126.

4,4′-Bis(3,4-dihydroxyphenylazo)biphenyl B-00302

4,4′-[[1,1′-Biphenyl]-4,4′-diylbis(azo)]bis-1,2-benzenediol, 9CI

[72220-05-4]



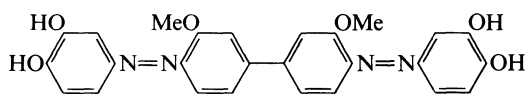
$C_{24}H_{18}N_4O_4$ M 426.431
Used as a 0.5m*M* soln. in EtOH for photometric detn. of Ga (λ_{max} 560nm, ε 34000, pH 2.4-3.5), Hf, Zr, (λ_{max} 590 nm, ε 68000, pH_2 0.3). Yellow cryst. (EtOH). Sol. EtOH, Me_2CO, alkalis.

Savoskina, L.N. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 1465; 1981, **36**, 1483; 1982, **37**, 845 (*synth, detn, Ga, Zr*)

4,4′-Bis(3′,4′-dihydroxyphenylazo)-3,3′-dimethoxybiphenyl B-00303

4,4′-[(3,3′-Dimethoxy[1,1′-biphenyl]-4,4′-diyl)bis(azo)]bis-1,2-benzenediol, 9CI. 4,4′-Bis(catecholylazo)-3,3′-dimethoxybiphenyl

[80495-39-2]



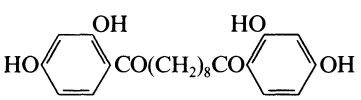
$C_{26}H_{22}N_4O_6$ M 486.483
Used as 0.5m*M* EtOH soln. for photometric detn. of Zr (λ_{max} 600 nm, ε 68000, pH ~0.15). Yellow cryst. Sol. EtOH, Et_2O.

Savos'kina, L.N. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1483 (*synth, detn, Zr*)

1,10-Bis(2,4-dihydroxyphenyl)-1,10-decanedione, 9CI, 8CI B-00304

1,8-Bis(2,4-dihydroxybenzoyl)octane

[3088-14-0]

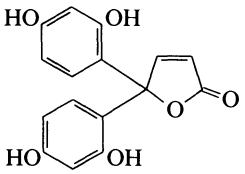


$C_{22}H_{26}O_6$ M 386.444
Turbidimetric acid-base indicator used as a 0.25-0.5% soln. in EtOH (pH range: 9.2-9.6). Cryst. Sol. Me_2CO, EtOH.

Korenmann, I.M. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1305 (*use, ind*)

5,5-[Bis(2,4-dihydroxyphenyl)]-2(5*H*)-furanone B-00305

Resorcinmalein



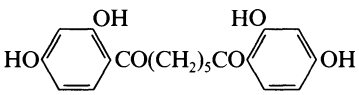
$C_{16}H_{12}O_6$ M 300.267
Used as acid-base indicator (pH range: 5.0-6.5; colour change: yellow → orange-red). Yellow cryst. ($EtOH/CCl_4$). Mp 275-278°.

Webster, V.S. *et al*, *CA*, 1954, **48**, 11837g (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

1,7-Bis(2,4-dihydroxyphenyl)-1,7-heptanedione, 9CI, 8CI B-00306

1,5-Bis(2,4-dihydroxybenzoyl)pentane

[7658-30-2]



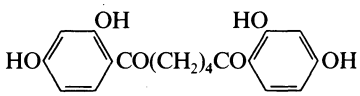
$C_{19}H_{20}O_6$ M 344.363
Turbidimetric acid-base indicator used as a 0.25-0.5% soln. in EtOH (pH range: 5.5-5.9). Needles (MeOH aq.). Sol. Me_2CO, EtOH. Mp 166°.

Rybakova, N.A. *et al*, *Zh. Obshch. Khim.*, 1961, **31**, 1272 (*synth*)
Korenman, I.M. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1305 (*use, ind*)

1,6-Bis(2,4-dihydroxyphenyl)-1,6-hexanedione, 9CI, 8CI B-00307

1,4-Bis(2,4-dihydroxybenzoyl)butane

[19343-47-6]



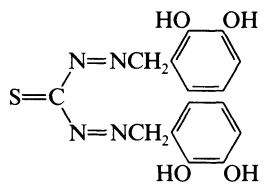
$C_{18}H_{18}O_6$ M 330.337
Turbidimetric acid-base indicator used as a 0.25-0.5% soln. in EtOH (pH range: 8.3-8.5). Cryst. Sol. Me_2CO, EtOH.

Korenmann, I.M. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1305 (*use, ind*)

Bis[(2,3-dihydroxyphenyl)methylene] carbonothioic dihydrazide, 9CI B-00308

1,5-Bis(2,3-dihydroxyphenylmethylene)thiocarboxyhydrazone

[114459-15-3]



$C_{15}H_{14}N_4O_4S$ M 346.366

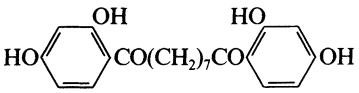
Used as 0.01*M* EtOH soln. for fluorimetric detn. of Zn (λ_{max} 508 nm, 60% EtOH medium, pH 6.5) and Ga (λ_{max} 493 nm). Yellow cryst. (EtOH aq.). Sol. EtOH, alkalis, acids. Mp 189-192°.

Afonso, A.M. *et al*, *Anal. Chim. Acta*, 1987, **202**, 207 (*synth, detn, Zn*)
Santana, J.J. *et al*, *Mikrochim. Acta*, 1990, **1**, 55 (*detn, Ga*)

1,9-Bis(2,4-dihydroxyphenyl)-1,9-nonanedione, 9CI, 8CI B-00309

1,7-Bis(2,4-dihydroxybenzoyl)heptane

[7640-25-7]



$C_{21}H_{24}O_6$ M 372.417

Turbidimetric acid-base indicator used as a 0.25-0.5% soln. in EtOH (pH range: 7.5-7.8). Cryst. Sol. Me_2CO, EtOH.

Korenmann, I.M. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1305 (*use, ind*)

Bis(diisopropyloxyphosphinothioyl) disulfide B-00310

Tetrakis(1-methylethyl) thioperoxydiphosphate, 9CI. Tetraiisopropyl thioperoxydiphosphate

[3031-21-8]

$$[(H_3C)_2CHO]_2P(S)—S—S—P(S)[OCH(CH_3)_2]_2$$

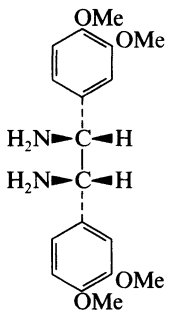
$C_{12}H_{28}O_4P_2S_4$ M 426.562

Antioxidant; heat stabilizer for synth. rubbers. Cu complex used in estimation of tocopherols. Used for extraction-photometric detn. of Cu, Pd. Cryst. (EtOH). Sol. Me_2CO, EtOH, C_6H_6. Mp 91-92°.

Zemlyanskii, N.I. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 811), 1961, **31**, 880 (*synth*)
Vasil'ev, A.F. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 2333), 1964, **34**, 2322 (*ir*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 136 (*detn, Pd*)
Yordanov, N.D. *et al*, *Inorg. Nucl. Chem. Lett.*, 1976, **12**, 527 (*props, use*)
Shishkov, A.N. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 454 (*detn, Cu*)

1,2-Bis(3,4-dimethoxyphenyl)-1,2-ethanediamine, 9CI B-00311

[93913-15-6]



$C_{18}H_{24}N_2O_4$ M 332.399

(RS,SR)-form [93913-19-0]

meso-*form*

Fluorogenic reagent for catecholamines. Cryst. (EtOAc). Mp 189°.

[93913-20-3]

Umegae, Y. *et al*, *Anal. Chim. Acta*, 1988, **208**, 59 (*synth, pmr, uv, ir, use*)

Bis(dimethoxyphosphinothioyl) disulfide B-00312

Tetramethyl thioperoxydiphosphate, 9CI

[5930-71-2]

$$(MeO)_2P(S)—S—S—P(S)(OMe)_2$$

$C_4H_{12}O_4P_2S_4$ M 314.348

Used for extraction-photometric detn. of Cu, Pd. Solid. Sol. Me_2CO, EtOH, C_6H_6. Mp 49-51°. Forms Pt complex.

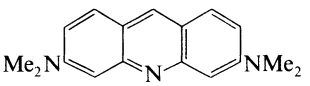
▷ Causes inflammation to eyes, corneal opacity, and swelling of eyelids (in rabbits).

Miller, B., *Tetrahedron*, 1964, **20**, 2069 (*synth*)
Vasil'ev, A.F. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 2333), 1964, **34**, 2322 (*ir*)
Lippman, A.E., *J. Org. Chem.*, 1966, **31**, 471 (*nmr*)
Wenzel, K.D. *et al*, *Z. Chem.*, 1971, **11**, 461 (*props, haz*)
Maekawa, K. *et al*, *CA*, 1974, **81**, 49205 (*props*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 136 (*detn, Pd*)
Shishkov, A.N. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 454 (*detn, Cu*)

3,6-Bis(dimethylamino)acridine, 8CI B-00313

N,N,N′,N′-*Tetramethyl-3,6-acridinediamine, 9CI. C.I. Solvent orange 15. Acridine orange. Euchrysine*

[494-38-2]



$C_{17}H_{19}N_3$ M 265.357

Histochemical stain. Yellow needles (EtOH). Sol. EtOH, Me_2CO. Mp 180-181°.

▷ Exp. mutagen and carcinogen. AR7600000.

B,HCl: [65-61-2]. *C.I. Basic orange 14. C.I. 46005*

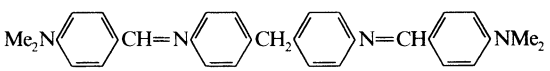
Used in extraction-photometric detn. of Re, Ta. Orange-yellow soln. with green fluorescence in H_2O and EtOH.

▷ AR7601000.

Biehringer, J., *J. Prakt. Chem.*, 1896, **54**, 243.
Miethke, E. *et al*, *Z. Phys. Chem.*, 1958, **18**, 375.
Tarayan, V.M. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 19 (*detn, Ta*)
Grigoryan, L.A. *et al*, *Zavod. Lab.*, 1974, **40**, 136 (*detn, Re*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BAQ250, BJF000.

Bis(4-dimethylaminobenzylidene)-4,4′-methylenedianiline B-00314

4,4′-Methylenebis[N-[[*4-(dimethylamino)phenyl*]*methylene*]*benzenamine*]



$C_{31}H_{32}N_4$ M 460.621

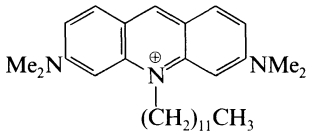
B, 4HCl: [54547-87-4].

Used as a 1% soln. in conc. H_2SO_4 for detn. of Cr(*VI*), V(*V*). Orange cryst. Sol. hot H_2O; sl. sol. Me_2CO, cold H_2O; insol. C_6H_6, Et_2O, CS_2. Mp 182-184°.

Johar, G. *et al*, *Mikrochim. Acta*, 1975, 61 (*synth, detn, Cr, V*)

3,6-Bis(dimethylamino)-10-dodecylacridinium(1+), 9CI B-00315

[61049-46-5]



$C_{29}H_{44}N_3^{\oplus}$ M 434.687 (ion)

Bromide: [41387-42-2]. *10-Dodecylacridine orange. AO-10-Dodecyl bromide. BDA*

$C_{29}H_{44}BrN_3$ M 514.591

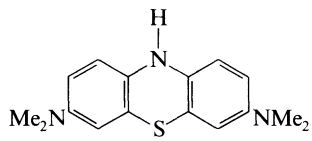
Used as a hydrophobic fluorescent probe. Cryst. ($EtOH/Et_2O$).

Kubota, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1973, **46**, 100 (*synth, use*)
Usui, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1982, **55**, 3302 (*use*)
Higuchi, Y. *et al*, *Chem. Lett.*, 1986, 1651 (*use*)

3,7-Bis(dimethylamino)phenothiazine, 8CI B-00316

N,N,N′,N′-Tetramethyl-10H-phenothiazine-3,7-diamine, 9CI. Leuco-methylene blue

[613-11-6]

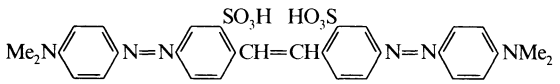


$C_{16}H_{19}N_3S$ M 285.412

Leuco base of Methylene blue, M-00175-7. Reagent for the photometric detn. of org. peroxides. Must be stored in an oxygen-free atmosphere in total darkness.

Matiu, A.I. *et al*, *Bull. Soc. Chim. Fr.*, 1937, **4**, 1230 (*synth*)
Ueberreiter, K. *et al*, *Angew. Chem.*, 1956, **68**, 352 (*use*)
Dulog, L., *Fresenius' Z. Anal. Chem.*, 1964, **202**, 192 (*use*)

4,4′-Bis(*p*-dimethylaminophenylazo) stilbene-2,2′-disulfonic acid B-00317



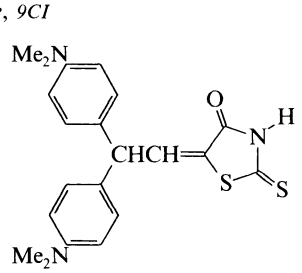
$C_{30}H_{30}N_6O_6S_2$ M 634.736

Used as a 0.1% soln. in dil. NaOH as an acid-base indicator (pH range 4 - 5; colour change: blue → purple). Red cryst. (EtOH). Sol. EtOH, alkali; spar. sol. H_2O.

Taras, M., *Anal. Chem.*, 1947, **19**, 339.

5-[2,2-Bis(4-dimethylaminophenyl) ethylene]rhodanine B-00318

5-[2,2-Bis(4-dimethylaminophenyl)ethylene]-2-thioxo-4-thiazolidinone, 9CI



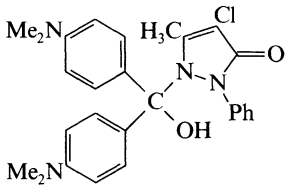
$C_{21}H_{23}N_3OS_2$ M 397.564

Used as a 0.2% soln. in EtOH for photometric detn. of Au, Ag, Cu, Hg, Pd, Pt. Orange-red cryst. Sol. H_2O.

Kulberg, L.M. *et al*, *Zh. Anal. Khim.*, 1954, **9**, 85 (*use*)

4-[Bis[*p*-(dimethylamino)phenyl] hydroxymethyl]-4-chloro-3-methyl-1-phenyl-2-pyrazolin-5-one, 8CI B-00319

[20315-42-8]



$C_{27}H_{29}ClN_4O_2$ M 477.004

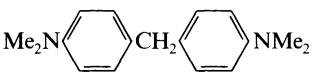
Used as 0.1% aq. soln. for extraction-photometric detn. of Re, Tl. Dark red cryst. powder. Sol. acids, EtOH, Me_2CO; mod. sol. H_2O.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 574 (*detn, Re*)
Lipchina, A.P., *CA*, 1971, **75**, 14635w (*detn, Tl*)

Bis(4-dimethylaminophenyl)methane B-00320

4,4′-Methylenebis[N,N-dimethylbenzenamine], 9CI. 4,4′-Methylenebis[N,N-dimethylaniline], 8CI. 4,4′-Tetramethyldiaminodiphenylmethane. Methane base. Michler's base. Tetra base. Arnold's base

[101-61-1]



$C_{17}H_{22}N_2$ M 254.374

Used as 2% soln. in Me_2CO to give colour reaction with $[Fe(CN)_6]^{3\ominus}$. Leaflets or plates (EtOH or ligroin). Sol. Me_2CO. Mp 91°. Bp 390°, Bp_3 182-185°.

▷ BY5250000.

Dipicrate: Mp 178°.

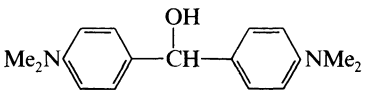
B,2MeI: Yellow leaflets. Mp 214° dec. Becomes green at 193°.

Smith, L.N. *et al*, *J. Chem. Soc.*, 1934, 1136 (*synth*)
Mangini, A. *et al*, *J. Chem. Soc.*, 1956, 4954 (*uv*)
Kreshkov, A.P. *et al*, *Zh. Anal. Khim.*, 1956, **11**, 212 (*use*)
Gasparič, J. *et al*, *Collect. Czech. Chem. Commun.*, 1959, **24**, 1943 (*chromatog*)
Tupitsyn, I.F. *et al*, *CA*, 1970, **75**, 34730b (*nmr*)
Barluenga, J. *et al*, *J. Chem. Soc., Chem. Commun.*, 1979, 339 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MJN000.

Bis(4-dimethylaminophenyl)methanol B-00321

4-(Dimethylamino)-α-[4-(dimethylamino)phenyl] benzenemethanol, 9CI. 4,4′-Bis(dimethylamino)benzhydrol, 8CI. 4,4′-Tetramethyldiaminobenzhydrol. Michler's hydrol

[119-58-4]



$C_{17}H_{22}N_2O$ M 270.374

Intermediate for basic dyes. Reagent for anal. of thiol group in biomaterials. Green leaflets (C_6H_6) or pale yellow cryst. (EtOH). Mp 102-103°.

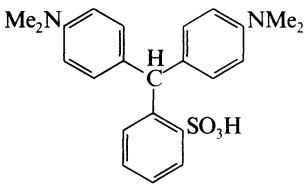
▷ DC7525000.

B,2MeI: Leaflets (EtOH). Mp 195°.
Me ether:
$C_{18}H_{24}N_2O$ M 284.400
Cryst. (ligroin). Mp 71-72°.

Cohen, W.D., *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1919, **38**, 113 (*synth*)
Deno, J.C. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 3044.
Gasparič, J. *et al*, *Collect. Czech. Chem. Commun.*, 1959, **24**, 1943 (*chromatog*)
Hallas, G. *et al*, *J. Chem. Soc. B*, 1970, 979 (*uv, vis*)
Rohrbach, M.S. *et al*, *Anal. Biochem.*, 1973, **52**, 127 (*use*)
Humphries, B.A. *et al*, *Biochem. Biophys. Res. Commun.*, 1973, **50**, 493 (*use*)
U.K. Pat., 1 398 075, (1975); *CA*, **83**, 113933 (*synth*)
Burt, R.J. *et al*, *J. Chromatogr.*, 1976, **118**, 240 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TDO750.

2-[Bis[4-(dimethylamino)phenyl]methyl] benzenesulfonic acid, 9CI B-00322

4′,4″-Bis(dimethylamino)triphenylmethane-2-sulfonic acid. Berbelin blue. Leuco-berbelin blue I
[52748-86-4]

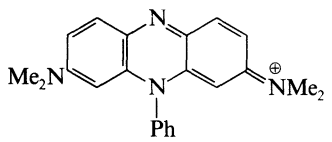


$C_{23}H_{26}N_2O_3S$ M 410.536
Used for photometric detn. of O_2. Sol. H_2O, EtOH, Me_2CO.

Altmann, H.J., *Fresenius' Z. Anal. Chem.*, 1972, **262**, 97.

3,7-Bis(dimethylamino)-5-phenylphenazinium(1+), 9CI B-00323

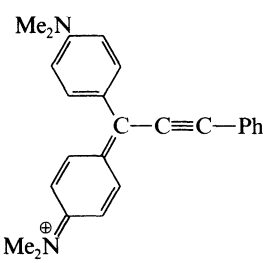
Tetramethylphenosafranine
[52009-72-0]



$C_{22}H_{23}N_4^{\oplus}$ M 343.450 (ion)
Iodide:
$C_{22}H_{23}IN_4$ M 470.355
Used as redox indicator. Cryst. (EtOH). E° + 0.288 V (30°).

Stiehler, R.D. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 891 (*synth, use*)

1,1-Bis[4-(dimethylamino)phenyl-3-phenyl-2-propynylium](1+), 9CI B-00324



$C_{25}H_{25}N_2^{\oplus}$ M 353.486 (ion)

Chloride: [85764-06-3].
$C_{25}H_{25}ClN_2$ M 388.939
Used as a 1m*M* aq. soln. for extraction-photometric detn. of $ClO_4^{\ominus}$ (λ_{max} 690 nm, ε 40000, PhCl). Deep green cryst. (toluene). Sol. toluene. Mp 85°.

Akiyama, S. *et al*, *Bull. Chem. Soc. Jpn.*, 1983, **56**, 947 (*synth, detn, $ClO_4^{\ominus}$*)

N,N′-Bis(3-dimethylaminopropyl) dithiooxamide B-00325

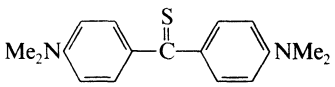
$Me_2N(CH_2)_3HNCSCSNH(CH_2)_3NMe_2$

$C_{12}H_{26}N_4S_2$ M 290.496
Used as a 3m*M* soln. in EtOH for photometric detn. of Pd, Pt, Rh, Ru. Cryst. (EtOH). Sol. EtOH, Me_2CO; spar. sol. H_2O.

Jacobs, W.D. *et al*, *Talanta*, 1959, **2**, 270 (*detn, Ru*)
Jacobs, W.D. *et al*, *Anal. Chem.*, 1960, **32**, 512, 514; 1961, **33**, 1279 (*detn, Pd, Rh, Pt*)

4,4′-Bis(dimethylamino)thiobenzophenone B-00326

Bis[4-(dimethylamino)phenylmethanethione], 9CI. Michler's thioketone. Thio-Michler's ketone
[1226-46-6]

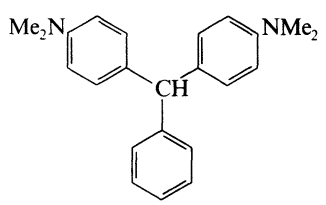


$C_{17}H_{20}N_2S$ M 284.424
Used as a 0.03% soln. in 2-methoxyethanol (+ 0.02% aq. HCl) for photometric detn. of $NO_2^{\ominus}$; as 1m*M* soln. in DMF or in EtOH for photometric detn. of Ag (λ_{max} 530 nm, ε 140000, DMF), Au (λ_{max} 525-560 nm, ε 50000), Hg, Pd, Pt. Dark red cryst. (EtOH). Sol. EtOH, C_6H_6; insol. H_2O. Mp 195-202° dec.

Gehauf, B. *et al*, *Anal. Chem.*, 1950, **22**, 498 (*synth, use*)
Dougherty, J.A. *et al*, *Anal. Chem.*, 1975, **47**, 1130.
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 425 (*use*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 375.

4,4′-Bis(dimethylamino)triphenylmethane B-00327

4,4′-(Phenylmethylene)bis[N,N-dimethylbenzenamine], 9CI. 4,4′-Benzylidenebis[N,N-dimethylaniline], 8CI. 4,4′-Tetramethyldiaminotriphenylmethane. Leuco-malachite green. 4,4′-Di(dimethylamino)tritane. C.I. Basic green 4 leuco base
[129-73-7]

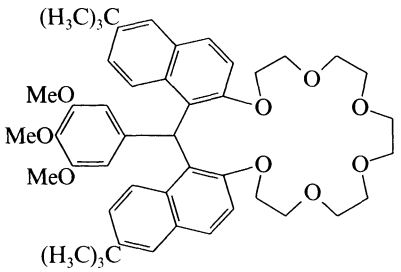


$C_{23}H_{26}N_2$ M 330.472
Cryst. in three forms: needles (C_6H_6); plates (EtOH); cryst. of lower indefinite Mp. Mp 102° (needles), Mp 93-94° (plates). Leuco-form of Malachite green, M-00006.

Fischer, E. *et al*, *Ber.*, 1879, **12**, 796 (*synth*)
Bredereck, H. *et al*, *Chem. Ber.*, 1939, **72**, 1414 (*synth*)
Vartanyan, A.T., *Zh. Fiz. Khim.*, 1955, **29**, 1304 (*uv-vis*)
Gasparič, J. *et al*, *Collect. Czech. Chem. Commun.*, 1959, **24**, 1943 (*chromatog*)
Ritchie, C.D. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 2349 (*spectra*)

3,26-Bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21-decahydro-29-(3,45-trimethoxyphenyl)-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16]hexaoxacycloheneicosin, 9CI B-00328

[97605-79-3]



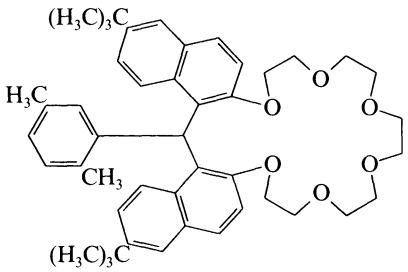
$C_{48}H_{60}O_9$ M 780.997

Used as THF soln. in PVC membrane ion-selective electrode (selective for $K^{\oplus}$ over $Na^{\oplus}$). Cryst.

Covington, A.K. *et al*, *Analyst* (*London*), 1988, **113**, 895 (*synth*, *use*)

3,26-Bis(1,1-dimethylethyl)-29-(2,5-dimethylphenyl)-8,9,11,12,14,15,17,18,20,21-decahydro-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16]-hexaoxacycloheneicosin, 9CI B-00329

[117951-04-9]



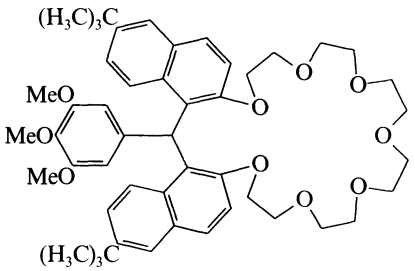
$C_{47}H_{58}O_6$ M 718.972

Used as THF soln. in PVC membrane ion-selective electrode (selective for $K^{\oplus}$ over $Na^{\oplus}$). Cryst.

Covington, A.K. *et al*, *Analyst* (*London*), 1988, **113**, 895 (*synth*, *use*)

3,29-Bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21,21,23,24-dodecahydro-32-(3,4,5-trimethoxyphenyl)-32*H*-dinaphtho[2,1-*t*:1′,2′-*w*][1,4,7,10,13,16,19]heptaoxacyclotetracosin, 9CI B-00330

[112700-77-3]



$C_{50}H_{64}O_{10}$ M 825.050

Used as THF soln. in PVC membrane ion-selective electrode (selective for $Rb^{\oplus}$ over $Na^{\oplus}$). Cryst. Mp 204°.

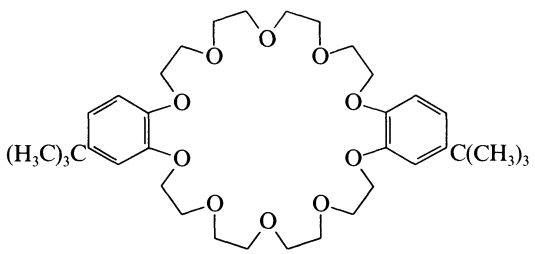
Lockhart, J.C. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1987, 639 (*synth*)

Covington, A.K. *et al*, *Analyst* (*London*), 1988, **113**, 895 (*use*)

2,19-Bis(1,1-dimethylethyl)-6,7,9,10,12,13,15,16,23,24,26,27,29,30,32,33-hexadecahydrodibenzo[*b*,*q*][1,4,7,10,13,16,19,22,25,28]decaoxacyclotriacontine, 9CI B-00331

Di-tert-*butyldibenzo-30-crown-10*

[54112-62-8]



$C_{36}H_{56}O_{10}$ M 648.832

Obt. as an undefined isomer or regioisomeric mixture with the 2,20 isomer. CAS registry no. applies to this prepn. of undefined composition. Used as 1% soln. in dipentyl phthalate in K-selective electrode (PVC membrane). Cryst. (hexane/Et_2O). Sol. hexane, Et_2O. Mp 71-73°.

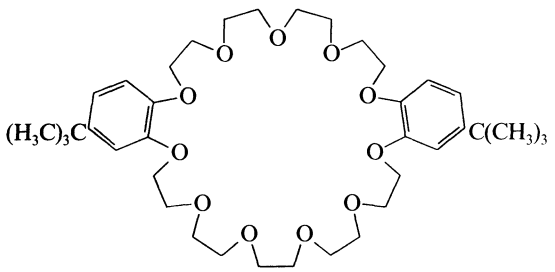
Ryba, O. *et al*, *J. Electroanal. Chem.*, 1973, **44**, 425 (*synth*)

Petranek, J. *et al*, *Anal. Chim. Acta*, 1974, **72**, 375 (*use*)

ar,ar'-Bis(1,1-dimethylethyl)-6,7,9,10,12,13,15,16,18,19,26,27,29,30,32,33,35,36-octadecahydrodibenzo[*b,q*][1,4,7,10,13,16,19,22,25,28,31]undecaoxacyclotritriacontin, 9CI B-00332

Di-tert-*butyldibenzo-33-crown-11*

[54112-61-7]



$C_{38}H_{60}O_{11}$ M 692.885

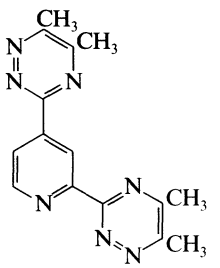
Used as 1% soln. in dipentyl phthalate in K-selective electrode (PVC membrane). Oil. Sol. hexane, Et_2O.

Ryba, O. *et al*, *J. Electroanal. Chem.*, 1973, **44**, 425 (*synth*)
Petranek, J. *et al*, *Anal. Chim. Acta*, 1974, **72**, 375 (*use*)

2,4-Bis(5,6-dimethyl-1,2,4-triazin-3-yl) pyridine B-00333

2,2'-(2,4-Pyridinediyl)bis[5,6-dimethyl-1,2,4-triazine], 9CI

[35171-25-6]



$C_{15}H_{15}N_7$ M 293.330

Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*) (λ_{max} 540 nm, ε 20600, EtOH aq.). Cryst. (EtOH). Sol. common org. solvs. Mp 193-194°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 1043 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

2,6-Bis(5,6-dimethyl-1,2,4-triazin-3-yl) pyridine B-00334

2,2'-(2,6-Pyridinediyl)bis[5,6-dimethyl-1,2,4-triazine], 9CI

[35171-27-8]

$C_{15}H_{15}N_7$ M 293.330

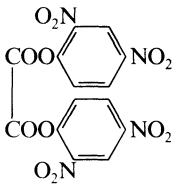
Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*) (λ_{max} 552 nm, ε 11100, EtOH aq.). Cryst. (EtOH). Sol. common org. solvs. Mp 245-246°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 1043 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

Bis(2,4-dinitrophenyl) oxalate B-00335

Bis(2,4-dinitrophenyl) ethanedioate, 9CI

[16536-30-4]



$C_{14}H_6N_4O_{12}$ M 422.221

Used for chemiluminescence detn. of H_2O_2 in hplc. Cryst. ($PhNO_2$ or EtOAc). Mp 192-194°.

Rauhut, M.M. *et al*, *J. Am. Chem. Soc.*, 1967, **89**, 6515 (*synth*)
Rauhut, M.M., *Acc. Chem. Res.*, 1969, **2**, 80 (*chemiluminescence*)
Honda, K. *et al*, *Anal. Chim. Acta*, 1985, **177**, 103, 117 (*use*)
De Jong, G.J. *et al*, *Analyst* (*London*), 1987, **59**, 1458 (*use*)

Bis[(diphenoxyphosphino)thioyl] disulfide B-00336

Tetraphenyl thioperoxydiphosphate, 9CI

[36383-22-9]

$(PhO)_2P(S)—S—S—P(S)(OPh)_2$

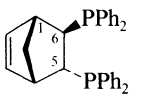
$C_{24}H_{20}O_4P_2S_4$ M 562.631

Used for extraction-photometric detn. of Cu, Pd. Needles (heptane). Sol. Me_2CO, EtOH, C_6H_6. Mp 74.5-75°.

Miller, B., *Tetrahedron*, 1964, **20**, 2069 (*synth*)
Trdlička, V. *et al*, *Collect. Czech. Chem. Commun.*, 1972, **37**, 896 (*synth*)
Khaskin, B.A. *et al*, *Zh. Obshch. Khim.*, 1973, **43**, 1916, 2083; (*Engl. transl.* pp. 93, 1901, 2065), 1974, **44**, 95 (*props*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 136 (*detn, Pd*)
Shishkov, A.N. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 454 (*detn, Cu*)

5,6-Bis(diphenylphosphino)bicyclo[2.2.1]hept-2-ene B-00337

Bicyclo[2.2.1]hept-5-ene-2,3-diylbis[diphenylphosphine], 10CI. *5,6-Bis(diphenylphosphino)norbornene. Norphos*



(1*S*,5*R*,6*R*)-*form*

$C_{31}H_{28}P_2$ M 462.510

(***1R,5R,6R*)-*form*** [71042-54-1]
(+)-endo,exo-*form*
Cryst. (Me_2CO). Mp 129-130°. $[\alpha]_D^{20}$ +45° (c, 1 in $CHCl_3$).

P,P'-*Dioxide:* [71075-23-5]. *5,6-Bis(diphenylphosphinyl)bicyclo[2.2.1]hept-2-ene*
$C_{31}H_{28}O_2P_2$ M 494.508
Solid. $[\alpha]_D^{20}$ +58° (c, 1 in $CHCl_3$).

(***1S,5S,6S*)-*form*** [71042-55-2]
(−)-endo,exo-*form*
Cryst. (Me_2CO). Mp 129-130°. $[\alpha]_D^{20}$ −43.5° (c, 1 in $CHCl_3$).

P,P'-*Dioxide:* [71075-24-6].
$[\alpha]_D^{20}$ −62° (c, 1 in $CHCl_3$).

5,6-Dihydro: 2,3-Bis(diphenylphosphino)bicyclo[2.2.1]heptane
$C_{31}H_{30}P_2$ M 464.525
Solid. Mp 95-97°. $[\alpha]_D^{25}$ −42.6° (c, 0.713 in $CHCl_3$).

(***1RS,5RS,6RS*)-*form*** [76740-45-9]
(±)-endo,exo-*form*
No phys. props. reported.

P,P'-*Dioxide:* [71075-22-4].

Used as a 0.025*M* soln. in $CHCl_3$ for extraction-separation of Am, Bk, Cf, Cm, Eu. Cryst. Sol. common org. solvs.

[51138-97-7, 51196-88-4, 56541-67-4]

Kamin, G.J. *et al*, *J. Chromatogr.*, 1967, **31**, 292 (*use*)
Nesterova, N.P. *et al*, *Izv. Akad. Nauk SSSR, Neorg. Mater.*, 1974, **10**, 2295 (*synth*)
Khmutova, M.K. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1110 (*use*)
Brunner, H. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1979, **18**, 620 (*synth, dioxide, resoln*)
Brunner, H. *et al*, *Chem. Ber.*, 1981, **114**, 1137 (*abs config, complex, use*)
Kyba, E.P. *et al*, *Inorg. Chem.*, 1981, **20**, 3616 (*synth, complexes*)
Brunner, H. *et al*, *Inorg. Chim. Acta*, 1982, **61**, 129 (*pmr, dioxide*)

1,2-Bis(diphenylphosphino)ethane B-00338

1,2-Ethanediylbis[diphenylphosphine], *9CI. Diphos*†

[1663-45-2]

$Ph_2PCH_2CH_2PPh_2$

$C_{26}H_{24}P_2$ M 398.423

The name Diphos is also used for the disodium salt of (1-Hydroxyethylidene)bisphosphonic acid, H-00178.

Ligand for metals of Groups IB, IIB, VIB, VIIB and VIII. Air-stable cryst. (C_6H_6). Mp 143-144°.

▷ Exhibits cytotoxic activity.

B,2MeI: 1,2-Ethanediylbis[methyldiphenylphosphonium] diiodide
$C_{28}H_{30}I_2P_2$ M 682.301
Cryst. (MeOH). Mp 305-307°.

Monooxide: Diphenyl[(2-diphenylphosphinyl)ethyl]phosphine
$C_{26}H_{24}OP_2$ M 414.422
Cryst. Mp 190.5-193°.

Dioxide: [4141-50-8]. *1,2-Bis(diphenylphosphinyl)ethane. 1,2-Ethanediylbis[diphenylphosphine oxide]*
$C_{26}H_{24}O_2P_2$ M 430.422
Used as a 0.025*M* soln. in $CHCl_3$ for extraction separation of Am, Bk, Cf, Cm, Eu. Needles (toluene or DMF), plates (C_6H_6). Mp 252-254°, Mp 276-278°.

Disulfide: 1,2-Bis(diphenylphosphinothioyl)ethane
$C_{26}H_{24}P_2S_2$ M 462.555
Cryst. (Me_2CO). Insol. Et_2O. Mp 196-198°, Mp 219-221°.

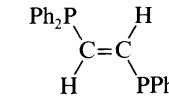
Diselenide: 1,2-Bis(diphenylphosphinoselenoyl)ethane
$C_{26}H_{24}P_2Se_2$ M 556.343
Solid. Mp 192°.

Issleib, K. *et al*, *Chem. Ber.*, 1959, **92**, 3175 (*synth, derivs*)
Aguiar, A.M. *et al*, *J. Org. Chem.*, 1964, **29**, 1660; *J. Am. Chem. Soc.*, 1964, **86**, 5354 (*synth, pmr, monooxide*)
Kosolapoff, G.M. *et al*, *J. Chem. Soc. C*, 1967, 1789 (*dioxide*)
Kamin, G.J. *et al*, *J. Chromatogr.*, 1967, **31**, 292 (*dioxide, use*)
Colton, R. *et al*, *Aust. J. Chem.*, 1968, **21**, 2215 (*ms*)
Maier, L., *Helv. Chim. Acta*, 1968, **51**, 405 (*dioxide, ir, nmr*)
Yakutina, C.A. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1722), 1972, **42**, 1733 (*uv, raman*)
Grim, S.O. *et al*, *Inorg. Chem.*, 1974, **13**, 1095 (*pmr, nmr, complexes*)
Nesterova, N.P. *et al*, *Izv. Akad. Nauk SSSR*, 1974, **10**, 2295 (*synth, dioxide*)
Swartz, W.E. *et al*, *Spectrochim. Acta, Part A*, 1974, **30**, 1561 (*pe*)
Dubois, D.L. *et al*, *J. Chem. Soc., Dalton Trans.*, 1975, 1011 (*synth, pmr*)
King, R.B. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1975, 938 (*cmr*)
Khmutova, M.K. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1110 (*dioxide, use*)
Sandhu, S.S. *et al*, *Transition Met. Chem.* (*London*), 1976, **1**, 155 (*disulfide, diselenide, complexes*)
Dean, P.A.W., *Can. J. Chem.*, 1979, **57**, 754 (*diselenide, nmr*)
Bemi, L. *et al*, *J. Am. Chem. Soc.*, 1982, **104**, 438 (*nmr*)
Gurusamy, N. *et al*, *J. Am. Chem. Soc.*, 1982, **104**, 3107 (*synth, derivs*)

1,2-Bis(diphenylphosphino)ethylene B-00339

1,2-Ethenediylbis[diphenylphosphine], *9CI. 1,2-Vinylenebis[diphenylphosphine]*

[17427-91-7]



(*E*)-*form*

$C_{26}H_{22}P_2$ M 396.407

Ligand forming complexes contg. metals of groups IB, VIB, VIIB, and VIII.

(E)-form [983-81-3]

Air-stable cryst. Mp 125-126°.

P,P′-*Dioxide:* [40612-18-8].
$C_{26}H_{22}O_2P_2$ M 428.406
Used as a 0.025*M* soln. in $CHCl_3$ for extraction-separation of Am, Bk, Cf, Cm, Eu. Mp 310-311°. pK_{a1} 1.7 (conj. acid); pK_{a2} 1.7.

P,P′-*Disulfide:* [986-07-2].
$C_{26}H_{22}P_2S_2$ M 460.539
Cryst. (EtOH aq.). Mp 196-197°.

(Z)-form

Air-stable cryst. Mp 125-126°.

P,P′-*Dioxide:* [40468-55-1].
Mp 244-245°. pK_{a1} 7.8 (conj. acid) ($MeNO_2$).

P,P′-*Disulfide:* [986-06-1].
Cryst. (EtOH aq.). Mp 196-197°.

[40812-18-8]

Aguiar, A.M. *et al*, *J. Am. Chem. Soc.*, 1964, **86**, 2299, 5354 (*synth, ir, pmr, dioxide, disulfides*)
Brophy, J.J. *et al*, *Aust. J. Chem.*, 1967, **20**, 503 (*methiodides*)
Kamin, G.J. *et al*, *J. Chromatogr.*, 1967, **31**, 292.
King, R.B. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 4158 (*synth, pmr, nmr*)
Nesterova, N.P. *et al*, *Izv. Akad. Nauk SSSR, Neorg. Mater.*, 1974, **10**, 2295 (*synth, dioxide*)
Cauquis, G. *et al*, *Org. Mass Spectrom.*, 1975, **10**, 1021 (*disulfides, ms*)
Khmutova, M.K. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1110.
Lindsay, C.H. *et al*, *Inorg. Chem.*, 1980, **19**, 3503 (*complexes*)
Duncan, M. *et al*, *Org. Magn. Reson.*, 1981, **15**, 37 (*pmr, cmr, nmr*)

Bis(diphenylphosphino)methane B-00340

Methylenebis[diphenylphosphine], *9CI*

[2071-20-7]

$Ph_2PCH_2PPh_2$

$C_{25}H_{22}P_2$ M 384.396

Ligand for metals of Groups IB, VIB and VIII. Used as a 0.025*M* soln. in $CHCl_3$ for extraction sepn. of Am, Bk, Cf, Cm, Eu. Air-stable cryst. (EtOH or C_6H_6/Me_2CO). Sol. common org. solvs. Mp 122°. Cleaved by PhN_3.

Dioxide: [2071-21-8]. *Bis(diphenylphosphinyl)methane*
$C_{25}H_{22}O_2P_2$ M 416.395
Ni complex used in hydrosilylation of alkenes. Solid. Mp 178-179°. pK_a 6.23 ($MeNO_2$).

Disulfide: [14633-92-2]. *Bis(diphenylphosphinothioyl)methane*
$C_{25}H_{22}P_2S_2$ M 448.528
Cryst. (EtOH). Mp 147-148°, Mp 178-180°. Forms Cd, Hg, Pt and Pd complexes.

Monoselenide: Diphenyl[(diphenylphosphinoselenoyl)methyl] phosphine
$C_{25}H_{22}P_2Se$ M 463.356
Cryst. (CH_2Cl_2/hexane). Mp 110-111°.

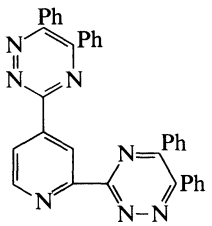
Diselenide: Bis(diphenylphosphinoselenoyl)methane
$C_{25}H_{22}P_2Se_2$ M 542.316
Cryst. (butanol). Mp 182-184°.

Issleib, K. *et al*, *Chem. Ber.*, 1959, **92**, 3175 (*synth*)
Richard, J.J. *et al*, *J. Am. Chem. Soc.*, 1961, **83**, 1722 (*dioxide*)
Maier, L., *Helv. Chim. Acta*, 1965, **48**, 1034 (*synth, ir, nmr*)
Kamin, G.J. *et al*, *J. Chromatogr.*, 1967, **31**, 292 (*dioxide, use*)
Colton, R. *et al*, *Aust. J. Chem.*, 1968, **21**, 2215 (*ms*)
Wheatland, D.A. *et al*, *Inorg. Chem.*, 1972, **11**, 2340 (*disulfide, complexes*)
Marsmann, H. *et al*, *Z. Naturforsch., B*, 1972, **27**, 137 (*pmr, cmr, nmr*)
Nesterova, N.P. *et al*, *Izv. Akad. Nauk SSSR*, 1974, **10**, 2295 (*dioxide, synth*)
Cauguis, G. *et al*, *Org. Mass Spectrom.*, 1975, **10**, 1021 (*disulfide, ms*)
Khmutova, M.K. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1110 (*dioxide, use*)
Sanger, A.R., *J. Chem. Soc., Dalton Trans.*, 1977, 1971 (*ir, complexes*)
Appel, R. *et al*, *Chem. Ber.*, 1979, **112**, 648 (*synth*)
Grim, S.O. *et al*, *Inorg. Chem.*, 1980, **19**, 1982 (*synth, derivs, pmr, cmr, nmr, complexes*)
Garusamy, N. *et al*, *J. Am. Chem. Soc.*, 1982, **104**, 3107 (*synth, use*)

2,4-Bis(5,6-diphenyl-1,2,4-triazin-3-yl) pyridine B-00341

2,2′-(2,4-Pyridinediyl)bis[5,6-diphenyl-1,2,4-triazine], 9CI

[35171-26-7]



$C_{35}H_{23}N_7$ M 541.614

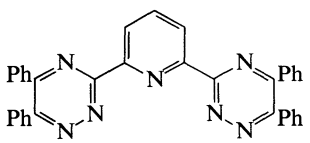
Used as a soln. in $CHCl_3$ for extraction-photometric detn. of Fe(*II*) (λ_{max} 563 nm, ε 32000), Cu(*I*) (λ_{max} 510 nm, ε 15000). Yellow cryst. (DMF). Sol. EtOH, DMF, $CHCl_3$; insol. H_2O. Mp 292-293°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 1043 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

2,6-Bis(5,6-diphenyl-1,2,4-triazin-3-yl) pyridine B-00342

2,2′-(2,6-Pyridinediyl)bis[5,6-diphenyl-1,2,4-triazine], 9CI

[35171-28-9]



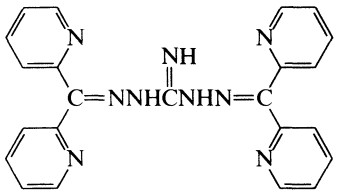
$C_{35}H_{23}N_7$ M 541.614

Used as a soln. in $CHCl_3$ for extraction-photometric detn. of Fe(*II*), Cu(*I*). Yellow cryst. (DMF). Sol. EtOH, DMF, $CHCl_3$; insol. H_2O. Mp 300-301°.

Case, F.H., *J. Med. Chem.*, 1971, **8**, 1043 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*use, synth*)

Bis(di-2-pyridinylmethylene)carbonimidic dihydrazide, 9CI B-00343

[82531-22-4]



$C_{23}H_{19}N_9$ M 421.463

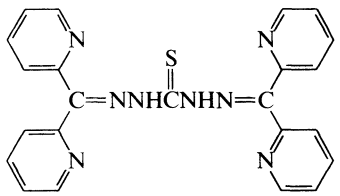
Used as 0.04m*M* soln. in 4% EtOH for photometric detn. of Pd (λ_{max} 486 nm, ε 14000, pH 1), Mn (λ_{max} 490 nm, ε 43000, pH 9.5), Cu, Zn, Cd, Co, In. Yellow cryst. (EtOH). Sol. H_2O, EtOH. Mp 235-236°.

Gomez Ariza, J.L. *et al*, *Microchem. J.*, 1982, **27**, 290 (*synth, use*)

Bis(di-2-pyridinylmethylene)carbonothioic dihydrazide, 9CI B-00344

1,5-Bis(di-2-pyridylmethylene)thiocarbonohydrazide

[85191-43-1]



$C_{23}H_{18}N_8S$ M 438.515

Used as 0.05% soln. in DMF for photometric detn. of Co (λ_{max} 480 nm, ε 52000) and Ni (λ_{max} 410 nm, ε 50000). Yellow cryst. (EtOH). Sol. DMF. Mp 172-174°. pK_{a1} 3.07; pK_{a2} 9.85.

Bonilla Abascal, J.R. *et al*, *Microchem. J.*, 1983, **28**, 132 (*synth*)
Cano Pavon, J.M. *et al*, *Analyst (London)*, 1985, **110**, 1137 (*synth, use*)
Bosch Ojeda, C. *et al*, *Microchem. J.*, 1987, **35**, 164 (*detn, Cu*)

1,3-Bis[di(2-pyridyl)methyleneamino]urea B-00345

Bis(di-2-pyridinylmethylene)carbonic dihydrazide, 9CI

[82531-21-3]

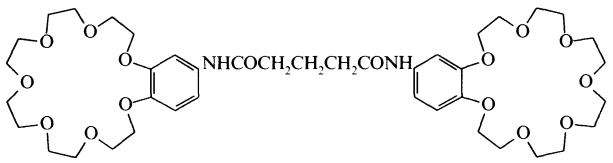
$C_{23}H_{18}N_8O$ M 422.448

Used as a 0.1% soln. in EtOH for photometric detn. of Cu (λ_{max} 400 nm, ε 15000), Zn (λ_{max} 475 nm, ε 43000), Mn, Fe, Co, Pd. Yellow cryst. (EtOH). Sol. EtOH, Me_2CO, C_6H_6; insol. H_2O. Mp 215-217°.

Gomez Ariza, J.L. *et al*, *Microchem. J.*, 1982, **27**, 290 (*synth, use*)
Gómez Ariza, J.L. *et al*, *Mikrochim. Acta*, 1984, **2**, 407.

N,N'-Bis(2,3,5,6,8,9,11,12,14,15,17,18-dodecahydro-1,4,7,10,13,16,19-benzoheptaoxacycloheneicosin-21-yl) pentanediamide, 9CI B-00346

[84743-35-1]



$C_{41}H_{62}N_2O_{16}$ M 838.945

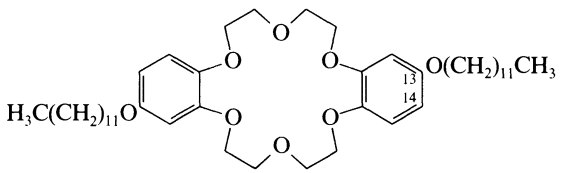
Used as 0.5m*M* $CHCl_3$ soln. for extraction-separation of Cs, Rb, K. Cryst. powder (Me_2CO). Sol. Me_2CO, $CHCl_3$. Mp 153.5-154.5°.

Kimura, K. *et al*, *Fresenius' Z. Anal. Chem.*, 1982, **313**, 132 (*synth, use*)

2,13-Bis(dodecyloxy)-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecine, 9CI B-00347

2,13-Didodecyloxydibenzo-18-crown-6

[102530-22-3]



$C_{44}H_{72}O_8$ M 729.048

Used for detn. of Cs (membrane ion-selective electrode). Cryst. (toluene). Sol. toluene, MeOH, Me_2CO. Mp 117.5-119.5°.

Rieckemann, B. *et al*, *Fresenius' Z. Anal. Chem.*, 1986, **323**, 241 (*synth, use*)

2,14-Bis(dodecyloxy)-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecine, 9CI B-00348

2,14-Didodecyloxydibenzo-18-crown-6

[102530-21-2]

$C_{44}H_{72}O_8$ M 729.048

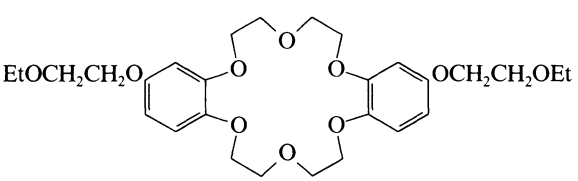
Used for extraction of Cs (membrane ion-selective electrode). Cryst. (Me_2CO aq.). Sol. MeOH, Me_2CO. Mp 96.5-98.5°.

Rieckemann, B. *et al*, *Fresenius' Z. Anal. Chem.*, 1986, **323**, 241 (*synth, use*)

2,14-Bis(2-ethoxyethoxy)-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecine, 9CI B-00349

2,14-Di(β-ethoxyethoxy)dibenzo-18-crown-6

[102929-91-9]

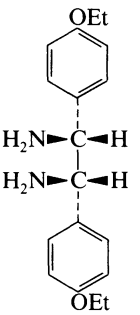


$C_{28}H_{40}O_{10}$ M 536.618

Used for detn. of Cs (membrane ion-selective electrode). Cryst. (EtOH aq.). Sol. EtOH, Me_2CO. Mp 101.5-105.5°.

Rieckemann, B. *et al*, *Fresenius' Z. Anal. Chem.*, 1986, **323**, 241 (*synth, detn, Cs*)

1,2-Bis(4-ethoxyphenyl)-1,2-ethanediamine, 9CI B-00350



$C_{18}H_{24}N_2O_2$ M 300.400

(***RS,SR*)-*form*** [117106-38-4]

meso-*form*

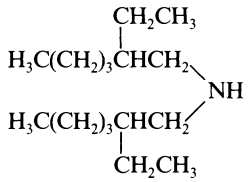
Fluorogenic reagent for catecholamines. Needles (C_6H_6). Mp 153-154°.

Umegae, Y. *et al*, *Anal. Chim. Acta*, 1988, **208**, 59 (*synth, pmr, uv, ir, use*)

Bis(2-ethylhexyl)amine B-00351

2-Ethyl-N-(*2-ethylhexyl*)-*1-hexanamine, 9CI*

[106-20-7]



$C_{16}H_{35}N$ M 241.459

Liq. Sol. EtOH, Et_2O; spar. sol. H_2O. Used as a soln. in $CHCl_3$ or 1,2-dichloroethane for photometric detn. of P.

▷ IH6825000.

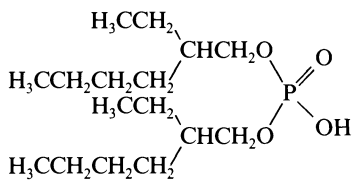
Ivanov, N., *Zh. Anal. Khim.*, 1977, **32**, 1688.

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DJA800.

Bis(2-ethylhexyl) phosphate B-00352

Di(2-ethylhexyl)phosphoric acid. HDEHP

[298-07-7]



$C_{16}H_{35}O_4P$ M 322.424

Liquid cation-exchanger. Used as C_6H_6 or hexane soln. in extraction-separation of Au, Hg, Th, Ti, U; as solvating agent. Viscous liq. Sol. C_6H_6, hexane, 4-methyl-2-pentanone; sl. sol. H_2O. d^{25} 0.975. $Bp_{0.015}$ 155°. pK_a 1.4.

Schmid, E.R. *et al*, *Mikrochim. Acta*, 1971, 434 (*detn, U*)

Onishi, H. *et al*, *Talanta*, 1972, **19**, 473 (*detn, Th*)

Yukhin, Y.M. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1091 (*detn, Hg*)
Sandell, E.B. *et al*, *Photometric Determination of Traces of Metals*, Wiley, New York, 1978 (*use*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 435 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BJR750.

O,O-Bis(2-ethylhexyl) phosphorodithioate, 9CI, 8CI B-00353

O,O-Bis(2-ethylhexyl) hydrogen phosphorodithioate. O,O-Bis(2-ethylhexyl) phosphorodithioic acid. O,O-Bis(2-ethylhexyl) dithiophosphate. Phosphorodithioic acid bis(2-ethylhexyl) ester, 9CI

[5810-88-8]

$[H_3C(CH_2)_3CH(CH_2CH_3)CH_2O]_2P(S)SH$

$C_{16}H_{35}O_2PS_2$ M 354.557

Zn salt is important lubricant oil additive. Used as 0.1*M* soln. in heptane in extraction sepn. of Sb, As, Bi, Rh, Sn; extraction of Mo, Pd, Zn; extraction sepn. of Ni from Co. Cryst. Sol. $CHCl_3$, C_6H_6, heptane. pK_a 1.25 (20°, H_2O).

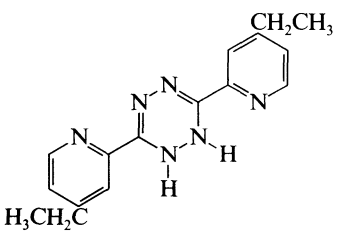
▷ TD5075000.

[41539-75-7]

Levin, I.S. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1341 (*detn, Sn*)
Vorsina, I.A. *et al*, *Zh. Prikl. Spektrosk.*, (*Engl. transl.* p. 926), 1974, **21**, 110 (*ir, raman*)
Yukhin, Y.M. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 99 (*detn, Bi*)
Borshch, N.A. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 1120 (*detn, Rh*)
Yukhin, Y.M. *et al*, *Zavod. Lab.*, 1979, **45**, 798 (*detn, As, Sb*)
Samoilov, Yu.M. *et al*, *Zh. Neorg. Khim.*, (*Engl. transl.* p. 1623), 1981, **26**, 3039 (*props, use*)
Rozen, A.M. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1086), 1982, **52**, 1235 (*props, use*)
Rumpf, T. *et al*, *Fresenius' Z. Anal. Chem.*, 1983, **315**, 350 (*props*)
Udalova, T.A. *et al*, *Zh. Neorg. Khim.*, (*Engl. transl.* p. 396), 1983, **28**, 702 (*props, use*)
Kletenik, Yu.P. *et al*, *Zh. Prikl. Khim.* (*Leningrad*), (*Engl. transl.* p. 1414), 1983, **56**, 1510 (*props, use*)
Udalova, T.A. *et al*, *Zh. Anal. Khim.*, (*Engl. transl.* p. 530), 1984, **39**, 659 (*props, use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DJK400.

3,6-Bis(4-ethyl-2-pyridyl)-1,2-dihydro-1,2,4,5-tetrazine B-00354

[18818-53-6]



$C_{16}H_{18}N_6$ M 294.358

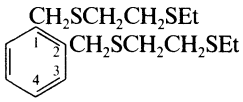
Used as a 5m*M* soln. in EtOH aq. to give colour reactions with Co, Cu(*I*), Fe(*II*). Cryst. (EtOH). Sol. common org. solvs. Mp 134-135°.

Case, F.H., *J. Heterocycl. Chem.*, 1968, **5**, 431 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

1,2-Bis[[[2-(ethylthio)ethyl]thio]methyl] benzene, 9CI B-00355

1,2-Bis(2,5-dithiaheptyl)benzene

[113305-25-2]



$C_{16}H_{26}S_4$ M 346.645

Used as 5m*M* soln. in 1,2-dichloroethane for extraction separation of Cu(*I*), Ag, Hg(*II*). Needles. Sol. $CHCl_3$, EtOAc, 1,2-dichloroethane. Mp 29.3°.

Chayama, K. *et al*, *Anal. Sci.*, 1987, **3**, 535 (*synth, use*)

1,3-Bis[[[2-(ethylthio)ethyl]thio]methyl] benzene, 9CI B-00356

1,3-Bis(2,5-dithiaheptyl)benzene

[113282-02-3]

$C_{16}H_{26}S_4$ M 346.645

Used as 5m*M* soln. in 1,2-dichloroethane for extraction separation of Cu(*I*), Ag, Pd(*II*), Hg(*II*). Oil. Sol. $CHCl_3$, EtOAc, 1,2-dichloroethane.

Chayama, K. *et al*, *Anal. Sci.*, 1987, **3**, 535 (*synth, use*)

1,4-Bis[[[2-(ethylthio)ethyl]thio]methyl] benzene, 9CI B-00357

1,4-Bis(2,5-dithiaheptyl)benzene

[113282-03-4]

$C_{16}H_{26}S_4$ M 346.645

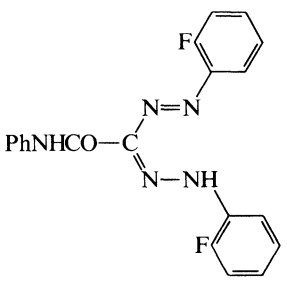
Used as 5m*M* soln. in 1,2-dichloroethane for extraction separation of Cu(*I*), Ag, Pd(*II*), Hg(*II*). Plates (EtOH). Sol. EtOH, 1,2-dichloroethane. Mp 46.5°.

Chayama, K. *et al*, *Anal. Sci.*, 1987, **3**, 535 (*synth, use*)

1,5-Bis(2-fluorophenyl)-*N*-phenyl-3-formazancarboxamide, 9CI B-00358

Formazan F50

[112756-84-0]



$C_{20}H_{15}F_2N_5O$ M 379.368

Used as 4m*M* soln. in toluene for extraction separation of Ag. Cryst. Sol. toluene, CH_2Cl_2, $CHCl_3$.

Grote, M. *et al*, *Anal. Chim. Acta*, 1988, **207**, 171 (*synth, detn, Ag*)

1,2-Bis(hexylthio)ethane B-00359

1,1'-[1,2-Ethanediylbis(thio)]bishexane

[60810-38-0]

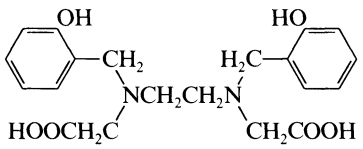
$H_3C(CH_2)_5SCH_2CH_2S(CH_2)_5CH_3$

$C_{14}H_{30}S_2$ M 262.523

Used for extraction-photometric detn. of Cu(*I*), Ag, Au(*I*) (1,2-dichloroethane or toluene). Sol. 1,2-dichloroethane, C_6H_6, $CHCl_3$; insol. H_2O.

Ohki, A. *et al*, *Anal. Chim. Acta*, 1984, **159**, 245 (*use*)

N,N'-Bis(2-hydroxybenzyl) ethylenediamine-*N,N'*-diacetic acid B-00360



$C_{20}H_{24}N_2O_6$ M 388.419

pK_{a1} 12.46; pK_{a2} 11.00; pK_{a3} 8.32; pK_{a4} 4.64 (0.1*M* KNO_3, 25°).

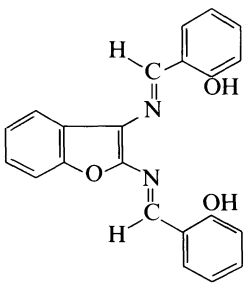
B,2HCl: Used as a 2m*M* aq. soln. as complexing agent for Fe(*III*). Cryst. (H_2O). Sol. H_2O. Mp 139°.

L'Eplattenier, F.L. *et al*, *J. Am. Chem. Soc.*, 1967, **89**, 837.

2,3-Bis(2-hydroxybenzylideneamino) benzofuran B-00361

2,2'-[2,3-Benzofurandiylbis(nitrilomethylidyne)]diphenol, 9CI. N,N'-*Bis(salicylidene)-2,3-benzofurandiamine. 2,3-Bis(salicylideneamino)benzofuran. Hydrocyansalide*

[15108-19-7]



$C_{22}H_{16}N_2O_3$ M 356.380

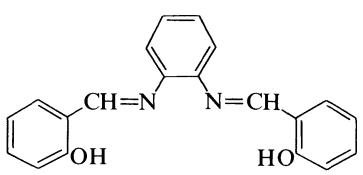
Used as a 0.3% soln. in dioxan for photometric detn. of Cu (ε 15000), Ni and extraction-photometric detn. of Mg. Cryst. (C_6H_6/pet. ether or dioxan aq.). Sol. C_6H_6, dioxan; insol. H_2O. Mp 182-183°. λ_{max} 286 (ε 24 500), 344 (23 600), 431 nm (26 900) (EtOH).

Dagnall, R.M. *et al*, *J. Chem. Soc. A*, 1966, 1595 (*synth*)
Dagnall, R.M. *et al*, *Analyst* (*London*), 1967, **92**, 20 (*synth, detn, Mg*)
Ishii, H. *et al*, *Analyst* (*London*), 1969, **94**, 1038 (*detn, Cu*)
Baldwin, J.E. *et al*, *J. Chem. Soc. C*, 1969, 735 (*detn, Mg*)
Ishii, H. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1970, **19**, 1351 (*detn, Ni*)

N,N'-Bis(2-hydroxybenzylidene)-1,2-benzenediamine B-00362

2,2'-[1,2-Phenylenebis(nitrilomethylidene)]bisphenol, 9CI. α,α'-(o-*Phenylenedinitrilo)di-o-cresol, 8CI.* N,N'-(o-*Phenylene)bis(salicylideneamine).* N,N'-*Disalicylidene-o-phenylenediamine. Salph-*H_2

[3946-91-6]



$C_{20}H_{16}N_2O_2$ M 316.359

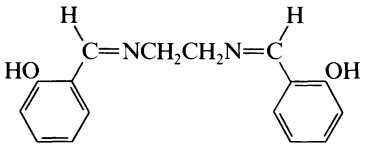
Used as a 0.01*M* soln. in toluene for photometric detn. of Ni (λ_{max} 490 nm, ε 8600). Orange cryst. (MeOH). Sol. EtOH, Me_2CO, C_6H_6 alkalis. Mp 162-164°.

McAllister, R.M. *et al*, *J. Organomet. Chem.*, 1974, **77**, 91 (*synth, pmr*)
Pahor, N.B. *et al*, *J. Chem. Soc., Dalton Trans.*, 1976, 2478 (*cryst struct*)
Aggett, J. *et al*, *Analyst* (*London*), 1980, **105**, 1118.

N,N'-Bis(2-hydroxybenzylidene)-1,2-ethanediamine B-00363

2,2'-[1,2-Ethanediylbis(nitrilomethylidene)]bisphenol, 9CI. α,α'-(*Ethylenedinitrilo)di-o-cresol, 8CI. Bis(salicylidene) ethylenediamine.* N,N'-*Ethylenebis(salicylimine). BSED*

[94-93-9]



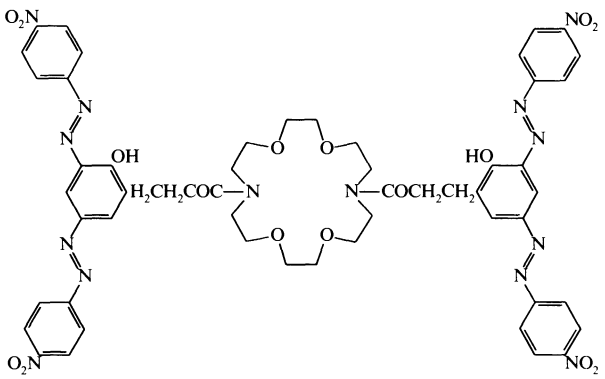
$C_{16}H_{16}N_2O_2$ M 268.315

Schiff base. Used for fluorimetric detn. of Mg, Be, Fe. Yellow cryst. Sol. C_6H_6, $CHCl_3$, Me_2CO, alkalis; mod. sol. EtOH; insol. Et_2O, CCl_4, NH_3 aq. Mp 127-128°.

White, C.E. *et al*, *Anal. Chem.*, 1959, **31**, 2083, 2087 (*use*)
Frost, A.E. *et al*, *J. Org. Chem.*, 1959, **24**, 1905 (*synth*)
Singh, B.R. *et al*, *Fresenius' Z. Anal. Chem.*, 1962, **185**, 211 (*synth*)
Singh, B.R. *et al*, *Indian J. Chem.*, 1972, **10**, 663 (*detn, Be*)
Dabrowska, D. *et al*, *Acta Pol. Pharm.*, 1975, **32**, 615 (*detn, Fe*)
Bresciani, P.N. *et al*, *Acta Crystallogr., Sect. B*, 1978, **34**, 1360 (*cryst struct*)
Brezina, F. *et al*, *Z. Chem.*, 1979, **19**, 72 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DWY200.

7,16-Bis[3-[2-hydroxy-3,5-bis[(4-nitrophenyl)azo]phenyl]-1-oxopropyl]-1,4,10,13-tetraoxa-7,16-diazacyclooctadecane, 9CI B-00364

[74567-60-5]



$C_{54}H_{54}N_{14}O_{16}$ M 1155.105

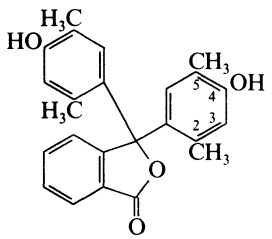
Used as 0.01m*M* $CHCl_3$ soln. for extraction-photometric detn. of Ba (λ_{max} 500nm, pH 10.9). Blackish brown powder. Sol. $CHCl_3$. Mp 144° dec.

Yamashita, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1550 (*synth, detn, Ba*)

3,3-Bis(4-hydroxy-2,5-dimethylphenyl)-1(3*H*)-isobenzofuranone, 9CI B-00365

p-*Xylenolphthalein*

[50984-88-8]



$C_{24}H_{22}O_4$ M 374.435

Used as a 0.1% soln. in EtOH as acid-base indicator (pH range 9.0-10.5; colour change: colourless → blue). Yellow cryst. powder. Sol. EtOH, Me_2CO. Mp 276°.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

3,3-Bis(4-hydroxy-3,5-dimethylphenyl)-1(3*H*)-isobenzofuranone, 9CI B-00366

3′,3″,5′,5″-Tetramethylphenolphthalein

$C_{24}H_{22}O_4$ M 374.435

Used as a 0.1% soln. in EtOH as an acid-base indicator (pH range: 8.5-9.9; colour change: colourless → violet). Cryst.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

[Bis(2-hydroxyethyl)amino]acetic acid B-00367

N,N-*Bis(2-hydroxyethyl)glycine, 9CI. Bicine*

[150-25-4]

$(HOCH_2CH_2)_2NCH_2COOH$

$C_6H_{13}NO_4$ M 163.173

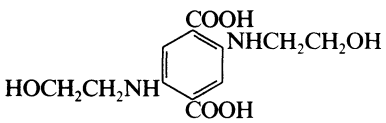
Good's buffer with pH range 7.7-9.1. Sequestering agent. Used as a masking agent for metals (Tl, Ti Zr, Hf, Bi). Used as 0.012*M* aq. soln. for photometric detn. of Bi (λ_{max} 245 nm, ε 4400, pH 7-8.5). Cryst. (EtOH aq.). Sl. sol. H_2O. Mp 193-194° dec. pK_a 8.35 (20°).

▷ MB9700000.

Good, N.E. *et al, Biochemistry*, 1966, **5**, 467 (*synth, use*)
Eagle, H., *Science (Washington, D.C.)*, 1971, **174**, 500 (*use*)
McGlothlin, C.D. *et al, Anal. Lett.*, 1976, **9**, 245 (*props*)
Cody, V. *et al, Acta Crystallogr., Sect. B*, 1977, **33**, 905 (*cryst struct*)
Hutchens, T.W. *et al, J. Chromatogr.*, 1986, **359**, 157 (*use*)
Botana Lopez, A. *et al, Microchem. J.*, 1988, **37**, 200 (*detn, Bi*)

2,5-Bis(2-hydroxyethylamino)-1,4-benzenedicarboxylic acid B-00368

2,5-Bis(2-hydroxyethylamino)terephthalic acid



$C_{12}H_{16}N_2O_6$ M 284.268

Used as metal indicator for titrimetric detn. of Hg, $CN^{\ominus}$ (colour change: pink → yellow, pH 5.5). Needles. Sol. alkalis; sl. sol. EtOH, Et_2O; insol. H_2O.

Uhling, E., *Fresenius' Z. Anal. Chem.*, 1964, **203**, 241.

2-[Bis(2-hydroxyethyl)amino]ethanesulfonic acid, 9CI B-00369

BES

[10191-18-1]

$(HOCH_2CH_2)_2NCH_2CH_2SO_3H$

$C_6H_{15}NO_5S$ M 213.254

Good's buffer with pH range 6.6-6.8. Hygroscopic cryst. (EtOH aq.). Sol. H_2O. Mp 153-155°. pK_a 7.15 (20°).

[66992-27-6]

Good, N.E. *et al, Biochemistry*, 1966, **5**, 467.
Eagle, H., *Science (Washington, D.C.)*, 1971, **174**, 500 (*use*)
Roy, R.N. *et al, Anal. Chem.*, 1975, **47**, 1407 (*use*)
Le Berre, A. *et al, Bull. Soc. Chim. Fr.*, 1975, 2531 (*synth*)
Amaralis Vega, C. *et al, Anal. Chem.*, 1976, **48**, 1293 (*use*)

2-[Bis(2-hydroxyethyl)amino]-2-(hydroxymethyl)-1,3-propanediol, 9CI B-00370

2,2-Bis(hydroxymethyl)-2,2′,2″-nitrilotriethanol. Bis(2-hydroxyethylamino)tris(hydroxymethyl)methane. Bis-Tris

[6976-37-0]

$(HOCH_2CH_2)_2NC(CH_2OH)_3$

$C_8H_{19}NO_5$ M 209.242

Good's buffer with pH range 5.7-7.3. Cryst. V. sol. H_2O. Mp 104°. pK_a 6.46 (20°).

Lewis, J.C., *Anal. Biochem.*, 1966, **14**, 495 (*synth, use*)
Paabo, M. *et al, J. Phys. Chem.*, 1970, **74**, 702 (*props*)
Eagle, H., *Science (Washington, D.C.)*, 1971, **174**, 500 (*use*)
Nealon, D.A. *et al, Clin. Chem. (Winston-Salem, N.C.)*, 1980, **26**, 1516 (*use*)
Hutchens, T.W. *et al, J. Chromatogr.*, 1986, **359**, 157 (*use*)

3-[Bis(2-hydroxyethyl)amino]-2-hydroxy-1-propanesulfonic acid, 9CI B-00371

DIPSO

[68399-80-4]

$(HOCH_2CH_2)_2NCH_2CH(OH)CH_2SO_3H$

$C_7H_{17}NO_6S$ M 243.280

Good's buffer with pH range 6.9-8.1. Lustrous plates. Sl. sol. H_2O. Mp 189-190°. pK_a 7.6 (20°).

Ferguson, W.J. *et al, Anal. Biochem.*, 1980, **104**, 300 (*synth, use*)

2-[Bis(2-hydroxyethyl)amino]-2-methyl-1-propanol, 9CI B-00372

Bis-AMP

[70787-41-6]

$(HOCH_2CH_2)_2NC(CH_3)_2CH_2OH$

$C_8H_{19}NO_3$ M 177.243

Biological buffer. $Bp_{0.001}$ 158-160°. pK_a 8.4.

Bonningue, C. *et al, Phosphorus Sulfur Relat. Elem.*, 1979, **5**, 291 (*synth*)
Labrude, P. *et al, J. Pharm. Pharmacol.*, 1980, **32**, 305 (*use*)

Bis(2-hydroxyethyl)carbamodithioic acid, 9CI B-00373

[1528-72-9]

$(HOCH_2CH_2)_2NCSSH$

$C_5H_{11}NO_2S_2$ M 181.279

K salt: [23746-34-1].

Used in photometric detn. of Cu(*II*). Cryst. (MeOH). Sol. H_2O, MeOH.

Zn salt (2:1): [19163-92-9].

$C_{10}H_{20}N_2O_4S_4Zn$ M 425.933

Used as a 0.5% aq. soln. for extraction-photometric detn. of Bi, Co, Cu, Ni, Te. Cryst. (EtOH). Sol. EtOH, $CHCl_3$; spar. sol. H_2O.

Yoshida, H. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1962, **11**, 197.
Tulyupa, F.M. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 783 (*synth, use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PKX500.

N,N'-Bis(2-hydroxyethyl) ethanedithioamide B-00374

N,N'-*Bis*(*2-hydroxyethyl*)*dithiooxamide*, *8CI*

[120-86-5]

$HOCH_2CH_2NHCSCSNHCH_2CH_2OH$

$C_6H_{12}N_2O_2S_2$ M 208.305

Used as 0.5% soln. in Me_2CO as metal indicator for titrimetric detn. of Cu, Ni. Cryst. Sol. EtOH, Me_2CO, C_6H_6; spar. sol. H_2O. pK_{a1} 10.7; pK_{a2} 13.9.

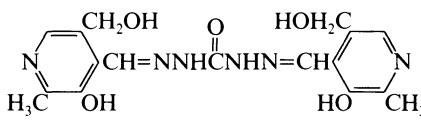
▷ RO7875000.

Wills, V. *et al*, *Anal. Chem.*, 1962, **34**, 224; 1963, **35**, 257.

Bis[[3-hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]carbonic dihydrazide, 9CI B-00375

1,3-Bis[[[*3-hydroxy-5-hydroxymethyl-2-methyl-4-pyridyl*] *methylene*]*amino*]*urea*

[109731-58-0]



$C_{17}H_{20}N_6O_5$ M 388.382

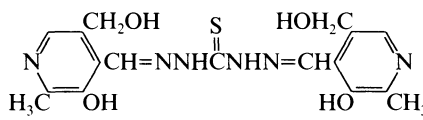
Used as 0.05% aq. soln. for photometric detn. of Ga (λ_{max} 425 nm, ε 33000, pH 4-5). Yellow cryst. (EtOH aq. + HCl). Sol. H_2O, EtOH. Mp 264-265°.

Barragan de la Rosa, F.J. *et al*, *Talanta*, 1988, **35**, 343 (*synth, detn, Ga*)

Bis[[3-hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene] carbothioic dihydrazide, 9CI B-00376

1,3-Bis[[(*3-hydroxy-5-hydroxymethyl-2-methyl-4-pyridyl*) *methylene*]*amino*]*thiourea*

[117932-59-9]

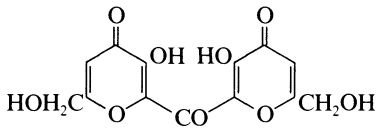


$C_{17}H_{20}N_6O_4S$ M 404.449

Used as 0.05% aq. soln. for photometric detn. of Au(*III*) (λ_{max} 415 nm, ε 51000, pH 2.1), Cu(*II*), Ga, Fe(*III*). Yellow cryst. (EtOH aq. + HCl). Sol. H_2O, EtOH. Mp 255-257°.

Barragan de la Rosa, F.J. *et al*, *Talanta*, 1987, **35**, 343 (*synth, use*)

Bis(3-hydroxy-6-hydroxymethyl-4-oxo-4*H*-pyran-2-yl)methanone B-00377



$C_{13}H_{10}O_9$ M 310.217

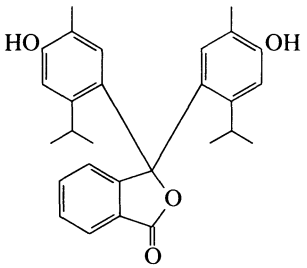
Used as a 2m*M* aq. soln. for photometric detn. of Fe(*III*). Cryst. (subl.). Sol. EtOH, Me_2CO, H_2O. Mp 160.5°.

Wilson, R.F., *Fresenius' Z. Anal. Chem.*, 1963, **194**, 190 (*detn, Fe*)

3,3-Bis(4-hydroxy-2-isopropyl-5-methylphenyl)-1(3*H*)-isobenzofuranone B-00378

3,3-Bis[*4-hydroxy-5-methyl-2-*(*1-methylethyl*)*phenyl*]-*1*(*3*H)-*isobenzofuranone*, *9CI. Carvacrolphthalein*

[6869-00-7]



$C_{28}H_{30}O_4$ M 430.543

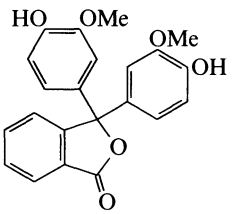
Acid-base indicator (pH range 9.5-10.0; colour change: colourless → blue). Cryst. (AcOH). Sol. EtOH, Me_2CO. Mp 294°, Mp 246°.

Hubacher, M.H. *et al*, *J. Am. Chem. Soc.*, 1942, **64**, 2538 (*use, inidcator*)

3,3-Bis(4-hydroxy-3-methoxyphenyl)-1(3*H*)-isobenzofuranone, 9CI B-00379

Guaiacolphthalein

[467-25-4]



$C_{22}H_{18}O_6$ M 378.381

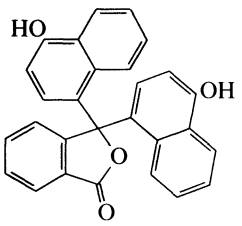
Used as a 1m*M* soln. in aq. EtOH as acid-base indicator (pH range: 8.4-10.2; colour change: → violet). Cryst. Sol. EtOH; spar. sol. H_2O. pK_{a1} 9.7. λ_{max} 602 nm.

Gronowska, J. *et al*, *Pol. J. Chem.* (*Rocz. Chem.*), 1960, **34**, 1799 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

3,3-Bis(4-hydroxy-1-naphthalenyl)-1(3*H*)-isobenzofuranone, 9CI B-00380

3,3-Bis(4-hydroxy-1-naphthyl)phthalide

[596-01-0]



$C_{28}H_{18}O_4$ M 418.448

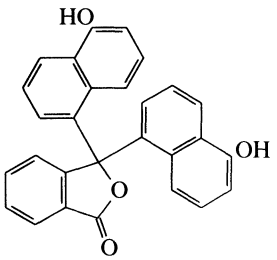
Used as collector in copptn. separation of Al. Reddish brown cryst. Sol. EtOH; spar. sol. H_2O.

Goshkov, V.V. *et al*, *CA*, 1974, **81**, 180677e (*detn, Al*)

3,3-Bis(5-hydroxy-1-naphthalenyl)-1(3*H*)-isobenzofuranone, 9CI B-00381

α-Naphtholphthalein

[1301-55-9]



$C_{28}H_{18}O_4$ M 418.448

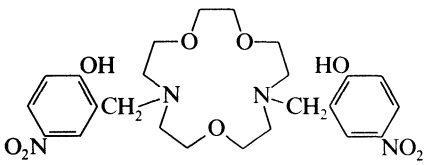
Acid-base indicator (pH range: 7.3 -8.7; colour change: orange-yellow → greenish-blue). Used as a 0.1% soln. in EtOH. Reddish brown cryst., colourless when pure. Sol. EtOH; spar. sol. H_2O. Mp 253-255°. pK_{a1} 5.26; pK_{a2} 8.00.

Werner, E.A., *J. Chem. Soc.*, 1918, **113**, 20 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 97.

N,N-Bis(2-hydroxy-5-nitrobenzyl)-1,10-diaza-4,7,13-trioxacyclopentadecane B-00382

2,2'-[1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diylbis(methylene)]bis[4-nitrophenol], *9CI. 21-Kosh*

[77857-34-2]



$C_{24}H_{32}N_4O_9$ M 520.538

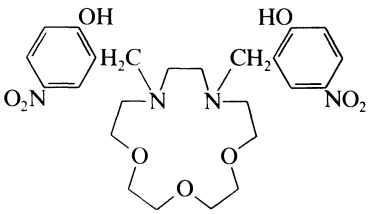
Used as 0.25m*M* soln. in 1,2-dichloroethane for extraction-photometric detn. of Ca. Pale yellow cryst. Sol. common org. solvs. Mp 146-147.5°.

Nishida, H. *et al*, *Mikrochim. Acta*, 1981, **1**, 281 (*synth, detn, Ca*)

N,N'-Bis(2-hydroxy-5-nitrobenzyl)-10,13-diaza-1,4,7-trioxacyclopentadecane B-00383

2,2'-[1,4,7-Trioxa-10,13-diazacyclopentadecane-10,13-diylbis(methylene)]bis[4-nitrophenol], *9CI*

[115621-30-2]



$C_{24}H_{32}N_4O_9$ M 520.538

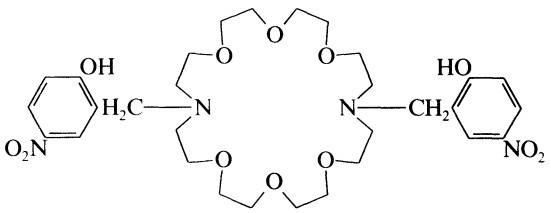
Used as 1,2-dichloroethane soln. for extraction of Mg, Ca, Sr, Ba; separation of Sr from Ca. Yellow cryst. Sol. $CHCl_3$, 1,2-dichloroethane. Mp 124.5-125.5°.

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1988, **204**, 113 (*synth, use*)

N,N'-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,13,16,19-hexaoxa-10,22-diazacyclotetracosane B-00384

2,2'-[1,4,7,13,16,19-Hexaoxa-10,22-diazacyclotetracosane-10,22-diylbis(methylene)]bis[4-nitrophenol], *9CI*

[115621-29-9]



$C_{30}H_{44}N_4O_{12}$ M 652.697

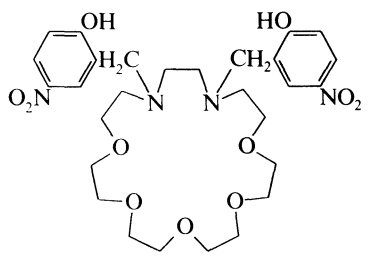
Used as 1,2-dichloroethane soln. for extraction of Ca, Sr, Ba; separation of Ba from Ca and Sr. Yellow viscous oil. Sol. $CHCl_3$, 1,2-dichloroethane.

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1988, **204**, 113 (*synth, use*)

N,N'-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,10,13-pentaoxa-15,18-diazacycloheneicosane B-00385

2,2'-[1,4,7,10,13-Pentaoxa-16,19-diazacycloheneicosane-16,19-diylbis(methylene)]bis[4-nitrophenol], *9CI*

[115621-32-4]



$C_{28}H_{40}N_4O_{11}$ M 608.644

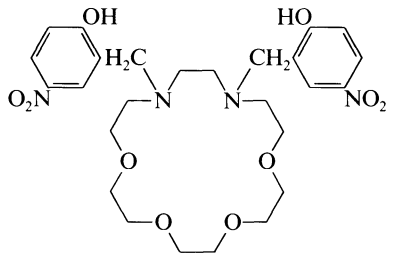
Used as 1,2-dichloroethane soln. for extraction of Ca, Sr, Ba; separation of Ba from Ca. Yellow cryst. Sol. $CHCl_3$, 1,2-dichloroethane.

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1988, **204**, 113 (*synth, use*)

N,N'-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,10-tetraoxa-13,16-diazacyclooctadecane B-00386

2,2'-[1,4,7,10-Tetraoxa-13,16-diazacyclooctadecane-13,16-diylbis(methylene)]bis[4-nitrophenol],9CI

[115621-31-3]



$C_{26}H_{36}N_4O_{10}$ M 564.591

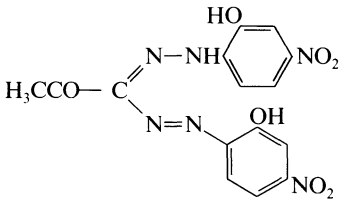
Used as 1,2-dichloroethane soln. for extraction of Ca, Sr, Ba; separation of Ca from Ba and Sr from Ba. Yellow cryst. Sol. $CHCl_3$, 1,2-dichloroethane.

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1988, **204**, 113 (*synth, use*)

1,5-Bis(2-hydroxy-4-nitrophenyl)-3-acetylformazan B-00387

[1,5-Bis(2-hydroxy-4-nitrophenyl)formazanyl]ethanone, 9CI

[1565-69-1]



$C_{15}H_{12}N_6O_7$ M 388.296

Used as 0.05% Me_2CO soln. for photometric detn. of Cu (λ_{max} 640 nm, ε 30500, 60% Me_2CO, pH 1-3). Orange cryst. (EtOH) or dark violet cryst. (Me_2CO). Sol. EtOH, Me_2CO, alkalis, dioxan, DMF. Mp 232°.

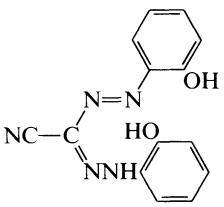
Bigma, V.V. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1290 (*synth, detn, Cu*)

Bigma, V.V. *et al*, *CA*, 1983, **98**, 10761m.

1,5-Bis(2-hydroxyphenyl)-3-cyanoformazan B-00388

1,5-Bis(o-hydroxyphenyl)-3-formazancarbonitrile, 8CI

[14044-81-6]



$C_{14}H_{11}N_5O_2$ M 281.273

Used as 2.5 m*M* soln. in EtOH for photometric detn. of Ga (λ_{max} 630 nm), Al, Hf, Zn. Dark violet cryst. (EtOH). Sol. EtOH, C_6H_6, Me_2CO, $CHCl_3$, Et_2O; spar. sol. H_2O. Mp 187-188°.

Vasil'eva, N.L. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 43 (*detn, Ga*)

Malevannyi, V.A. *et al*, *CA*, 1976, **85**, 13286c (*detn, Al*)

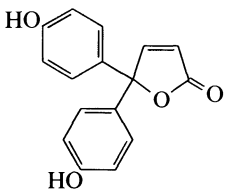
Vorontsova, L.N. *et al*, *CA*, 1976, **85**, 13287d (*detn, Zn*)

Mandzgaladze, O.V. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 1567 (*detn, Hf*)

5,5-Bis(4-hydroxyphenyl)-2(5*H*)-furanone, 9CI B-00389

Phenolmalein

[1224-25-5]



$C_{16}H_{12}O_4$ M 268.268

Used as acid-base indicator (pH range: 5.5-7.2; colour change: yellow → red). Yellow cryst. Mp 301°.

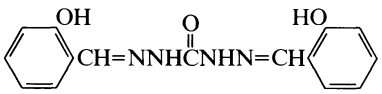
Webster, V.S. *et al*, *CA*, 1954, **48**, 11837g (*synth*)

Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

Bis[(2-hydroxyphenyl)methylene]carbonic dihydrazide, 9CI B-00390

1,5-Bis(salicylmethyleneamino)carbohydrazide

[6638-49-9]



$C_{15}H_{14}N_4O_3$ M 298.301

Used as 1m*M* EtOH soln. for fluorimetric detn. of Al (λ_{max} 440 nm, pH 2.6, 50% EtOH). Cryst. Sol. EtOH.

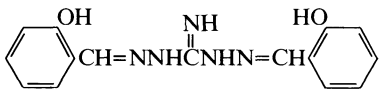
Montana Gonzalez, M.T. *et al*, *An. Quim., Ser. B*, 1984, **80**, 129 (*synth*)

Garcia de Torres, A. *et al*, *Analusis*, 1989, **17**, 592 (*detn, Al*)

Bis[(2-hydroxyphenyl)methylene]carbonimidic dihydrazide, 9CI B-00391

1,5-Bis(salicylmethyleneamino)diaminoguanidine

[91379-47-4]



$C_{15}H_{15}N_5O_2$ M 297.316

Used as 1m*M* EtOH soln. for fluorimetric detn. of Al (λ_{max} 434 nm, pH 3.7, 40% EtOH). Cryst. Sol. EtOH.

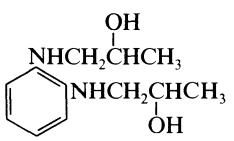
Montana Gonzalez, M.T. *et al*, *An. Quim., Ser. B*, 1984, **80**, 129 (*synth*)

Garcia de Torres, A. *et al*, *Analusis*, 1989, **17**, 592 (*detn, Al*)

N,N'-Bis(2-hydroxypropyl)-1,2-benzenediamine B-00392

1,1'-[(1,2-Phenylene)diimino]bis[2-propanol], 9CI. N,N'-*Bis(β-hydroxypropyl)*-o-*phenylenediamine*

[4408-48-4]



$C_{12}H_{20}N_2O_2$ M 224.302

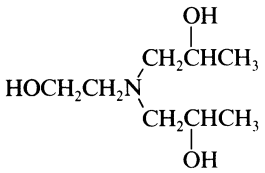
Used as 0.1% soln. in MeOH for photometric detn. of Ce, Fe. Cryst. (EtOH). Sol. H_2O, EtOH, Me_2CO.

Diehl, H. *et al*, *Anal. Chem.*, 1956, **28**, 882 (*synth, indicator*)
Ostrowski, S. *et al*, *Chem. Anal.* (*Warsaw*), 1965, **10**, 43 (*detn, Fe*)
Kasterka, B. *et al*, *Chem. Anal.* (*Warsaw*), 1966, **11**, 1135 (*detn, Ce*)
robinson, C. *et al*, *Analyst* (*London*), 1968, **93**, 722 (*detn, Ca*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982 (*pKa, rev*)

N,N-Bis(2-hydroxypropyl)ethanolamine B-00393

1,1′-[(2-Hydroxyethyl)imino]bis[2-propanol], *9CI*

[10353-86-3]



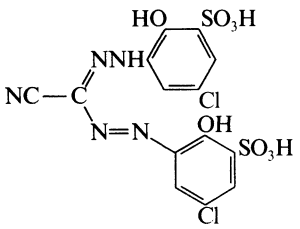
$C_8H_{19}NO_3$ M 177.243

Used for photometric detn. of V. Cryst. Sol. H_2O.

Hartkamp, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1964, **202**, 13 (*detn, V*)

1,5-Bis(2-hydroxy-3-sulfo-5-chlorophenyl)-3-cyanoformazan B-00394

3,3′-(3-Cyano-1,5-formazandiyl)bis[5-chloro-2-hydroxybenzenesulfonic acid], *9CI. Chlorocyanoformazan*



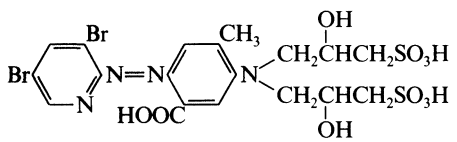
$C_{14}H_9Cl_2N_5O_8S_2$ M 510.291

Used as a 0.1% aq. soln. for photometric detn. of Al (λ_{max} 670 nm, ε 30300). Red needles (EtOH aq.). Sol. H_2O. Mp 250°.

Malevannyi, V.A. *et al*, *Zavod. Lab.*, 1969, **35**, 414 (*detn, Al*)

5-[Bis(2-hydroxy-3-sulfopropyl)amino]-2-[(3,5-dibromo-2-pyridinyl)azo]-4-methylbenzoic acid B-00395

[102362-77-6]



$C_{19}H_{22}Br_2N_4O_{10}S_2$ M 690.344

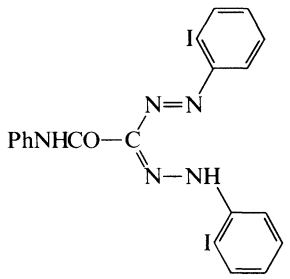
Tri-Na salt: Used as a 0.08m*M* aq. soln. for photometric detn. of Co, Cu, Ni, Zn. Dark red cryst. (H_2O). Sol. H_2O.

Horiguchi, D. *et al*, *Anal. Sci.*, 1985, **1**, 461 (*use*)

1,5-Bis(2-iodophenyl)-*N*-phenyl-3-formazancarboxamide, 9CI B-00396

Formazan F49

[112756-82-8]



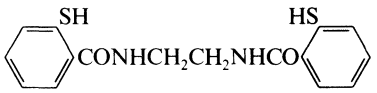
$C_{20}H_{15}I_2N_5O$ M 595.180

Used as 4m*M* soln. in CH_2Cl_2 for extraction separation of Ag. Cryst. Sol. CH_2Cl_2, $CHCl_3$, toluene.

Grote, M. *et al*, *Anal. Chim. Acta*, 1988, **207**, 171 (*synth, detn, Ag*)

N,N′-Bis(2-mercaptobenzoyl)-1,2-ethanediamine B-00397

1,2-Bis(2-mercaptobenzamido)ethane. N,N′-*Ethylenebis[2-mercaptobenzamide]*



$C_{16}H_{16}N_2O_2S_2$ M 332.447

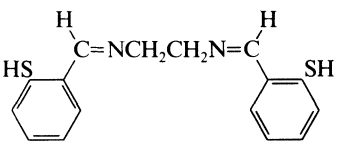
Used as 0.2% aq. soln. in 5% Na_2CO_3 soln. for photometric detn. of Co (λ_{max} 620 nm, ε 9200). Cryst. Sol. H_2O, Me_2CO, EtOH. Mp 186-189°.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1966, **18**, 327; **21**, 327 (*synth, detn, Co*)

1,2-Bis(2-mercaptobenzylideneamino) ethane B-00398

2,2′-[1,2-Ethanediylbis(nitrilomethylidene)]bisbenzenethiol, *9CI*. N,N′-*Bis(thiosalicylidene)ethylenediamine*

[35136-70-0]



$C_{16}H_{16}N_2S_2$ M 300.448

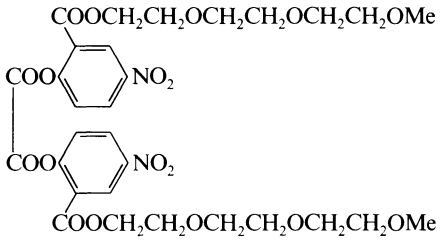
Used as a satd. soln. in $CHCl_3$ for extraction-photometric detn. of Co (λ_{max} 470 nm, ε 6000). Air-sensitive cryst. (EtOH). Sol. EtOH, $CHCl_3$, C_6H_6; insol. H_2O.

Seki, J. *et al*, *CA*, 1972, **76**, 20935f.
Saple, A.R. *et al*, *J. Indian Chem. Soc.*, 1974, **51**, 738.

Bis[2-[[2-[2-(2-methoxyethoxy)ethoxy] ethoxy]carbonyl]-4-nitrophenyl] ethanedioate, 9CI B-00399

Bis[4-nitro-2-(3,6,9-trioxadecyloxycarbonyl)phenyl] oxalate

[103638-91-1]



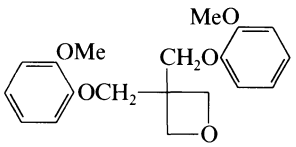
$C_{30}H_{36}N_2O_{18}$ M 712.617

Exhibits chemiluminescence in the presence of H_2O_2. Used for chemiluminescence detn. in hplc. Cryst. V. sol. Me_2CO, MeCN, EtOAc. Mp 65-67°.

Imai, K. *et al*, *Analyst (London)*, 1986, **111**, 209 (*synth, use*)
Imai, K. *et al*, *J. Chromatogr.*, 1987, **400**, 169 (*use*)

3,3-Bis[(2-methoxyphenoxy)methyl] oxetane, 9CI B-00400

[1238-91-1]



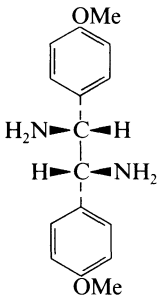
$C_{19}H_{22}O_5$ M 330.380

Used as MeOH soln. for fluorimetric detn. of Li (λ_{max} 307 nm). Cryst. (cyclohexane). Sol. MeOH, MeCN, cyclohexane.

Hiratani, K. *et al*, *Chem. Lett.*, 1986, 197 (*synth*)
Hiratani, K. *et al*, *Analyst (London)*, 1988, **113**, 1065 (*detn, Li*)

1,2-Bis(4-methoxyphenyl)-1,2-ethanediamine, 9CI B-00401

[51208-43-6]



(2*R**,3*R**)-*form*

$C_{16}H_{20}N_2O_2$ M 272.346

(1R-a,2R-a)-form [58520-03-9]
(+)-*form*
Mp 89-91°. $[\alpha]_{547}^{25}$ +138.57° (c, 1.0 in MeOH).

(1S-a,2S-a)-form [58520-04-0]
(−)-*form*
Mp 89-91°. $[\alpha]_{547}^{25}$ −137.32° (c, 1.0 in MeOH).

(1RS,2RS)-form [58519-98-5]
(±)-*form*
Needles (Et_2O). Mp 114°.

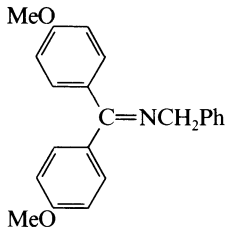
(1RS,2SR)-form [58520-45-9]
meso-*form*
Fluorogenic reagent for anal. of reducing sugars. Cryst. (MeCN). Mp 151-152°.

Voegtle, F. *et al*, *Chem. Ber.*, 1976, **109**, 1 (*synth*)
Von Angerer, E. *et al*, *J. Med. Chem.*, 1982, **25**, 832 (*synth*)
Umegae, Y. *et al*, *Anal. Chim. Acta*, 1989, **217**, 263 (*use*)

N-[Bis(4-methoxyphenyl)methylene] benzenemethanamine, 9CI B-00402

Schönberg's reagent

[524-96-9]



$C_{22}H_{21}NO_2$ M 331.413

Used as solid for photometric detn. of S. Yellowish cryst. Sol. Et_2O, $CHCl_3$, spar. sol. EtOH; insol. H_2O. Mp 93°.

Ory, H.A. *et al*, *Analyst (London)*, 1957, **82**, 189 (*use*)

N,N-Bis(3-methylbutyl)-1-octanamine, 9CI B-00403

Diisopentyloctylamine

[31447-99-1]

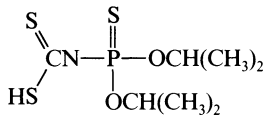
$H_3C(CH_2)_7N[CH_2CH_2CH(CH_3)_2]_2$

$C_{18}H_{39}N$ M 269.513

Used as a soln. in $CHCl_3$ or 1,2-dichloroethane for extraction of molybdophosphoric acid. Sol. C_6H_6, $CHCl_3$; insol. H_2O.

Ivanov, N., *Zh. Anal. Khim.*, 1977, **32**, 1688 (*use*)

[Bis(1-methylethoxy)phosphinothioyl] carbamodithioic acid, 9CI B-00404

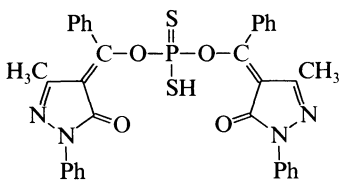


$C_7H_{16}NO_2PS_3$ M 273.381

S-*Et ester:* [84549-14-4]. S-*Ethyl*-N-*(diisopropylthiophosphoryl)dithiocarbamate*
$C_9H_{20}NO_2PS_3$ M 301.434
Used as 0.01*M* $CHCl_3$ soln. for extraction separation of Ni, Hg(*II*), Ag. Bright-yellow cryst. (C_6H_6/Et_2O). Sol. $CHCl_3$, C_6H_6, Et_2O. Mp 43-44°.

Toropova, V.F. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 1574 (*synth, use*)

O,O-Bis[(3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4(5*H*)-ylidene)phenylmethyl] phosphorodithioate, 9CI B-00405



$C_{34}H_{27}N_4O_4PS_2$ M 650.717

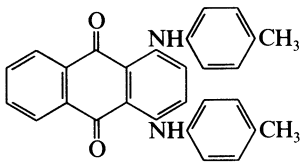
K salt: [64116-31-0].
Used as CCl_4 soln. for extraction-photometric detn. of Pd(*II*) (λ_{max} 295 nm, ε 33400, 0.3*M* HCl). Cryst. Sol. CCl_4, $CHCl_3$.

Busev, A.I. *et al*, *Anal. Chim. Acta*, 1977, **90**, 323 (*synth, detn, Pd*)

1,4-Bis[(4-methylphenylamino)]-9,10-anthracenedione, 9CI B-00406

1,4-Bis(4-methylanilino)anthraquinone. C.I. Solvent green 3. C.I. 61565

[128-80-3]



$C_{28}H_{22}N_2O_2$ M 418.494
Commercially available, used for photometric detn. of La, U(*VI*). Dark green cryst. powder. Sol. C_6H_6, acids; sl. sol. Me_2CO; insol. H_2O, EtOH.

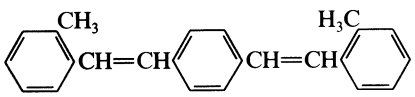
▷ CB5775000.

Idriss, K.A. *et al*, *Analyst (London)*, 1985, **110**, 709 (*detn, La*)
Idriss, K.A. *et al*, *Polyhedron*, 1985, **4**, 1521 (*detn, U*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BLK000.

1,4-Bis[2-(2-methylphenyl)ethenyl]benzene, 9CI B-00407

p-*Bis*(o-*methylstyryl*)*benzene*, *8CI. Bis-MSB*

[13280-61-0]



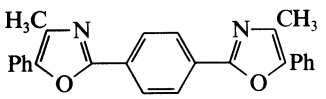
$C_{24}H_{22}$ M 310.438
Laser dye. Organic liquid scintillator. Lemon yellow plates with blue green fluorescence (cyclohexane). Mp 178°.

Heller, A., *J. Chem. Phys.*, 1964, **40**, 2839 (*synth, use*)
Furumoto, H.W. *et al*, *J. Appl. Phys.*, 1969, **40**, 4204 (*use*)
Bush, T.E. *et al*, *J. Phys. Chem.*, 1981, **85**, 144 (*props*)
Antonov, V.S. *et al*, *Appl. Phys. B*, 1983, **32**, 9 (*props*)

1,4-Bis(4-methyl-5-phenyl-2-oxazolyl) benzene B-00408

2,2'-(1,4-Phenylene)bis[4-methyl-5-phenyloxazole], *9CI. Dimethyl-POPOP*

[3073-87-8]



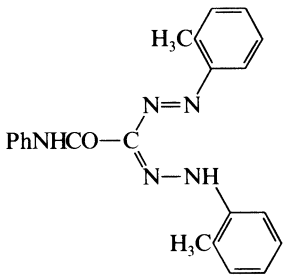
$C_{26}H_{20}N_2O_2$ M 392.456
Laser dye. Solute for scintillation counting. Mp 232-233°.

Walker, D. *et al*, *J. Heterocycl. Chem.*, 1964, **1**, 72 (*synth*)
Broida, H.P. *et al*, *Appl. Phys. Lett.*, 1970, **16**, 142 (*use*)
Maeda, M. *et al*, *Jpn. J. Appl. Phys.*, 1974, **13**, 827 (*use*)
Slomka, I. *et al*, *Opt. Appl.*, 1979, **9**, 25 (*use*)
Angiolini, F.E. *et al*, *Radiocarbon*, 1986, **28**, 597 (*use*)

1,5-Bis(2-methylphenyl)-*N*-phenyl-3-formazancarboxamide, 9CI B-00409

Formazan F55

[62526-05-0]

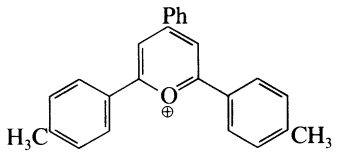


$C_{22}H_{21}N_5O$ M 371.441
Used as 0.004 % soln. in toluene for extraction separation of Ag. Cryst. Sol. toluene, CH_2Cl_2, $CHCl_3$.

Grote, M. *et al*, *Anal. Chim. Acta*, 1988, **207**, 171 (*synth, detn, Ag*)

2,6-Bis(4-methylphenyl)-4-phenylpyrylium(1+), 9CI B-00410

2,6-Di-p-*tolyl-4-phenylpyrylium(1+)*



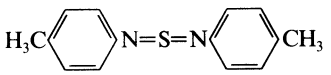
$C_{25}H_{21}O^{\oplus}$ M 337.440 (ion)
Chloride: [103445-61-0].
$C_{25}H_{21}ClO$ M 372.893
Used as 0.3m*M* soln. in 0.1*M* H_2SO_4 for extraction-fluorimetric detn. of $ClO_4^{\ominus}$ (λ_{max} 495 nm, PhCl). Orange cryst. (Me_2CO/Et_2O). Sol. acids, EtOH, Me_2CO, Et_2O. Mp *ca.* 190°.

Nakashima, K. *et al*, *Talanta*, 1986, **33**, 274 (*synth, detn, $ClO_4^{\ominus}$*)

Bis(4-methylphenyl)sulfur diimide, 9CI B-00411

Di-p-*tolylsulfur diimide*, *8CI. Di*-p-*tolyldiimidosulfur*

[3839-88-1]



$C_{14}H_{14}N_2S$ M 242.344
Reagent for the titrimetric detn. of organomagnesium and organolithium compds. Red prisms (hexane). Mp 48°. $Bp_{0.25}$ 125-128°.

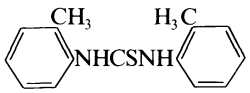
[57083-05-3, 57083-06-4]

Hoerhold, H.H. *et al*, *J. Prakt. Chem.*, 1969, **311**, 621 (*synth*)
Leondri, G. *et al*, *J. Chem. Soc., Chem. Commun.*, 1970, 413 (*cryst struct*)
Kuyper, J. *et al*, *J. Chem. Soc., Chem. Commun.*, 1976, 64 (*use*)
Kresze, G. *et al*, *Org. Magn. Reson.*, 1976, **8**, 170.
Mayer, R. *et al*, *Z. Chem.*, 1976, **16**, 437 (*synth*)
Lengyel, I. *et al*, *Acta Chim. Acad. Sci. Hung.*, 1978, **96**, 275 (*ms*)
Meij, R. *et al*, *J. Mol. Struct.*, 1979, **51**, 37 (*ir, raman*)
Sicinska, W. *et al*, *J. Mol. Struct.*, 1987, **158**, 57 (*pmr, N-15 nmr*)
Ding, Y.X. *et al*, *J. Org. Chem.*, 1987, **52**, 4625 (*synth*)

N,N'-Bis(2-methylphenyl)thiourea, 9CI B-00412

2,2'-Dimethylthiocarbanilide, 8CI. 1,3-Di-o-tolylthiourea

[137-97-3]



$C_{15}H_{16}N_2S$ M 256.371

Used for extraction-photometric detn. of Os, Ru, Pt, Rh (dichloroethane). Needles (EtOH). Sol. dichloroethane. Mp 165-166°. Steam-volatile.

▷ An allergen. FE0700000.

Dyson, G.M. *et al*, *J. Chem. Soc.*, 1924, **125**, 1704 (*synth*)
Otterbacher, T. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 1909 (*synth*)
Geilmann, W. *et al*, *Fresenius' Z. Anal. Chem.*, 1956, **152**, 96 (*detn, Os, Ru*)
Tripathyl, H., *J. Indian Chem. Soc.*, 1973, **50**, 135 (*use*)
Rakowskii, E.E. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 2263; 1975, **30**, 1775 (*detn, Rh, Pt*)
Rahman, F.R., *J. Inorg. Nucl. Chem.*, 1977, **39**, 2089 (*ir*)
Ger. Pat., 2 716 897, (1978); *CA*, **90**, 22652 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DXP600.

O,O-Bis(2-methylpropyl) phosphorodithioate, 9CI B-00413

O,O-*Diisobutyl phosphorodithioate, 8CI.* O,O-*Diisobutyl hydrogen dithiophosphate.* O,O-*Diisobutyl dithiophosphoric acid*

[2253-52-3]

$[(H_3C)_2CHCH_2O]_2P(S)SH$

$C_8H_{19}O_2PS_2$ M 242.343

Oil. Sol. EtOH, C_6H_6, CCl_4, Me_2CO. d_4^{20} 1.06, d^{20} 1.04. $Bp_{1.5}$ 77.5-78°, Bp 89°. pK_{a1} 1.79 (7% EtOH aq.), pK_{a1} 2.65 (80% EtOH aq.). n_D^{20} 1.4921.

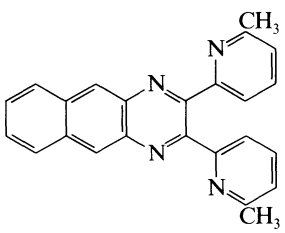
Na salt: [52797-94-1].
Used as a soln. in $CHCl_3$, C_6H_6 or CCl_4 for extraction of Cd, In, Ni, Pb, Tl, Zn. Cryst.

K salt: [3549-52-8].
Solid. Mp 189-190°.

Kabachnik, M.I. *et al*, *Tetrahedron*, 1960, **9**, 10 (*synth*)
Busev, A.I. *et al*, *Tr. Kom. Anal. Khim., Akad. Nauk SSSR*, 1960, **11**, 172 (*use*)
Almasi, L. *et al*, *CA*, 1965, **62**, 2729 (*synth*)
Bolotova, G.L. *et al*, *CA*, 1965, **63**, 6897 (*synth*)
Lefferts, J.L. *et al*, *Inorg. Chem.*, 1980, **19**, 1662 (*synth, complexes*)
Toropova, V.F. *et al*, *Talanta*, 1987, **34**, 211 (*use*)

2,3-Bis(6-methyl-2-pyridyl)benzo[*g*] quinoxaline, 8CI B-00414

[17401-59-1]



$C_{24}H_{18}N_4$ M 362.433

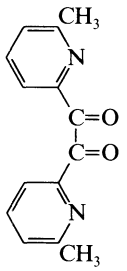
Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 562 nm, ε 5460, pentanol). Cryst. (EtOH). Sol. pet. ether, EtOH.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)

Bis(6-methyl-2-pyridyl)ethanedione, 9CI B-00415

Bis(6-methyl-2-pyridyl)glyoxal. 6,6'-Dimethyl-α-pyridil

[6630-11-1]



$C_{14}H_{12}N_2O_2$ M 240.261

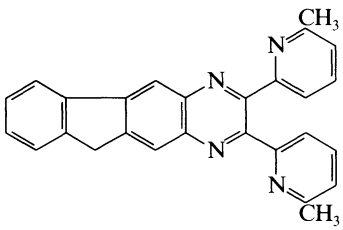
Yellow prisms turning green on exposure to light. Mp 173°.

Dihydrazone: [42188-48-7].
$C_{14}H_{16}N_6$ M 268.321
Used as a 0.1% soln. in EtOH for photometric detn. of Cu(*I*) (λ_{max} 440 nm, ε 8700), Pd(*II*). Cryst. (EtOH). Sol. EtOH, Me_2CO, C_6H_6; insol. H_2O. Mp 154-155°. pK_a 4.82.

Mathes, W. *et al*, *Chem. Ber.*, 1951, **84**, 452 (*synth*)
Ishiguro, T. *et al*, *Yakugaku Zasshi*, 1952, **72**, 861 (*synth*)
Valcarcel, M. *et al*, *Analyst (London)*, 1973, **98**, 246 (*synth, use, hydrazone*)

2,3-Bis(6-methyl-2-pyridyl)-10*H*-indeno[1,2-*g*]-quinoxaline, 8CI B-00416

[17401-77-3]



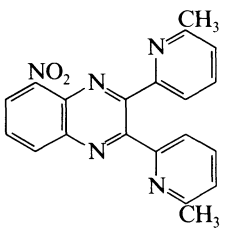
$C_{27}H_{20}N_4$ M 400.482

Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 528 nm, ε 5150, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 221°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)

2,3-Bis(6-methyl-2-pyridyl)-5-nitroquinoxaline, 8CI B-00417

[17401-67-1]



$C_{20}H_{15}N_5O_2$ M 357.371

Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 547 nm, ε 4770, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 159°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)

2,3-Bis(6-methyl-2-pyridyl)-6-nitroquinoxaline, 8CI B-00418

[17401-65-9]

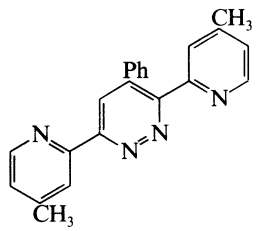
$C_{20}H_{15}N_5O_2$ M 357.371

Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 556 nm, ε 5150, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 195°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth*, *detn*, *Cu*)

3,6-Bis(4-methyl-2-pyridyl)-4-phenylpyridazine, 8CI B-00419

[18818-55-8]



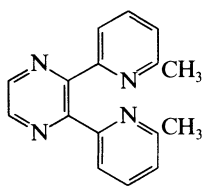
$C_{22}H_{18}N_4$ M 338.411

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 553 nm, ε 18500), gives colour reactions with Co, Cu(*I*). Cryst. (C_6H_6/pet. ether). Sol. common org. solvents. Mp 160-161°.

Case, F.H., *J. Heterocycl. Chem.*, 1968, **5**, 431 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

2,3-Bis(6-methyl-2-pyridyl)pyrazine, 8CI B-00420

[25006-00-2]



$C_{16}H_{14}N_4$ M 262.313

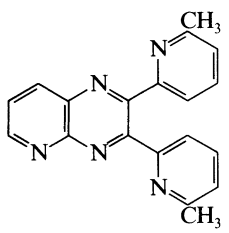
Gives colour reaction with Cu(*I*). Used as a 5m*M* soln. in aq. HCl. Pale yellow cryst. (hexane). Sol. EtOH, C_6H_6; sl. sol. dil. acids. Mp 132°.

Stephen, W., *Talanta*, 1969, **16**, 939 (*use*)

2,3-Bis(6-methyl-2-pyridyl)pyrido[2,3-*b*]pyrazine, 8CI B-00421

2,3-Bis(6-methyl-2-pyridyl)-8-azaquinoxaline

[17401-75-1]



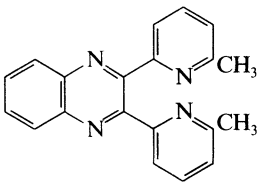
$C_{19}H_{15}N_5$ M 313.361

Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 568 nm, ε 5400, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 142°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth*, *detn*, *Cu*)

2,3-Bis(6-methyl-2-pyridyl)quinoxaline, 9CI B-00422

[17401-58-0]



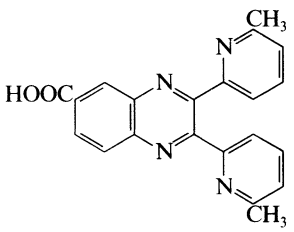
$C_{20}H_{16}N_4$ M 312.373

Used as 0.1% soln. in EtOH for photometric detn. of Cu (λ_{max} 525 nm, ε 6100, pentanol). Yellow cryst. (EtOH). Insol. H_2O; sol. EtOH, Me_2CO, C_6H_6. Mp 114°.

Stephen, W.J. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth*, *detn*, *Cu*)

2,3-Bis(6-methyl-2-pyridyl)-6-quinoxalinecarboxylic acid, 8CI B-00423

[17601-27-3]



$C_{21}H_{16}N_4O_2$ M 356.383

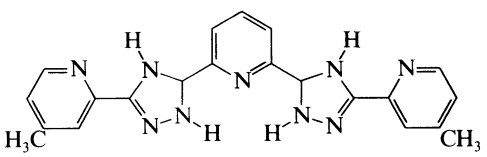
Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 538 nm, ε 5720, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 236°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth*, *detn*, *Cu*)

2,6-Bis[3-(4-methyl-2-pyridyl)-1,2,4-triazolin-5-yl]pyridine B-00424

2,6-Bis[4,5-dihydro-5-(4-methyl-2-pyridinyl)-1H-1,2,4-triazol-3-yl]pyridine, 9CI

[35171-34-7]



$C_{21}H_{21}N_9$ M 399.457

Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*) (λ_{max} 630 nm, ε 3000, EtOH aq.). Cryst. (EtOH). Sol. common org. solvents. Mp 185°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 1043 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*use*)

1,5-Bis(6-methyl-4-pyrimidyl)carbazone B-00425

(6-Methyl-4-pyrimidinyl)diazenecarboxylic acid (6-methyl-4-pyrimidinyl)hydrazide, 9CI

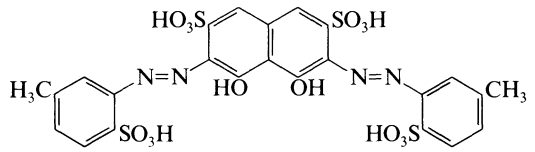
[102430-61-5]

$C_{11}H_{12}N_8O$ M 272.269

Reagent for spectrophotometric anal. of organohalogen compds.

Ichiba, H. *et al*, *Chem. Pharm. Bull.*, 1986, **35**, 739; 1988, **36**, 5009 (*use*)

3,6-Bis[(5-methyl-2-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 8CI B-00426



$C_{24}H_{20}N_4O_{14}S_4$ M 716.704

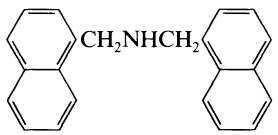
Used for photometric detn. of Ba, Sr, $SO_4^{2\ominus}$. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

Bis(1-naphthylmethyl)amine, 8CI B-00427

N-(1-Naphthalenylmethyl)-1-naphthalenemethanamine, 9CI. Di(1-naphthylmethyl)amine

[5798-49-2]



$C_{22}H_{19}N$ M 297.399

Used as a 2.5% soln. in H_2SO_4 for gravimetric detn. of Re and $NO_3^{\ominus}$. Pale-yellow cryst. (pet. ether). Mp 62°.

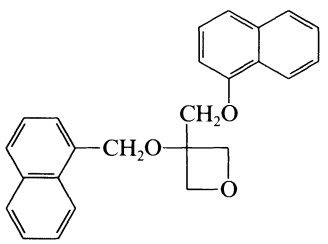
[17018-60-9, 17018-62-1]

Rupe, H. *et al*, *Helv. Chim. Acta*, 1923, **6**, 880 (*synth*)
Morton, M.H.B. *et al*, *Anal. Chim. Acta*, 1969, **44**, 147 (*detn, Re*)

3,3-Bis(1-naphthyloxymethyl)oxetane B-00428

3,3-Bis[(1-naphthalenyloxy)methyl]oxetane, 9CI

[106569-22-6]



$C_{25}H_{22}O_3$ M 370.447

Used as MeOH soln. for fluorimetric detn. of Li (λ_{max} 336 nm). Cryst. (cyclohexane). Sol. MeOH, MeCN, cyclohexane.

Hiratani, K. *et al*, *Chem. Lett.*, 1986, 197 (*synth*)
Hiratani, K. *et al*, *Analyst (London)*, 1988, **113**, 1065 (*detn, Li*)

Bis(nitrooxy)dioctylstannane, 9CI B-00429

Dioctyltin dinitrate

[58539-28-9]

$C_{16}H_{34}N_2O_6Sn$ M 469.164

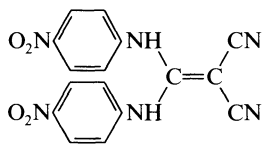
Used as 0.1*M* $CHCl_3$ soln. for extraction separation of $AsO_4^{3\ominus}$, $PO_4^{3\ominus}$ and other oxygen containing anions. Cryst. Sol. $CHCl_3$, octanol, 4-methyl-2-pentanone; mod. sol. 1,2-dichloroethane, $PhNO_2$.

Shkinev, V.M. *et al*, *Anal. Chim. Acta*, 1985, **167**, 145 (*synth, use*)

[[Bis(4-nitrophenyl)amino]methylene] propanedinitrile, 9CI B-00430

2-Cyano-3,3-bis(p-nitroanilino)acrylonitrile

[42052-27-7]



$C_{16}H_{10}N_6O_4$ M 350.293

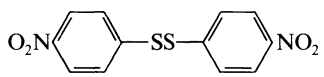
Acid-base indicator used as a 0.5% soln. in EtOH. pK_{a1} 7.72; pK_{a2} 13.21 (μ = 1.5, 25°).

Clark, G. *et al*, *Anal. Chem.*, 1973, **45**, 1751 (*use*)

Bis(4-nitrophenyl) disulfide, 9CI B-00431

4,4'-Dinitrodiphenyl disulfide

[100-32-3]



$C_{12}H_8N_2O_4S_2$ M 308.338

Anal. reagent for thiols. Needles (AcOH). Mp 182°.

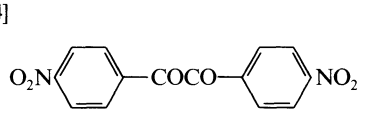
▷ JO1550000.

Kubota, S. *et al*, *Yakugaku Zasshi*, 1951, **81**, 502; *CA*, **55**, 19926 (*synth*)
Ellmann, G.L., *Arch. Biochem. Biophys.*, 1958, **74**, 443 (*use*)
Saville, B., *Proc. Chem. Soc., London*, 1959, 160 (*use*)
Chibisova, T.A. *et al*, *Zh. Org. Khim.*, 1971, **7**, 143 (*ir*)
Pappalardo, G.C., *Spectrochim. Acta, Part A*, 1973, **29**, 2055 (*pmr*)
Benati, L. *et al*, *J. Org. Chem.*, 1976, **41**, 2639.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BLA500.

Bis(4-nitrophenyl)ethanedione, 9CI B-00432

4,4'-Dinitrobenzil, 8CI

[6067-45-4]



$C_{14}H_8N_2O_6$ M 300.227

Yellow plates (AcOH or Me_2CO). Mp 213°.

Monoxime:
$C_{14}H_9N_3O_6$ M 315.242
Mp 193-194° dec.

Dioxime: [43084-63-5].

$C_{14}H_{10}N_4O_6$ M 330.256
Used as 1m*M* EtOH soln. for extraction-photometric detn. of Ni (λ_{max} 412 nm, ε 13600, $CHCl_3$), Cu. Cryst. Sol. EtOH. Mp 254-256°.
Monophenylhydrazone: Orange hair-like cryst. (AcOH). Mp 257°.

Chattaway, F.D. *et al, J. Chem. Soc.*, 1928, 1363 (*synth*)
Horner, L. *et al, Justus Liebigs Ann. Chem.*, 1970, **736**, 145 (*struct*)
Kuse, S. *et al, Anal. Chim. Acta*, 1974, **70**, 65 (*synth, detn, Ni, Cu*)
Le Goff, M.T. *et al, Bull. Soc. Chim. Fr.*, 1974, 2047 (*synth*)
Juarez, M. *et al, An. Quim.*, 1976, **72**, 607 (*ir*)
Kimura, M. *et al, Acta Crystallogr., Sect. B*, 1979, **35**, 483 (*struct*)
Cremlyn, R.J. *et al, J. Heterocycl. Chem.*, 1987, **24**, 117 (*synth*)

N,N-Bis(2,3,5,6,8,9,11,12-octahydro-1,13,4,7,10-benzodioxatrithiacyclopentadecin-15-yl) pentanediamide, 9CI B-00433

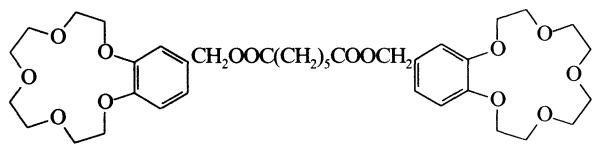
1,3-Bis[(2,3-benzo-1,4-dioxa-7,10,13-trithiacyclopentadecenyl)aminocarbonyl]propane
[81810-64-2]

$C_{33}H_{46}N_2O_6S_6$ M 759.132
Used as 0.05m*M* soln. in $CHCl_3$ for selective extraction separation of Ag from Cu, Hg, Pb and other metals. Cryst. Sol. $CHCl_3$.

Oue, M. *et al, J. Polym. Sci., Polym. Chem. Ed.*, 1985, **23**, 2033 (*synth*)
Oue, M. *et al, Anal. Chim. Acta*, 1987, **194**, 293 (*use*)

Bis[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl) methyl]heptanedioate, 9CI B-00434

Bis[(benzo-15-crown-5)-15-ylmethyl]pimelate
[69271-98-3]

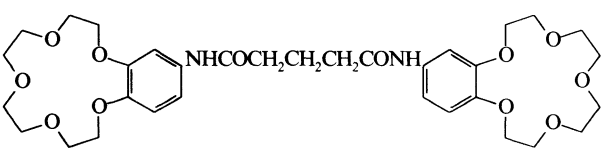


$C_{37}H_{52}O_{14}$ M 720.809
Used as a sensor for Na and K in ion-selective electrodes. Cryst. (THF/MeOH).

Kimura, K. *et al, J. Electroanal. Chem.*, 1979, **95**, 91 (*synth*)
Tamura, H. *et al, Mikrochim. Acta*, 1983, **2**, 287 (*use*)
Moody, G.J. *et al, Analyst (London)*, 1989, **114**, 15 (*use*)

N,N'-Bis(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl) pentanediamide, 9CI B-00435

[69271-95-0]

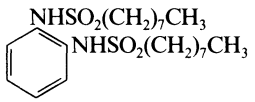


$C_{33}H_{46}N_2O_{12}$ M 662.733
Used as 0.1-0.5m*M* $CHCl_3$ soln. for extraction of Ag, Tl(*I*), alkali and alkaline earth metals (in the presence of picrate). Cryst. Sol. $CHCl_3$.

Kimura, K. *et al, Anal. Lett.*, 1978, **A11**, 821 (*synth*)
Maeda, T. *et al, Fresenius' Z. Anal. Chem.*, 1979, **298**, 363; 1982, **313**, 407 (*detn, Ag, Tl, alkaline earth metals*)
Kimura, K. *et al, Talanta*, 1979, **26**, 945 (*detn, alkali metals*)

1,2-Bis(octanesulfonamido)benzene B-00436

N,N'-*1,2-Phenylenebis-1-octanesulfonamide, 9CI*
[74341-46-1]

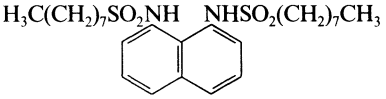


$C_{22}H_{40}N_2O_4S_2$ M 460.701
Used as 0.02*M* soln. in PhCl for extraction separation of Cu(*II*), Co, Zn, Cd, Pb, Hg(*II*). Cryst. (cyclohexane). Sol. PhCl, toluene, cyclohexane.

Ide, S. *et al, Anal. Chim. Acta*, 1983, **149**, 235 (*synth, use*)

1,8-Bis(octanesulfonamido)naphthalene B-00437

N,N'-*1,8-Naphthalenediylbis-1-octanesulfonamide, 9CI. 1,8-Naphthalenediamine bis(octylsulfonate)*
[86252-93-9]

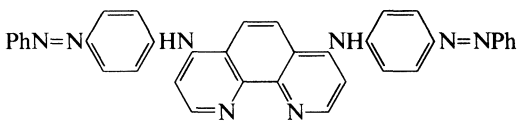


$C_{26}H_{42}N_2O_4S_2$ M 510.761
Used as 0.02*M* soln. in PhCl for extraction sepn. of Cu(*II*), Co, Zn, Cd, Pb, Hg(*II*). Cryst. (MeOH/cyclohexane). Sol. PhCl, cyclohexane, MeOH. Mp 77-78°.

Ide, S. *et al, Anal. Chim. Acta*, 1983, **149**, 235 (*synth, use*)

N,N'-Bis[4-(phenylazo)phenyl]-1,10-phenanthroline-4,7-diamine B-00438

Bis(p-*phenylazoanilino*)-*1,10-phenanthroline*
[58712-29-1]

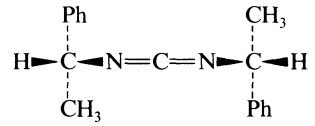


$C_{36}H_{26}N_8$ M 570.655
Used as a 0.2% soln. in 3-methyl-1-butanol for photometric detn. of Fe (λ_{max} 520 nm, ε 44000 pH 5.7-7). Orange cryst. (dioxan). Sol. EtOH, Me_2CO, C_6H_6, isopentanol, dioxan. Mp 338-340°.

Pustovar, P.Y. *et al, Zh. Anal. Khim.*, 1979, **34**, 511 (*synth, detn, Fe*)

N,N'-Bis(1-phenylethyl)carbodiimide B-00439

N,N'-*Methanetetraylbis*(α-*methylbenzenemethanamine*), *9CI*
[65370-31-2]



(*R,R*)-*form*

$C_{17}H_{18}N_2$ M 250.343

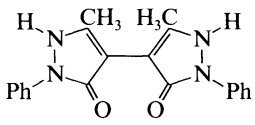
(R,R)-form [67277-79-6]
$Bp_{0.7}$ 105°. $[\alpha]_D^{20}$ −5.95° (c, 2 in C_6H_6).

(S,S)-form [57122-22-2]
Derivatisation reagent for the diastereomeric sepn. of α-amino acid derivs. $[\alpha]_D^{20}$ +5.76° (c, 4 in C_6H_6).

[67335-73-3]

Cervinka, O. *et al*, *Collect. Czech. Chem. Commun.*, 1978, **43**, 1087 (*synth*)
Hiatt, R.R. *et al*, *J. Org. Chem.*, 1979, **44**, 3265 (*synth*)
Kasimura, H. *et al*, *Anal. Chim. Acta*, 1990, **239**, 297 (*use*)

4,4′-Bis(1-phenyl-3-methyl-5-pyrazolone) B-00440



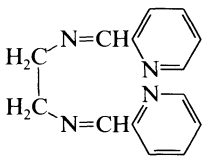
$C_{20}H_{18}N_4O_2$ M 346.388
Used as 0.01*M* soln. in aq. Me_2CO/conc. HCl as a redox reagent; extraction-photometric (λ_{max} 580 nm, $CHCl_3$) and potentiometric detn. of Ce(*IV*); extraction-photometric detn. of H_2O_2. Cryst. Sol. Me_2CO, acids.

Trofimov, N.V. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 1445 (*use*)

N,N′-Bis(pyridinylmethylene)-1,2-ethanediamine, 9CI B-00441

Bis(pyridyl-2-methylidene)ethylenediamine. Bis(pyridine) ethylenediimine

[98240-13-2]



$C_{14}H_{14}N_4$ M 238.291
Used as 0.2% aq. soln. for photometric detn. of Cu(*I*) (λ_{max} 470 nm, ε 5600, pH 9.5), Fe. Cryst. Sol. EtOH, acids, H_2O, Me_2CO, Et_2O. Mp 67-68°.

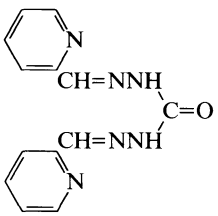
[2847-14-5]

Busch, D.H. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 1137 (*synth*)
Munoz Leyva, J.A. *et al*, *Microchem. J.*, 1985, **31**, 332 (*detn, Pd*)

Bis(2-pyridylmethylene)carbonic acid dihydrazide, 9CI B-00442

1,3-Bis(2-pyridylmethyleneamino)urea

[89314-59-0]



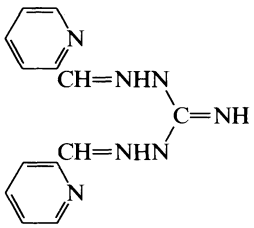
$C_{13}H_{12}N_6O$ M 268.277
Used as a 0.1% soln. in EtOH for photometric detn. of Ca. Yellow cryst. (EtOH). Sol. EtOH, Me_2CO, C_6H_6; spar. sol. H_2O.

Barragan de la Rosa, F.J. *et al*, *Mikrochim. Acta*, 1984, **1**, 171.

Bis(2-pyridylmethylene)carbonimidic acid dihydrazide, 9CI B-00443

1,3-Bis(2-pyridylmethyleneamino)guanidine

[87187-85-7]



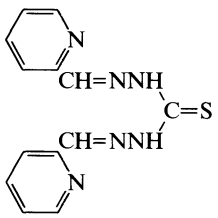
$C_{13}H_{13}N_7$ M 267.293
Used as a 0.1% soln. in EtOH for photometric detn. of Co (λ_{max} 450 nm, ε 37500), Cu, Ni, Zn, Cd, Pd, Fe. Yellow cryst. (EtOH). Sol. EtOH, Me_2CO, C_6H_6; spar. sol. H_2O. Mp 208-209°.

Barragan de la Rosa, F.J. *et al*, *Mikrochim. Acta*, 1983, **2**, 455 (*use*)
Barragan de la Rosa, F.J. *et al*, *Talanta*, 1983, **30**, 555 (*use*)

Bis(2-pyridylmethylene)carbonothioic acid dihydrazide, 9CI B-00444

1,3-Bis(2-pyridylmethyleneamino)thiourea

[87187-84-6]



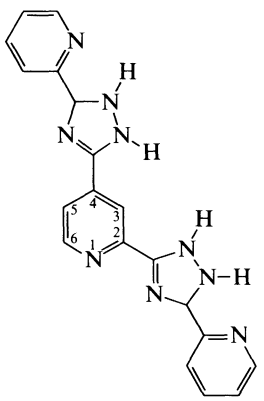
$C_{13}H_{12}N_6S$ M 284.344
Used as a 0.1% soln. in EtOH for photometric detn. of Co. Yellow cryst. (EtOH). Sol. EtOH, Me_2CO, C_6H_6; spar. sol. H_2O. Mp 200-201°.

Barragan de la Rosa, F.J. *et al*, *Mikrochim. Acta*, 1983, **2**, 455.

2,4-Bis[5-(2-pyridyl)-1,2,4-triazolin-3-yl] pyridine B-00445

2,4-Bis[4,5-dihydro-5-(2-pyridinyl)-1H-1,2,4-triazol-3-yl] pyridine, 9CI

[35171-31-4]



$C_{19}H_{17}N_9$ M 371.404

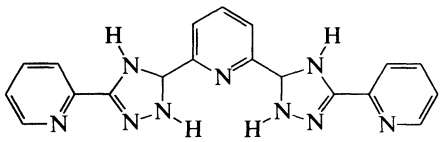
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 515 nm, ε 6400, EtOH aq.). Cryst. (2-methoxyethanol). Sol. common org. solvs. Mp 230-231°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 1043 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe(II)*)

2,6-Bis[3-(2-pyridyl)-1,2,4-triazolin-5-yl] pyridine B-00446

2,6-Bis[2,3-dihydro-5-(2-pyridinyl)-1H-1,2,4-triazol-3-yl] pyridine, 9CI

[35221-89-7]



$C_{19}H_{17}N_9$ M 371.404

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 625 nm, EtOH aq.). Cryst. (EtOH). Sol. common org. solvs. Mp 210°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 1043 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

2,6-Bis[5-(2-pyridyl)-1,2,4-triazolin-3-yl] pyridine B-00447

2,6-Bis[4,5-dihydro-5-(2-pyridinyl)-1H-1,2,4-triazol-3-yl] pyridine, 9CI

[35171-33-6]

$C_{19}H_{17}N_9$ M 371.404

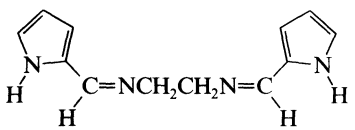
Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*) (λ_{max} 580 nm, ε 5000, EtOH aq.). Cryst. (EtOH). Sol. common org. solvs. Mp 250-251°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 1043 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*use, detn, Fe(II)*)

N,N'-Bis(1*H*-pyrrol-2-ylmethylene)-1,2-ethanediamine, 9CI B-00448

N,N'-*Di(2-pyrrolylmethylidene)-1,2-ethylenediamine*

[4694-36-4]



$C_{12}H_{14}N_4$ M 214.269

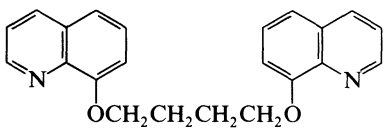
Used as a 2.5m*M* soln. in $CHCl_3$ for extraction-photometric detn. of Ni. Cryst. (EtOH). Sol. common org. solvs.; insol. H_2O. Mp 179°.

Wawschineck, O. *et al*, *Mikrochim. Acta*, 1964, 690 (*detn, Ni*)

1,4-Bis(8-quinolyloxy)butane B-00449

8,8'-[1,4-Butanediylbis(oxy)]bisquinoline, 9CI

[71468-56-9]



$C_{22}H_{20}N_2O_2$ M 344.412

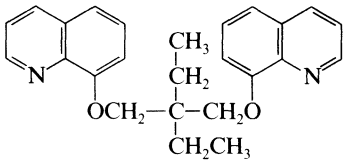
Used as MeOH soln. for fluorimetric detn. of Li (λ_{max} 396 nm). Cryst. (cyclohexane). Sol. MeOH, MeCN, cyclohexane.

Hiratani, K. *et al*, *Chem. Lett.*, 1986, 197 (*synth*)
Hiratani, K. *et al*, *Analyst (London)*, 1988, **113**, 1065 (*detn, Li*)

1,3-Bis(8-quinolyloxy)-2,2-diethylpropane B-00450

8,8'-[(2,2-Diethyl-1,3-propanediyl)bis(oxy)]bisquinoline, 9CI
3,3-Bis(8-quinolyloxymethyl)pentane

[106569-27-1]

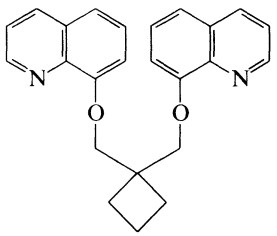


$C_{25}H_{26}N_2O_2$ M 386.493

Used as MeOH soln. for fluorimetric detn. of Li (λ_{max} 387 nm). Cryst. (cyclohexane). Sol. MeOH, MeCN, cyclohexane.

Hiratani, K. *et al*, *Chem. Lett.*, 1986, 197 (*synth*)
Hiratani, K. *et al*, *Analyst (London)*, 1988, **113**, 1065 (*detn, Li*)

1,1-Bis(8-quinolyloxymethyl)cyclobutane B-00451



$C_{24}H_{22}N_2O_2$ M 370.450

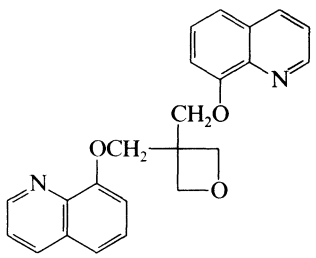
Used as MeOH soln. for fluorimetric detn. of Li (λ_{max} 389 nm). Cryst. (cyclohexane). Sol. MeOH, MeCN, cyclohexane.

Hiratani, K. *et al*, *Chem. Lett.*, 1986, 197 (*synth*)
Hiratani, K. *et al*, *Analyst (London)*, 1988, **113**, 1065 (*detn, Li*)

3,3-Bis(8-quinolyloxymethyl)oxetane B-00452

8,8'-[3-Oxetanylidene(methyleneoxy)]bisquinoline, 9CI

[101021-61-8]



$C_{23}H_{20}N_2O_3$ M 372.423

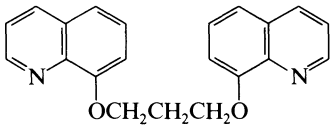
Used as MeOH soln. for fluorimetric detn. of Li (λ_{max} 386 nm). Cryst. (cyclohexane). Sol. MeOH, MeCN, cyclohexane.

Hiratani, K. *et al*, *Chem. Lett.*, 1986, 197 (*synth*)
Hiratani, K. *et al*, *Analyst (London)*, 1988, **113**, 1065 (*detn, Li*)

1,3-Bis(8-quinolyloxy)propane B-00453

8,8′-[1,3-Propanediylbis(oxy)]bisquinoline, 9CI

[71456-76-3]



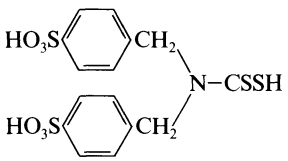
$C_{21}H_{18}N_2O_2$ M 330.385

Used as MeOH soln. for fluorimetric detn. of Li (λ_{max} 388 nm). Cryst. (cyclohexane). Sol. MeOH, MeCN, cyclohexane.

Hiratani, K. *et al*, *Chem. Lett.*, 1986, 197 (*synth*)
Hiratani, K. *et al*, *Analyst* (*London*), 1988, **113**, 1065 (*detn, Li*)

Bis(4-sulfobenzyl)dithiocarbamic acid B-00454

4,4′-[[(Dithiocarboxy)imino]bis(methylene)]bisbenzenesulfonic acid. Bis(4-sulfophenylmethyl)carbamodithioic acid



$C_{15}H_{15}NO_6S_4$ M 433.551

Tri-Na salt: [63425-09-2].

Used for photometric detn. of Hg (λ_{max} 433 nm, ε 15900) and titrimetric detn. of Hg. Cryst. Sol. H_2O.

Tanaka, Y. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1974, **23**, 1190; 1977, **26**, 60 (*use*)

N,N′-Bis(2-sulfoethyldithiooxamide) B-00455

N,N′-(*Thiooxalyl*)*ditaurine, 8CI*

[21660-96-8]

$HO_3SCH_2CH_2NH\text{-}CS\text{-}CS\text{-}NHCH_2CH_2SO_3H$

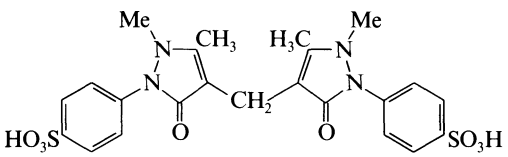
$C_6H_{12}N_2O_6S_4$ M 336.435

Used as a 0.02*M* aq. soln. for photometric detn. of Pd. Cryst. Sol. H_2O.

Goeminne, A., *Anal. Chim. Acta*, 1963, **28**, 512 (*detn, Pd*)

Bis(1-*p*-sulfophenyl-2,3-dimethylpyrazol-5-on-4-yl)methane B-00456

Disulfodiantipyrylmethane



$C_{23}H_{24}N_4O_8S_2$ M 548.597

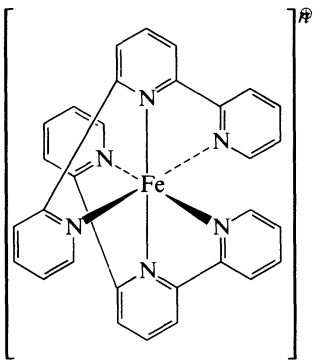
Used as a 10% soln. of K salt for photometric detn. of Hf, Zr. Cryst. Sol. alkalis.

Zhivopistsev, V.P. *et al*, *CA*, 1966, **73**, 136843s.

Bis(2,2′:6′,2″-terpyridine-*N,N′,N″*)iron(*II*) (2+) B-00457

Bis(2,2′,2″-terpyridyl)iron(II)(2+)

[17455-70-8]



n = 2

$C_{30}H_{22}FeN_6^{2\oplus}$ M 522.391 (ion)

Colorimetric redox indicator; extractant for surfactants; photocatalyst; reducing agent. Used for photometric detn. of Fe, O_3. Low spin. May be oxidised or reduced to $+III$, $+I$, 0, $-I$ states.

Diperchlorate: [22079-98-7].

Red-purple cryst. + $1H_2O$.

Bis-hexafluorophosphate: [114320-90-0].

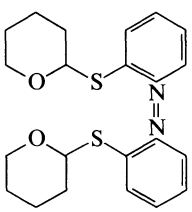
Convenient means of isolating terpy since oxidn. with $NaOH/H_2O_2$ gives free ligand. Red-purple powder.

[94976-44-0]

Tomiyasu, H. *et al*, *Anal. Chem.*, 1984, **56**, 752 (*detn, O_3*)
Baker, A.T. *et al*, *Aust. J. Chem.*, 1985, **38**, 207 (*cryst struct*)
Constable, E.C., *Adv. Inorg. Chem.*, 1986, **30**, 69 (*bibl, rev*)

Bis[2-[(tetrahydro-2*H*-pyran-2-yl)thio] phenyl]diazene, 9CI B-00458

[74953-22-3]

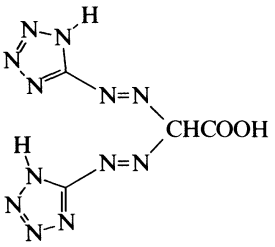


$C_{22}H_{26}N_2O_2S_2$ M 414.592

Used as 0.1 m*M* soln. in $CHCl_3$ for extraction-photometric detn. of Hg (λ_{max} 525nm, ε 3200). Orange needles (EtOH). Sl. sol. EtOH; mod. sol. Me_2CO; sol. $CHCl_3$; insol. H_2O. Mp 185-186°.

Koch, R.V. *et al*, *Talanta*, 1980, **27**, 1001.

Bis(1*H*-tetrazol-5-ylazo)acetic acid, 9CI B-00459



$C_4H_4N_{12}O_2$ M 252.155

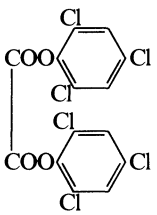
Et ester:
$C_6H_8N_{12}O_2$ M 280.208

Et ester, di-Na salt: [6597-22-4].
Used as 0.04% aq. soln. as a metallochromic indicator for titrimetric detn. of Cu; photometric detn. of Co (λ_{max} 620 nm), Ni (λ_{max} 505 nm, ε 12100); used as 1m*M* soln. for extraction-photometric detn. of Fe(*II*), Fe(*III*) (λ_{max} 400 nm, $CHCl_3$). Yellow-orange cryst. Sol. H_2O, EtOH; insol. C_6H_6, CCl_4.

Jonassen, H.B. *et al*, *Anal. Chem.*, 1958, **30**, 1660 (*detn, Ni, Co*)
Mustafin, I.S. *et al*, *Zavod. Lab.*, 1965, **31**, 786 (*detn, Cu*)
Frumina, N.S. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 7; 1967, **22**, 1523; 1969, **24**, 1049 (*detn, Co, Cu, Ni, Fe, Pd*)
Batasheva, N.A. *et al*, *Zavod. Lab.*, 1973, **39**, 17 (*detn, Co, Ni*)

Bis(2,4,6-trichlorophenyl) oxalate B-00460

Bis(2,4,6-trichlorophenyl) ethanedioate, 9CI. TCPO
[1165-91-9]



$C_{14}H_4Cl_6O_4$ M 448.899
Emits chemiluminescence in the presence of H_2O_2. Used for chemiluminescence detn. in hplc. Mp 196-198°.

Baker, J.W. *et al*, *J. Chem. Eng. Data*, 1964, **9**, 584 (*synth*)
Kobayashi, S. *et al*, *Anal. Chem.*, 1980, **52**, 424 (*use*)
Arakawa, H. *et al*, *Chem. Pharm. Bull.*, 1982, **30**, 3036 (*use, bibl*)
Honda, K. *et al*, *Anal. Chim. Acta*, 1985, **177**, 103, 117 (*use*)
Poulsen, J.R. *et al*, *J. Chromatogr.*, 1986, **360**, 371 (*use*)
Van Zoonen, P. *et al*, *J. Liq. Chromatogr.*, 1987, **10**, 819 (*use*)

Bis(trifluoroacetamide) B-00461

*2,2,2-Trifluoro-*N*-(trifluoroacetyl)acetamide, 9CI.*
2,2,2,2′,2′,2′-Hexafluorodiacetamide, 8CI. BTFA
[407-24-9]

$(F_3CCO)_2NH$

$C_4HF_6NO_2$ M 209.048
Trifluoroacetylation derivatisation reagent for gc anal. Hygroscopic solid. Mp 86.5°. Bp_{760} 145°.

N-*Me:* [685-27-8]. N-*Methylbis(trifluoroacetamide). 2,2,2-Trifluoro-*N*-methyl-*N*-(trifluoroacetyl)acetamide, 9CI. 2,2,2,2′,2′,2′-Hexafluoro-*N*-methyldiacetamide, 8CI. MBTFA*
$C_5H_3F_6NO_2$ M 223.075
Trifluoroacetylation derivatisation reagent for gc anal. Liq. Bp_{760} 118°.

Young, J.A. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 2105 (*synth*)
Firth, W.C., *J. Org. Chem.*, 1968, **33**, 441 (*synth*)
Donike, M., *J. Chromatogr.*, 1973, **78**, 273 (*use*)
Donike, M. *et al*, *Fresenius' Z. Anal. Chem.*, 1976, **279**, 128 (*use*)
Kremstadt, W. *et al*, *Chem. Ber.*, 1982, **115**, 919 (*synth*)
Englmaier, P., *Carbohydr. Res.*, 1985, **144**, 177 (*use*)

[Bis(trifluoroacetoxy)iodo]benzene B-00462

*Phenylbis(trifluoroacetato-*O*)iodine, 9CI. Iodobenzene 1,1-ditrifluoroacetate. Phenyliodosoditrifluoroacetate. Iodobenzene bis(trifluoroacetate). Phenyliodosyl bis(trifluoroacetate)*
[2712-78-9]

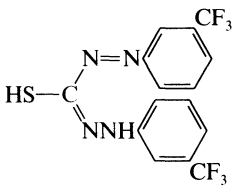
$PhI(OOCCF_3)_2$

$C_{10}H_5F_6IO_4$ M 430.042
Reagent for effecting the Hofmann rearrangement of amides under mildly acidic conditions used esp. for peptides. Used in the spectrophotometric and densitometric anal. of amines and hydrazines. Mp 124-126°.

Alcock, N.W. *et al*, *J. Chem. Soc.*, 1963, 4103 (*synth, ir*)
Spyroudis, S. *et al*, *Synthesis*, 1975, 445 (*synth, nmr*)
Radhakrishna, A.S. *et al*, *J. Org. Chem.*, 1979, **44**, 1746 (*synth*)
Loudon, G.M. *et al*, *J. Org. Chem.*, 1984, **49**, 4272 (*synth, use, bibl*)
Bouton, R.H. *et al*, *J. Org. Chem.*, 1984, **49**, 4277 (*use*)
Papadayannis, I.N., *Microchem. J.*, 1985, **32**, 220 (*use*)

3,3′-Bis(trifluoromethyl)dithizone B-00463

*3-Trifluoromethylphenyldiazenecarbothioic acid 2-(3-trifluoromethylphenyl)hydrazide, 9CI. Di-*m*-trifluoromethylphenylcarbazone*
[16341-11-0]

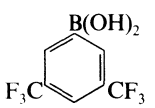


$C_{15}H_{10}F_6N_4S$ M 392.327
Used as a 0.01% soln. in $CHCl_3$ or CCl_4 for extraction-photometric detn. of Co, Ni, Zn. Greenish black cryst. powder. Sol. alkalis, Me_2CO, C_6H_6, $CHCl_3$, CCl_4; insol. H_2O. Mp 129-130°. pK_a 2.57 (dioxan aq., μ = 0.1, 25°).

Al-Salihy, A.R. *et al*, *Talanta*, 1970, **17**, 182 (*detn, Co, Ni, Zn*)

[3,5-Bis(trifluoromethyl)phenyl]boronic acid, 9CI B-00464

[73852-19-4]



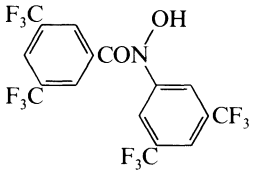
$C_8H_5BF_6O_2$ M 257.928
Anal. reagent for diols, hydroxyamines, diamines, aminophenols, hydroxyacids. Cryst. (hexane). Mp 212-215°.

Poole, C.F. *et al*, *J. Chromatogr.*, 1979, **186**, 307 (*synth, use*)

N-[3,5-Bis(trifluoromethyl)phenyl]-*N*-hydroxy-3,5-bis(trifluoromethyl) benzamide, 9CI B-00465

N-(*3,5-Bis(trifluoromethyl)phenyl*)-*3,5-bis(trifluoromethyl) benzohydroxamic acid*

[113389-04-1]



$C_{17}H_7F_{12}NO_2$ M 485.229

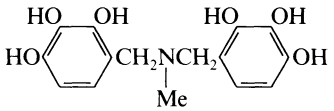
Used as 0.1*M* $CHCl_3$ soln. for extraction separation of Al, Cu, Fe(*III*), Mn, V. Cryst. (EtOH aq.). Sol. $CHCl_3$, EtOH. Mp 218-220°.

Hojjatie, M. *et al*, *Anal. Chim. Acta*, 1987, **199**, 49 (*synth, use*)

Bis(2,3,4-trihydroxybenzyl)methylamine B-00466

4,4'-[(Methylimino)bis(methylene)]bis(1,2,3-benzenetriol), 9CI. N-*Methyl*-N,N-*bis(methylenepyrogallol)amine. Tipyrogin*

[32430-59-4]



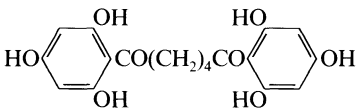
$C_{15}H_{17}NO_6$ M 307.302

Used as 0.03*M* acidified aq. soln. for photometric detn. of Nb (λ_{max} 385 nm, ε 14800). Cryst. Sol. alkalis.

Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 746 (*synth, detn, Nb*)

1,6-Bis(2,4,6-trihydroxyphenyl)-1,6-hexanedione, 9CI B-00467

[19343-46-5]



$C_{18}H_{18}O_8$ M 362.335

Used as a 0.25-0.5% soln. in EtOH as turbidimetric acid-base indicator (pH range: 7.9 - 8.4). Cryst. Sol. Me_2CO, EtOH.

Korenmann, I.M. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1305 (*use, ind*)

Bis(2,4,4-trimethylpentyl)phosphinic acid, 9CI B-00468

Cyanex 272

[83411-71-6]

$[(H_3C)_3CCH_2CH(CH_3)CH_2]_2POOH$

$C_{16}H_{35}O_2P$ M 290.425

Used as 0.1*M* $CHCl_3$ soln. for extraction separation of lanthanides (pH 2-3.5). Cryst. Sol. $CHCl_3$, hexane.

Komatsu, Y. *et al*, *Anal. Chim. Acta*, 1989, **227**, 397 (*use*)

Bis(2,4,4-trimethylpentyl)phosphinodithioic acid B-00469

$[(H_3C)_3CCH_2CH(CH_3)CH_2]_2PSSH$

$C_{16}H_{35}PS_2$ M 322.558

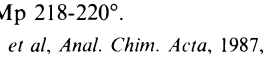
Used as satd. heptane or $CHCl_3$ soln. for extraction separation of Pd from Pt (0.1-0.25*M* HCl). Cryst. (C_6H_6/Me_2CO). Sol. $CHCl_3$, heptane, C_6H_6.

Saito, K. *et al*, *Anal. Sci.*, 1989, **5**, 583 (*use*)

N,O-Bis(trimethylsilyl)acetamide B-00470

N-(*Trimethylsilyl*)*ethanimidic acid trimethylsilyl ester, 9CI. Trimethylsilyl* N-(*trimethylsilyl*)*ethanimidate. Trimethylsilyl* N-(*trimethylsilyl*)*acetamidate*

[10416-59-8]



$C_8H_{21}NOSi_2$ M 203.431

Silylating agent. Liq. Bp_{30} 67.5°, Bp_{35} 71-73°.

▷ Mod. toxic. AK3000000.

Klebe, J.F. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 3390 (*synth*)
Itoh, K. *et al*, *J. Chem. Soc. B*, 1970, 302 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1972, **3**, 23.
Yoder, C.H. *et al*, *Inorg. Nucl. Chem. Lett.*, 1972, **8**, 1027 (*ir, nmr*)
Kantlehner, W.H., *Justus Liebigs Ann. Chem.*, 1978, 512 (*nmr*)
Rigandy, J. *et al*, *Tetrahedron Lett.*, 1980, 3367 (*spectra*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TMF000.

Bis(trimethylsilyl)amine B-00471

1,1,1-Trimethyl-N-(*trimethylsilyl*)*silanamine, 9CI. 1,1,1,3,3,3-Hexamethyldisilazane, 8CI. HMDS*

[999-97-3]

$(Me_3Si)_2NH$

$C_6H_{19}NSi_2$ M 161.394

Commercially available. Silylating agent, e.g. for polysaccharides leaving no byproducts. Liq. d_4^{20} 0.76. Bp 125°.

N-*Me:* [920-68-3]. N,*1,1,1-Tetramethyl*-N-(*trimethylsilyl*) *silanamine, 9CI. Heptamethyldisilazane*
$C_7H_{21}NSi_2$ M 175.421
Liq. Bp 150°.

Inorg. Synth., 1957, **5**, 58; 1966, **18**, 15, 19 (*synth*)
Plazanet, J. *et al*, *Bull. Soc. Chim. Fr.*, 1967, 1920 (*ir*)
Pitt, C.G. *et al*, *J. Am. Chem. Soc.*, 1967, **89**, 6792 (*uv*)
Birkofer, L. *et al*, *Chem. Ber.*, 1971, **104**, 3831 (*synth*)
Harmon, R.E., *Carbohydr. Res.*, 1973, **31**, 407 (*use*)
Harris, R.K. *et al*, *J. Magn. Reson.*, 1975, **17**, 174 (*nmr*)
Tamas, J. *et al*, *Org. Mass Spectrom.*, 1975, **10**, 859 (*ms*)
Gruening, R. *et al*, *J. Organomet. Chem.*, 1977, **137**, 101 (*cryst struct*)
Manzer, L.E., *Inorg. Chem.*, 1978, 1552 (*deriv, synth*)
Le Goaller, R. *et al*, *Tetrahedron*, 1980, **36**, 237 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HED500.

N,N'-Bis(trimethylsilyl)urea, 9CI B-00472

BSU

[18297-63-7]

$Me_3SiNHCONHSiMe_3$

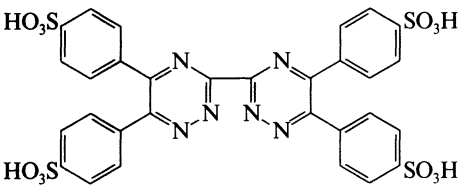
$C_7H_{20}N_2OSi_2$ M 204.419

Silylating agent. Mp 222-223° (152°, 212-216°).

Wannagat, U. *et al*, *Z. Anorg. Allg. Chem.*, 1963, **321**, 198 (*synth*)
Dankelman, W. *et al*, *Angew. Makromol. Chem.*, 1976, **54**, 187; *CA*, **85**, 143934 (*use*)
Raedler, K.P. *et al*, *J. Prakt. Chem.*, 1976, **318**, 697 (*synth*)
Cooper, B.E., *Chem. Ind. (London)*, 1978, 794 (*synth, use*)
Bruynes, C.A. *et al*, *J. Org. Chem.*, 1982, **47**, 3966 (*synth*)

4,4′,4″,4‴-[3,3′-Bi-1,2,4-triazine]-5,5′,6,6′-tetrayltetrakisbenzenesulfonic acid, 9CI B-00473

5,6,5′,6′-Tetra(4-sulfophenyl)-3,3′-bis(1,2,4-triazine)



$C_{30}H_{20}N_6O_{12}S_4$ M 784.785

Tetra-NH_4 salt: [93372-17-9].
Used as 0.1*M* aq. soln. for photometric detn. of Fe(*II*) (λ_{max} 550 nm, ε 28400, acidic medium). Light yellow powder. Sol. H_2O.

Kiss, E., *Anal. Chim. Acta*, 1984, **161**, 231 (*synth, detn, Fe*)

Biuret B-00474

Imidodicarbonic diamide, 9CI. Ureidoformamide. Allophanamide

[108-19-0]

$H_2NCONHCONH_2$

$C_2H_5N_3O_2$ M 103.080
Cryst. from water as $5C_2H_5N_3O_2.4H_2O$ which dehydrates at 110°. Foaming agent for plastics, fireproofing for synthetic fibres. Used as a soln. in NaOH aq. for simultaneous detn. of Co, Cu, Ni. Cryst. (H_2O, EtOH). Sol. EtOH, Me_2CO, H_2O. Mp 193° dec. pK_a 13.2. Gives violet biuret reacn.

N-*Ac:*
$C_4H_7N_3O_3$ M 145.118
Cryst. (EtOH). Mp 193-194°.

N-*Benzoyl:*
$C_9H_9N_3O_3$ M 207.188
Cryst. (H_2O). Mp 223-224°.

N-*Me:* [6937-91-3].
$C_3H_7N_3O_2$ M 117.107
Mp 167-168°.

1,3,5-Tri-Me: [816-00-2].
$C_5H_{11}N_3O_2$ M 145.161
Solid. Mp 125-126°.

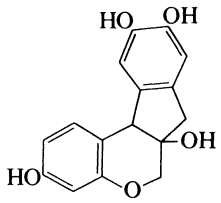
1,1,3,5-Tetra-Me: [54070-65-4].
$C_6H_{13}N_3O_2$ M 159.188
Yellow oil.

Thiele, J. *et al*, *Justus Liebigs Ann. Chem.*, 1898, **303**, 93 (*synth*)
Biltz, H. *et al*, *Ber.*, 1923, **56**, 1914.
Kurzer, F., *Chem. Rev.*, 1956, **56**, 95 (*rev*)
Gustin, V.K. *et al*, *Anal. Chem.*, 1961, **33**, 1942 (*use*)
Piskala, A., *Tetrahedron Lett.*, 1964, 2587 (*derivs*)
D'Silva, T.D.J. *et al*, *J. Org. Chem.*, 1986, **51**, 3781 (*derivs, ir, pmr, cmr*)

Brazilin B-00475

7,11b-Dihydrobenz[b]indeno[1,2-d]pyran-3,6a,9,10(6H)-tetrol, 9CI. Brasilin

[474-07-7]



$C_{16}H_{14}O_5$ M 286.284

(+)-*form* [22562-62-5]
Occurs in brazilwood (*Caesalpinia* spp.). Acid base indicator (pH range: 5.8-7.7; colour change yellow → violet). White or pale-yellow cryst. (EtOH). Sol. EtOH, C_6H_6; spar. sol. Et_2O; mod. sol. H_2O. Mp 250°. $[\alpha]_D^{21.5}$ +121.5° (c, 1.27 in MeOH).

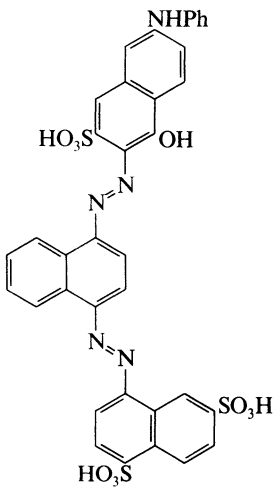
▷ DE3124000.

Tri-Ac: [54089-27-9].
Needles. Mp 105-106°.

Robinson, R. *et al*, *Angew. Chem.*, 1955, **67**, 761 (*synth*)
Bitskei, J. *et al*, *Acta Chim. Hung.*, 1957, **11**, 359 (*use*)
Dann, O. *et al*, *Justus Liebigs Ann. Chem.*, 1963, **667**, 116 (*synth*)
Craig, J.C. *et al*, *J. Org. Chem.*, 1965, **30**, 1573 (*pmr*)
Morsingh, F. *et al*, *Tetrahedron*, 1970, **26**, 281 (*synth*)
Adjangba, M.K. *et al*, *Bull. Soc. Chim. Fr.*, 1975, 1770 (*synth*)

Brilliant congo blue BFL B-00476

Benzo blue FBL. C.I. Direct blue 55. C.I. 27940



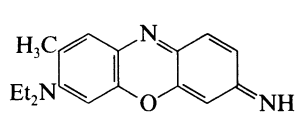
$C_{36}H_{25}N_5O_{10}S_3$ M 783.819

Tri-Na salt: Used as metal indicator for titrimetric detn. of Pb. Dark blue amorph. powder. Sol. H_2O; mod. sol. EtOH; insol. C_6H_6, CCl_4. λ_{max} 578 nm (H_2O).

Vrestal, J. *et al*, *Collect. Czech. Chem. Commun.*, 1957, **22**, 189.

Brilliant cresyl blue B-00477

N,N-*Diethyl-3-imino-8-methyl-3H-phenoxazin-7-amine, 9CI. Cresyl blue. Brilliant blue C*



$C_{17}H_{19}N_3O$ M 281.357

Strictly the name Brilliant cresyl blue applies to the hydrochloride.

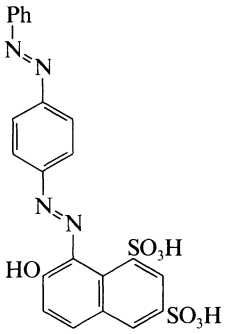
B,HCl: [4712-70-3]. *C.I. 51010*
Redox indicator. Used as a 0.4% aq. soln. for extraction-photometric detn. of In. Double salt with 0.5 $ZnCl_2$ used as a biological stain. Dark bluish cryst. powder. Sol. H_2O; insol. C_6H_6. E° + 0.583 V.
▷ SP7680000.

[81029-05-2]

Meyer, H.W. *et al*, *Helv. Chim. Acta*, 1952, **35**, 1444.
Popa, G. *et al*, *Rev. Roum. Chim.*, 1967, **18**, 300 (*use*)

Brilliant croceine B-00478

7-Hydroxy-8-[[4-(phenylazo)phenyl]azo]-1,3-naphthalenedisulfonic acid, 9CI. Acid red 73. C.I. 27290
[25317-39-9]



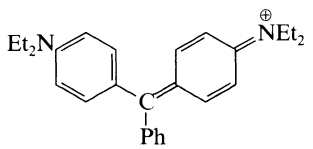
$C_{22}H_{16}N_4O_7S_2$ M 512.523
Strictly, the name Brilliant croceine applies to the disodium salt.

Di-Na salt: [5413-75-2].
Used for photometric detn. of Pd. Dark red cryst. powder. Sol. EtOH, H_2O; insol. C_6H_6; spar. sol. Me_2O.

Popa, G. *et al*, *Zh. Anal. Khim.*, 1959, **14**, 322.
Colour Index, 3rd Ed., 1971, **4**, 4247 (*synth*)

Brilliant green B-00479

N-[*4-[[4-(Diethylamino)phenyl]phenylmethylene]-2,5-cyclohexadien-1-ylidene*]-N-*ethylethanaminium(1+), 9CI. C.I. Basic green 1. C.I. 42040. Malachite green G. Diamond green. Ethyl green. Emerald green*



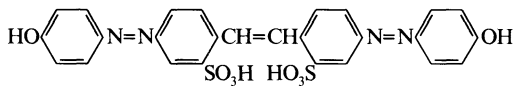
$C_{27}H_{33}N_2$ M 385.571
Triphenylmethane basic dye. Strictly the name Brilliant green applies to the sulfate.

Hydrogen sulfate: [633-03-4].
Commercially available. Used in extraction-photometric detn. of Sb, As, B, Bi, Sn, Ga, P, Ge, Re, Tl(*III*) (λ_{max} 630 nm, ε 110000), Ta, Au(*III*), U. Used mainly as 0.02*M* soln. in 0.15*M* HCl. Biological stain. Bright green powder. Sol. H_2O, EtOH, $CHCl_3$. Mp 210° dec.
▷ BP6825000.

Fogg, A.G. *et al*, *Analyst* (*London*), 1969, **94**, 768; 1970, **95**, 1012 (*detn, Sb, Au*)
Kovalenko, P.N. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1979 (*detn, U*)
Marczenko, Z. *et al*, *Talanta*, 1974, **21**, 93 (*detn, Tl*)
Ganago, L.I. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 1768 (*detn, As*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, New York,, 1986, 102; *Part IIb: Individual Metals. Magnesium to Zinc*, John Wiley, New York, 1989, 426.
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 103, 567.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BAY750.

Brilliant yellow B-00480

2,2'-(1,2-Ethenediyl)bis[5-[(4-hydroxyphenyl)azo]benzenesulfonic acid], 9CI. C.I. Direct yellow 4



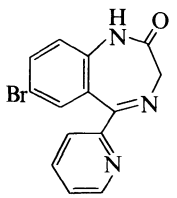
$C_{26}H_{20}N_4O_8S_2$ M 580.598
Strictly the name Brilliant yellow applies to the disodium salt.

Di-Na salt: [3051-11-4].
Used for gravimetric detn. of Mn. Yellow cryst. (H_2O). Sol. H_2O; mod. sol. EtOH; sl. sol. Me_2CO.

Pushinov, Y.V. *et al*, *CA*, 1974, **80**, 90720p.

Bromazepam, BAN, INN, JAN, USAN B-00481

7-Bromo-1,3-dihydro-5-(2-pyridinyl)-2H-1,4-benzodiazepin-2-one, 9CI, 8CI. Lectopam. Numerous proprietary names
[1812-30-2]



$C_{14}H_{10}BrN_3O$ M 316.156
Tranquilliser. Prisms (Me_2CO). Sol. dil. acids, EtOH, Me_2CO. Mp 241-242° dec.
▷ DE9800000.

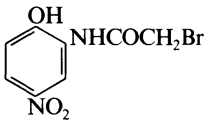
B,2HCl: Used as a 0.01*M* soln. in MeOH for photometric detn. of Fe(*II*).

Korol, B. *et al*, *Pharmacology*, 1968, **1**, 115 (*pharmacol*)
Sabatino, J.D. *et al*, *Anal. Chem.*, 1969, **41**, 905 (*detn, Fe*)
Goldenthal, E.I., *Toxicol. Appl. Pharmacol.*, 1971, **18**, 185 (*tox*)
Schwartz, A.M. *et al*, *J. Pharm. Sci.*, 1973, **62**, 1776.
Schwartz, A.M. *et al*, *Drug Metab. Dispos.*, 1974, **2**, 31 (*metab*)
Inaba, S. *et al*, *Chem. Pharm. Bull.*, 1975, **23**, 3279 (*synth*)
Clarke, G.M. *et al*, *J. Chem. Res., Synop.*, 1980, 399, 400 (*synth*)
Kovar, K.A. *et al*, *Arch. Pharm.* (*Weinheim, Ger.*), 1981, **314**, 186 (*cmr*)
Kovac, T. *et al*, *J. Heterocycl. Chem.*, 1981, **18**, 59 (*synth*)
Hannoun, M. *et al*, *J. Heterocycl. Chem.*, 1981, **18**, 963 (*synth*)
Butcher, H. *et al*, *Acta Crystallogr., Sect. C*, 1982, **39**, 1469 (*cryst struct*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7008.
Finner, E. *et al*, *Arch. Pharm.* (*Weinheim, Ger.*), 1984, **317**, 79 (*pmr, conformn*)
Hassan, M.M.A. *et al*, *Anal. Profiles Drug Subst.*, 1987, **16**, 1 (*rev*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 2981 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BMN750.

2-(Bromoacetamido)-4-nitrophenol B-00482

2-Bromo-N-(2-hydroxy-5-nitrophenyl)acetamide, 9CI. 2-Bromo-2'-hydroxy-5'-nitroacetanilide. Koshland III reagent. Koshland's reagent III

[3947-58-8]



$C_8H_7BrN_2O_4$ M 275.058

Reacts with chymotrypsin to produce a reporter-labelled protein. Cryst. (EtOH aq.). Sol. MeOH, Me_2CO, C_6H_6. Mp 215-220° dec.

Burr, M. *et al*, *J. Am. Chem. Soc.*, 1967, **89**, 5945 (*synth, use*)
Horton, H.R. *et al*, *Methods Enzymol.*, 1967, **11**, 856 (*use*)
Lewis, S.D. *et al*, *Biochemistry*, 1974, **13**, 690 (*use*)
Sams, C.F. *et al*, *J. Biol. Chem.*, 1977, **252**, 3153 (*use*)

2-Bromoacetophenone B-00483

2-Bromo-1-phenylethanone, 9CI. Phenacyl bromide. Bromomethyl phenyl ketone

[70-11-1]

$PhCOCH_2Br$

C_8H_7BrO M 199.047

Derivatisation reagent for carboxylic acids for hplc anal. Anal. reagent for thioureas and thiosemicarbazones. Prisms (EtOH aq.). Mp 51°. Bp_{18} 135°.

▷ Irritant, TLV 0.3. AM5978400.

(E)-*Oxime:* [17082-14-3]. anti-*Oxime*
C_8H_8BrNO M 214.061
Mp 114-114.5°.

(Z)-*Oxime:* [17082-13-2]. syn-*Oxime*
Mp 97°.

Semicarbazone: Mp 146°.

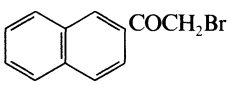
2,4-Dinitrophenylhydrazone: [4880-96-0]. Yellow-orange cryst. Mp 220°.

Org. Synth., Coll. Vol., 2, 1943, 480 (*synth*)
Yanovskaya, L. *et al*, *Zh. Obshch. Khim.*, 1952, **22**, 1598; *CA*, **47**, 9258 (*synth*)
Gupta, M. *et al*, *Acta Crystallogr., Sect. B*, 1971, **27**, 1649 (*cryst struct*)
Kaiser, E. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 9274 (*nmr, uv, oxime*)
Wetherington, J. *et al*, *Acta Crystallogr., Sect. B*, 1973, **29**, 1520 (*cryst struct, oxime*)
Borch, R.F., *Anal. Chem.*, 1975, **47**, 2437 (*use*)
Pannell, K. *et al*, *Org. Mass Spectrom.*, 1975, **10**, 550 (*ms*)
Khanna, N. *et al*, *Talanta*, 1978, **25**, 591 (*use*)
Talegaonkar, J. *et al*, *Talanta*, 1982, **29**, 327 (*use*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 432.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 435.

2-(Bromoacetyl)naphthalene B-00484

2-Bromo-1-(2-naphthalenyl)-1-ethanone, 9CI. 2-Bromo-2'-acetonaphthone, 8CI. 2-Naphthacyl bromide

[613-54-7]



$C_{12}H_9BrO$ M 249.106

Reagent for esterification of fatty acids for hplc anal. Needles (EtOH). Mp 81-82°.

Picrate: Needles (EtOH). Mp 93°.

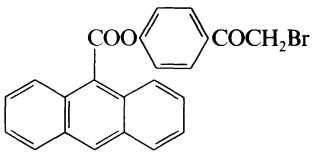
Oxime: Cryst. (MeOH). Mp 174°.

Radcliffe, C.B. *et al*, *J. Chem. Soc.*, 1931, 2293 (*synth*)
Immediata, T. *et al*, *J. Org. Chem.*, 1940, **5**, 512 (*synth*)
Cooper, M.J. *et al*, *Anal. Chem.*, 1974, **46**, 1849 (*use*)
Prasad, K.N., *Indian J. Pure Appl. Phys.*, 1982, **20**, 412; *CA*, **97**, 47699c (*cryst struct*)
Kihara, K. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1984, **33**, 647; *CA*, **102**, 1476249q (*use*)

4-(Bromoacetyl)phenyl 9-anthracenecarboxylate, 9CI B-00485

4-(9-Anthroyloxy)phenacyl bromide. Panacyl bromide

[94345-04-7]



$C_{23}H_{15}BrO_3$ M 419.274

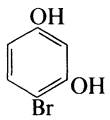
Used as hplc derivatisation reagent for prostaglandins. Deep yellow cryst. Mp 173.3-173.6°.

Cox, J.W. *et al*, *Anal. Chem.*, 1984, **56**, 1866 (*use*)
Salari, H. *et al*, *Anal. Biochem.*, 1987, **165**, 220 (*synth, use*)

4-Bromo-1,3-benzenediol, 9CI B-00486

4-Bromoresorcinol, 8CI

[6626-15-9]



$C_6H_5BrO_2$ M 189.008

Used as a 5% aq. soln. for photometric detn. of Zn (λ_{max} 630 nm). Cryst. (EtOH). Sol. H_2O. Mp 100-102°.

Di-Ac: [66417-41-2].
$C_{10}H_9BrO_4$ M 273.083
Mp 49-50°.

1-Me ether: [63604-94-4]. *2-Bromo-5-methoxyphenol*
$C_7H_7BrO_2$ M 203.035
Oil. Bp_{25} 152°.

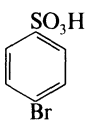
3-Me ether: 4-Bromo-3-methoxyphenol
$C_7H_7BrO_2$ M 203.035
Needles (C_6H_6). Mp 84°.

Di-Me ether: [17715-69-4]. *1-Bromo-2,4-dimethoxybenzene*
$C_8H_9BrO_2$ M 217.062
Oil. Bp_{18} 135°.

Org. Synth., Coll. Vol., 2, 1943, 100 (*synth*)
Stewart, J.A. *et al*, *Anal. Chem.*, 1958, **30**, 404 (*detn. Zn*)

4-Bromobenzenesulfonic acid, 9CI B-00487

[138-36-3]



$C_6H_5BrO_3S$ M 237.074

Deliquescent needles ($CHCl_3$). Mp 102-103°. pK_a −3.1 (H_2O).

Me ester: [6213-85-0].
$C_7H_7BrO_3S$ M 251.100
Platelets (MeOH). Mp 60°. Bp_{15} 176°.

Et ester: [20846-02-0].

$C_8H_9BrO_3S$ M 265.127
Platelets (EtOH). Mp 39.5°. Bp_{15} 181-182°, $Bp_{0.15}$ 111-113°.

Chloride: [98-58-8].
$C_6H_4BrClO_2S$ M 255.519
Derivatisation reagent used in gc. anal. of carbamate pesticides. Cryst. (pet. ether). Mp 77°.

Bromide: [1950-71-6].
$C_6H_4Br_2O_2S$ M 299.970
Cryst. (Et_2O). Mp 77°.

Anhydride: [14248-47-6].
$C_{12}H_8Br_2O_5S_2$ M 456.132
Cryst. (Et_2O). Mp 164-167° dec.

Amide: [701-34-8].
$C_6H_6BrNO_2S$ M 236.089
Cryst. (H_2O). Mp 166.5°.
▷ DB0550000.

Anilide: [7454-54-8].
$C_{12}H_{10}BrNO_2S$ M 312.186
Mp 119°.

Rây, J.N. *et al*, *J. Chem. Soc.*, 1920, **117**, 1405.
Jackson, G.R. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 5625.
Moyer, H.A., *J. Agric. Food Chem.*, 1975, **23**, 415 (*use*)
Hamada, T. *et al*, *Synthesis*, 1986, 852 (*deriv*, *synth*, *pmr*, *ms*)

4-Bromobenzoic acid, 9CI B-00488

[586-76-5]

$C_7H_5BrO_2$ M 201.019
Used as a soln. in Me_2CO for ppn. sepn. of Ca and Sr. Reference material used in elemental microanalysis. Needles (Et_2O) or leaflets (H_2O). Sol. EtOH, Et_2O, Me_2CO. Mp 251-253°. pK_a 3.97 (25°, H_2O).
▷ DG4448050.

Me ester: [619-42-1].
$C_8H_7BrO_2$ M 215.046
Leaflets (EtOH aq.). Mp 81°.

Et ester: [5798-75-4].
$C_9H_9BrO_2$ M 229.073
Liq. Bp_{737} 262°, Bp_{13} 131°.

Chloride: [586-75-4].
C_7H_4BrClO M 219.465
Used to derivatise carbaryl for gc anal. Needles (pet. ether). Mp 42°. Bp 245-247°, Bp_{20} 136-138°.

Bromide: [16331-47-8].
$C_7H_4Br_2O$ M 263.916
Derivatisation reagent for anilines in gc anal. Liq. Bp_{18} 135-137°.

Anhydride: [1633-33-6].
$C_{14}H_8Br_2O_3$ M 384.023
Plates ($CHCl_3$). Mp 218-220°.

Amide: [698-67-9]. *4-Bromobenzamide*
C_7H_6BrNO M 200.034
Needles (H_2O). Mp 191°.
▷ CV2365800.

Nitrile: [623-00-7]. *1-Bromo-4-cyanobenzene*
C_7H_4BrN M 182.019
Needles (H_2O). Mp 113.5°. Bp 235-237°, Bp_{13} 109°.
▷ DI2460000.

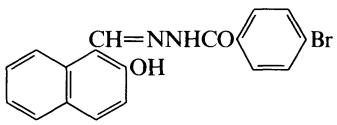
Azide: Mp 46°.
▷ Explodes above its Mp.

Sadtler Standard C-13 NMR Spectra, 7868 (*cmr*)
Sadtler Standard Ultraviolet Spectra, 3296 (*uv*)
Hale, W.J. *et al*, *J. Am. Chem. Soc.*, 1913, **35**, 262 (*synth*)
Adams, R. *et al*, *J. Am. Chem. Soc.*, 1920, **42**, 599 (*chloride*, *synth*)
Bailar, J., *Ind. Eng. Chem., Anal. Ed.*, 1931, **3**, 362 (*use*)
Tilden, R.L. *et al*, *J. Agric. Food Chem.*, 1970, **18**, 154 (*chloride*, *use*)
Ohkura, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1971, **45**, 2651 (*cryst struct*)
Analyst (*London*), 1972, **97**, 740 (*microanal*)
Benoit, F., *Org. Mass Spectrom.*, 1973, **7**, 295 (*ms*)
Aldrich Library of NMR Spectra, 1974, **6**, 149D (*pmr*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 841C (*ir*)
Bradway, D.E. *et al*, *J. Chromatogr. Sci.*, 1977, **15**, 322 (*bromide*, *use*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 432.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 209.

4-Bromobenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, 9CI B-00489

2-Hydroxy-1-naphthalenecarboxaldehyde p-*bromobenzoylhydrazone*

[69733-98-8]

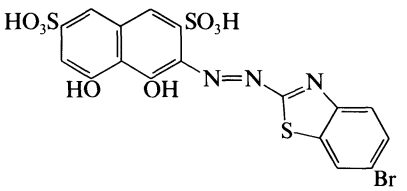


$C_{18}H_{13}BrN_2O_2$ M 369.217
Used as 0.1m*M* Me_2CO soln. for fluorimetric detn. of Al (λ_{max} 482 nm, pH 3-4, 60% Me_2CO). Yellow cryst. (EtOH). Sol. EtOH, Me_2CO; sl. sol. H_2O.

Dolgorev, A.V. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 2357 (*synth*, *detn*, *Al*)

3-[(6-Bromo-2-benzothiazolyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 8CI B-00490

[21468-92-8]



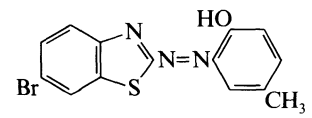
$C_{17}H_{10}BrN_3O_8S_3$ M 560.383
Used as a 0.1% aq. soln. for photometric detn. of Al (λ_{max} 600 nm, ε 30800), Th, Zr. Red cryst. Sol. H_2O, EtOH.

Savvin, S.B. *et al*, *CA*, 1969, **70**, 68239k (*synth*, *detn*, *Th*, *Zr*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 423 (*detn*, *Al*)

2-[(6-Bromo-2-benzothiazolyl)azo]-4-methylphenol, 9CI B-00491

6-Bromo-2-(2-hydroxy-5-methylphenylazo)benzothiazole

[14607-06-8]



$C_{14}H_{10}BrN_3OS$ M 348.222

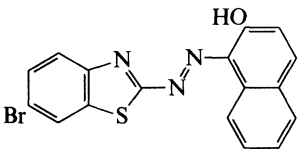
Used as a soln. in $CHCl_3$ for extraction-photometric detn. of Cd, Tl (λ_{max} 610 nm, ε 49000, $CHCl_3$), Ni (λ_{max} 620 nm, $CHCl_3$). Orange cryst. (EtOH) or red cryst. powder. Sol. EtOH, Me_2CO, C_6H_6; insol. H_2O.

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1493; 1975, **30**, 279 (*detn, Cd, Tl*)

1-[(6-Bromo-2-benzothiazolyl)azo]-2-naphthalenol, 9CI B-00492

6-Bromo-2-(2-hydroxy-1-naphthylazo)benzothiazole. Bromobenzothiazo

[3566-95-8]



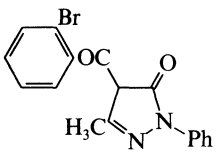
$C_{17}H_{10}BrN_3OS$ M 384.255

Used as 0.04% soln. in toluene for extraction-photometric detn. of Cd (λ_{max} 560 nm, ε 58000). Dark red cryst. powder. Sol. C_6H_6, $CHCl_3$; sl. sol. Et_2O; insol. H_2O, NH_3 aq.

Drabkina, D.A. *et al*, *Zh. Anal. Khim.*, 1962, **17**, 940.
Shkrobot, E.P. *et al*, *Zavod. Lab.*, 1966, **32**, 1452.
Yakovleva, V.G. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 884.

4-(2-Bromobenzoyl)-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, 9CI B-00493

[78666-13-4]



$C_{17}H_{13}BrN_2O_2$ M 357.206

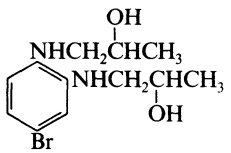
Used as a 0.01*M* C_6H_6 soln. for extraction separation of Lu(*III*) (pH 1-2). Cryst. (dioxan aq.). Sol. C_6H_6, 1,2-dichloroethane, dioxan. Mp 162°.

Mukai, H. *et al*, *Anal. Chim. Acta*, 1990, **239**, 277 (*synth, use*)

4-Bromo-*N,N'*-bis(2-hydroxypropyl)-1,2-benzenediamine B-00494

1,1'-[(4-Bromo-1,2-phenylene)diimino]bis-2-propanol, 9CI

[33141-12-7]



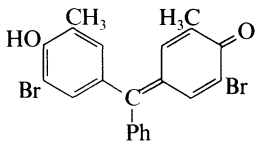
$C_{12}H_{19}BrN_2O_2$ M 303.198

Used as 0.3% aq. soln. for photometric detn. of $I^{\ominus}$, $IO_3^{\ominus}$, $IO_4^{\ominus}$ (λ_{max} 530 nm); argentometric detn. of $Cl^{\ominus}$, $Br^{\ominus}$, $I^{\ominus}$. Cryst. (EtOH) or dark brown powder. Sol. H_2O, EtOH, Me_2CO.

Paslawska, S. *et al*, *Chem. Anal.* (*Warsaw*), 1972, **17**, 1267.

2-Bromo-4-[(3-bromo-4-hydroxy-5-methylphenyl)phenylmethylene]-6-methyl-2,5-cyclohexadien-1-one B-00495

Dibromo-o-cresolbenzein



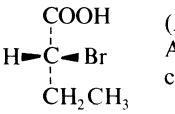
$C_{21}H_{16}Br_2O_2$ M 460.164

Acid-base indicator (pH range 5.2-6.8; colour change: yellow → purple). Used as a 0.1% soln. in EtOH. Red cryst. (toluene). Sol. Me_2CO, Et_2O, EtOH, C_6H_6; spar. sol. pet. ether; insol. H_2O. Mp 238°.

Orndorff, W.R. *et al*, *J. Am. Chem. Soc.*, 1927, **49**, 992 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 122.

2-Bromobutanoic acid B-00496

[80-58-0]



(*R*)-*form* Absolute configuration

$C_4H_7BrO_2$ M 167.002

▷ Highly toxic. ES7875000.

(R)-form

d_4^{25} 1.57. Bp_{10} 90-93°. $[\alpha]_D^{25}$ +39.5°.

Isobutyl ester:

$C_8H_{15}BrO_2$ M 223.109

Bp 205°.

Me ester:

$C_5H_9BrO_2$ M 181.029

Bp_{15} 48-51°. $[\alpha]_D^{25}$ +13.5°.

Chloride:

C_4H_6BrClO M 185.447

Bp_{15} 65-69°.

(S)-form

$[\alpha]_D^{25}$ −31.7°.

(±)-form [2385-70-8]

Used as a 0.4*M* soln. in $CHCl_3$ for extraction-photometric detn. of In. Pale yellow liq. Sol. H_2O (15 parts); misc. EtOH, H_2O, Et_2O. d_{20}^{20} 1.57. Fp −4°. Bp_{12} 107°. pK_a 2.80 (25°).

Me ester: Liq. Bp 165-172°.

Bromide:

$C_4H_6Br_2O$ M 229.899

Liq. Bp 172-174°.

Anhydride:

$C_8H_{12}Br_2O_3$ M 315.989

Bp_{10} 148-152°.

Amide:

C_4H_8BrNO M 166.017

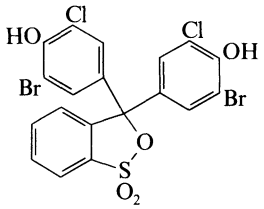
Cryst. Mp 112°.

Levene, P.A. *et al*, *J. Biol. Chem.*, 1941, **141**, 391 (*synth*)
Andrews, L.J. *et al*, *J. Am. Chem. Soc.*, 1952, **74**, 3582 (*synth*)
Stevens, C.L. *et al*, *J. Org. Chem.*, 1953, **18**, 1112 (*amide*)
Smissman, E.E., *J. Am. Chem. Soc.*, 1954, **76**, 5805.
Reinheckel, H., *J. Prakt. Chem.*, 1962, **15**, 260.
Graffield, W. *et al*, *Tetrahedron*, 1971, **27**, 915 (*abs config*)
Pyatnitskii, I.V. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 2131 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BMY250.

Bromochlorophenol blue B-00497

4,4′-(3H-2,1-Benzoxathiol-3-ylidene)bis[2-bromo-6-chlorophenol] S,S-*dioxide*, *9CI. 3,3-Bis(3-bromo-5-chloro-4-hydroxyphenyl)-3H-2,1-benzoxathiole* S,S-*dioxide. 3,3′-Dibromo-5,5′-dichlorophenolsulfonephthalein*

[2553-71-1]



$C_{19}H_{10}Br_2Cl_2O_5S$ M 581.064

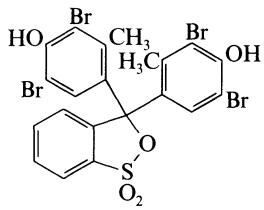
Acid-base indicator (pH range 3.0-4.6; colour change: yellow → purple) used as a soln. in EtOH. Violet-pink cryst. powder (EtOH). Sol. EtOH, alkalis; spar. sol. H_2O.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 116.

Bromocresol green B-00498

4,4′-(3H-2,1-Benzoxathiol-3-ylidene)bis[2,6-dibromo-3-methylphenol] S,S-*dioxide. 3,3-Bis(3,5-dibromo-4-hydroxy-2-methylphenyl)-3H-2,11-benzoxathiole* S,S-*dioxide. 3,3′,5,5′-Tetrabromo*-m-*cresolsulfonephthalein*

[23778-59-8]



$C_{21}H_{14}Br_4O_5S$ M 698.021

Used as sodium salt. Anionic chromophoric reagent used as a 0.15% soln. in 20% EtOH or a 0.04% aq. soln. as counter-ion in photometric detn. of K, Cu with crown ethers. Acid-base indicator (pH range 3.8-5.4: colour change yellow → blue). Pink-brown cryst. powder. Sol. EtOH, Et_2O, dil. alkalis; spar. sol. $CHCl_3$, H_2O, C_6H_6, glac. AcOH. Mp 218-219°. pK_a 4.9 (20°).

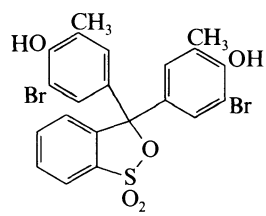
[76-60-8]

Orndorff, W.R. *et al*, *J. Am. Chem. Soc.*, 1926, **48**, 2216 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 104.
Sumiyoshi, H. *et al*, *Talanta*, 1977, **24**, 763 (*detn, K*)
Saito, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1984, **57**, 189 (*detn, Cu*)

Bromocresol purple B-00499

4,4′-(3H-2,1-Benzoxathiol-3-ylidene)bis[2-bromo-6-methylphenol] S,S-*dioxide*, *9CI. 3,3-Bis(3-bromo-4-hydroxy-5-methylphenyl)-3H-2,1-benzoxathiole* S,S-*dioxide. 5′,5″-Dibromo*-o-*cresolsulfonephthalein*

[115-40-2]



$C_{21}H_{16}Br_2O_5S$ M 540.228

Commercially available. Used for photometric detn. of Ag; acid-base indicator (pH range 5.0-6.8; colour change: yellow-green → purple). Violet cryst. powder. Sol. EtOH, Me_2CO, alkalis; sl. sol. H_2O.

[62625-30-3]

Tananaiko, M.M. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1974, **40**, 1191; 1981, **47**, 771 (*detn, Ag*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976.

2-Bromodecanoic acid B-00500

2-Bromocapric acid

[2623-95-2]

$H_3C(CH_2)_7CHBrCOOH$

$C_{10}H_{19}BrO_2$ M 251.163

Used for extraction preconcentration of Pb. Needles. Sol. EtOH, Et_2O, Me_2CO, C_6H_6, $CHCl_3$, alkalis.

(±)-form

Has fungicidal props. Sol. Et_2O. Mp 4°.

Me ester:

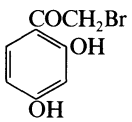
$C_{11}H_{21}BrO_2$ M 265.190
$Bp_{0.5}$ 89°.

Bagard, P., *Bull. Soc. Chim. Fr.*, 1907, **1**, 307 (*synth*)
Katon, J.E. *et al*, *Appl. Spectrosc.*, 1971, **25**, 229 (*ir*)
Gershon, H. *et al*, *Antimicrob. Agents Chemother.*, 1973, **4**, 435 (*use*)
Onishenko, T.A. *et al*, *Zh. Anal. Khim.*, 1987, **42**, 1616 (*use, Pb*)

2-Bromo-2′,4′-dihydroxyacetophenone, 8CI B-00501

2-Bromo-1-(2,4-hydroxyphenyl)ethanone, *9CI. 2,4-Dihydroxyphenacyl bromide*

[2491-39-6]



$C_8H_7BrO_3$ M 231.045

Derivatisation reagent for hplc anal. of carboxylic acids. Prisms (Et_2O/pet. ether). Mp 144-145° (127°).

Di-Me ether: [60965-26-6].
Cryst. (EtOH). Mp 103-104°.

Sonn, A., *Ber.*, 1919, **52**, 923; 1922, **55**, 2979 (*synth*)
King, I.C. *et al*, *J. Org. Chem.*, 1964, **29**, 3459 (*synth*)
Malik, M.L. *et al*, *Indian J. Chem., Sect. B*, 1976, **14**, 513 (*synth, pmr*)
Munns, R.K. *et al*, *J. Chromatogr.*, 1988, **442**, 209 (*use*)

2-Bromo-2′,5′-dihydroxyacetophenone B-00502

2-Bromo-1-(2,5-dihydroxyphenyl)ethanone, *9CI. 2,5-Dihydroxyphenacyl bromide*

[25015-91-2]

$C_8H_7BrO_3$ M 231.045

Derivatisation reagent for hplc anal. of carboxylic acids. Yellow platelets. Mp 117.5-119° (112-113°).

Di-Me ether: [1204-21-3]. *2-Bromo-1-(2,5-dimethoxyphenyl) ethanone*, *9CI. 2-Bromo-2′,5′-dimethoxyacetophenone*, *8CI. 2,5-Dimethoxyphenacyl bromide*
Needles (EtOH). Mp 91°.

Di-Ac:

$C_{12}H_{11}BrO_5$ M 315.120
Mp 72-73°.

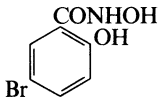
Tambor, J., *Ber.*, 1911, **44**, 3215.
Rebstock, M.C. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 4054.

Kloetzel, M.C. *et al*, *J. Org. Chem.*, 1955, **20**, 38.
King, I.C. *et al*, *J. Org. Chem.*, 1964, **29**, 3459.
Munns, R.K. *et al*, *J. Chromatogr.*, 1988, **442**, 209 (*use*)

5-Bromo-*N*,2-dihydroxybenzamide, 9CI B-00503

5-Bromosalicylhydroxamic acid

[5798-94-7]



$C_7H_6BrNO_3$ M 232.033

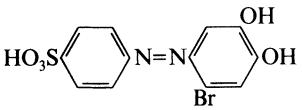
Used as aq. soln. for extraction-photometric detn. of V(*V*) (λ_{max} 620 nm, ε 31000). Cryst. (EtOH). Sol. EtOH, MeOH, Me_2CO; spar. sol. H_2O.

Capitan-Vallvey, L.F. *et al*, *Analusis*, 1989, **17**, 280 (*synth*, *use*)

4-[(2-Bromo-4,5-dihydroxyphenyl)azo]benzenesulfonic acid, 9CI B-00504

2′-Bromo-4′,5′-dihydroxyazobenzene-4-sulfonic acid

[35495-39-7]



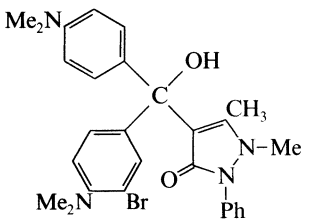
$C_{12}H_9BrN_2O_5S$ M 373.183

Used as an aq. soln. for photometric detn. of Al, Ga, Hf, In, Pb (ε 45000), Zr. Orange cryst. (EtOH) or dark brown powder. Sol. EtOH, H_2O; insol. C_6H_6.

Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 1497; 1974, **29**, 275 (*detn*, *Al*, *Ga*, *Hf*, *In*, *Zr*)
Wakamatsu, Y., *Bunseki Kagaku* (*Jpn. Anal.*), 1982, **31**, 538 (*detn*, *Pb*)

4-[3-Bromo-4-(dimethylamino)-α-[*p*-(dimethylamino)phenyl]-α-hydroxybenzyl]antipyrine B-00505

3-Bromo-4,4′-bis(dimethylaminophenyl)antipyrylcarbinol. Bromochrompyrazole

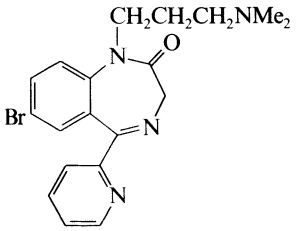


$C_{28}H_{31}BrN_4O_2$ M 535.482

Antipyrine basic dye. Used in photometric detn. of Re. Cryst.

Zhivopistsev, V.P., *Zh. Anal. Khim.*, 1963, **18**, 148 (*use*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 574; 1971, **26**, 1285, 1291 (*use*)
Zhivopistsev, V.P., *Zavod. Lab.*, 1971, **37**, 1409 (*use*)

7-Bromo-1-[3-(dimethylamino)propyl]-1,3-dihydro-5-(2-pyridyl)-2*H*-1,4-benzodiazepin-2-one, 8CI B-00506



$C_{19}H_{21}BrN_4O$ M 401.305

B,2HCl: [4466-96-0].

Used as a 0.01 *M* aq. soln. for photometric detn. of Fe(*II*). Sol. H_2O.

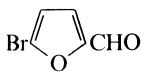
▷ DF2363600.

Sabatino, J.D. *et al*, *Anal. Chem.*, 1969, **41**, 905 (*detn*, *Fe*)

5-Bromo-2-furancarboxaldehyde B-00507

2-Bromo-5-formylfuran. 5-Bromofurfural

[1899-24-7]



$C_5H_3BrO_2$ M 174.981

Needles (EtOH aq.). Mp 82°.

Thiosemicarbazone: [40104-44-7].

$C_6H_6BrN_3OS$ M 248.103

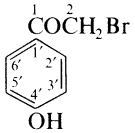
Used as a 0.4m*M* soln. in EtOH for colorimetric detn. of Pd (λ_{max} 395 nm, ε 32000).

Nazarova, Z.N., *Zh. Obshch. Khim.*, (*Engl. transl.* p. 589), 1954, **24**, 575 (*synth*)
Mas'ko, L.I. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1490; 1975, **30**, 315 (*deriv*, *detn*, *Pd*)

2-Bromo-4′-hydroxyacetophenone, 8CI B-00508

2-Bromo-1-(4-hydroxyphenyl)ethanone, 9CI. α-Bromo-4-hydroxyacetophenone. p-*Hydroxyphenacyl bromide*

[2491-38-5]



$C_8H_7BrO_2$ M 215.046

Biocide, slimicide. Derivatisation reagent for hplc anal. of carboxylic acids. Needles (C_6H_6). Sol. $CHCl_3$. Mp 130° (124-126°).

▷ Lachrymatory and irritant.

Ac:

$C_{10}H_9BrO_3$ M 257.083

Needles (MeOH aq.). Mp 67°.

Me ether: [2632-13-5]. *2-Bromo-4′-methyoxyacetophenone. 2-Bromo-1-(4-methoxyphenyl)ethanone, 9CI.* p-*Methoxyphenacyl bromide*

$C_9H_9BrO_2$ M 229.073

Reagent for characterising and protecting carboxylic acids. Light-yellow cryst. Mp 75-76°.

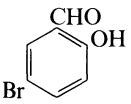
King, L.C. *et al*, *J. Org. Chem.*, 1964, **29**, 3459 (*synth*)
Pasambu, S.J., *Aust. J. Chem.*, 1973, **26**, 1327 (*synth*, *pmr*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 439.

Malik, M.L. *et al*, *Indian J. Chem., Sect. B*, 1976, **14**, 513 (*synth, pmr, deriv*)
Reutrakul, V. *et al*, *Chem. Lett.*, 1979, 209 (*synth*)
Mums, R.K. *et al*, *J. Chromatogr.*, 1988, **442**, 209 (*use*)

5-Bromo-2-hydroxybenzaldehyde, 9CI B-00509

5-Bromosalicylaldehyde, 8CI

[1761-61-1]



$C_7H_5BrO_2$ M 201.019
Mp 105-106°.

Benzoyl:
$C_{14}H_9BrO_3$ M 305.127
Mp 73-74°.

Me ether: [25016-01-7]. *5-Bromo-2-methoxybenzaldehyde, 9CI. 5-Bromo-o-anisaldehyde, 8CI*
$C_8H_7BrO_2$ M 215.046
Prisms. Mp 116.4°.

Oxime:
$C_7H_6BrNO_2$ M 216.034
Mp 126°.

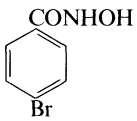
Semicarbazone: [54825-13-7].
$C_8H_8BrN_3O_2$ M 258.074
Used as 0.1% DMF soln. for fluorimetric detn. of Sc (λ_{max} 455 nm, pH 6.0). Cryst. (EtOH). Sol. DMF, EtOH. Mp 297° dec.

v. Auwers, K. *et al*, *Ber.*, 1904, **37**, 3929.
Morishige, K., *Anal. Chim. Acta*, 1974, **73**, 245 (*semicarbazone, synth, detn, Sc*)

4-Bromo-*N*-hydroxybenzamide, 9CI B-00510

p-*Bromophenylhydroxamic acid*

[1836-27-7]

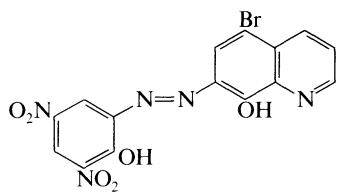


$C_7H_6BrNO_2$ M 216.034
Used for column separation of Cu, Ni from Co and U(*VI*) from Cr(*VI*). Cryst. (EtOH). Sol. EtOH, Me_2CO; sl. sol. H_2O.

Shah, A. *et al*, *Talanta*, 1987, **34**, 547.

5-Bromo-8-hydroxy-7-[(2-hydroxy-3,5-dinitrophenyl)azo]quinoline B-00511

Picraminazo-5-bromo-8-hydroxyquinoline

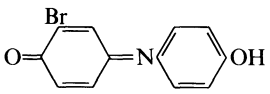


$C_{15}H_8BrN_5O_6$ M 434.162
Used as a 0.05% aq. soln. as metallochromic indicator for titrimetric detn. of Bi. Brown cryst. powder. Sol. EtOH, Me_2CO; insol. C_6H_6, $CHCl_3$.

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 568 (*use*)

2-Bromo-4-[(4-hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, 9CI B-00512

2-Bromoindophenol



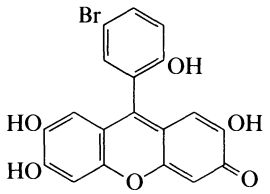
$C_{12}H_8BrNO_2$ M 278.105
Used as a 0.2% soln. in EtOH as redox indicator for titrimetric detn. of Cu(*I*). Dark green cryst. powder. Sol. EtOH, C_6H_6, Me_2CO, alkalis; spar. sol. H_2O. E° + 0.66 V.

Misra, G.J. *et al*, *Fresenius' Z. Anal. Chem.*, 1965, **214**, 94.

9-(5-Bromo-2-hydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, 9CI B-00513

5-Bromosalicylfluorone

[6098-80-2]



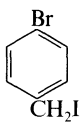
$C_{19}H_{11}BrO_6$ M 415.196
Used as 1m*M* soln. in EtOH for extraction-photometric detn. of Sn (λ_{max} 530 nm, ε 120000); for photometric detn. of V(*IV*) (λ_{max} 530 nm, ε 40000, 30% EtOH, pH 4.0 - 6.5). Red cryst. (EtOH). Sol. EtOH, Me_2CO, alkalis; insol. H_2O.

Antonovich, V.P. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 289 (*detn, V*)
Toporov, S.V. *et al*, *Khim. Khim. Tekhnol. (Minsk)*, 1983, **26**, 803 (*detn, Sn*)
Toporov, S.V. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 1641 (*detn, Sn*)

1-Bromo-4-(iodomethyl)benzene, 9CI B-00514

p-*Bromo-α-iodotoluene, 8CI.* p-*Bromobenzyl iodide*

[55883-45-9]



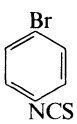
C_7H_6BrI M 296.933
Reagent for gc sepn. and detn. of carboxylic acids. Pale-yellow needles (pet. ether). Mp 74-75°.

Daub, G.H. *et al*, *J. Org. Chem.*, 1954, **19**, 1571 (*synth*)
Zervas, L. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 5354 (*synth*)
Watson, J.R. *et al*, *J. Chromatogr.*, 1970, **52**, 63 (*use*)

1-Bromo-4-isothiocyanatobenzene, 9CI B-00515

p-*Bromophenyl isothiocyanate, 8CI*

[1985-12-2]



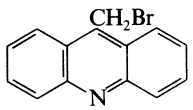
C_7H_4BrNS M 214.085
Reagent for sequence detn. of peptides. Yellow needles. Mp 60-61°.

▷ NX8400000.

Baxter, J.N. *et al*, *J. Chem. Soc.*, 1956, 659 (*synth*)
Hodgkins, J.E. *et al*, *J. Org. Chem.*, 1964, **29**, 3098 (*synth*)
Weygand, F. *et al*, *Eur. J. Biochem.*, 1971, **20**, 72 (*use*)
Ottenbrite, R.M. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1972, 88 (*synth*)
Murai, A. *et al*, *Bull. Chem. Soc. Jpn.*, 1975, **48**, 2911 (*use*)
Schneider, M. *et al*, *Hoppe Seyler's Z. Physiol. Chem.*, 1976, **357**, 1339 (*use*)
Molina, P. *et al*, *Synthesis*, 1982, 596 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BNW825.

9-(Bromomethyl)acridine B-00516

[1556-34-9]



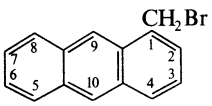
$C_{14}H_{10}BrN$ M 272.144

Reagent for fluorimetric detn. of tertiary amines and of carboxylic acids. Cryst. (CCl_4). Mp 169-170°.

Campbell, A. *et al*, *J. Chem. Soc.*, 1958, 1145 (*synth*)
Lehr, R.E. *et al*, *J. Pharm. Sci.*, 1975, **64**, 950 (*synth, use*)
Akasaka, K. *et al*, *Analyst* (*London*), 1987, 1581 (*use*)

1-(Bromomethyl)anthracene, 9CI B-00517

[24463-14-7]



$C_{15}H_{11}Br$ M 271.156

Fluorescent labelling reagent for hplc of carboxylic acids. Mp 114-115°.

Akiyama, S. *et al*, *Bull. Chem. Soc. Jpn.*, 1962, **35**, 1826 (*synth*)
Bentley, M.D. *et al*, *J. Org. Chem.*, 1970, **35**, 2707 (*pmr*)
Nakashima, K. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1989, **38**, 558 (*use*)

9-(Bromomethyl)anthracene, 9CI B-00518

[2417-77-8]

$C_{15}H_{11}Br$ M 271.156

Fluorescent labelling reagent for hplc of carboxylic acids. Cryst. ($CHCl_3$), yellow needles (pet. ether/C_6H_6). Mp 145-147° (137.5-142.5° dec.).

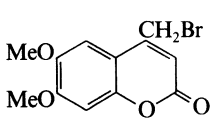
▷ Exp. carcinogen. CA9380000.

Akiyama, S. *et al*, *Bull. Chem. Soc. Jpn.*, 1971, **44**, 2231 (*synth*)
Atkinson, R.S. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1973, 960 (*synth*)
Bullpit, M. *et al*, *J. Org. Chem.*, 1976, **41**, 760 (*synth, pmr*)
Nakashima, K. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1989, **38**, 558 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BNO500.

4-(Bromomethyl)-6,7-dimethoxy-2*H*-1-benzopyran-2-one, 9CI B-00519

4-Bromomethyl-6,7-dimethoxycoumarin. BDMC

[88404-25-5]



$C_{12}H_{11}BrO_4$ M 299.120

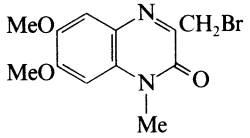
Fluorescent labelling reagent used for the reversed phase hplc sepn. and detn. of carboxylic acids. Mp 214-216°.

Farinotti, R. *et al*, *J. Chromatogr.*, 1983, **269**, 81 (*synth, use*)
Hiratsuka, T., *J. Biochem.* (*Tokyo*), 1987, **101**, 1457 (*use*)
Yoshida, S. *et al*, *J. Chromatogr.*, 1988, **430**, 156 (*use*)

3-(Bromomethyl)-6,7-dimethoxy-1-methyl-2(1*H*)-quinoxalinone, 9CI B-00520

Br-DMEQ

[100595-07-1]



$C_{12}H_{13}BrN_2O_3$ M 313.150

Fluorescent derivatisation reagent for carboxylic acids used in hplc. Yellow needles (hexane/EtOAc). Mp 161-163°.

Yamaguchi, M. *et al*, *Anal. Sci.*, 1985, **1**, 295; 1987, **3**, 75 (*use*)
Yamaguchi, M. *et al*, *J. Chromatogr.*, 1985, **346**, 227; 1986, **375**, 27; 1986, **380**, 257; 1987, **414**, 275 (*synth, use, ir, pmr*)
Yamaguchi, M. *et al*, *Anal. Biochem.*, 1986, **155**, 256 (*use*)
Yamaguchi, M. *et al*, *Chem. Pharm. Bull.*, 1987, **35**, 3740 (*use*)

(Bromomethyl)dimethylchlorosilane B-00521

(Bromomethyl)chlorodimethylsilane, 9CI. BMDMCS

[16532-02-8]

$BrCH_2SiMe_2Cl$

$C_3H_8BrClSi$ M 187.538

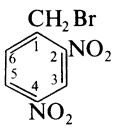
Derivatizing agent for pesticide anal. by gc. Liq. d_4^{20} 1.386. Bp 133-135°.

Kriegsmann, H. *et al*, *Z. Chem.*, 1962, **2**, 95 (*ir, raman*)
Bache, C.A. *et al*, *Anal. Chem.*, 1968, **40**, 1241 (*use*)
Engelhardt, G. *et al*, *Org. Magn. Reson.*, 1973, **5**, 561 (*nmr*)
Fritz, G. *et al*, *Z. Anorg. Allg. Chem.*, 1976, **419**, 2, 249 (*synth*)
Shen, Q., *J. Mol. Struct.*, 1984, **112**, 169 (*struct*)

1-Bromomethyl-2,4-dinitrobenzene, 9CI B-00522

α-Bromo-2,4-dinitrotoluene, 8CI. 2,4-Dinitrobenzyl bromide

[3013-38-5]



$C_7H_5BrN_2O_4$ M 261.031

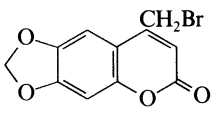
Reagent for sepn. and identification of aliphatic alcohols. Needles (Et_2O). Mp 46-47°.

Kuffner, F., *Monatsh. Chem.*, 1960, **91**, 1152.
Churacek, J. *et al*, *Collect. Czech. Chem. Commun.*, 1968, **33**, 3876 (*use*)

8-(Bromomethyl)-6*H*-1,3-dioxolo[4,5-*g*][1]benzopyran-6-one, 9CI B-00523

4-Bromomethyl-6,7-methylenedioxycoumarin

[97744-84-8]



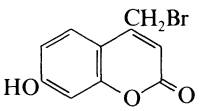
$C_{11}H_7BrO_4$ M 283.078

Fluorescence labelling reagent for carboxylic acids. Yellow prisms (MeOH). Mp 241°.

Naganuma, H. *et al*, *J. Chromatogr.*, 1989, **478**, 149 (*synth*, *use*)

4-(Bromomethyl)-7-hydroxy-2*H*-1-benzopyran-2-one B-00524

4-(Bromomethyl)-7-hydroxycoumarin



$C_{10}H_7BrO_3$ M 255.067

Me ether: [35231-44-8]. *4-(Bromomethyl)-7-methoxy-2*H*-1-benzopyran-2-one, 9CI. 4-(Bromomethyl)-7-methoxycoumarin*

$C_{11}H_9BrO_3$ M 269.094

Fluorimetric reagent for detn. of fatty acids. Pale yellow cryst. Mp 208-209°.

Ac: [2747-04-8]. *7-Acetoxy-4-(bromomethyl)coumarin*

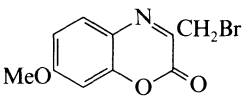
$C_{12}H_9BrO_4$ M 297.105

Fluorescent reagent for carboxylic acids in hplc. Cryst. (AcOH aq.). Mp 183°.

Ghiya, B.J. *et al*, *J. Indian Chem. Soc.*, 1965, **42**, 229 (*synth*)
Secrist, J.A. *et al*, *Biochem. Biophys. Res. Commun.*, 1971, **45**, 1262 (*synth*)
Dunges, W., *Anal. Chem.*, 1977, **49**, 442 (*use*)
Grushka, E. *et al*, *Anal. Chem.*, 1978, **50**, 1398 (*use*)
Zelenski, S.G. *et al*, *Chromatographia*, 1978, **11**, 645 (*use*)
Lam, S. *et al*, *J. Chromatogr.*, 1978, **158**, 207 (*use*)
Tsuchiya, H. *et al*, *J. Chromatogr.*, 1982, **234**, 121; 1984, **309**, 43 (*use*)
Elbert, W. *et al*, *J. Chromatogr.*, 1985, **328**, 111 (*use*)
Ertel, K.J. *et al*, *J. Chromatogr.*, 1987, **411**, 502 (*use*)

3-(Bromomethyl)-7-methoxy-2*H*-1,4-benzoxazin-2-one, 9CI B-00525

[124522-09-4]



$C_{10}H_8BrNO_3$ M 270.082

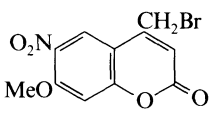
Fluorescent reagent for derivatisation of carboxylic acids.

Naganuma, H. *et al*, *Sankyo Kenkyusho Nenpo*, 1988, **40**, 51; *CA*, **112**, 30052S (*synth*, *use*)

4-(Bromomethyl)-7-methoxy-6-nitro-2*H*-benzopyran-2-one, 9CI B-00526

4-(Bromomethyl)-7-methoxy-6-nitrocoumarin

[103603-62-9]



$C_{11}H_8BrNO_5$ M 314.092

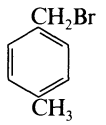
Electrochemical label for carboxylic acids in liq. chromatogr.

Kubab, N. *et al*, *Analusis*, 1986, **14**, 125; *CA*, **105**, 71832v (*use*)

1-(Bromomethyl)-4-methylbenzene, 9CI B-00527

α-*Bromo*-p-*xylene*, *8CI*. p-*Xylyl bromide*. p-*Methylbenzyl bromide*

[104-81-4]



C_8H_9Br M 185.063

Reagent for esterification of acids for gc sepn. Cryst. (EtOH). Mp 36-37°. Bp_{740} 218-220°.

▷ Highly toxic vapour, strong irritant.

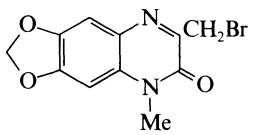
[28258-59-5]

Haas, H.B. *et al*, *J. Am. Chem. Soc.*, 1949, **71**, 1767 (*synth*)
Watson, J.R. *et al*, *J. Chromatogr.*, 1970, **52**, 63 (*use*)
Ouertani, M. *et al*, *Bull. Soc. Chim. Fr.*, 1982, 327 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, XRS000.

3-(Bromomethyl)-6,7-(methylenedioxy)-1-methyl-2(1*H*)-quinoxalinone B-00528

7-(Bromomethyl)-5-methyl-1,3-dioxolo[4,5-g]quinoxalin-6(5H)-one, *9CI*

[116381-11-4]



$C_{11}H_9BrN_2O_3$ M 297.108

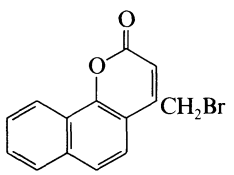
Fluorescence derivatisation reagent for hplc of carboxylic acids and monosialogangliosides. Yellow needles. Mp 170° dec.

Yamaguchi, M. *et al*, *Chem. Pharm. Bull.*, 1988, **36**, 2263; 1989, **37**, 2846 (*synth*, *use*)
Yamaguchi, M. *et al*, *Anal. Sci.*, 1989, **5**, 35 (*use*)

4-(Bromomethyl)-2*H*-naphtho[1,2-*b*]pyran-2-one, 9CI B-00529

4-Bromomethyl-7,8-benzocoumarin

[87317-83-7]



$C_{14}H_9BrO_2$ M 289.128

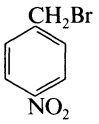
Reagent for fluorimetric detn. of fatty acids and prostaglandins.

Alekseev, S.M. *et al*, *Khim.-Farm. Zh.*, 1983, **17**, 619; *CA*, **99**, 154606h (*use*)
Zolotukhin, S.V. *et al*, *Ukr. Biokhim. Zh.* (*1946-1977*), 1984, **56**, 171; *CA*, **100**, 185918e (*use*)

1-(Bromomethyl)-4-nitrobenzene B-00530

α-Bromo-4-nitrotoluene. p-*Nitrobenzyl bromide*

[100-11-8]



$C_7H_6BrNO_2$ M 216.034

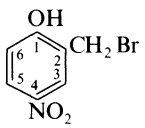
Protecting reagent for carboxyl groups. Esterification reagent for carboxylic acids for hplc or ms. anal. Needles (EtOH).

Norris, J.F. *et al*, *J. Am. Chem. Soc.*, 1916, **38**, 1071 (*synth*)
Buu-Hoï, Ng.Ph., *Justus Liebigs Ann. Chem.*, 1944, **556**, 1 (*synth*)
Cavill, G.W.K., *J. Soc. Chem. Ind., London*, 1946, **65**, 124 (*synth*)
Shapiro, R.H. *et al*, *Org. Mass Spectrom.*, 1969, **2**, 533 (*ms*)
Grushka, E. *et al*, *J. Chromatogr.*, 1975, **112**, 673 (*use*)
Issa, R.M. *et al*, *Spectrochim. Acta, Part A*, 1975, **31**, 199 (*uv, ir*)
Hirata, Y. *et al*, *Anal. Chem.*, 1978, **50**, 1943 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 360.
Ouertani, M. *et al*, *Bull. Soc. Chim. Fr.*, 1982, 327 (*synth*)

2-(Bromomethyl)-4-nitrophenol B-00531

*α-Bromo-4-nitro-*o*-cresol. 2-Hydroxy-5-nitrobenzyl bromide. Koshland's reagent I. HNBB*

[772-33-8]



$C_7H_6BrNO_3$ M 232.033

Chromogenic reagent for tryptophan residues in proteins. Leaflets (C_6H_6). Sol. MeOH, Me_2CO, C_6H_6, dioxan; sl. sol. H_2O. Mp 147°.

Me ether: [3913-23-3]. *2-(Bromomethyl)-1-methoxy-4-nitrobenzene, 9CI. 2-Methoxy-5-nitrobenzyl bromide. 2-Bromomethyl-4-nitroanisole. MNBB. Koshland's reagent II*

$C_8H_8BrNO_3$ M 246.060

Polarity reporter of microenviroment in proteins. Reagent for sulfhydryl modification. Needles with sweet aromatic odour. Sol. MeOH, Me_2CO, C_6H_6; sl. sol. H_2O. Mp 77-78°.

▷ Skin irritant.

Koshland, D.E. *et al*, *J. Am. Chem. Soc.*, 1964, **86**, 1448.
Horton, H.R. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 1126.
Horton, H.R. *et al*, *J. Biol. Chem.*, 1965, **240**, 722 (*synth, use, Me ether*)
Horton, H.R. *et al*, *Methods Enzymol.*, 1967, **11**, 556 (*synth, use*)
Roustan, C. *et al*, *Eur. J. Biochem.*, 1973, **39**, 371 (*use*)
Sarma, T.V.K. *et al*, *Indian J. Phys., B*, 1985, **59**, 478 (*ir, raman*)

(Bromomethyl)pentafluorobenzene, 9CI B-00532

α-Bromo-2,3,4,5,6-pentafluorotoluene, 8CI. Pentafluorobenzyl bromide

[1765-40-8]

$(C_6F_5)CH_2Br$

$C_7H_2BrF_5$ M 260.989

Used as derivatising reagent for organic acids (electron capture gc). Liq. Bp 174-175°. n_D^{20} 1.4710.

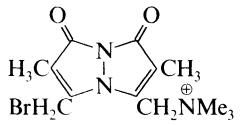
▷ Lachrymator.

Barbour, A.K. *et al*, *J. Chem. Soc.*, 1961, 808 (*synth*)
Birchall, J.M. *et al*, *J. Chem. Soc.*, 1961, 3719 (*synth*)
Kawahara, F.K., *Anal. Chem.*, 1968, **40**, 2073 (*use*)
Briggs, J.M. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1973, 1789 (*cmr*)
Netting, A.G. *et al*, *Biomed. Mass Spectrom.*, 1985, **12**, 668 (*use*)
Daneshvar, M.I. *et al*, *J. Chromatogr.*, 1988, **433**, 248 (*use*)

5-(Bromomethyl)-*N,N,N*,-2,6-pentamethyl-1,7-dioxo-1*H*,7*H*-pyrazolo[1,2-*a*]pyrazole-3-methanaminium(1+), 9CI B-00533

Monobromotrimethylammoniobimane

[75403-48-4]



$C_{13}H_{19}BrN_3O_2^{\oplus}$ M 329.216 (ion)

Bromide: [71418-45-6].

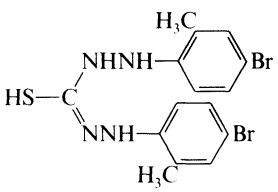
$C_{13}H_{19}Br_2N_3O_2$ M 409.120

Fluorescent label for thiol groups. Derivatisation reagent for anal. of thiols. Yellow cryst. Mp 210-220° dec.

Kosower, N.S. *et al*, *Proc. Natl. Acad. Sci. U.S.A.*, 1979, **76**, 3382 (*use*)
Fahey, R.C. *et al*, *Anal. Biochem.*, 1980, **107**, 1; 1981, **111**, 357 (*use*)
Kosower, E.M. *et al*, *J. Org. Chem.*, 1981, **46**, 1666 (*synth, ir, uv, pmr*)
Kosower, N.S. *et al*, *Methods Enzymol.*, 1987, **143**, 76 (*rev*)

4-Bromo-2-methylphenyldiazenecarbothioic acid 2-(4-bromo-2-methylphenyl)hydrazide, 9CI B-00534

p,p′-*Dibromo-*o,o′*-dimethyldithizone. Bis(4-bromo-2-methylphenyl)thiocarbazone*



$C_{15}H_{16}Br_2N_4S$ M 444.192

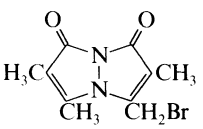
Used as a 0.01% soln. in CCl_4 or $CHCl_3$ for extraction-photometric detn. of Ag, Hg, Cd, Cu. Greenish-black cryst. powder. Sol. alkalis, Me_2CO, CCl_4, $CHCl_3$, EtOH; insol. H_2O.

Takei, S., *Bunseki Kagaku (Jpn. Anal.)*, 1960, **9**, 402.

3-(Bromomethyl)-2,5,6-trimethyl-1*H*,7*H*-pyrazolo[1,2-*a*]pyrazole-1,7-dione, 9CI B-00535

Monobromobimane. Bromobimane

[71418-44-5]



$C_{10}H_{11}BrN_2O_2$ M 271.113

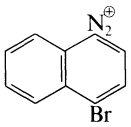
Fluorescent label for thiol groups. Anal. reagent for thiols. Yellow cryst. (EtOH). Mp 142°.

Kosower, E.M. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 6516; 1980, **102**, 4983 (*synth, ir, pmr, uv*)
Kosower, N.S. *et al*, *Proc. Natl. Acad. Sci. U.S.A.*, 1979, **76**, 3382 (*use*)
Fahey, R.C. *et al*, *Anal. Biochem.*, 1981, **111**, 357; **114**, 383 (*use*)

Kosower, N.S. *et al*, *Methods Enzymol.*, 1987, **143**, 76 (*rev*)
Baeyens, W.R.G. *et al*, *Anal. Chim. Acta*, 1988, **205**, 43 (*use*)
Velury, S. *et al*, *J. Chromatogr.*, 1988, **424**, 141 (*use*)

4-Bromo-1-naphthalenediazonium(1+), 9CI B-00536

[46154-39-6]



$C_{10}H_6BrN_2^{\oplus}$ M 234.075 (ion)

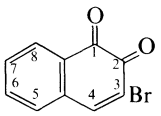
Chloride: [94098-92-7].
$C_{10}H_6BrClN_2$ M 269.527
Titrant for detn. of aromatic hydroxy compds. and amines.

Vytras, K. *et al*, *Anal. Chim. Acta*, 1984, **162**, 141, 373; 1985, **175**, 309 (*synth, use*)

3-Bromo-1,2-naphthoquinone, 8CI B-00537

3-Bromo-1,2-naphthalenedione, 9CI

[7474-83-1]



$C_{10}H_5BrO_2$ M 237.052
Red needles (EtOH). Mp 179°. Sublimes.

1-Oxime: [16761-05-0]. *3-Bromo-1-nitroso-2-naphthalenol, 9CI*
$C_{10}H_6BrNO_2$ M 252.067
Yellow needles (EtOH or AcOH). Mp 172°.

2-Oxime: [30922-52-2]. *3-Bromo-2-nitroso-1-naphthalenol, 9CI*
$C_{10}H_6BrNO_2$ M 252.067
Anal. reagent for aromatic amines and hydrazines. Dark-brown cryst. (AcOH). Sol. EtOH, Et_2O, AcOH, C_6H_6, $CHCl_3$. Mp 175°.

Brömme, C., *Ber.*, 1888, **21**, 386.
Fries, K. *et al*, *Justus Liebigs Ann. Chem.*, 1930, **484**, 265.
Fieser, L.F. *et al*, *J. Am. Chem. Soc.*, 1937, **59**, 1016.
Oliver, R.W.A. *et al*, *Tetrahedron*, 1968, **24**, 4067 (*spectra*)
Courseille, C. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1970, **270**, 687 (*cryst struct*)
Korenman, J.M. *et al*, *CA*, 1971, **80**, 9390n (*use, oxime*)
Gaultier, J. *et al*, *Cryst. Struct. Commun.*, 1975, **4**, 211 (*cryst struct*)

6-Bromo-1,2-naphthoquinone B-00538

6-Bromo-1,2-naphthalenedione, 9CI

[6954-48-9]

$C_{10}H_5BrO_2$ M 237.052
Golden needles (H_2O), orange-red cryst. (C_6H_6). Mod. sol. EtOH, Et_2O, AcOH, ligroin. Mp 168° dec. (discolours at 145°, sinters at 150°).

▷ QL7400000.

Dioxime: [67106-47-2].
$C_{10}H_7BrN_2O_2$ M 267.081
Used for extraction-photometric detn. of Ni. Orange-red needles (EtOH). Sol. EtOH, C_6H_6, Me_2CO.

Claus, A. *et al*, *J. Prakt. Chem.*, 1891, **43**, 54.
Fries, K. *et al*, *Justus Liebigs Ann. Chem.*, 1930, **484**, 271.
Fieser, L.F. *et al*, *J. Am. Chem. Soc.*, 1935, **57**, 1481.
Oliver, R.W.A. *et al*, *Tetrahedron*, 1968, **24**, 4067 (*spectra, synth*)
Toei, K. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1978, **27**, 31 (*use, oxime*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BNS750.

2-Bromo-4′-nitroacetophenone, 8CI B-00539

2-Bromo-1-(4-nitrophenyl)ethanone, 9CI. p-*Nitrophenacyl bromide*

[99-81-0]

$C_8H_6BrNO_3$ M 244.044
Derivatisation reagent for hplc anal. of prostaglandins. Needles (C_6H_6/pet. ether or EtOAc/pet. ether). Mp 98°.

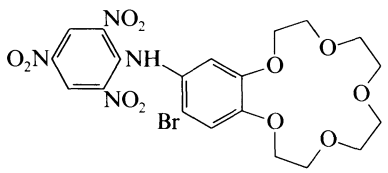
Oxime: [14181-73-8].
$C_8H_7BrN_2O_3$ M 259.059
Cryst. (C_6H_6). Mp 129-129.5°.

Baker, J.W., *J. Chem. Soc.*, 1931, 2416.
Sugimoto, N. *et al*, *Yakugaku Zasshi*, 1952, **72**, 195.
Hajos, A. *et al*, *Acta Chim. Acad. Sci. Hung.*, 1972, **73**, 113.
Exner, O. *et al*, *Collect. Czech. Chem. Commun.*, 1972, **37**, 2156 (*ir*)
Merritt, M.V. *et al*, *Anal. Chem.*, 1976, **48**, 1851 (*use*)
Naidir, F.B. *et al*, *Khim.-Farm. Zh.*, 1976, **10**, 117 (*synth*)
Merritt, M.V., *Anal. Biochem.*, 1977, **80**, 392 (*use*)

16-Bromo-2,3,5,6,8,9,11,12-octahydro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, 9CI B-00540

3′-Bromo-4′-(picrylamino)benzo-15-crown-5

[70758-90-6]

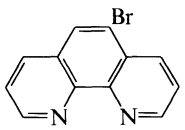


$C_{20}H_{21}BrN_4O_{11}$ M 573.310
Used as 1.8m*M* soln. in $CHCl_3$ for extraction-photometric detn. of K (λ_{max} 560 nm, $CHCl_3$). Orange cryst. ($CHCl_3$/MeOH). Sol. $CHCl_3$, MeOH, C_6H_6, EtOH; sl. sol. H_2O. Mp 216-217°. pK_a 9.32 (0.1*M* LiCl).

Nakamura, H. *et al*, *Talanta*, 1979, **26**, 921 (*synth, detn, K*)
Nakamura, H. *et al*, *Anal. Chem.*, 1980, **52**, 1668 (*detn, K*)
Bubris, B.P. *et al*, *Anal. Chim. Acta*, 1982, **139**, 307 (*detn, K*)

5-Bromo-1,10-phenanthroline, 9CI B-00541

[40000-20-2]



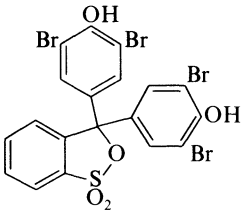
$C_{12}H_7BrN_2$ M 259.105
Used as redox indicator for titrimetric detn. of Cu(*I*), Fe(*II*). Cryst. ($CHCl_3$). Sol. EtOH, Me_2CO, C_6H_6; spar. sol. H_2O. Mp 119°. pK_a 4.20 (μ = 0.1; 25°).

Richter, F. *et al*, *J. Am. Chem. Soc.*, 1944, **66**, 396 (*synth*)
Halcrow, B.E. *et al*, *J. Chem. Soc.*, 1946, 155 (*synth*)
Banks, C.V. *et al*, *J. Am. Chem. Soc.*, 1959, **81**, 6153 (*use*)
Denes, V. *et al*, *J. Prakt. Chem.*, 1978, **320**, 172 (*pmr*)

Bromophenol blue B-00542

4,4′-(3H-2,1-Benzoxathio-3-ylidene)bis[2,6-dibromophenol]-S,S-dioxide, 9CI, 8CI. α,α-Bis(3,5-dibromo-4-hydroxyphenyl)-α-hydroxy-o-toluenesulfonic acid γ-sultone. Tetrabromosulfonephthalein

[115-39-9]



$C_{19}H_{10}Br_4O_5S$ M 669.967

Triphenylmethane acid dye. Commercially available. Used as 0.1% soln. in 20% EtOH or 0.04% aq. soln. in extraction-photometric detn. of Fe (*II*), Zn, Cu, Cd, Ag; acid-base indicator (pH range: 3-4.6; colour change: yellow→purple); adsorption indicator. Blue cryst. ($AcOH/Me_2CO$). Sol. EtOH, alkalis; sl. sol. H_2O, Et_2O. Mp 279° dec. pK_a 3.89 (H_2O). Available as acid or monosodium salt.

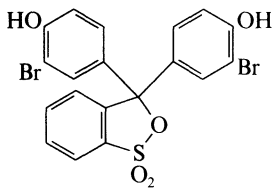
Na salt: [62625-28-9].
Sol. H_2O.

White, E.C. *et al*, *J. Am. Chem. Soc.*, 1919, **41**, 1190 (*synth*)
Freas, R. *et al*, *J. Am. Chem. Soc.*, 1928, **50**, 2014 (*synth*)
Colichman, E.L., *J. Am. Chem. Soc.*, 1951, **73**, 3385 (*uv*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)
Skorobogatov, V.M. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 1450 (*use*)
Gnoneim, M.M. *et al*, *Indian J. Chem., Sect. A*, 1979, **18**, 349 (*ir*)
Tananaiko, M.M. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 589 (*use*)
Adamovich, L.P. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 1782 (*use*)
Buhl, F. *et al*, *Chem. Anal. (Warsaw)*, 1983, **28**, 779; 1984, **29**, 343 (*use, Cd, Fe*)
Veerapandian, B. *et al*, *Acta Crystallogr., Sect. C*, 1984, **40**, 500 (*cryst struct*)

Bromophenol red B-00543

4,4′-(3H-2,1-Benzoxathiol-3-ylidene)bis[2-bromophenol] S,S-*dioxide, 9CI. 3,3′-Dibromophenolsulfonephthalein*

[2800-80-8]



$C_{19}H_{12}Br_2O_5S$ M 512.175

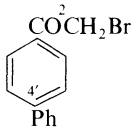
Used as a soln. in EtOH as acid-base indicator (pH range 5.2 - 6.8; colour change: yellow → red). Reddish-brown cryst. powder (EtOH). Sol. EtOH, alkalis; spar. sol. H_2O. Mp 230°.

Cohen, B., *Public Health Rep.*, 1926, **41**, 3051; *CA*, **21**, 1111 (*synth, use, ind*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 116 (*use, ind*)
Chance, B. *et al*, *Methods Enzymol.*, 1972, **24**, 336 (*rev, use, ind*)

2-Bromo-4′-phenylacetophenone, 8CI B-00544

1-[(1,1′-Biphenyl)-4-yl]-2-bromoethanone, 9CI. p-*Phenylphenacyl bromide. 4-(Bromoacetyl)biphenyl*

[135-73-9]



$C_{14}H_{11}BrO$ M 275.144

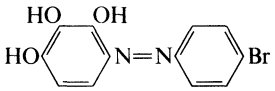
Reagent used for identifying acids. Mp 125.5°.

Drake, N.L. *et al*, *J. Am. Chem. Soc.*, 1930, **52**, 3715 (*synth*)
Buu-Hoï, Ng.Ph. *et al*, *Bull. Soc. Chim. Fr.*, 1950, 489 (*synth*)
Jart, A., *CA*, 1965, **63**, 14654 (*ir*)
Umeh, E.O., *J. Chromatogr.*, 1971, **56**, 29 (*use*)

4-[(4-Bromophenyl)azo]-1,2,3-benzenetriol, 9CI B-00545

2,3,4-Trihydroxy-4′-bromoazobenzene

[78447-94-6]



$C_{12}H_9BrN_2O_3$ M 309.119

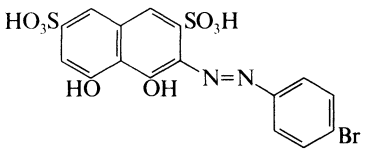
Used as 1m*M* Me_2CO soln. for photometric detn. of Mo(*VI*) (λ_{max} 470 nm, ε 40000, 0.005-0.07*M* H_2SO_4). Dark brown powder. Sol. Me_2CO, EtOH.

Gambarov, D.G. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 2190 (*synth, detn, Mo*)

3-[(4-Bromophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI B-00546

p-*Bromophenylazochromotropic acid*

[62869-76-5]



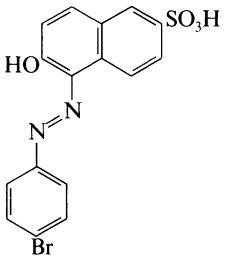
$C_{16}H_{11}BrN_2O_8S_2$ M 503.307

Used as a 0.01*M* aq. soln. for photometric detn. of Th (λ_{max} 585 nm, pH 3.5); metallochromic indicator in titrimetric detn. of Th; used as 1m*M* aq. soln. as an acid-base indicator. Dark red cryst. powder. Sol. H_2O, EtOH. pK_{a2} 3.42; pK_{a3} 7.65; pK_{a4} 9.84.

Khater, M.M. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **284**, 45 (*use, indicator*)
Khalifa, H. *et al*, *Microchem. J.*, 1977, **22**, 288 (*synth, use*)
Khater, M.M. *et al*, *Microchem. J.*, 1977, **22**, 299 (*detn, Th*)

5-[(4-Bromophenyl)azo]-6-hydroxy-2-naphthalenesulfonic acid, 9CI B-00547

[62936-59-8]



$C_{16}H_{11}BrN_2O_4S$ M 407.244

Used as a 0.1% soln. in 15% Me_2CO for photometric titrimetric detn. of Pd (λ_{max} 560 nm). Orange-red cryst. Sol. EtOH, Me_2CO.

Khalifa, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **284**, 46 (*detn, Pd*)

1-(4-Bromophenyl)-1,3-butanedione B-00548

p-*Bromobenzoylacetone*

[4023-81-8]

$C_{10}H_9BrO_2$ M 241.084

Cryst. (EtOH). Mp 94-96°.

3-Oxime:

$C_{10}H_{10}BrNO_2$ M 256.098

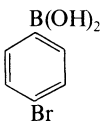
Used as 0.1-2% soln. in EtOH for extraction-photometric detn. of Pd (λ_{max} 400 nm, ε 9300), Ru(*III*) ($CHCl_3$). Cryst. (MeOH). Sol. EtOH, Me_2CO; insol. H_2O. Mp 164°.

Hanus, J. *et al*, *Collect. Czech. Chem. Commun.*, 1929, **1**, 392 (*synth*)
Yeole, V.V. *et al*, *Mikrochim. Acta*, 1980, **2**, 117 (*use, oxime*)
McKean, D.R. *et al*, *J. Org. Chem.*, 1987, **52**, 422 (*synth*)

(4-Bromophenyl)dihydroxyborane B-00549

4-Bromophenylboronic acid, 10CI, 9CI. p-*Bromophenylboric acid. 4-Bromobenzeneboronic acid*

[5467-74-3]



$C_6H_6BBrO_2$ M 200.827

Reagent for derivatisation of bifunctional compds. for gc anal. Needles (EtOH). Sol. hot H_2O. Mp 191°, Mp 286-289°, 312-315°. pK_a 9.14 (25°, 25% EtOH aq.).

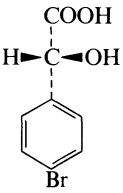
▷ CY8650000.

Bean, F. *et al*, *J. Am. Chem. Soc.*, 1932, **54**, 4415 (*synth*)
Zvonkova, Z.V., *Kristallografiya*, 1957, **2**, 408; *CA*, **52**, 3431 (*struct*)
Poole, C.F. *et al*, *J. Chromatogr.*, 1978, **158**, 33; 1979, **186**, 307 (*use*)
Nöth, H. *et al*, *NMR Spectroscopy of Boron Compounds* (*NMR Basic Principles and Progress*), (Part 14), Springer, 1978 (*nmr*)
Kabalka, G.W. *et al*, *J. Organomet. Chem.*, 1983, **259**, 269 (*synth*)

2-(4-Bromophenyl)-2-hydroxyacetic acid B-00550

4-Bromo-α-hydroxybenzeneacetic acid, 9CI. p-*Bromophenylhydroxyacetic acid.* p-*Bromomandelic acid.* p-*Bromophenylglycolic acid*

[6940-50-7]



(*R*)-*form*

$C_8H_7BrO_3$ M 231.045

(***R*)-*form*** [32189-34-7]

Cryst. ($CHCl_3$). Mp 131°.

(±)-***form*** [7021-04-7]

Needles (C_6H_6). Mp 119°. pK_{a1} 3.15 (25°).

Na salt: [15460-75-0].

Used as a 0.1*M* aq. soln. in H_2O for gravimetric detn. of Zr. Sol. H_2O.

Me ester:

$C_9H_9BrO_3$ M 245.072

Mp 61°.

Et ester: [30565-53-8].

$C_{10}H_{11}BrO_3$ M 259.099

Bp_3 148-152°.

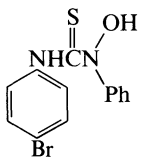
[63096-37-7]

Söderbaum, H.G., *Ber.*, 1892, **25**, 3459.
Collet, M.A., *Bull. Soc. Chim. Fr.*, 1899, **21**, 67.
Riebsomer, J.L. *et al*, *J. Am. Chem. Soc.*, 1938, **60**, 2974 (*synth*)
Klingenberg, J.J. *et al*, *Anal. Chem.*, 1952, **24**, 1861 (*detn, Zr*)
Papucci, D. *et al*, *Anal. Chem.*, 1953, **25**, 1758 (*detn, Zr*)
Org. Synth., Coll. Vol., 4, 1963, 110 (*synth*)
Su, Y. *et al*, *Anal. Chim. Acta*, 1971, **55**, 265 (*detn, Zr*)
Collet, A. *et al*, *Bull. Soc. Chim. Fr.*, 1973, 3330 (*synth*)

N'-(4-Bromophenyl)-*N*-hydroxy-*N*-phenylthiourea, 8CI B-00551

N-(p-*Bromophenyl*)-N'-*phenylthiocarbonylhydroxamic acid*

[38420-87-0]



$C_{13}H_{11}BrN_2OS$ M 323.213

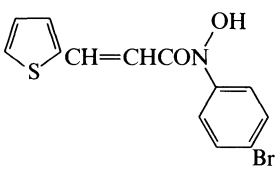
Used as a 0.01*M* soln. in $CHCl_3$ for extraction-photometric detn. of Cu. Cryst. (C_6H_6). Sol. EtOH, C_6H_6, $CHCl_3$, Me_2CO, AcOH, dioxan. Mp 112-114°.

Maklakova, V.P. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 257 (*detn, Cu*)

N-(4-Bromophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, 9CI B-00552

N-p-*Bromophenyl-2-thenylacrylohydroxamic acid*

[119582-02-4]



$C_{13}H_{10}BrNO_2S$ M 324.197

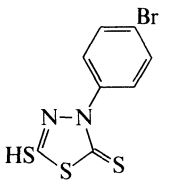
Used as 0.1*M* soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 530 nm, ε 6300). Cryst. (C_6H_6). Sol. $CHCl_3$, C_6H_6.

Abbasi, S.A. *et al*, *Analyst* (*London*), 1988, **113**, 1561 (*synth, detn, V*)

3-(4-Bromophenyl)-5-mercapto-1,3,4-thiadiazole-2-thione B-00553

4-(p-Bromophenyl)-2-mercapto-Δ^2-1,3,4-thiadiazoline-5-thione, 8CI

[20316-43-2]



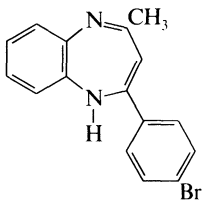
$C_8H_5BrN_2S_3$ M 305.243

Used as a 0.05*M* soln. in dil. KOH for extraction-photometric detn. of Bi (λ_{max} 350 nm, ε 25200, 2-propanol), Te. Yellow cryst. (C_6H_6). Sol. EtOH, hot C_6H_6, alkalis; spar. sol. $CHCl_3$; insol. H_2O. Mp 151°.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 59 (*synth, detn, Bi*)
Busev, A.I. *et al*, *CA*, 1970, **72**, 128316m (*detn, Te*)

2-(4-Bromophenyl)-4-methyl-1*H*-1,5-benzodiazepine, 9CI B-00554

[73980-67-3]



$C_{16}H_{13}BrN_2$ M 313.196

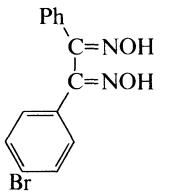
Used as 0.1% MeOH soln. as an acid-base indicator (colour change: pink → yellow). Cryst. Sol. MeOH; sl. sol. H_2O. pK_{a1} 6.15 (H_2O).

Omar, N.M., *Indian J. Chem.*, 1974, **12**, 498 (*synth*)
El-Rabbat, N.A. *et al*, *Analyst* (*London*), 1980, **105**, 165 (*use*)

(4-Bromophenyl)phenylethanedione dioxime, 9CI B-00555

4-Bromobenzil dioxime

[43084-61-3]



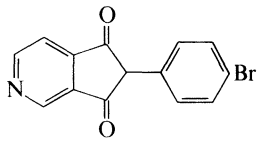
$C_{14}H_{11}BrN_2O_2$ M 319.157

Used as 1m*M* EtOH soln. for extraction-photometric detn. of Ni (λ_{max} 411 nm, ε 13300 $CHCl_3$), Fe(*II*), Cu. Cryst. Sol. EtOH. Mp 228-229°.

Kuse, S. *et al*, *Anal. Chim. Acta*, 1974, **70**, 65 (*synth, detn, Ni, Fe, Cu*)

6-(4-Bromophenyl)-5*H*-2-pyrindine-5,7(6*H*)-dione B-00556

2-(4-Bromophenyl)-5-azaindandione

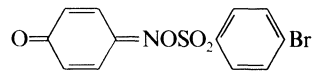


$C_{14}H_8BrNO_2$ M 302.127

Used as a 20% soln. in Me_2CO as acid-base indicator (pH range: 4.7-5.8). Cryst.

Hrnčiar, P. *et al*, *Chem. Zvesti*, 1966, **20**, 261 (*use*)

O-(*p*-Bromophenylsulfonyl)quinone monoxime B-00557



$C_{12}H_8BrNO_4S$ M 342.169

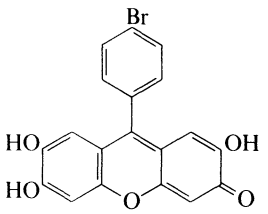
Used as a 0.34m*M* soln. in DMSO for fluorimetric detn. of $CN^{\ominus}$. Yellow cryst. (CCl_4). Sol. EtOH, $CHCl_3$. Mp 151-152°.

Guilbault, G.G. *et al*, *Anal. Chem.*, 1965, **37**, 1395 (*detn, $CN^{\ominus}$*)

9-(4-Bromophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, 9CI B-00558

4-Bromophenylfluorone

[6098-79-9]



$C_{19}H_{11}BrO_5$ M 399.197

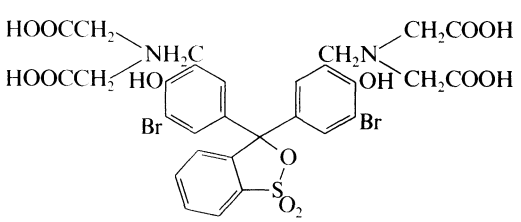
Used as a 0.01*M* soln. in EtOH for photometric detn. of B, Ga, Nb, W. Red cryst. Sol. EtOH, Me_2CO; insol. H_2O. pK_{a1} 3.68; pK_{a2} 6.27 (μ = 0.1, 25°).

Poluektova, E.N. *et al*, *Zh. Anal. Khim.*, 1964, **19**, 856 (*detn, B, Ga, W*)
Nazarenko, V. *et al*, *Zavod. Lab.*, 1972, **38**, 1427 (*detn, Nb*)
Shitareva, *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1496 (*pKa*)

Bromophthalexon S B-00559

N,N′-[3H-*2,1-Benzoxathiol-3-ylidenebis*[(*5-bromo-6-hydroxy-3,1-phenylene*)*methylene*]]*bis*[N-(*carboxymethyl*)*glycine*] S,S-*dioxide*. *3,3-Bis*[*3-(aminomethyl)-5-bromo-4-hydroxyphenyl*]-3H-*2,1-benzoxathiazole-1,1-dioxide* N,N,N′,N′-*tetraacetic acid*

[34352-52-8]



$C_{29}H_{26}Br_2N_2O_{13}S$ M 802.404

Used as a 0.01*M* aq. soln. for photometric detn. of Al, Fe, Ga, Sc, Th, Zr. Hygroscopic red cryst. powder. Sol. EtOH, H_2O; insol. C_6H_6.

Cherkesov, A.I. *et al*, *Khim. Khim. Tekhnol. (Minsk)*, 1971, **14**, 999.
Cherkesov, A.I. *et al*, *Zh. Neorg. Khim.*, 1971, **16**, 1794.

2-Bromopropane, 9CI B-00560

Isopropyl bromide

[75-26-3]

$H_3CCHBrCH_3$

C_3H_7Br M 122.992

Alkylation reagent for amines and amino acids for gc anal. Liq. d_4^{20} 1.31. Fp −89°. Bp 59.35° , 60-61°. n_D^{20} 1.4250.

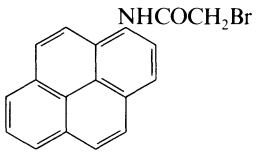
▷ TX4111000.

Org. Synth., Coll. Vol., 1, 1932, 36 (*synth*)
Werner, E.A., *J. Soc. Chem. Ind., London*, 1933, **52**, 285T (*synth*)
Org. Synth., Coll. Vol., 2, 1943, 359 (*synth*)
Pettitt, B.C. *et al*, *J. Chromatogr. Sci.*, 1970, **8**, 735 (*use*)
Blessington, B. *et al*, *J. Chromatogr.*, 1973, **78**, 343 (*use*)
Kozlowski, R. *et al*, *Org. Prep. Proced. Int.*, 1988, **20**, 177 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BNY000.

2-Bromo-*N*-1-pyrenylacetamide, 9CI B-00561

N-(*Bromoacetyl*)-*1-pyrenamine. 1-(Bromoacetylamino) pyrene*

[126651-35-2]



$C_{18}H_{12}BrNO$ M 338.203

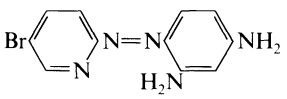
Fluorescence derivatisation reagent for carboxylic acids. Light yellow cryst. (EtOAc). Mp 222-224°.

Allenmark, S. *et al*, *Chromatographia*, 1989, **28**, 367 (*synth, use*)

4-[(5-Bromo-2-pyridinyl)azo]-1,3-benzenediamine, 9CI B-00562

5-Bromo-2-(2,4-diaminophenylazo)pyridine. 5-Br-PADAB

[50768-75-7]



$C_{11}H_{10}BrN_5$ M 292.137

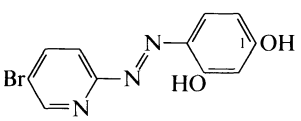
Used as a 1m*M* soln. in EtOH for photometric detn. of Co. Rusty brown cryst. (EtOH). Sol. EtOH, Me_2CO; spar. sol. H_2O. Mp 252-253°.

Kiss, E. *et al*, *Anal. Chim. Acta*, 1973, **66**, 395 (*synth*)
Bandino, O. *et al*, *Anal. Chim. Acta*, 1980, **119**, 393.

4-(5-Bromo-2-pyridinylazo)-1,3-benzenediol B-00563

5-Bromo-2-(2,4-dihydroxyphenylazo)pyridine

[17091-08-6]



$C_{11}H_8BrN_3O_2$ M 294.107

1-Me ether: [77350-01-7]. *2-[(5-Bromo-2-pyridinyl)azo]-5-methoxyphenol, 9CI. 5-Bromo-2-(4-hydroxy-2-methoxyphenylazo)pyridine*

$C_{12}H_{10}BrN_3O_2$ M 308.134

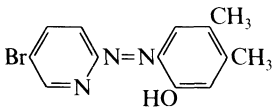
Used as 0.2% MeOH soln. for extraction-photometric detn. of Ni (λ_{max} 528 nm, ε 99000, $CHCl_3$), Cu, Co. Cryst. Sol. MeOH, EtOH, dioxan; sl. sol. H_2O. Mp 210°. pK_{a1} <1; pK_{a2} 7.75 (aq. dioxan 4:1, 25°, 0.1*M* KNO_3).

Ohshita, K. *et al*, *Anal. Chim. Acta*, 1981, **124**, 193 (*synth, use*)

2-[(5-Bromo-2-pyridinyl)azo]-4,5-dimethylphenol, 9CI B-00564

5-Bromo-2-(2-hydroxy-4,5-dimethylphenylazo)pyridine

[126433-30-5]



$C_{13}H_{12}BrN_3O$ M 306.161

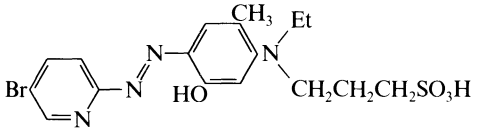
Used as 0.2m*M* *o*-xylene soln. for extraction-photometric detn. of Cd (λ_{max} 590 nm, ε 38000, pH 12.3). Dark red cryst. (EtOH aq.). Sol. EtOH, *o*-xylene, $CHCl_3$. Subl. 150°.

Grudpan, K. *et al*, *Talanta*, 1989, **36**, 1005 (*synth, detn, Cd*)

3-[[4-[(5-Bromo-2-pyridinyl)azo]-5-hydroxy-2-methylphenyl]ethylamino]-1-propanesulfonic acid, 9CI B-00565

2-(5-Bromo-2-pyridylazo)-5-[N-ethyl-N-(3-sulfopropyl) amino]-4-methylphenol

[86190-04-7]



$C_{17}H_{21}BrN_4O_4S$ M 457.347

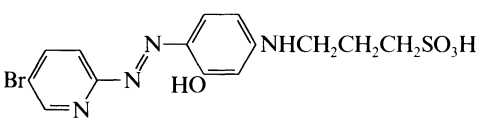
Used as 1m*M* aq. soln. for photometric detn. of U (λ_{max} 585 nm, ε 48000), Zn, Co, Ni, Cu. Brown cryst. Sol. H_2O, EtOH. pK_{a2} 3.60; pK_{a3} 9.6 (25°, μ = 0.1).

Ohshita, K. *et al*, *Anal. Chim. Acta*, 1983, **149**, 269 (*synth, use*)

3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]amino]-1-propanesulfonic acid, 9CI B-00566

2-(5-Bromo-2-pyridylazo)-5-[N-(3-sulfopropyl)amino]phenol

[86190-02-5]



$C_{14}H_{15}BrN_4O_4S$ M 415.267

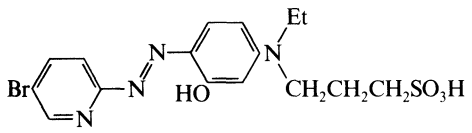
Used as 1m*M* soln. for photometric detn. of U (λ_{max} 562 nm, ε 55000), Zn, Co, Ni, Cu. Brown cryst. Sol. H_2O, EtOH. pK_{a2} 2.70; pK_{a3} 10.8 (25°, μ = 0.1).

Ohshita, K. *et al*, *Anal. Chim. Acta*, 1983, **149**, 269 (*synth, use*)

3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]ethylamino]-1-propanesulfonic acid, 9CI B-00567

2-(5-Bromo-2-pyridylazo)-5-[N-ethyl-N-(3-sulfopropyl)amino]phenol

[86190-05-8]



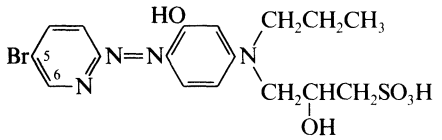
$C_{16}H_{19}BrN_4O_4S$ M 443.320

Used as 1m*M* aq. soln. for photometric detn. of U (λ_{max} 578 nm, ε 69000), Zn, Co, Ni, Cu. Brown cryst. Sol. H_2O, EtOH. pK_{a2} 2.90; pK_{a3} 10.8 (25°, μ = 0.1).

Ohshita, K. *et al*, *Anal. Chim. Acta*, 1983, **149**, 269 (*synth, use*)

3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-2-hydroxy-1-propanesulfonic acid B-00568

[98311-71-8]



$C_{17}H_{21}BrN_4O_5S$ M 473.347

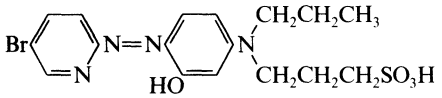
Di-Na salt: Used as a 0.08m*M* aq. soln. for photometric detn. of Co(*III*), Cu, Ni, Zn. Orange-red cryst. (H_2O). Sol. H_2O.

Horiguchi, D. *et al*, *Anal. Sci.*, 1985, **1**, 461 (*use*)

3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-1-propanesulfonic acid, 9CI B-00569

2-(5-Bromo-2-pyridylazo)-5-(N-propyl-N-sulfopropylamino)phenol

[81608-06-2]



$C_{17}H_{21}BrN_4O_4S$ M 457.347

Used as a 5m*M* aq. soln. for photometric detn. of Co, Cu, Ni, $UO_2^{2\oplus}$ (λ_{max} 578 nm, ε 66000), Zn (λ_{max} 552 nm, ε 133000), V (λ_{max} 589 nm, ε 55000). Red-orange cryst. (H_2O). Sol. H_2O. Mp 245-248° (dec.).

Ti complex: [95069-72-0].
Used for photometric detn. of H_2O_2 (λ_{max} 539 nm, ε 57000).

Shijo, Y. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1984, **33**, 435E.
Matsubara, C. *et al*, *Anal. Chem.*, 1985, **57**, 1107 (*Ti complex*)
Horiguchi, D. *et al*, *Anal. Sci.*, 1985, **1**, 461.

3-[[4-[(6-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-1-propanesulfonic acid, 9CI B-00570

2-(6-Bromo-2-pyridylazo)-5-(N-propyl-N-sulfopropylamino)phenol

[112603-59-5]

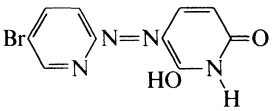
$C_{17}H_{21}BrN_4O_4S$ M 457.347

Used as aq. soln. for flotation-photometric detn. of Zn (λ_{max} 556 nm, isopentanol/butylacetate). Crsyt. Sol. H_2O, EtOH.

Kotsuji, K. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1987, **36**, 745 (*synth, detn, Zn*)

5-(5-Bromo-2-pyridinylazo)-6-hydroxy-2(1*H*)-pyridinone B-00571

5-(5-Bromo-2-pyridylazo)-2,6-dihydroxypyridine



$C_{10}H_7BrN_4O_2$ M 295.095

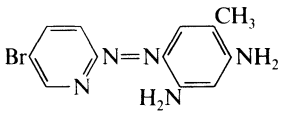
Used for photometric detn. of Pd (λ_{max} 580 nm, ε 28400). Orange cryst. powder. Sol. EtOH, C_6H_6, Me_2CO.

Ivanov, V.M. *et al*, *Vestn. Mosk. Univ.*, 1980, **21**, 196; *CA*, **93**, 87862z.

4-[(5-Bromo-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, 9CI B-00572

5-Bromo-2-(2,4-diamino-5-methylphenylazo)pyridine. 5-Br-PADAT

[51833-09-1]



$C_{12}H_{12}BrN_5$ M 306.164

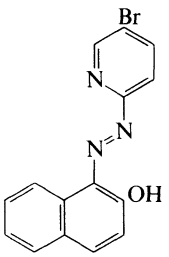
Used as a 0.1% soln. in EtOH or H_2O for extraction-photometric detn. of Co (λ_{max} 574 nm, ε 130000). Brown needles (EtOH aq.). Sol. C_6H_6, $CHCl_3$, EtOH, Me_2CO; spar. sol. H_2O. Mp 216°.

Shibata, S. *et al*, *Anal. Chim. Acta*, 1974, **73**, 107 (*detn, Co*)

1-[(5-Bromo-2-pyridinyl)azo]-2-naphthalenol, 9CI B-00573

5-Bromo-2-(2-hydroxy-1-naphthylazo)pyridine. 5-Br-β-PAN

[22919-31-9]



$C_{15}H_{10}BrN_3O$ M 328.167

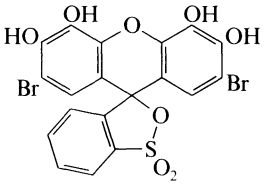
Used as 1m*M* soln. in MeOH for photometric detn. of many metals, e.g. Co, Pd, V. Orange-red cryst. Sol. MeOH. Mp 172-173°.

Shibata, S. *et al*, *Anal. Chim. Acta*, 1969, **45**, 279 (*synth, use*)

Bromopyrogallol red B-00574

2′,7′-Dibromospiro[3H-2,1-benzoxathiole-3,9′-[9H]-xanthene]-3′,4′,5′,6′-tetrol 1,1-dioxide, 9CI. 5,5′-Dibromopyrogallolsulfonephthalein

[16574-43-9]



$C_{19}H_{10}Br_2O_8S$ M 558.157

Commercially available. Used in photometric detn. of In, Mo, Nb, Sb, Bi, Sn, Ge, Sc, Zr, Ag, Th, Ti, U; metal indicator in chelatometric detn. of Bi, Co, Ni, Pb. Reddish brown cryst. Sol. EtOH; sl. sol. H_2O. Mp 300°. pK_{a1} 0.16; pK_{a2} 4.39; pK_{a3} 9.13; pK_{a4} 11.29.

Jeničkova, A. *et al*, *Collect. Czech. Chem. Commun.*, 1956, **21**, 1956 (*synth, use*)

Christopher, D. *et al*, *Talanta*, 1966, **13**, 507 (*detn, Sb*)

Sakai, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1969, **42**, 2272 (*detn, Zr*)

Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1694 (*detn, Ge*)

Kirillov, A.I. *et al*, *Zavod. Lab.*, 1975, **41**, 523 (*detn, U*)

Snell, F.D., *Photometric and Fluorimetric Methods of Analysis, Metals, Part I*, John Wiley, New York, 1978, 469.

Ganago, L.I. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 279 (*detn, Sc*)

Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 45 (*use*)

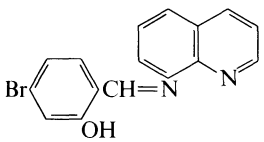
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 407.

West, T.S. *et al*, *The Determination of Trace Metals in Natural Waters*, Blackwell, Oxford, 1988, 58.

8-*N*-(5-Bromosalicylidene)aminoquinoline B-00575

4-Bromo-2-[(8-quinolinylimino)methyl]phenol, 9CI. N-(*8-Quinolyl*)-*5-bromosalicylideneimine*

[51728-10-0]



$C_{16}H_{11}BrN_2O$ M 327.180

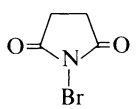
Used as a 1m*M* soln. in EtOH for photometric detn. of Cu. Cryst. Mp 111.2°.

Katuki, K. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1973, **22**, 1470 (*synth, detn, Cu*)

N-Bromosuccinimide, 8CI B-00576

1-Bromo-2,5-pyrrolidinedione, 9CI

[128-08-5]



$C_4H_4BrNO_2$ M 177.985

Used as a brominating agent for alkenes etc. and as an oxidising agent. Used as 0.1-0.01% aq. soln., as titrant in detn. of $I^{\ominus}$ (in the presence of methyl red as indicator). Orthorhombic cryst. (C_6H_6) with faint odour of Br_2. Sol. Me_2CO, sl. sol. AcOH, spar. sol. H_2O, CCl_4, prac. insol. hexane. Mp 173-175°.

▷ Highly irritant. WN2275000.

Ziegler, K. *et al*, *Justus Liebigs Ann. Chem.*, 1942, **551**, 80 (*synth*)

Barakat, M.Z. *et al*, *Microchem. J.*, 1968, **13**, 517 (*detn, $I^{\ominus}$*)

Braeuniger, H. *et al*, *Pharmazie*, 1969, **24**, 140 (*use*)

Pizey, J.F.S., *Synth. Reagents*, Ellis Horwood, 1974, **2**, 1 (*rev, bibl*)

Jabay, O. *et al*, *Z. Naturforsch., B*, 1977, **32**, 1416 (*cryst struct*)

Miyazaki, H., *CA*, 1978, **88**, 6506 (*synth*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980. **8**, 54.

Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 212.

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BOF500.

Bromotetraphenylantimony, 9CI B-00577

Tetraphenylantimony bromide. Tetraphenylstibonium bromide

[21450-52-2]

Ph_4SbBr

$C_{24}H_{20}BrSb$ M 510.076

Struct. intermediate between ionic and covalent tbp with the latter the more important contributor. Synth. from Ph_5Sb and HBr, or from Ph_3Sb, PhBr and $AlCl_3$. Used as a satd. aq. soln. for detn. of Bi, Co. Catalyst for reactions between isothiocyanates and aziridines to give 1,3-thiazolidine derivs. and between aziridines and CO_2 to give 1,3-oxazolidin-2-ones. Cryst. (EtOH). Mp 210-215°.

▷ Toxic.

Br_2 complex (1:1):

$C_{24}H_{20}Br_3Sb$ M 669.884

Orange cryst. (EtOH). Mp 130° dec.

[16894-69-2, 16894-69-2]

Chatt, J. *et al*, *J. Chem. Soc.*, 1940, 1192 (*synth*)

Willard, H.H. *et al*, *J. Am. Chem. Soc.*, 1948, **70**, 737 (*synth*)

Potratz, A.H. *et al*, *Anal. Chem.*, 1949, **21**, 1276 (*use*)

Rao, C.N.R. *et al*, *Can. J. Chem.*, 1961, **39**, 171 (*ir, uv*)

Schindlbauer, H., *Spectrochim. Acta*, 1964, **20**, 1143 (*uv*)

Razuvaev, G.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1969, 2234; *Bull. Acad. Sci. USSR, Div. Chem. Sci.* (*Engl. Transl.*), 1969, 2083 (*synth*)

Goutermann, M. *et al*, *J. Mol. Spectrosc.*, 1974, **53**, 319 (*uv*)

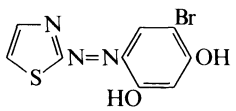
Hoste, S. *et al*, *J. Electron Spectrosc. Relat. Phenom.*, 1979, **17**, 191 (*pe*)

Ferguson, G. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1988, 731 (*cryst struct*)

4-Bromo-6-(2-thiazolylazo)-1,3-benzenediol, 9CI B-00578

4-(2-Thiazolylazo)-6-bromoresorcinol. 2-(5-Bromo-2,4-dihydroxyphenylazo)thiazole

[126739-36-4]



$C_9H_6BrN_3O_2S$ M 300.135

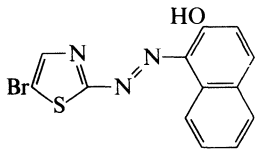
Used as 0.05% soln. in 0.01*M* NaOH soln. for photometric detn. of lanthanides (λ_{max} 553 nm, ε 60000, pH 6.8-8.7). Dark red cryst. powder (EtOH). Sol. H_2O, EtOH. pK_{a1} 0.85; pK_{a2} 5.20; pK_{a3} 9.25.

Ueda, K. *et al*, *Anal. Sci.*, 1989, **5**, 725 (*synth, use*)

1-[(5-Bromo-2-thiazolyl)azo]-2-naphthalenol, 9CI B-00579

5-Bromo-2-(2-hydroxy-1-naphthylazo)thiazole

[35431-80-2]



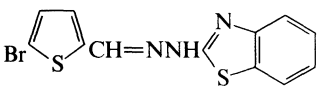
$C_{13}H_8BrN_3OS$ M 334.196

Used as a 1m*M* soln. in Me_2CO for extraction-photometric detn. of Pd (λ_{max} 690 nm; ε 14000, $CHCl_3$), Co. Dark red cryst. powder. Sol. alkalis, EtOH, Me_2CO; insol. H_2O.

Ivanov, V.M. *et al*, *Vestn. Mosk. Univ., Ser. 2: Khim.*, 1971, **12**, 740; *CA*, **76**, 80706s (*detn Pd*)
Ershova, N.S. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 2220 (*detn Co*)

5-Bromo-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, 9CI B-00580

[61317-28-0]



$C_{12}H_8BrN_3S_2$ M 338.251

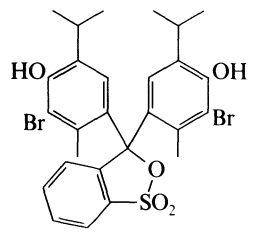
Used as a 2.5m*M* soln. in C_6H_6 for photometric detn. of Cu(*II*) (λ_{max} 432 nm, ε 47000), Ni(*II*) (λ_{max} 422 nm, ε 40000). Red cryst. (EtOH). Sol. EtOH, C_6H_6; insol. H_2O. pK_{a2} 11.1 (dioxan aq., 25°).

Odashima, T. *et al*, *Anal. Chim. Acta*, 1976, **86**, 231 (*pK_a, use*)

Bromothymol blue B-00581

4,4'-(3H-2,1-Benzoxathiol-3-ylidene)bis[2-bromo-3-methyl-6-(1-methylethyl)phenol] S,S-dioxide, 9CI. 3,3-Bis(3-bromo-4-hydroxy-5-isopropyl-2-methylphenyl)-3H-2,1-benzoxathiazole S,S-dioxide. 3,3'-Dibromothymolsulfonephthalein

[76-59-5]



$C_{27}H_{28}Br_2O_5S$ M 624.389

Used as 0.1% soln. in 20% EtOH for photometric detn. of Ag; acid-base indicator (pH range 6.0-7.6; colour change: yellow→blue). Pink cryst. powder. Insol. H_2O; sol. EtOH, Me_2CO, alkalis. Mp 200-202°. pK_{a1} 7.3. λ_{max} 420 nm (H_2O).

Tananaiko, M.M. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1974, **40**, 275 (*detn, Ag*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976.

Bromotrimethylsilane, 9CI B-00582

Trimethylsilyl bromide

[2857-97-8]

Me_3SiBr

C_3H_9BrSi M 153.094

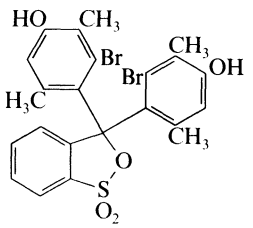
Trimethylsilylating agent. Liq. d_4^{20} 1.16. Bp 79°.

Schmidbaur, H., *J. Am. Chem. Soc.*, 1963, **85**, 2336 (*nmr*)
Hess, G.G. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 5327 (*ms*)
Birkofer, L. *et al*, *Chem. Ber.*, 1967, **100**, 2776 (*synth*)
Aringer, L. *et al*, *Steroids*, 1971, **17**, 377 (*use*)
Harris, R.K. *et al*, *J. Magn. Reson.*, 1975, **17**, 174 (*nmr*)
Flamini, A. *et al*, *J. Chem. Soc., Dalton Trans.*, 1976, 731.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1981, **9**, 73; **10**, 59.
Weber, W.P., *Silicon Reagents for Org. Synth.*, Chapt. 3, Springer-Verlag, 1983.
Aizpurua, J.M. *et al*, *Nouv. J. Chim.*, 1984, **8**, 51; *CA*, **101**, 72829 (*synth*)
Bellassoued, M. *et al*, *Synth. Commun.*, 1985, **15**, 973 (*synth*)

Bromoxylenol blue B-00583

4,4'-(3H-2,1-Benzoxathiol-3-ylidene)bis[3-bromo-2,5-dimethylphenol] S,S-dioxide, 9CI. Dibromoxylenol blue. 3',3''-Dibromo-p-xylenolsulfonephthalein

[40070-59-5]



$C_{23}H_{20}Br_2O_5S$ M 568.282

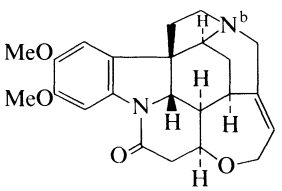
Acid-base indicator (pH range: 6.0-7.6; colour change: yellow→blue). Dark violet cryst. powder. Sol. H_2O, dil. HCl.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 116.
Vatras, K., *Chem. Zvesti*, 1974, **28**, 252; *CA*, **81**, 72160x.

Brucine, 8CI B-00584

2,3-Dimethoxystrychnidin-10-one, 9CI. 10,11-Dimethoxystrychnine

[357-57-3]



Absolute configuration

$C_{23}H_{26}N_2O_4$ M 394.469

Alkaloid from *Strychnos nux-vomica* and many other *S.* spp. (Strychnaceae). Resolving agent. Used in photometric detn. of $ClO_3^{\ominus}$, $NO_3^{\ominus}$, $NO_2^{\ominus}$, NO_2. Cryst. powder. Sol. EtOH, $CHCl_3$; sl. sol. C_6H_6, Et_2O. Mp 105° (hydrate), Mp 78° (anhyd.). $[\alpha]_D$ −127° ($CHCl_3$), $[\alpha]_D$ −85° (EtOH). pK_{a1} 8.16; pK_{a2} 2.50 (15°).

▷ V. poisonous, less so than Strychnine. Lethal dose to humans ~200 mg. EH8925000.

B,HClO$_4$: Mp 208-210°.
B,MeI: Mp 295° dec.
N^b-*Oxide:* [17301-81-4]. ***Brucine* N-*oxide***
$C_{23}H_{26}N_2O_5$ M 410.469
Alkaloid from *S. wallichiana* and *S. ligustrina*, also detected in *S. nux-vomica* leaves (Strychnaceae).

Pelletier, J. *et al*, *Ann. Chim. (Paris)*, 1820, **12**, 113 (*isol*)
Woodward, R.B. *et al*, *J. Am. Chem. Soc.*, 1948, **70**, 2107.
Robinson, R., *Prog. Org. Chem.*, 1952, **1**, 1 (*rev, struct*)
Eger, C., *Anal. Chem.*, 1955, **27**, 1199 (*detn, $ClO_3^{\ominus}$*)

Jenkins, D. *et al*, *Anal. Chem.*, 1964, **36**, 610 (*detn*, $NO_3^{\ominus}$)
Smith, G.A. *et al*, *Analyst (London)*, 1967, **92**, 456 (*detn*, NO_2)
Tedeschi, E. *et al*, *Tetrahedron*, 1968, **24**, 4573 (*synth*)
Fadrus, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1969, **246**, 239 (*detn*, $NO_2^{\ominus}$)
Bisset, N.G. *et al*, *Phytochemistry*, 1974, **13**, 259 (*isol, oxide*)
Bose, A.K. *et al*, *Anal. Biochem.*, 1978, **89**, 284 (*ms*)
Snow, J.W. *et al*, *Can. J. Chem.*, 1978, **56**, 1222 (*uv, cd*)
Wenkert, E. *et al*, *J. Org. Chem.*, 1978, **43**, 1099 (*pmr, cmr*)
Glover, S.S.B. *et al*, *Acta Crystallogr., Sect. C*, 1985, **41**, 990 (*cryst struct*)
Bernstein, M.A. *et al*, *Can. J. Chem.*, 1985, **63**, 483 (*pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BOL750.

1,4-Butanediamine-*N,N,N,N'*-tetrakis(methylphosphonic acid) B-00585

[1,4-Butanediylbis[nitrilobis(methylene)]]tetrakisphosphonic acid, 9CI. Butylenediaminotetramethylenetetraphosphonic acid

[56399-18-9]

$$[(HO)_2OPCH_2]_2N(CH_2)_4N[CH_2PO(OH)_2]_2$$

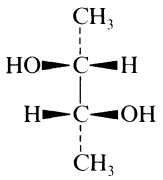
$C_8H_{24}N_2O_{12}P_4$ M 464.179
Used for photometric detn. of Co, Cu, Pb, Pd. Sol. H_2O.

Bermejo Barrera, A. *et al*, *Acta Quim. Compostelana*, 1983, **7**, 108; *CA*, **102**, 124688z (*use*)

2,3-Butanediol, 9CI B-00586

Dimethylethylene glycol. 2,3-Butylene glycol

[513-85-9]



(2*R*,3*R*)-*form*

$C_4H_{10}O_2$ M 90.122
Prod. by a variety of microorganisms. Isol from cocoa butter and roots of *Ruta graveolens*.

▷ EK0532000.

(2R,3R)-form [24347-58-8]
Used in the resolution of carbonyl compds. by gc. Hygroscopic cryst. Mp 19.7°. Bp_{10} 77.5-77.6°. $[\alpha]_D^{25}$ −13.0° (neat).

Di-Ac:
$C_8H_{14}O_4$ M 174.196
Liq. Bp_{10} 82°.

(2S,3S)-form [19132-06-0]
Hygroscopic cryst. Mp 25°. Bp 179-182°. $[\alpha]_D^{22}$ +20.0° (c, 0.64 in $CHCl_3$) (opt. pure).

Bis-4-nitrobenzoyl: Mp 141-143°. $[\alpha]_D^{25}$ +52° (c, 4 in $CHCl_3$).

2,3-Isopropylidene deriv.:
$C_7H_{14}O_2$ M 130.186
Bp_{734} 109.7°. $[\alpha]_D^{25}$ +31.65° (c, 4.96 in $CHCl_3$).

(2RS,3RS)-form [6982-25-8]
(±)-*form*
Hygroscopic cryst. (diisopropyl ether). Mp 7.6°. Bp 182.5°, Bp_{16} 86°.

Di-Ac: [22152-23-4].
Liq. Bp_{10} 82°.

(2RS,3SR)-form [5341-95-7]
meso-*form*
Hygroscopic cryst. (diisopropyl ether). Mp 34.4°. Bp_{742} 181.7°, Bp_{16} 89°.

[1114-92-7, 5341-95-7, 17998-02-6]

Fulmer, L.M. *et al*, *Ind. Eng. Chem.*, 1933, **25**, 789; *CA*, **27**, 4021 (*synth*)
Wilson, C.E. *et al*, *J. Am. Chem. Soc.*, 1936, **58**, 2396 (*synth*)
Rubin, L.J. *et al*, *J. Am. Chem. Soc.*, 1952, **74**, 425 (*synth*)
Casanova, J. *et al*, *Chem. Ind. (London)*, 1961, 1664 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 81.
Plattner, J.J. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 1758 (*abs config*)
Saucy, G. *et al*, *J. Org. Chem.*, 1977, **42**, 3206 (*use*)
Enders, D. *et al*, *Chem. Ber.*, 1991, **124**, 219 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BOT000.

2,3-Butanedione B-00587

Biacetyl. Dimethyl diketone. 2,3-Dioxobutane. Diacetyl

[431-03-8]

$$H_3CCOCOCH_3$$

$C_4H_6O_2$ M 86.090
Constit. of butter; formed during fermentation. A common constit. of plant oils, prod. of breakdown of carbohydrates. Flavouring additive used in food industry. Sensitises photooxidation of alkenes to epoxides. Used in indirect photometric detn. of hydroxylamine. Yellowish-green liq. Sol. H_2O, EtOH, Et_2O. Bp 88°.

▷ Mod. toxic. Highly flammable, flash p. <21°. EK2625000.

Dimer:
$C_8H_{12}O_4$ M 172.180
Mp 44-46°. $Bp_{0.5}$ 100°.

Trimer:
$C_{12}H_{18}O_6$ M 258.271
Mp 73-75°, Mp 102-103°. 2 forms known.

Monoxime: [57-71-6].
$C_4H_7NO_2$ M 101.105
Used as a 2% aq. soln. for photometric detn. of Re (λ_{max} 500 nm, ε 19000). Prisms ($CHCl_3$), plates (H_2O). Sol. H_2O, EtOH, C_6H_6, $CHCl_3$, Me_2CO, Et_2O. Mp 77-78°. Bp_8 83°.

▷ Has exploded during vac. distillation. EK3150000.

Monoxime, semicarbazone: [1982-99-6].
$C_5H_{10}N_4O_2$ M 158.160
Used as a 0.05% soln. in EtOH for extraction-photometric detn. of Co (λ_{max} 330 nm, ε 6300), Cu (λ_{max} 335 nm, ε 10100), Ni (λ_{max} 340 nm, ε 19500), Pd (λ_{max} 390 nm, ε 2900). Cryst. (EtOH aq.). Sol. EtOH; insol. H_2O. Mp 212-215°.

Monoxime, thiosemicarbazone: [5012-80-6].
$C_5H_{10}N_4OS$ M 174.226
Used as a 0.25% soln. in EtOH for photometric detn. of Bi, Cu, Mn, Ni, Co (λ_{max} 325 nm, ε 4900, pH 5). Cryst. Sol. DMF, EtOH.

Monoxime, (4-nitrophenyl)hydrazone: [62454-83-5].
$C_{10}H_{12}N_4O_3$ M 236.230
Used as a 0.1% EtOH soln. for photometric detn. of Co. Pale yellow cryst. (EtOH). Sol. EtOH, Me_2CO; spar. sol. H_2O.

Monoxime, phenylthiosemicarbazone: [56566-64-4].
$C_{11}H_{14}N_4OS$ M 250.324
Used as 0.2% DMF soln. for photometric detn. of Co (λ_{max} 345 nm, ε 17700, pH 3.8-8), Mn(*III*) (λ_{max} 550 nm. ε 3600). Cryst. (EtOH). Sol. DMF, EtOH. Mp 210-212°. pK_{a1} 10.40; pK_{a2} 11.50.

Monoxime, 2-pyridylhydrazone: [55205-76-0].
$C_9H_{12}N_4O$ M 192.220

Used as 0.2% soln. in EtOH for extraction-photometric detn. of Co, Pd (λ_{max} 556 nm, ε 7500, pH 1.2-1.8, $CHCl_3$). Cryst. Sol. EtOH.

Monoxime, 2-benzothiazolylhydrazone: see *2,3-Butanedione (2-benzothiazolyl)hydrazone, B-00588*

Dioxime: see *Dimethylglyoxime, D-00862*

Dihydrazone: [3457-52-1]. *2,3-Butanedione dihydrazone, 9CI*
$C_4H_{10}N_4$ M 114.150
Used as 0.5m*M* EtOH soln. for fluorimetric detn. of Tc(*VII*). Long cryst. (EtOH aq.). Sol. EtOH, H_2O. Mp 159-160°.

Disemicarbazone: Mp 274°.

Bis-2,4-dinitrophenylhydrazone: Mp 314-315°.

Bis(2-pyridylhydrazone): [16042-70-9].
$C_{14}H_{16}N_6$ M 268.321
Used as a 0.2% soln. in EtOH or a 0.5% soln. in DMF to give colour reactions with Cu, Fe, Ni, Rh. Yellow cryst. (EtOH). Sol. EtOH, Me_2CO. Mp 212°.

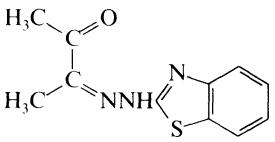
Thiosemicarbazone: [7274-56-8].
$C_5H_9N_3OS$ M 159.212
Used as a 0.25% soln. in EtOH for photometric detn. of Cu, Ni. Red cryst. Sol. common org. solvs. Mp 176-178°.

Thiosemicarbazone, (2-pyridyl)hydrazone: [100556-76-1].
$C_{10}H_{14}N_6S$ M 250.327
Used as a 0.25% DMF soln. to give colour reactions with Cd, In, Zn, Fe(*II*), Ni, Co; simultaneous photometric detn. of Fe and Cu. Cryst. (EtOH). Sol. DMF, EtOH; spar. sol. H_2O, $CHCl_3$. Mp 236-238°. pK_{a1} 5.6; pK_{a2} 12.0.

Rigby, J., *J. Chem. Soc.*, 1951, 793 (*synth*)
Lions, F. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 3858 (*bis(2-pyridylhydrazone), synth*)
Cresswell, R.M. *et al*, *J. Chem. Soc.*, 1961, 4882 (*trimer*)
Nerdel, F. *et al*, *Chem. Ber.*, 1964, **97**, 124.
Narayanan, A. *et al*, *Indian J. Chem.*, 1967, **5**, 436 (*monoxime*)
Perez-Bendito, D. *et al*, *Inf. Quim. Anal.*, 1967, **21**, 31; 1968, **22**, 1 (*detn, Ni, Co*)
Partridge, M.W. *et al*, *J. Chem. Soc. C*, 1967, 1828.
Sanches Burgos, F. *et al*, *Inf. Quim. Anal.*, 1969, **23**, 17 (*thiosemicarbazone, use*)
Holzbecher, Z. *et al*, *CA*, 1970, **73**, 10393b (*detn, Mn*)
Valcarcel, M. *et al*, *Inf. Quim. Anal.*, 1970, **24**, 49 (*detn, Cu, Bi*)
Martinez Martinez, P. *et al*, *An. Quim.*, 1973, **69**, 747 (*monoxime semicarbazone, synth, ir*)
Hagen, K. *et al*, *J. Am. Chem. Soc.*, 1973, **93**, 8266 (*struct*)
Pavon, J.M. *et al*, *Anal. Chim. Acta*, 1975, **75**, 335 (*monoxime phenylthiosemicarbazone*)
Pitwell, L., *Mikrochim. Acta*, 1975, **2**, 425 (*detn, hydroxylamine*)
Tomchin, A.B. *et al*, *Zh. Org. Khim.*, 1976, **12**, 851 (*thiosemicarbazone, synth*)
Pearson, R.M. *et al*, *Anal. Chem.*, 1977, **49**, 580 (*use, deriv*)
Asuero, A.G., *Microchem. J.*, 1978, **23**, 390; 1983, **28**, 183 (*bis(2-pyridylhydrazone), use, detn, Pd*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 21.
Flatt, S.J. *et al*, *Synthesis*, 1979, 815 (*synth*)
Singh, R.B. *et al*, *Talanta*, 1979, **26**, 425 (*monoxime semicarbazone, use*)
Grases, F. *et al*, *Anal. Chim. Acta*, 1984, **166**, 71 (*synth, Tc*)
De Pablos, F. *et al*, *Mikrochim. Acta*, 1985, **1**, 411; 1985, **3**, 327 (*thiosemicarbazone(2-pyridyl)hydrazone, synth, use*)
Navas, M.J. *et al*, *Microchem. J.*, 1986, **33**, 331 (*monoxime thiosemicarbazone, detn, Co*)
Hauer, C.R. *et al*, *J. Am. Chem. Soc.*, 1987, **109**, 5760 (*deriv, synth, cryst struct*)
Suszynski, N. *et al*, *J. Org. Chem.*, 1987, **52**, 2622 (*props*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 213.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BOT500.

2,3-Butanedione (2-benzothiazolyl) hydrazone B-00588

[4595-00-0]



$C_{11}H_{11}N_3OS$ M 233.293
Pale yellow cryst. (EtOAc). Mp 193-194°.

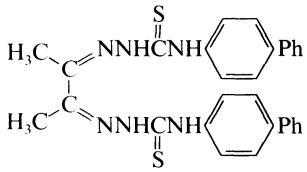
Oxime: [28867-10-9].
$C_{11}H_{12}N_4OS$ M 248.308
Used as a 0.1% soln. in EtOH for extraction-photometric detn. of Pd (λ_{max} 560 nm, $CHCl_3$). Cryst. (EtOH). Sol. EtOH, Me_2CO, C_6H_6; spar. sol. H_2O.

Japan. Pat., 69 23 992, (1969); *CA*, **72**, 56676d (*synth*)
Goldstein, D. *et al*, *Anal. Chim. Acta*, 1970, **51**, 126 (*synth, deriv, detn, Pd*)
Aride, C.M.T. *et al*, *Anal. Chim. Acta*, 1971, **57**, 435 (*detn, Pd*)

2,3-Butanedione bis(4-biphenylyl) thiosemicarbazone B-00589

Diacetyl bis-4-biphenylylthiosemicarbazone

[38901-44-9]



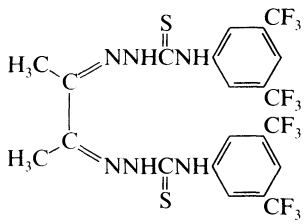
$C_{30}H_{28}N_6S_2$ M 536.723
Used as 0.01% soln. in EtOAc (with 5% Py) to give colour extracts ($CHCl_3$) with Ag, Bi, Cd, Cu, Hg(*II*), Pb, Zn. Yellow cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone. Mp 244°.

Niederschulte, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

2,3-Butanedione bis[3,5-bis(trifluoromethyl) phenylthiosemicarbazone] B-00590

Diacetyl bis[4-[3,5-bis(trifluoromethyl)]phenyl] thiosemicarbazone

[38901-41-6]



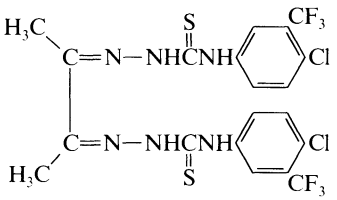
$C_{22}H_{16}F_{12}N_6S_2$ M 656.521
Used as 0.01% soln. in EtOAc (with 5% Py) to give colour extracts ($CHCl_3$) with Ag, Bi, Co, Cu, Hg(*II*). Yellow cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone. Mp 220°.

Niederschulte, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

2,3-Butanedione bis[4-(4-chloro-3-(trifluoromethyl)phenyl) thiosemicarbazone] B-00591

2,2'-(1,2-Dimethyl-1,2-ethanediylidene)bis[4-(4-chloro)-3-(trifluoromethyl)phenyl]hydrazinecarbothioamide, 9CI

[39024-65-2]



$C_{20}H_{16}Cl_2F_6N_6S_2$ M 589.414

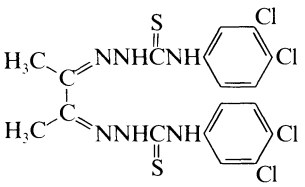
Used as 0.01% soln. in EtOAc to give colour extracts ($CHCl_3$) with Ag, Bi, Cd, Cu, Hg(*II*), Zn. Yellow cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone. Mp 215°.

Niederschulte, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

2,3-Butanedione bis[4-(3,4-dichlorophenyl) thiosemicarbazone] B-00592

Diacetyl bis[4-(3,4-dichlorophenyl)]thiosemicarbazone

[38901-43-8]



$C_{18}H_{16}Cl_4N_6S_2$ M 522.307

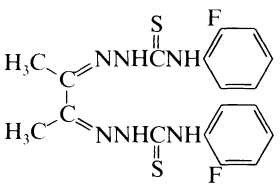
Used as 0.01% soln. in EtOAc (with 5% Py) to give colour extracts ($CHCl_3$) with Ag, Bi, Cu, Hg(*II*), Zn. Yellow cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone. Mp 219°.

Niederschulte, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

2,3-Butanedione bis[(2-fluorophenyl) thiosemicarbazone] B-00593

Diacetyl bis[4-(2-fluorophenyl)]thiosemicarbazone

[38901-39-2]



$C_{18}H_{18}F_2N_6S_2$ M 420.509

Used as 0.01% soln. in EtOAc (with 5% Py) to give colour extracts ($CHCl_3$) with Ag, Bi, Cu, Hg(*II*), Mn. Cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone. Mp 206°.

Niederschulte, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

2,3-Butanedione bis[(4-fluorophenyl) thiosemicarbazone] B-00594

Diacetyl bis[4-(4-fluorophenyl)]thiosemicarbazone

[38901-37-0]

$C_{18}H_{18}F_2N_6S_2$ M 420.509

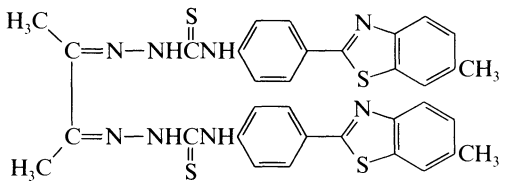
Used as 0.01% soln. in EtOAc (with 5% Py) to give colour extracts ($CHCl_3$) with Ag, Bi, Co, Cu, Hg(*II*). Yellow cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone. Mp 218°.

Niederschulte, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

2,3-Butanedione bis[[4-(6-methyl-2-benzothiazolyl)phenyl] thiosemicarbazone] B-00595

2,2'-(1,2-Dimethyl-1,2-ethanediylidene)bis[N-[4-(6-methyl-2-benzothiazolyl)phenyl]hydrazinecarbothioamide], 9CI

[38901-46-1]



$C_{34}H_{30}N_8S_4$ M 678.929

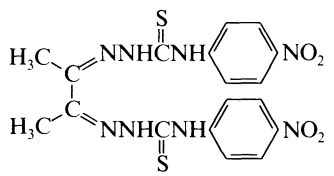
Used as 0.01% soln. in EtOAc (with 5% Py) to give colour extracts ($CHCl_3$) with Ag, Bi, Cu, Hg(*II*), Zn. Yellow cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone. Mp 235°.

Niederschulte, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

2,3-Butanedione bis[(4-nitrophenyl) thiosemicarbazone] B-00596

Diacetyl bis[4-(4-nitrophenyl)]thiosemicarbazone

[38901-36-9]



$C_{18}H_{18}N_8O_4S_2$ M 474.523

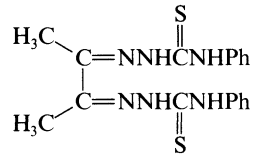
Used as 0.01% soln. in EtOAc (with 5% Py) to give colour extracts ($CHCl_3$) with Ag, Bi, Co, Cu, Hg(*II*), Mn, Zn. Yellow cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone. Mp 213°.

Niederschulte, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

2,3-Butanedione bis(phenylthiosemicarbazone) B-00597

2,2'-(1,2-Dimethyl-1,2-ethanediylidene)bis[N-*phenylhydrazinecarbothioamide*], *9CI. Biacetyl bis(4-phenyl-3-thiosemicarbazone)*

[64501-90-2]



$C_{18}H_{20}N_6S_2$ M 384.528

Used as a 0.03% soln. in DMF for photometric detn. of Bi, Cu, Ni (λ_{max} 460 nm, ε 22800). Yellow cryst. powder. Sol. DMF; insol. EtOH, H_2O. Mp >300°.

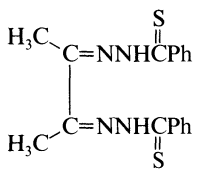
Asuero, A.G. *et al*, *Analyst (London)*, 1978, **103**, 140 (*detn, Cu, synth*)

Asuero, A.G. *et al*, *Microchem. J.*, 1980, **25**, 14; 1983, **28**, 198 (*detn, Bi, Ni*)

2,3-Butanedione bis[(thiobenzoyl) hydrazone] B-00598

Benzenecarbothioic acid (1,2-dimethyl-1,2-ethanediylidene) dihydrazide, 9CI. Diacetyl bis[(thiobenzoyl)hydrazone]

[37181-48-9]



$C_{18}H_{18}N_4S_2$ M 354.499

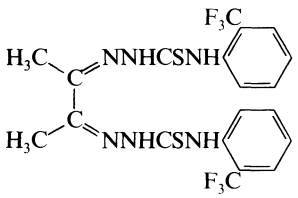
Used as a 0.006% soln. in dioxan for extraction-photometric detn. of Cd, Cu, Hg, Pd, Zn ($CHCl_3$). Yellowish plates (EtOH). Sol. Me_2CO, EtOH; insol. H_2O. Mp 176-178°.

Heizmann, P. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **259**, 110 (*use*)

2,3-Butanedione bis(2-trifluoromethylphenyl)thiosemicarbazone B-00599

2,2'-(1,2-Dimethyl-1,2-ethanediylidene)bis[N-[*2-(trifluoromethyl)phenyl*]*hydrazinecarbothioamide*], *9CI. Diacetyl bis[4-(2-trifluoromethyl)phenyl]thiosemicarbazone*

[39024-64-1]



$C_{20}H_{18}F_6N_6S_2$ M 520.525

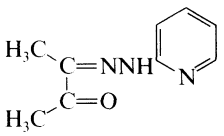
Used as 0.01% soln. in EtOAc for extraction-photometric detn. of Ag, Bi, Cu, Hg(*II*), Pb. Cryst. Sol. MeOH, $CHCl_3$, EtOAc. Mp 228°.

Niederschulte, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

2,3-Butanedione mono(2-pyridinylhydrazone) B-00600

Biacetyl mono(2-pyridyl)hydrazone

[74158-10-4]



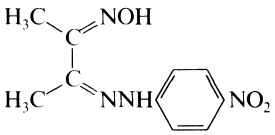
$C_9H_{11}N_3O$ M 177.205

Used as a 0.25% soln. in EtOH for photometric detn. of Co (λ_{max} 505 nm, ε 23000). Cryst. (EtOH). Sol. EtOH, Me_2O; insol. H_2O.

Asuero, A.G. *et al*, *Analyst (London)*, 1980, **105**, 203; 1982, **107**, 1065.

2,3-Butanedione oxime 4-nitrophenylhydrazone B-00601

Biacetylmonoxime p-nitrophenylhydrazone. Cobaltone I



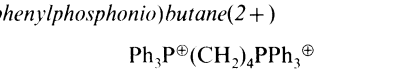
$C_{10}H_{12}N_4O_3$ M 236.230

Used as 0.1% soln. in EtOH in photometric detn. of Co (pH 11-12). Cryst. (EtOH). Sol. alkalis, EtOH.

Deshmukh, G.S. *et al*, *Fresenius' Z. Anal. Chem.*, 1961, **182**, 170.

1,4-Butanediylbis[triphenylphosphonium] (2+), 9CI B-00602

Tetramethylenebis[triphenylphosphonium](2+), 8CI. 1,4-Bis(triphenylphosphonio)butane(2+)



$C_{40}H_{38}P_2^{2\oplus}$ M 580.688 (ion)

Used in Wittig synth. of annulenones, fused heterocyclics and 1,3-cyclohexadienes.

Dibromide: [15546-42-6].

$C_{40}H_{38}Br_2P_2$ M 740.496

Source of ylide obt. with $NaNH_2/NH_3$ or PhLi. Used as 0.4% aq. soln. for extraction-photometric detn. of Cr(*VI*) and Bi; gravimetric detn. of $S_2O_8^{2\ominus}$. Cryst. (Me_2CO). Sol. H_2O. Mp 292-294°.

Perbromide:

$C_{40}H_{38}Br_6P_2$ M 1060.112

Dark-yellow cryst. Mp 216°.

Bisylide: [62486-05-9]. *1,4-Butanediylidenebis[triphenylphosphorane]*

$C_{40}H_{36}P_2$ M 578.672

Wittig reagent.

Mondon, A., *Justus Liebigs Ann. Chem.*, 1957, **603**, 115 (*synth, use*)

Wittig, G. *et al*, *Justus Liebigs Ann. Chem.*, 1958, **619**, 10 (*synth, use*)

Behrends, K., *Fresenius' Z. Anal. Chem.*, 1967, **226**, 1 (*use*)

Cresp, T.M. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1974, 2145 (*use*)

Wood, G.W. *et al*, *J. Org. Chem.*, 1975, **40**, 636 (*ms*)

Nicolaides, D.N., *Synthesis*, 1977, 127 (*use*)

Booth, B.L. *et al*, *J. Organomet. Chem.*, 1981, **220**, 229 (*ylide, complexes*)

Burns, D.T. *et al*, *Anal. Chim. Acta*, 1989, **225**, 241, 449 (*detn, Cr, Bi*)

1-Butanesulfonic acid, 9CI B-00603

1-Butylsulfonic acid

[2386-47-2]

$H_3CCH_2CH_2CH_2SO_3H$

$C_4H_{10}O_3S$ M 138.187
Liq. d_4^{25} 1.1906. Mp −15.2°. $Bp_{0.5}$ 147°.

Na salt: [2386-54-1].
Ion-pairing reagent used for hplc.

Me ester: [2374-69-8].
$C_5H_{12}O_3S$ M 152.214
Liq. d^{20} 1.1264. $Bp_{0.7}$ 62.0°. n_D^{20} 1.4303.

Vivian, D.L. *et al*, *J. Am. Chem. Soc.*, 1935, **57**, 2559 (*synth*)
Lowe, O.G. *et al*, *J. Org. Chem.*, 1976, **41**, 2061 (*synth*)
Bortha, A. *et al*, *J. Chromatogr.*, 1984, **303**, 29 (*use*)

Butanoic acid, 9CI B-00604

Butyric acid

[107-92-6]

$H_3CCH_2CH_2COOH$

$C_4H_8O_2$ M 88.106
Acid and simple esters are flavour ingredients. Used as a 0.1 % soln. in $CHCl_3$ for extraction of Th. Liq. Misc. H_2O, EtOH, Et_2O. Fp −19°, Mp −8°. Bp 163.5°. n_D^{20} 1.3991. Steam-volatile.

▷ Irritant, causes burns. ES5425000.

Me ester: [623-42-7]. *Methyl butyrate*
$C_5H_{10}O_2$ M 102.133
Liq. d_4^0 0.919. Mp −95°. Bp 102.3°.
▷ Highly flammable, Fl. p. 14°. ET5500000.

Et ester: [105-54-4]. *Ethyl butyrate*
$C_6H_{12}O_2$ M 116.160
Isol. from plant sources. Fragrance ingredient. Liq. with pineapple odour. d_4^0 0.900. Fp −93.3°. Bp 119.9°.
▷ Irritant in high concs., flammable. ET1660000.

Anhydride: [106-31-0].
$C_8H_{14}O_3$ M 158.197
Bp 198°.
▷ Irritant, causes burns. ET7090000.

Chloride: [141-75-3]. *Butyryl chloride*
C_4H_7ClO M 106.551
Liq. Bp 1.028°, Bp 101-102°.
▷ Highly irritant, highly flammable, flash pt. <21°, giving toxic fumes. EU5523000.

Amide: [541-35-5]. *Butyramide*
C_4H_9NO M 87.121
Leaflets. Mp 115-116°. Bp 216°.

Nitrile: [109-74-0]. *Butyronitrile. Propyl cyanide*
C_4H_7N M 69.106
Liq. d^{15} 0.796. Bp 117°.
▷ Toxic by skin absorption and inhalation. Flammable. ET8750000.

Anilide: [1129-50-6]. *Butyranilide*
$C_{10}H_{13}NO$ M 163.219
Mp 96°.
▷ ES5230000.

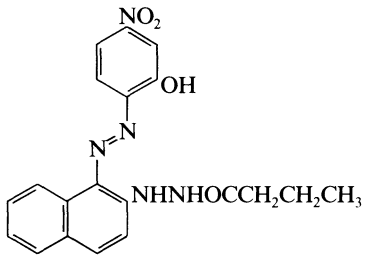
Hydrazide: [3538-65-6].
$C_4H_{10}N_2O$ M 102.136
Sol. H_2O, EtOH, Et_2O. Mp 46-47°. Bp_{20} 138° (120°). Hygroscopic. Reduces $AgNO_3/NH_3$ in the cold.

Grillone, G.B., *Justus Liebigs Ann. Chem.*, 1873, **165**, 127.
U.K. Pat., 271 254, (1928); *CA*, **22**, 1650 (*synth*)
U.K. Pat., 276 617, (1928); *CA*, **22**, 2378 (*synth*)
Mitchel, J.A., *J. Am. Chem. Soc.*, 1931, **53**, 321, 1879 (*synth*)
Fr. Pat., 790 213, (1936); *CA*, **30**, 2992 (*synth*)
U.S. Pat., 2 039 722, (1936); *CA*, **30**, 4179 (*synth*)
Pietsch, R. *et al*, *Mikrochim. Acta*, 1968, 1287 (*use*)
Morris, W.W., *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 1037 (*ir*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 88 (*anhydride*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 222, 223.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BSV500, BSW000, BSX250, EHE000, MHY000.

Butanoic acid 2-[1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenyl] hydrazide, 9CI B-00605

1-(2-Butyrohydrazidonaphthalene)azo-2-hydroxy-4-nitrobenzene. Hydrazidazol

[39200-24-3]



$C_{20}H_{19}N_5O_4$ M 393.401
Used as 0.2m*M* soln. in Me_2CO for photometric detn. of Zn (Me_2CO aq.); complexometric indicator for Zn. Red cryst. (DMF aq.). Sol. H_2O, DMF, Me_2CO. Mp 196°.

Kamaeva, L.V. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 1687 (*synth, detn, Zn*)
Zhou Nan, *et al*, *Talanta*, 1983, **30**, 851; 1989, **36**, 739 (*detn, Zn*)

1-Butanol, 9CI B-00606

n-*Butyl alcohol, 8CI*

[71-36-3]

$H_3CCH_2CH_2CH_2OH$

$C_4H_{10}O$ M 74.122
Occurs in essential oils and other plant sources e.g. *Thea sinensis, Ribes nigrum*. Industrial solvent, particularly for lacquer coatings. Used in brake fluids and in plasticiser manuf. Anal. derivatisation reagent for carboxylic and amino acids. Colourless liq. Mod. sol. H_2O. d^{15} 0.813. Fp −90°. Bp 117.4°. n_D^{20} 1.3971. Forms constant-boiling mixt. with H_2O, Bp 92°, contg. 37% H_2O.

▷ Mod. toxic, irritant, TLV 150. Flammable. EO1400000.

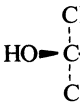
Phenylurethane: Cryst. Mp 61°.

Buchner, E. *et al*, *Ber.*, 1908, **41**, 1411 (*synth*)
Kagan, M.Ya. *et al*, *CA*, 1935, **29**, 452 (*synth*)
Chaikin, S.W. *et al*, *J. Am. Chem. Soc.*, 1949, **71**, 122 (*synth*)
Zomzely, C. *et al*, *Anal. Chem.*, 1962, **34**, 1414 (*use*)
Biddiscombe, D.P. *et al*, *J. Chem. Soc.*, 1963, 1954 (*purifn, props*)
Andersson, J. *et al*, *Acta Chem. Scand.*, 1966, **20**, 522 (*isol*)
Choudhary, G. *et al*, *J. Chromatogr.*, 1976, **128**, 261 (*use*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978, **4**, 338 (*rev, props*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 214.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BPW500.

2-Butanol, 9CI B-00607

sec-*Butyl alcohol. 2-Hydroxybutane*

[78-92-2]



(*R*)-*form*
Absolute configuration

$C_4H_{10}O$ M 74.122

Isol. from fruit of *Ribes nigrum*. Reagent for the resolution of racemic amino acids by gc.

▷ EO1750000.

(*R*)-*form* [14898-79-4]

Liq. Bp 98-99°. $[\alpha]_D^{20}$ −13.9°.

(*S*)-*form* [4221-99-2]

Liq. Mp 99°. $[\alpha]_D^{20}$ +13.87°.

p-*Toluenesulphonyl:*

$C_{11}H_{16}O_3S$ M 228.312

Liq. $Bp_{<0.1}$ 95°. $[\alpha]_{546}^{20}$ +12.98°.

(±)-*form* [15892-23-6]

Intermed. in industrial manuf. of butanone. Liq. Mod. sol. H_2O. d_4^{22} 0.819. Bp 100°. n_D^{22} 1.3924.

▷ Mod. toxic. Old samples may explode on dist.

Levene, P.A. *et al*, *J. Biol. Chem.*, 1927, **71**, 465 (*abs config*)
Kenyon, J. *et al*, *J. Chem. Soc.*, 1935, 1077 (*synth*)
Leroux, P.J. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 41 (*synth*)
Kantor, S.W. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 1744 (*resoln*)
Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1964, **86**, 397, 1071 (*synth*)
Pollock, G.E. *et al*, *J. Gas Chromatogr.*, 1965, **3**, 174 (*use*)
Andersson, J. *et al*, *Acta Chem. Scand.*, 1966, **20**, 522 (*isol*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 214.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BPW750.

2-Butanone, 9CI B-00608

Ethyl methyl ketone. 2-Oxobutane. Methyl ethyl ketone. MEK

[78-93-3]

$H_3CCH_2COCH_3$

C_4H_8O M 72.107

Isol. from tobacco (*Nicotiana tabacum*), hop oil (*Humulus lupulus*), clover (*Trifolium repens*), tea, tomatoes, various fruits and other vegetable sources. Industrial solvent, particularly for coating systems, used in the manuf. of resins and in lubricating oil refining. Reagent for sepn. of amines by glc. Used for extraction separation of Au. Liq. Part misc. H_2O. d_4^{20} 0.805. Fp −85.9°. Bp 79.6°. n_D^{15} 1.3814. Forms constant-boiling mixt. with H_2O, B.p. 73.4°, contg. 11.3% H_2O.

▷ Mod. toxic, irritant, TLV 590. Highly flammable, flash p. −7°. An exp. teratogen. Forms a highly toxic peroxide. EL6475000.

Di-Et acetal: [52752-16-6].

$C_8H_{18}O_2$ M 146.229

Liq. Bp 120°, Bp_{100} 68°.

Oxime: [96-29-7].

C_4H_9NO M 87.121

Used for extraction of Ag. Liq. d_4^{20} 0.9232. Mp −29.5°. Bp 152°, Bp_{15} 59-60°. n_D^{20} 1.4410.

▷ EL9275000.

Semicarbazone: Cryst. Mp 148° (139°).

2,4-Dinitrophenylhydrazone: Yellow cryst. Mp 115°.

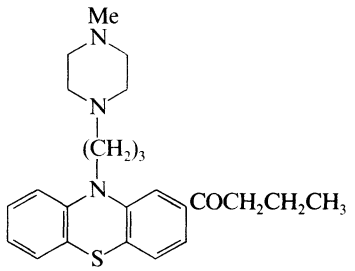
[10341-59-0, 10341-63-6]

Schramm, J., *Ber.*, 1883, **16**, 1581 (*synth*)
Nef, J.U., *Justus Liebigs Ann. Chem.*, 1900, **310**, 323 (*synth*)
Senderens, J.-B., *Bull. Soc. Chim. Fr.*, 1909, **5**, 480.
Meerwein, H. *et al*, *Justus Liebigs Ann. Chem.*, 1913, **398**, 249 (*synth*)
Methyl Ethyl Ketone, Shell Chemical Co., 1950 (*rev*)
Takahashi, K., *Bull. Chem. Soc. Jpn.*, 1962, **35**, 1046 (*pmr*)
Brochmann-Hanssen, E. *et al*, *J. Pharm. Sci.*, 1962, **51**, 938 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 678.
Headridge, J.B. *et al*, *Analyst (London)*, 1969, **94**, 968 (*use*)
Beaupré, P.W. *et al*, *Mikrochim. Acta*, 1982, **2**, 485 (*use*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 491.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 214, 215.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EMU500, MKA400.

Butaperazine, INN, USAN B-00609

1-[10-[3-(4-Methyl-1-piperazinyl)propyl]-10H-phenothiazin-2-yl]-1-butanone, 9CI, 8CI. Repoise. Tyrylen

[653-03-2]



$C_{24}H_{31}N_3OS$ M 409.594

Tranquilliser. $Bp_{0.05}$ 270-280°.

▷ EL9190000.

Maleate: [10213-91-9].

Mp 180-182°.

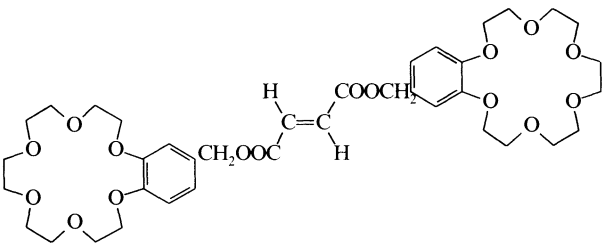
Dimaleate: [1063-55-4]. *Butaperazine maleate, USAN. Randolectil*

Used as a 0.2% aq. soln. for photometric detn. of Rh (λ_{max} 465 nm, ε 2440). Cryst. Mp 139-140°.

▷ LD_{50} 63 mg/kg (rat, i.v.). EL9200000.

Wirth, W. *et al*, *Arch. Int. Pharmacodyn. Ther.*, 1958, **115**, 1; 1959, **123**, 78 (*pharmacol*)
Ger. Pat., 1 120 451, (1961); *CA*, **57**, 4677c (*synth*)
Janssen, P.A.J. *et al*, *Arzneim.-Forsch.*, 1966, **16**, 339 (*pharmacol*)
Kracmar, J. *et al*, *Pharmazie*, 1968, **23**, 651 (*uv*)
Davis, J.M. *et al*, *Adv. Biochem. Psychopharmacol.*, 1974, **9**, 433 (*metab*)
Blazek, J. *et al*, *Cesk. Farm.*, 1975, **24**, 174 (*ir*)
Pawelczyk, E. *et al*, *Pol. J. Pharmacol. Pharm.*, 1978, **30**, 731 (*ms*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7010, 7011.
Kesharan, B. *et al*, *Analyst (London)*, 1984, **109**, 835 (*detn, Rh*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 7145 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BSZ000.

2-Butenedioic acid bis[(2,3,5,6,8,9,11,12,14,15-decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl) methyl]ester, 9CI B-00610



$C_{38}H_{52}O_{16}$ M 764.819

Both isomers used as 1m*M* $CHCl_3$ soln. for extraction separation of Na, K, Rb, Ca (in the presence of picrate).

(*E*)-*form* [76107-36-3]

Bis(benzo-18-crown-6-ylmethyl)fumarate

Oil. Sol. $CHCl_3$.

(*Z*)-*form* [76091-06-0]

Bis(benzo-18-crown-6-ylmethyl)maleate

Cryst. Sol. $CHCl_3$. Mp 105-106°.

2,3-Dihydro: [76078-84-7]. *Bis(benzo-18-crown-6-ylmethyl) succinate*

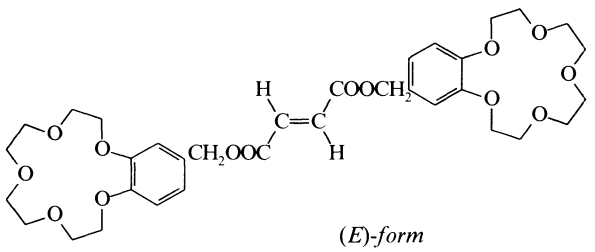
$C_{38}H_{54}O_{16}$ M 766.835

Used as 1m*M* $CHCl_3$ soln. for extraction separation of Na, K, Rb, Ca (in the presence of picrate). Cryst. Sol. $CHCl_3$.

Kimura, K. *et al*, *J. Electroanal. Chem. Interfacial Electrochem.*, 1979, **95**, 91; **105**, 335 (*synth*)

Kimura, K. *et al*, *Talanta*, 1980, **27**, 81 (*synth, use*)

2-Butenedioic acid bis[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl) methyl]ester, 9CI B-00611



(*E*)-*form*

$C_{34}H_{44}O_{14}$ M 676.713

Both isomers used as 1m*M* $CHCl_3$ soln. for extraction separation of Na, K, Rb, Cs (in the presence of picrate).

(*E*)-*form* [70975-95-0]

Bis(benzo-15-crown-5-ylmethyl)fumarate

Oil. Sol. $CHCl_3$.

(*Z*)-*form* [70975-94-9]

Bis(benzo-15-crown-5-ylmethyl)maleate

Cryst. Sol. $CHCl_3$.

2,3-Dihydro: [76573-00-7]. *Bis(benzo-15-crown-5-ylmethyl) succinate*

$C_{34}H_{46}O_{14}$ M 678.729

Used as 1m*M* $CHCl_3$ soln. for extraction separation of Na, K, Rb, Cs (in the presence of picrate). Cryst. Sol. $CHCl_3$.

Kimura, K. *et al*, *Chem. Lett.*, 1979, 611 (*synth*)

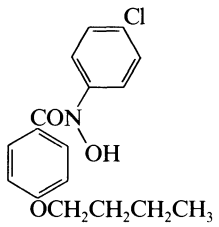
Kimura, K. *et al*, *J. Electroanal. Chem. Interfacial Electrochem.*, 1979, **95**, 91; **105**, 335 (*synth*)

Kimura, K. *et al*, *Talanta*, 1980, **27**, 801 (*use*)

4-Butoxy-*N*-(4-chlorophenyl) benzohydroxamic acid B-00612

4-Butoxy-N-(*4-chlorophenyl*)-N-*hydroxybenzamide*, *9CI*

[95333-99-6]



$C_{17}H_{18}ClNO_3$ M 319.787

Used as 0.05-0.1% soln. in $CHCl_3$ or 1% soln. in EtOH for extraction-photometric detn. of Nb (λ_{max} 360 nm, ε 22000), Ta (λ_{max} 635 nm, ε 6300), Ti. Cryst. Sol. EtOH, $CHCl_3$.

Agrawal, Y.K. *et al*, *J. Chem. Eng. Data*, 1971, **16**, 371, 495 (*synth*)

Agrawal, Y.K. *et al*, *Analyst* (*London*), 1984, **109**, 1509; 1985, **110**, 57, 1041 (*detn, Nb, Ti, Ta*)

2-Butoxyethanol, 9CI B-00613

Ethylene glycol butyl ether. Butyl 2-hydroxyethyl ether. Butylcellosolve

[111-76-2]

$H_3C(CH_2)_3OCH_2CH_2OH$

$C_6H_{14}O_2$ M 118.175

Industrial solvent. Emulsifier for petroleum. Used for extraction-photometric detn. of Mg and to esterify carboxylic acids for gc anal. Liq. Fp −74.8°. Bp 171-172°.

▷ Mod. toxic, irritant, TLV 240. Flammable, may form explosive peroxides. KJ8575000.

Urethane:

$C_7H_{15}NO_3$ M 161.200

Liq. $Bp_{2.5}$ 132°.

Benzoyl:

$C_{13}H_{18}O_3$ M 222.283

Liq. $Bp_{14.5}$ 156.5-157°.

Cretcher, L.H. *et al*, *J. Am. Chem. Soc.*, 1924, **46**, 1503 (*synth*)

Conn, R.C. *et al*, *J. Am. Chem. Soc.*, 1932, **54**, 4370 (*deriv*)

Luke, C.L. *et al*, *Anal. Chem.*, 1954, **26**, 1778; 1956, **28**, 1443.

Jankowski, S.J. *et al*, *Anal. Chem.*, 1961, **33**, 776.

Meagher, W.R., *J. Agric. Food Chem.*, 1966, **14**, 374 (*use*)

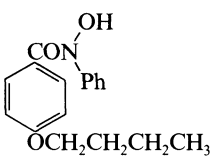
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 216.

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BPJ850.

4-Butoxy-*N*-hydroxy-*N*-phenylbenzamide, 9CI B-00614

N-*Phenyl-4-butoxybenzohydroxamic acid*

[95334-00-2]



$C_{17}H_{19}NO_3$ M 285.342
Used as 0.05-0.1% soln. in $CHCl_3$ or 1% soln. in EtOH for extraction-photometric detn. of Nb (λ_{max} 360 nm, ε 20000), Ta (λ_{max} 635 nm, ε 6200), Ti. Cryst. Sol. EtOH, $CHCl_3$.

Agrawal, Y.K. *et al*, *J. Chem. Eng. Data*, 1971, **16**, 371, 495 (*synth*)
Agrawal, Y.K. *et al*, *Analyst* (*London*), 1984, **109**, 1509; 1985, **110**, 57, 1041 (*detn, Nb, Ti, Ta*)

Butyl acetate, 9CI B-00615

[123-86-4]

$H_3CCOOCH_2CH_2CH_2CH_3$

$C_6H_{12}O_2$ M 116.160
Industrial solvent. Component of apple aroma. Used for extraction of Au, Ga, In, Ti (as bromide). Liq. Sol. EtOH, Et_2CO, Me_2CO; insol. H_2O. Fp −77°. Bp 125-126°.

▷ Mod. toxic, irritant. TLV 710. Flammble. AF7350000.

Turova, M.B. *et al*, *CA*, 1935, **29**, 5814 (*synth*)
Vogel, A.I., *J. Chem. Soc.*, 1948, 624 (*synth*)
Bock, R. *et al*, *Fresenius' Z. Anal. Chem.*, 1953, **138**, 167 (*use*)
Dorman, D.E. *et al*, *J. Org. Chem.*, 1975, **40**, 3729 (*cmr*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 216.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BPU750.

Butylamine B-00616

1-Butanamine, 9CI. 1-Aminobutane

[109-73-9]

$H_3CCH_2CH_2CH_2NH_2$

$C_4H_{11}N$ M 73.138
Present in mulberry leaves. Intermed. in industrial syntheses. Used in forming extractable ion-pairs with anionic complexes (extraction-photometric methods). Liq. Sol. H_2O. d 0.740. Bp 78°.

▷ Irritant. Toxic by skin absorption and inhalation, TLV 15. Highly flammable, flash p. −12°. EO2975000.

B,HCl: Leaflets. Sol. H_2O. Mp 195°.
Picrate: Needles (EtOAc/C_6H_6). Mp 151° (145°).
Picronolate: Needles (EtOAc). Mp 215-216° (219-220°).
N-*Ac:* [1119-49-9]. N-*Butylacetamide, 9CI. Acetylbutylamine. Acetbutylamide*
$C_6H_{13}NO$ M 115.175
Liq. Bp 229°, Bp_7 116°.
N-*Me:* [110-68-9].
$C_5H_{13}N$ M 87.164
Bp 90.5-91.5°.
▷ Mod. toxic, highly flammable. EO5250000.
N-*Me; B,HCl:* Plates (Me_2CO). Mp 173-174°.

Org. Synth., Coll. Vol., 2, 1943, 319 (*synth*)
Brown, R. *et al*, *J. Chem. Soc.*, 1946, 781 (*synth*)
Betteridge, D. *et al*, *Anal. Chim. Acta*, 1962, **26**, 101 (*detn, Ag*)
Newman, E.J. *et al*, *Analyst* (*London*), 1963, **88**, 506 (*detn, Mg*)
Tani, H. *et al*, *Bull. Chem. Soc. Jpn.*, 1964, **37**, 1245 (*derivs*)
Org. Synth., 1964, **44**, 72 (*deriv*)
Hendrickson, J.B. *et al*, *Tetrahedron Lett.*, 1970, 345 (*deriv*)
Miyajima, G. *et al*, *Org. Magn. Reson.*, 1974, **6**, 313 (*cmr*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 218, 1185.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 218.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BPX750, MHV000.

N-Butylaniline, 8CI B-00617

N-*Butylbenzenamine, 9CI*

[1126-78-9]

$PhNH(CH_2)_3CH_3$

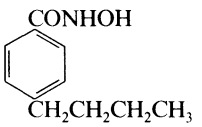
$C_{10}H_{15}N$ M 149.235
Used as a soln. in $CHCl_3$ for extraction-separation of Th, U. Liq. Sol. acids, EtOH, C_6H_6, $CHCl_3$; insol. H_2O. d_4^{20} 0.936. Bp 240°, Bp_{15} 115-120°. n_D^{20} 1.5381.

▷ Mod. toxic. BW9450000.

B,HCl: Mp 114-115°.
N-*Ac:* [91-49-6]. N-*Butylacetanilide*
$C_{12}H_{17}NO$ M 191.272
Liq. Bp_{718} 273-275°.
▷ AD9800000.
N-*Me:* N-*Butyl*-N-*methylaniline*
$C_{11}H_{17}N$ M 163.262
Bp_{12} 114-116°.
N-*Me, picrate:* Yellow needles (EtOH). Mp 141-142°.

Gagliardi, E. *et al*, *Mikrochim. Acta*, 1968, 1259 (*detn, U*)
Keil, R. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **286**, 54 (*detn, Th*)
Clark, J.H. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 498 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BPU500, BQH850.

4-Butylbenzohydroxamic acid B-00618



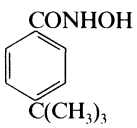
$C_{11}H_{15}NO_2$ M 193.245
Parent compd. unknown.
N-*Ph:* [132520-38-8]. N-(*4-Butylbenzoyl*)-N-*phenylhydroxylamine*
$C_{17}H_{19}NO_2$ M 269.343
Used as 0.1m*M* CCl_4 soln. for extraction separation of lanthanides. Cryst. (Et_2O/hexane). Sol. Et_2O, EtOAc, CCl_4, hexane. Mp 98.5-99.5°.

Haraguchi, K. *et al*, *Anal. Sci.*, 1990, **6**, 877 (*synth, use*)

4-*tert*-Butylbenzohydroxamic acid B-00619

4-tert-*Butyl*-N-*hydroxybenzamide*

[62034-73-5]



$C_{11}H_{15}NO_2$ M 193.245
N-*Ph:* [53253-03-5]. *4-(1,1-Dimethylethyl)*-N-*hydroxy*-N-*phenylbenzamide, 9CI*
$C_{17}H_{19}NO_2$ M 269.343
Used as 0.1*M* $CHCl_3$ soln. for extraction separation of Al, Cd, Cu, Fe(*III*), Mn, V. Cryst. (EtOH aq.). Sol. $CHCl_3$, EtOH. Mp 135-136°.
N-(*4-Methylphenyl*): [80220-10-6]. *4-(1,1-Dimethylethyl)*-N-*hydroxy*-N-(*2-methylphenyl*)*benzamide, 9CI*
$C_{18}H_{21}NO_2$ M 283.369
Used as 0.1*M* $CHCl_3$ soln. for extraction of Al, Fe(*III*), Mn, V. Cryst. (EtOH aq.). Sol. $CHCl_3$, EtOH. Mp 140°.

Hojjatie, M. *et al*, *Anal. Chim. Acta*, 1987, **199**, 49 (*synth, use*)

tert-Butylboronic acid B-00620

(1,1-Dimethylethyl)boronic acid, 9CI. 2-Methyl-2-propaneboronic acid, 8CI

[86253-12-5]

$(H_3C)_3CB(OH)_2$

$C_4H_{11}BO_2$ M 101.941

Derivatisation reagent for gc anal. of corticosteroids. Mp 113-114°.

Di-Me ester:

$C_6H_{15}BO_2$ M 129.994

Bp_{100} 60-62°.

Krause, E. *et al*, *Ber.*, 1931, **64**, 2112 (*synth*)
Brooks, C.J.W. *et al*, *J. Chromatogr.*, 1971, **54**, 193 (*use*)
Negishi, E. *et al*, *Synthesis*, 1972, 197 (*synth, ester*)

tert-Butylchlorodimethylsilane B-00621

Chloro(1,1-dimethylethyl)dimethylsilane, 9CI

[18162-48-6]

$(H_3C)_3CSiMe_2Cl$

$C_6H_{15}ClSi$ M 150.723

Hydroxyl function protecting group (in particular for ribonucleotides). Reagent for oxid. decyanations. Silylation reagent for use in chromatog. Mp 91.5°. Bp_{733} 125°.

▷ VV2000000.

Corey, E.J. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 6190 (*synth*)
Kelly, R.W. *et al*, *Anal. Chem.*, 1976, **48**, 465 (*use*)
Ogilvie, K.K. *et al*, *Can. J. Chem.*, 1978, **56**, 2768 (*use*)
Harvey, D.J., *J. Chromatogr.*, 1978, **147**, 291 (*use*)
Nakata, T. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 4400 (*use*)
Olah, G. *et al*, *J. Org. Chem.*, 1979, **44**, 4272 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1982, **10**, 62 (*use*)

Butylchloromagnesium, 9CI, 8CI B-00622

Butylmagnesium chloride

[693-04-9]

$H_3CCH_2CH_2CH_2MgCl$

C_4H_9ClMg M 116.873

Commercially available Grignard reagent. Used as 2*M* soln. in Et_2O or THF for derivatisation of ionic alkyllead compounds in gc analysis. Sol. ethers, spar. sol. Et_3N. pK (RH/RMgX) 28. Disproportionates in hydrocarbons.

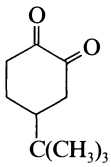
▷ May ignite in heat or presence of powerful oxidising agent.

Kharasch, M.S. *et al*, *Grignard Reactions of Nonmetallic Substances*, Prentice Hall, New York, 1954 (*bibl*)
Bryce-Smith, D. *et al*, *Bull. Soc. Chim. Fr.*, 1963, 1418.
Leigh, T., *Chem. Ind. (London)*, 1963, 426 (*synth*)
Ashby, E.C. *et al*, *J. Org. Chem.*, 1966, **31**, 971 (*synth*)
Org. Synth., Coll. Vol., 5, 1973, 1141 (*synth*)
Chevrot, C. *et al*, *J. Electroanal. Chem. Interfacial Electrochem.*, 1974, **55**, 263 (*props*)
Ratanova, A.I. *et al*, *Zh. Prikl. Khim. (Leningrad)*, 1976, **49**, 1864 (*synth*)
Estes, S.A. *et al*, *J. Chromatogr.*, 1980, **196**, 265.
Chan, Y.K. *et al*, *Anal. Chim. Acta*, 1983, **176**, 211.
Chakrabarti, D. *et al*, *Anal. Chem.*, 1984, **56**, 2652.
Harrison, R.M. *et al*, *Environ. Technol. Lett.*, 1985, **6**, 129.
Radojević, M. *et al*, *Anal. Chem.*, 1986, **58**, 658.
Org. Synth., 1987, **65**, 61 (*synth*)
Lobinski, R. *et al*, *Anal. Chim. Acta*, 1992, **262**, 285 (*use*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 448.

4-*tert*-Butyl-1,2-cyclohexanedione B-00623

4-(1,1-Dimethylethyl)-1,2-cyclohexanedione

[4255-54-3]



$C_{10}H_{16}O_2$ M 168.235

Green-yellow oil. $Bp_{1.2}$ 74-75°. n_D^{25} 1.4996.

Dioxime: [1134-60-7]. *4-tert-Butylnioxime*

$C_{10}H_{18}N_2O_2$ M 198.264

Used as a soln. in EtOH for gravimetric detn. of Bi, Ni, Pd; as 0.4m*M* aq. soln. for extraction-photometric detn. of Ni (λ_{max} 386 nm, ε 4100, xylene). Cryst. (C_6H_6). Sol. EtOH, C_6H_6; spar. sol. H_2O. Mp 196-199°, Mp 202°.

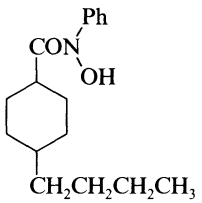
2-Oxime: [24858-30-8].

$C_{10}H_{17}NO_2$ M 183.250

Mp 118°.

Leton, G.B., *Ph.D. Thesis*, London University, October, 1963 (*synth, deriv*)
Barling, M.M. *et al*, *Anal. Chem.*, 1964, **36**, 2359 (*synth, detn, Ni*)
Bordwell, F.G. *et al*, *J. Org. Chem.*, 1966, **31**, 351 (*synth*)
Bassed, J. *et al*, *Analyst (London)*, 1967, **92**, 279 (*detn, Bi, Ni, Pd*)
Bassett, J. *et al*, *J. Chem. Soc. A*, 1969, 2873 (*synth, oximes*)

N-(4-Butylcyclohexanoyl)-*N*-phenylhydroxylamine B-00624



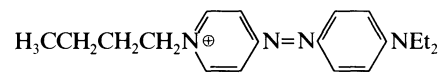
$C_{17}H_{25}NO_2$ M 275.390

Used as 0.01m*M* CCl_4 soln. for extraction separation of lanthanides. Cryst. (Et_2O/hexane). Sol. Et_2O, EtOAc, CCl_4, hexane. Mp 124-125°.

Haraguchi, K. *et al*, *Anal. Sci.*, 1990, **6**, 877 (*synth, use*)

1-Butyl-4-[[4-(diethylamino)phenyl]azo] pyridinium(1+), 9CI B-00625

[76749-68-3]



$C_{19}H_{27}N_4^{\oplus}$ M 311.449 (ion)

Cationic azo dye; occurs as salt with halide or other anion. Forms extractable ion-pairs with Co, Ni and other metals (as anionic complexes) which are used in sensitive extraction-photometric detn. of metals (Co: λ_{max} 566 nm, ε 133000, $CHCl_3$). Cryst. Sol. H_2O (as salt).

Motomizu, S. *et al*, *Anal. Chim. Acta*, 1980, **120**, 267 (*synth, use*)

Butyldihydroxyborane B-00626

Butylboronic acid, 10CI, 9CI. Butylboric acid. Butaneboronic acid

[4426-47-5]

$H_3C(CH_2)_3B(OH)_2$

$C_4H_{11}BO_2$ M 101.941
Used for protection of diols and in GC/MS of bifunctional compds. Derivatisation reagent for anal. of bifunctional org. compds. Cryst. (toluene). Mp 92-94°.

Letsinger, R.L. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 864 (*synth*)
Mirviss, S.B., *J. Org. Chem.*, 1967, **32**, 1713 (*synth*)
Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 1785, 1798 (*synth*)
Ger. Pat., 2 627 675, (1977); *CA*, **86**, 155254k (*use*)
Mazurek, M. *et al*, *Org. Magn. Reson.*, 1977, **9**, 193 (*nmr*)
Kossa, W.C., *Chem. Deriv. Anal. Chem.*, (Frei, R.W. *et al*, Ed.), Plenum, N.Y., 1981, 99 (*rev*)
Frei, R.W. *et al*, *Chem. Deriv. Anal. Chem.*, Plenum, New York, 1981, 99 (*use*)

Butyldiisopropoxyborane B-00627

Bis(1-methylethyl) butylboronate, 9CI

[86545-32-6]

$H_3C(CH_2)_3B(OCH(CH_3)_2)$

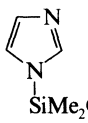
$C_{10}H_{23}BO_2$ M 186.101
Potential derivisation reagent for difunctional compounds for gc and gc-ms analysis. Commercially available. Moisture sensitive colourless liq. d 0.794. Fp 29°. Bp_{746} 145-147°. n_D^{20} 1.3930.

Brown, H.C. *et al*, *Organometallics*, 1983, **2**, 1316; 1986, **5**, 2300 (*synth*)
Sigma-Aldrich Library of Chemical Safety Data, 1988, **1**, 627A.

N-(*tert*-Butyldimethylsilyl)imidazole B-00628

1-[(1,1-Dimethylethyl)dimethylsilyl]-1H-imidazole, 9CI. tert-*Butyl-1-imidazolyltrimethylsilane*

[54925-64-3]



$C_9H_{18}N_2Si$ M 182.340
Silylation reagent used in gc-ms anal. of steroids and nucleosides. Viscous liq. $Bp_{0.7}$ 86-90°.

Quilliam, M.A. *et al*, *Anal. Chem.*, 1978, **50**, 59 (*use*)
Blair, I.A. *et al*, *J. Chromatogr. Sci.*, 1978, **16**, 201 (*synth, use*)
Janzen, A.F. *et al*, *Can. J. Chem.*, 1980, **58**, 60 (*synth, cmr*)

N-(*tert*-Butyldimethylsilyl)-*N*-methylacetamide B-00629

N-[(*1,1-Dimethylethyl*)*dimethylsilyl*]-N-*methylacetamide, 9CI*

[82112-20-7]

$(H_3C)_3CSiMe_2NMeAc$

$C_9H_{21}NOSi$ M 187.356
Silylation reagent for alcohols, amino acids, etc. Liq. d_4^{20} 0.8997. Bp 57-59°. Moisture-sensitive.

Mawhinney, T.P. *et al*, *J. Org. Chem.*, 1982, **47**, 3336 (*synth, use*)

N-(*tert*-Butyldimethylsilyl)-*N*-methyltrifluoroacetamide B-00630

N-[(*1,1-Dimethylethyl*)*dimethylsilyl*]-*2,2,2-trifluoro*-N-*methylacetamide, 9CI. MTBSTFA*

[77377-52-7]

$CF_3CONMeSiMe_2CMe_3$

$C_9H_{18}F_3NOSi$ M 241.328
Silylation reagent for amino acids and other org. compd. for gc anal. Liq. d_4^{20} 1.121. Bp_{760} 168-170°.

Mawhinney, T.P. *et al*, *J. Org. Chem.*, 1982, **47**, 3336 (*synth, use*)
Schwenk, W.F. *et al*, *Anal. Biochem.*, 1984, **141**, 101 (*use*)
Biermann, C.J. *et al*, *J. Chromatogr.*, 1986, **357**, 330 (*use*)
Mawhinney, T.P. *et al*, *J. Chromatogr.*, 1986, **361**, 117 (*use*)
Goh, C.J. *et al*, *Anal. Biochem.*, 1987, **163**, 175 (*use*)

Butyldithiocarbamic acid, 8CI B-00631

Butylcarbamodithioic acid, 9CI

[18879-99-7]

$H_3C(CH_2)_3NHC(S)SH$

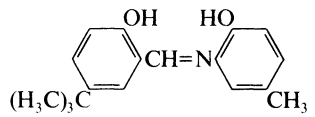
$C_5H_{11}NS_2$ M 149.281
Used as 2% aq. soln. for extraction-photometric detn. of Nb. Cryst. (H_2O). Sol. H_2O, EtOH; spar. sol. C_6H_6.

Uvarova, K.A. *et al*, *Zavod. Lab.*, 1970, **36**, 909 (*detn, Nb*)

N-(5-*tert*-Butyl-2-hydroxybenzylidene)-2-hydroxy-5-methylaniline B-00632

4-(1,1-Dimethylethyl)-2-[[(2-hydroxy-5-methylphenyl)imino]methyl]phenol, 9CI. 5-tert-*Butyl-2-hydroxybenzaldehyde 2-hydroxy-5-methylanil*

[76950-25-9]



$C_{18}H_{21}NO_2$ M 283.369
Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 523 nm, pH 6.0), Ga (λ_{max} 533 nm, pH 4.0), Be (λ_{max} 450 nm, pH 8.5). Cryst. (EtOH). Sol. DMF, EtOH.

Morishige, K., *Anal. Chim. Acta*, 1980, **121**, 301 (*synth, detn, Al, Be, Ga*)

Butyl nitrite, 9CI B-00633

[544-16-1]

$H_3C(CH_2)_3ONO$

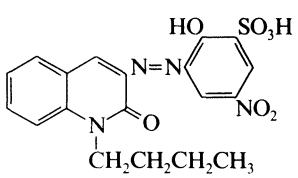
$C_4H_9NO_2$ M 103.121
Meat preservative, reagent for peptide synth. and nitrosation. Chemical ionisation reagent used in mass spectrometry. Liq. Bp 78°, Bp_{43} 24-27°.

▷ Mod. toxic by inhalation, irritant, highly flammable, flash p. 10°. RA0780000.

Org. Synth., Coll. Vol., 2, 1943, 108 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 97.
Moncur, J.H. *et al*, *Rapid Commun. Mass Spectrom.*, 1988, **2**, 77; *CA*, **112**, 30037r (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BRV500.

3-[(1-Butyl-2-oxo-3-quinolinyl)azo]-2-hydroxy-5-nitrobenzenesulfonic acid, 9CI B-00634

1-Butyl-3-(2-hydroxy-5-nitro-3-sulfophenylazo)-2(1H)-quinolinone



$C_{19}H_{18}N_4O_7S$ M 446.440

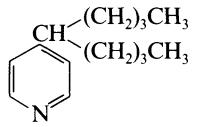
Used as a 0.6m*M* aq. soln. for photometric detn. of Ga (λ_{max} 480 nm, ε 11400). Orange-red cryst. Sol. H_2O. pK_{a2} 4.32; pK_{a3} 10.2.

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2350 (*detn, Ga*)

4-(1-Butylpentyl)pyridine, 9CI B-00635

4-(5-Nonyl)pyridine. 5-(4-Pyridyl)nonane

[2961-47-9]



$C_{14}H_{23}N$ M 205.342

Liquid anion-exchanger. Used as 0.1*M* C_6H_6 or xylene soln. for extraction-separation of Cr(*VI*) (from HNO_3 medium), Tc(*VII*), Pt, Au. Yellow oil. Sol. C_6H_6, xylene; sl. sol. H_2O (0.12 g per 100 cm^3). d 0.9208. $Bp_{0.8}$ 94°.

Iqbal, M. *et al*, *J. Radioanal. Chem.*, 1974, **23**, 51 (*detn, Tc*)
Iqbal, M. *et al*, *Anal. Chem.*, 1975, **47**, 936 (*detn, Cr*)
Iqbal, M. *et al*, *Radiochim. Acta*, 1975, **22**, 37 (*detn, Au*)

3-(Butylphenylamino)-1-propanesulfonic acid B-00636

N-*Butyl*-N-*sulfopropylaniline*

$H_3C(CH_2)_3NPhCH_2CH_2CH_2SO_3H$

$C_{13}H_{21}NO_3S$ M 271.380

Mp 170° dec.

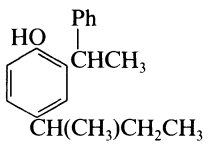
Na salt: [82611-86-7].
Used as a 0.01*M* aq. soln. for photometric detn. of H_2O_2. Cryst. ($EtOH/Me_2CO$). Sol. H_2O.

Tamaoku, K. *et al*, *Anal. Chim. Acta*, 1982, **136**, 121 (*synth, ir, detn, H_2O_2*)

4-*sec*-Butyl-2-(1-phenylethyl)phenol B-00637

4-(1-Methylpropyl)-2-(1-phenylethyl)phenol, 9CI. 4-sec-Butyl-2-(α-methylbenzyl)phenol

[2622-83-5]

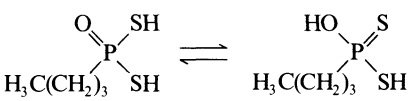


$C_{18}H_{22}O$ M 254.371

Used as a soln. in octane for extraction-separation of Cs, Rb. Oily liq. Sol. alkalis, C_6H_6; insol. H_2O. d_4^{25} 1.004. Bp 180-185°.

Ross, W.J. *et al*, *Anal. Chem.*, 1964, **36**, 1998 (*use*)
Rais, J. *et al*, *Talanta*, 1971, **18**, 213 (*use*)

Butylphosphonodithioic acid, 9CI B-00638



$C_4H_{11}OPS_2$ M 170.236

O-*Me ester:* [13685-74-0]. O-*Methyl butylphosphonodithioate*
$C_5H_{13}OPS_2$ M 184.263
Liq. d_4^{20} 1.11. $Bp_{0.02}$ 61.5°. n_D^{20} 1.5360.

O-*Et ester:* [5074-77-1]. O-*Ethyl butylphosphonodithioate*
$C_6H_{15}OPS_2$ M 198.290
Liq. d_4^{20} 1.09. $Bp_{0.18}$ 66-67°. n_D^{20} 1.5281.

O-*Isopropyl ester:* [13685-75-1]. O-*Isopropyl butylphosphonodithioate*
$C_7H_{17}OPS_2$ M 212.316
Liq. d_4^{20} 1.05. $Bp_{0.2}$ 74.5-75°. n_D^{20} 1.5100.

O-*Hexyl ester:* [5495-18-1]. O-*Hexylbutylphosphonodithioate*
$C_{10}H_{23}OPS_2$ M 254.397
Used for extraction-photometric detn. of Cu. Sol. H_2O.

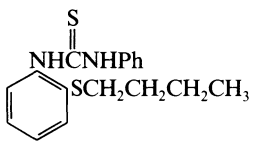
S,S-*Dibutyl ester:* [2797-54-8]. S,S-*Dibutyl butylphosphonodithioate*
$C_{12}H_{27}OPS_2$ M 282.450
Defoliant. Liq. $Bp_{0.02}$ 125°. n_D^{26} 1.5112.

S,S-*Di-Ph ester:* [29703-23-9]. S,S-*Diphenyl butylphosphonodithioate*
$C_{16}H_{19}OPS_2$ M 322.431
Fungicide. Solid. Mp 50-53°.

Chupp, J.P. etal., *J. Org. Chem.*, 1962, **27**, 3832 (*synth*)
Grishina, O.N. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 2109), 1965, 2140 (*synth*)
U.S. Pat., 3 193 372, (1965); *CA*, **63**, 8976 (*dibutyl ester, synth, use*)
Grishina, O.N. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 1558), 1966, 1617 (*O*-esters)
Ger. Pat., 1 902 928, (1970); *CA*, **73**, 119693 (*diphenyl ester, synth, use*)
Solozhenkin, P.M. *et al*, *Zh. Strukt. Khim.*, 1971, **12**, 167 (*hexyl ester*)

N-[2-(Butylthio)phenyl]-*N'*-phenylthiourea, 9CI B-00639

[131221-84-6]



$C_{17}H_{20}N_2S_2$ M 316.490

Used as 0.01*M* soln. in PhCl for extraction-separation of Cu(*II*) from Zn, Cd, Co, Ni (acidic soln.). Cryst. (C_6H_6). Sol. C_6H_6, PhCl. Mp 120-121°.

Ide, S. *et al*, *Anal. Sci.*, 1990, **6**, 599 (*synth, use*)

Butyltriphenylphosphonium(1+), 9CI B-00640

[22444-89-9]

$Ph_3P^{\oplus}(CH_2)_3CH_3$

$C_{22}H_{24}P^{\oplus}$ M 319.405 (ion)

With butyllithium, salts yield the ylide.

Chloride: [13371-17-0].
$C_{22}H_{24}ClP$ M 354.858
Used as 1m*M* soln. in $CHCl_3$ for extraction-photometric detn. of Mo ($CHCl_3$). No phys. props. reported. Sol. EtOH, Et_2O, $CHCl_3$, C_6H_6.

Bromide: [1779-51-7].
$C_{22}H_{24}BrP$ M 399.309
Cryst. (butanol). Mp 249° (223°).
▷ TA1855200.

Iodide: [22949-84-4].
$C_{22}H_{24}IP$ M 446.310
Solid. Mp 213-215°.
▷ TA1856000.

Triiodide: [76835-82-0].
$C_{22}H_{24}I_3P$ M 700.119
Solid. Mp 139-141°.

Pentaiodide: [76835-83-1].

$C_{22}H_{24}I_5P$ M 953.928
Solid. Mp 74-76°.

Heptaiodide: [76835-84-2].
$C_{22}H_{24}I_7P$ M 1207.737
Solid. Mp 81-83°.

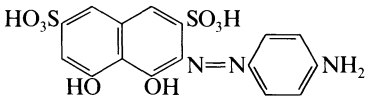
Ylide: [3728-50-5]. *Butylidenetriphenylphosphorane*
$C_{22}H_{23}P$ M 318.397
Reactive Wittig reagent, prepd. *in situ.*

Mechoulam, R. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 4386 (*ylide*)
Keough, P. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 3919 (*props*)
Grebenova, B. *et al*, *Collect. Czech. Chem. Commun.*, 1973, **38**, 379 (*detn, Mo*)
Albright, T.A. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 2942, 2946 (*cmr, nmr*)
Makovetskii, Yu.P. *et al*, *Zh. Obshch. Khim.*, 1980, **50**, 2436 (*Engl. transl.* p. 1967;1(*Engl. transl.*, p. 1989), 1982, **52**, 2235 (*iodides, uv*)
Schlosser, M. *et al*, *Chimia*, 1982, **36**, 396 (*ylide*)

C

C.I. Acid violet 3 C-00001

3-[(4-Aminophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid. Victoria violet. C.I. 16580. Pontacyl violet 4BSN



$C_{16}H_{13}N_3O_8S_2$ M 439.426

Strictly, the name Acid violet 3 applies to the disodium salt.

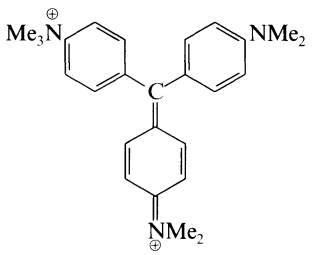
Di-Na salt: [1681-60-3].

Used as aq. soln. for photometric detn. of Mg (λ_{max} 580 nm, pH 11), and B (pH 8.5-9.0). Dark blue cryst. powder. Sol. H_2O; spar. sol. EtOH.

Reynolds, C.A., *Anal. Chem.*, 1959, **31**, 1102 (*detn, B*)
Useki, K., *Bull. Chem. Soc. Jpn.*, 1965, **38**, 37 (*detn, Mg*)

C.I. Basic blue 20 C-00002

4-[[4-(Dimethylamino)phenyl][4-(dimethylimino)-2,5-cyclohexadien-1-ylidene]methyl]-N,N,N-trimethylbenzenaminium(2+), 9CI. C.I. 42585



$C_{26}H_{33}N_3^{2\oplus}$ M 387.567 (ion)

Strictly, the name C.I. Basic blue 20 applies to the dichloride.

Dichloride: [38676-30-1].

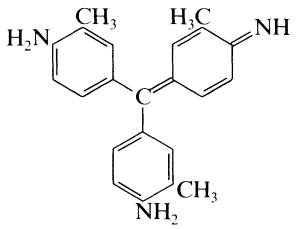
$C_{26}H_{33}Cl_2N_3$ M 458.472

Used as a 0.1-0.5% aq. soln. for detn. of halides. Cryst. Sol. H_2O; insol. EtOH, pentanol.

Rao, N. *et al*, *Fresenius' Z. Anal. Chem.*, 1971, **253**, 128 (*use*)

C.I. Basic violet 2, 8CI C-00003

4-[(4-Amino-3-methylphenyl)(4-imino-3-methyl-2,5-cyclohexadien-1-ylidene)methyl]-2-methylbenzenamine, 9CI. New fuchsin. C.I. 42520. Astrazon fuchsine GN. Leather ruby HF. Magenta ABN. New fuchsine G crystal. New magenta. Remacryl magenta B. Numerous other proprietary names



$C_{22}H_{23}N_3$ M 329.444

Strictly the name Basic violet 2 applies to the hydrochloride salt.

B, HCl: [3248-91-7].

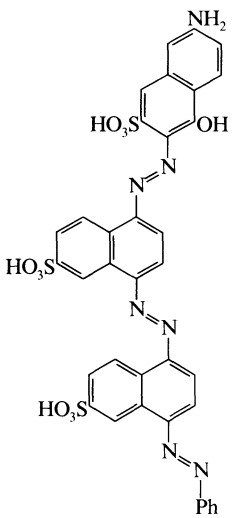
Commercially available. Detn. agent used in tlc of fatty acids and pesticides. Green powder. λ_{max} 553 nm.

Sliwiok, J. *et al*, *Microchem. J.*, 1968, **13**, 113 (*use*)
Gregorowicz, Z. *et al*, *Microchem. J.*, 1970, **15**, 545 (*use*)
Kwapniewski, K. *et al*, *Microchem. J.*, 1979, **24**, 298 (*use*)
Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 2534B.

C.I. Direct blue 72 C-00004

C.I. 34145

[6717-34-6]



$C_{36}H_{25}N_7O_{10}S_3$ M 811.832

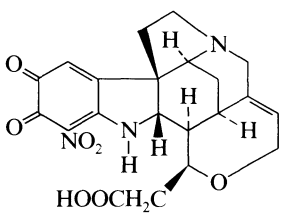
Strictly the name C.I. Direct blue 72 applies to the trisodium salt. Acid-base indicator (pH range: 14-15; colour change: blue → reddish-violet). Dark green cryst. powder. Sol. H_2O, EtOH.

Colour Index, 3 Edn., 1971, **4**, 4318 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 165.

Cacotheline C-00005

2,3-Dihydro-4-nitro-2,3-dioxo-9,10-secostrychnidin-10-oic acid, 9CI

[561-20-6]



$C_{21}H_{21}N_3O_7$ M 427.413

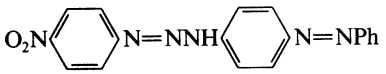
Prod. by oxidn. and nitration of brucine. Indicator for $Sn^{2\oplus}$ titrations, used for photometric detn. of CO, Fe(*III*), Sn(*II*), V(*III*). Yellow cryst. Spar. sol. H_2O. Used with $PdCl_4^{2\ominus}$ in a soln. containing 0.2m*M* cacotheline, 0.5m*M* H_2PdCl_4, 0.01*M* aq. HCl.

Leuchs, H. *et al*, *Ber.*, 1910, **43**, 1042 (*synth*)
Beck, G., *Mikrochim. Acta*, 1938, **3**, 141, 143 (*detn, Fe, Sn, V*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, Princeton, 1948, **4**.
Teuber, H.-J. *et al*, *Chem. Ber.*, 1953, **86**, 232 (*struct*)
Gopalo, G., *Fresenius' Z. Anal. Chem.*, 1955, **148**, 278 (*detn, Fe*)
Lambert, J.L. *et al*, *Anal. Chem.*, 1983, **55**, 1829 (*detn, CO*)

Cadion C-00006

1-(4-Nitrophenyl)-3-[4-(phenylazo)phenyl]-1-triazene, 9CI. p-*Nitrobenzenediazoaminobenzene*-p-*azobenzene. 4'*-(p-*Nitrophenyltriazeno)azobenzene*

[5392-67-6]



$C_{18}H_{14}N_6O_2$ M 346.348

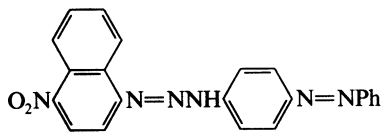
Used in photometric detn. of Cd, Ni (use of Triton X-100 increases sensitivity). Dark cryst. powder. Sl. sol. EtOH. Mp 189°, Mp 198° dec.

Chavanne, P. *et al*, *Anal. Chim. Acta*, 1958, **19**, 377 (*detn, Cd*)
Popa, G. *et al*, *Talanta*, 1978, **25**, 546 (*detn, Hg*)
Watanabe, H. *et al*, *Talanta*, 1979, **26**, 959 (*detn, Cd*)
Shen Nai-Kui, *et al*, *Mikrochim. Acta*, 1983, **II**, 405 (*detn, Ni*)

Cadion 2B C-00007

1-(4-Nitro-1-naphthalenyl)-3-[4-(phenylazo)phenyl]-1-triazene, 9CI

[6708-61-8]



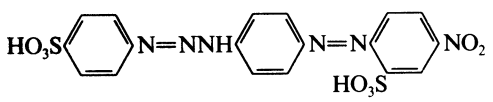
$C_{22}H_{16}N_6O_2$ M 396.407

Used as a 0.015-0.04% soln. in EtOH for extraction-photometric detn. of Ag, Cd, Hg, Pd, $CN^{\ominus}$. Dark red cryst. powder. Sol. C_6H_6; sl. sol. EtOH; insol. H_2O.

Dwyer, F.P., *Austr. Chem. Inst. J. Proc.*, 1938, **5**, 197 (*detn, Cd*)
Popa, G. *et al*, *Chim. Anal. (Bucharest)*, 1971, **1**, 86 (*detn, Pd*)
Popa, G. *et al*, *Talanta*, 1978, **25**, 546 (*detn, Hg*)
Wei Fu-Sheng, *et al*, *Talanta*, 1983, **30**, 190 (*detn, Ag*)
Wei Fu-Sheng, *et al*, *Analyst (London)*, 1984, **109**, 167 (*detn, $CN^{\ominus}$*)

Cadion IREA C-00008

5-Nitro-2-[3-[4-[(4-sulfophenyl)azo]phenyl]-1-triazenyl] benzenesulfonic acid, 9CI. 4'-[(4-Nitro-2-sulfophenyl) triazeno]-4-azobenzenesulfonic acid. Cadion S. Cadion II



$C_{18}H_{14}N_6O_8S_2$ M 506.476

Strictly the name Cadion IREA applies to the disodium salt.

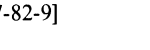
Di-Na salt: [28866-91-3].

Used as a 1m*M* aq. soln. for photometric detn. of Cd, Mg, Pb, Zn. Orange-brown cryst. powder. Sol. H_2O; spar. sol. EtOH.

Lukin, A.M., *Zh. Anal. Khim.*, 1960, **15**, 295 (*detn, Pb*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood,Chichester, 1976 (*use*)
Shestidesyatnaya, N.L. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 94 (*detn, Cd, Zn*)

Caesium tetraphenylborate(1 –), 10CI, 9CI, 8CI C-00009

[3087-82-9]



$C_{24}H_{20}BCs$ M 452.138

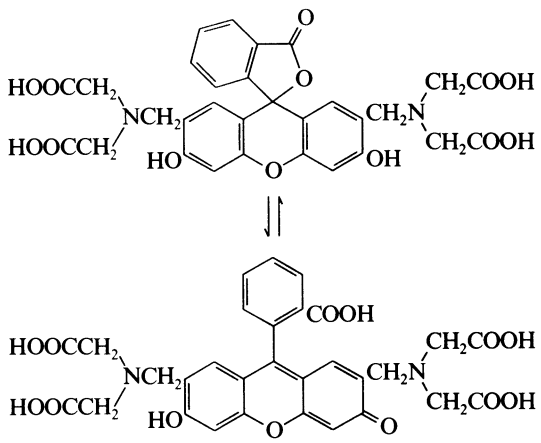
Nmr shift reagent. Used in Cs isotope sepn. Tetrahedral cryst. Sl. sol. H_2O at (1.26×10^{-3} g per 100 cm^3 at 25°).

Arnott, S. *et al*, *Acta Crystallogr.*, 1958, **11**, 449 (*struct*)
Fiedler, H.J. *et al*, *CA*, 1967, **66**, 90840p (*use*)
DeWitte, W.J. *et al*, *Inorg. Nucl. Chem. Lett.*, 1976, **12**, 251 (*nmr*)
Pacey, G. *et al*, *Talanta*, 1980, **27**, 1013 (*use*)
Popovych, O., *Solubility Data Ser.*, 1981, **18**, 52-71.

Calcein C-00010

N,N'-[(*3',6'-Dihydroxy-3-oxospiro*[*isobenzofuran-1*(3H),*9'*-[9H]*xanthene*]-*2',7'-diyl*)*bis*(*methylene*)]*bis*[N-(*carboxymethyl*)*glycine*], *9CI. 2',7'-Bis*[[*bis*(*carboxymethyl*) *amino*]*methyl*]*fluorescein, 8CI. Fluorexon.* ***Oftasceine,*** **INN**

[1461-15-0]



$C_{30}H_{26}N_2O_{13}$ M 622.541

Diagnostic aid (calcium determination). Chelating agent used as an indicator in photometric detn. of Ca. Metallofluorescent indicator (Cu, Mn, Ca, Sr, Ba).

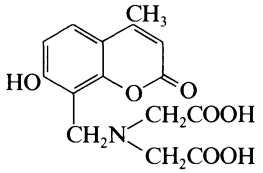
Di-Na salt: Orange cryst. powder. Sol. H_2O; insol. EtOH, Et_2O. Mp 185° dec.

Diehl, H. *et al*, *Anal. Chem.*, 1956, **28**, 882 (*synth, indicator*)
Körbl, J. *et al*, *Chem. Ind. (London)*, 1957, 233 (*synth*)
Wallach, D.F.H. *et al*, *Anal. Chem.*, 1959, **31**, 456 (*use*)
Robinson, C. *et al*, *Analyst (London)*, 1968, **93**, 722 (*detn, Ca*)
Chaplin, A.J. *et al*, *Histochemistry*, 1976, **47**, 263 (*use*)
Martin, D.B., *Diss. Abstr. Int., B*, 1977, 164 (*props*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 225 (*pKa, rev*)
Furry, J.W., *Diss. Abstr. Int., B*, 1986, **46**, 3029 (*synth, props*)

Calcein blue C-00011

N-(*Carboxymethyl*)-N-[(*7-hydroxy-4-methyl-2-oxo-2H-1-benzopyran-8-yl)methyl*]*glycine*, *9CI. 4-Methylumbelliferone-6-methyleneiminodiacetic acid. 8-(Aminomethyl)-7-hydroxy-4-methylcoumarin-*N,N*-diacetic acid*

[54375-47-2]



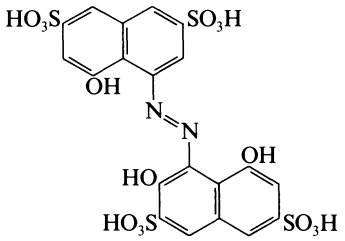
$C_{15}H_{15}NO_7$ M 321.286

Used as 0.1% aq. soln. as metallochromic fluorescent indicator for titrimetric detn. of Ba, Ca, Co, Cu, Fe(*III*), Ni, Sr (colour change: non fluoresc. → blue). Cryst. Sol. H_2O, alkalis, EtOH, Me_2CO; insol. C_6H_6.

Eggers, J.H. *et al*, *Talanta*, 1960, **4**, 38 (*use*)
Wilkins, D.H. *et al*, *Talanta*, 1960, **4**, 182 (*use*)

Calcichrome C-00012

3,5-Dihydroxy-4-[(8-hydroxy-3,6-disulfo-1-naphthalenyl)-2,7-naphthalenedisulfonic acid], *9CI. 2,8,8'-Trihydroxy-1,1'-azonaphthalene-3,3'6,6'-tetrasulfonic acid. Calcion*



$C_{20}H_{14}N_2O_{15}S_4$ M 650.599

Strictly, the name Calcichrome applies to the tetrasodium salt.

Tetra-Na salt: [123133-07-3].

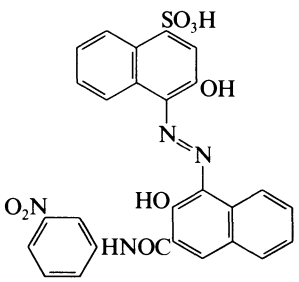
Used as 0.1% aq. soln. for photometric detn. of Ca (in the presence of Sr, Ba) (λ_{max} 522 nm, ε 13700), Co, Cu, Mn, Mg. Dark red powder. Sol. H_2O.

Close, R.A. *et al*, *Talanta*, 1960, **5**, 221 (*synth, detn, Ca*)
West, T.S., *Analyst* (*London*), 1962, **87**, 630 (*detn, Ca*)
Lukin, A.M. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 444 (*struct*)
Mendes-Bezerka, A.E. *et al*, *Analyst* (*London*), 1969, **94**, 1117 (*struct*)
Chau Lai-Kwan, *et al*, *Anal. Chim. Acta*, 1989, **217**, 31 (*detn, Ca, struct*)

Calconalide I C-00013

3-Hydroxy-4-[[2-hydroxy-3-[[(3-nitrophenyl)amino]carbonyl]-1-naphthalenyl]azo]-1-naphthalenesulfonic acid, *9CI*

[15935-39-4]

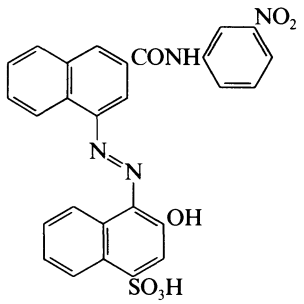


$C_{27}H_{18}N_4O_8S$ M 558.527

Used as a 0.1% soln. in MeOH as metallochromic indicator for titrimetric detn. of Ca, Mg. Green-blue cryst. powder. Sol. H_2O, EtOH, Me_2CO.

Neumann, J. *et al*, *Fresenius' Z. Anal. Chem.*, 1968, **239**, 167 (*use*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*use*)

Calcon-*m*-nitroanilide C-00014



$C_{27}H_{18}N_4O_7S$ M 542.528

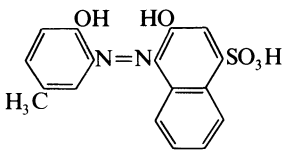
Used as a 0.1% soln. in MeOH as metallochromic indicator in titrimetric detn. of Ca. Orange-red cryst.

Neumann, J. *et al*, *Fresenius' Z. Anal. Chem.*, 1968, **239**, 167.

Calmagite C-00015

3-Hydroxy-4-[(2-hydroxy-5-methylphenyl)azo]-1-naphthalenesulfonic acid, *9CI. 3-Hydroxy-4-(6-hydroxy-*m*-tolylazo)-1-naphthalenesulfonic acid*, *8CI. 1-(1-Hydroxy-4-methyl-2-phenylazo)-2-naphthol-4-sulfonic acid*

[3147-14-6]



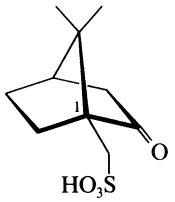
$C_{17}H_{14}N_2O_5S$ M 358.374

Analytical indicator, celluloid plasticiser; used in cosmetics and moth repellants. Used in photometric detn. of Mg (λ_{max} 540 nm, ε 20000), Al, Ca, Th, U, rare-earth elements, used in complexonometric titrimetric detn. of Mg, Ca. Red cryst. (Me_2CO). Sol. H_2O.

Lindstrom, F. *et al*, *Anal. Chem.*, 1960, **32**, 1123 (*synth*)
Curcio, P.J. *et al*, *Anal. Chim. Acta*, 1962, **174**, 269 (*detn, Th*)
Flaschka, H. *et al*, *Talanta*, 1962, **9**, 249 (*detn, Mg*)
Meites, L., *Handbook of Analytical Chemistry*, McGraw-Hill, N.Y., 1963 (*use*)
Diehl, H., *Titrimetric, Colorimetric and Fluorimetric Reagents for Ca and Mg*, G. Frederick Smith Co., Columbus, Ohio, 1964 (*use*)
Ingman, F. *et al*, *Microchem. J.*, 1966, **10**, 545 (*detn, Mg, Ca*)
Bokra, Y. *et al*, *Chim. Anal.* (*Bucharest*), 1971, **1**, 44.
Brittain, H.G., *Anal. Chim. Acta*, 1979, **106**, 401 (*detn, rare earth elements*)

Camphor-10-sulfonic acid C-00016

Camphor-β-sulfonic acid. Camphor-ω-sulfonic acid



$C_{10}H_{16}O_4S$ M 232.300

(+)-form [3144-16-9]
Resolving agent. Cryst. (AcOH). Mp 193-195° dec. $[\alpha]_D^{20}$ +21.5° (c, 4.3 in H_2O).

Chloride:
$C_{10}H_{15}ClO_3S$ M 250.745
Resolving agent for alcohols, amines and amino acids. Cryst. (Et_2O). Mp 67-68°. $[\alpha]_D^{20}$ +32.2° ($CHCl_3$).

(−)-form [35963-20-3]
Cryst. (AcOH). Mp 193-195° dec. $[\alpha]_D^{20}$ −20.75° (H_2O).

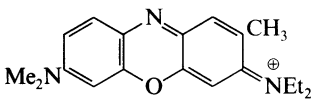
(±)-form
Cryst. (AcOH). Mp 202° dec.

Chloride: Cryst. (pet. ether). Mp 83-84°.

Pope, W.J. *et al*, *J. Chem. Soc.*, 1914, **105**, 800 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 109; 1974, **4**, 68.
Org. Synth., Coll. Vol., 5, 1973, 196 (*chloride*)
Furukawa, H., *Chem. Pharm. Bull.*, 1975, **23**, 1625 (*chloride, use*)
Mueller, D.M. *et al*, *J. Prakt. Chem.*, 1975, **317**, 689 (*synth*)

Capri blue C-00017

3-(Diethylamino)-7-(dimethylamino)-2-methylphenoxazin-5-ium(1+), 9CI



$C_{19}H_{24}N_3O^{\oplus}$ M 310.418 (ion)
Strictly the name Capri blue applies to the chloride.

Chloride: [1787-57-1].
$C_{19}H_{24}ClN_3O$ M 345.871
Used as a 1m*M* aq. soln. in extraction-photometric detn. of B, Ga, Pt, Ta (ε 11000); flotation-photometric detn. of Os and Ru (λ_{max} 630 nm, ε 270000). Dark cryst. powder. Sol. H_2O.
▷ BQ1160000.

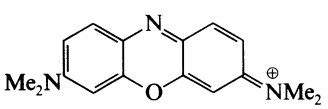
Chloride, double salt with x$ZnCl_2$: [7199-02-2]. *Capri blue GN†. Capri blue GON(L). C.I. 51015*
Used as a redox indicator in aq. soln. Blue cryst. (dil. HCl aq.). Sol. H_2O, EtOH.

Lecort, M., *C. R. Hebd. Seances Acad. Sci.*, 1932, **194**, 711 (*use*)
Elinson, S.V. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1234 (*detn, Ta*)
Marczenko, Z. *et al*, *Microchem. J.*, 1981, **26**, 453 (*detn, Ru*)
Marczenko, Z. *et al*, *Anal. Chim. Acta*, 1983, **153**, 219 (*detn, Pt*)

Capri blue GN C-00018

3,7-Bis(dimethylamino)phenoxazin-5-ium(1+), 9CI. Methyl capri blue. C.I. 51000 Basic dye

[52886-80-3]



$C_{16}H_{18}N_3O$ M 268.338

Strictly, the name Capri blue GN applies to the chloride.

Chloride: [20161-55-1].
$C_{16}H_{18}ClN_3O$ M 303.790
Used as a redox indicator. Cryst. Sol. H_2O, acids. E° + 0.477 V (30°).

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

S-Carbamidothioglycollic anilide C-00019

Thiocarbamic acid S-ester with mercaptoacetanilide, 8CI

[5428-95-5]

$Ph^{\alpha}NHCOCH_2SCONH_2$

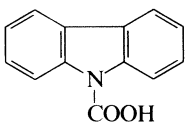
$C_9H_{10}N_2O_2S$ M 210.256
Used as 2% soln. in H_2O or EtOH for gravimetric detn. of Co, Pd. Cryst. (EtOH). Sol. H_2O, EtOH. Mp 146-150°.

N^{α}-*Me:* S-*Carbamidothioglycollic acid* N-*methylanilide*
$C_{10}H_{12}N_2O_2S$ M 224.283
Used as 2% soln. in H_2O or EtOH for gravimetric detn. of Co. Cryst. (EtOH). Mp 138-140°.

Bashar, A. *et al*, *Analyst (London)*, 1968, **93**, 125 (*detn, Co*)
Nacu, A. *et al*, *Rev. Chim. (Bucharest)*, 1977, **28**, 1091 (*detn, Pd*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MCL500.

9*H*-Carbazole-9-carboxylic acid, 9CI C-00020

[56383-71-2]



$C_{13}H_9NO_2$ M 211.220

Me ester: [107624-52-2].
$C_{14}H_{11}NO_2$ M 225.246
Needles (EtOH). Mp 77°.

Et ester: [24650-61-1].
$C_{15}H_{13}NO_2$ M 239.273
Needles (EtOH). Mp 75-76°.

Chloride: [73500-82-0]. N-*Chloroformylcarbazole*
$C_{13}H_8ClNO$ M 229.665
Reagent for fluorogenic labelling of amino acids. Long needles (toluene/hexane). Mp 102.5-103°.

Amide: [33988-01-1].
$C_{13}H_{10}N_2O$ M 210.235
Mp 250-251°.

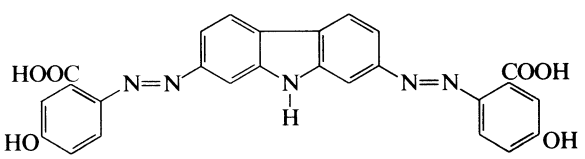
Nitrile: [31892-44-1].
$C_{13}H_8N_2$ M 192.220
Cryst. Readily hydrolyses to carbazole.

Fletcher, M.A. *et al*, *J. Chem. Soc.*, 1953, 3898 (*esters, synth*)
Lopatinskii, V.P. *et al*, *CA*, 1971, **75**, 63541w (*amide, synth*)
Zelent, B. *et al*, *J. Org. Chem.*, 1981, **46**, 1496 (*nitrile, pmr, ms*)
Allenmark, S., *Tetrahedron Lett.*, 1990, 1455 (*chloride, synth, use*)

Carbazol yellow B C-00021

5,5'-[2,7-Carbazole-2,7-diylbis(azo)]bis[2-hydroxybenzoic acid]. 5,5'-[2,7-Carbazolediylbis(azo)]disalicylic acid, 8CI. 2,7-Bis(3-carboxy-4-hydroxyphenylazo)carbazole. C.I. 25700

[6411-46-7]

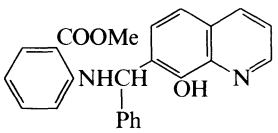


$C_{26}H_{17}N_5O_6$ M 495.450

Direct dye. Acid-base indicator used as an aq. soln. of disodium salt for high pH range (pH_t 13.7; colour change: yellow→red). Orange cryst. Sol. H_2O.

Konopik, N. *et al*, *Monatsh. Chem.*, 1948, **79**, 586; 1949, **80**, 420 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 165 (*use*)

7-[α-(Carbomethoxyanilino)benzyl]-8-hydroxyquinoline C-00022



$C_{24}H_{20}N_2O_3$ M 384.434
Used as 0.01*M* soln. in EtOH for photometric detn. of Mg and Pb. Cryst. Sol. EtOH.

Umland, F. *et al*, *Fresenius' Z. Anal. Chem.*, 1960, **177**, 244; 1972, **185**, 362 (*synth, detn, Pb, Mg*)

Carbon disulfide C-00023

Carbon sulfide (CS_2). *Carbon bisulfide. Dithiocarbonic anhydride*

[75-15-0]

S=C=S ($D_{\infty h}$)

CS_2 M 76.143
C—S 155.3 pm. Has disinfectant and insecticidal props.; used in manuf. of rayon and CCl_4, electronic vacuum tubes, org. solv. for sulfur, phosphorus, iodine, bromine, rubber intermediates, etc. Fumigation insecticide. Reagent in heterocyclic synth. Reagent for the gc and ms anal. of amines as isothiocyanates and for the anal. of thiols. Highly refracting colourless liq. Misc. EtOH, Et_2O, C_6H_6; spar. sol. H_2O. d_4^0 1.293. Mp −111.6°. Bp 46.5°, Bp_{297} 20°. n_D^{15} 1.6315. Forms hemihydrate, dec. at −3°. A black solid form has been prepd. at high press.

▷ Highly toxic by inhalation, TLV 30. Extremely flammable, flash p. −30°. FF6650000.

Bushell, W.J., *Chem. Ind.* (*London*), 1961, 1465 (*rev*)
Namasimhachari, N. *et al*, *Anal. Biochem.*, 1972, **45**, 154 (*use*)
Jungen, C. *et al*, *Can. J. Phys.*, 1973, **51**, 1471 (*struct*)
Blanquet, G. *et al*, *Ann. Soc. Sci. Bruxelles*, 1974, **88**, 87 (*struct*)
Namasimhachari, N. *et al*, *Biomed. Mass Spectrom.*, 1974, **1**, 367 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 94.
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **4**, 742 (*rev*)
Verma, B.C. *et al*, *Mikrochim. Acta*, 1982, **1**, 393 (*use*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 6506.
Dunn, A.D. *et al*, *Carbon Disulphide in Organic Chemistry*, Ellis Horwood, 1989 (*rev*)
Tominaga, Y., *J. Heterocycl. Chem.*, 1989, **26**, 1167 (*rev, use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 229.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CBV500.

Carbonodithioic acid *O*-(phenylmethyl) ester, 9CI C-00024

O-(*Phenylmethyl*)*carbonodithioate, 9CI. Benzylxanthogenic acid.* O-*Benzyl dithiocarbonate*

$PhCH_2OCSSH$

$C_8H_8OS_2$ M 184.283
K salt: [2720-79-8].
Used as a 1% soln. in $CHCl_3$ for extraction-photometric detn. of Pd (λ_{max} 460 nm). Yellow cryst. (H_2O). Sol. H_2O, $CHCl_3$.
▷ FG1100000.

Paria, P.K. *et al*, *Anal. Chim. Acta*, 1975, **74**, 197.

Carbon tetrachloride C-00025

Tetrachloromethane, 9CI. Perchloromethane. R10. F10. Tetra

[56-23-5]

CCl_4

CCl_4 M 153.822
Solv. for org. compds., formerly used in fire extinguishers, formerly dry-cleaning solv., formerly used as anthelmintic. Grain fumigant. Used in manuf. of chlorofluoromethanes. Chlorinating agent, source of $:CCl_2$. Reference material used in elemental microanalysis. Liq. Sol. EtOH, Et_2O, prac. insol. H_2O. d_4^0 1.632. Bp 76.74°. Freezes to trimorphous solid having Mps. −28.6°, −23.8° and −21.2°. n_D^{15} 1.4631.

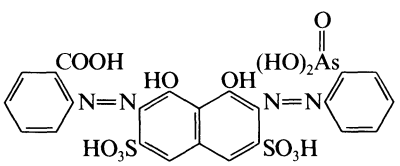
▷ Highly toxic by inhalation and skin contact, OES 65 mg m^{-3}. Dec. to highly toxic $COCl_2$ if strongly heated in the presence of air. Production controlled by environmental legislation, to be illegal in EEC after 1996. FG4900000.

Analyst (*London*), 1972, **97**, 740 (*microanal*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 69.
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **5**, 705, 707 (*synth, props*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 767.
Occupational Exposure Limits 1991, Health and Safety Executive, HMSO, London, 1991, EH40/91,.
Stevenson, R., *Chem. Br.*, 1992, 208 (*rev*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 231.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CBY000.

Carboxyarsenazo C-00026

2-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, 9CI. 3-(2-Arsonophenylazo)-6-(2-carboxyphenylazo)-2,7-naphthalenedisulfonic acid

[3772-44-9]



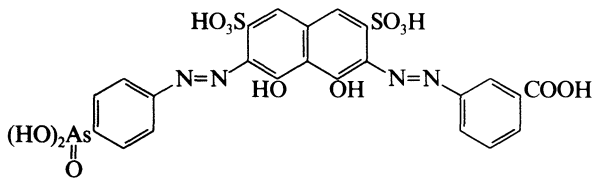
$C_{23}H_{17}AsN_4O_{13}S_2$ M 696.460
Used in photometric detn. of Ba (ε 41000), Ca, Mg, $F^{\ominus}$; metal indicator for Ba; gives colour reaction with Dy, Lu, Th, Y; titrimetric detn. of $SO_4^{2\ominus}$. Dark cryst. powder. Sol. H_2O. pK_{a1} 2.67.

Muk, A.A. *et al*, *Anal. Chim. Acta*, 1969, **44**, 59 (*pKa*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177 (*detn, Ba, Ca, Mg*)
Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 2320; 1971, **26**, 722 (*detn, Ba, Dy, Lu, Th, Y*)
Basargin, N.N. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1974, **40**, 648 (*detn, $F^{\ominus}$*)
Simonov, L.N. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 917 (*detn, $SO_4^{2\ominus}$*)

Carboxyarsenazo B C-00027

3-[[7-[(4-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, 9CI. 3-(4-Arsonophenylazo)-6-(3-carboxyphenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid

[34700-74-8]



$C_{23}H_{17}AsN_4O_{13}S_2$ M 696.460

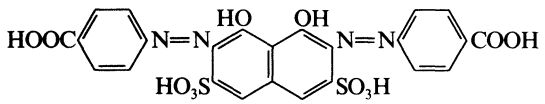
Used as a 0.02 m*M* aq. soln. for photometric detn. of Ba (λ_{max} 570 nm, ε 21500); gives colour reaction with Y. Dark red cryst. powder. Sol. H_2O.

Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 2320; 1971, **26**, 722 (*detn, Ba, Y*)

Carboxybenzene S C-00028

4,4'-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)] bisbenzoic acid, 9CI. 3,6-Bis(4-carboxyphenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid. 2,7-Bis(4-carboxybenzeneazo)chromotropic acid

[24430-55-5]



$C_{24}H_{16}N_4O_{12}S_2$ M 616.542

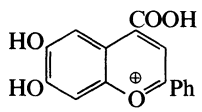
Used as 0.05% aq. soln. for photometric detn. of Mn (λ_{max} 720 nm, ε 150000) Ni, Ba, Ca, La, Mg, Pd (λ_{max} 650 nm, ε 32000), Th (λ_{max} 620 nm, ε 26000), Yb; photometric detn. of H_2O in organic solvs. Dark red cryst. powder. Sol. alkalis; sl. sol. H_2O; insol. C_6H_6. pK_{a1} 9.25; pK_{a2} 14.16.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 490; 1971, **26**, 297; 1978, **33**, 516 (*detn, Mn, Ba, Ca, La, Mg, Pd, Th, Yb*)

Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226; 1973, **28**, 1452; 1980, **35**, 695 (*pKa, detn, Ni*)

Petrova, T.V. *et al*, *CA*, 1972, **77**, 147337p (*detn, H_2O*)

4-Carboxy-6,7-dihydroxy-2-phenyl-1-benzopyrylium(1+), 9CI C-00029



$C_{16}H_{11}O_5^{\oplus}$ M 283.260 (ion)

Chloride: [66686-18-8].

$C_{16}H_{11}ClO_5$ M 318.713

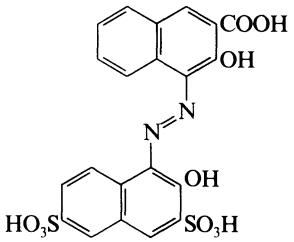
Used for photometric detn. of Mo(*VI*) (λ_{max} 510 nm, ε 40000, pH 3-4). Orange-red cryst. (EtOH/NaOAc). Sol. EtOH. Mp 220-222°.

Tantsyura, G.F. *et al*, *Zh. Anal. Khim.*, 1985, **40**, 228 (*synth, detn, Mo*)

1-(3-Carboxy-2-hydroxy-1-naphthylazo)-2-naphthol-3,6-disulfonic acid C-00030

3-Hydroxy-4-[(2-hydroxy-3,6-disulfo-1-naphthalenyl)azo]-2-naphthalenecarboxylic acid, 9CI

[76882-03-6]



$C_{21}H_{14}N_2O_{10}S_2$ M 518.481

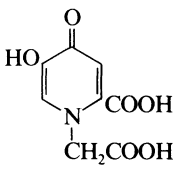
Used as a 0.1m*M* aq. soln. as an indicator for complexometric (EDTA) titration of Ca (λ_{max} 560 nm, pH 12). Dark violet cryst. Sol. H_2O. pK_{a1} 9.25; pK_{a2} 14 (25°, μ = 1).

Wada, H. *et al*, *Anal. Chim. Acta*, 1980, **121**, 265 (*synth, detn, Ca*)

2-Carboxy-5-hydroxy-4-oxo-1(4*H*)-pyridineacetic acid, 9CI C-00031

N-*Glycylcomenamic acid*

[42050-90-8]



$C_8H_7NO_6$ M 213.146

Used for photometric detn. of Fe(*III*) (λ_{max} 500 nm, ε 960). Cryst. Sol. H_2O. Mp 225-227°. pK_a 7.41.

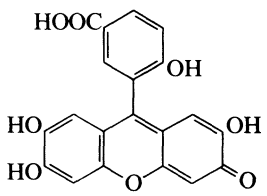
Kleipool, J.C. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1950, **69**, 104 (*synth*)

Atkinson, G.F. *et al*, *Anal. Chim. Acta*, 1973, **65**, 474 (*detn, Fe*)

9-(5-Carboxy-2-hydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one C-00032

9-(5-Carboxy-2-hydroxyphenyl)-2,6,7-trihydroxyfluorone. 4-Hydroxy-3-(2,6,7-trihydroxy-3-oxo-3H-xanthen-9-yl)benzoic acid, 9CI

[37682-28-3]



$C_{20}H_{12}O_8$ M 380.310

Used for photometric detn. of Ti (λ_{max} 570 nm), Nb (λ_{max} 535 nm, ε 64000), Ta (λ_{max} 525 nm, ε 94000). Dark red cryst. powder. Sol. alkalis; spar. sol. H_2O.

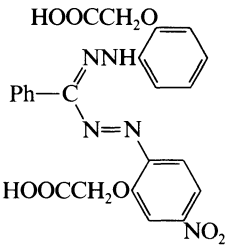
Vrbsky, J. *et al*, *CA*, 1971, **74**, 56871e; 1972, **77**, 109082u; 1975, **83**, 136210q; 1977, **86**, 133043p (*detn, Ti, Nb, Ta*)

Fogtl, J. *et al*, *CA*, 1981, **94**, 57418u (*synth*)

1-(2-Carboxymethoxy-4-nitrophenyl)-3-phenyl-5-(carboxymethoxyphenyl) formazan C-00033

2-[1-[2-(Carboxymethoxy)-4-nitrophenyl]-3-phenyl-5-formazano]phenoxyacetic acid, 9CI

[60129-48-8]



$C_{23}H_{19}N_5O_8$ M 493.432

Used as 0.05% soln. in EtOH for photometric detn. of Ni (λ_{max} 620 nm, ε 33000), Li (λ_{max} 660 nm, ε 11600). Dark red cryst. with green lustre (EtOH). Sol. EtOH, Me_2CO, alkalis, DMF. Mp 206°.

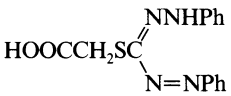
Zelichenko, S.L. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 2311 (*synth, detn, Li*)

Ostrovskaya, V.M. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 1548 (*detn, Ni*)

3-(Carboxymethylthio)-1,5-diphenylformazan C-00034

[(1,5-Diphenylformazanyl)thio]acetic acid, 9CI

[71146-24-2]



$C_{15}H_{14}N_4O_2S$ M 314.367

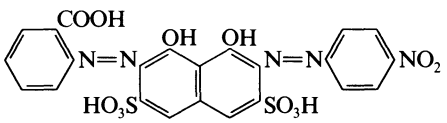
Used as a 0.4m*M* soln. in EtOH for photometric detn. of Tl(*III*), Au(*III*) (λ_{max} 420 nm). Brown-red needles (EtOH aq., C_6H_6/hexane). Sol. EtOH, H_2O. Mp 143-145° dec. pK_{a1} −0.43; pK_{a2} 12.48 (1*M* NaCl).

Hutton, A.T. *et al*, *Anal. Chim. Acta*, 1980, **113**, 113 (*detn, Au, Tl*)

Carboxynitrazo C-00035

2-[[1,8-Dihydro-7-[(2-nitrophenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, 9CI. 3-(2-Carboxyphenylazo)-4,5-dihydroxy-6-(4-nitrophenylazo)-2,7-naphthalenedisulfonic acid

[26075-01-4]



$C_{23}H_{15}N_5O_{12}S_2$ M 617.530

Used as 0.5m*M* aq. soln. in photometric detn. of Ca, Sr, Ba, Mg, rare earth elements. Dark red cryst. powder. Sol. H_2O. pK_{a4} 9.91; pK_{a5} 14.25.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177, 1460; 1971, **26**, 297 (*synth, detn, rare earths, Ba, Ca, Mg*)

Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226, 2110; 1973, **28**, 1452; 1975, **30**, 918 (*detn, Sr, Ba, Ca, La, pKa*)

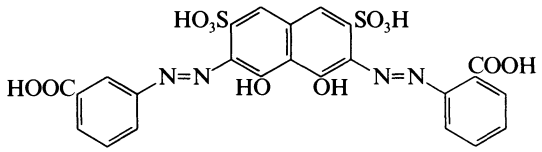
Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 722 (*detn, Dy, Lu, Th, Y*)

Savvin, S.B. *et al*, *Talanta*, 1972, **19**, 1437 (*detn, rare earth elements*)

2-[[7-[(3-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, 9CI C-00036

3-(2-Carboxyphenylazo)-6-(3-carboxyphenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid

[26075-06-9]



$C_{24}H_{16}N_4O_{12}S_2$ M 616.542

Used as a 0.05 or 0.1% aq. soln. for photometric detn. of Ba, Ca, La (λ_{max} 720 nm), Sr, Yb (λ_{max} 720 nm). Dark red cryst. powder. Sol. H_2O. pK_{a5} 9.83; pK_{a6} 14.61.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1460; 1971, **26**, 297 (*detn, Ba, Ca, Sr, La, Yb*)

Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226 (pK_a)

2-[[7-[(4-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, 9CI C-00037

3-(2-Carboxyphenylazo)-6-(4-carboxyphenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid

[27963-21-9]

$C_{24}H_{16}N_4O_{12}S_2$ M 616.542

Used as a 0.1% aq. soln. in for photometric detn. of La (λ_{max} 720 nm), Yb (λ_{max} 720 nm). Dark red cryst. powder. Sol. H_2O. pK_{a5} 9.9; pK_{a6} 14.54.

Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226 (pK_a)

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 297 (*detn, La, Yb*)

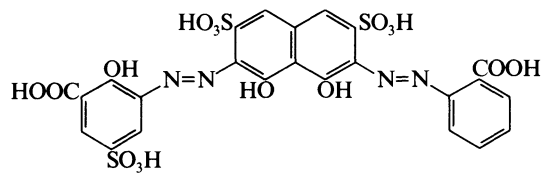
Perisic-Janic, N.V. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 208 (*spectra*)

Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1452 (*detn, La*)

3-[[7-[(2-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]-2-hydroxy-5-sulfobenzoic acid C-00038

3-[[7-[(o-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-5-sulfosalicylic acid, 8CI. 3-(2-Carboxyphenylazo)-6-(3-carboxy-2-hydroxy-5-sulfophenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid

[24921-21-9]



$C_{24}H_{16}N_4O_{16}S_3$ M 712.606

Used as a 0.1 or 0.05% aq. soln. for photometric detn. of Ba (λ_{max} 630 nm, ε 37000), Ca (λ_{max} 650 nm, ε 44000), Mg (λ_{max} 645 nm, ε 50000). Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177 (*detn, Ba, Ca, Mg*)

(4-Carboxyphenyl)chloromercury, 9CI C-00039

4-Carboxyphenylmercury choride. p-*Chloromercuribenzoic acid*

[59-85-8]

$C_7H_5ClHgO_2$ M 357.158

Reagent for detn. of thiol groups. Enzyme inhibitor. Used for photometric investigation of thiol function in enzyme catalysis, studies of mercaptide formation. Mp 273°.

▷ OV8050000.

Me ester: [20883-45-8]. (*4-Carbomethoxyphenyl*) *chloromercury. Chloro*[(*4-methoxycarbonyl*)*phenyl*] *mercury*

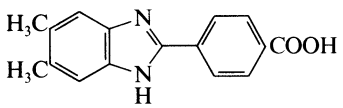
Cryst. (EtOH or EtOAc). Mp 259°, Mp 253.4-255.8°.

Nesmeyanov, A.N. *et al, J. Gen. Chem. USSR* (*Engl. Transl.*), 1931, **598**, 1162; *CA*, **26**, 4028, 5295 (*synth*)
Whitmore, F.C. *et al, Org. Synth., Coll. Vol.*, 1, 1941 (*synth*)
Boyer, P.D., *J. Am. Chem. Soc.*, 1954, **76**, 4331 (*use*)
Sipos, J.C. *et al, J. Am. Chem. Soc.*, 1955, **77**, 2579.
Wilson, N.K. *et al, J. Magn. Reson.*, 1976, **21**, 437 (*cmr*)
Fedorov, L.A. *et al, J. Struct. Chem.* (*Engl. Transl.*), 1978, **19**, 549 (*pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CHU500.

2-(4-Carboxyphenyl)-5,6-dimethylbenzimidazole C-00040

4-(5,6-Dimethyl-1H-benzimidazol-2-yl)benzoic acid, 9CI. CDB

[137856-09-8]



$C_{16}H_{14}N_2O_2$ M 266.299

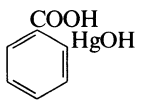
Pre-column derivatisation reagent for hplc anal. of alcohols. Amorph. Mp >300°.

Katayama, M. *et al, J. Chromatogr.*, 1991, **585**, 219 (*synth, use*)

(2-Carboxyphenyl)hydroxymercury, 9CI C-00041

o-(*Hydroxymercuri*)*benzoic acid*

[14066-61-6]



$C_7H_6HgO_3$ M 338.713

Reagent used as the sodium salt for the mercurimetric detn. of thiols and other org. compds. Cryst. Sol. H_2O, alkalis.

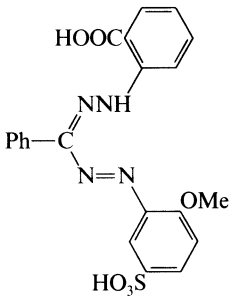
▷ Highly toxic.

Haley, T.J. *et al, J. Am. Pharm. Assoc.*, 1946, **35**, 179 (*synth*)
Wroński, M., *Analyst* (*London*), 1958, **83**, 314 (*detn*, $S^{2\ominus}$)
Wroński, M., *Fresenius' Z. Anal. Chem.*, 1964, **206**, 352 (*use*)
Wroński, M., *Talanta*, 1977, **24**, 347 (*use, rev*)

1-(2-Carboxyphenyl)-5-[1-(2-methoxy-5-sulfophenyl)]-3-phenylformazan C-00042

o-[*1-(2-Methoxy-5-sulfophenyl)-3-phenyl-5-formazano*] *benzoic acid, 8CI*

[21564-05-6]



$C_{21}H_{18}N_4O_6S$ M 454.462

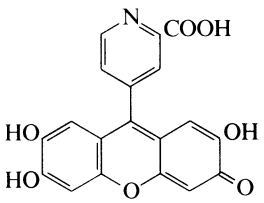
Used as EtOH soln. for photometric detn. of Cu (λ_{max} 580 nm, ε 21000), Co, Ni, Pb. Cryst. Sol. EtOH, DMF. pK_{a1} 3.6; pK_{a2} 14.4.

Uchiumi, A. *et al, Nippon Kagaku Kaishi, Pure. Chem. Sect.*, 1968, **89**, 776 (*synth, detn, Cu*)

9-(2-Carboxy-4-pyridyl)fluorone C-00043

*4-(2,6,7-Trihydroxy-3-oxo-3*H*-xanthen-9-yl)-2-pyridinecarboxylic acid, 9CI*

[58093-08-6]



$C_{19}H_{11}NO_7$ M 365.298

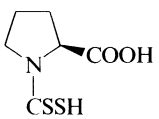
Used as 1m*M* EtOH soln. for photometric detn. of V(*IV*) (λ_{max} 595 nm, ε 17000, 30% EtOH, pH 4.7-5.2). Cryst. (EtOH). Sol. EtOH.

Antonovich, V.P. *et al, Zh. Anal. Khim.*, 1980, **35**, 289 (*detn, V*)

2-Carboxy-1-pyrrolidinecarbodithioic acid C-00044

1-(Dithiocarboxy)proline, 9CI. 1,1-Dithio-1,2-pyrrolidinedicarboxylic acid, 8CI

[15475-98-6]



$C_6H_9NO_2S_2$ M 191.275

(S)-form [7250-31-9]

L-form

Used for simultaneous photometric detn. of Co (λ_{max} 324 nm, ε 25000) and Ni (ε 35000). Cryst. (H_2O). Sol. H_2O, alkalis; insol. C_6H_6.

K salt: Used as metallochromic indicator in titrimetric detn. of Hg. Hygroscopic cryst. (MeOH/2-methylpropanol).

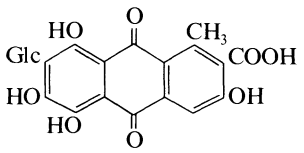
[49540-66-1, 130671-44-2, 130792-64-2, 137476-43-8]

Bode, H. *et al, Fresenius' Z. Anal. Chem.*, 1967, **226**, 49.
Kitagawa, T. *et al, CA*, 1978, **88**, 57938h (*detn, Co, Ni*)
Woon, T.C. *et al, Aust. J. Chem.*, 1981, **34**, 2039 (*synth*)

Carmine red C-00045

7-Glucopyranosyl-3,4,5,8-tetrahydroxy-1-methylanthraquinone-2-carboxylic acid. Carminic acid. Natural red 4. C. I. 75470. Cochineal

[1260-17-9]



$C_{22}H_{20}O_{13}$ M 492.392

Isol. from cochineal, obt. from the dried female bodies of the insect *Dactylopius coccus*. Antitumour agent. Dyestuff. Used as 0.025% soln. in conc. H_2SO_4 for photometric and fluorimetric detn. of B; gives colour reactions with Mg, Ge, Pb, Zr, Th, Mo, U. Red cryst. Sol. H_2O, EtOH; sl. sol. Et_2O.

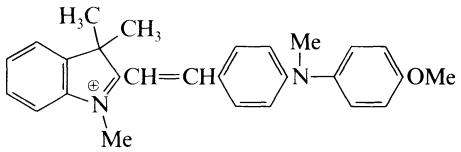
Octa-Ac: Cryst. Mp 189-190° dec.

Goriushina, V.G. *et al*, *Zavod. Lab.*, 1957, **23**, 781 (*use*)
Callicoat, D.L. *et al*, *Anal. Chem.*, 1959, **31**, 1434 (*detn, B*)
Nemodruk, A.A. *et al*, *Analytical Chemistry of Boron*, Nauka, Moscow, 1964 (*detn, B*)
Bhatia, S.B. *et al*, *Indian J. Chem.*, 1965, **3**, 92.
Mihail, N. *et al*, *Naturwissenschaften*, 1970, **57**, 500 (*pharmacol*)
Flechon, J. *et al*, *Bull. Soc. Chim. Fr.*, 1976, 739 (*use*)
Rosenfeld, H.J. *et al*, *Analyst (London)*, 1979, **104**, 983 (*use*)
Lloyd, A.G., *Food Chem.*, 1980, **5**, 91 (*rev*)
Eisner, T. *et al*, *Science (Washington, D.C.)*, 1980, **208**, 1039 (*use*)
Fiecchi, A. *et al*, *J. Org. Chem.*, 1981, **46**, 1511 (*config*)
Ishida, T. *et al*, *Acta Crystallogr., Sect. C*, 1987, **43**, 1541 (*cryst struct, bibl*)
Allevi, P. *et al*, *J. Chem. Soc., Chem. Commun.*, 1991, 1319 (*synth, bibl*)

Cationic red violet C-00046

*2-[2-[4-[(4-Methoxyphenyl)methylamino]phenyl]ethenyl]-1,3,3-trimethyl-3*H*-indolium(1+), 9CI*

[47644-41-7]



$C_{27}H_{29}N_2O^{\oplus}$ M 397.539 (ion)

Basic cyanine dye. The name Cationic red violet is also used for the ethoxy analogue.

Chloride:

$C_{27}H_{29}ClN_2O$ M 432.992

Used as 1m*M* aq. MeOH soln. for extraction-photometric detn. of Tl(*III*) (λ_{max} 540 nm, ε 85000, isopentyl acetate); as 1m*M* aq. soln. for photometric detn. of Pb (λ_{max} 536 nm, ε 35000). Brown-red cryst. (MeOH). Sol. H_2O, MeOH.

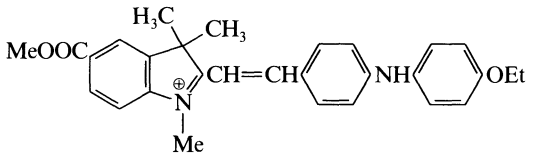
[72894-24-7, 125232-90-8]

Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 1636; 1989, **44**, 313 (*detn, Tl, Pb*)

Cationic violet C-00047

*2-[2-[4-[(4-Ethoxyphenyl)amino]phenyl]ethenyl]-5-(methoxycarbonyl)-1,3,3-trimethyl-3*H*-indolium(1+), 9CI*

[123865-13-4]



$C_{29}H_{31}N_2O_3^{\oplus}$ M 455.575 (ion)

Chloride:

$C_{29}H_{31}ClN_2O_3$ M 491.028

Used as 1m*M* aq. soln. for extraction-photometric detn. of Tl(*III*) (λ_{max} 560 nm, ε 128000). Brown red cryst. Sol. H_2O.

Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 1636 (*detn, Tl*)

Cellex P C-00048

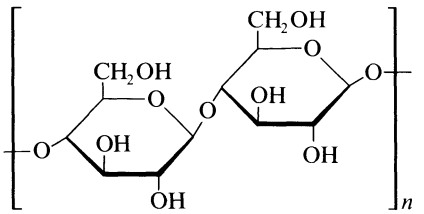
[73413-02-2]

Cellulose ion-exchanger with phosphonic groups. Used for separation by cation-exchange chromatography of Bi, Fe, Mn, Pb from various accompanying elements. Amorph. powder.

Brajter, K. *et al*, *Fresenius' Z. Anal. Chem.*, 1985, **320**, 142 (*use*)

Cellulose, 9CI, 8CI C-00049

[9004-34-6]



$C_6H_{10}O_5$ M 162.142

An unbranched polymer composed of 1,4 β-linked glucopyranose units. Polymeric. Minimum formula given. The most abundant organic material found in plants forming the principal constit. of their cell walls giving them structural strength. Cotton is almost pure cellulose. Wood is the most important industrial source. Basic material for textile and paper manuf. Used in the isoln. of heavy metals. Insol. H_2O, most solvs., but forms sol. complexes in conc. aq. $ZnCl_2$, copper-amine solutions and with Fe sodium tartrate solution.

Ac: [9004-35-7]. *Cellulose acetate, 9CI*
Used in manuf. of photographic film, gramophone discs, lacquers and fibres.

Nitrate: [9004-70-0]. *Nitrocellulose. Collodion cotton. Collodion wool. Colloxylin*
Used in explosives (propellants), lacquers, adhesives, plastics (e.g. Celluloid).
▷ Flammable solid. QW0975180.

Xanthate: [9032-37-5]. *Cellulose xanthate*
Used in manuf. of viscose rayon.

Per-Me: Methyl cellulose
Defoamer, adhesive, thickener, nontoxic food additive and veterinary laxative. Used as sensitising surfactant in photometric detn. of transition metal ions (with Bromopyrogallol Red).

Carboxymethyl ether: [9004-32-4]. *Carboxymethyl cellulose*

Surfactant. Used as Na salt to increase the sensitivity of the photometric detn. of Cd, Cu, Mn, Zn with Bromogallol Red. Amorph. powder. Sol. H_2O. Mp >300°.

Ott, E. *et al*, *Cellulose and Cellulose Derivatives*, Wiley Interscience, 1954.
Whistler, R.L. *et al*, *Methods Carbohydr. Chem.*, 1963, **3**, 3.
Timell, T.E., *Methods Carbohydr. Chem.*, 1965, **5**, 100 (*synth*)
Ward, K. *et al*, *The Carbohydrates*, (Pigman, W. etal, Ed.), Academic Press, 1970, **2A**, 413.
Baker, R.H. *et al*, *High Polym.*, 1971, **5**, 181.
Sandell, E.B. *et al*, *Photometric Determination of Traces of Metals, General Aspects*, Wiley, NY, 1978.
Xu, Q. *et al*, *Fenxi Huaxue*, 1985, **13**, 170; *CA*, **103**, 204989j (*carboxymethyl ether*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 33.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 233.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CCU150, CCU250, CNH000, SFO500.

Chitosan C-00050

Poly(1,4-β-D-glucopyranosamine), 9CI

[9012-76-4]

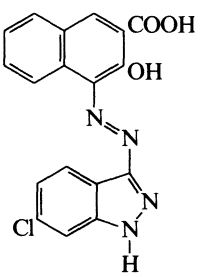
Polymer consisting of deacetylated chitin and *N*-acetylated chitan where the deacetylation or *N*-acetylation is partial or unspecified. Used as a collector for precipitation separation of trace metals. Leaflets. Sol. dil. formic acid, AcOH; insol. H_2O, mineral acids. Prepd. from chitin.

Muzzarelli, R.A.A., *Anal. Chim. Acta*, 1969, **44**, 234 (*use*)

Chlorindazon C C-00051

4-[(6-Chloro-1H-indazol-3-yl)azo]-3-hydroxy-2-naphthalenecarboxylic acid, 9CI

[27801-08-7]



$C_{18}H_{11}ClN_4O_3$ M 366.763

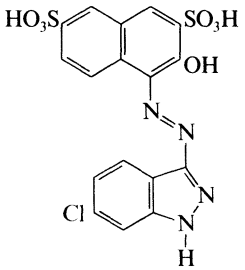
Used as a 0.01% soln. in EtOH/dil. NH_3 for photometric detn. of Ca (λ_{max} 586nm, ε 18800). Orange cryst. Sol. alkalis.

Schweppe, Z., *Fresenius' Z. Anal. Chem.*, 1969, **244**, 310 (*synth*)
Lau, O.W. *et al*, *Mikrochim. Acta*, 1980, **I**, 465 (*detn, Ca*)

Chlorindazon DS C-00052

4-[(6-Chloro-1H-indazol-3-yl)azo]-3-hydroxy-2,7-naphthalenedisulfonic acid, 9CI

[23287-85-6]



$C_{17}H_{11}ClN_4O_7S_2$ M 482.881

Used as a 0.1% soln. in aq. NH_3 for photometric detn. of Co (λ_{max} 638 nm, ε 32500) Cu, Ni. Orange cryst. (H_2O). Sol. H_2O, alkalis; spar. sol. EtOH, Me_2CO, Et_2O.

Molch, O. *et al*, *Z. Chem.*, 1974, **14**, 369, 408 (*detn, Cu, Ni*)
Cham, S.F. *et al*, *Mikrochim. Acta*, 1979, **I**, 241 (*detn, Co*)

Chloroacetaldehyde, 9CI C-00053

Chloroethanal

[107-20-0]

$ClCH_2CHO$

C_2H_3ClO M 78.498

Derivatisation reagent for adenosine and adenine giving fluorescent derivatives for anal. Fp −16.3° (40% soln.). Bp 85°. Polymerises on standing. Forms a hydrate.

▷ Highly irritant, TLV 3. AB2450000.

Di-Me acetal: [97-97-2]. *2-Chloro-1,1-dimethoxyethane. Dimethylchloracetal*

$C_4H_9ClO_2$ M 124.567

Bp 140°.

▷ Highly flammable.

Oxime: [51451-05-9].

C_2H_4ClNO M 93.512

Bp_{20} 61°.

▷ May explode on distillation.

Semicarbazone: Mp 148° (134-135°) dec.

Chanon, M. *et al*, *Bull. Soc. Chim. Fr.*, 1968, 2842 (*synth*)
Yasnitskii, B.G. *et al*, *CA*, 1972, **76**, 13737q (*synth*)
Zaitsev, A.P. *et al*, *CA*, 1972, **76**, 24659s (*synth*)
Gordon, J.L. *et al*, *Biochem. J.*, 1974, **138**, 165 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 106.
Ullmanns Encykl. Tech. Chem., 4. Aufl., 1975, **9**, 373 (*rev*)
Sonoki, S. *et al*, *J. Chromatogr.*, 1989, **475**, 311 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 237.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CDY500.

Chloroacetic acid, 9CI C-00054

Chloroethanoic acid

[79-11-8]

$ClCH_2COOH$

$C_2H_3ClO_2$ M 94.497

Postemergence contact herbicide (usually as Na salt). Cryst. in three forms. V. sol. H_2O, sol. org. solvs. Mp 61.3° (α-form), Mp 56.2° (β-form), Mp 52.5° (γ-form). Bp 189°. pK_a 2.87 (25°).

▷ Highly irritant, causes severe burns. AF8575000.

Me ester: Methyl chloroacetate
$C_3H_5ClO_2$ M 108.524
d_4^{20} 1.234. Mp −32.1°. Bp 130°. n_D^{20} 1.4218.
▷ Irritant, flammable.

Ph ester: Phenyl chloroacetate
$C_8H_7ClO_2$ M 170.595
Needles or plates (EtOH). Mp 44-45°. Bp 230-235°.

Chloride: see *Chloroacetyl chloride, C-00056*

Bromide: Chloroacetyl bromide
C_2H_2BrClO M 157.394
d^9 1.913. Bp 127°, 133-135°.

Anhydride:
$C_4H_4Cl_2O_3$ M 170.979
Reagent for *N*-acylation of aminoacids. Derivatisation reagent for gc anal. of phenols and steroids. Cryst. (C_6H_6). Mp 46° (56-58°). Bp 203°, Bp_{10} 110°.

Anilide: α-Chloroacetanilide
C_8H_8ClNO M 169.610
Needles. Mp 136-137°. Sublimes.

Hydrazide:
$C_2H_5ClN_2O$ M 108.527
Reagent for generation of diimide. Mp 150° dec.

Imide: N-*Chloroacetylchloroacetamide*. sym-*Dichlorodiacetamide*
$C_4H_5Cl_2NO_2$ M 169.994
Needles (Me_2CO). Sol. hot H_2O. Mp 195°.

Pickering, S.U., *J. Chem. Soc.*, 1895, **67**, 664.
Simon, L.J. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1923, **176**, 309.
Lyubarskii, L.D., *CA*, 1935, **29**, 2509 (*synth*)
Van der Molen, H.J. *et al*, *Steroids*, 1965, **6**, 195 (*use, anhydride*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 129, 130.
Argauer, R.J., *Anal. Chem.*, 1968, **40**, 122 (*use, anhydride*)
Kanters, J.A. *et al*, *Acta Crystallogr., Sect. B*, 1976, **32**, 3331 (*cryst struct*)
Kalyanaraman, B. *et al*, *J. Chem. Soc., Chem. Commun.*, 1976, 715 (*cryst struct*)
Pesticide Manual, 6th Ed., 1979, 105.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 238.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CEA000.

2-Chloroacetophenone, 8CI C-00055

2-Chloro-1-phenylethanone, 9CI. Phenacyl chloride. Chloromethyl phenyl ketone. Benzoylchloromethane

[532-27-4]

$PhCOCH_2Cl$

C_8H_7ClO M 154.595
Reagent for the detn. of nitro compds. Leaflets (pet. ether). Mp 54°. Bp_{14} 139-141°.
▷ AM6300000.

Oxime: [21572-32-7].
C_8H_8ClNO M 169.610
Mp 88.5-90°.

Semicarbazone: Mp 156°.

2,4-Dinitrophenylhydrazone: Mp 214-215° dec.

Schaefer, J.P. *et al*, *J. Org. Chem.*, 1963, **28**, 1128 (*synth*)
Duhamel, P. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1964, **258**, 3872 (*synth*)
Legradi, L., *Mikrochim. Acta*, 1968, 739 (*use*)
Kajigaeshi, S. *et al*, *Synthesis*, 1988, 545 (*synth, ir, pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CEA750.

Chloroacetyl chloride, 9CI C-00056

[79-04-9]

$ClCH_2COCl$

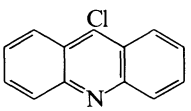
$C_2H_2Cl_2O$ M 112.943
Used for prep. of *N*-chloroacetyl protected aminoacid derivs.; intermed. in conversion of primary amines to aziridines. Derivatisation reagent for gc anal. of phenols. d^0 1.495. Bp 108-110°.
▷ Highly irritant, lachrymator, causes severe burns. TLV 0.2. Emits highly toxic fumes when heated to dec.. AO6475000.

Adams, R. *et al*, *J. Am. Chem. Soc.*, 1920, **42**, 599 (*synth*)
Barnett, E. *et al*, *Chem. News*, 1921, **122**, 220; *CA*, **15**, 2627 (*synth*)
Uspenskaya, I.N. *et al*, *CA*, 1971, **74**, 12784z (*synth*)
Yasnitskii, B.G. *et al*, *CA*, 1972, **76**, 13755u (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1972, **3**, 46.
McCallum, N.K. *et al*, *J. Chromatogr.*, 1973, **78**, 303 (*use*)
Middleton, W.J., *J. Org. Chem.*, 1979, **44**, 2291 (*synth*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 239.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CEC250.

9-Chloroacridine, 9CI C-00057

ms-*Chloroacridine*

[1207-69-8]



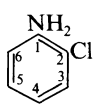
$C_{13}H_8ClN$ M 213.666
Colorimetric reagent for aromatic amines, hydroxylamines and sulphonamides. Yellow needles (EtOH or C_6H_6). Mp 120°. Sublimes. Boiling H_2O → Acridone.

Org. Synth., Coll. Vol., 3, 1955, 53.
Stewart, J.T. *et al*, *J. Pharm. Sci.*, 1969, **58**, 1261; 1970, **59**, 838 (*use*)
Gammons, R.E. *et al*, *Anal. Chem.*, 1974, **46**, 620 (*use*)
Stewart, J.T. *et al*, *J. Chromatogr.*, 1974, **92**, 182 (*use*)
Achari, A. *et al*, *Acta Crystallogr., Sect. B*, 1977, **33**, 3269 (*cryst struct*)
Jaycox, G.D. *et al*, *J. Heterocycl. Chem.*, 1987, **24**, 1405 (*synth, pmr, uv*)

2-Chloroaniline C-00058

2-Chlorobenzenamine, 9CI

[95-51-2]



C_6H_6ClN M 127.573
Liq. d_4^{20} 1.21. Fp −2°. Bp 208.8°. Steam-volatile.
▷ Highly toxic by inhalation and in contact with skin. BX0525000.

N-*Formyl:* [2596-93-2]. o-*Chloroformanilide*
Leaflets (ligroin). Mp 77°.

N-*Ac:* [533-17-5]. o-*Chloroacetanilide*. N-(*2-Chlorophenyl*) *acetamide, 9CI*
C_8H_8ClNO M 169.610
Used as 2% soln. in C_6H_6 for extraction-photometric detn. of W (with $SCN^{\ominus}$; λ_{max} 405 nm, ε 9300). Needles (AcOH aq.). Sol. C_6H_6. Mp 88°.

N-*Benzoyl:*
$C_{13}H_{10}ClNO$ M 231.681
Needles. Mp 99°.

N-*4-Methylbenzenesulfonyl:* Mp 105°.
N-*Benzylidene:* [884-29-7].
Yellowish needles (pet. ether). Mp 34°.
N-*Carbethoxy:* o-*Chlorophenylurethane. Ethyl 2-chlorocarbanilate*
$C_9H_{10}ClNO_2$ M 199.636
Liq. Bp_{42} 170-172°.
N-*Me:* [932-32-1].
C_7H_8ClN M 141.600
Bp 218°, Bp_{12} 95-96°.
N-*Di-Me:* [698-01-1].
$C_8H_{10}ClN$ M 155.626
Bp 207-208°.
N-*Et:* [13519-74-9].
$C_8H_{10}ClN$ M 155.626
Bp 219°.

Chattaway, F.D. *et al*, *Ber.*, 1900, **33**, 2396; *J. Chem. Soc.*, 1901, 465 (*derivs*)
Ho, T.-L. *et al*, *Synthesis*, 1974, 45 (*synth*)
Červená, I. *et al*, *Collect. Czech. Chem. Commun.*, 1976, **41**, 881 (*synth*)
Mishra, N. *et al*, *Analyst (London)*, 1987, **112**, 1131 (*detn, W*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 239.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CEH670.

3-Chloroaniline C-00059

3-Chlorobenzenamine, 9CI

[108-42-9]

C_6H_6ClN M 127.573
Reagent for the detn. of sulfonyl chlorides by indirect potentiometric titration. Liq. d_{15}^{15} 1.2225. Mp −10.4°. Bp 230.5°, Bp_{21} 118.5°.

▷ Highly toxic by inhalation and in contact with skin. BX0350000.

N-*Me:* [7006-52-2].
C_7H_8ClN M 141.600
Liq. Bp 235°.
N-*Di-Me:* [6848-13-1].
$C_8H_{10}ClN$ M 155.626
Liq. Bp 234° (251-252°).
N-*Et:* [15258-44-3].
$C_8H_{10}ClN$ M 155.626
Liq. Bp 243-244°.
N-*Di-Et:* [6375-75-3].
$C_{10}H_{14}ClN$ M 183.680
Liq. Bp_{740} 248-249°.
N-*Formyl:* [139-71-9]. m-*Chloroformanilide*
C_7H_6ClNO M 155.583
Cryst. Mp 57.8°.
N-*Ac:* [588-07-8]. m-*Chloroacetanilide*
C_8H_8ClNO M 169.610
Needles. Mp 79°.
▷ AE1000100.
N-*Benzoyl:*
$C_{13}H_{10}ClNO$ M 231.681
Mp 118°.
N-*4-Methylbenzenesulfonyl:* Mp 138°.
N-*Carbethoxy:* [13400-54-9]. m-*Chlorophenylurethane. Ethyl 3-chlorocarbanilate*
Bp 200-201°.
N-*Benzylidene:* [780-21-2].
$C_{13}H_{10}ClN$ M 215.681
Viscous oil. Bp 338°.

Johnson, W.S. *et al*, *J. Am. Chem. Soc.*, 1949, **71**, 1901 (*synth*)
Watanabe, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1975, **48**, 1478 (*synth*)
Allan, D.W. *et al*, *Anal. Chem.*, 1982, **54**, 349 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 239.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CEH675.

4-Chloroaniline C-00060

4-Chlorobenzenamine, 9CI

[106-47-8]

C_6H_6ClN M 127.573
Prisms. Mp 70-71°. Bp 232°.

▷ Highly toxic by inhalation and in contact with skin. BX0700000.

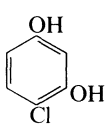
B,HCl: Mp 69-70°.
N-*Formyl:* [2617-79-0]. p-*Chloroformanilide*
C_7H_6ClNO M 155.583
Plates (H_2O). Mp 102°.
N-*Ac:* [539-03-7]. p-*Chloroacetanilide.* N-(*4-Chlorophenyl*) *acetamide, 9CI*
C_8H_8ClNO M 169.610
Used as 2% soln. in C_6H_6 for extraction-photometric detn. of W (with $SCN^{\ominus}$; λ_{max} 405 nm, ε 12400). Needles or plates. Sol. C_6H_6. Mp 178.4°, Mp 172-173°.
▷ AE1001000.
N-*Benzoyl:*
$C_{13}H_{10}ClNO$ M 231.681
Mp 192-193°.
N-(*4-Methylbenzenesulfonyl*): Mp 95°.
N-*Benzylidene:* [7519-65-5].
$C_{13}H_{10}ClN$ M 215.681
Mp 62°.
N-*Carbethoxy:* p-*Chlorophenylurethane. Ethyl 4-chlorocarbanilate*
Plates (EtOH). Mp 68°.
N-*Me:* [932-96-7].
C_7H_8ClN M 141.600
Bp 240°.
N-*Di-Me:* [698-69-1].
$C_8H_{10}ClN$ M 155.626
Mp 35.5°. Bp 231°.
N-*Et:*
$C_8H_{10}ClN$ M 155.626
Bp 247-250°, Bp_5 108-110°.

Org. Synth., Coll. Vol., 4, 1963, 420 (*deriv*)
Trotter, J. *et al*, *J. Chem. Soc. A*, 1966, 353 (*cryst struct*)
Watanabe, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1975, **48**, 1478 (*synth*)
Des Abbayes, H. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 98 (*synth*)
Ploug-Soørensen, E. *et al*, *Acta Crystallogr., Sect. C*, 1985, **41**, 613 (*cryst struct*)
Mishra, N. *et al*, *Analyst (London)*, 1987, **112**, 1131 (*detn, W*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 239.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CDZ100, CEH680.

4-Chloro-1,3-benzenediol, 9CI C-00061

4-Chlororesorcinol, 8CI

[95-88-5]



$C_6H_5ClO_2$ M 144.557
Used as 5% aq. soln. for photometric detn. of Zn (λ_{max} 640 nm). Cryst. (C_6H_6). Mp 89°, Mp 105°. Bp_{18} 147°.
▷ VH0450000.
Di-Ac: [25173-17-5].

$C_{10}H_9ClO_4$ M 228.631
Mp 46-47°.

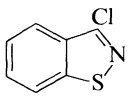
3-Me ether: [18113-07-0]. *4-Chloro-3-methoxyphenol*
$C_7H_7ClO_2$ M 158.584
Cryst. mass. Mp 79-80°. Bp_{13} 141-152°.

Di-Me ether: [7051-13-0]. *1-Chloro-2,4-dimethoxybenzene*
$C_8H_9ClO_2$ M 172.611
Bp_{17} 135-137°.

v. Auwers, K. *et al*, *Justus Liebigs Ann. Chem.*, 1914, **405**, 243 (*bibl*)
Clark, B.F., *J. Am. Chem. Soc.*, 1933, **55**, 319 (*synth*)
Moore, M.L. *et al*, *J. Am. Chem. Soc.*, 1934, **56**, 2456.
Petyunin, P.A., *J. Gen. Chem. USSR* (*Engl. Transl.*), 1944, **14**, 203; *CA*, **39**, 2285 (*synth*)
Stewart, J.A. *et al*, *Anal. Chem.*, 1958, **30**, 404 (*detn, Zn*)
Davonst, D. *et al*, *Org. Magn. Reson.*, 1978, **11**, 547 (*nmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CLD750.

3-Chloro-1,2-benzisothiazole, 9CI C-00062

[7716-66-7]



C_7H_4ClNS M 169.634
Cryst. (EtOH). Mp 40°.

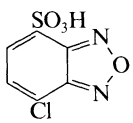
S,S-*Dioxide:* [567-19-1]. *γ-Saccharin chloride*
$C_7H_4ClNO_2S$ M 201.633
Peptide condensing agent. Reagent for characterization of alcohols. Needles (Et_2O). Mp 143°.

Rieissert, A., *Ber.*, 1928, **61**, 1680 (*synth*)
Meadow, J.R. *et al*, *J. Am. Chem. Soc.*, 1943, **65**, 457 (*dioxide, synth, use*)
Bohme, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1953, **139**, 255 (*use*)
Stephen, E. *et al*, *J. Chem. Soc.*, 1957, 490 (*synth, dioxide*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 990 (*use*)
Hettler, H. *et al*, *Org. Mass Spectrom.*, 1969, **2**, 1117 (*ms, dioxide*)
Carrington, D.E.L. *et al*, *J. Chem. Soc. C*, 1971, 3262, 3903.
Selva, A., *Org. Mass Spectrom.*, 1973, **7**, 327 (*ms*)
Arya, V.P. *et al*, *Indian J. Chem., Sect. B*, 1977, **15**, 720 (*synth, dioxide*)
Yevich, J.P. *et al*, *J. Med. Chem.*, 1986, **29**, 359 (*synth*)

7-Chloro-4-benzofurazansulfonic acid, 9CI C-00063

7-Chloro-2,1,3-benzoxadiazole-4-sulfonic acid

[81377-20-0]



$C_6H_3ClN_2O_4S$ M 234.619

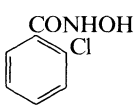
NH_4 salt: [81377-14-2].
Fluorogenic reagent for thiols. Mp >330° dec.

Andrews, J.L. *et al*, *Arch. Biochem. Biophys.*, 1982, **214**, 386 (*synth, use*)

2-Chlorobenzohydroxamic acid C-00064

2-Chloro-N-hydroxybenzamide, 9CI

[17512-69-5]



$C_7H_6ClNO_2$ M 171.583
Cryst. Mp 156°.

N-(*2-Methylphenyl*): [34661-23-9]. *2-Chloro-N-hydroxy-N-(2-methylphenyl)benzamide, 9CI.* N-o-*Tolyl*-o-*chlorobenzohydroxamic acid*
$C_{14}H_{12}ClNO_2$ M 261.707
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 505 nm, ε 3800, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

N-(*3-Methylphenyl*): [34661-32-0]. *2-Chloro-N-hydroxy-N-(3-methylphenyl)benzamide, 9CI*
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 530 nm, ε 4150, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Indian Chem. Soc.*, 1971, **48**, 753 (*synth, oxime*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)
Konaje, A.C. *et al*, *Indian J. Chem., Sect. B*, 1979, **17**, 275 (*synth*)

4-Chlorobenzohydroxamic acid C-00065

4-Chloro-N-hydroxybenzamide, 9CI

[1613-88-3]

$C_7H_6ClNO_2$ M 171.583
Used as EtOH soln. for photometric detn. of V(*V*) (λ_{max} 450 nm). Cryst. (EtOH aq.). Sol. EtOH, Me_2CO, $CHCl_3$. Mp 186-187°.

N-(*2-Methylphenyl*): [34661-21-7]. *4-Chloro-N-hydroxy-N-(2-methylphenyl)benzamide, 9CI.* N-o-*Tolyl*-p-*chlorobenzohydroxamic acid*
$C_{14}H_{12}ClNO_2$ M 261.707
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 505 nm, ε 5200; 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

N-(*3-Methylphenyl*): [32939-57-4]. *4-Chloro-N-hydroxy-N-(3-methylphenyl)benzamide, 9CI.* N-m-*Tolyl*-p-*chlorobenzohydroxamic acid*
Used as 2% $CHCl_3$ soln. for extraction-photometric detn. of Bi (λ_{max} 530 nm, ε 20000). Cryst. Sol. $CHCl_3$, C_6H_6.

N-(*4-Methylphenyl*): [29556-29-4]. *4-Chloro-N-hydroxy-N-(4-methylphenyl)benzamide, 9CI*
Used as a 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of Ce (λ_{max} 460 nm, ε 4500). Cryst. (C_6H_6/pet. ether). Sol. common org. solvs. Mp 166°.

Bass, V.C. *et al*, *Talanta*, 1966, **13**, 735 (*detn, V*)
Agrawal, Y.K. *et al*, *J. Chem. Eng. Data*, 1971, **16**, 371 (*synth, deriv*)
Gupta, V.K. *et al*, *J. Indian Chem. Soc.*, 1971, **48**, 753 (*synth, deriv*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)
Agrawal, Y.K. *et al*, *Pol. J. Chem.* (*Rocz. Chem.*), 1976, **50**, 795 (*props*)
Patel, S.A. *et al*, *Microchem. J.*, 1980, **25**, 48 (*detn, Ce*)
Agrawal, Y.K. *et al*, *Analyst* (*London*), 1984, **109**, 1287 (*detn, Bi*)
Nagarajan, K. *et al*, *Indian J. Chem., Sect. B*, 1991, **30**, 222 (*synth*)

2-Chlorobenzoic acid C-00066

[118-91-2]

$C_7H_5ClO_2$ M 156.568
Used for gravimetric detn. of Ga; used as 2-chlorobenzoate buffer (pH 4.5) for extraction-photometric detn. of U(*VI*) (λ_{max} 555 nm). Cryst. (toluene). Sol. H_2O, EtOH, Et_2O. Mp 142°. pK_a 2.90 (25°). Sublimes.

▷ DG4976000.

Me ester: [610-96-8].
$C_8H_7ClO_2$ M 170.595
Bp 234°.
Et ester: [7335-25-3].
$C_9H_9ClO_2$ M 184.622
Bp 243°, Bp_{15} 122-125°.
Ph ester:
$C_{13}H_9ClO_2$ M 232.666
Mp 37°.
Chloride:
$C_7H_4Cl_2O$ M 175.013
Mp −4°. Bp 235-238°.
Anhydride:
$C_{14}H_8Cl_2O_3$ M 295.121
Needles (EtOH). Mp 78-79°.
Amide: [609-66-5]. *2-Chlorobenzamide*
C_7H_6ClNO M 155.583
Mp 142°.
Hydrazide: [5814-05-1].
$C_7H_7ClN_2O$ M 170.598
Used as a 0.1*M* aq. soln. for extraction-photometric detn. of Ni (λ_{max} 520 nm, $CHCl_3$). Cryst. (Et_2O). Sol. H_2O, EtOH, Me_2CO. Mp 117-118°.
Nitrile: [873-32-5]. *1-Chloro-2-cyanobenzene*
C_7H_4ClN M 137.568
Mp 42-43°. Bp 232°.
▷ Toxic. Gives toxic fumes in contact with water or acid. DI2625000.

Org. Synth., Coll. Vol., 2, 1943, 135 (*synth*)
Sims, P., *J. Chem. Soc.*, 1958, 44 (*synth*)
Agarwal, V.D. *et al*, *Indian J. Phys.*, 1974, **48**, 297 (*pmr*)
Popel, A.A. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1008 (*detn, Ni*)
Takai, Y. *et al*, *Acta Crystallogr., Sect. B*, 1975, **31**, 2753 (*cryst struct, amide*)
Ho, T.-C. *et al*, *Synthesis*, 1976, 807 (*synth*)
Apak, R. *et al*, *Talanta*, 1989, **36**, 993 (*detn, U*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CEL250, CEM000.

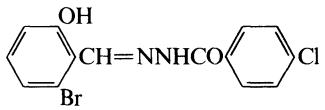
4-Chlorobenzoic acid, 9CI C-00067

[74-11-3]
$C_7H_5ClO_2$ M 156.568
Reference material used in elemental microanalysis.
Prisms. Mp 243°. pK_a 3.99 (25°). Sublimes.
▷ DG4976010.
Me ester: [1126-46-1].
$C_8H_7ClO_2$ M 170.595
Mp 44°.
Et ester: [7335-27-5].
$C_9H_9ClO_2$ M 184.622
Bp 238°.
Ph ester:
$C_{13}H_9ClO_2$ M 232.666
Mp 100°.
Chloride: [122-01-0].
$C_7H_4Cl_2O$ M 175.013
Mp 16°. Bp 220-222°.
Anhydride:
$C_{14}H_8Cl_2O_3$ M 295.121
Needles (C_6H_6). Mp 193-194°.
Amide: [619-56-7]. *4-Chlorobenzamide*
C_7H_6ClNO M 155.583
Mp 179°.
Hydrazide: [536-40-3].
$C_7H_7ClN_2O$ M 170.598
Cryst. (H_2O). Mp 163°. pK_{a1} 3.02; pK_{a2} 12.09 (NH) (25°).
Nitrile: [623-03-0]. *1-Chloro-4-cyanobenzene*
C_7H_4ClN M 137.568
Mp 94-96°. Bp 223°.
▷ Toxic. Gives toxic fumes on contact with water or acid. DI2800000.

Effenberger, F. *et al*, *Chem. Ber.*, 1964, **97**, 480 (*synth*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Ho, T.-L. *et al*, *Synthesis*, 1972, 562 (*synth*)
Brunet, J.-J. *et al*, *Tetrahedron Lett.*, 1981, **22**, 1013 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CEM250.

4-Chlorobenzoic acid [(2-bromo-6-hydroxyphenyl)methylene]hydrazide, 9CI C-00068

2-Bromo-6-hydroxybenzaldehyde p-*chlorobenzoylhydrazone*
[72220-06-5]

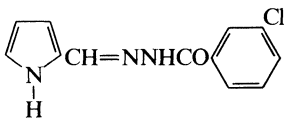


$C_{14}H_{10}BrClN_2O_2$ M 353.602
Used as a 1m*M* soln. in Me_2CO for chemiluminescence detn. of Cr, Ir, Mn, Ru, Os. Cryst. (EtOH). Sol. EtOH, Me_2CO, alkalis; insol. H_2O.

Terletskaya, A.V. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 1460 (*use*)

3-Chlorobenzoic acid (1*H*-pyrrol-2-ylmethylene)hydrazide, 9CI C-00069

1H-Pyrrole-2-carboxaldehyde 3-chlorobenzoylhydrazone
[93418-23-6]

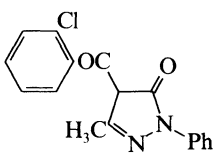


$C_{12}H_{10}ClN_3O$ M 247.683
Used as 0.01*M* soln. in 4-methyl-2-pentanone or xylene for extraction separation of Cd, Co, Cu, Ni, Zn (pH 5-9). Cryst. Sol. 4-methyl-2-pentanone, xylene.

Tossidis, I.A. *et al*, *Chem. Chron.*, 1983, **12**, 181 (*synth*)
Arpadjan, S. *et al*, *Analyst (London)*, 1988, **113**, 1699 (*use*)

4-(2-Chlorobenzoyl)-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, 9CI C-00070

[73087-87-3]



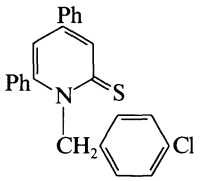
$C_{17}H_{13}ClN_2O_2$ M 312.755
Used as 0.01*M* C_6H_6 soln. for extraction separation of Lu(*III*) (pH 1-2). Cryst. (dioxan aq.). Sol. C_6H_6, 1,2-dichloroethane, dioxan. Mp 153°.

Mukai, H. *et al*, *Anal. Chim. Acta*, 1990, **239**, 277 (*synth, use*)

1-(*p*-Chlorobenzyl)-4,6-diphenyl-2-pyridinethione C-00071

1-[(4-Chlorophenyl)methyl]-4,6-diphenyl-2(1H)-pyridinethione, 9CI

[76950-86-2]



$C_{24}H_{18}ClNS$ M 387.932

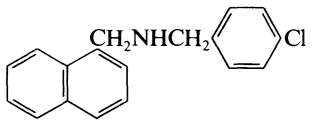
Used a 0.25m*M* soln. in EtOH for photometric detn. of Hg (λ_{max} 314 nm, ε 49000). Yellow cryst. (EtOH). Sol. EtOH, Me_2CO. pK_{a1} 10.58.

Lorenzo, A. *et al*, *Synthesis*, 1980, 853 (*synth*)
Perez Ruiz, T. *et al*, *Mikrochim. Acta*, 1984, 183 (*detn, Hg*)

N-(*p*-Chlorobenzyl)-1-naphthalenemethylamine, 8CI C-00072

N-[(*4-Chlorophenyl)methyl]-1-naphthalenemethanamine*

[14393-17-0]



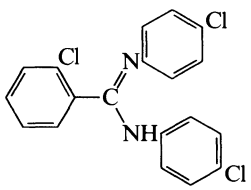
$C_{18}H_{16}ClN$ M 281.784

Used as 1% soln. in dil. HCl for gravimetric detn. of $NO_3^{\ominus}$.

B, HCl: [17018-66-5].
Cryst. Mp 212°.

Hutton, R.C. *et al*, *J. Chem. Soc. A*, 1966, 1573 (*synth, detn, $NO_3^{\ominus}$*)

2-Chloro-*N,N'*-bis(4-chlorophenyl)benzenecarboximidamide, 9CI C-00073



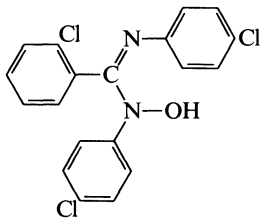
$C_{19}H_{13}Cl_3N_2$ M 375.683

B,HCl: [113361-92-5].
Used as 3m*M* C_6H_6 soln. for extraction-photometric detn. of Mo (λ_{max} 470 nm, ε 17600, 2.5-6.5*M* HCl). Cryst. (EtOH + HCl). Sol. C_6H_6, EtOH.

Chandrakar, L.P. *et al*, *Analyst (London)*, 1987, **112**, 1511 (*synth, detn, Mo*)

2-Chloro-*N,N'*-bis(4-chlorophenyl)-*N*-hydroxybenzenecarboximidamide, 9CI C-00074

*2-Chloro-*N,N'*-bis(4-chlorophenyl)-*N*-hydroxybenzamidine*



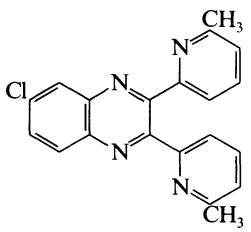
$C_{19}H_{13}Cl_3N_2O$ M 391.683

Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 620 nm, ε 5350, pH 1-3, in the presence of $SCN^{\ominus}$). Cryst. (EtOH). Sol. $CHCl_3$, EtOH.

Chandrakar, L.P. *et al*, *J. Indian Chem. Soc.*, 1984, **61**, 446 (*synth, detn, V*)

6-Chloro-2,3-bis(6-methyl-2-pyridyl)quinoxaline, 8CI C-00075

[17401-71-7]



$C_{20}H_{15}ClN_4$ M 346.818

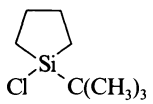
Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 529 nm, ε 4900, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 108°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)

1-Chloro-1-*tert*-butylsilacyclopentane C-00076

*1-Chloro-1-(1,1-dimethylethyl)silacyclopentane, 9CI. Cyclotetramethylene-*tert*-butylchlorosilane*

[54925-63-2]



$C_8H_{17}ClSi$ M 176.760

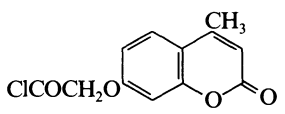
Reagent for derivatising steroids used in gc-ms. Liq. Bp 182-184°.

Quilliam, M.A. *et al*, *Steroids*, 1977, **29**, 579 (*synth, use*)
Quilliam, M.A. *et al*, *Anal. Chem.*, 1978, **50**, 59 (*use*)

7-(Chlorocarbonylmethoxy)-4-methylcoumarin C-00077

[(4-Methyl-2-oxo-2H-1-benzopyran-7-yl)oxy]acetyl chloride, 9CI

[91454-65-8]

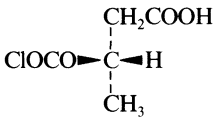


$C_{12}H_9ClO_4$ M 252.653

Fluorescent reagent for the derivatisation of hydroxy compds. Cryst. (EtOAc). Mp 129-130°.

Novotny, M. *et al*, *J. Chromatogr.*, 1984, **292**, 159 (*use*)
Karlsson, K.E. *et al*, *Anal. Chem.*, 1985, **57**, 229 (*synth*, *use*)

3-[(Chlorocarbonyl)oxy]butanoic acid, 9CI C-00078



$C_5H_7ClO_4$ M 166.561

(S)-form

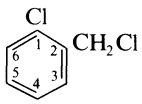
tert-*Butyl ester:* [129164-62-1].
$C_9H_{15}ClO_4$ M 222.668
Derivatisation reagent for resoln. of metoprolol enantiomers.

Ahnoff, M. *et al*, *J. Chromatogr.*, 1990, **506**, 593 (*synth*, *use*)

1-Chloro-2-(chloromethyl)benzene C-00079

α,*2-Dichlorotoluene.* o-*Chlorobenzyl chloride*

[611-19-8]



$C_7H_6Cl_2$ M 161.030
Reagent for gc anal. of ethylenethiourea in plants. Bp 213-214°.

Mayer, F. *et al*, *Justus Liebigs Ann. Chem.*, 1918, **417**, 78 (*synth*)
Olivier, S.C.J., *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1922, **41**, 308 (*synth*)
Nash, R.G., *J. Assoc. Off. Anal. Chem.*, 1975, **58**, 566 (*use*)
Yoder, C.H. *et al*, *J. Org. Chem.*, 1976, **41**, 1511 (*cmr*)
Katritzsky, A.R., *Synthesis*, 1979, 437 (*synth*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 489.

1-Chloro-4-(chloromethyl)benzene C-00080

α,*4-Dichlorotoluene.* p-*Chlorobenzyl chloride*

[104-83-6]

$C_7H_6Cl_2$ M 161.030
Used as reagent for spectrophotometric detn. of amines. Needles. Mp 29°. Bp_6 122-126°. Sublimes.

▷ XT0720000.

Olivier, S.C.J., *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1922, **41**, 307 (*synth*)
Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1939, **61**, 2142 (*synth*)
Cattanach, C.J. *et al*, *Spectrochim. Acta, Part A*, 1968, **24**, 407 (*ir*)
Yokoyama, T. *et al*, *J. Org. Chem.*, 1969, **34**, 1859 (*nmr*)
Mitusi, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1984, **33**, 257; *CA*, **101**, 183171c (*use*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 490.

Chloro(chloromethyl)dimethylsilane, 9CI C-00081

[1719-57-9]

$Me_2SiClCH_2Cl$

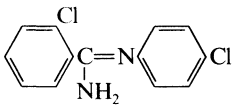
$C_3H_8Cl_2Si$ M 143.087
Reagent for preparing silylated derivs. for gc anal. of alcohols, steroids and cannabinoids. Liq. d_4^{20} 1.08. Bp 113.7-115.2°. n_D^{20} 1.4369.

Krieble, R.H. *et al*, *J. Am. Chem. Soc.*, 1945, **67**, 1810 (*synth*)
Nagai, Y. *et al*, *Tetrahedron*, 1970, **26**, 2791 (*nmr*)
Grobe, J. *et al*, *J. Organomet. Chem.*, 1973, **61**, 133 (*ir*, *nmr*)
Harvey, D.J., *J. Chromatogr.*, 1978, **147**, 291 (*use*)

2-Chloro-*N*-(4-chlorophenyl)benzamidine C-00082

N-p-*Chlorophenyl*-o-*chlorobenzamidine*

[23564-71-8]



$C_{13}H_{10}Cl_2N_2$ M 265.141
Cryst. Mp 127°.

B, HCl: [27109-12-2].
Mp 197° dec.

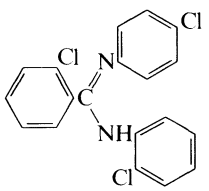
N'-(*2-Methylphenyl*): [113361-89-0]. *2-Chloro*-N-(*4-chlorophenyl*)-N'-(*2-methylphenyl*) *benzenecarboximidamide*, *9CI*
$C_{20}H_{16}Cl_2N_2$ M 355.265
Used as 3m*M* C_6H_6 soln. of HCl salt for extraction-photometric detn. of Mo (λ_{max} 470 nm, ε 16800, 1-5.5*M* HCl, C_6H_6). Cryst. + HCl (EtOH + HCl). Sol. C_6H_6, EtOH.

N'-(*3-Methylphenyl*): [113361-88-9]. *2-Chloro*-N-(*4-chlorophenyl*)-N'-(*3-methylphenyl*) *benzenecarboximidamide*, *9CI*
Used as 3m*M* C_6H_6 soln. of HCl salt for extraction-photometric detn. of Mo (λ_{max} 470 nm, ε 18000, 1.5-5.5*M* HCl, C_6H_6). Cryst. + HCl (EtOH + HCl). Sol. C_6H_6, EtOH.

N'-(*4-Methylphenyl*): [113361-90-3]. *2-Chloro*-N-(*4-chlorophenyl*)-N'-(*4-methylphenyl*) *benzenecarboximidamide*, *9CI*
Used as 3m*M* C_6H_6 soln. of HCl salt for extraction-photometric detn. of Mo (λ_{max} 470 nm, ε 17800, 1.2-4.7*M* HCl, C_6H_6). Cryst. + HCl (EtOH + HCl). Sol. C_6H_6, EtOH.

Gautier, J.A. *et al*, *Bull. Soc. Chim. Fr.*, 1970, 200 (*synth*)
Chandrakar, L.P. *et al*, *Analyst* (*London*), 1987, **112**, 1511 (*synth*, *derivs*, *detn*, *Mo*)

2-Chloro-*N*-(2-chlorophenyl)-*N'*-(4-chlorophenyl)benzenecarboximidamide, 9CI C-00083



$C_{19}H_{13}Cl_3N_2$ M 375.683

B,HCl: [113340-91-3].
Used as 3m*M* C_6H_6 soln. for extraction-photometric detn. of Mo (λ_{max} 465 nm, ε 16800, 2-6*M* HCl, C_6H_6). Cryst. (EtOH + HCl). Sol. C_6H_6, EtOH.

Chandrakar, L.P. *et al*, *Analyst* (*London*), 1987, **112**, 1511 (*synth*, *detn*, *Mo*)

2-Chloro-*N*-(3-chlorophenyl)-*N'*-(4-chlorophenyl)benzenecarboximidamide, 9CI C-00084

$C_{19}H_{13}Cl_3N_2$ M 375.683

B,HCl: [113361-91-4].

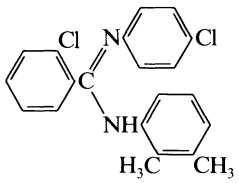
Used as 3m*M* C_6H_6 soln. for extraction-photometric detn. of Mo (λ_{max} 470 nm, ε 15500, 2.5-6*M* HCl). Cryst. (EtOH + HCl). Sol. C_6H_6, EtOH.

Chandrakar, L.P. *et al*, *Analyst* (*London*), 1987, **112**, 1511 (*synth, detn, Mo*)

2-Chloro-*N*-(4-chlorophenyl)-*N'*-(2,3-dimethylphenyl) benzenecarboximidamide, 9CI C-00085

2-Chloro-N-(*4-chlorophenyl*)-N'-(*2,3-dimethylphenyl*) *benzamidine*

[116967-85-2]



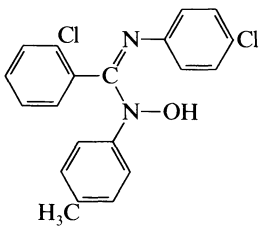
$C_{21}H_{18}Cl_2N_2$ M 369.292

Used as 0.3% C_6H_6 soln. (10% 1-pentanol) for extraction-photometric detn. of W(*V*) (λ_{max} 405 nm, ε 17000, presence of $SCN^{\ominus}$). Cryst. Sol. C_6H_6, toluene.

Shukla, A. *et al*, *Anal. Chim. Acta*, 1988, **208**, 91 (*synth, detn, W*)

2-Chloro-*N'*-(4-chlorophenyl)-*N*-hydroxy-*N*-(4-methylphenyl)benzamidine C-00086

N-*Hydroxy*-N-p-*tolyl*-N'-p-*chlorophenyl*-o-*chlorobenzamidine*



$C_{20}H_{16}Cl_2N_2O$ M 371.265

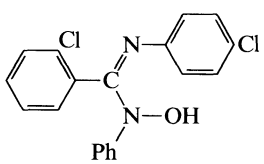
Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 620 nm, ε 5350, pH 1-3). Cryst. (EtOH). Sol. $CHCl_3$, EtOH.

Chandrakar, L.P. *et al*, *J. Indian Chem. Soc.*, 1984, **61**, 446 (*synth, detn, V*)

2-Chloro-*N'*-(4-chlorophenyl)-*N*-hydroxy-*N*-phenylbenzenecarboximidamide, 9CI C-00087

2-Chloro-N'-(*4-chlorophenyl*)-N-*hydroxy*-N-*phenylbenzamidine*

[93376-74-0]



$C_{19}H_{14}Cl_2N_2O$ M 357.238

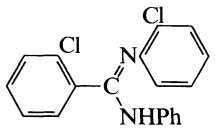
Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 620 nm, ε 4710, pH 1-3 in the presence of $SCN^{\ominus}$). Cryst. (EtOH). Sol. $CHCl_3$, EtOH.

Chandrakar, L.P. *et al*, *J. Indian Chem. Soc.*, 1984, **61**, 446 (*synth, detn, V*)

2-Chloro-*N*-(2-chlorophenyl)-*N'*-phenylbenzenecarboximidamide, 9CI C-00088

2-Chloro-N-(*2-chlorophenyl*)-N'-*phenylbenzamidine*

[117001-30-6]



$C_{19}H_{14}Cl_2N_2$ M 341.238

Used as 0.3% C_6H_6/pentanol soln. for extraction-photometric detn. of W(*V*) (λ_{max} 405 nm, ε 15400). Cryst. Sol. C_6H_6, toluene.

Shukla, A. *et al*, *Anal. Chim. Acta*, 1988, **208**, 91 (*synth, detn, W*)

2-Chloro-*N*-(4-chlorophenyl)-*N'*-phenylbenzenecarboximidamide, 9CI C-00089

N-*Phenyl*-N'-(*4-chlorophenyl*)-*2-chlorobenzamidine*

[113340-90-2]

$C_{19}H_{14}Cl_2N_2$ M 341.238

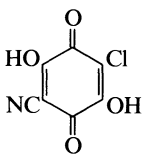
B,HCl: Used as 3m*M* C_6H_6 soln. for extraction-photometric detn. of Mo (λ_{max} 465 nm, ε 17300, 1-5.6*M* HCl, C_6H_6). Cryst. (EtOH + HCl). Sol. C_6H_6, EtOH.

Chandraker, L.P. *et al*, *Analyst* (*London*), 1987, **112**, 1511 (*synth, detn, Mo*)

2-Chloro-5-cyano-3,6-dihydroxybenzoquinone C-00090

4-Chloro-2,5-dihydroxy-3,6-dioxocyclo-1,4-hexadiene-1-carbonitrile, 8CI

[14445-78-4]



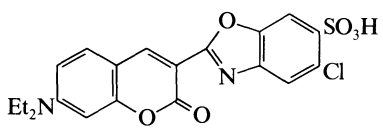
$C_7H_2ClNO_4$ M 199.550

Di-Na salt: [14445-79-5].

Used as a 0.1% aq. soln. for indirect photometric detn. of Ca (λ_{max} 490 nm). Red-brown needles (hot H_2O). Sol. H_2O; insol. EtOH, Me_2CO. Mp 247-249° dec.

Rehowoldt, R.E. *et al*, *Anal. Chem.*, 1966, **38**, 1018 (*synth, ir, detn, Ca*)

5-Chloro-2-[7-(diethylamino)-2-oxo-2*H*-1-benzopyran-3-yl]-6-benzoxazolesulfonic acid, 9CI C-00091



$C_{20}H_{17}ClN_2O_6S$ M 448.883

Fluorescent reagent for anal. of tertiary-amino drugs.

[126651-97-6]

Wintersteiger, R. *et al*, *Sci. Pharm.*, 1989, **57**, 407 (*synth, use*)

Chlorodifluoroacetic acid C-00092

[76-04-0]

$ClCF_2COOH$

$C_2HClF_2O_2$ M 130.478
Mp 24-26°. Bp 122°. pK_a 0.46 (25°).

Me ester: [1514-87-0].
$C_3H_3ClF_2O_2$ M 144.505
Bp 81-82°.

Et ester: [383-62-0].
$C_4H_5ClF_2O_2$ M 158.532
Liq. Bp 96°.

Chloride: [354-24-5].
$C_2Cl_2F_2O$ M 148.924
Liq. Bp 20-22°.

Amide: [354-28-9].
$C_2H_2ClF_2NO$ M 129.493
Cryst. Mp 78-79°.

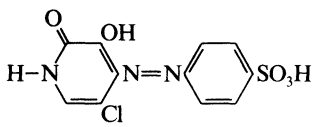
Nitrile: [421-05-6]. *Chlorocyanodifluoromethane*
C_2ClF_2N M 111.478
Liq. Bp 57-58°.

Anhydride: [2834-23-3].
$C_4Cl_2F_4O_3$ M 242.941
Derivatisation reagent used for gc with MIPAED atomic emission detn. Liq. Bp 92-93°.

Henne, A.L. *et al*, *J. Am. Chem. Soc.*, 1945, **67**, 918 (*synth*)
Miller, W.T., *CA*, 1952, **46**, 7989a (*synth*)
U.S. Pat., 2 853 524, (1958); *CA*, **53**, 5134b (*synth*)
Haszeltine, R.N., *J. Chem. Soc.*, 1959, 1084 (*deriv*)
Kalyanaraman, B. *et al*, *J. Cryst. Mol. Struct.*, 1976, **6**, 311 (*cryst struct, deriv*)
Hagen, D.F. *et al*, *Spectrochim. Acta, Part B*, 1985, **40**, 335 (*anhydride, use*)

4-[(5-Chloro-1,2-dihydro-3-hydroxy-2-oxo-4-pyridinyl)azo]benzenesulfonic acid, 9CI C-00093

[65837-79-8]

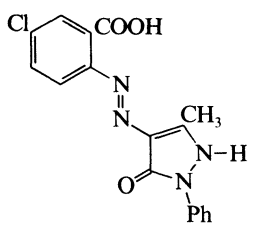


$C_{11}H_8ClN_3O_5S$ M 329.720
Used as 0.25% aq. soln. for photometric detn. of Nb (λ_{max} 485 nm, ε 5300), V (λ_{max} 495 nm, ε 25000); as 0.5m*M* aq. soln. for photometric detn. of Co (λ_{max} 550 nm), Cu (λ_{max} 560 nm), Fe (λ_{max} 580 nm), Ni (λ_{max} 550 nm). Brown cryst. Sol. H_2O, EtOH.

Chauhan, O. *et al*, *Ann. Chim. (Rome)*, 1979, **69**, 363.
Sharma, Y., *Anal. Chim. Acta*, 1981, **126**, 233 (*detn, V*)
Sharma, Y., *Talanta*, 1981, **28**, 59 (*detn, Nb*)

5-Chloro-2-[(4,5-dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]benzoic acid, 9CI C-00094

[88112-57-6]



$C_{17}H_{13}ClN_4O_3$ M 356.767

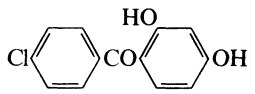
Used for photometric detn. of Na. Orange cryst. (DMF aq.). Spar. sol. Me_2CO, $CHCl_3$, EtOH. Mp 245-247°.

Markovich, I.S. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1097 (*detn, Na*)

4′-Chloro-2,4-dihydroxybenzophenone C-00095

(4-Chloro-2-hydroxyphenyl)(4-hydroxyphenyl)methanone

[126165-44-4]



$C_{13}H_9ClO_3$ M 248.665

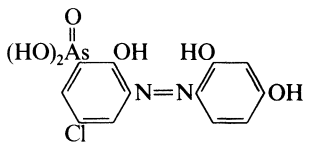
4-Me ether: [85-28-9]. *4′-Chloro-2-hydroxy-4-methoxybenzophenone*
$C_{14}H_{11}ClO_3$ M 262.692
Used as 0.01% soln. in conc. H_2SO_4 for specific fluorimetric detn. of B. Cryst. Sol. conc. H_2SO_4.

Mercantonatos, M. *et al*, *Helv. Chim. Acta*, 1965, **48**, 194 (*synth*)
Mercantonatos, M. *et al*, *Anal. Chim. Acta*, 1966, **35**, 309 (*detn, B*)
Monnier, D. *et al*, *Anal. Chim. Acta*, 1966, **36**, 360; 1972, **60**, 233 (*detn, B*)
Monnier, D. *et al*, *CA*, 1973, **78**, 52180p (*detn, B*)
Rosenkranz, H.J. *et al*, *CA*, 1974, **80**, 3265c (*synth*)
Mercantonatos, M. *et al*, *Inorg. Chim. Acta*, 1975, **14**, 227 (*detn, B*)

[5-Chloro-3-[(2,4-dihydroxyphenyl)azo]-2-hydroxyphenyl]arsonic acid, 9CI C-00096

Rezarson

[18299-04-2]



$C_{12}H_{10}AsClN_2O_6$ M 388.595
Used as 0.5m*M* EtOH soln. for photometric detn. of Ge (λ_{max} 500 nm, ε 24000), Sn (λ_{max} 510 nm, ε 25000), Nb. Brown cryst. powder. Sol. EtOH, MeOH.

Lukin, A.M. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 970; 1967, **22**, 1234; 1971, **26**, 1782 (*detn, Ge, Nb*)
Kaslina, N.A. *et al*, *Zavod. Lab.*, 1978, **44**, 520 (*detn, Sn*)

Chlorodimethoxymethylsilane C-00097

[994-07-0]

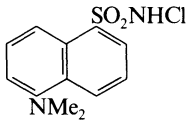
$MeSiCl(OMe)_2$

$C_3H_9ClO_2Si$ M 140.641
Silylation reagent used for gc ms anal. of hydroxy steroids. Liq. d_4^{20} 1.049. Bp 93-94°. n_D^{20} 1.3869.

Andrianov, K.A. *et al*, *Zh. Obshch. Khim.*, 1959, **29**, 3754; *CA*, **54**, 19460i (*synth*)
Calas, R. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1964, **259**, 3777 (*synth*)
Van Wazer, J.R., *J. Inorg. Nucl. Chem.*, 1964, **26**, 737 (*pmr*)
Barlos, K. *et al*, *Chem. Ber.*, 1980, **113**, 3716 (*chlorine-35 nmr*)
Harvey, D.J., *J. Chromatogr.*, 1980, **196**, 156 (*use*)

N-Chloro-5-(dimethylamino)-1-naphthalenesulfonamide, 9CI C-00098

[76587-46-7]



$C_{12}H_{13}ClN_2O_2S$ M 284.766

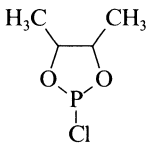
Fluorescent reagent for anal. of amino acids and peptides. Yellow powder. Mp 209-212°.

Murayama, K. *et al*, *J. Chromatogr.*, 1981, **205**, 349 (*synth, use*)
Murayama, K. *et al*, *Anal. Lett.*, 1982, **75**, 123 (*use*)

2-Chloro-4,5-dimethyl-1,3,2-dioxaphospholane, 9CI C-00099

2-Chloro-4,5-dimethyl-1,3-dioxa-2-phosphacyclopentane. 2,3-Butylene chlorophosphite. 2,3-Butylene phosphorochloridite

[16352-28-6]



$C_4H_8ClO_2P$ M 154.532

(4R,5R)-form [89104-49-4]

Fuming liq. d_4^{25} 1.20. Bp_{10} 49°. $[\alpha]_D^{25}$ +97.12°. n_D^{25} 1.4604.

2-Oxide: [89104-48-3]. *2,3-Butylene chlorophosphate. 2,3-Butylene phosphoryl chloride. 2,3-Butylene phosphorochloridate*

Chiral derivatising agent for determining the enantomeric purity of alcohols by P-31 nmr. Liq. d 1.534. $Bp_{0.5}$ 105-110°.

(4RS,5RS)-form [15479-16-0]

(±)-*form*

Fuming liq. Bp_{22} 64.5°, Bp_{17} 87°.

2-Sulfide: O,O-*2,3-Butylene chlorothiophosphate.* O,O-*2,3-Butylene thiophosphoryl chloride*

$C_4H_8ClO_2PS$ M 186.598

Liq. $Bp_{0.05}$ 55°.

(4RS,5SR)-form

meso-*form. 4,5*-cis-*form*

Fuming liq. d_4^{25} 1.22. Bp_{17} 90°, Bp_{25} 76°. n_D^{20} 1.4696.

Epimers at P characterised spectroscopically.

2-Sulfide: Liq. $Bp_{0.08}$ 65.5-66°.

[4225-54-1, 4225-55-2, 15479-05-7, 15479-17-1, 38206-22-3, 38409-45-9, 60146-71-6, 60183-47-3, 64234-37-3, 66289-10-9, 66807-98-5, 89104-49-4]

Lucas, H.J. *et al*, *J. Am. Chem. Soc.*, 1950, **72**, 5491 (*synth*)
Garner, H.K. *et al*, *J. Am. Chem. Soc.*, 1950, **72**, 5497 (*synth*)
Oswold, A.A., *Can. J. Chem.*, 1959, **37**, 1498 (*synth*)
Gagnaire, D. *et al*, *Bull. Soc. Chim. Fr.*, 1966, 3719 (*synth, nmr*)
Zwierzak, A., *Can. J. Chem.*, 1967, **45**, 2501 (*synth*)
Bergesen, K. *et al*, *Acta Chem. Scand.*, 1972, **26**, 2153 (*synth, pmr*)
Anderson, B.A. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 523), 1972, **204**, 1349 (*sulfides, synth, P nmr*)
Osokin, D.Ya. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 1460), 1972, **21**, 1513 (*nqr*)
Shagidullin, R.R. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1235), 1975, **45**, 1257 (*ir, raman*)
Shagidullin, R.R. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1017), 1976, **46**, 1021 (*oxide, sulfide, ir, raman*)
Anderson, R.C. *et al*, *J. Org. Chem.*, 1984, **49**, 1304 (*oxide, synth, P nmr, use*)

Chlorodimethyl(pentafluorophenyl)silane, 9CI C-00100

Flophemesyl chloride

[20082-71-7]

$(C_6F_5)SiClMe_2$

$C_8H_6ClF_5Si$ M 260.666

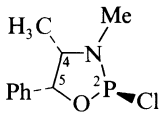
Used as silylation reagent for alcohols, steroids and sterols (gc-photoionization detn.). Oil. Bp_{30} 96°.

Morgan, E.D. *et al*, *J. Chromatogr.*, 1975, **104**, 351 (*synth*)
Poole, C.F. *et al*, *Org. Mass Spectrom.*, 1975, **10**, 1164; 1980, **15**, 486 (*ms*)
Francis, A.J. *et al*, *J. Chromatogr.*, 1978, **161**, 111 (*use*)
Krull, I.S. *et al*, *Anal. Lett.*, 1985, **18**, 2619 (*use*)

2-Chloro-3,4-dimethyl-5-phenyl-1,3,2-oxazaphospholidine, 9CI, 8CI C-00101

2-Chloro-3,4-dimethyl-5-phenyl-1,3,2-oxazaphospholane

[64023-57-0]



(*2R,4S,5R*)-*form*

$C_{10}H_{13}ClNOP$ M 229.645

(2R,4S,5R)-form [61739-41-1]

$Bp_{0.05}$ 120-125°.

2-Oxide: [54750-13-9].

$C_{10}H_{13}ClNO_2P$ M 245.645

Cryst. (diisopropyl ether or pet. ether). Mp 88-89°. $[\alpha]_D$ −64° ($CHCl_3$). Has 2*S*-config.

2-Sulfide: [57573-32-7].

$C_{10}H_{13}ClNOPS$ M 261.711

Reagent for synth. of chiral monothiophosphate esters. Cryst. ($CHCl_3$/pet. ether or cyclohexane). Mp 58°. $[\alpha]_D$ −23° ($CHCl_3$), $[\alpha]_D$ −47° (C_6H_6). Has 2*R*-config.

(2S,4S,5R)-form

2-Oxide: [54750-12-8].

Cryst. (diisopropyl ether). Mp 111-113°. $[\alpha]_D$ −26° ($CHCl_3$). Has 2*R*-config.

2-Sulfide: [57651-34-0].

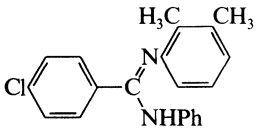
Reagent for synth. of chiral monothiophosphate esters and for detn. of enantiomeric purity of alcohols and amines by ^{31}P nmr. Cryst. (diisopropyl ether or cyclohexane). Mp 125-128°. $[\alpha]_D$ −121° ($CHCl_3$), $[\alpha]_D$ −123° (C_6H_6). Has 2*S*-config.

Larizza, A. *et al*, *J. Med. Chem.*, 1966, **9**, 966 (*oxide*)
Devillers, J., *Bull. Soc. Chim. Fr.*, 1970, 4341 (*oxide sulfide, synth, pmr*)
Devillers, J. *et al*, *Org. Magn. Reson.*, 1974, **6**, 211 (*derivs, conformn*)
Hall, C.R. *et al*, *Tetrahedron Lett.*, 1976, 3645 (*synth*)
Prange, T. *et al*, *Bull. Soc. Chim. Fr.*, Pt. 1, 1977, 185 (*cryst struct*)
Cooper, D.B. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1977, 1969 (*sulfide, synth*)
Lesiàk, K. *et al*, *Z. Naturforsch., B*, 1978, **33**, 782 (*sulfide, pmr, P nmr*)
Hall, C.R. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1979, 1104 (*sulfide, use*)
Bartczak, T. *et al*, *Acta Crystallogr.*, 1983, **39**, 219, 222 (*sulfide, cryst struct*)
Beer, P.D. *et al*, *Phosphorus Sulfur Relat. Elem.*, 1983, **17**, 283 (*synth, pmr*)
Johnson, C.R. *et al*, *J. Am. Chem. Soc.*, 1984, **106**, 5019 (*sulfide, use*)

4-Chloro-*N*-(2,3-dimethylphenyl)-*N'*-phenylbenzenecarboximidamide, 9CI C-00102

4-Chloro-N-(*2,3-dimethylphenyl*)-N'-*phenylbenzamidine*

[79458-86-9]



$C_{21}H_{19}ClN_2$ M 334.847

Used as 0.1% soln. in C_6H_6 for extraction-photometric detn. of Mo (λ_{max} 470 nm, ε 18200, 3.5-7*M* HCl). Cryst. (EtOH + HCl). Sol. EtOH, C_6H_6, $CHCl_3$.

Patel, K.S. *et al*, *Anal. Chem.*, 1982, **54**, 52 (*synth, detn, Mo*)

Chlorodimethylphenylsilane, 9CI C-00103

Dimethylphenylsilyl chloride

[768-33-2]

$PhSiMe_2Cl$

$C_8H_{11}ClSi$ M 170.713

Derivatisation reagent in hplc of carbohydrates. Liq. d_4^{20} 1.03. Bp 194-197°.

Grenoble, M.E. *et al*, *Appl. Spectrosc.*, 1960, **14**, 85 (*ir*)
Kriegsmann, H. *et al*, *Z. Anorg. Allg. Chem.*, 1961, **310**, 320 (*ir*)
Chuy, N.D. *et al*, *Collect. Czech. Chem. Commun.*, 1975, **40**, 875 (*nmr*)
White, C.A. *et al*, *Carbohydr. Res.*, 1983, **119**, 241 (*use*)
White, C.A. *et al*, *J. Chromatogr.*, 1983, **264**, 99 (*use*)

Chlorodimethyl-2-propenylsilane, 9CI C-00104

Allyldimethylchlorosilane

[4028-23-3]

$H_2C{=}CHCH_2SiMe_2Cl$

$C_5H_{11}ClSi$ M 134.680

Derivatization reagent for steroids and cannabinoids for gc anal. Liq. Fp 5°. Bp 111-112°. n_D^{20} 1.4270; dec. by H_2O.

Hurd, D.T., *J. Am. Chem. Soc.*, 1945, **67**, 1813 (*synth*)
Mironov, V.F. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Khim.*, 1962, **146**, 1117; *CA*, **58**, 2024 (*ir, raman*)
Alberola, A. *et al*, *An. Quim.*, 1971, **67**, 417; *CA*, **75**, 156760 (*nmr*)
Phillipou, G., *J. Chromatogr.*, 1976, **129**, 384 (*use*)
Harvey, D.J., *Biomed. Mass Spectrom.*, 1977, **4**, 265 (*use*)
Matsumoto, H. *et al*, *J. Organomet. Chem.*, 1978, **148**, 97 (*synth*)

Chlorodimethylsilane, 9CI C-00105

Dimethylsilyl chloride. DMCS

[1066-35-9]

Me_2SiClH

C_2H_7ClSi M 94.616

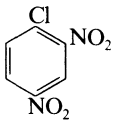
Hydrosilylating agent. d 0.852. Mp −111°. Bp 34.7° , 36-37°.

Supina, W.R. *et al*, *J. Am. Oil Chem. Soc.*, 1967, **44**, 74 (*use*)
Eaborn, C. *et al*, *J. Organomet. Chem.*, 1969, **18**, 371 (*synth*)
Kriegsmann, H. *et al*, *Z. Phys. Chem. (Leipzig)*, 1969, **240**, 294 (*spectra*)
Gadzhiev, S.N., *Ind. Eng. Chem. Process Des. Dev.*, 1970, **9**, 229; *CA*, **72**, 113221 (*purifn*)
Ishikawa, M. *et al*, *J. Chem. Soc., Chem. Commun.*, 1971, 507 (*synth*)
Drozdov, V.A. *et al*, *Plast. Massy*, 1973, 70; *CA*, **79**, 19985 (*glc, pmr*)
de Cooker, M.G.R.T. *et al*, *J. Organomet. Chem.*, 1975, **99**, 371 (*synth*)
Harvey, D.J., *J. Chromatogr.*, 1978, **147**, 291 (*use*)

1-Chloro-2,4-dinitrobenzene, 9CI, 8CI C-00106

2,4-Dinitrochlorobenzene

[97-00-7]



$C_6H_3ClN_2O_4$ M 202.553

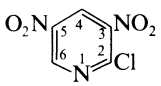
Reagent for characterisation of amines and amino acids and for gc identification of thiols. Has been used as an explosive. Reference material used in elemental microanalysis. Yellow cryst. (Et_2O). Mp 51°. Bp 315° sl. dec. There are also two labile forms, Mps 27° and 43°.

▷ Strong skin sensitiser, causes severe dermatitis. Highly toxic. CZ0525000.

Welsh, L.H., *J. Am. Chem. Soc.*, 1941, **63**, 3276 (*synth*)
Brackman, W. *et al*, *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1966, **85**, 857 (*synth*)
Gasco Sanchez, L. *et al*, *Anal. Chim. Acta*, 1972, **61**, 253 (*use*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Wilkins, A. *et al*, *Acta Crystallogr., Sect. B*, 1990, **46**, 823 (*cryst struct, polymorphism*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 242.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CGM000.

2-Chloro-3,5-dinitropyridine, 9CI C-00107

[2578-45-2]



$C_5H_2ClN_3O_4$ M 203.541

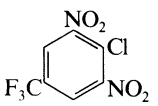
Condensing agent for esterifications. Derivatisation reagent for anal. of amines by liq. chromatog. Cryst. (pet. ether). Mp 64°.

Berrie, A.H. *et al*, *J. Chem. Soc.*, 1951, 2590 (*synth*)
Ochiai, E. *et al*, *Chem. Pharm. Bull.*, 1960, **8**, 28 (*synth*)
U.S. Pat., 3 574 841, (1971); *CA*, **74**, 141551 (*synth*)
Bashkir, E.A., *CA*, 1973, **79**, 91945 (*synth*)
Jacobs, W.A. *et al*, *J. Liq. Chromatogr.*, 1982, **5**, 881 (*use*)
Takimoto, S. *et al*, *Bull. Chem. Soc. Jpn.*, 1983, **56**, 639 (*use*)

2-Chloro-1,3-dinitro-5-(trifluoromethyl) benzene, 9CI C-00108

4-Chloro-α,α,α-trifluoro-3,5-dinitrotoluene, 8CI. 4-Chloro-3,5-dinitrobenzotrifluoride. DNT-Cl

[393-75-9]



$C_7H_2ClF_3N_2O_4$ M 270.552

Anal. reagent for amines and phenols. Yellow cryst. (EtOH). Mp 58° (53-57°).

▷ Acute oral toxin, mutagenic.

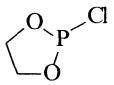
Yagupolśkii, L.M. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1955, **21**, 81; *CA*, **49**, 8867a (*synth*)
Jurgens, H.R. *et al*, *J. Org. Chem.*, 1960, **25**, 1710 (*synth*)
Malichenko, F. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1967, **33**, 717; *CA*, **69**, 95138n (*use*)
Crosby, D.G. *et al*, *J. Agric. Food Chem.*, 1968, **16**, 839 (*use*)
Hill, J.R. *et al*, *Org. Magn. Reson.*, 1977, **9**, 589 (*C-13 nmr, F-19 nmr*)
Bucchi, A.R. *et al*, *Ann. Ist. Super. Sanita*, 1983, **19**, 351 (*tox*)

Schaefer, T. *et al*, *Can. J. Chem.*, 1983, **61**, 2779 (*F-19 nmr*)
Stemmler, E.A. *et al*, *Biomed. Environ. Mass Spectrom.*, 1987, **14**, 417 (*ms*)
Sigma-Aldrich Library of Chemical Safety Data, 1988, **1**, 770D.

2-Chloro-1,3,2-dioxaphospholane, 9CI C-00109

Ethylene phosphorochloridite, 8CI. Ethylene chlorophosphite

[822-39-9]



$C_2H_4ClO_2P$ M 126.479

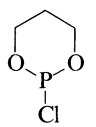
Peptide coupling reagent, used for identification of asparaginyl and glutaminyl residues. Used as a derivatisation reagent for gc detn. of alcohols and for P-31 nmr anal. of hydroxy compds. Mobile fuming liq. d_0^{20} 1.42. Bp_{47} 66-68°, Bp_{10} 44-45°. n_D^{20} 1.4894. Rapidly hydrolysed.

Lucas, H.J. *et al*, *J. Am. Chem. Soc.*, 1950, **72**, 5491 (*synth*)
Cason, J. *et al*, *J. Org. Chem.*, 1959, **24**, 247 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 372.
Efremov, Yu.Ya. *et al*, *Khim. Geterotsikl. Soedin.*, (*Engl. transl.* p. 1202), 1972, 1329 (*ms*)
Vilceaunu, R. *et al*, *J. Chromatogr.*, 1973, **82**, 279 (*use*)
Mathis, R. *et al*, *Spectrochim. Acta, Part A*, 1974, **30**, 357 (*ir*)
Shagidullin, R.R. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1235), 1975, **45**, 1257 (*ir, raman*)
Nuretdinov, I.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 824), 1978, 950 (*nqr*)
Besserre, D. *et al*, *Org. Magn. Reson.*, 1980, **13**, 235, 313 (*cmr, nmr*)
Vasil'ev, V.V. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1836), 1981, **51**, 2134 (*O nmr*)
Schiff, D.E. *et al*, *Appl. Spectrosc.*, 1986, **40**, 348 (*use*)

2-Chloro-1,3,2-dioxaphosphorinane, 9CI C-00110

2-Chloro-1,3,2-dioxaphosphinane. 2-Chloro-1,3-dioxa-2-phosphacyclohexane. Trimethylene chlorophosphite. Trimethylene phosphorochloridite

[6362-89-6]



$C_3H_6ClO_2P$ M 140.506

Used as a derivatisation reagent for gc. anal. of alcohols. Fuming liq. d_4^{25} 1.3489. Bp_9 54-55°. n_D^{25} 1.4884.

▷ Reacts violently with H_2O.

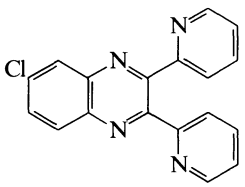
2-Selenide: [77585-91-2]. O,O-*Trimethylene phosphorochloridoselenoate*
$C_3H_6ClO_2PSe$ M 219.466
Solid. Mp 58-60°.

Lucas, H.J. *et al*, *J. Am. Chem. Soc.*, 1950, **72**, 5491 (*synth*)
Zwierzak, A., *Can. J. Chem.*, 1967, **45**, 2501 (*synth*)
Bergesen, K. *et al*, *Acta Chem. Scand.*, 1971, **25**, 2257 (*pmr*)
Arbuzov, B.A. *et al*, *Khim. Geterotsikl. Soedin.*, (*Engl. transl.* p. 1237), 1971, **7**, 1324 (*struct*)
Naumov, V.A. *et al*, *Zh. Strukt. Khim.*, (*Engl. transl.* p. 722), 1972, **13**, 768 (*ed*)
Nifant'ev, E.E. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl. Phys. Chem.* p. 100), 1973, **208**, 651 (*cmr*)
Vilceanu, R. *et al*, *J. Chromatogr.*, 1973, **82**, 279 (*use*)
Efremov, Yu.Ya. *et al*, *Khim. Geterotsikl. Soedin.*, (*Engl. transl.* p. 1424), 1974, 1620 (*ms*)
Fazliev, D.F. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1776), 1976, **46**, 1832 (*ir*)
Nuretdinov, I.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 824), 1978, 950 (*nqr*)
Shagidullin, R.R. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 1234), 1981, 1535 (*selenide, synth, ir, raman*)
Hacklin, H. *et al*, *Phosphorus Sulfur Relat. Elem.*, 1985, **25**, 79 (*synth, ms, pmr, P nmr*)

6-Chloro-2,3-di-2-pyridylquinoxaline, 8CI C-00111

2,3-Bis(2-pyridyl)-6-chloroquinoxaline

[17401-70-6]



$C_{18}H_{11}ClN_4$ M 318.764

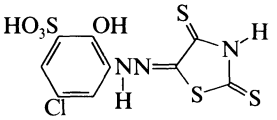
Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 524 nm, ε 3240, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 111°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)

5-Chloro-3-[(2,4-dithioxo-5-thiazolidinyl) azo]-2-hydroxybenzenesulfonic acid, 9CI C-00112

Sulfochlorophenolazothiorhodanine

[32041-51-3]



$C_9H_6ClN_3O_4S_4$ M 383.881

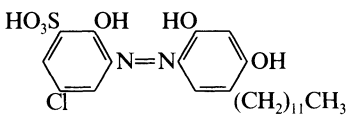
Several tautomers possible. Used as 0.1% soln. in 50% EtOH for photometric detn. of Pt, Ag, Au (λ_{max} 620 nm, ε 45000). Dark red cryst. powder. Sol. H_2O, EtOH, DMF.

Propistsova, R.F. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2424 (*synth, use*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 1554 (*detn, Au*)
Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*rev*)

5-Chloro-3-[(5-dodecyl-2,4-dihydroxyphenyl)azo]-2-hydroxybenzenesulfonic acid, 9CI C-00113

5-Chloro-5'-dodecyl-2,2',4'-trihydroxyazobenzene-3-sulfonic acid. Dodecyllumogallion

[65185-44-6]



$C_{24}H_{33}ClN_2O_6S$ M 513.053

Used for extraction-fluorimetric detn. of Ga (4-methyl-2-pentanone). Sol. EtOH.

Na salt: [65144-71-0].
Sol. H_2O.

Kina, K. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1977, **26**, 246 (*use*)

2-Chloroethanol, 9CI C-00114

Ethylene chlorohydrin. Glycol chlorohydrin

[107-07-3]

$ClCH_2CH_2OH$

C_2H_5ClO M 80.514

Reagent for esterification of carboxylic acids for gc anal. Misc. H_2O. Fp −67.5°. Bp 128.6°, Bp_{22} 51-52°. pK_{a1} 14.31 (25°, H_2O). Forms azeotrope with H_2O, Bp_{735} 95-8°.

▷ Highly toxic by inhalation and skin absorption, TLV (skin) 3. KK0875000.

Benzoyl:

$C_9H_9ClO_2$ M 184.622

Bp_{1-2} 100-102°.

Methanesulfonyl: [3570-58-9].

Bp_9 125-126°. n_D^{20} 1.4562 (1.4590).

▷ KK1960000.

4-Methylbenzenesulfonate: [80-41-1].

$C_9H_{11}ClO_3S$ M 234.703

$Bp_{0.3}$ 153°, $Bp_{0.2}$ 130-135°.

▷ XT6475000.

Gomberg, M., *J. Am. Chem. Soc.*, 1919, **41**, 1414 (*synth*)
Shilov, E.A., *Zh. Khim. Promsti*, 1928, **5**, 1273.
Zapadinskii, M.B., *Zh. Khim. Promsti*, 1928, **5**, 1426.
Kobe, K.A. *et al*, *Ind. Eng. Chem.*, 1954, **46**, 680.
Woodham, D.W. *et al*, *J. Agric. Food Chem.*, 1971, **19**, 186 (*use*)
Rudling, L., *Water Res.*, 1971, **5**, 831 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 117.
Reisser, G.H. *et al*, *Kirk-Othmer Encycl. Chem. Technol.*, 3rd Ed., Wiley, N.Y., 1978-1984, **5**, 848 (*rev*)
Hahn, R.C. *et al*, *J. Org. Chem.*, 1988, **53**, 5783 (*tosylate*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 244.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CHC750, CHI125, EIU800.

Chloroethylmagnesium, 10CI, 9CI, 8CI C-00115

Ethylmagnesium chloride

[2386-64-3]

EtMgCl

C_2H_5ClMg M 88.819

Grignard reagent. Commercially available as 2*M* Et_2O soln. Used for derivatisation of ionic alkyltin compounds in gc analysis. Sol. ethers.

$MgCl_2$,THF complex: [33519-48-1]. *Tetra-μ-chlorodi-μ_3-chlorodiethylhexakis(tetrahydrofuran)tetramagnesium, 8CI*

$C_{28}H_{58}Cl_6Mg_4O_6$ M 800.699

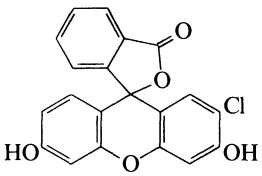
Cryst. (THF).

Kharasch, M.S. *et al*, *Grignard Reactions of Nonmetallic Substances*, Prentice Hall, New York, 1954 (*rev*)
Ducom, J. *et al*, *Bull. Soc. Chim. Fr.*, 1971, 3518.
Toney, J. *et al*, *J. Organomet. Chem.*, 1971, **28**, 5 (*struct*)
Chevrot, C. *et al*, *Bull. Soc. Chim. Fr.*, 1976, 1388.
Wilkinson, G., *Compr. Organomet. Chem.*, (Ed.), Pergamon, Oxford, 1982, **1**, 156 (*rev*)
Müller, M.D., *Anal. Chem.*, 1987, **59**, 617.
Scott, B.F. *et al*, *Appl. Organomet. Chem.*, 1991, **5**, 151.

2′-Chlorofluorescein C-00116

2′-Chloro-3′,6′-dihydroxyspiro[isobenzofuran-1(3H),9′-[9H]xanthen]-3-one, 9CI

[2321-03-1]



$C_{20}H_{11}ClO_5$ M 366.757

Used for photometric and fluorimetric detn. of Ag (λ_{max} 540 nm) as a 1m*M* soln. in MeOH. Orange cryst. (EtOH). Sol. EtOH, Me_2CO, alkalis.

Mori, I. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1973, **22**, 1202 (*detn, Ag*)

4′-Chlorofluorescein C-00117

4′-Chloro-3′,6′-dihydroxyspiro[isobenzofuran-1(3H),9′[9H]xanthen]-3-one, 9CI

[2320-95-8]

$C_{20}H_{11}ClO_5$ M 366.757

Used as a 1m*M* soln. in MeOH for photometric and fluorimetric detn. of Ag (λ_{max} 530nm). Orange cryst. (EtOH). Sol. EtOH, Me_2CO, alkalis.

Mori, I. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1973, **22**, 1202 (*use*)

Chloroform C-00118

Trichloromethane, 9CI. R20

[67-66-3]

$CHCl_3$

$CHCl_3$ M 119.377

Manuf. by direct chlorination of CH_4 or by reacn. of EtOH or Me_2CO with Cl_2 + NaOH. Solvent, intermediate for manuf. of $CHClF_2$, plastics intermediate. U.S. prodn. 136 000 t/a in 1976. Formerly used as anaesthetic. Used in the detn. of phenols and as an extraction solv. Liq. Spar. sol. H_2O. d_4^{25} 1.481. Mp −63.2°. Bp 61.3°. n_D^{20} 1.4467. Nonflammable. Slowly dec. in air and light forming *inter alia* $COCl_2$ (toxic). Forms hydrate with $18H_2O$, dec. at 1.6°. Forms azeotrope contg. 2.5% H_2O, Bp 56°.

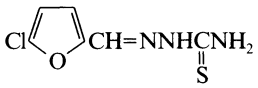
▷ Toxic vapour, OES 50 mg m^{-3}, eye irritant, suspected carcinogen. Vigorous reaction with Me_2CO and base, explosive reaction with some materials. FS9100000.

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 130; **8**, 92.
Dykes, M.H.M., *Int. Anesthesiol. Clin.*, 1970, **8**, 357 (*rev, pharmacol*)
Legradi, L., *Mikrochim. Acta*, 1972, 369 (*use*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **5**, 693 (*rev*)
Davidson, I.W.F. *et al*, *Drug Chem. Toxicol.*, 1982, **5**, 87 (*rev, metab, tox*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 3104.
Occupational Exposure Limits 1991, Health and Safety Executive, HMSO, London, 1991, EH40/91.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 245.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CHJ500.

5-Chloro-2-furancarboxaldehyde thiosemicarbazone C-00119

2-[(5-Chloro-2-furanyl)methylene]hydrazinecarbothioamide, 9CI

[53652-12-3]



$C_6H_6ClN_3OS$ M 203.652

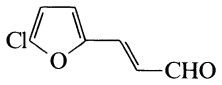
Used as 0.4m*M* aq. soln. for photometric detn. of Pd (λ_{max} 396 nm, ε 36000). Cryst.

Mas'ko, L.I. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 315 (*detn, Pd*)

3-(5-Chloro-2-furanoyl)-2-propenal, 9CI C-00120

5-Chloro-2-furanacrolein, 8CI

[61633-21-4]



$C_7H_5ClO_2$ M 156.568

Thiosemicarbazone: [23499-73-2].

$C_8H_8ClN_3OS$ M 229.689

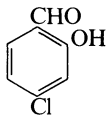
Used as a 0.4m*M* soln. in EtOH for photometric detn. of Pd (λ_{max} 390 nm, ε 39500), Pt (λ_{max} 390 nm, ε 57500). Cryst. (EtOH).

Kerentseva, V.P. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1144; 1972, **27**, 719 (*synth, pKa, detn, Pd, Pt*)

4-Chloro-2-hydroxybenzaldehyde, 9CI C-00121

4-Chlorosalicylaldehyde, 8CI

[2420-26-0]



$C_7H_5ClO_2$ M 156.568

Cryst. (EtOH or AcOH aq.). Mp 52-53°. pK_a 7.18 (25°, 0.1*M* $NaClO_4$).

Me ether: [53581-86-5]. *4-Chloro-2-methoxybenzaldehyde*

$C_8H_7ClO_2$ M 170.595

Cryst. Mp 74°.

Semicarbazone: [54825-12-6].

$C_8H_8ClN_3O_2$ M 213.623

Used as 0.1% DMF soln. for fluorimetric detn. of Sc (λ_{max} 435 nm, pH 6.5). Cryst. (EtOH). Sol. DMF, EtOH. Mp 212-214°.

Postmus, C. *et al*, *J. Org. Chem.*, 1964, **29**, 2693 (*synth*)
Casey, M.L. *et al*, *J. Org. Chem.*, 1973, **38**, 2294 (*synth*)
Morishige, K., *Anal. Chim. Acta*, 1974, **73**, 245 (*semicarbazone, synth, detn, Sc*)
Casiraghi, G. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1978, 318 (*synth*)
Pochini, A. *et al*, *Synthesis*, 1978, 617 (*synth*)

5-Chloro-2-hydroxybenzaldehyde, 9CI C-00122

5-Chlorosalicylaldehyde, 8CI

[635-93-8]

$C_7H_5ClO_2$ M 156.568

Forms stable yellow Schiff's bases with amines, has been used as a protecting group in peptide synth. Cryst. (EtOH or pet. ether). Mp 99-100°. pK_a 7.41 (25°, 0.1*M* $NaClO_4$).

▷ VN5450000.

Oxime: [1595-14-8].

$C_7H_6ClNO_2$ M 171.583

Used as 2% soln. in aq. EtOH for detn. of Bi, Cu, Fe, Pb, Ni. Cryst. (EtOH). Sol. EtOH; sl. sol. H_2O. Mp 128°.

Semicarbazone: [20576-99-2].

$C_8H_8ClN_3O_2$ M 213.623

Used as 0.1% DMF soln. for fluorimetric detn. of Sc (λ_{max} 455 nm, pH 6.5). Cryst. (EtOH). Sol. DMF, EtOH. Mp 286-287°.

Thiosemicarbazone: [20234-13-3].

$C_8H_8ClN_3OS$ M 229.689

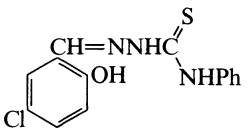
Used as 0.1% DMF soln. for fluorimetric detn. of Ga (λ_{max} 450 nm, pH 4.5). Cryst. (EtOH). Sol. DMF, EtOH.

Flagg, J.F. *et al*, *Ind. Eng. Chem., Anal. Ed.*, 1940, **12**, 529 (*use*)
Ginsburg, D., *J. Am. Chem. Soc.*, 1951, **73**, 702 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 139.
Morishige, K., *Anal. Chim. Acta*, 1974, **72**, 295; **73**, 245 (*synth, detn, Sc*)

5-Chloro-2-hydroxybenzaldehyde phenylthiosemicarbazone C-00123

5-Chlorosalicylaldehyde phenylthiosemicarbazone

[13377-21-4]



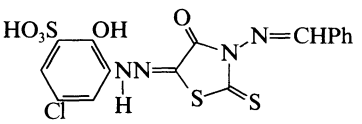
$C_{14}H_{12}ClN_3OS$ M 305.787

Used as 0.25m*M* in $CHCl_3$ for extraction-photometric detn. of Pd (λ_{max} 410 nm, ε 10900). Cryst. (EtOH). Sol. $CHCl_3$, EtOH.

Yamaguchi, S. *et al*, *Analyst (London)*, 1985, **110**, 1241 (*synth, detn, Pd*)

5-Chloro-2-hydroxy-3-[(3-benzylideneamino-4-oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid C-00124

*Sulfochlorophenolazo-*N*-(benzylidene)-3-aminorhodanine*



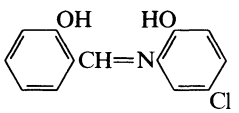
$C_{16}H_{11}ClN_4O_5S_3$ M 470.937

Various tautomers possible. Used as EtOH soln. for photometric detn. of Ag, Au, Pd, Pt. Red cryst. powder. Sol. H_2O, EtOH, DMF.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*synth, use*)

4-Chloro-2-(2-hydroxybenzylideneamino) phenol C-00125

*5-Chloro-2-hydroxy-*N*-salicylideneaniline. 2-Hydroxybenzaldehyde 5-chloro-2-hydroxyanil*



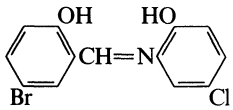
$C_{13}H_{10}ClNO_2$ M 247.680

Used as a 1m*M* soln. in EtOH for fluorimetric detn. of Al. Cryst. (EtOH). Sol. EtOH, sl. sol. H_2O. Mp 156.0-156.5°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)

5-Chloro-*N*-(2-hydroxy-5-bromobenzylidene)-2-hydroxyaniline C-00126

4-Bromo[[*2-(5-chloro-2-hydroxyphenyl)imino*]*methyl*]*phenol. 5-Bromo-2-hydroxybenzaldehyde 5-chloro-2-hydroxyanil*



$C_{13}H_9BrClNO_2$ M 326.576

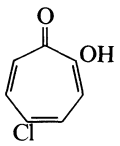
Used as a 1m*M* soln. in EtOH for fluorimetric detn. of Al. Cryst. (EtOH). Sol. EtOH; sl. sol. H_2O. Mp 200-200.5°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)

5-Chloro-2-hydroxy-2,4,6-cycloheptatrien-1-one, 9CI C-00127

5-Chlorotropolone

[3084-17-1]



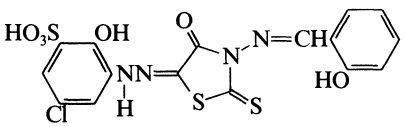
$C_7H_5ClO_2$ M 156.568

Used as complexing agent for Fe(*III*). Cryst. pK_{a1} 5.62.

Dutt, Y. *et al*, *Talanta*, 1969, **16**, 1369 (*pKa, use*)

5-Chloro-2-hydroxy-3-[(3-(2-hydroxybenzylideneamino)-4-oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid C-00128

*Sulfochlorophenolazo-*N*-(2′-hydroxybenzylidene)-3-aminorhodanine*



$C_{16}H_{11}ClN_4O_6S_3$ M 486.937

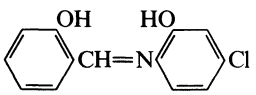
Various tautomers possible. Used as EtOH soln. for photometric detn. of Ag, Au, Pd, Pt. Red cryst. powder. Sol. EtOH, H_2O, DMF.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*synth, use*)

4-Chloro-2-hydroxy-*N*-(2-hydroxybenzylidene)aniline C-00129

5-Chloro-2-[[*(2-hydroxyphenyl)methylene*]*amino*]*phenol, 9CI. 4-Chloro-2-hydroxy-*N*-salicylideneaniline. 2-Hydroxybenzaldehyde 4-chloro-2-hydroxyanil*

[31367-08-5]



$C_{13}H_{10}ClNO_2$ M 247.680

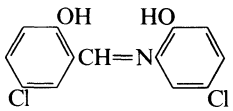
Used as a 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 490 nm, pH 5.3), Ga (λ_{max} 500 nm, pH 3.8). Cryst. (EtOH). Sol. DMF, EtOH.

Morishige, K., *Anal. Chim. Acta*, 1974, **72**, 295 (*synth, detn, Al, Ga*)

5-Chloro-2-hydroxy-*N*-(2-hydroxy-5-chlorobenzylidene)aniline C-00130

4-Chloro-2-[[*(5-chloro-2-hydroxyphenyl)imino*]*methyl*]*phenol, 9CI. 5-Chloro-2-hydroxybenzaldehyde 5-chloro-2-hydroxyanil*

[1761-48-4]



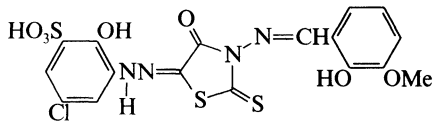
$C_{13}H_9Cl_2NO_2$ M 282.125

Used as a 0.1% DMF soln. for fluorimetric detn. of Be (λ_{max} 445 nm, pH 9.5) and Al. Cryst. (EtOH). Sol. DMF, EtOH; sl. sol. H_2O. Mp 201°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)
Morishige, K., *Anal. Chim. Acta*, 1974, **73**, 245 (*synth, detn, Be*)

5-Chloro-2-hydroxy-3-[(3-(2-hydroxy-3-methoxybenzylideneamino)-4-oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid C-00131

*Sulfochlorophenolazo-*N*-(2′-hydroxy-3′-methoxybenzylidene)-3-aminorhodanine*



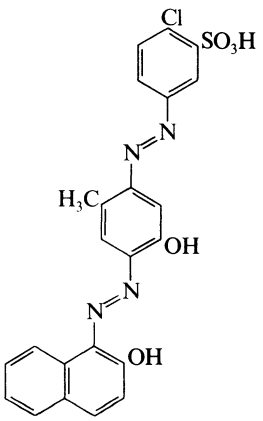
$C_{17}H_{13}ClN_4O_7S_3$ M 516.963

Various tautomers possible. Used as EtOH soln. for photometric detn. of Ag, Au, Pd, Pt. Red cryst. powder. Sol. EtOH, H_2O, DMF.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*synth, use*)

2-Chloro-5-[[5-hydroxy-4-[(2-hydroxy-1-naphthalenyl)azo]-2-methylphenyl]azo]benzenesulfonic acid, 9CI C-00132

C.I. Mordant green 15. C.I. 26925. Solochrome green V. Chrome green V. Alazarol verdone S. Chrome green S. Eriochrome verdone S



$C_{23}H_{17}ClN_4O_5S$ M 496.930

Strictly the name C.I. Mordant green refers to the sodium salt.

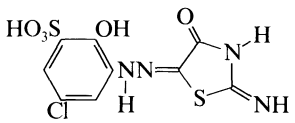
Na salt: [6406-61-7].

Used as a 0.1% aq. soln. as metallochromic indicator in titrimetric detn. of Mn(*II*), Zn. Orange-red cryst. Sol. H_2O; mod. sol. EtOH.

Amin, A.M. *et al*, *Fresenius' Z. Anal. Chem.*, 1960, **173**, 138.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

5-Chloro-2-hydroxy-3-[(2-imino-4-oxo-5-thiazolidinyl)azo]benzenesulfonic acid C-00133

Sulfochlorophenolazopseudothiohydantoin



$C_9H_7ClN_4O_5S_2$ M 350.763

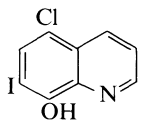
Several tautomers possible. Used as EtOH soln. for photometric detn. of Ag, Au, Pd, Pt. Yellow cryst. powder. Sol. H_2O, EtOH, DMF.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*synth, use*)

5-Chloro-8-hydroxy-7-iodoquinoline C-00134

5-Chloro-7-iodo-8-quinolinol, 9CI, 8CI. ***Clioquinol,*** **BAN, INN.** *Barquinol. Chinoform. Quin-o-creme. Vioformo. Iodochlorhydroxyquin. Numerous proprietary names*

[130-26-7]



C_9H_5ClINO M 305.502

Antiinfective, antiamoebic. Used in photometric detn. of Mo, Nb, Ta. Brownish-yellow powder, darkens when exp. to light. Spar. sol. Et_2O. Dec. at ca. 178-179°. Constit. of Enterovioform. Can cause nerve damage.

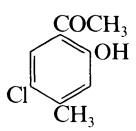
▷ VC5075000.

Das, A. *et al*, *J. Org. Chem.*, 1957, **22**, 1111 (*synth*)
Sharma, Y. *et al*, *Fresenius' Z. Anal. Chem.*, 1959, **165**, 16 (*detn, Ta*)
Stelzl, G. *et al*, *Arzneim.-Forsch.*, 1973, **23**, 1470 (*pharmacol*)
Kashino, S. *et al*, *Bull. Chem. Soc. Jpn.*, 1973, **46**, 1094 (*cryst struct*)
Kracmar, J. *et al*, *Pharmazie*, 1974, **29**, 733 (*uv*)
Urakubo, G. *et al*, *Radioisotopes*, 1975, **24**, 500 (*synth*)
Sharma, Y., *Mikrochim. Acta*, 1982, **2**, 297 (*detn, Nb*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 4770.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1071 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CHR500.

5-Chloro-2-hydroxy-4-methylacetophenone C-00135

1-(5-Chloro-2-hydroxy-4-methylphenyl)ethanone, 9CI

[28480-70-8]



$C_9H_9ClO_2$ M 184.622

Needles (EtOH). Mp 71-72°. Bp_{15} 137°.

Oxime: [38589-71-8].

$C_9H_{10}ClNO_2$ M 199.636

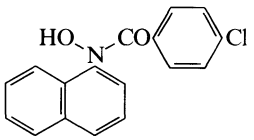
Used for gravimetric and extraction-photometric detn. of V(*V*) (λ_{max} 400 nm, ε 3150, $CHCl_3$). Cryst. (EtOH). Sol. EtOH, Me_2CO, C_6H_6; spar. sol. H_2O.

Rosenmund, K.W. *et al*, *Justus Liebigs Ann. Chem.*, 1928, **460**, 56 (*synth*)
Saksena, R.N. *et al*, *J. Indian Chem. Soc.*, 1972, **49**, 779 (*synth, oxime*)
Lal, K. *et al*, *Chim. Acta Turc.*, 1978, **6**, 11; *CA*, **89**, 225634x (*detn, V*)

4-Chloro-*N*-hydroxy-*N*-1-naphthalenylbenzamide, 9CI C-00136

N-*1-Naphthyl*-p-*chlorobenzohydroxamic acid*

[36237-41-9]



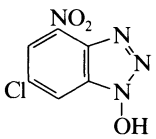
$C_{17}H_{12}ClNO_2$ M 297.740

Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 510 nm, ε 4350, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Chem. Eng. Data*, 1972, **17**, 248 (*synth*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

6-Chloro-1-hydroxy-4-nitro-1*H*-benzotriazole, 9CI C-00137

[29394-76-1]



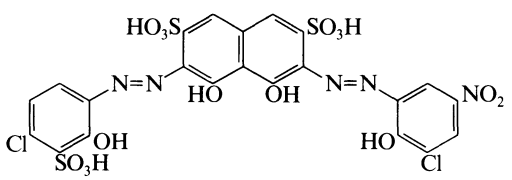
$C_6H_3ClN_4O_3$ M 214.567

Used for gravimetric detn. of Cd, Cu, Zn. Pale yellow cryst. Sol. EtOH.

Maheshwari, G.L. *et al*, *J. Sci. Ind. Res.*, 1969, **1**, 46; *CA*, **72**, 139297g (*detn, Cd*)
Saxena, R.C. *et al*, *J. Sci. Ind. Res.*, 1970, **2**, 25; 1973, **5**, 30; *CA*, **74**, 119699c; **83**, 21687h (*detn, Cu, Zn*)

3-[(3-Chloro-2-hydroxy-5-nitrophenyl)azo]-6-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI C-00138

[14041-37-3]

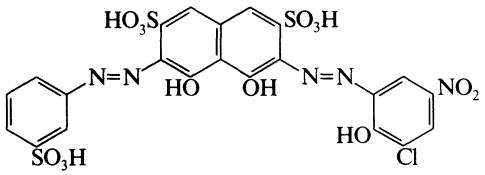


$C_{22}H_{13}Cl_2N_5O_{15}S_3$ M 754.473

Used for photometric detn. of Pu(*IV*). Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 1075 (*detn, Pu*)

3-[(3-Chloro-2-hydroxy-5-nitrophenyl)azo]-6-[(3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI C-00139



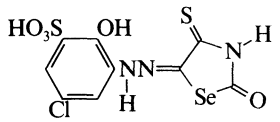
$C_{22}H_{14}ClN_5O_{14}S_3$ M 704.028

Used for photometric detn. of Cu, Sc, Th, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

5-Chloro-2-hydroxy-3-[(2-oxo-4-thioxo-5-selenazolidinyl)azo]benzenesulfonic acid C-00140

Sulfochlorophenolazoselenoisorhodanine



$C_9H_6ClN_3O_5S_2Se$ M 414.708

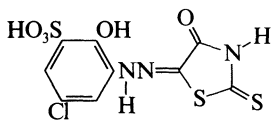
Several tautomers possible. Used as EtOH soln. for photometric detn. of Ag, Au, Pd, Pt. Brown cryst. powder. Sol. H_2O, EtOH.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*synth*, *use*)

5-Chloro-2-hydroxy-3-[(4-oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid, 9CI C-00141

Sulfochlorophenolazorhodanine. Rhodazol KhS

[32041-50-2]



$C_9H_6ClN_3O_5S_3$ M 367.814

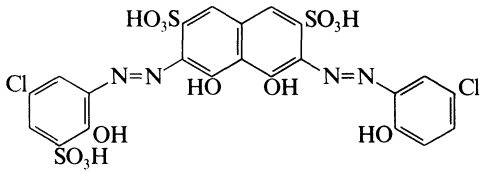
Several tautomers possible. Used as 0.1% soln. in 50% EtOH or 0.3% aq. soln. for photometric detn. of Pt(*II*) (λ_{max} 500 nm, ε 100000), Rh (λ_{max} 510 nm, ε 35000), Pd, Ir, Ru, Au, Ag. Red cryst. powder. Sol. H_2O, EtOH, DMF, dioxan.

N-*NH_2*: *3-[(3-Amino-4-oxo-2-thioxo-5-thiazolidinyl)azo]-5-chloro-2-hydroxy-benzenesulfonic acid*
$C_9H_7ClN_4O_5S_3$ M 382.829
Used as EtOH soln. for photometric detn. of Ag, Pu, Pd, Pt. Orange cryst. powder.

Propistsova, R.F. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2424; 1973, **27**, 1768; 1974, **29**, 2097; 1975, **30**, 250 (*detn*, *Pt*, *Rh*, *tautom*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 1554 (*use*)
Basargin, N.N. *et al*, *Zavod. Lab.*, 1973, **39**, 3 (*detn*, *Pd*)
Gur'eva, R.F. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 914; 1976, **31**, 660; 1982, **37**, 654 (*detn*, *Ir*, *Ag*, *Ru*)
Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*rev*)

3-[(5-Chloro-2-hydroxyphenyl)azo]-6-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 8CI C-00142

[26069-51-2]



$C_{22}H_{14}Cl_2N_4O_{13}S_3$ M 709.475

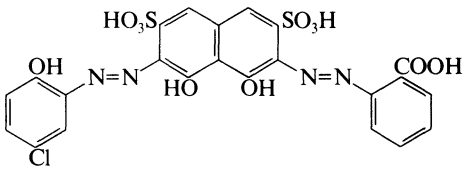
Used for photometric detn. of Nb, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Alimarin, I.P. *et al*, *Talanta*, 1968, **15**, 601 (*detn*, *Nb*)
Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*detn*, *Zr*)

2-[[7-[(5-Chloro-2-hydroxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid C-00143

3-(2-Carboxyphenyl)-6-(5-chloro-2-hydroxyphenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid

[24921-22-0]



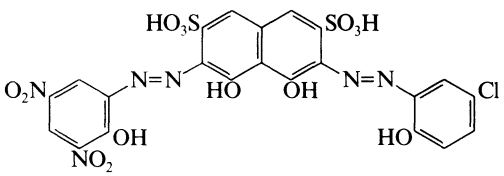
$C_{23}H_{15}ClN_4O_{11}S_2$ M 622.976

Used as a 0.1 or 0.05% aq. soln. for photometric detn. of Ca (λ_{max} 650 nm, ε 55000, 75% EtOH), Mg (λ_{max} 660 nm, ε 59000, 75% EtOH). Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177 (*detn*, *Ca*, *Mg*)

3-[(5-Chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI C-00144

[26069-60-3]



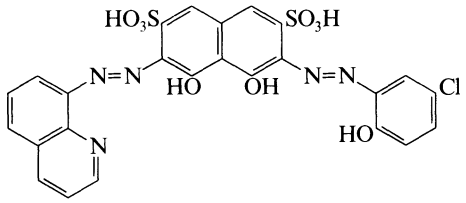
$C_{22}H_{13}ClN_6O_{14}S_2$ M 684.961

Used for photometric detn. of Nb, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

3-[(5-Chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, 9CI C-00145

[22106-83-8]



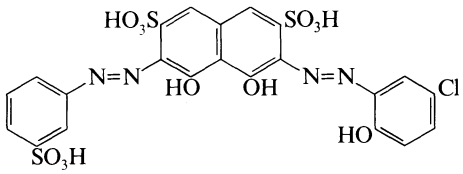
$C_{25}H_{16}ClN_5O_9S_2$ M 630.014

Used for photometric detn. of Cu; extraction-photometric detn. of Cu (butanol). Dark red cryst. Sol. H_2O, EtOH.

Okhanova, L.A., *Zh. Anal. Khim.*, 1968, **23**, 1562.

3-[(5-Chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI C-00146

[14155-12-5]



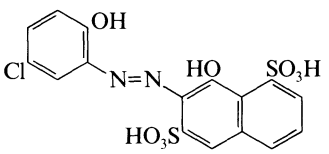
$C_{22}H_{15}ClN_4O_{12}S_3$ M 659.031

Used for photometric detn. of Nb. Dark red cryst. powder. Mod. sol. H_2O.

Alimarin, I.P. *et al*, *Talanta*, 1966, **13**, 689 (*detn, Nb*)

7-[(5-Chloro-2-hydroxyphenyl)azo]-8-hydroxy-1,6-naphthalenedisulfonic acid, 9CI C-00147

[33683-74-8]



$C_{16}H_{11}ClN_2O_8S_2$ M 458.856

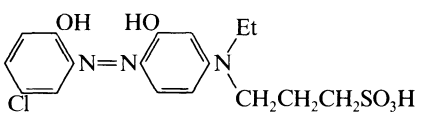
Used for photometric detn. of Al (λ_{max} 570 nm, ε 13600), Ga (λ_{max} 570 nm, ε 16600), In (λ_{max} 570 nm, ε 8800). Cryst. pK_{a1} 7.62.

Tiutiunnikova, P.D. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 508 (*use*)

3-[[4-[(5-Chloro-2-hydroxyphenyl)azo]-3-hydroxyphenyl]ethylamino]-1-propanesulfonic acid, 9CI C-00148

2-(2-Hydroxy-5-chlorophenylazo)-5-[N-ethyl-N-(3-sulfopropyl)amino]phenol

[91999-90-5]



$C_{17}H_{20}ClN_3O_5S$ M 413.881

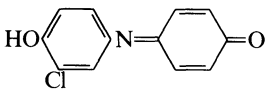
Used as 0.05m*M* aq. soln. for photometric detn. of Mg, Ca (λ_{max} 506 nm, pH ~10). Cryst. (EtOH/aq. HCl). Sol. H_2O, EtOH. pK_{a1} 2.80; pK_{a2} 8.05; pK_{a3} 12.6 (μ = 0.1, 25°).

Wada, H. *et al*, *Anal. Chim. Acta*, 1984, **159**, 289 (*synth, detn, Ca, Mg*)

4-[(3-Chloro-4-hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, 9CI C-00149

3'-Chloroindophenol, 8CI

[2701-88-4]



$C_{12}H_8ClNO_2$ M 233.653

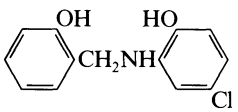
Used as a 0.02% aq. soln. of Na as acid-base indicator (pH range 4-12.3; colour change: red → blue); redox indicator. Dark green cryst. powder. Sol. alkalis, EtOH, Me_2CO. pK_a 7.1. E° + 0.663 V.

Cohen, B. *et al*, *Public Health Rep.*, 1924, **39**, 381.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 484 (*use*)

4-Chloro-2-[[(2-hydroxyphenyl)methylene]amino]phenol, 9CI C-00150

2-[[(2-Hydroxy-5-chlorophenyl)imino]methyl]phenol

[1761-31-5]



$C_{13}H_{12}ClNO_2$ M 249.696

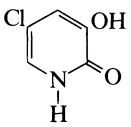
Used for photometric detn. of Au, Ni, Pt, $IO_3^{\ominus}$. Cryst. Sol. EtOH, Et_2O.

Aznarez, A.J. *et al*, *CA*, 1983, **99**, 81641d (*use*)

5-Chloro-3-hydroxy-2(1*H*)-pyridinone, 9CI C-00151

5-Chloro-2,3-dihydroxypyridine

[53233-89-9]



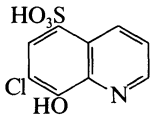
$C_5H_4ClNO_2$ M 145.545

Used as a 0.5% soln. in EtOH for spot test for $NO_2^{\ominus}$. Cryst.

Mehta, Y.L. *et al*, *Indian J. Chem., Sect. A*, 1976, **14**, 1004 (*use*)
Garg, B.S. *et al*, *Talanta*, 1976, **23**, 71 (*use*)

7-Chloro-8-hydroxy-5-quinolinesulfonic acid, 9CI C-00152

[3062-36-0]

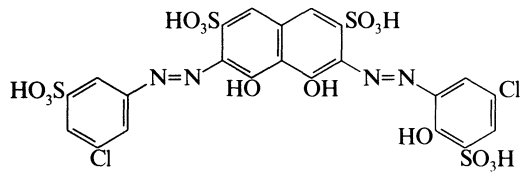


$C_9H_6ClNO_4S$ M 259.669

Used as a 1% aq. soln. for photometric detn. of U (λ_{max} 355 nm, ε 6580); redox indicator. Yellow needles (EtOH). Sol. alkalis; mod. sol. H_2O; sl. sol. EtOH; insol. Et_2O, C_6H_6. pK_{a1} 6.8; pK_{a2} 11.1.

Feldman, H.B. *et al*, *J. Am. Chem. Soc.*, 1940, **62**, 3107 (*synth*)
Avinashi, B.K. *et al*, *Microchem. J.*, 1973, **18**, 543 (*use*)

3-[(5-Chloro-2-hydroxy-3-sulfophenyl) azo]-6-[(3-chloro-5-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 8CI C-00153

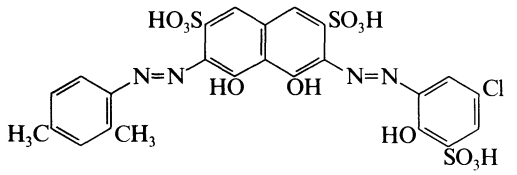


$C_{22}H_{14}Cl_2N_4O_{15}S_4$ M 773.540
Used as 0.1% aq. soln. for photometric detn. of V (λ_{max} 600 nm, ε 24100). Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2364 (*use*)

3-[(5-Chloro-2-hydroxy-3-sulfophenyl) azo]-4,5-dihydroxy-6-[(2,4-dimethylphenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI C-00154

[14041-35-1]

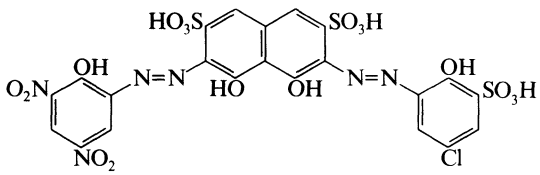


$C_{24}H_{19}ClN_4O_{12}S_3$ M 687.084
Used for photometric detn. of Pu(*IV*). Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 1075 (*detn*, *Pu*)

3-[(5-Chloro-2-hydroxy-3-sulfophenyl) azo]-4,5-dihydroxy-6-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI C-00155

[22106-91-8]

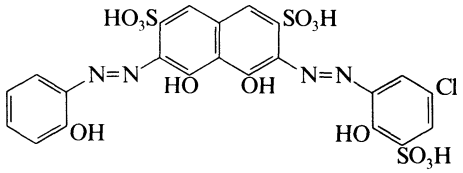


$C_{22}H_{13}ClN_6O_{17}S_3$ M 765.025
Used for photometric detn. of Cu, Zr; extraction-photometric detn. of Cu (BuOH), Nb. Dark red cryst. Sol. H_2O, EtOH.

Okhanova, L.A., *Zh. Anal. Khim.*, 1968, **23**, 1562 (*detn*, *Cu*)
Savvin, S.B. *et al*, *CA*, 1970, **72**, 27979z (*detn*, *Nb*)
Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

3-[(5-Chloro-2-hydroxy-3-sulfophenyl) azo]-4,5-dihydroxy-6-[(2-hydroxyphenyl) azo]-2,7-naphthalenedisulfonic acid, 9CI C-00156

[26069-54-5]

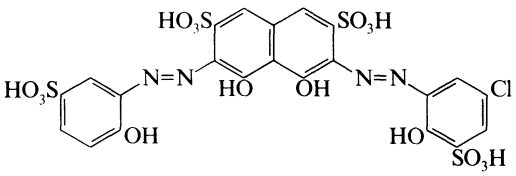


$C_{22}H_{15}ClN_4O_{13}S_3$ M 675.030
Used for photometric detn. of Nb, Pu, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 1075 (*detn*, *Pu*)
Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*detn*, *Nb*, *Zr*)

3-[(5-Chloro-2-hydroxy-3-sulfophenyl) azo]-4,5-dihydroxy-6-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI C-00157

[26069-48-7]



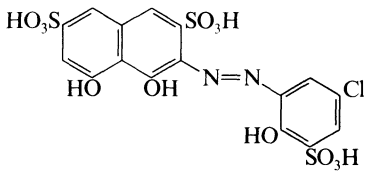
$C_{22}H_{15}ClN_4O_{16}S_4$ M 755.094
Used for photometric detn. of Nb, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Alimarin, I.P. *et al*, *Talanta*, 1968, **15**, 601 (*detn*, *Nb*)
Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*detn*, *Zr*)

3-[(5-Chloro-2-hydroxy-3-sulfophenyl) azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI C-00158

3-(5-Chloro-2-hydroxy-3-sulfobenzeneazo)chromotropic acid

[16606-33-0]

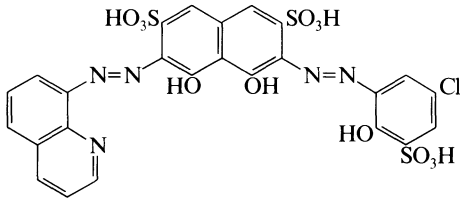


$C_{16}H_{11}ClN_2O_{12}S_3$ M 554.920
Used as 0.1% aq. soln. for fluorimetric detn. of Al (pH 5-6, 20% EtOH). Cryst. (H_2O). Sol. H_2O, EtOH.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1945 (*synth*, *detn*, *Al*)

3-[(5-Chloro-2-hydroxy-3-sulfophenyl) azo]-4,5-dihydroxy-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, 9CI C-00159

[22106-85-0]



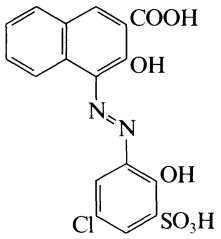
$C_{25}H_{16}ClN_5O_{12}S_3$ M 710.078

Used for photometric detn. of Cu; extraction-photometric detn. of Cu (butanol). Dark red cryst. Sol. H_2O, EtOH.

Okhanova, L.A., *Zh. Anal. Khim.*, 1968, **23**, 1562 (*detn, Cu*)

4-[(5-Chloro-2-hydroxy-3-sulfophenyl) azo]-3-hydroxy-2-naphthalenecarboxylic acid, 9CI C-00160

[76877-40-2]



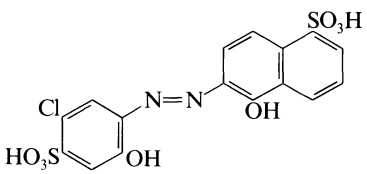
$C_{17}H_{11}ClN_2O_7S$ M 422.802

Used as 0.1m*M* aq. soln. as an indicator for complexiметric titration of Ca (λ_{max} 535 nm, pH 13). Dark violet cryst. (11*M* HCl). Sol. H_2O.

Wada, H. *et al*, *Anal. Chim. Acta*, 1980, **121**, 265 (*synth, detn, Ca*)

6-(5-Chloro-2-hydroxy-4-sulfophenylazo)-5-hydroxy-1-naphthalenesulfonic acid, 9CI C-00161

Fast navy 2R. C.I. Mordant blue 9. Acid chrome blue RRA. Calcochrome blue RRL. Chrome blue 2R. Eriochrome violet SB. Omega chrome blue 2R. C.I. 14855



$C_{16}H_{11}ClN_2O_8S_2$ M 458.856

Strictly, the name Fast navy 2R applies to the disodium salt.

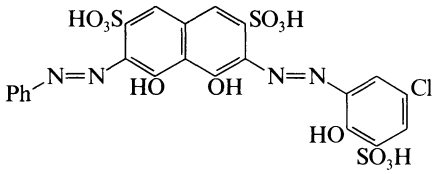
Di-Na salt: [3624-68-8].

Used as 0.1% aq. soln. as a metallochromic indicator for titrimetric detn. of Ca, Cd, Mg, Mn, Ni, Pb, Zn. Brown-black cryst. powder. Sol. H_2O; sl. sol. EtOH; insol. Me_2CO, Et_2O, $CHCl_3$.

Abd El Raheem, A.A. *et al*, *Fresenius' Z. Anal. Chem.*, 1961, **180**, 339.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

3-[(5-Chloro-2-hydroxy-3-sulfophenyl) azo]-6-phenylazo-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI C-00162



$C_{22}H_{15}ClN_4O_{12}S_3$ M 659.031

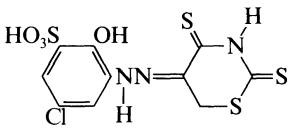
Used for photometric detn. of Cu, Ga, In, Sc Th, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

5-Chloro-2-hydroxy-3-[(tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo] benzenesulfonic acid, 9CI C-00163

Sulfochlorophenolazothiopropiorhodanine. Thioridine. Thiorhodine

[64736-31-8]



$C_{10}H_8ClN_3O_4S_4$ M 397.908

Several tautomers possible. Used as 0.1% aq. soln. for photometric detn. of Ag (λ_{max} 535 nm, ε 53000, AcOH), Pt, Pd, Rh, Ir, Au, Pb. Dark red cryst. powder (H_2O, pH 6-7). Sol. H_2O, alkalis, EtOH. pK_a 6.2.

Gur'eva, R.F. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 632; 1979, **34**, 1493; 1983, **38**, 881 (*synth, detn, Ag, Pt*)

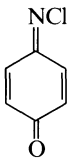
Shvedova, O.P. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 221 (*detn, Pb*)

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*synth, use*)

4-(Chloroimino)-2,5-cyclohexadien-1-one, 9CI C-00164

1,4-Benzoquinone chloroimine

[637-61-6]



C_6H_4ClNO M 141.556

Reagent for the photometric detn. of drugs; used as a 0.34m*M* soln. in DMSO for fluorimetric detn. of $CN^{\ominus}$. Yellow cryst. (pet. ether). Spar. sol. cold H_2O; sol. hot H_2O, EtOH, Et_2O, C_6H_6, $CHCl_3$. Mp 86°.

▷ GU5434000.

Bamberger, E. *et al*, *Ber.*, 1898, **31**, 1522 (*synth*)

Willstatter, R. *et al*, *Ber.*, 1904, **37**, 1494 (*synth*)

Guilbault, G.G. *et al*, *Anal. Chem.*, 1965, **37**, 1395 (*detn, $CN^{\ominus}$*)

Artemchenko, S.S. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 1684; *CA*, **112**, 25788g (*use*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CHQ500.

Chloro(iodomethyl)dimethylsilane, 9CI C-00165

[62141-84-8]

$Me_2SiClCH_2I$

C_3H_8ClISi M 234.539

Derivatisation reagent for gc anal. of steroids. Liq. Bp_{11} 43-45°. n_D^{25} 1.5115.

Eaborn, C. *et al*, *J. Chem. Soc. C*, 1969, 575 (*synth, use*)
Exley, D. *et al*, *Steroids*, 1969, **14**, 575 (*use*)
Voronkov, M.V. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 2366; *CA*, **90**, 72263u (*synth*)

Chloromethoxydimethylsilane, 9CI C-00166

[1825-68-9]

$Me_2SiClOMe$

C_3H_9ClOSi M 124.642

Reagent for gc anal. of steroids. Liq. d^{20} 1.387. Bp_{740} 77°. n_D^{20} 1.3865.

Van Wazer, J.R. *et al*, *J. Inorg. Nucl. Chem.*, 1964, **26**, 737 (*nmr*)
Prey, V. *et al*, *Ann. Chim. (Paris)*, 1965, **682**, 228; *CA*, **62**, 16353 (*synth*)
Kelly, R.W., *Steroids*, 1969, **13**, 507 (*use*)
Dube, G. *et al*, *Z. Anorg. Allg. Chem.*, 1974, **405**, 46 (*ms*)

[(Chloromethoxy)methyl]benzene, 9CI C-00167

Benzyl chloromethyl ether

[3587-60-8]

$PhCH_2OCH_2Cl$

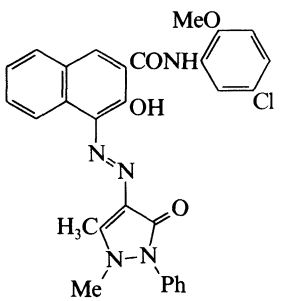
C_8H_9ClO M 156.611

Reagent for the protection and anal. of carboxylic acids as benzyloxymethyl esters. $Bp_{1.5}$ 53-56°.

Hill, A.J. *et al*, *J. Am. Chem. Soc.*, 1926, **48**, 257.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 52.
Org. Synth., 1972, **52**, 16.
Zoretic, P.A. *et al*, *J. Org. Chem.*, 1975, **40**, 2962 (*use*)
Benneche, T. *et al*, *Synthesis*, 1983, 762 (*synth, pmr*)

N-(5-Chloro-2-methoxyphenyl)-4-[(2,3-dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-2-naphthalenecarboxamide, 9CI C-00168

[59104-69-7]



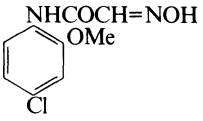
$C_{29}H_{24}ClN_5O_4$ M 541.992

Used for photometric detn. of Fe(*III*) (λ_{max} 650 nm, ε 1500). Orange-red cryst. Mp 172°. pK_{a1} −0.30; pK_{a2} 9.54.

Smaglyuk, N.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1680 (*detn, Fe*)

N-(4-Chloro-2-methoxyphenyl)-2-(hydroxyimino)acetamide, 9CI C-00169

[30535-27-4]



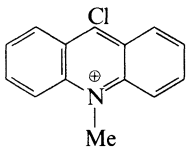
$C_9H_9ClN_2O_3$ M 228.634

Gives colour reactions with Co, Cu, Pd. Cryst. Sol. EtOH; mod. sol. H_2O, Et_2O, C_6H_6, $CHCl_3$. Mp 189°.

Buscaróns, F. *et al*, *Inf. Quim. Anal.*, 1970, **24**, 93 (*synth, ir, use*)

9-Chloro-10-methylacridinium(1+), 9CI C-00170

[46492-10-8]



$C_{14}H_{11}ClN^{\oplus}$ M 228.700 (ion)

Trifluoromethanesulfonate: [95256-43-2].
$C_{15}H_{11}ClF_3NO_3S$ M 377.771
Reagent for hplc post-column derivatisation of aromatic amines. Yellow powder. Mp 226° dec.

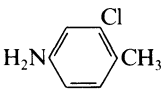
[55203-19-5, 75586-67-3]

Singer, B. *et al*, *Z. Naturforsch., B*, 1984, **39**, 1399; 1985, **40**, 90 (*synth, nmr*)
Kim, M. *et al*, *Mikrochim. Acta*, 1990, **3**, 221 (*use*)
Dunning, J.W. *et al*, *Talanta*, 1991, **38**, 631.

3-Chloro-4-methylaniline C-00171

3-Chloro-4-methylbenzenamine, 9CI. 3-Chloro-p-toluidine. 4-Amino-2-chlorotoluene

[95-74-9]



C_7H_8ClN M 141.600

Mp 26°. Bp 237-238.5°, Bp_{12} 113-114°.

▷ XU5111000.

N-*Ac:* [7149-79-3]. N-(*3-Chloro-4-methylphenyl*)*acetamide, 9CI. 3-Chloro-4-methylacetanilide. 4-Acetamido-2-chlorotoluene*
$C_9H_{10}ClNO$ M 183.637
Used as 2% soln. in C_6H_6 for extraction photometric detn. of W (with $SCN^{\ominus}$; λ_{max} 405 nm, ε 9200). Cryst. (EtOH or hexane). Sol. C_6H_6. Mp 85° (from EtOH), Mp 104-105° (from hexane).

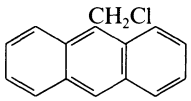
▷ AN3325000.

N-*Benzoyl:* [10286-78-9].
$C_{14}H_{12}ClNO$ M 245.708
Needles. Mp 122°.

Hazlet, S.E. *et al*, *J. Am. Chem. Soc.*, 1944, **66**, 1781 (*synth*)
Lambooy, J.P. *et al*, *J. Am. Chem. Soc.*, 1952, **74**, 1087 (*synth*)
Epstein, E. *et al*, *J. Pharm. Sci.*, 1960, **49**, 80 (*derivs*)
Sharma, S.N. *et al*, *Indian J. Phys.*, 1976, **50**, 25 (*ir*)
Schimelpfenig, C.W., *J. Chem. Soc., Perkin Trans. 1*, 1977, 1129 (*synth*)
Mishra, N. *et al*, *Analyst (London)*, 1987, **112**, 1131 (*detn, W*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CEB750, CLK215.

9-(Chloromethyl)anthracene C-00172

[24463-19-2]



$C_{15}H_{11}Cl$ M 226.705

Reagent for uv and fluorescence detn. of carboxylic acids in liq. chromatogr. Yellow needles (C_6H_6/hexane).

▷ CA9600000.

Hunter, W.T. *et al*, *J. Org. Chem.*, 1956, **21**, 1512 (*synth*)
Korte, W.D., *J. Chromatogr.*, 1982, **243**, 153 (*use*)
Bouas-Laurent, H. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1983, 109 (*synth*)

Chloromethylbenzene, 9CI C-00173

α-*Chlorotoluene*, *8CI. Benzyl chloride*

[100-44-7]

$PhCH_2Cl$

C_7H_7Cl M 126.585

Used in gc. anal. of ethylenethiourea. d_4^4 1.11. Mp −48°, Mp −43°. Bp_{62} 99°. Steam-volatile.

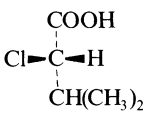
▷ Highly irritant, lachrymator, causes burns. TLV 5. XS8925000.

East Ger. Pat., 478 084, (1923); *CA*, **23**, 4228 (*synth*)
Kharasch, M.S. *et al*, *J. Am. Chem. Soc.*, 1939, **61**, 2142 (*synth*)
Shorygin, P.P. *et al*, *Zh. Fiz. Khim.*, 1968, **42**, 1057; *CA*, **69**, 47866 (*uv*)
Reynolds, W.F. *et al*, *Can. J. Chem.*, 1973, **51**, 1857 (*cmr*)
Nash, R.G., *J. Assoc. Off. Anal. Chem.*, 1974, **57**, 1015 (*use*)
Tupitsyn, I.F. *et al*, *Reakts. Sposobn. Org. Soedin.*, 1974, **11**, 417; *CA*, **84**, 4225 (*ir, pmr*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 195.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BEE375.

2-Chloro-3-methylbutanoic acid, 9CI C-00174

2-Chloroisovaleric acid

[921-08-4]



(*S*)-*form*

$C_5H_9ClO_2$ M 136.578

(S)-form

Bp_{1-2} 76-80°. $[\alpha]_D^{27}$ +1.0° (MeOH), $[\alpha]_D$ −0.4° (hexane).

Chloride: [68107-06-2].

Reagent for gc separation of amino and hydroxy compds.

(±)-form

$d^{13.2}$ 1.14. Mp 25-28°. Bp 210-212°, Bp_{32} 126°.

Me ester: [55905-13-0].

Bp 152-153°.

Et ester:

$C_7H_{13}ClO_2$ M 164.631

Bp 178-179°.

Chloride: [35383-59-6].

$C_5H_8Cl_2O$ M 155.023

Bp 149°, Bp_{20} 56-57°.

Nitrile: [70477-21-3].

C_5H_8ClN M 117.578

Bp 154-155°.

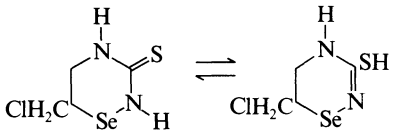
[68107-06-2]

Bruylants, A. *et al*, *Bull. Soc. Chim. Belg.*, 1952, **61**, 366 (*synth*)
Halpern, B. *et al*, *J. Chem. Soc. C*, 1965, 246 (*use, chloride*)
Gaffield, W. *et al*, *Tetrahedron*, 1971, **27**, 915 (*abs config*)
Brook, P.R. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1974, 927 (*synth*)
Ogata, Y. *et al*, *J. Org. Chem.*, 1975, **40**, 2960 (*synth*)

6-(Chloromethyl)dihydro-2*H*-1,2,4-selenodiazine-3(4*H*)-thione, 9CI C-00175

5-(Chloromethyl)-4-selenohexahydropyrimidine-2-thione

[54820-44-9]

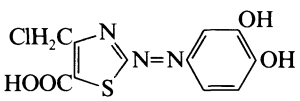


$C_4H_7ClN_2SSe$ M 229.591

Used as a 0.4*M* aq. soln. for photometric detn. of Pd (λ_{max} 340 nm, ε 10000). Cryst. (H_2O). Sol. H_2O, EtOH, Me_2CO.

Apostolescu, M. *et al*, *Rev. Chim. (Bucharest)*, 1978, **29**, 1077; *CA*, **90**, 179514d (*detn, Pd*)

4-(Chloromethyl)-2-[(3,4-dihydroxyphenyl)azo]-5-thiazolecarboxylic acid C-00176



$C_{11}H_8ClN_3O_4S$ M 313.721

Me ester: [57471-92-8].

$C_{12}H_{10}ClN_3O_4S$ M 327.747

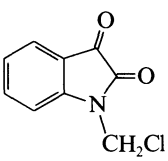
Used as 1m*M* soln. in Me_2CO for photometric detn. of W (λ_{max} 540 nm, ε 41000); extraction-photometric detn. of Ti(*IV*). Orange red cryst. Sol. EtOH, Me_2CO, alkalis. pK_{a1} 6.04; pK_{a2} 9.96, pK_{a1} 5.7; pK_{a2} 10.4 (0.1*M* LiCl).

Purmale, V. *et al*, *CA*, 1975, **83**, 198525e (*pKa*)
M'asoedova, A.S., *Zh. Anal. Khim.*, 1975, **30**, 2398 (*detn, W*)
Barkane, V. *et al*, *CA*, 1977, **86**, 171310f (*synth*)
Ivanov, V.M. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 2124 (*detn, Ti*)

1-(Chloromethyl)-1*H*-indole-2,3-dione, 9CI C-00177

N-*Chloromethylisatin*

[31704-42-4]



$C_9H_6ClNO_2$ M 195.605

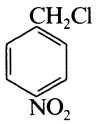
Reagent for derivatisation and labelling of carboxylic acids. Fine light-yellow cryst. (C_6H_6/cyclohexane). Mp 126°.

Wendelin, W. *et al*, *Monatsh. Chem.*, 1972, **103**, 1632 (*synth, use*)
Guebitz, G. *et al*, *Anal. Chem.*, 1979, **51**, 1690 (*use*)
Guebitz, G. *et al*, *J. Chromatogr.*, 1980, **187**, 208 (*use*)
Wendelin, W. *et al*, *J. Heterocycl. Chem.*, 1987, **24**, 1381 (*bibl*)

1-Chloromethyl-4-nitrobenzene C-00178

α-Chloro-4-nitrotoluene. p-*Nitrobenzyl chloride*

[100-14-1]



$C_7H_6ClNO_2$ M 171.583

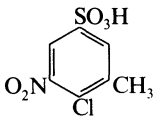
Reagent for the characterisation of carboxylic acids. Plates or needles (EtOH). Mp 71°.

▷ XS9093000.

Alway, F.J., *J. Am. Chem. Soc.*, 1902, **24**, 1062 (*synth*)
Norris, J.F. *et al*, *J. Am. Chem. Soc.*, 1924, **46**, 753 (*synth*)
Kelly, T.L. *et al*, *J. Am. Chem. Soc.*, 1934, **56**, 2497 (*use*)
Smith, G.W., *J. Mol. Spectrosc.*, 1964, **12**, 146 (*pmr*)
Issa, R.M. *et al*, *Spectrochim. Acta, Part A*, 1975, **31**, 199 (*ir, uv*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NFN400.

4-Chloro-3-methyl-5-nitrobenzenesulfonic acid, 9CI C-00179

[96-92-4]



$C_7H_6ClNO_5S$ M 251.647

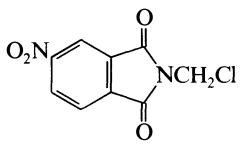
Used as a 5% aq. soln. for detn. of sulfonamides, Cs. Cryst. Sol. H_2O.

Zakrzewski, Z., *CA*, 1973, **78**, 102069g (*use*)
Burns, D.T. *et al*, *Reactions of the Elements and their Compounds*, Ellis Horwood, 1981 (*use*)

2-(Chloromethyl)-5-nitro-1*H*-isoindole-1,3(2*H*)-dione, 9CI C-00180

N-*Chloromethyl-4-nitrophthalimide*

[54455-37-7]



$C_9H_5ClN_2O_4$ M 240.602

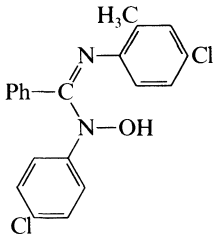
Uv-sensitive reagent for derivatisation of acids in hplc. Cryst. (pet. ether). Mp 147°.

Bohme, H. *et al*, *Arch. Pharm.* (*Weinheim, Ger.*), 1974, **307**, 775 (*synth*)
Lincher, W. *et al*, *J. Chromatogr.*, 1979, **176**, 55 (*use*)

N'-(4-Chloro-2-methylphenyl)-*N*-(4-chlorophenyl)-*N*-hydroxybenzenecarboximidamide, 9CI C-00181

N-*Hydroxy*-N-*4-chlorophenyl*-N'-(*2-methyl-4-chlorophenyl*) *benzamidine*

[70709-59-0]



$C_{20}H_{16}Cl_2N_2O$ M 371.265

Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 580 nm, ε 5600, in the presence of azide). Yellow cryst. (EtOH). Sol. $CHCl_3$, C_6H_6, EtOH. Mp 188°.

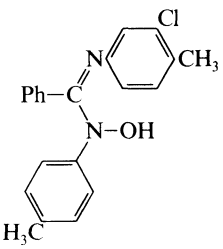
B,HCl: [70709-60-3].
Used as 1% aq. soln. for gravimetric detn. of Cu and Ni (pH 4.5-11). Cryst. Sol. H_2O, acids.

Kharsan, R.S. *et al*, *Talanta*, 1979, **26**, 254 (*synth, detn, V*)
Kharsan, R.N.S. *et al*, *Mikrochim. Acta*, 1983, **1**, 37 (*synth, use*)

N'-(3-Chloro-4-methylphenyl)-*N*-hydroxy-*N*-(4-methylphenyl)benzamidine C-00182

N'-(*3-Chloro-4-methylphenyl*)-N-*hydroxy-4-methyl*-N-*phenylbenzenecarboximidamide*, *9CI*

[70424-52-1]



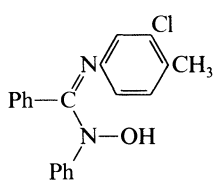
$C_{21}H_{19}ClN_2O$ M 350.847

Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 610 nm, ε 5000, in the presence of anisaldehyde, pH 1-4). Yellow cryst. (C_6H_6/pet. ether). Sol. $CHCl_3$, C_6H_6.

Kharsan, R.S. *et al*, *Talanta*, 1979, **26**, 50 (*synth, detn, V*)

N'-(3-Chloro-4-methylphenyl)-*N*-hydroxy-*N*-phenylbenzamidine C-00183

N'-(*3-Chloro-4-methylphenyl*)-N-*hydroxy*-N-*phenylbenzenecarboximidamide*. N'-(*3-Chloro-4-methylphenyl*)-N-*hydroxy*-N-*phenyl-4-toluamidine*



$C_{20}H_{17}ClN_2O$ M 336.820

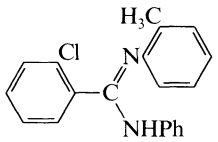
Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 610 nm, ε 5300, in the presence of anisaldehyde, pH 1-4.5). Yellow cryst. (C_6H_6/pet. ether). Sol. $CHCl_3$, C_6H_6.

Kharsan, R.S. *et al*, *Talanta*, 1979, **26**, 50 (*synth, detn, V*)

2-Chloro-*N*-(2-methylphenyl)-*N'*-phenylbenzenecarboximidamide, 9CI C-00184

*2-Chloro-*N*-phenyl-N'-o-tolylbenzamidine*

[117001-31-7]

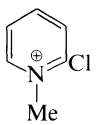


$C_{20}H_{17}ClN_2$ M 320.820

Used as 0.3% C_6H_6/pentanol soln. for extraction-photometric detn. of W(*V*) (λ_{max} 405 nm, ε 14300). Cryst. Sol. C_6H_6, toluene.

Shukla, A. *et al*, *Anal. Chim. Acta*, 1988, **208**, 91 (*synth, detn, W*)

2-Chloro-1-methylpyridinium(1+) C-00185



$C_6H_7ClN^{\oplus}$ M 128.581 (ion)

Iodide: [14338-32-0].
C_6H_7ClIN M 255.485
Mediates a large number of synthetically useful transformns. (in the presence of base) particularly of carboxylic acids. Also acts as a thiol detecting agent. Yellow cryst. (Me_2CO). Mp 204-206°. Hygroscopic.

Bald, E., *Chem. Scr.*, 1979, **13**, 108 (*use*)
Drewes, S.E. *et al*, *Hoppe Seyler's Z. Physiol. Chem.*, 1979, **360**, 987 (*use*)
Amin, S.G. *et al*, *Synthesis*, 1979, 210 (*synth, use*)
Furukawa, M. *et al*, *Chem. Pharm. Bull.*, 1980, **28**, 134 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 95 (*use*)
Bald, E., *Talanta*, 1980, **27**, 281 (*use*)

1-(Chloromethyl)-3-(trifluoromethyl) benzene, 9CI C-00186

*α'-Chloro-α,α,α-trifluoro-*m*-xylene, 8CI. 3-Trifluoromethylbenzyl chloride. α,α,α-Trifluoro-*m*-tolyl chloride*

[705-29-3]

$C_8H_6ClF_3$ M 194.583

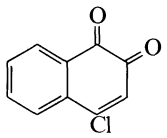
Reagent for gc anal. of ethylenethiourea. Liq. Bp_{20} 75-76°, Bp_{11} 70-71°. n_D^{25} 1.4622.

Yokoyama, T. *et al*, *J. Org. Chem.*, 1969, **34**, 1859 (*synth, pmr*)
King, R.R., *J. Agric. Food Chem.*, 1977, **25**, 73 (*use*)
Blanco, F.E. *et al*, *J. Org. Chem.*, 1977, **42**, 868 (*synth*)

4-Chloro-1,2-naphthoquinone C-00187

4-Chloro-1,2-naphthalenedione, 9CI. 4-Chloro-β-naphthoquinone

[6655-90-9]



$C_{10}H_5ClO_2$ M 192.601

Orange-red needles (C_6H_6/ligroin). Mp 135-136°. Dec. during recryst.

2-Oxime: [39825-03-1]. *4-Chloro-2-nitroso-1-naphthol*
$C_{10}H_6ClNO_2$ M 207.616
Reagent for Fe(*II*). Used as 1m*M* alkaline aq. soln. for extraction-photometric detn. of Ni (λ_{max} 611 nm, ε 82000, toluene). Cryst. Sol. spar. H_2O; sol. in alkalis.

Dioxime: [67106-48-3].
$C_{10}H_7ClN_2O_2$ M 222.630
Used for extraction-photometric detn. of Ni. Orange-red needles (EtOH). Sol. EtOH, C_6H_6, Me_2CO.

Fieser, L. *et al*, *J. Am. Chem. Soc.*, 1937, **59**, 1016 (*synth*)
Oliver, R.W.A. *et al*, *Tetrahedron*, 1968, **24**, 4067 (*synth, ir, uv, nmr*)
Korenaga, M. *et al*, *Nippon Kagaku Kaishi*, 1972, 2445; *CA*, **78**, 52076 (*synth, use*)
Tôei, K. *et al*, *Analyst (London)*, 1975, **100**, 629 (*use*)
Tôei, K. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1978, **27**, 31 (*detn, Ni*)
Tôei, K. *et al*, *Anal. Chim. Acta*, 1979, **110**, 329 (*use*)
Krohn, K. *et al*, *Chem. Ber.*, 1989, **122**, 2323 (*synth, uv, pmr, cmr, ms*)

6-Chloro-1,2-naphthoquinone C-00188

6-Chloro-1,2-naphthalenedione, 9CI

[18099-98-4]

$C_{10}H_5ClO_2$ M 192.601

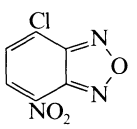
Cryst. (EtOH). Mp 161°.

Dioxime: [67106-49-4].
$C_{10}H_7ClN_2O_2$ M 222.630
Used for extraction-photometric detn. of Ni. Orange-red needles (EtOH). Sol. EtOH, Me_2CO, C_6H_6.

Oliver, R.W.A. *et al*, *J. Chem. Soc. B*, 1968, 1141 (*ms*)
Oliver, R.W.A. *et al*, *Tetrahedron*, 1968, **24**, 4067 (*synth, uv, ir, pmr*)
Tôei, K. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1978, **27**, 31 (*detn, Ni*)

4-Chloro-7-nitrobenzofurazan, 9CI C-00189

[10199-89-0]



$C_6H_2ClN_3O_3$ M 199.553

Used for fluorimetric detn. of amino groups. Pale-yellow needles (EtOH aq.). Mp 96.5-97°.

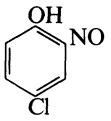
▷ DF8002400.

1-Oxide: [51860-46-9].
$C_6H_2ClN_3O_4$ M 215.552
Mp 138-138.5°.

Ghosh, P.B., *J. Chem. Soc. B*, 1966, 1004; 1968, 334 (*synth, pmr*)
Ghosh, P.B. *et al*, *Biochem. J.*, 1968, **108**, 155 (*use*)
Klimish, H.J. *et al*, *J. Chromatogr.*, 1974, **90**, 141 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NFS550.

4-Chloro-2-nitrosophenol, 9CI C-00190

[39825-15-5]



$C_6H_4ClNO_2$ M 157.556

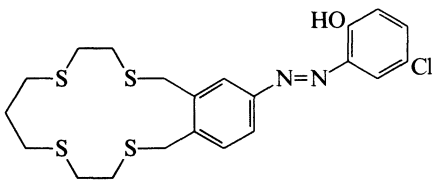
Used as 2m*M* soln. in toluene for extraction-photometric detn. of Fe(*III*) (ε 90000, toluene). Yellow cryst. (EtOH). Sol. alcohols, Et_2O, $CHCl_3$, toluene; sl. sol. H_2O. Mp 88-89°.

Korenaga, T. *et al*, *Anal. Chim. Acta*, 1973, **65**, 335 (*synth, use*)
Korenaga, T. *et al*, *Talanta*, 1974, **21**, 645 (*use*)
Tôei, K. *et al*, *Analyst (London)*, 1976, **101**, 974 (*use*)

4-Chloro-2-[(1,3,4,7,8,10,11,13-octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-yl)azo]phenol, 9CI C-00191

4'-(2-Hydroxy-5-chlorophenylazo)benzo-1,4,8,11-tetrathiacyclopentadec-13-ene

[104928-17-8]



$C_{21}H_{25}ClN_2OS_4$ M 485.158

Used as 0.06m*M* soln. in 1,2-dichloroethane for extraction-photometric detn. of Ag (λ_{max} 537 nm, ε 10300), Cu(*I*). Orange cryst. (EtOH). Sol. EtOH, 1,2-dichloroethane. Mp 133-134°.

Muroi, M. *et al*, *Anal. Sci.*, 1986, **2**, 351 (*synth, detn, Ag*)

1-Chloro-1,1,3,3,3-pentafluoro-2-propanol, 9CI C-00192

[24332-19-2]

$F_3CCH(OH)CClF_2$

$C_3H_2ClF_5O$ M 184.493

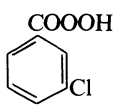
Derivatisation reagent for gc anal. of acids.

Watson, E. *et al*, *Anal. Biochem.*, 1974, **59**, 441 (*use*)
Watson, E. *et al*, *Life Sci.*, 1974, **15**, 2167 (*use*)

3-Chloroperbenzoic acid C-00193

3-Chlorobenzenecarboperoxoic acid, 9CI. m-*Chloroperoxybenzoic acid, 8CI*

[937-14-4]



$C_7H_5ClO_3$ M 172.567

Reagent for the detn. of carbon-carbon double bonds. Reagent for oxidations, esp. Baeyer-Villiger peroxidations. Also a selective reagent for removal of *O*-propenyl protecting groups. Cryst. Mp 94°. pK_a 7.57 (25°).

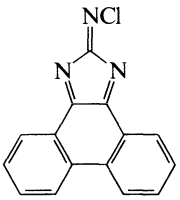
▷ SD9480000.

Schwartz, N.N., *J. Org. Chem.*, 1964, **29**, 1976 (*synth, purifn*)
Meinwald, J. *et al*, *J. Org. Chem.*, 1964, **29**, 2914 (*use*)
Kishi, Y. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 9217 (*use*)
Anderson, W.K. *et al*, *J. Org. Chem.*, 1973, **38**, 226 (*use*)
Concannon, R.W. *et al*, *J. Org. Chem.*, 1973, **95**, 3284 (*use*)
Org. Synth., Coll. Vol., 5, 1973, 467 (*synth*)
Tumlinson, J.H. *et al*, *Anal. Chem.*, 1974, **46**, 1309 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 120; **6**, 110.
Urbański, J. *et al*, *Chem. Anal. (Warsaw)*, 1983, **28**, 259; *CA*, **100**, 95837y (*use*)
Barili, P.L. *et al*, *Tetrahedron*, 1990, **46**, 5365 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CJI750.

N-Chloro-2*H*-phenanthro[9,10-*d*]imidazol-2-imine, 9CI C-00194

*Phenanthro[9,10-*d*]imidazole-2-*N*-chloroimide*

[123430-91-1]



$C_{15}H_8ClN_3$ M 265.701

Gives colour reactions with phenols. Brown needles (MeCN). Mp 191-193°.

Tanabe, S. *et al*, *Anal. Sci.*, 1989, **5**, 43, 513 (*synth, use*)

5-Chloro-1,10-phenanthroline, 9CI C-00195

[4199-89-7]

$C_{12}H_7ClN_2$ M 214.653

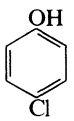
Used as redox indicator. Needles (C_6H_6/pet. ether). Sol. EtOH, Me_2CO, C_6H_6; spar. sol. H_2O. Mp 123°. pK_{a1} 4.26 (μ = 0.002).

Richter, F. *et al*, *J. Am. Chem. Soc.*, 1944, **66**, 396 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

4-Chlorophenol, 9CI C-00196

Parachlorophenol, USAN

[106-48-9]



C_6H_5ClO M 128.558

Topical antibacterial agent. Used in photometric detn. of V. White to straw coloured needles. Mp 37°. Bp 220°, Bp_{25} 113.6°. pK_a 9.41 (25°).

▷ Irritant, causes burns. SK2800000.

Ac: [876-27-7].
$C_8H_7ClO_2$ M 170.595
Liq. Mp 7-8°. Bp 226-228°.
▷ AG0875000.

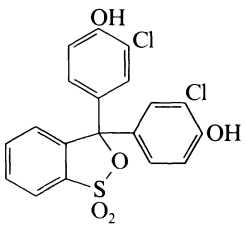
Benzoyl:
$C_{13}H_9ClO_2$ M 232.666
Leaflets. Mp 88°.

Me ether: [623-12-1]. *1-Chloro-4-methoxybenzene. 4-Chloroanisole*
C_7H_7ClO M 142.584
Liq. Bp_9 71.5°. n_D^{20} 1.5351.
Et ether: [622-61-7]. *1-Chloro-4-ethoxybenzene, 9CI. 4-Chlorophenetole*
C_8H_9ClO M 156.611
Cryst. Mp 21°. $Bp_{11.2}$ 87.5°.
Ph ether:
$C_{12}H_9ClO$ M 204.655
$Bp_{0.25}$ 87-90°.

Holleman, M.A.F. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1911, **30**, 48 (*synth*)
U.S. Pat., 2 725 402, (1955); *CA*, 2911 (*synth*)
Dearden, J.C., *Can. J. Chem.*, 1957, **37**, 1294, 1305 (*uv*)
Kosower, E.M., *J. Org. Chem.*, 1963, **28**, 630.
Šlosar, J. *et al*, *Chem. Prum.*, 1965, **15**, 206; *CA*, **63**, 4195 (*synth*)
Perrin, M., *Acta Crystallogr., Sect. B*, 1973, **29**, 253, 258.
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2265.
Alem, Y. *et al*, *Anal. Chim. Acta*, 1983, **151**, 491 (*detn, V*)
Olah, G.A. *et al*, *Synthesis*, 1986, 868 (*deriv*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CJK750.

Chlorophenol red C-00197

4,4'-(3H-2,1-Benzoxathiol-3-ylidene)bis[2-chlorophenol], 9CI. 3,3-Bis(3-chloro-4-hydroxyphenyl)3H-2,1-benzoxathiole S,S-dioxide. 3,3'-Dichlorophenolsulfonephthalein
[4430-20-0]

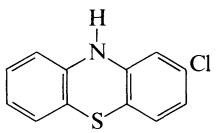


$C_{19}H_{12}Cl_2O_5S$ M 423.272
Used as a 0.1% soln. in 20% EtOH as acid-base indicator (pH range: 4.8-6.4; colour change: yellow→purple); adsorption indicator in mercurometric titration of $Cl^{\ominus}$, $Br^{\ominus}$. Also used in the frozen food industry for monitoring storage temperature changes. Greenish-brown cryst. Sol. EtOH; spar. sol. H_2O. Mp 261-262°. Available as sodium salt.

Harden, W.C., *J. Am. Chem. Soc.*, 1930, **52**, 4611 (*synth*)
Zombory, L. *et al*, *Z. Anorg. Allg. Chem.*, 1933, **215**, 255 (*adsorption indicator*)
U.S. Pat., 2 850 393, (1958); *CA*, 1959, **53**, 607a (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 111 (*use*)

2-Chloro-10*H*-phenothiazine, 9CI C-00198

[92-39-7]

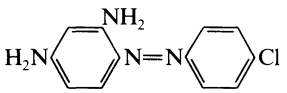


$C_{12}H_8ClNS$ M 233.721
Used as a 0.1% soln. in 80% EtOH for photometric detn. of Pd (λ_{max} 525 nm, ε 4630). Yellow cryst. (xylene). Sol. EtOH, Me_2CO, Et_2O, C_6H_6; spar. sol. H_2O. Mp 196-197°.

Galbreath, R.J. *et al*, *J. Org. Chem.*, 1958, **23**, 1804 (*synth, ir*)
Gowda, H.S. *et al*, *Fresenius' Z. Anal. Chem.*, 1976, **279**, 208 (*detn, Pd*)

4-[(4-Chlorophenyl)azo]-1,3-benzenediamine, 9CI C-00199

2,4-Diamino-4'-chloroazobenzene
[18371-09-0]

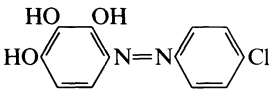


$C_{12}H_{11}ClN_4$ M 246.698
Used for photometric detn. of Co (λ_{max} 550 nm, ε 20300). Dark red cryst. (EtOH aq.). Sol. Et_2O; spar. sol. H_2O. pK_{a1} 4.60.

Maksudov, N.K. *et al*, *Uzb. Khim. Zh.*, 1976, **2**, 14; *CA*, **85**, 201516b (*detn, Co*)

4-[(4-Chlorophenyl)azo]-1,2,3-benzenetriol, 9CI C-00200

2,3,4-Trihydroxy-4'-chloroazobenzene
[76260-35-0]

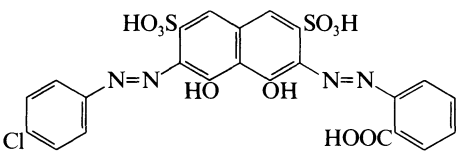


$C_{12}H_9ClN_2O_3$ M 264.667
Used as 1m*M* Me_2CO soln. for photometric detn. of Mo(*VI*) (λ_{max} 470 nm, ε 32000, 0.005-0.07*M* H_2SO_4). Dark brown powder. Sol. Me_2CO, EtOH.

Gambarov, D.G. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 2190 (*synth, detn, Mo*)

3-[[7-[4-Chlorophenylazo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]benzoic acid, 8CI C-00201

3-(2-Carboxyphenylazo)-6-(4-chlorophenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid. 2-(o-Carboxyphenylazo)-7-(p-chlorophenylazo)chromotropic acid

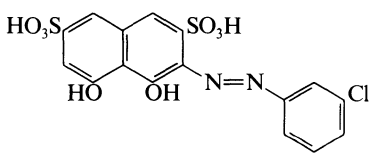


$C_{23}H_{15}ClN_4O_{10}S_2$ M 606.977
Used for photometric detn. of Ba, Ca, Sr, $SO_4^{2\ominus}$. Dark red cryst. powder. Mod. sol. H_2O.

Petrova, T.V. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1970, 259 (*use*)

3-[(3-Chlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI C-00202

2-(3-Chlorophenylazo)chromotropic acid
[62106-14-3]



$C_{16}H_{11}ClN_2O_8S_2$ M 458.856
Di-Na salt: [68504-28-9].

Used as a 0.01*M* aq. soln. as metallochromic indicator in titrimetric detn. of Zr. Dark red cryst. powder. Sol. H_2O.

Khater, M.M. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **284**, 45 (*detn, Zr*)

3-[(4-Chlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI C-00203

2-(4-Chlorophenylazo)chromotropic acid

[37678-84-5]

$C_{16}H_{11}ClN_2O_8S_2$ M 458.856

pK_{a2} 3.57; pK_{a3} 7.11; pK_{a4} 9.92.

Di-Na salt: [68504-29-0].

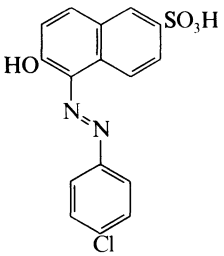
Used as a 0.01*M* aq. soln. as metallochromic indicator for titrimetric detn. of Zr; as 1m*M* aq. soln. as an acid-base indicator. Dark red cryst. powder. Sol. H_2O.

Khater, M.M. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **284**, 45 (*detn, Zr*)

Khalifa, H. *et al*, *Microchem. J.*, 1977, **22**, 288 (*synth, indicator*)

5-[(4-Chlorophenyl)azo]-6-hydroxy-2-naphthalenesulfonic acid, 9CI C-00204

[4531-71-9]



$C_{16}H_{11}ClN_2O_4S$ M 362.793

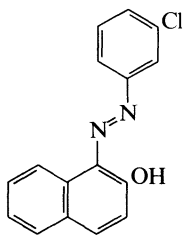
Used as a 0.1% soln. in 2-propanol for photometric titrimetric detn. of Pd (λ_{max} 560 nm). Orange-red cryst.

[5858-89-9]

Khalifa, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **284**, 46 (*detn, Pd*)

1-[(3-Chlorophenyl)azo]-2-naphthalenol, 9CI C-00205

[3010-45-5]



$C_{16}H_{11}ClN_2O$ M 282.728

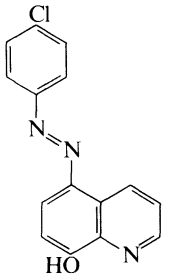
Used for photometric detn. of Pd. Orange-red cryst. Sol. Me_2CO, EtOH.

Baliuta, I.G. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 2346, 2348 (*detn, Pd*)

5-[(4-Chlorophenyl)azo]-8-quinolinol, 9CI C-00206

5-(p-Chlorophenylazo)-8-hydroxyquinoline

[16195-35-0]



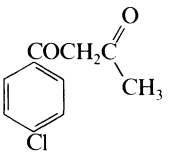
$C_{15}H_{10}ClN_3O$ M 283.716

Used a 1m*M* EtOH soln. for photometric detn. of Al, Ga, In (λ_{max} 450 nm, ε 22000, pH 3), Tl(*III*); as an indicator in EDTA titration of Al, In, Ga. Cryst. Sol. EtOH.

Khater, M.M. *et al*, *Anal. Chim. Acta*, 1978, **98**, 127 (*use*)

1-(4-Chlorophenyl)-1,3-butanedione, 9CI C-00207

p-*Chlorobenzoylacetone*



$C_{10}H_9ClO_2$ M 196.633

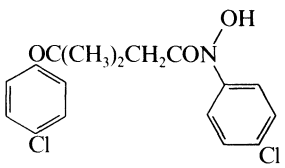
3-Oxime: [76201-79-1].

$C_{10}H_{10}ClNO_2$ M 211.647

Used as 0.1-2% soln. in EtOH for extraction-photometric detn. of Pd, Ru(*III*) (λ_{max} 400 nm, $CHCl_3$). Cryst. (MeOH). Sol. EtOH, Me_2CO, C_6H_6, toluene, $CHCl_3$. Mp 160°.

Yeole, V.V. *et al*, *Mikrochim. Acta*, 1980, **2**, 117 (*synth, detn, Pd, Ru*)

N-(4-Chlorophenyl)-4-chlorophenoxyisobutyrohydroxamic acid C-00208



$C_{17}H_{17}Cl_2NO_3$ M 354.232

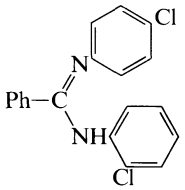
Used as 0.05-0.1% solns. in $CHCl_3$ or 1% soln. in EtOH for extraction-photometric detn. of Nb (λ_{max} 355 nm, ε 7400), Ta (λ_{max} 635 nm, ε 4500), Ti. Cryst. Sol. EtOH, $CHCl_3$.

Agrawal, Y.K. *et al*, *J. Chem. Eng. Data*, 1971, **16**, 371, 495 (*synth*)

Agrawal, Y.K. *et al*, *Analyst* (*London*), 1984, **109**, 1509; 1985, **110**, 57, 1041 (*detn, Nb, Ti, Ta*)

N-(2-Chlorophenyl)-*N'*-(4-chlorophenyl) benzenecarboximidamide, 9CI C-00209

[116489-11-3]



$C_{19}H_{14}Cl_2N_2$ M 341.238

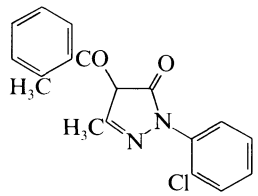
Used as 0.3% C_6H_6 soln. (10% pentanol) for extraction-photometric detn. of W(*V*) (λ_{max} 405 nm, ε 13000). Cryst. Sol. C_6H_6, toluene.

Shukla, A. *et al*, *Anal. Chim. Acta*, 1988, **208**, 91 (*synth, detn, W*)

2-(2-Chlorophenyl)-2,4-dihydro-5-methyl-4-(2-methylbenzoyl)-3*H*-pyrazol-3-one, 9CI C-00210

1-(2-Chlorophenyl)-3-methyl-4-(o-toluoyl)-5-pyrazolone

[125670-56-6]



$C_{18}H_{15}ClN_2O_2$ M 326.781

Used as 0.01*M* cyclohexane soln. for extraction separation of Zn. Cryst. (dioxan aq., MeOH). Sol. cyclohexane, MeOH, dioxan. Mp 128°. pK_{a1} 3.38.

Ozaki, T. *et al*, *Anal. Chim. Acta*, 1989, **226**, 187 (*synth, detn, Zn*)

2-(2-Chlorophenyl)-2,4-dihydro-5-methyl-4-(3-methylbenzoyl)-3*H*-pyrazol-3-one, 9CI C-00211

1-(2-Chlorophenyl)-3-methyl-4-(m-*toluoyl)-5-pyrazolone*

[125670-57-7]

$C_{18}H_{15}ClN_2O_2$ M 326.781

Used as 0.01*M* cyclohexane soln. for extraction separation of Zn. Cryst. (dioxan aq. or MeOH). Sol. cyclohexane, MeOH, dioxan. Mp 129°. pK_{a1} 3.62.

Ozaki, T. *et al*, *Anal. Chim. Acta*, 1989, **226**, 187 (*synth, detn, Zn*)

2-(2-Chlorophenyl)-2,4-dihydro-5-methyl-4-(4-methylbenzoyl)-3*H*-pyrazol-3-one, 9CI C-00212

1-(2-Chlorophenyl)-3-methyl-4-(p-*toluoyl)-5-pyrazolone*

[125670-58-8]

$C_{18}H_{15}ClN_2O_2$ M 326.781

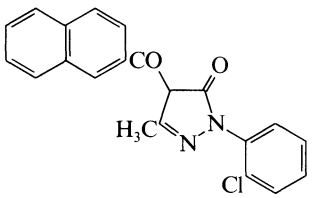
Used as 0.01*M* cyclohexane soln. for extraction separation of Zn. Cryst. (dioxan aq. or MeOH). Sol. cyclohexane, MeOH, dioxan. Mp 167°. pK_{a1} 3.74.

Ozaki, T. *et al*, *Anal. Chim. Acta*, 1989, **226**, 187 (*synth, detn, Zn*)

2-(2-Chlorophenyl)-2,4-dihydro-5-methyl-4-(2-naphthalenylcarbonyl)-3*H*-pyrazol-3-one, 9CI C-00213

1-(2-Chlorophenyl)-3-methyl-4-(2-naphthoyl)-5-pyrazolone

[125670-59-9]



$C_{21}H_{15}ClN_2O_2$ M 362.814

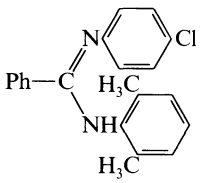
Used as 0.01*M* cyclohexane soln. for extraction separation of Zn. Cryst. (dioxan aq. or MeOH). Sol. cyclohexane, MeOH, dioxan. Mp 180°. pK_{a1} 4.16.

Ozaki, T. *et al*, *Anal. Chim. Acta*, 1989, **226**, 187 (*synth, detn, Zn*)

N-(4-Chlorophenyl)-*N'*-(2,6-dimethylphenyl) benzenecarboximidamide, 9CI C-00214

N-(*4-Chlorophenyl*)-N'-(*2,6-dimethylphenyl*)*benzamidine*

[79458-85-8]



$C_{21}H_{19}ClN_2$ M 334.847

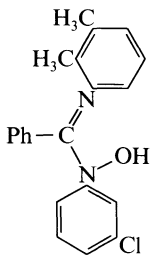
Used as 0.3% C_6H_6 soln. (10% 1-pentanol) for extraction-photometric detn. of W(*V*) (λ_{max} 405 nm, ε 13300, presence of $SCN^{\ominus}$), Mo (λ_{max} 470 nm, ε 18000, 2.5-6.5*M* HCl). Cryst. (EtOH/HCl). Sol. C_6H_6, toluene, EtOH, $CHCl_3$.

Patel, K.S. *et al*, *Anal. Chem.*, 1982, **54**, 52 (*synth, detn, Mo*)
Shukla, A. *et al*, *Anal. Chim. Acta*, 1988, **208**, 91 (*synth, detn, W*)

N-(3-Chlorophenyl)-*N'*-(2,3-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, 9CI C-00215

N-(*3-Chlorophenyl*)-N'-(*2,3-dimethylphenyl*)-N-*hydroxybenzamidine*

[85224-06-2]



$C_{21}H_{19}ClN_2O$ M 350.847

Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 590 nm, ε 5350, in the presence of azide), Fe(*III*) (λ_{max} 460 nm, ε 12000). Cryst. (C_6H_6/pet. ether). Sol. $CHCl_3$, C_6H_6, CCl_4.

Deb, K.K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 178 (*synth*)

Jha, A.R. *et al*, *Analyst* (*London*), 1981, **106**, 1150; 1983, **108**, 1135 (*detn, Fe, V*)
Jha, A.R. *et al*, *J. Indian Chem. Soc.*, 1982, **59**, 694, 1177 (*synth, detn, Fe, V*)

N-(3-Chlorophenyl)-*N'*-(2,5-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, 9CI C-00216

N-(*3-Chlorophenyl*)-N'-(*2,5-dimethylphenyl*)-N-*hydroxybenzamidine*

[85224-04-0]

$C_{21}H_{19}ClN_2O$ M 350.847

Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 590 nm, ε 5250, in the presence of azide), Fe(*III*). Cryst. (C_6H_6/pet. ether). Sol. $CHCl_3$, C_6H_6, CCl_4.

Deb, K.K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 178 (*synth*)
Jha, A.R. *et al*, *Analyst* (*London*), 1981, **106**, 1150; 1983, **108**, 1135 (*detn, Fe, V*)
Jha, A.R. *et al*, *J. Indian Chem. Soc.*, 1982, **59**, 1177 (*synth, detn, V*)

N-(3-Chlorophenyl)-*N'*-(2,6-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, 9CI C-00217

N-*Hydroxy*-N-*3-chlorophenyl*-N'-(*2,6-dimethyl*)*phenylbenzamidine*

[85224-05-1]

$C_{21}H_{19}ClN_2O$ M 350.847

Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 600 nm, ε 3300, pH 1.7-3 in the presence of $SCN^{\ominus}$). Cryst. Sol. $CHCl_3$, CCl_4, C_6H_6.

Jha, A.R. *et al*, *J. Indian Chem. Soc.*, 1982, **59**, 1177 (*synth, detn, V*)

N-(4-Chlorophenyl)-*N'*-(2,3-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, 9CI C-00218

N-(*4-Chlorophenyl*)-N'-(*2,3-dimethylphenyl*)-N-*hydroxybenzamidine*

[85224-09-5]

$C_{21}H_{19}ClN_2O$ M 350.847

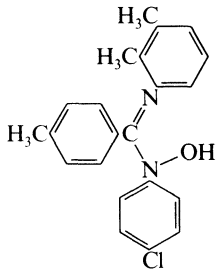
Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 590 nm, ε 5350, in the presence of azide), Fe(*III*). Cryst. (C_6H_6/pet. ether). Sol. $CHCl_3$, C_6H_6, CCl_4.

Deb, K.K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 178 (*synth*)
Jha, A.R. *et al*, *Analyst* (*London*), 1981, **106**, 1150; 1983, **108**, 1135 (*detn, V, Fe*)
Jha, A.R. *et al*, *J. Indian Chem. Soc.*, 1982, **59**, 1177 (*synth, detn, V*)

N-(4-Chlorophenyl)-*N'*-(2,3-dimethylphenyl)-*N*-hydroxy-4-methylbenzenecarboximidamide, 9CI C-00219

N-(*4-Chlorophenyl*)-N'-(*2,3-dimethylphenyl*)-N-*hydroxy-4-toluamidine*

[71410-76-9]



$C_{22}H_{21}ClN_2O$ M 364.873

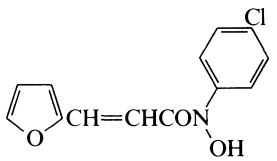
Used as 0.1% C_6H_6 soln. for extraction-photometric detn. of Fe(*III*), V(*V*), Mo(*V*). Cryst. (EtOH). Sol. EtOH, C_6H_6. Mp 182°.

Kharsan, R.S. *et al*, *Mikrochim. Acta*, 1979, **1**, 353 (*synth, use*)

N-(4-Chlorophenyl)-3-(2-furanyl)-*N*-hydroxy-2-propenamide C-00220

N-(p-*Chlorophenyl*)-*2-furanacrylohydroxamic acid*, *8CI*

[23006-05-5]



$C_{13}H_{10}ClNO_3$ M 263.680

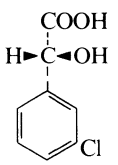
Used as 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 570 nm, ε 6100). Cryst. Sol. $CHCl_3$.

Bhura, D.C. *et al*, *J. Chem. Eng. Data*, 1969, **14**, 278 (*synth*)
Bhura, D.C. *et al*, *Anal. Chim. Acta*, 1971, **53**, 379 (*detn, V*)

2-(3-Chlorophenyl)-2-hydroxyacetic acid C-00221

3-Chloro-α-hydroxybenzeneacetic acid, *9CI*. m-*Chloromandelic acid*, *8CI*

[16273-37-3]



(*R*)-*form*

$C_8H_7ClO_3$ M 186.594

(***R*)-*form*** [61008-98-8]
Cryst. Mp 103-105°. $[\alpha]_D^{25}$ −113° (c, 4 in EtOH).

(***S*)-*form*** [32222-43-8]
Cryst. (C_6H_6). Mp 107°. $[\alpha]_D^{25}$ +122° (c, 0.9 in Me_2CO).

(±)-***form*** [52950-16-0]
Cryst. (C_6H_6 or $CHCl_3$). Mp 106.5-107°, Mp 115-115.5°.

Me ether: [21660-66-2]. (*3-Chlorophenyl*)*methoxyacetic acid*. *α-Methoxy-3-chlorophenylacetic acid*
$C_9H_9ClO_3$ M 200.621
Used as a soln. in EtOH for gravimetric detn. of Na.
Oil.

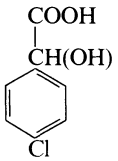
Me ester: [13305-18-5].
Cryst. (C_6H_6/pet. ether). Mp 84°.

Jenkins, S.S., *J. Am. Chem. Soc.*, 1931, **53**, 2341 (*synth*)
Reeve, W. *et al*, *J. Am. Chem. Soc.*, 1961, **83**, 2755 (*synth, deriv*)
Reeve, W. *et al*, *Anal. Chim. Acta*, 1968, **43**, 150 (*synth, detn, Na*)
Compere, E.L., *J. Org. Chem.*, 1968, **33**, 2565 (*synth*)
Collet, A. *et al*, *Bull. Soc. Chim. Fr.*, 1973, 3330 (*resolution*)
Colon, D.F. *et al*, *J. Org. Chem.*, 1991, **56**, 2322 (*configuration*)

2-(4-Chlorophenyl)-2-hydroxyacetic acid C-00222

4-Chloro-α-hydroxybenzeneacetic acid, 9CI. p-*Chloromandelic acid, 8CI.* p-*Chlorophenylglycollic acid*

[492-86-4]



$C_8H_7ClO_3$ M 186.594

(R)-form [32189-36-9]
Cryst. (C_6H_6 or $CHCl_3$). Mp 121°. $[\alpha]_D^{25}$ −136° (c, 0.7 in Me_2CO).

(±)-form [7138-34-3]
Used as a 1m*M* aq. soln. for photometric detn. of Zr (λ_{max} 266 nm), Mo(*VI*) (λ_{max} 630 nm, ε 106000, $CHCl_3$). Cryst. ($CHCl_3$/pet. ether). Sol. H_2O. Mp 119-120°. pK_{a1} 3.15 (25°).

Me ether: [4674-24-2].
$C_9H_9ClO_3$ M 200.621
Cryst. (C_6H_6/pet. ether). Mp 85-88°.

Amide:
$C_8H_8ClNO_2$ M 185.609
Cryst. (EtOH). Mp 122-123°.

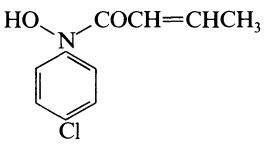
Nitrile: [13312-83-9]. p-*Chloromandelonitrile*
C_8H_6ClNO M 167.594
Yellow cryst. Mp 43°.

Buck, J.S., *J. Am. Chem. Soc.*, 1933, **55**, 2595 (*synth*)
Ernst, J.M., *Ohio J. Sci.*, 1967, **67**, 35; *CA*, **67**, 17583y (*detn, Zr*)
Compere, E.L. *et al*, *J. Org. Chem.*, 1968, **33**, 2565 (*synth*)
Moersch, G.W. *et al*, *Synthesis*, 1971, 647 (*synth*)
Collet, A. *et al*, *Bull. Soc. Chim. Fr.*, 1973, 3330 (*synth*)
Sato, S. *et al*, *Talanta*, 1987, **34**, 419 (*detn, Mo*)

N-(4-Chlorophenyl)-*N*-hydroxy-2-butenamide C-00223

N-(p-*Chlorophenyl*)*crotonohydroxamic acid, 8CI*

[22861-55-8]



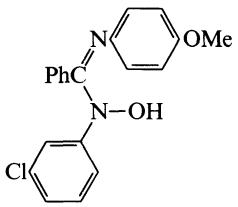
$C_{10}H_{10}ClNO_2$ M 211.647
Used as 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 530 nm, ε 4400). Cryst. Sol. $CHCl_3$.

Bhura, D.C. *et al*, *J. Chem. Eng. Data*, 1969, **14**, 278 (*synth*)
Bhura, D.C. *et al*, *Anal. Chim. Acta*, 1971, **53**, 379 (*detn, V*)

N-(3-Chlorophenyl)-*N*-hydroxy-*N'*-(4-methoxyphenyl) benzenecarboximidamide, 9CI C-00224

N-(*3-Chlorophenyl*)-N-*hydroxy*-N'-(*4-methoxyphenyl*) *benzamidine*

[85224-03-9]



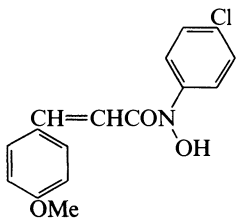
$C_{20}H_{17}ClN_2O_2$ M 352.819
Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 590 nm, ε 4000, in the presence of azide), Fe(*III*). Cryst. (C_6H_6/pet. ether). Sol. $CHCl_3$, C_6H_6, CCl_4.

Deb, K.K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 178 (*synth*)
Jha, A.R. *et al*, *Analyst (London)*, 1981, **106**, 1150; 1983, **108**, 1135 (*detn, V, Fe*)
Jha, A.R. *et al*, *J. Indian Chem. Soc.*, 1982, **59**, 1177 (*synth, detn, V*)

N-(4-Chlorophenyl)-*N*-hydroxy-3-(4-methoxyphenyl)-2-propenamide C-00225

N-(p-*Chlorophenyl*)-p-*methoxycinnamohydroxamic acid, 8CI*

[30859-93-9]



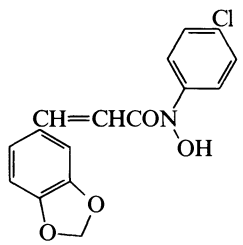
$C_{16}H_{14}ClNO_3$ M 303.744
Used as 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 570 nm, ε 7400). Cryst. Sol. $CHCl_3$.

Bhura, D.C. *et al*, *J. Chem. Eng. Data*, 1969, **14**, 278 (*synth*)
Bhura, D.C. *et al*, *Anal. Chim. Acta*, 1971, **53**, 379 (*detn, V*)

N-(4-Chlorophenyl)-*N*-hydroxy-3-(3,4-methylenedioxyphenyl)-2-propenamide C-00226

N-(p-*Chlorophenyl*)-*3,4-(methylenedioxy) cinnamohydroxamic acid, 8CI*

[30859-97-3]



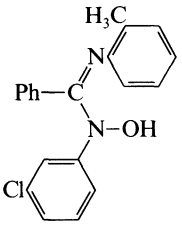
$C_{16}H_{12}ClNO_4$ M 317.728
Used as 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 570 nm, ε 7400). Cryst. Sol. $CHCl_3$.

Bhura, D.C. *et al*, *J. Chem. Eng. Data*, 1969, **14**, 278 (*synth*)
Bhura, D.C. *et al*, *Anal. Chim. Acta*, 1971, **53**, 379 (*detn, V*)

N-(3-Chlorophenyl)-*N*-hydroxy-*N'*-(2-methylphenyl)benzenecarboximidamide, 9CI C-00227

N-(*3-Chlorophenyl*)-N-*hydroxy*-N'-(*2-methylphenyl*) *benzamidine*

[85224-00-6]



$C_{20}H_{17}ClN_2O$ M 336.820

Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 595 nm, ε 5150, in the presence of azide), Fe. Cryst. (C_6H_6/pet. ether). Sol. $CHCl_3$, C_6H_6, CCl_4.

Deb, K.K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 178 (*synth*)
Jha, A.R. *et al*, *Analyst* (*London*), 1981, **106**, 1150; 1983, **108**, 1135 (*detn*, *V*, *Fe*)
Jha, A.R. *et al*, *J. Indian Chem. Soc.*, 1982, **59**, 1177 (*synth*, *detn*, *V*)

N-(3-Chlorophenyl)-*N*-hydroxy-*N'*-(3-methylphenyl)benzenecarboximidamide, 9CI C-00228

N-(*3-Chlorophenyl*)-N-*hydroxy*-N'-(*3-methylphenyl*) *benzamidine*

[85224-01-7]

$C_{20}H_{17}ClN_2O$ M 336.820

Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 585 nm, ε 4400, in the presence of azide), Fe. Cryst. (C_6H_6/pet. ether). Sol. $CHCl_3$, C_6H_6, CCl_4.

Deb, K.K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 178 (*synth*)
Jha, A.R. *et al*, *Analyst* (*London*), 1981, **106**, 1150; 1983, **108**, 1135 (*detn*, *V*, *Fe*)
Jha, A.R. *et al*, *J. Indian Chem. Soc.*, 1982, **59**, 1177 (*synth*, *detn*, *V*)

N-(3-Chlorophenyl)-*N*-hydroxy-*N'*-(4-methylphenyl)benzenecarboximidamide, 9CI C-00229

N-(*3-Chlorophenyl*)-N-*hydroxy*-N'-(*4-methylphenyl*) *benzamidine*

[85224-02-8]

$C_{20}H_{17}ClN_2O$ M 336.820

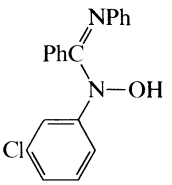
Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 585 nm, ε 4900, in the presence of azide), Fe(*III*). Cryst. (C_6H_6/pet. ether). Sol. $CHCl_3$, C_6H_6, CCl_4.

Deb, K.K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 178 (*synth*)
Jha, A.R. *et al*, *Analyst* (*London*), 1981, **106**, 1150; 1983, **108**, 1135 (*detn*, *V*, *Fe*)
Jha, A.R. *et al*, *J. Indian Chem. Soc.*, 1982, **59**, 1177 (*synth*, *detn*, *V*)

N-(3-Chlorophenyl)-*N*-hydroxy-*N'*-phenylbenzenecarboximidamide, 9CI C-00230

N-(*3-Chlorophenyl*)-N-*hydroxy*-N'-*phenylbenzamidine*

[82670-55-1]



$C_{19}H_{15}ClN_2O$ M 322.793

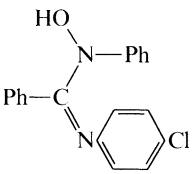
Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 585 nm, ε 4400, in the presence of azide), Fe(*III*). Cryst. (C_6H_6/pet. ether). Sol. $CHCl_3$, C_6H_6, CCl_4.

Deb, K.K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 178 (*synth*)
Jha, A.R. *et al*, *Analyst* (*London*), 1981, **106**, 1150; 1983, **108**, 1135 (*detn*, *V*, *Fe*)
Jha, A.R. *et al*, *J. Indian Chem. Soc.*, 1982, **59**, 1177 (*synth*, *detn*, *V*)

N'-(4-Chlorophenyl)-*N*-hydroxy-*N*-phenylbenzenecarboximidamide, 9CI C-00231

N'-(*4-Chlorophenyl*)-N-*hydroxy*-N-*phenylbenzamidine*

[59387-26-7]



$C_{19}H_{15}ClN_2O$ M 322.793

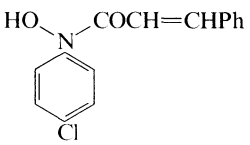
Used for gravimetric detn. of Ni. Cryst. (pet. ether/C_6H_6).

Deb, K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 178 (*synth*, *detn*, *Ni*)

N-(4-Chlorophenyl)-*N*-hydroxy-3-phenyl-2-propenamide, 9CI C-00232

N-(p-*Chlorophenyl*)*cinnamohydroxamic acid*, *8CI*

[22861-52-5]



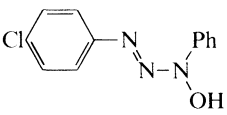
$C_{15}H_{12}ClNO_2$ M 273.718

Used as 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 535 nm, ε 6300), Ce(*IV*). Cryst. Sol. $CHCl_3$, CCl_4, C_6H_6.

Bhura, D.C. *et al*, *J. Chem. Eng. Data*, 1969, **14**, 278 (*synth*)
Bhura, D.C. *et al*, *Anal. Chim. Acta*, 1971, **53**, 379 (*detn*, *V*)
Chandravanshi, B.S. *et al*, *Croat. Chem. Acta*, 1984, **57**, 243 (*detn*, *Ce*)

3-(4-Chlorophenyl)-3-hydroxy-1-phenyltriazene C-00233

[5756-87-6]

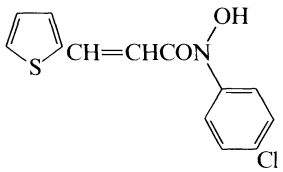


$C_{12}H_{10}ClN_3O$ M 247.683
Used as 1% MeOH soln. for gravimetric detn. of Ti. Yellow needles. Sol. MeOH, EtOH, Me_2CO. Mp 140-140.5° dec.

Sogani, N.C. *et al*, *Anal. Chem.*, 1956, **28**, 1616 (*synth, detn, Ti*)
Purohit, D.N., *Talanta*, 1967, **14**, 353 (*rev*)

N-(4-Chlorophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, 9CI C-00234

N-p-*Chlorophenyl-2-thenylacrylohydroxamic acid*
[119582-01-3]

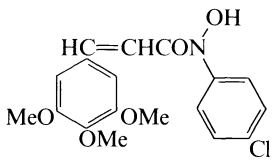


$C_{13}H_{10}ClNO_2S$ M 279.746
Used as 0.1*M* soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 530 nm, ε 6600; 3.5-7.5*M* HCl). Cryst. (C_6H_6). Sol. $CHCl_3$, C_6H_6.

Abbasi, S.A. *et al*, *Analyst* (*London*), 1988, **113**, 1561 (*synth, detn, V*)

N-(4-Chlorophenyl)-*N*-hydroxy-3-(3,4,5-trimethoxyphenyl)-2-propenamide, 9CI C-00235

N-(*4-Chlorophenyl*)-*3,4,5-trimethoxycinnamohydroxamic acid*
[91097-78-8]

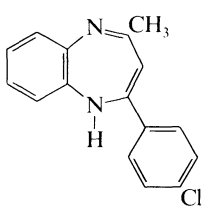


$C_{18}H_{18}ClNO_5$ M 363.797
Used as 0.05-0.1% soln. in $CHCl_3$ or 1% soln. in EtOH for extraction-photometric detn. of Nb (λ_{max} 380 nm, ε 64000), Ta (λ_{max} 635 nm, ε 23000), Ti. Cryst. Sol. $CHCl_3$, EtOH.

Agrawal, Y.K. *et al*, *J. Chem. Eng. Data*, 1971, **16**, 371, 495 (*synth*)
Agrawal, Y.K. *et al*, *Analyst* (*London*), 1984, **109**, 1509; 1985, **110**, 57, 1041 (*detn, Nb, Ti, Ta*)

2-(4-Chlorophenyl)-4-methyl-1*H*-1,5-benzodiazepine, 9CI C-00236

[73980-66-2]

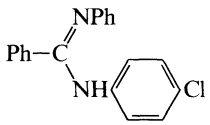


$C_{16}H_{13}ClN_2$ M 268.745
Used as 0.1% MeOH soln. as an acid-base indicator (colour change: violet → yellow). Cryst. Sol. MeOH; sl. sol. H_2O. pK_a 6.20 (H_2O).

Omar, N.M., *Indian J. Chem.*, 1974, **12**, 498 (*synth*)
El-Rabbat, N.A. *et al*, *Analyst* (*London*), 1980, **105**, 165 (*indicator*)

N-(4-Chlorophenyl)-*N'*-phenylbenzenecarboximidamide, 9CI C-00237

N-p-*Chlorophenyl*-N'-*phenylbenzamidine*
[56722-36-2]



$C_{19}H_{15}ClN_2$ M 306.794
Used as 0.1% soln. in C_6H_6 for extraction-photometric detn. of Mo (λ_{max} 465 nm, ε 17300, 3.0-5.2*M* HCl). Cryst. (EtOH + HCl). Sol. EtOH, C_6H_6, $CHCl_3$.

Patel, K.S. *et al*, *Anal. Chem.*, 1982, **54**, 52 (*synth, detn, Mo*)

(4-Chlorophenyl)phenylethanedione, 9CI C-00238

p-*Chlorobenzil*
[22711-23-5]

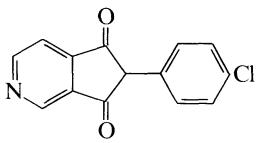
$C_{14}H_9ClO_2$ M 244.677
Yellow needles (EtOH). Mp 73-74°.

Dioxime: [43084-60-2].
$C_{14}H_{11}ClN_2O_2$ M 274.706
Used as 0.01-0.001*M* EtOH solns. for extraction-photometric detn. of Ni (λ_{max} 410 nm, ε 13000, $CHCl_3$), Fe(*II*) (1,2-dichloroethane), Cu (C_6H_6). Cryst. Sol. EtOH. Mp 229-231°.

Hatt, H.H. *et al*, *J. Chem. Soc.*, 1936, 93 (*synth*)
Kuse, S. *et al*, *Anal. Chim. Acta*, 1974, **70**, 65 (*synth, use, deriv*)
Armesto, D. *et al*, *Synthesis*, 1988, 799 (*synth*)

6-(4-Chlorophenyl)-5*H*-2-pyrindine-5,7(6*H*)-dione C-00239

2-(4-Chlorophenyl)-5-azaindandione

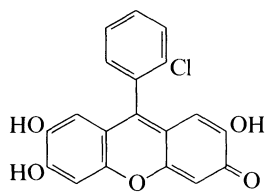


$C_{14}H_8ClNO_2$ M 257.675
Used as a 20% soln. in Me_2CO as acid-base indicator (pH range: 4.7-5.8). Cryst. pK_{a1} 4.97 (6% Me_2CO aq.).

Hrnčiar, P. *et al*, *Chem. Zvesti*, 1966, **20**, 261 (*use*)

9-(2-Chlorophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, 9CI C-00240

2-Chlorophenylfluorone



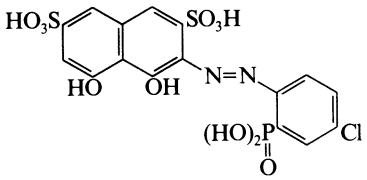
$C_{19}H_{11}ClO_5$ M 354.746
Used for photometric detn. of Sb, Mo. Cryst. Sol. EtOH, Me_2CO, alkalis; spar. sol. H_2O.

Lu, M.L. *et al*, *CA*, 1960, **54**, 18181i (*use*)

Chlorophosphonazo I C-00241

3-[(4-Chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 8CI. 2-(2'-Phosphono-4'-chlorophenylazo)chromotropic acid

[1938-82-5]



$C_{16}H_{12}ClN_2O_{11}PS_2$ M 538.836

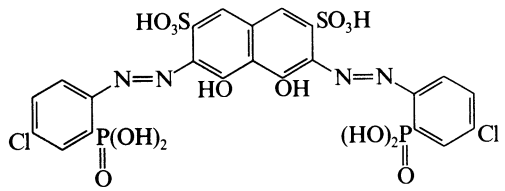
Used as 0.1% aq. soln. in photometric detn. of Al, Ca, Ti, U. Brown powder. Sol. H_2O.

Nemodruk, A. *et al*, *Zh. Anal. Khim.*, 1961, **16**, 292 (*detn, U*)
Qui, X.C. *et al*, *Analyst (London)*, 1983, **108**, 641 (*detn, Ti*)
Qui, X.C. *et al*, *Mikrochim. Acta*, 1983, **3**, 1 (*detn, Ca*)
Zhu, Y.Q. *et al*, *Talanta*, 1983, **30**, 291 (*detn, Al*)

Chlorophosphonazo III C-00242

3,6-Bis(4-chloro-2-phosphonophenyl)azo-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI

[1914-99-4]



$C_{22}H_{16}Cl_2N_4O_{14}P_2S_2$ M 757.372

Used for photometric detn. of Ba, Zr, Mg, Sc, Sr, Ti, Th (λ_{max} 620 nm, ε 120000), U, Ca (λ_{max} 668 nm, ε 54000). Dark violet cryst. powder. Sol. H_2O; sl. sol. EtOH. Usually supplied as disodium salt.

Dianilide: [16782-24-4]. *Chlorophosphonazo DAL.* [[*1,8-Dihydroxy-3,6-bis[(phenylamino)sulfonyl]-2,7-naphthalenediyl]bis[azo(5-chloro-2,1-phenylene)]] diphosphonic acid, 9CI. 3,6-Bis*(p-*chloro*-o-*phosphonophenylazo)chromotropic acid dianilide*

$C_{34}H_{26}Cl_2N_6O_{12}P_2S_2$ M 907.597

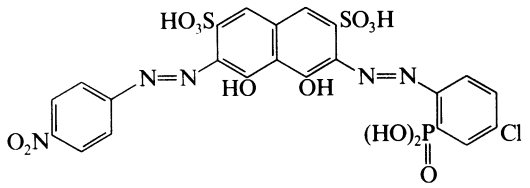
Used as a 0.01% soln. in butanol for photometric detn. of lanthanides. Dark cryst. powder. Sol. H_2O, butanol.

Buděšinský, B. *et al*, *Talanta*, 1967, **14**, 688 (*deriv, use*)
Buděšinský, B., *Chelates Anal. Chem.*, Dekker, New York, 1969, **2** (*synth*)
Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971.
Yamamoto, T., *Anal. Chim. Acta*, 1973, **63**, 65 (*detn, Th*)
Snell, F.D., *Photometric and Fluorimetric Methods of Analysis, Metals Part II*, John Wiley, New York, 1978, 1367.
Kaneko, K. *et al*, *Anal. Chim. Acta*, 1981, **132**, 165 (*detn, Mg*)
Bykhovtsova, T.T. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 624 (*detn, Sc*)
Burba, P. *et al*, *Fresenius' Z. Anal. Chem.*, 1984, **318**, 1 (*detn, U*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 207.

Chlorophosphonazo mN C-00243

3-[(4-Chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-6-[(3-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI

[77350-04-0]



$C_{22}H_{15}ClN_5O_{13}PS_2$ M 687.945

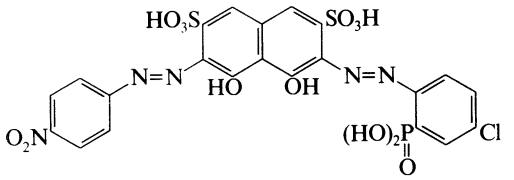
Used for photometric detn. of rare earth elements (λ_{max} 670 nm). Red-orange cryst. Sol. H_2O.

Hu, Y. *et al*, *CA*, 1983, **99**, 32331u (*detn, rare earths*)

Chlorophosphonazo pN C-00244

3-[(4-Chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-6-[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI. p-*Nitrochlorophosphonazo*

[81138-76-3]



$C_{22}H_{15}ClN_5O_{13}PS_2$ M 687.945

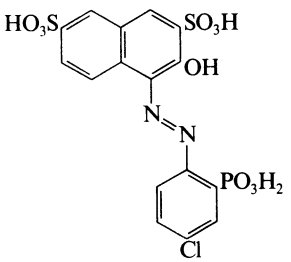
Used as 0.03% aq. soln. for photometric detn. of Y (λ_{max} 731 nm, ε 85000). Cryst. Sol. H_2O.

Hsu Chung-Gin, *et al*, *Analyst (London)*, 1985, **110**, 1245 (*synth, detn, Y*)

Chlorophosphonazo R C-00245

4-[(4-Chloro-2-phosphonophenyl)azo]-3-hydroxy-2,7-naphthalenedisulfonic acid, 9CI

[3627-07-4]



$C_{16}H_{12}ClN_2O_{10}PS_2$ M 522.837

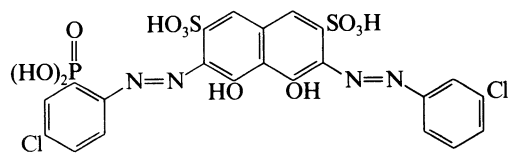
Used as 0.1% aq. soln. in photometric detn. of Be. Dark blue cryst. Sol. H_2O, Me_2CO.

Luk'yanov, V.F. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 562.

Chlorophosphonazo-*m*-sulfonic acid C-00246

3-[(3-Chlorophenyl)azo]-6-[(4-chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI

[89819-06-7]

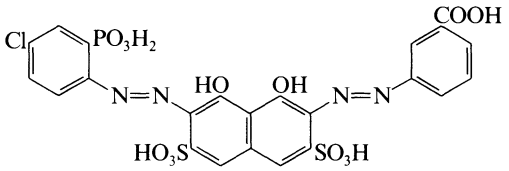


$C_{22}H_{15}Cl_2N_4O_{11}PS_2$ M 677.392
Used as an aq. soln. for photometric detn. of Ce, Th (λ_{max} 670 nm, ε 100000), U, Sc (λ_{max} 549 nm, ε 39500). Orange-red cryst. (H_2O). Sol. H_2O.

Pan, J. *et al*, *CA*, 1984, **100**, 167320z (*detn, Ce, Th, U*)
Chen, W.R. *et al*, *Mikrochim. Acta*, 1985, **3**, 417 (*synth, detn, Sc*)

3-[[7-[(4-Chloro-2-phosphonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, 9CI C-00247

m-*Carboxychlorophosphonazo*
[77350-05-1]

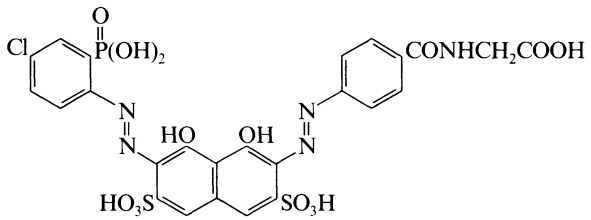


$C_{23}H_{16}ClN_4O_{13}PS_2$ M 686.957
Used as 0.02% aq. soln. for photometric detn. of Th (λ_{max} 676 nm, ε 103000). Cryst. Sol. H_2O.

Pan, J.M. *et al*, *Microchem. J.*, 1987, **35**, 218.

N-[4-[[7-[(4-Chloro-2-phosphonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoyl]glycine, 9CI C-00248

[102771-42-6]

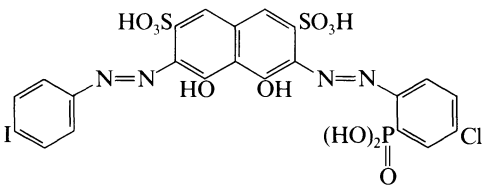


$C_{25}H_{19}ClN_5O_{14}PS_2$ M 744.009
Used as aq. soln. for photometric detn. of rare earth elements (λ_{max} 680 nm, ε 73000-102000). Cryst. Sol. H_2O.

Dai, H. *et al*, *Fenxi Huaxue*, 1986, **14**, 677; *CA*, **107**, 211083v.

3-[(4-Chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-6-[(4-iodophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI C-00249

p-*Iodochlorophosphonazo*
[85308-79-8]



$C_{22}H_{15}ClIN_4O_{11}PS_2$ M 768.844
Used for photometric detn. of rare earth elements. Dark red cryst. powder. Sol. H_2O.

Shi, G. *et al*, *CA*, 1986, **104**, 199013a (*detn, rare earths*)

Chloropropylmagnesium, 11CI, 10CI, 9CI, 8CI C-00250

Propylmagnesium chloride
[2234-82-4]

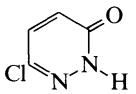
$H_3CCH_2CH_2MgCl$

C_3H_7ClMg M 102.846
Not isol. Grignard reagent. Commercially available as 2*M* soln. in Et_2O. Used for derivatization of ionic alkyl lead compounds in gc analysis.

Kharasch, M.S. *et al*, *Grignard Reactions of Nonmetallic Substances*, Constable, London, 1954 (*rev*)
Evans, D.F. *et al*, *J. Chem. Soc.*, 1962, 5125 (*pmr*)
Tuulmets, A., *CA*, 1966, **65**, 8730f (*props*)
Koppel, I. *et al*, *CA*, 1969, **71**, 101152x (*props*)
Chevrot, C. *et al*, *J. Electroanal. Chem. Interfacial Electrochem.*, 1974, **54**, 135, 263 (*props*)
Radojević, M. *et al*, *Anal. Chem.*, 1986, **58**, 658.
Sobota, P. *et al*, *J. Organomet. Chem.*, 1987, **332**, 239 (*props*)
Lobiński, R. *et al*, *Anal. Chim. Acta*, 1992, **262**, 285.

6-Chloro-3(2*H*)-pyridazinone C-00251

3-Chloro-6-hydroxypyridazine. 6-Chloro-3-pyridazinol
[19064-67-6]



$C_4H_3ClN_2O$ M 130.533
Cryst. (EtOAc). Mp 138-139°.

Hydrazone: [17284-97-8]. *6-Chloro-3-hydrazinopyridazine*
$C_4H_5ClN_4$ M 144.563
Used for extraction-photometric detn. of Ni (λ_{max} 715 nm, ε 18600, dioxan). Cryst. (EtOH). Sol. EtOH, Me_2CO, H_2O. Mp 141°.

Tsukasa, K., *Chem. Pharm. Bull.*, 1957, **5**, 376 (*synth*)
Norishita, M. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1981, **30**, 460 (*detn, Ni*)
Heinisch, G. *et al*, *Can. J. Chem.*, 1991, **69**, 972 (*cmr*)

2-Chloropyridine C-00252

α-*Chloropyridine*
[109-09-1]

C_5H_4ClN M 113.546
Used in extraction-photometric detn. of Pd and Pt (iodide medium). Cryst. Sol. EtOH, Et_2O; sl. sol. H_2O. d^{15} 1.205. Mp 65°. Bp 170°, Bp_{10} 54-58°. n_D^{25} 1.5300. Steam-volatile.

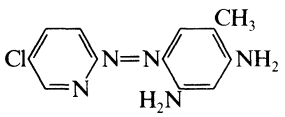
▷ Highly toxic. US5950000.

Fischer, E., *Ber.*, 1899, **32**, 1298.
Ger. Pat., 489 183, (1930); *CA*, **24**, 2146.
Rath, J., *Justus Liebigs Ann. Chem.*, 1931, **486**, 76.
Wibaut, J.P. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1939, **58**, 709.
Takeda, O. *et al*, *Yakugaku Zasshi*, 1953, **73**, 1158; *CA*, **48**, 12748.
Chapman, N.B. *et al*, *J. Chem. Soc.*, 1956, 1563.
Egli, R.A., *Fresenius' Z. Anal. Chem.*, 1963, **194**, 401 (*use*)
Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1493 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CKW000.

4-[(5-Chloro-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, 9CI C-00253

5-Chloro-2-(2,4-diamino-5-methylphenylazo)pyridine. 5-Cl-PADAT

[51833-08-0]



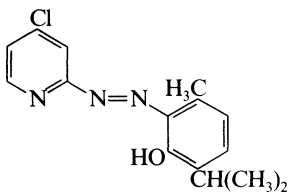
$C_{12}H_{12}ClN_5$ M 261.713

Used for extraction-photometric detn. of Co (λ_{max} 573 nm, ε 126000) as a 0.1% soln. in EtOH. Orange-red needles (EtOH aq.). Sol. C_6H_6, $CHCl_3$, EtOH, Me_2CO; spar. sol. H_2O. Mp 219°.

Shibata, S. *et al*, *Anal. Chim. Acta*, 1974, **73**, 107 (*use*)

2-[(5-Chloro-2-pyridinyl)azo]-3-methyl-6-(1-methylethyl)phenol, 9CI C-00254

[67520-58-5]



$C_{15}H_{16}ClN_3O$ M 289.764

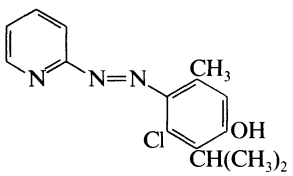
Used as 1m*M* EtOH soln. for extraction-photometric detn. of Pd, Co, Ni (λ_{max} 620 nm, ε 26000, 0.02-3*M* NH_3, $CHCl_3$). Cryst. (EtOH aq.). Sol. pet. ether, EtOH. Mp 196°.

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 734 (*synth*, *use*)

4-[3-Chloro-4-(pyridinylazo)-5-methyl-2-(1-methylethyl)]phenol, 9CI C-00255

2-(2-Chloro-3-isopropyl-4-hydroxy-6-methylphenylazo)pyridine

[64340-05-2]



$C_{15}H_{16}ClN_3O$ M 289.764

Used as 1m*M* EtOH soln. for extraction-photometric detn. of Pd (λ_{max} 560 nm, ε 27000, pH 4.2-7, $CHCl_3$). Cryst. (EtOH aq.). Sol. EtOH. Mp 106°.

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 734 (*synth*, *detn*, *Pd*)

4-Chloro-*N*-(2-pyridinyl)benzamide, 9CI C-00256

2-(p-Chlorobenzamido)pyridine

[14547-82-1]

$C_{12}H_9ClN_2O$ M 232.669

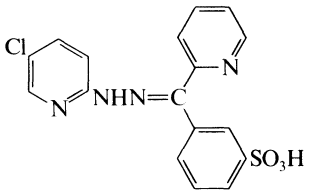
Used as 1% soln. in C_6H_6 for photometric detn. of Mo(*V*) (λ_{max} 470 nm, ε 19000). Cryst. Insol. H_2O; sol. acids, alkalis (with hydrol.), C_6H_6.

Patel, K.S. *et al*, *Talanta*, 1982, **29**, 791 (*detn*, *Mo*)

3-[[(5-Chloro-2-pyridinyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, 9CI C-00257

(2-Pyridyl)(3-sulfophenyl)methanone 2-(5-chloropyridyl) hydrazone

[106314-88-9]



$C_{17}H_{13}ClN_4O_3S$ M 388.833

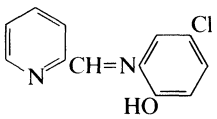
Used as 2m*M* soln. in 0.01*M* NaOH for photometric detn. of Co (λ_{max} 490 nm, ε 34000, pH 4), Fe(*II*,*III*), Pd, Pb, Zn. Cryst. (EtOH aq.). Sol. alkalis, H_2O, EtOH. pK_{a1} 2.62; pK_{a2} 4.77 (μ = 0.2, 25°).

Odashima, T. *et al*, *Analyst* (*London*), 1986, **111**, 1983 (*synth*, *use*)

4-Chloro-2-[(2-pyridinylmethylene)amino] phenol, 9CI C-00258

Picolinaldehyde 2-hydroxy-5-chloroanil

[20211-18-1]



$C_{12}H_9ClN_2O$ M 232.669

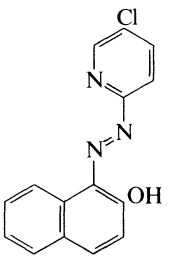
Used as 1m*M* $CHCl_3$ soln. for extraction-photometric detn. of Pd (λ_{max} 603 nm, ε 4730). Yellow-orange needles (pet. ether). Sol. $CHCl_3$, 1,2-dichloroethane, 1,2-dichlorobenzene. Mp 138°.

Otomo, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1973, **46**, 2421 (*synth*, *use*)
Otomo, M. *et al*, *Anal. Chim. Acta*, 1976, **83**, 275 (*detn*, *Pd*)

1-(5-Chloro-2-pyridylazo)-2-naphthol C-00259

1-[(5-Chloro-2-pyridinyl)azo]-2-naphthalenol, 9CI. 5-Chloro-2-(2-hydroxy-1-naphthylazo)pyridine

[28832-58-8]



$C_{15}H_{10}ClN_3O$ M 283.716

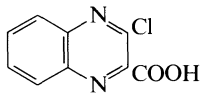
Used in photometric detn. of Cd (ε 65000). Cryst. Sol. EtOH, MeOH.

Shibata, M. *et al*, *Mikrochim. Acta*, 1972, 721 (*use*)

3-Chloro-2-quinoxalinecarboxylic acid, 8CI C-00260

2-Chloro-3-quinoxalinecarboxylic acid (incorr.)

[20254-76-6]



$C_9H_5ClN_2O_2$ M 208.603

Used as aq. soln. for specific gravimetric detn. of Pd. Pale-yellow prisms (H_2O). Sl. sol. conc. HCl forming yellow soln., sol. H_2O, MeOH. Mp 146-147° dec.

Et ester: [49679-45-0].

$C_{11}H_9ClN_2O_2$ M 236.657

Pinkish needles. Mp 42.5°. $Bp_{0.01}$ 170-180° (bath). Becomes pink in air.

Amide:

$C_9H_6ClN_3O$ M 207.619

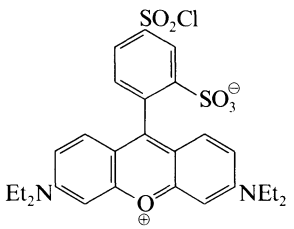
Long needles. Sl. sol. hot Et_2O, sol. hot $CHCl_3$, C_6H_6, H_2O.

Gowenlock, A.H. *et al*, *J. Chem. Soc.*, 1945, 622 (*synth*)
Elena, A.J. *et al*, *Zh. Obshch. Khim.*, 1955, **25**, 161; *CA*, **50**, 1839g.
Dutt, N.K. *et al*, *Anal. Chim. Acta*, 1968, **41**, 331 (*synth, detn, Pd*)

9-[4-(Chlorosulfonyl)-2-sulfophenyl]-3,6-bis(diethylamino)xanthylium C-00261

Laryl chloride. Lissamine rhodamine B sulfonyl chloride

[62796-29-6]

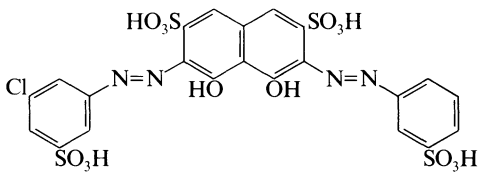


$C_{27}H_{29}ClN_2O_6S_2$ M 577.121

Fluorescent label for amino groups. Used as a pre-column labelling reagent for the peroxyoxalate chemiluminescence detn. of phenols.

Chadwick, C.S. *et al*, *Lancet*, 1958, **1**, 412 (*use*)
McKay, I.C. *et al*, *Immunology*, 1981, **43**, 591 (*use*)
Metrione, R.M., *J. Chromatogr.*, 1986, **363**, 337 (*use*)
Kwakman, P.J.M. *et al*, *J. Chromatogr.*, 1988, **459**, 139 (*use*)

3-[(5-Chloro-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI C-00262



$C_{22}H_{15}ClN_4O_{14}S_4$ M 723.096

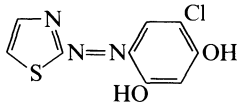
Used as 0.1% aq. soln. for photometric detn. of V (λ_{max} 620 nm, ε 44100). Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2364 (*use*)

4-Chloro-6-(2-thiazolylazo)-1,3-benzenediol, 9CI C-00263

4-(2-Thiazolylazo)-6-chlororesorcinol. 2-(5-Chloro-2,4-dihydroxyphenylazo)thiazole

[97839-24-2]



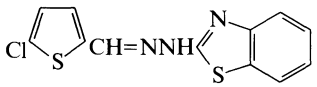
$C_9H_6ClN_3O_2S$ M 255.684

Used as 0.05% soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 741 nm, ε 31300, pH 9.5). Dark red powder cryst. (HCl). Sol. EtOH; sl. sol. H_2O. pK_{a2} 4.71; pK_{a3} 9.13.

Ueda, K. *et al*, *Microchem. J.*, 1985, **31**, 403 (*synth, detn, Fe*)

5-Chloro-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, 9CI C-00264

[61293-48-9]



$C_{12}H_8ClN_3S_2$ M 293.800

Used as a 0.082% soln. in EtOH for extraction-photometric detn. of Co (C_6H_6, λ_{max} 423 nm, ε 75000), Cu (λ_{max} 433 nm, ε 45000), Ni (λ_{max} 420 nm). Orange-red cryst. (EtOH). Sol. EtOH, dioxan, C_6H_6; insol. H_2O. pK_{a2} 11.0 (dioxan, 25°).

Odashima, T. *et al*, *Anal. Chim. Acta*, 1976, **86**, 231 (*detn, Co, Cu, Ni*)
Odashima, T. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1977, **26**, 678 (*detn, Co*)

Chlorotriethylsilane, 9CI, 8CI C-00265

[994-30-9]

Et_3SiCl

$C_6H_{15}ClSi$ M 150.723

Silylation reagent for use in gc and ms. d_4^{20} 0.898. Bp 145-147°.

Volkov, V.F. *et al*, *Izv. Akad. Nauk SSSR, Ser. Fiz.*, 1962, **26**, 1282 (*ir*)
Semlyen, J.A. *et al*, *J. Chem. Soc.*, 1964, 4948 (*synth, glc*)
Sommer, L.H. *et al*, *J. Org. Chem.*, 1967, **32**, 2470 (*synth*)
Coutant, J.E. *et al*, *Arch. Mass Spectral Data*, 1971, **2**, 542; *CA*, **75**, 139914 (*ms*)
Andronov, V.F. *et al*, *Tr. Inst. - Mosk. Khim.-Tekhnol. Inst. im. D.I. Mendeleeva*, 1972, **71**, 285; *CA*, **80**, 95036 (*pmr*)
Harvey, D.J. *et al*, *J. Chromatogr.*, 1975, **109**, 73 (*use*)
Mueller, H. *et al*, *J. Organomet. Chem.*, 1977, **140**, C17 (*nmr*)
Harvey, D.J., *Org. Mass Spectrom.*, 1977, **12**, 473 (*use*)

Chlorotrihexylsilane, 9CI C-00266

[3634-67-1]

$[H_3C(CH_2)_5]_3SiCl$

$C_{18}H_{39}ClSi$ M 319.044

Reagent for characterisation of cannabinoids by gc-ms. d_4^{20} 0.8710. Bp_5 153.5-154°. n_D^{20} 1.4556.

Petrov, A.D. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Khim.*, 1952, **86**, 737 (*synth*)
Harvey, D.J. *et al*, *J. Chromatogr.*, 1975, **109**, 73 (*use*)
Chadha, R.K. *et al*, *J. Organomet. Chem.*, 1984, **277**, 47 (*synth*)

Chlorotrimethylsilane, 9CI C-00267

Trimethylsilyl chloride

[75-77-4]

Me_3SiCl

C_3H_9ClSi M 108.642

Silylating agent. Used to prepare volatile derivs. for glc. Liq. d_4^{20} 0.86. Mp −40°. Bp 57°.

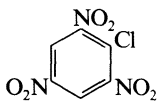
▷ Suspected carcinogen. Irritant, causes burns. Highly flammable, fl.p. −18°. VV2710000.

Schmidbaur, H., *J. Am. Chem. Soc.*, 1963, **85**, 2336 (*nmr*)
Hess, G.G. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 5327 (*ms*)
Harris, R.K. *et al*, *J. Magn. Reson.*, 1975, **17**, 174 (*nmr*)
Harvey, D.J., *J. Chromatogr.*, 1978, **147**, 291 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 107.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TLN250.

2-Chloro-1,3,5-trinitrobenzene, 9CI, 8CI C-00268

1-Chloro-2,4,6-trinitrobenzene. Picryl chloride

[88-88-0]



$C_6H_2ClN_3O_6$ M 247.551

Used as EtOH soln. for photometric detn. of hydrazine (λ_{max} 494 nm) and for the gc detn. of amines. Needles or plates ($CHCl_3$, EtOH/ligroin or MeOH). Mp 83-85°. Bp P525°.

▷ CZ1225900.

Desvergnes, L., *CA*, 1931, **25**, 2699 (*synth*)
Boyer, R. *et al*, *Can. J. Res., Sect. B*, 1946, **24**, 200 (*synth*)
Riley, J.P., *Analyst (London)*, 1954, **79**, 76 (*detn*, N_2H_4)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 885; **4**, 391.
Sharin, G.P. *et al*, *Zh. Org. Khim.*, 1967, **3**, 82 (*synth*)
Gunner, S.W. *et al*, *J. Assoc. Off. Anal. Chem.*, 1969, **52**, 1200 (*use*)
Zitrin, S. *et al*, *Org. Mass Spectrom.*, 1976, **11**, 388 (*ms*)
Rawat, J.P., *Indian J. Technol.*, 1986, **24**, 157; *CA*, **105**, 53711a (*use*)
Lyčka, A. *et al*, *Collect. Czech. Chem. Commun.*, 1987, **52**, 2946 (*pmr, cmr, N nmr*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 915.

Chlorotriphenylmethane, 8CI C-00269

1,1′,1″-(Chloromethylidyne)trisbenzene, 9CI. Triphenylmethyl chloride. Trityl chloride. α-Chlorotritane

[76-83-5]

Ph_3CCl

$C_{19}H_{15}Cl$ M 278.780

Reagent for the characterisation and hplc anal. of alcohols. Cryst. (C_6H_6 or pet. ether). Mp 111-112°, Mp 108-112°.

▷ PA6450000.

Gomberg, M., *Ber.*, 1900, **33**, 3147 (*synth*)
Org. Synth., 1943, **23**, 100 (*synth*)
Gerdil, R. *et al*, *Acta Crystallogr., Sect. B*, 1975, **31**, 936 (*cryst struct*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 656.
Suzuki, Y. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1979, **28**, 610; *CA*, **92**, 14889h (*use*)
Dunand, A. *et al*, *Acta Crystallogr., Sect. B*, 1982, **38**, 570 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CLT500.

Chlorotriphenylsilane, 9CI C-00270

Triphenylsilyl chloride

[76-86-8]

Ph_3SiCl

$C_{18}H_{15}ClSi$ M 294.855

Catalyst for epoxy resin manuf. Reagent for gc anal. of nucleosides. Cryst. Mp 94°.

▷ VV2720000.

Maire, J.C. *et al*, *Bull. Soc. Chim. Fr.*, 1963, 2785 (*pmr*)
Maire, J.C. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1965, **260**, 5290 (*ir*)
Turetskaya, R.A. *et al*, *Plast. Massy*, 1966, 36; *CA*, **64**, 17626 (*synth*)
Smith, A.L., *Spectrochim. Acta, Part A*, 1967, **23**, 1075 (*ir*)
Hancock, R.L., *J. Gas Chromatogr.*, 1968, **6**, 431 (*use*)
Rakita, P.E. *et al*, *J. Organomet. Chem.*, 1976, **104**, 27 (*cmr*)

Chlorotriphenylstannane, 9CI C-00271

Triphenyltin chloride

[639-58-7]

Ph_3SnCl

$C_{18}H_{15}ClSn$ M 385.479

Antifouling agent, pesticide. Used as aq. soln. for gravimetric detn. of $F^{\ominus}$. Cryst. (EtOH). Sol. H_2O. Mp 106°. $Bp_{13.5}$ 249°.

▷ WH6860000.

Kozeschkow, K.A. *et al*, *Ber.*, 1934, **67**, 1348 (*synth*)
Chambers, D.B. *et al*, *J. Chem. Soc. A*, 1967, 1759 (*ms*)
Davies, A.G. *et al*, *J. Chem. Soc. C*, 1969, 1136 (*nmr*)
Srivastava, T.S., *J. Organomet. Chem.*, 1969, **16**, P53 (*ir*)
Smith, P.J., *Organomet. Chem. Rev., Sect. A*, 1970, **5**, 373 (*mössbauer*)
Bokii, N.T. *et al*, *Zh. Strukt. Khim.*, 1970, **11**, 895 (*cryst struct*)
McFarlane, W. *et al*, *J. Organomet. Chem.*, 1972, **40**, C17 (*nmr*)
Mitchell, T.N., *J. Organomet. Chem.*, 1973, **59**, 189 (*cmr*)
Kennedy, J.D. *et al*, *Rev. Silicon, Germanium, Tin, Lead Compd.*, 1974, **1**, 235 (*nmr*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976, 540 (*detn*, $F^{\ominus}$)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CLU000.

Chlorotripropylsilane, 9CI C-00272

[995-25-5]

$(H_3CCH_2CH_2)_3SiCl$

$C_9H_{21}ClSi$ M 192.803

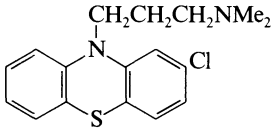
Silylation reagent for use in gc and ms. Bp 197-200°, Bp_{16} 86°.

George, P.D. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 6647 (*synth*)
Valade, J. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1959, **249**, 1769 (*synth*)
Semlyen, J.A. *et al*, *J. Chem. Soc.*, 1964, 4948 (*synth*)
Khudobin, Y.I. *et al*, *CA*, 1974, **81**, 49728 (*synth*)
Harvey, D.J. *et al*, *J. Chromatogr.*, 1975, **109**, 73 (*use*)
Harvey, D.J., *Org. Mass Spectrom.*, 1977, **12**, 473 (*use*)

Chlorpromazine, BAN, INN, USAN C-00273

2-Chloro-N,N-dimethyl-10H-phenothiazine-10-propanamine, 9CI. 2-Chloro-10-(3-dimethylaminopropyl)phenothiazine, 8CI. Thorazine. Numerous proprietary names

[50-53-3]



$C_{17}H_{19}ClN_2S$ M 318.869

Tranquilliser, antiemetic. Used in treatment of schizophrenia and in photometric detn. of Au(*III*). Oily liq. Insol. H_2O. $Bp_{0.8}$ 200-205°.

▷ Highly toxic. SN8925000.

B,HCl: Chlorpromazine hydrochloride, USAN. Chloractil. Largactil

Used as 5% aq. soln. for photometric detn. of Au (λ_{max} 530 nm). Dark bluish cryst. (dil. HCl). Sol. H_2O. Mp 179-180°.

Picrate: Mp 172-173°.

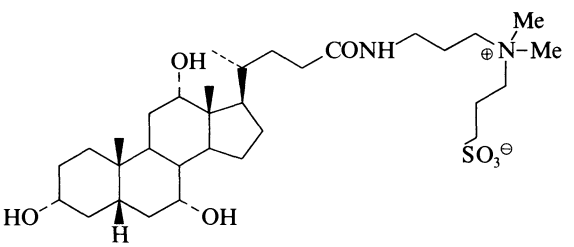
[14923-91-2]

Charpentier, P. *et al, C. R. Hebd. Seances Acad. Sci.*, 1952, **235**, 59 (*synth*)
Lee, K.T., *Anal. Chim. Acta*, 1962, **26**, 285, 478 (*detn, Au*)
McDowell, J.J.H., *Acta Crystallogr., Sect. B*, 1969, **25**, 2175 (*cryst, struct*)
Fales, H.M. *et al, Arch. Mass Spectral Data*, 1971, **2**, 754 (*ms*)
Rappaport, M. *et al, Science (Washington, D.C.)*, 1971, **174**, 723 (*pharmacol*)
Forrest, I.S. *et al, Adv. Biochem. Psychopharmacol.*, (Ed.), Vol. 9, Raven Press, N.Y., 1974 (*rev*)
Day, C.R., *M & B Pharm. Bull.*, 1979, **26**, 50 (*rev*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7021-7023.
Jovanovic, M.V. *et al, J. Heterocycl. Chem.*, 1984, **21**, 1589 (*cmr*)
Schmolka, S.J. *et al, Synthesis*, 1984, 29 (*synth*)
Galons, H. *et al, Chem. Pharm. Bull.*, 1985, **33**, 5108 (*synth, pmr*)
Klein, C.L. *et al, Acta Crystallogr., Sect. C*, 1986, **42**, 1083 (*cryst struct*)
Kracmar, J. *et al, Pharmazie*, 1986, **41**, 571 (*uv*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 4370 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CKP250.

3-[(3-Cholamidopropyl)dimethylammonio]-1-propanesulfonate C-00274

N,N-Dimethyl-N-(3-sulfopropyl)-3-[[3,7,12-trihydroxy-24-oxo-5β-cholan-24-yl]amino]-1-propanaminium, 9CI. CHAPS

[75621-03-3]



$C_{32}H_{58}N_2O_7S$ M 614.885

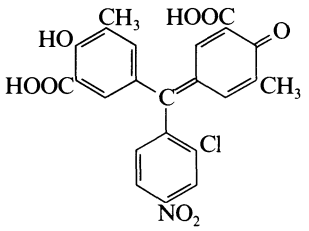
Commercially available as dihydrate. Nondenaturing detergent used in membrane biochemistry. Cryst. (MeOH). Mp 157° dec.

▷ Irritant.

Hjelmeland, L.M., *Proc. Natl. Acad. Sci. U.S.A.*, 1980, **77**, 4623, 6368 (*synth, use*)
Moriyama, R. *et al, Biochim. Biophys. Acta*, 1985, **832**, 135 (*use*)
Block, M.R. *et al, Biochemistry*, 1986, **25**, 374 (*use*)
Kitamura, Y. *et al, Eur. J. Pharmacol.*, 1986, **123**, 263 (*use*)
Galle, A.M. *et al, J. Chromatogr.*, 1986, **366**, 422 (*use*)
Sigma-Aldrich Library of Chemical Safety Data, 1988, **1**, 872A.

Chromal blue G C-00275

5-[(3-Carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2-chloro-4-nitrophenyl)methyl]-2-hydroxy-3-methylbenzoic acid, 9CI



$C_{23}H_{16}ClNO_8$ M 469.834

Strictly, the name Chromal blue G applies to the disodium salt.

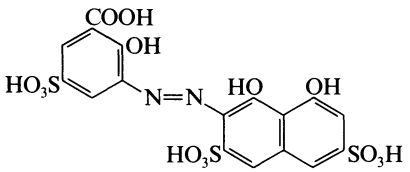
Di-Na salt: [10143-02-9].

Used as 0.1% soln. in EtOH in photometric detn. of Be (ε 31000), Sc, Ga, Pd, U (ε 130000). Dark cryst. (EtOH). Sol. EtOH.

Uesugi, K., *Bull. Chem. Soc. Jpn.*, 1969, **42**, 2051, 2398, 2998 (*detn, Sc, Be*)
Uesugi, K. *et al, Anal. Chim. Acta*, 1983, **148**, 315 (*detn, U*)

Chromazol KS C-00276

3-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]-2-hydroxy-5-sulfobenzoic acid, 9CI



$C_{17}H_{12}N_2O_{14}S_3$ M 564.485

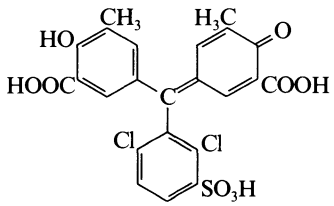
Tri-Na salt: [55306-09-7].

Used as a 0.1% aq. soln. for photometric detn. of Al (λ_{max} 625 nm, ε 102000). Red cryst. (H_2O). Sol. H_2O; insol. C_6H_6. pK_{a1} 3.28; pK_{a2} 3.92; pK_{a3} 9.70; pK_{a4} 12.59.

Basargin, N.N. *et al, Zh. Anal. Khim.*, 1975, **30**, 1938 (*synth*)
Shao-pu, L. *et al, Analyst (London)*, 1982, **107**, 428 (*detn, Al*)

Chromazurol S C-00277

5-[(3-Carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methylbenzoic acid, 9CI. Chrome azurol S. Solochrome brilliant blue. Alberon. C.I. Mordant blue 29. C.I. 43825. CAS



$C_{23}H_{16}Cl_2O_9S$ M 539.345

Strictly, the name Chromazurol S applies to the trisodium salt.

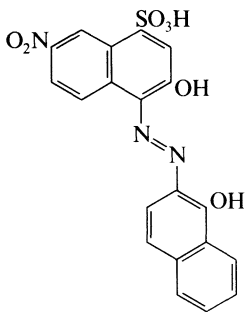
Tri-Na salt: [1667-99-8].
Used as 0.05-0.1% soln. in photometric detn. of Al, Be, Co, Cr, Cu, Fe, Ga, In, Mo, Ni, Sc, Th, Ti, U, V, Zr (pH 3-8); metal indicator in chelatometric titration. Use of surfactants increases sensitivity. Red-brown cryst. powder. Sol. H_2O. Available as dihydrate.

Malat, M., *Anal. Chim. Acta*, 1961, **25**, 289 (*dissoc*)
Malanik, V. *et al*, *Anal. Chim. Acta*, 1975, **76**, 464 (*purifn*)
Moukova, N. *et al*, *Collect. Czech. Chem. Commun.*, 1981, **46**, 354 (*acid-base props*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 53 (*use*)
Tikhonov, V.N., *Zh. Anal. Khim.*, 1984, **39**, 1796 (*use*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, New York, 4th Ed., 1986, 26.
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 2nd Ed., 1986, 100, 163.

Chrome black special C-00278

3-Hydroxy-4-[(1-hydroxy-2-naphthalenyl)azo]-7-nitro-1-naphthalenesulfonic acid. C.I. Mordant black 11. C.I. 14645. Eriochrome black T. Solochrome black WDFA

[25747-08-4]



$C_{20}H_{13}N_3O_7S$ M 439.405

Dark red cryst. powder. Sol. H_2O; mod. sol. EtOH; sl. sol. Me_2CO.

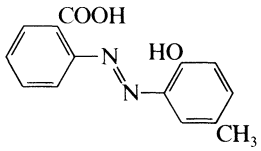
Mono-Na salt: [1787-61-7].
Used as 0.02% MeOH soln. for photometric detn. of Mg (λ_{max} 525 nm, ε 18000), Al, Be, Ca, Ga, In, lanthanides, Th, Zn; indicator in EDTA titrations. Greyish black powder. Sol. H_2O, EtOH, MeOH. pK_{a1} 1.6; pK_{a2} 6.3; pK_{a3} 11.5.

Lott, P.F. *et al*, *Anal. Chem.*, 1960, **32**, 1702 (*detn, Th*)
Schwarzenbach, G. *et al*, *Complexometric Titrations*, Methuen, London, 1969.
Korenman, I.M., *Khim. Khim. Tekhnol. (Minsk)*, 1970, **2**, 60; *CA*, **77**, 42762v (*detn, Ti*)
Impedovo, S. *et al*, *Talanta*, 1971, **19**, 97 (*detn, Ca*)
Alimarin, I.P. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2383 (*detn, Mo*)
Slegers, G. *et al*, *Analyst (London)*, 1974, **99**, 471 (*detn, Mg*)
Akhmedli, M.K. *et al*, *CA*, 1974, **80**, 103477s (*detn, rare earths*)
Davydova, R.T. *et al*, *CA*, 1974, **80**, 103521b (*detn, Zr*)
Mushran, S.P. *et al*, *Analusis*, 1975, **3**, 339 (*detn, Mo, W*)
Basargin, N.N. *et al*, *Zavod. Lab.*, 1984, **30**, 14 (*detn, Al*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 355.
Onishi, H., *Photometric Determination of Traces of Metals, Part IIb: Individual Metals. Magnesium to Zinc*, John Wiley, New York, 4th Ed., 1989, 13.

Chrome bordeaux B C-00279

o-(6-Hydroxy-m-tolylazo)benzoic acid. 2-[(2-Hydroxy-5-methylphenyl)azo]benzoic acid. 2'-Hydroxy-5'-methylazobenzene-2-carboxylic acid. C.I. Mordant red 32. C.I. 14210

[4870-46-6]



$C_{14}H_{12}N_2O_3$ M 256.260

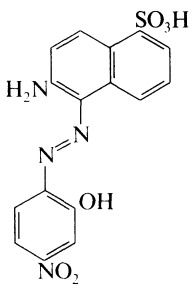
Strictly, the name Chrome bordeaux B applies to the disodium salt. Reddish violet cryst. Sol. MeOH, EtOH. Mp 191°.

Di-Na salt: Used as a 0.01% aq. soln. as metallochromic indicator for titrimetric detn. of Mg, Zn; used as 0.04% MeOH soln. for extraction sepn. of Be from Fe(*III*) and Al; photometric detn. of Be; polarographic detn. of Be. Orange cryst. (H_2O). Sol. H_2O; mod. sol. EtOH, Me_2CO.

Bognar, J. *et al*, *CA*, 1959, **53**, 10603 (*detn, Zn, Mg*)
Blasius, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1971, **255**, 10; 1972, **258**, 257 (*detn, Be*)
Blasius, E. *et al*, *Talanta*, 1971, **18**, 273 (*polarog*)

Chrome dark BLN C-00280

6-Amino-5-[(2-hydroxy-4-nitrophenyl)azo]-1-naphthalenesulfonic acid, 9CI



$C_{16}H_{12}N_4O_6S$ M 388.360

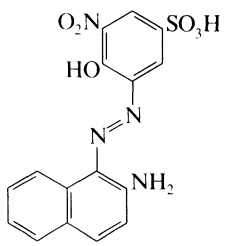
Strictly, the name Chrome dark BLN applies to the sodium salt.

Na salt: [15792-61-7].
Used as a 0.02% aq. soln. for photometric detn. of Ga (λ_{max} 595 nm, ε 29500). Green cryst. (MeOH). Sol. H_2O, MeOH; insol. C_6H_6.

Likussar, W. *et al*, *Mikrochim. Acta*, 1974, 475 (*detn, Ga*)

Chrome dark green BGN C-00281

3-[(2-Amino-1-naphthalenyl)azo]-4-hydroxy-5-nitrobenzenesulfonic acid, 9CI



$C_{16}H_{12}N_4O_6S$ M 388.360

Strictly, the name Chrome dark green BGN applies to the sodium salt.

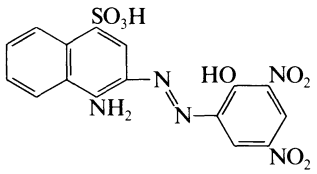
Na salt: [53258-72-3].

Used as a 0.02% aq. soln. for photometric detn. of Ga (λ_{max} 575 nm, ε 22400). Green cryst. (MeOH). Sol. H_2O, MeOH; insol. C_6H_6.

Likussar, W. *et al*, *Mikrochim. Acta*, 1974, 475 (*detn, Ga*)

Chrome dark green BN C-00282

4-Amino-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-1-naphthalenesulfonic acid, 9CI



$C_{16}H_{11}N_5O_8S$ M 433.358

Strictly, the name Chrome dark green BN applies to the sodium salt.

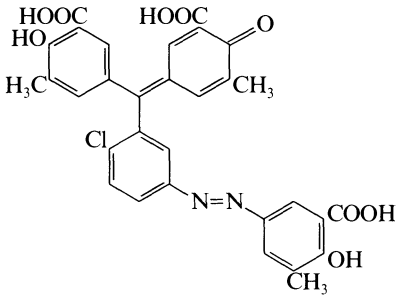
Na salt: [10214-05-8].

Used as a 0.02% aq. soln. for photometric detn. of Ga (λ_{max} 575 nm, ε 21000). Green cryst. (MeOH). Sol. H_2O, MeOH; insol. C_6H_6.

Likussar, W. *et al*, *Mikrochim. Acta*, 1974, 475 (*detn, Ga*)

Chrome green G C-00283

Chromoxan green GG. C.I. 43840



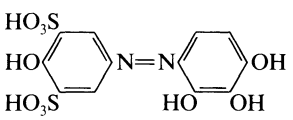
$C_{31}H_{23}ClN_2O_9$ M 602.983

Mordant dye. Used as a soln. in H_2O or EtOH as metallochromic indicator in titrimetric detn. of Ca, Cu, Mg, Ni, Th, V(*IV*). Dark cryst. powder. Sol. EtOH, H_2O.

Mustafin, L.S. *et al*, *Zavod. Lab.*, 1957, **23**, 519 (*use*)

Chrome red brown 5RD C-00284

4-[(3,5-Disulfo-4-hydroxyphenyl)azo]pyrogallol. 2-Hydroxy-5-[(2,3,4-trihydroxyphenyl)azo]-1,3-benzenedisulfonic acid. Gallochrome brown 5RD. C.I. Mordant brown 41. C.I. 14340. Chrome brown RR



$C_{12}H_{10}N_2O_{10}S_2$ M 406.350

Strictly the name Chrome red brown 5RD refers to the disodium salt.

Di-Na salt: [6409-06-9].

Used as 0.1% aq. soln. as metal indicator for EDTA titrimetric detn. of Th. Dark orange cryst. powder. Sol. H_2O; insol. EtOH, C_6H_6.

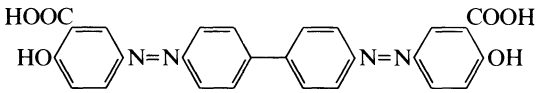
Zaki, M.R. *et al*, *Fresenius' Z. Anal. Chem.*, 1960, **177**, 196 (*detn, Th*)

Colour Index, 3rd Ed., 1971, **4**, 4065 (*synth*)

Chromocitromin BH C-00285

3,3'-[[1,1'-Biphenyl]-4,4'-diylbis(azo)]bis[6-hydroxybenzoic acid]. C.I. Direct yellow 1. C.I. 22250

[494-77-9]



$C_{26}H_{18}N_4O_6$ M 482.451

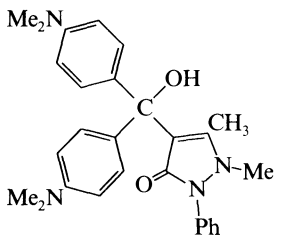
Used as a 0.1% aq. soln. for photometric detn. of Be. Yellow cryst. (H_2O). Mod. sol. H_2O; sl. sol. EtOH.

Baiulescu, G.E. *et al*, *Rev. Chim.* (*Bucharest*), 1974, **25**, 322; *CA*, **83**, 52743c (*detn, Be*)

Chromopyrazole C-00286

4-[Bis[4-(dimethylamino)phenyl]hydroxymethyl]-1,2-dihydro-1,5-dimethyl-2-phenyl-3H-pyrazol-3-one, 9CI

[1433-81-4]



$C_{28}H_{32}N_4O_2$ M 456.586

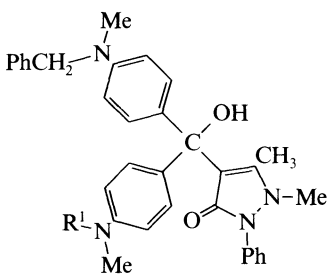
Antipyrine basic dye. Used as 0.1% soln. in 1 *M* HCl in extraction-photometric detn. of P(*V*) (λ_{max} 620 nm, ε 58000), Si, Zn. Cryst. Sol. acids.

Ginzburg, O.F., *Zh. Obshch. Khim.*, 1947, **17**, 1752 (*synth*)
Zhivopistsev, V.P. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 28; 1970, **25**, 1166 (*detn, Zn, P*)
Zhivopistsev, V.P. *et al*, *Zavod. Lab.*, 1971, **37**, 1409 (*detn, Si*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1285, 1291.
Chelukhova, M.N., *Zh. Anal. Khim.*, 1982, **37**, 1008.

Chromopyrazole I C-00287

4-[[(Dimethylamino)phenyl]hydroxy[4-[methyl(phenylmethyl)amino]phenyl]methyl]-1,2-dihydro-1,5-dimethyl-2-phenyl-3H-pyrazol-3-one, 9CI

[3897-09-4]



R^1 = Me

$C_{34}H_{36}N_4O_2$ M 532.684

Antipyrine basic dye. Used in extraction-photometric detn. of $AuBr_4^{\ominus}$, $ReO_4^{\ominus}$, $PO_4^{3\ominus}$, P—W anion. Cryst. Sol. acids.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1285, 1291.

Constantinescu, C. *et al*, *Rev. Chim. (Bucharest)*, 1981, **32**, 160 (*detn, Re*)
Nesterenko, P.N. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 1977 (*detn, Au*)
Dorokhova, F.N. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 1439 (*detn, P*)

Chromopyrazole II C-00288

*1,2-Dihydro-4-[hydroxybis[4-[methyl(phenylmethyl)-amino] phenyl]methyl]1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI. Bis(4-methylbenzylaminophenyl)antipyrinylcarbinol.* n-[*Bis*[p-(*benzylmethylamino*)*phenyl*]*hydroxymethyl*]*antipyrine, 8CI*

[1433-79-0]

As Chromopyrazole I, C-00287 with

$R^1 = CH_2Ph$

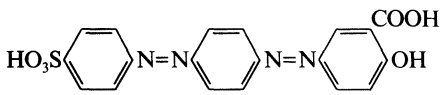
$C_{40}H_{40}N_4O_2$ M 608.782

Antipyrine basic dye. Used in extraction-photometric detn. of B (as $BF_4^{\ominus}$) and Hg (as $HgCl_3^{\ominus}$) (λ_{max} 585 nm, ε 47000), Re. Dark red cryst. Sol. acids, EtOH, Me_2CO; mod. sol. H_2O.

Zhivopistsev, V.P. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 148 (*synth*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 205, 857, 1227; 1971, **26**, 1285, 1291 (*detn, Hg, B, Re*)
Chelukhova, M.N., *Zh. Anal. Khim.*, 1982, **37**, 1008.

Chromorange GR C-00289

2-Hydroxy-5-[[4-[(4-sulfophenyl)azo]phenyl]azo]benzoic acid. Mordant orange 6. C.I. 26520. 5-[p-(p-*Sulfophenylazo) phenylazo]salicylic acid. Alizarine chrome orange GR. C.I. Mordant orange 44. Eriochrome orange G. Solochrome orange RS. Wool fast orange GA-CF. Numerous other proprietary names*



$C_{19}H_{14}N_4O_6S$ M 426.409

The name Chromorange GR strictly refers to the disodium salt.

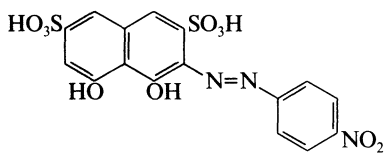
Di-Na salt: [3564-27-0].

Used as a aq. soln. as acid-base indicator for high pH ranges (pH_t 11.7; colour change: yellow → red). Commercially available. Orange cryst. (H_2O). Sol. H_2O; sl. sol. EtOH, Me_2CO; insol. C_6H_6.

Colour Index, 3rd Edn., 1971, **4**, 4233 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

Chromotrope 2B C-00290

4,5-Dihydroxy-3-[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid. 2-(4-Nitrophenylazo) chromotropic acid. C.I. 16575. C.I. Acid red 176



$C_{16}H_{11}N_3O_{10}S_2$ M 469.409

Strictly, the name Chromotrope 2B applies to the disodium salt.

Di-Na salt: [548-80-1].

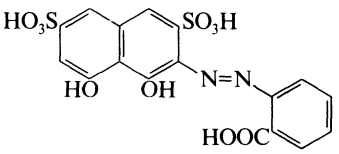
Used in photometric detn. of Th, Zr, B, Br_2. Dark cryst. powder. Sol. H_2O. Mp >300°.

Sangal, S.P., *Bull. Chem. Soc. Jpn.*, 1965, **38**, 141 (*detn, Th*)
Elbeih, I.I. *et al*, *Chemist-Analyst*, 1965, **54**, 8 (*detn, Br_2*)
Tôei, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1967, **40**, 2085 (*detn, Th, Zr*)

Chromotrope 2C C-00291

2-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]benzoic acid, 9CI. 3-(2-Carboxyphenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid. 2-(2-Carboxyphenylazo) chromotropic acid. Anthrazochrome

[3440-26-4]



$C_{17}H_{12}N_2O_{10}S_2$ M 468.421

Used as 0.025% aq. soln. for photometric detn. of Al, Th and U. Dark red cryst. powder. Sol. H_2O, alkalis; spar. sol. EtOH.

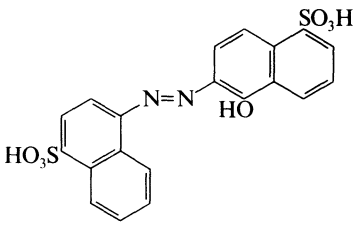
[5693-20-9]

Majumdar, A.K. *et al*, *Fresenius' Z. Anal. Chem.*, 1960, **174**, 269 (*detn, Al, Th*)
Akhmedli, M.K. *et al*, *Zavod. Lab.*, 1972, **38**, 263 (*detn, Al*)
Khalifa, H. *et al*, *Mikrochim. Acta*, 1976, 451.

Chromotrope F4B C-00292

5-Hydroxy-6-[(4-sulfo-1-naphthalenyl)azo]-1-naphthalenesulfonic acid, 9CI. 1'-Hydroxy-1,2'-binaphthyl-4,5'-disulfonic acid. C.I. Acid red 12. C.I. 14835. C.I. Mordant blue 78. Eniacromo blue R. Fast red VR. Omega chrome blue F4B. Carmoisine BL. Azochromol blue F4B

[25317-25-3]



$C_{20}H_{14}N_2O_7S_2$ M 458.472

The name Chromotrope F4B strictly applies to the disodium salt.

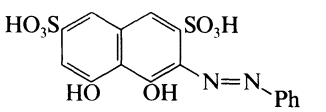
Di-Na salt: [3746-79-0].

Used as 0.1% aq. soln. as adsorption indicator for titrimetric detn. of $Br^{\ominus}$, $I^{\ominus}$. Red cryst. (H_2O). Sol. H_2O; sl. sol. EtOH, Me_2CO; insol. C_6H_6.

Colour Index, 3rd Edn., 1971, **4**, 4071 (*synth*)
Bishop, E., *Indicators*, Pergamon. Oxford, 1972, 441 (*use*)

Chromotrope 2R C-00293

4,5-Dihydroxy-3-(phenylazo)-2,7-naphthalenedisulfonic acid, 9CI. 2-Phenyl-4'-azochromotropic acid. C.I. Acid red 29. C.I. 16570. Acid phloxine GR. Brasilian fast fuchsine G. Hispacid fuchsin G



$C_{16}H_{14}N_2O_8S_2$ M 426.427

Strictly, the name Chromotrope 2R applies to the disodium salt.

Di-Na salt: [4197-07-3].

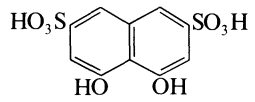
Used as 1m*M* aq. soln. in photometric detn. of Mg (ε 37000), Ce and Pd. Commercially available. Dark cryst. powder. Sol. H_2O.

Shibata, S. *et al*, *Anal. Chim. Acta*, 1969, **44**, 345 (*use, Mg*)
Shah, V.L. *et al*, *Microchem. J.*, 1970, **15**, 548 (*use, Ce*)
Khalifa, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1974, **272**, 366 (*use, Pd*)

Chromotropic acid C-00294

4,5-Dihydroxy-2,7-naphthalenedisulfonic acid, 9CI, 8CI

[148-25-4]



$C_{10}H_8O_8S_2$ M 320.300

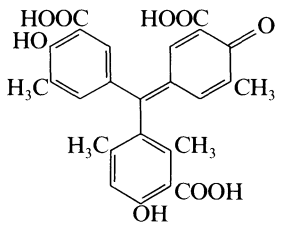
Anal. reagent, azo dye intermed. Used as 1% aq. soln. of di-Na salt (in the presence of ascorbic acid) in photometric detn. of Ti (ε 17000, pH 3-5), $F^{\ominus}$, $NO_3^{\ominus}$, Cr. Cryst. + $2H_2O$. Sol. H_2O. Mp >300°.

Ger. Pat., 69 190, (1891); *Ber.*, 1893, **26**, 733 (*synth*)
Ger. Pat., 75 153, (1892); *Ber.*, 1894, **27**, 820 (*synth*)
Sommer, L., *Talanta*, 1962, **9**, 439 (*detn, use, Ti*)
Kirk-Othmer Encycl. Chem. Technol., 2nd Ed., Wiley, N.Y., 1963-1971, **13**, 723 (*rev*)
Biryuk, E.A. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 1018 (*detn, Ti*)
Robinson, J.W. *et al*, *Anal. Chim. Acta*, 1969, **44**, 51 (*detn, $NO_3^{\ominus}$*)
Burger, K., *Organic Reagents in Metal Analysis*, Pergamon, Oxford, 1973 (*detn, Ti, Cr*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*detn, Cr, Ti*)
Röhl, K. *et al*, *Talanta*, 1978, **25**, 535 (*detn, $NO_3^{\ominus}$*)
Snell, F.D., *Photometric and Fluorimetric Methods of Analysis, Non-Metals*, John Wiley, New York, 1981, 548.

Chromoxan violet 5B C-00295

3-[(3-Carboxy-4-hydroxy-5-methyl phenyl)(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)methyl]-6-hydroxy-2,4-dimethylbenzoic acid, 9CI. C.I. Mordant violet 33. C.I. 43870

[2305-53-5]



$C_{26}H_{22}O_9$ M 478.454

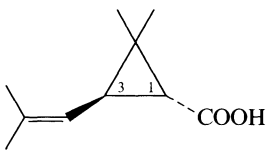
Used as metallochromic indicator for titrimetric detn. of Ca, Cu, Mg, Ni, Th, V(*IV*). Dark red cryst. Sol. EtOH, H_2O.

Mustafin, L.S. *et al*, *Zavod. Lab.*, 1957, **23**, 519 (*use*)

Chrysanthemic acid C-00296

2,2-Dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylic acid, 9CI. 3-Isobutenyl-2,2-dimethyl-1-cyclopropanecarboxylic acid. Chrysanthemummonocarboxylic acid. Chrysanthemumic acid

[10453-89-1]



$C_{10}H_{16}O_2$ M 168.235

Esters of both *cis*- and *trans*-forms are widely used in commercial insecticide preparations.

▷ GZ1270000.

(1R,3R)-form [4638-92-0]

(+)-trans-*form*

Occurs as pyrethrolone ester as one of the pyrethrins. Cryst. or liq. Mp 17-21°. $[\alpha]_D^{20}$ +14.2° (EtOH).

Chloride: [4489-14-9].

$C_{10}H_{15}ClO$ M 186.681

Resolving agent for alcohols and amines.

(1S,3S)-form [2259-14-5]

(−)-trans-*form*

Cryst. Mp 17-21°. $[\alpha]_D$ −14° (EtOH).

(1RS,3SR)-form [15259-78-6]

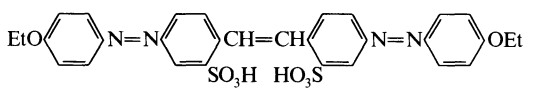
(±)-cis-*form*

Cryst. (EtOAc). Mp 115-116°.

Murano, A. *et al*, *Agric. Biol. Chem.*, 1973, **37**, 1977 (*use, chloride*)
Brooks, C.J.W. *et al*, *Anal. Chem.*, 1973, **45**, 896 (*use, chloride*)
Pattenden, G. *et al*, *Tetrahedron Lett.*, 1973, 133 (*biosynth*)
Cameron, A.F. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1975, 1567 (*cryst struct, abs config*)
Arlt, D. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1981, **20**, 703 (*rev*)
Franck-Neumann, M. *et al*, *Tetrahedron Lett.*, 1982, **23**, 1409 (*synth*)
Mukaiyama, T. *et al*, *Chem. Lett.*, 1983, 385 (*synth*)
Torii, S. *et al*, *J. Org. Chem.*, 1983, **48**, 1944 (*synth, bibl*)
De Vos, M.J. *et al*, *Tetrahedron Lett.*, 1983, **24**, 103 (*synth*)
d'Angelo, J. *et al*, *Tetrahedron Lett.*, 1983, **24**, 2103 (*synth*)
Buisson, D. *et al*, *Tetrahedron Lett.*, 1984, **25**, 6005 (*synth*)
Funk, R.L. *et al*, *J. Org. Chem.*, 1985, **50**, 707 (*synth*)
Cameron, A.G. *et al*, *Tetrahedron Lett.*, 1985, **26**, 3503 (*synth*)
d'Angelo, J. *et al*, *J. Org. Chem.*, 1986, **51**, 40 (*synth*)
Mann, J. *et al*, *Tetrahedron Lett.*, 1986, **27**, 3533 (*synth*)
Dhillon, R.S. *et al*, *Indian J. Chem., Sect. B*, 1991, **30**, 574 (*synth*)

Chrysophenine G C-00297

2,2′-(1,2-Ethenediyl)bis[5-[(4-ethoxyphenyl)azo] benzenesulfonic acid], 9CI. 4′,4′-Bis(4-ethoxyphenylazo) stilbene-2,2′-disulfonic acid



$C_{30}H_{28}N_4O_8S_2$ M 636.705

Di-Na salt: [2870-32-8].

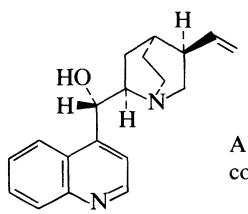
Used as an aq. soln. for photometric detn. of Pd. Cryst. powder. Sol. H_2O, EtOH.

Croitoru, V. *et al*, *An. Univ. Bucuresti, Chim.*, 1967, **16**, 9; *CA*, **71**, 18562k (*detn, Pd*)

Cinchonine C-00298

9S-Cinchonan-9-ol, 9CI

[118-10-5]



Absolute configuration

$C_{19}H_{22}N_2O$ M 294.396

Alkaloid from *Cinchona officinalis* and all *C.* spp. and from some *Remijia* spp., e.g. *R. pedunculata* and *R. purdieana*, and from leaves of *Olea europaea* and *Ligustrum vulgare* (Rubiaceae, Oleaceae). Antimalarial;

resolving agent, chiral cocatalyst. Used in precipitation and separation of W(*VI*) and as a 1% soln. in dil. HNO_3 for detn. of Bi. Cryst. Mp 264°, Mp 255°. $[\alpha]_D$ +229° (EtOH).

▷ LD_{50} 152 mg/kg (rat, i.p.). GD3500000.

B,HCl: Mp 217-218°.

B,H_2SO_4: [5949-16-6].
Mp 206°.

B,MeI: Mp 269-270°.

O-*Benzoyl:* Mp 106-107°.

10,11-Dihydro: [485-65-4]. ***Hydrocinchonine.*** (9S)-*10,11-Dihydrocinchonan-9-ol, 9CI. 10,11-Dihydrocinchonine. Cinchotine. ψ-Cinchonine. Pseudocinchonine. Cinchonifine*
$C_{19}H_{24}N_2O$ M 296.411
Minor congener of Cinchonine from *C.* spp., *R.* spp. and *O. europaea* (Rubiaceae, Oleaceae). Antimalarial. Prisms. Mp 268-269°. $[\alpha]_D^{14}$ +204.5° (EtOH).

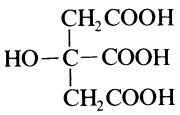
10,11-Dihydro; B,HCl: Mp 220-221°.

Hesse, O., *Ber.*, 1871, **4**, 818; 1883, **16**, 58 (*isol*)
Rabe, P., *Ber.*, 1908, **41**, 62 (*struct*)
Potratz, A.H. *et al*, *Anal. Chem.*, 1949, **21**, 1276 (*detn, Bi*)
Goutarel, R. *et al*, *Helv. Chim. Acta*, 1950, **33**, 150 (*ir*)
Lyle, G.G. *et al*, *Tetrahedron*, 1967, **23**, 51, 3253 (*uv, ord, config, pmr*)
Kamath, B.R. *et al*, *Indian J. Chem.*, 1968, **6**, 510 (*uv*)
Battersby, A.R. *et al*, *J. Chem. Soc., Chem. Commun.*, 1971, 30, 31 (*biosynth*)
Schneider, G. *et al*, *Planta Med.*, 1972, **22**, 109 (*isol, uv, deriv*)
Norwitz, G. *et al*, *Anal. Chim. Acta*, 1974, **69**, 59 (*use*)
Moreland, C.G. *et al*, *J. Org. Chem.*, 1974, **39**, 2413 (*cmr*)
Oleksyn, B., *Acta Crystallogr., Sect. B*, 1979, **35**, 440 (*cryst struct*)
Ihara, M. *et al*, *J. Chem. Soc., Chem. Commun.*, 1986, 573 (*synth, deriv*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CMP925.

Citric acid C-00299

2-Hydroxy-1,2,3-propanetricarboxylic acid, 9CI. 2-Hydroxytricarballylic acid

[77-92-9]



$C_6H_8O_7$ M 192.125

Occurs in the free state in lemons, currants, beetroot etc. and the seeds and juices of many flowers and plants. Constit. of fruit drinks, pharmaceutical syrups, for adjusting pH of foods etc. Component of anticoagulant citrate solns. Used as masking agent for many polyvalent metals and as a component of buffers. Commercially available. Cryst. + $1H_2O$ (H_2O), losing H_2O at 70-5°. V. sol. H_2O, EtOH, mod. sol. Et_2O. Mp 135° (monohydrate), Mp 153° (anhydrous). pK_{a1} 3.13; pK_{a2} 4.78; pK_{a3} 6.43 (25°).

▷ GE7350000.

2-Ac: [17140-33-9]. *2-Acetoxytricarballylic acid*
$C_8H_{10}O_8$ M 234.162
Sol. H_2O. Mp 138-140°.

Tri-Me ester: [1587-20-8]. *Trimethyl citrate. Methyl citrate*
$C_9H_{14}O_7$ M 234.205
Solid. Mp 78-79°. Bp 283-287° dec. (dehydrates).

Tri-Et ester: [77-93-0].
$C_{12}H_{20}O_7$ M 276.286
Oil. Bp 294°, Bp_1 127°.
▷ GE8050000.

Triphenyl ester:
$C_{24}H_{20}O_7$ M 420.418
Needles. Sol. hot EtOH, insol. H_2O. Mp 124°.

Triamide: Citramide
$C_6H_{11}N_3O_4$ M 189.171
Sol. hot H_2O, insol. EtOH, Et_2O. Mp 210-215°.

Trianilide:
$C_{24}H_{23}N_3O_4$ M 417.463
Needles (EtOH, H_2O). Mp 192°.

Tri-Me ester, Ac:
$C_{11}H_{16}O_8$ M 276.243
Bp_{15} 171°.

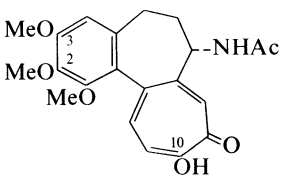
Tri-Me ester, Me ether:
$C_{10}H_{16}O_7$ M 248.232
Bp_{12} 159-160°.

Tri-Et ester, Ac: [77-89-4].
$C_{14}H_{22}O_8$ M 318.323
Bp_{15} 197°.
▷ GE8225000.

v. Pechmann, H., *Justus Liebigs Ann. Chem.*, 1891, **261**, 162 (*synth*)
Anschütz, R., *Justus Liebigs Ann. Chem.*, 1903, **327**, 228 (*ester*)
Bülow, C., *Ber.*, 1918, **51**, 1247 (*synth*)
Challenger, F., *Ind. Chem.*, 1929, **5**, 181 (*bibl*)
U.S. Pat., 2 047 669, (1936); *CA*, **30**, 6128 (*synth*)
U.S. Pat., 2 066 892, (1937); *CA*, **31**, 1045 (*isol*)
Cheng, K.L., *Anal. Chem.*, 1961, **33**, 783 (*use*)
Hulanicki, A., *Talanta*, 1962, **9**, 549 (*use*)
Gilbert, D.J. *et al*, *Chemistry*, 1968, **41**, 29 (*ester*)
Perrin, D., *Masking and Demasking of Chemical Reactions*, Interscience, New York, 1970 (*use*)
Food Chemicals Codex, 2nd Ed., Vol. II, 1972, 204 (*anal*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, no. 877 (*occur*)
Schulz, G. *et al*, *Ullmanns Encykl. Tech. Chem., 4. Aufl.*, 1975, **9**, 624 (*rev*)
Bouchard, E.F. *et al*, *Kirk-Othmer Encycl. Chem. Technol.*, 3rd Ed., Wiley, N.Y., 1978-1984, **6**, 150 (*rev*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1037, 1038.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 464 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ADD750, CMS750, TJP750.

Colchiceine C-00300

10-Demethylcolchicine



(*S*)-*form*

$C_{21}H_{23}NO_6$ M 385.416

(R)-form
Synthetic. Cryst. (H_2O). Mp 156-161° (152°). $[\alpha]_D^{20}$ +250.5° (c, 1 in $CHCl_3$).

(S)-form [477-27-0]
Alkaloid from *Colchicum autumnale, C. kesselringii, C. luteum, Merendera robusta* and *M. jolantae* (Liliaceae). Used as 0.02*M* $CHCl_3$ soln. as an extractive indicator in the EDTA titration of Cu(*II*) (pH 4.5). Needles (EtOAc). Sol. $CHCl_3$. Mp 175-177°. $[\alpha]_D^{20}$ −256° (c, 1.005 in $CHCl_3$).

▷ GH0520000.

Ac: Mp 122-124°. $[\alpha]_D^{20}$ −260° (c, 0.759 in $CHCl_3$). Exists in soln. as a mixt. of tautomers.

O^2-*De-Me:* [33530-04-0]. ***2-Demethylcolchiceine***
$C_{20}H_{21}NO_6$ M 371.389
Alkaloid from the corms of *Gloriosa superba* (Liliaceae).

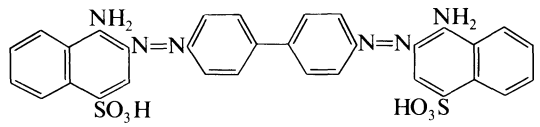
O^3-*De-Me:* [7336-34-7]. ***3-Demethylcolchiceine.*** *Alkaloid L5*
$C_{20}H_{21}NO_6$ M 371.389
Alkaloid from *C. luteum* and from the corms of *G. superba* (Liliaceae). Amorph. Mp 179-183°.

O^3-*De-Me, di-Ac:* Cryst. ($EtOAc/Et_2O$). Mp 119-122°. $[\alpha]_D$ −170° (c, 0.64 in $CHCl_3$).

Šantavý, F. *et al, Collect. Czech. Chem. Commun.*, 1954, **19**, 805 (*isol*)
Cross, A.D. *et al, Collect. Czech. Chem. Commun.*, 1966, **31**, 374 (*pmr*)
Chommadov, B. *et al, Khim. Prir. Soedin.*, 1970, **6**, 82; *CA*, **73**, 45635j (*3-Demethylcolchiceine*)
Schönharting, M. *et al, Hoppe Seyler's Z. Physiol. Chem.*, 1973, **354**, 421 (*uv, pmr, ms*)
Thakur, R.S. *et al, Planta Med.*, 1975, **28**, 201 (*2- and 3-Demethylcolchiceine*)
Potěšilová, H. *et al, Collect. Czech. Chem. Commun.*, 1976, **41**, 3146 (*2- and 3-Demethylcolchiceine, uv*)
Silverton, J.V., *Acta Crystallogr., Sect. B*, 1979, **35**, 2800 (*cryst struct*)
Hufford, C.D. *et al, J. Pharm. Sci.*, 1979, **68**, 1239 (*cmr*)
Rösner, M. *et al, J. Med. Chem.*, 1981, **24**, 257 (*synth*)
Miravitlles, C. *et al, Acta Crystallogr., Sect. B*, 1982, **38**, 1782 (*cryst struct*)
Kaushik, N.K. *et al, Microchem. J.*, 1985, **31**, 329 (*detn, Cu*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ADE000.

Congo red C-00301

3,3'-[(1,1'-Biphenyl)-4,4'-diylbis(azo)]bis[4-amino-1-naphthalenesulfonic acid], 9CI. C.I. Direct red 28. Direct red. Haemomedical. Haemonorm. Hemorrhagyl. Solucongo. C.I. 22120



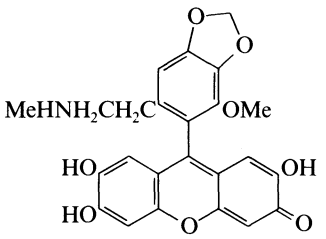
$C_{32}H_{24}N_6O_6S_2$ M 652.710
Strictly, the name Congo red applies to the disodium salt. Indicator used for diagnosis of amyloidosis. Acid-base indicator (pH range: 3.0-5.2). Biological stain.

Di-Na salt: [573-58-0].
Brown-red powder. Sol. H_2O.
▷ QK1400000.

Whitehead, G., *Chem. Trade J. Chem. Eng.*, 1925, **77**, 386 (*manuf*)
Kline, E.R., *J. Chem. Educ.*, 1938, **15**, 129 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2125.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SGQ500.

Cotarnilfluorone C-00302

9-(6'-Methoxy-4',5'-methylenedioxy-2'-ethyl-β-methylaminophenyl)-2,3,7-trihydroxy-6-fluorone



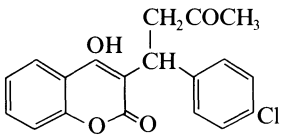
$C_{24}H_{21}NO_8$ M 451.432
Used as a 0.05% aq. soln. for photometric detn. of Ga, Sb, Sn. Dark red cryst. powder. Sol. EtOH.

Nazarenko, V.A. *et al, Zh. Anal. Khim.*, 1955, **10**, 289 (*synth, use*)

Coumachlor, BSI C-00303

3-[1-(4-Chlorophenyl)-3-oxobutyl]-4-hydroxy-2H-1-benzopyran-2-one, 9CI. 3-[1-(4-Chlorophenyl)-3-oxobutyl]-4-hydroxycoumarin. Tomorin. Ratilan

[81-82-3]



$C_{19}H_{15}ClO_4$ M 342.778
Rodenticide. Internal standard in the analysis of rodenticide warfarin. Commercially available. Cryst. Mp 169-171°.

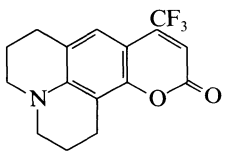
▷ GN4830000.

U.K. Pat., 701 111, (1950); *CA*, **49**, 2522d.
Pesticide Manual, 6th Ed., 1979, 127.

Coumarin 153 C-00304

2,3,6,7-Tetrahydro-9-(trifluoromethyl)-1H,5H,11H-[1]benzopyrano[6,7,8-ij]quinolizin-11-one, 9CI

[53518-18-6]



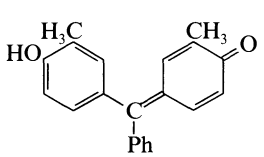
$C_{16}H_{14}F_3NO_2$ M 309.287
Laser dye (480 nm).

Schimitschek, E.J. *et al, Opt. Commun.*, 1974, **11**, 352 (*use*)
Fletcher, A.N., *Appl. Phys.*, 1977, **14**, 295 (*use*)
Basov, N.G. *et al, J. Mol. Struct.*, 1982, **79**, 119 (*use*)
Grandberg, I.L. *et al, CA*, 1985, **102**, 78675t (*synth*)
Chen, C.H. *et al, Proc. Int. Conf. Lasers*, 1987, 995 (*synth*)

o-Cresolbenzein C-00305

4-[(4-Hydroxy-3-methylphenyl)phenylmethylene]-2-methyl-2,5-cyclohexadien-1-one, 9CI

[5664-07-3]

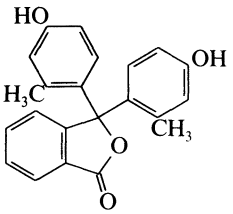


$C_{21}H_{18}O_2$ M 302.372
Used as a 0.1% soln. in EtOH as acid-base indicator (pH range: 7.2-8.8; colour change: yellow → red). Red-orange cryst. (EtOH). Sol. EtOH, Me_2CO, C_6H_6; insol. H_2O. Mp 260-262°.

Orndorff, W.R. *et al*, *J. Am. Chem. Soc.*, 1927, **49**, 992 (*use*)

m-Cresolphthalein C-00306

3,3-Bis(4-hydroxy-2-methylphenyl)-1(3H)-isobenzofuranone



$C_{22}H_{18}O_4$ M 346.382
Used as a soln. in EtOH as acid-base indicator (pH_i 9.74; colour change: colourless → violet-red). Yellowish cryst. powder. Sol. EtOH, Me_2CO, AcOH. Mp 145°.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

o-Cresolphthalein C-00307

3,3'-Bis(4-hydroxy-3-methylphenyl)-1(3H)-isobenzofuranone, 9CI

[596-27-0]

$C_{22}H_{18}O_4$ M 346.382
Used as acid-base indicator (pH range 8.2-9.8; colour change: colourless→red-violet). White or reddish-yellow powder. Mp 223-225°.

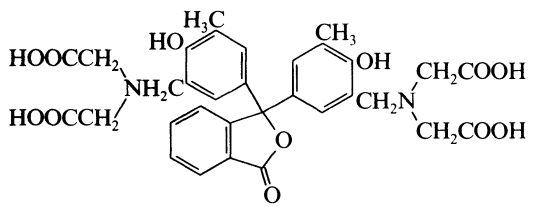
▷ SM8390000.

Thiel, A. *et al*, *Z. Anorg. Allg. Chem.*, 1929, **178**, 49.
Uzumasa, Y. *et al*, *Nippon Kagaku Kaishi*, 1934, **55**, 627.
Mikhailov, G.I., *Zh. Anal. Khim.*, 1955, **10**, 352.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 99.

o-Cresolphthalexon C-00308

N,N'-[(*3-Oxo-1(3H)-isobenzofuranylidene)bis*[(*6-hydroxy-5-methyl-3,1-phenylene)methylene*]]*bis*[N-(*carboxymethyl*) *glycine*],*9CI*. *3,3'-Bis*[N,N'-*di*(*carboxymethyl*)*aminomethyl*]-o-*cresolphthalein*. *Phthalein complexone*. *Metal phthalein*. o-*Cresolphthalein complexone*. *Phthalein purple*

[2411-89-4]



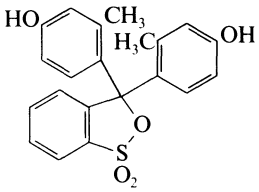
$C_{32}H_{32}N_2O_{12}$ M 636.611
Used as indicator for titrimetric detn. of Ca, Mg, Sr, $SO_4^{2\ominus}$; photometric detn. of Ba, Ca, Mg. Pale yellow cryst. powder. Sol. EtOH, Me_2CO, alkalis; insol. H_2O. Mp 186°. pK_{a1} 2.2; pK_{a2} 2.9; pK_{a3} 7.0; pK_{a4} 7.8; pK_{a5} 11.4; pK_{a6} 12.0 (μ = 0.1, 20°). Aq. solns. unstable.

Anderegg, G. *et al*, *Helv. Chim. Acta*, 1954, **72**, 113 (*use*)
Pollard, F.H. *et al*, *Analyst (London)*, 1956, **81**, 348 (*detn, Ba*)
Bolsholn, J., *Anal. Chim. Acta*, 1966, **34**, 71 (*detn, Ca*)
Tikhonov, V.N. *et al*, *Khim. Khim. Tekhnol. (Minsk)*, 1976, **19**, 1868 (*detn, Mg*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 221 (*use*)

m-Cresol purple C-00309

4,4'-(3H-2,1-Benzoxathiol-3-ylidene)bis[3-methylphenol] S,S-*dioxide*, *9CI*. m-*Cresolsulfonephthalein*

[2303-01-7]



$C_{21}H_{18}O_5S$ M 382.436
Used as acid-base indicator (pH range 1.2-2.8; colour change: red → yellow; pH range: 7.4-9.0; colour change: yellow → purple). Dark brown glittering cryst. (EtOH). Sol. EtOH, Me_2CO, alkalis; spar. sol. H_2O.

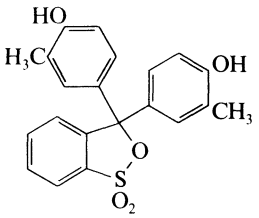
Na salt: [62625-31-4].
Sol. H_2O.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

Cresol red C-00310

4,4'-(3H-2,1-Benzoxathiol-3-ylidene)bis[2-methylphenol] S,S-*dioxide*, *9CI*. o-*Cresolsulfthalein*. o-*Cresolsulfonephthalein*

[1733-12-6]



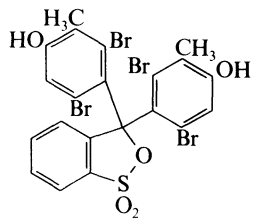
$C_{21}H_{18}O_5S$ M 382.436
Acid-base indicator used as 0.1% EtOH soln. in titrimetric detn. (pH range 0.2-1.8; colour change: red→yellow; pH range 7.0-8.8; colour change: yellow→purple), spectrophotometric detn. of $SO_4^{2\ominus}$. Used in mixtures with other indicators for detn. of plant seed viability, and in the estimation of soil reaction. Dark red cryst. powder or green cryst. (AcOH). Sol. EtOH, alkalis; sl. sol. H_2O. Mp 250° dec.

Na salt: [62625-29-0].
Sol. H_2O.

Sohon, M.D., *Am. Chem. J.*, 1898, **20**, 265 (*synth*)
Ramart-Lucas, P., *Bull. Soc. Chim. Fr.*, 1943, **10**, 282 (*struct*)
Peng, C. *et al*, *Soil Sci. Soc. Am. Proc.*, 1944, **57**, 367 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 112.
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*acid-base indicator*)
Flynn, W.W., *Anal. Chim. Acta*, 1977, **90**, 343 (*detn, $SO_4^{2\ominus}$*)

o-Cresoltetrabromosulfonephthalein C-00311

4,4'-(3H-2,1-Benzoxathiol-3-ylidene)bis[3,5-dibromo-2-methylphenol] S,S-*dioxide*



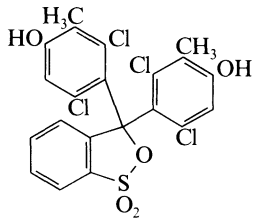
$C_{21}H_{14}Br_4O_5S$ M 698.021

Used as acid-base indicator (pH range 6.6-8.3; colour change: yellow → purple). Greenish-red iridescent plates (C_6H_6). Sol. EtOH, Me_2CO, C_6H_6, alkalis; spar. sol. H_2O. pK_{a1} 7.53 (25°).

Harden, W.C. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 562 (*synth*)
Haring, M.M. *et al*, *J. Am. Chem. Soc.*, 1941, **63**, 1024 (*use*)

o-Cresoltetrachlorosulfonephthalein C-00312

4,4′-(3H-2,1-Benzoxathiol-3-ylidene)bis[3,5-dichloro-2-methylphenol] S,S-*dioxide*



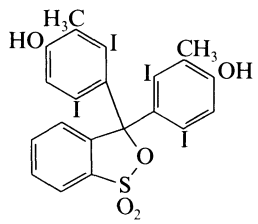
$C_{21}H_{14}Cl_4O_5S$ M 520.215

Used as acid-base indicator (pH range 6.6-8.3; colour change: yellow → purple). Greenish-red iridescent plates (C_6H_6). Sol. EtOH, Me_2CO, C_6H_6, alkalis; spar. sol. H_2O. pK_{a1} 7.5 (25°).

Harden, W.C. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 562 (*synth*)
Haring, M.M. *et al*, *J. Am. Chem. Soc.*, 1941, **63**, 1024 (*use*)

o-Cresoltetraiodosulfonephthalein C-00313

4,4′-(3H-2,1-Benzoxathiol-3-ylidene)bis[3,5-diiodo-2-methylphenol] S,S-*dioxide*



$C_{21}H_{14}I_4O_5S$ M 886.023

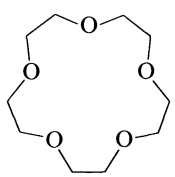
Used as a 0.04% soln. of Na salt as acid-base indicator (pH range 7.0-8.6; colour change: yellow → purple). Greenish-red iridescent plates (C_6H_6). Sol. EtOH, Me_2CO, C_6H_6, alkalis; spar. sol. H_2O.

Harden, W.C. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 562 (*synth*)
Haring, M.M. *et al*, *J. Am. Chem. Soc.*, 1941, **63**, 1024 (*use*)

15-Crown-5 C-00314

1,4,7,10,13-Pentaoxacyclopentadecane, 9CI, 8CI

[33100-27-5]



$C_{10}H_{20}O_5$ M 220.265

Complexing agent for metal salts, enhancing reactivity and solubility of the metal ion. Used as a complexing agent for Na and other alkali metals. Viscous liq. Misc. H_2O. d_4^{25} 1.10. $Bp_{1.8}$ 115-116°. Hygroscopic.

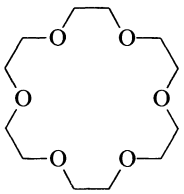
▷ SB0200000.

Christensen, J.J. *et al*, *Chem. Rev.*, 1974, **74**, 351 (*rev*)
Cook, F.L. *et al*, *Tetrahedron Lett.*, 1974, 4029 (*synth, ir, pmr, cmr, ms, bibl*)
Izatt, R.M. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 7620 (*synth, ir, pmr, purifn, bibl*)
Johns, G. *et al*, *Synthesis*, 1976, 515 (*synth, cmr, ir, ms*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 134; **8**, 128.
Pacey, G.E. *et al*, *Synth. Commun.*, 1981, **11**, 323 (*synth*)
Effenberger, F. *et al*, *Synthesis*, 1981, 70 (*synth, props*)
Pacey, G.E. *et al*, *Talanta*, 1984, **31**, 165 (*use*)
Ganboa, J. *et al*, *Synthesis*, 1986, 52 (*synth, props*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PBO000.

18-Crown-6 C-00315

1,4,7,10,13,16-Hexaoxacyclooctadecane, 9CI

[17455-13-9]



$C_{12}H_{24}O_6$ M 264.318

Forms extractable complexes with alkali metal ions. Used for extraction-photometric detn. of Pb (as ion-pair with acid dye). Cryst. Sol. H_2O. Mp 38-39.5°. $Bp_{0.2}$ 116°.

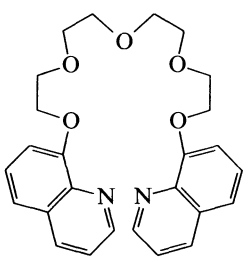
▷ Has exploded during purifn.. MP4500000.

Pedersen, C.J., *J. Am. Chem. Soc.*, 1967, **89**, 7017 (*synth*)
Anon, *Chem. Eng. News*, 1976, 5 (*haz*)
Johns, G. *et al*, *Synthesis*, 1976, 515 (*synth, pmr, cmr, ir*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 133.
Org. Synth., 1977, **57**, 30 (*synth*)
Ping-Lin, K. *et al*, *J. Chem. Soc., Chem. Commun.*, 1978, 504 (*synth*)
Tananaiko, M.M. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 1899 (*detn, Pb*)
de Jong, F. *et al*, *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1981, **100**, 449, 453 (*purifn*)
Szczepaniak, W. *et al*, *Anal. Chim. Acta*, 1982, **140**, 261 (*detn, Pb*)
Ganin, E.V. *et al*, *CA*, 1984, **101**, 191874 (*synth*)
Deguire, S. *et al*, *Can. J. Chem.*, 1986, **64**, 142 (*synth, cryst struct*)
Gamboa, J. *et al*, *Synthesis*, 1986, 52.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, COD500.

Cryptand 5 C-00316

8,8′-[Oxybis(2,1-ethanediyloxy-2,1-ethanediyloxy)] bisquinoline, 9CI. 1,13-Bis(8-quinolinyl)-1,4,7,10,13-pentaoxatridecane. 8,8′-(1,4,7,10,13-Pentaoxatridecylene) biquinoline. Kryptofix 5

[57310-75-5]



$C_{26}H_{28}N_2O_5$ M 448.518

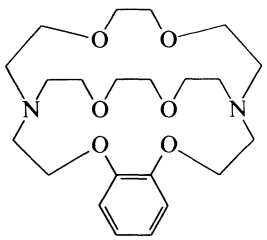
Used for complexing and extraction-separation of alkali and alkaline earth metal ions. Cryst. Sol. C_6H_6, toluene; insol. H_2O. Mp 71-74°.

Vögtle, F.M., *Tetrahedron Lett.*, 1975, 2415.
Vögtle, F.M. *et al*, *Top. Curr. Chem.*, 1981, **98**, 163 (*rev*)

Cryptand 2.2.2 B C-00317

5,6-Benzo-4,7,13,16,21,24-hexaoxa-1,10-diazabicyclo[8.8.8] hexacosane, 9CI

[31250-18-7]



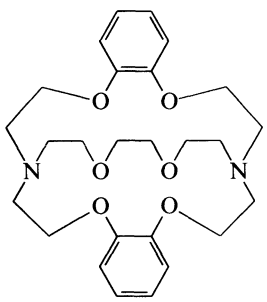
$C_{22}H_{36}N_2O_6$ M 424.536
Used as 50% soln. in toluene for complexing alkali and alkaline earth metal ions; used for extraction-photometric detn. of Na. Liq. Sol. C_6H_6, toluene; insol. H_2O. d 0.995.

Dietrich, B. *et al*, *J. Chem. Soc., Chem. Commun.*, 1973, 15.
Takagi, M. *et al*, *Anal. Chim. Acta*, 1981, **126**, 185 (*detn, Na*)

Cryptand 2.2.2 BB C-00318

6,7,9,10,17,18,20,21-Octahydro-8,19-(ethanoxyethanoxyethano)-8H,19H-dibenzo[b,k][1,4,10,13,7,16]tetraoxadiazacyclooctadecine, 9CI. Kryptofix 222 BB. Dibenzocryptand 222

[40471-97-4]



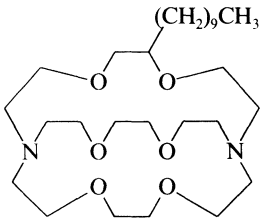
$C_{26}H_{36}N_2O_6$ M 472.580
Cryst. (toluene). Used as complexing agent for alkali metal ions; used for detn. of K (membrane ion-selective electrode). Sol. C_6H_6, toluene; insol. H_2O. Mp 72-75°.

Lehn, I.M., *Struct. Bonding (Berlin)*, 1973, **16**, 1 (*use*)
Blasius, E. *et al*, *Makromol. Chem.*, 1977, **178**, 648 (*synth*)
Gajewski, J. *et al*, *Fresenius' Z. Anal. Chem.*, 1981, **309**, 343 (*synth, use*)
Cox, B.G. *et al*, *Inorg. Chim. Acta*, 1981, **49**, 153 (*use*)

Cryptand 2.2.2 D C-00319

5-Decyl-4,7,13,16,21,24-hexaoxa-1,10-diaxabicyclo[8.8.8] hexacosane, 9CI. Kryptofix 222 D

[69878-46-2]

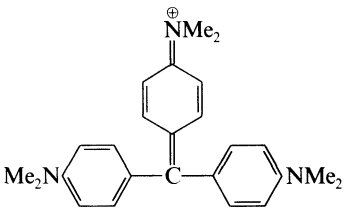


$C_{28}H_{56}N_2O_6$ M 516.760
Used as complexing agent for extraction of alkali metal ions. Liq. Sol. C_6H_6, toluene; insol. H_2O. d 0.940.

Stoff, P.E. *et al*, *J. Am. Chem. Soc.*, 1980, **102**, 4810 (*use*)
Cox, B.G. *et al*, *Inorg. Chim. Acta*, 1981, **49**, 153 (*use*)

Crystal violet C-00320

N-[*4*-[*Bis*[*4*-(*dimethylamino*)*phenyl*]*methylene*]-*2,5-cyclohexadien-1-ylidene*]-N-*methylmethanaminium*(*1+*). *Gentian violet. Methylrosaniline. Methyl violet 10B. C.I. Basic violet 3. Aniline violet. C.I. 42555. Numerous proprietary names*



$C_{25}H_{30}N_3^{\oplus}$ M 372.532 (ion)
▷ BO9000000.

Chloride: [548-62-9].
$C_{25}H_{30}ClN_3$ M 407.985
Topical antiinfective, anthelmintic, biological stain. Used as 0.02-0.05% soln. in EtOH in photometric detn. of Ag, As, B, Cd, Ga, Hg, I, Mo, P, Pt, Re, Sb, Tl, V (λ_{max} 580 nm, ε 130000). Dark-green powder or bright blue-violet cryst. Sol. H_2O, EtOH, $CHCl_3$. Mp 215° dec.
▷ Experimental teratogen. LD_{50} 96 mg/kg (mouse, oral).

Courtot-coupez, J. *et al*, *Bull. Soc. Chim. Fr.*, 1961, 1942 (*detn, Cd*)
Markham, J.J., *Anal. Chem.*, 1967, **39**, 241 (*detn, Ag*)
Adams, E., *J. Pharm. Pharmacol.*, 1967, **19**, 821 (*pharmacol*)
Nouchi, G. *et al*, *C. R. Hebd. Seances Acad. Sci. Ser. B*, 1969, **268**, 546 (*ir*)
Barker, C.C. *et al*, *J. Chem. Soc. B*, 1969, 1068 (*uv*)
Hodge, H.C. *et al*, *Toxicol. Appl. Pharmacol.*, 1972, **22**, 1 (*tox*)
Minczewski, J. *et al*, *Analyst (London)*, 1975, **100**, 708 (*detn, V*)
Burns, D.T. *et al*, *Anal. Chim. Acta*, 1981, **128**, 257 (*detn, $PO_4^{3\ominus}$*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2232.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AOR500.

Cuprizone C-00321

Ethanedioic acid bis(cyclohexylidenehydrazide), 9CI. Bis(cyclohexanone)oxalylhydrazone. Oxalic acid bis(cyclohexylidenehydrazide)

[370-81-0]

$C_{14}H_{22}N_4O_2$ M 278.353
Used as 0.1% soln. in EtOH for photometric detn. of Cu (λ_{max} 600 nm, ε 16000). Cryst. powder. Sol. hot EtOH; insol. H_2O. Mp 214-216°.

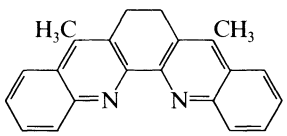
▷ RO2520000.

Peterson, R.E. *et al*, *Anal. Chem.*, 1955, **27**, 1195.
Haywood, L.J. *et al*, *Analyst (London)*, 1956, **81**, 651.
Jacobsen, E. *et al*, *Anal. Chim. Acta*, 1961, **24**, 579.
Lambdin, C.E. *et al*, *Anal. Chem.*, 1968, **40**, 2196.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, COF675.

Cuprotest C-00322

6,7-Dihydro-5,8-dimethyldibenzo[b,j][*1,10*]*phenanthroline*, *9CI. 2,3,8,9-Dibenzo-4,7-dimethyl-5,6-dihydro-1,10-phenanthroline*

[5298-71-5]



$C_{22}H_{18}N_2$ M 310.398
Used as 0.005% soln. in $CHCl_3$ in extraction-photometric detn. of Cu(*I*) (λ_{max} 554 nm, ε 7800, $CHCl_3$). Commercially available. Beige cryst. Sol. $CHCl_3$. Mp 283-285°.

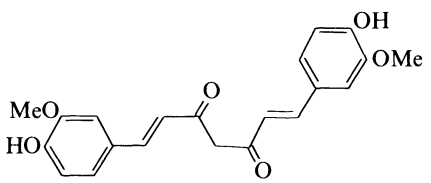
▷ Eye and skin irritant.

Uhlemann, E. *et al*, *J. Prakt. Chem.*, 1965, **30**, 273 (*synth*)
Ackermann, G. *et al*, *Talanta*, 1968, **15**, 79.
Sigma-Aldrich Library of Chemical Safety Data, 1988, **1**, 1259B.

Curcumin C-00323

1,7-Bis(4-hydroxy-3-methoxyphenyl)-1,6-heptadiene-3,5-dione, *9CI. Curcuma yellow. Diferuloylmethane*

[458-37-7]



$C_{21}H_{20}O_6$ M 368.385
Isol. from *Curcuma* spp. (turmeric). Natural colouring matter used extensively in Indian curries etc. Used as 0.1% soln. in AcOH for photometric detn. of B (λ_{max} 550 nm, ε 180000) and of Ni (indirectly). Orange prisms. Mp 183°.

Di-Ac: Cryst. Mp 170-171°.
Dibenzoyl: Cryst. Mp 210°.
Demethoxy: [22608-11-3]. *1-(4-Hydroxy-3-methoxyphenyl)-7-(4-hydroxyphenyl)-1,6-heptadiene-3,5-dione*, *9CI.* p-*Hydroxycinnamoylferuloylmethane*. ***Demethoxycurcumin***
$C_{20}H_{18}O_5$ M 338.359
Isol. from *C. longa*, *C. domestica*, *C. xanthorrhiza*. Orange-yellow powder. Mp 168°.
Bis-demethoxy: [22608-12-4]. *1,7-Bis(4-hydroxyphenyl)-1,6-heptadiene-3,5-dione*, *9CI.* p,p′-*Dihydroxydicinammoylmethane*. ***Bisdemethoxycurcumin***
$C_{19}H_{16}O_4$ M 308.333
Isol. from *C. longa*, *C. domestica* and *C. aromatica*. Absent in some *C.* spp. Yellow plates + H_2O (EtOH). Mp 224°.
5′-Methoxy: ***5′-Methoxycurcumin***
$C_{22}H_{22}O_7$ M 398.412
Constit. of *C. xanthorrhiza*. Yellow powder. Mp 145-146°.

[24939-16-0, 33171-05-0]

Lampe, V., *Ber.*, 1918, **51**, 1347 (*synth*)
Srinivasan, K.R., *J. Pharm. Pharmacol.*, 1953, **5**, 448 (*derivs*)
Spicer, G.S. *et al*, *Anal. Chim. Acta*, 1958, **18**, 231 (*detn, B*)
Umland, F. *et al*, *Fresenius' Z. Anal. Chem.*, 1963, **197**, 151 (*detn, Ni*)
Jentzsch, K. *et al*, *Sci. Pharm.*, 1968, **36**, 251; *CA*, **70**, 90793h (*isol*)
Sastry, B.S., *Res. Ind.*, 1970, **15**, 258; *CA*, **75**, 75063e (*isol*)
Kuroyagi, M. *et al*, *Yakugaku Zasshi*, 1970, **90**, 1467; *CA*, **74**, 61612a (*isol*)
Dyrssen, D.W. *et al*, *Anal. Chim. Acta*, 1972, **60**, 139 (*detn, B*)
Roughley, P.J. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1973, 2379 (*biosynth*)
Karig, F., *Dtsch. Apoth. -Ztg.*, 1975, **115**, 325; *CA*, **83**, 65372f (*derivs*)
Quint, P. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **285**, 356; 1979, **295**, 269 (*detn, B*)
Kashina, C. *et al*, *Heterocycles*, 1977, **7**, 241 (*synth*)
Wahlstrom, B. *et al*, *Acta Pharmacol. Toxicol.*, 1978, **43**, 86 (*metab*)
Holder, G.M. *et al*, *Xenobiotica*, 1978, **8**, 761 (*metab*)
Toønnesen, H.H. *et al*, *Acta Chem. Scand., Ser. B*, 1982, **36**, 475 (*cryst struct, bibl*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 511 (*use*)
Masudo, T. *et al*, *Phytochemistry*, 1992, **31**, 3645 (*5′-Methoxycurcumin*)

Cyanoacetic acid, 9CI C-00324

Malonic acid mononitrile

[372-09-8]

$NCCH_2COOH$

$C_3H_3NO_2$ M 85.062
Sol. H_2O, EtOH, Et_2O. Mp 66°. Bp 108°. pK_a 2.43 (25°).

▷ Toxic. Explosive reaction with furfuryl alcohol. AG3675000.

Me ester: [105-34-0]. *Methyl cyanoacetate*
$C_4H_5NO_2$ M 99.089
Bp 200°, Bp_{36} 115°.
▷ Highly toxic. AG4375000.

Et ester: [105-56-6]. *Ethyl cyanoacetate*
$C_5H_7NO_2$ M 113.116
Reagent for condensations. Insol. H_2O, sol. NH_3 aq. Bp 207°, Bp_{16} 97°.
▷ AG4110000.

tert-*Butyl ester:* [1116-98-9]. tert-*Butyl cyanoacetate*
$C_7H_{11}NO_2$ M 141.169
Condensing agent with some advantages over the Et ester. $Bp_{1.5}$ 67-68°.

Amide: [107-91-5]. *Cyanoacetamide. Malonic amide nitrile*
$C_3H_4N_2O$ M 84.077
Anal. reagent for carbohydrates. Sol. H_2O, mod. sol. EtOH. Mp 119-120°.
▷ Mod. toxic. AB5950000.

Anilide: [621-03-4]. *Cyanoacetanilide*
$C_9H_8N_2O$ M 160.175
Mp 198-199°.

Phenylhydrazide: Mp 105-106°.

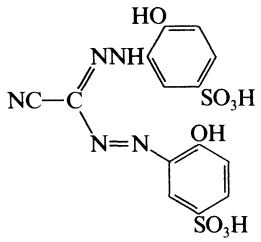
Org. Synth., Coll. Vol., 1, 1932, 254 (*synth*)
Org. Synth., Coll. Vol., 3, 1955, 535 (*synth*)
Bowie, J.H. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 1699 (*ms*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 87.
Org. Synth., 1977, **56**, 59 (*synth*)
Kanters, J.A. *et al*, *Acta Crystallogr., Sect. B*, 1978, **34**, 1393 (*cryst struct*)

Honda, S. *et al*, *Anal. Biochem.*, 1981, **118**, 162; 1982, **119**, 194 (*amide, use*)
Schlabach, J.D. *et al*, *J. Chromatogr.*, 1983, **282**, 169 (*amide, use*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 425.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, COJ250, COJ500, EHP500, MIQ000.

3-Cyano-1,5-bis(2-hydroxy-5-sulfophenyl) formazan C-00325

3,3'-(3-Cyano-1,5-formazandiyl)bis[4-hydroxybenzenesulfonic acid], 9CI. Cyanformazan 2

[1105-53-9]



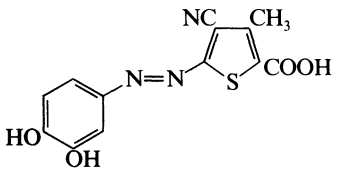
$C_{14}H_{11}N_5O_8S_2$ M 441.402

Orange cryst. pK_{a1} 6.65; pK_{a2} 8.28; pK_{a3} 11.8.

Di-Na salt: Used in photometric detn. of U, Sc, Ga (λ_{max} 634 nm, ε 25000), Zr, Ge, Nb, V, Mn, Th, Zn, Y. Hygroscopic red-brown needles. Sol. H_2O, EtOH; insol. Et_2O, Me_2CO. Mp 290°.

Ermakova, M.I. *et al*, *Zh. Anal. Khim.*, 1961, **16**, 8 (*detn, Ga*)
Oposova, S.P. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1469 (*detn, Zr, Ge, Nb, V, Sc*)
Ermakova, M.I. *et al*, *Zh. Obshch. Khim.*, 1968, **38**, 2390 (*detn, Mn, Th, Zn*)
Serovskaya, V.V. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 2216 (*detn, U*)

4-Cyano-5-[(3,4-dihydroxyphenyl)azo]-3-methyl-2-thiophenecarboxylic acid C-00326

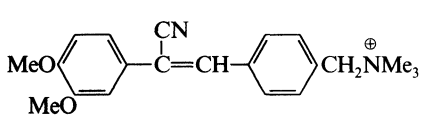


$C_{13}H_9N_3O_4S$ M 303.298

Et ester: [82083-97-4]. *2-(3',4'-Dihydroxyphenyl)azo-3-cyano-4-methyl-5-ethoxycarbonylthiophene*
$C_{15}H_{13}N_3O_4S$ M 331.351
Used as 0.5 m*M* Me_2CO soln. for photometric detn. of Ge (λ_{max} 560 nm, ε 52000), Zr (λ_{max} 540 nm, ε 32000), Al. Red cryst. powder. Sol. EtOH, Me_2CO. pKa_1 6.56; pK_{a2} 10.71 (μ = 0.1, Me_2CO aq.).

Drille, M. *et al*, *Latv. PSR Zinat. Akad. Vestis, Khim. Ser.*, 1983, 604, 610; *CA*, **99**, 224309n (*detn, Ge, Zr, Al*)

4-[2-Cyano-2-(3,4-dimethoxyphenyl) ethenyl]-*N,N,N*-trimethylbenzenemethanaminium(1 +), 9CI C-00327



$C_{21}H_{25}N_2O_2^{\oplus}$ M 337.441 (ion)

Trifluoromethanesulfonate: [108472-65-7].
Green cryst. (EtOH aq.). Mp 197-198.5°.

Methosulfate: [128032-73-5].
Fluorescent ion-pair reagent for anal. of carboxylic acid drugs. Cryst. ($CHCl_3$/EtOH aq.). Mp 212-215°.

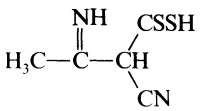
Iodide: [128032-75-7].
Cryst.(aq. EtOH). Mp 203-204°.

Stewart, J.T. *et al*, *J. Chem. Eng. Data*, 1987, **32**, 387 (*synth, uv, ir, pmr, fluorescence*)
Kim, M. *et al*, *J. Liq. Chromatogr.*, 1990, **13**, 213 (*use*)

2-Cyano-3-iminodithiobutyric acid C-00328

2-Cyano-3-iminobutane(dithioic) acid, 9CI

[64247-47-8]



$C_5H_6N_2S_2$ M 158.248

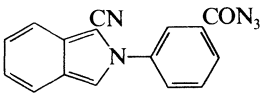
Sol. alkalis; insol. H_2O.

NH_4 salt: [71081-51-1].
Used as a 0.05% aq. soln. for photometric detn. of Ag (λ_{max} 565 nm, ε 12700). Yellow cryst. (Me_2CO aq.). Sol. H_2O. Mp 97-99°.

Muraoka, M. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1977, 1273 (*synth*)
Muraoka, M. *et al*, *Analyst (London)*, 1979, **104**, 87 (*use*)

3-(1-Cyano-2*H*-isoindol-2-yl)benzoyl azide, 9CI C-00329

[127171-82-8]



$C_{16}H_9N_5O$ M 287.280

Fluorescence labelling reagent for glc anal. of steroidal alcohols. Dark yellow solid.

Gamoh, K. *et al*, *Anal. Chim. Acta*, 1990, **228**, 307 (*synth, use*)

(Cyano-*C*)triphenylborate(1 –), 10CI, 9CI C-00330

Triphenylcyanoborate

[47107-21-1]

$[Ph_3BCN]^{\ominus}$

$C_{19}H_{15}BN^{\ominus}$ M 268.145 (ion)

Na salt: [14568-16-2]. *Cesignost*
$C_{19}H_{15}BNNa$ M 291.135
Used to separate Cs-137 and Be-7 in radioactive fallout and to detect Cs-137 in feed. Used in solvent extraction of alkali metals. Monohydrate. Used as 7% aq. soln. for gravimetric detn. of Cs. Cryst. Commercially available.

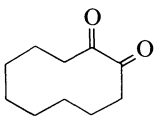
Cs salt: [52337-56-1].
$C_{19}H_{15}BCsN$ M 401.051
Nmr shift reagent. Analytical reagent for mechanistic studies.

Witting, G. *et al*, *Justus Liebigs Ann. Chem.*, 1951, **573**, 195 (*synth*)
Havir, S., *Collect. Czech. Chem. Commun.*, 1961, **26**, 1775 (*detn, Cs*)
Baumn, A., *Talanta*, 1968, **15**, 185 (*detn, Cs*)
Lee, D.A., *J. Inorg. Nucl. Chem.*, 1972, **34**, 2895 (*use*)
Bunge, M. *et al*, *Eur. Polym. J.*, 1977, **13**, 283 (*use*)
Stankovic, S. *et al*, *CA*, 1980, **92**, 36885f (*use*)
Selig, W., *Microchem. J.*, 1980, **25**, 200.
Pacey, G. *et al*, *Talanta*, 1980, **27**, 1013 (*use*)

1,2-Cyclodecanedione C-00331

Sebacil

[96-01-5]



$C_{10}H_{16}O_2$ M 168.235

Liq. Mp 42°. Bp_{10} 104-105°, Bp_1 69-70°.

Dihydrazone: Mp 126-130° dec.

Dioxime: [18486-81-2].

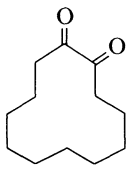
$C_{10}H_{18}N_2O_2$ M 198.264

Used as a satd. soln. in H_2O, EtOH or Me_2CO for extraction-photometric detn. of Ni (isopentanol); gravimetric detn. of Bi, Co, Cu, Pd. Cryst. (C_6H_6 or H_2O). Sol. C_6H_6, Me_2CO; sl. sol. H_2O (0.05 g per 100 cm^3). Mp 189-190°, Mp 190°.

Prelog, V. *et al*, *Helv. Chim. Acta*, 1952, **35**, 1598 (*synth, config*)
Org. Synth., 1956, **36**, 77 (*synth*)
Collins, P. *et al*, *Anal. Chim. Acta*, 1958, **18**, 384 (*detn, Ni*)
Org. Synth., Coll. Vol., 4, 1963, 838 (*synth*)
Cumper, C.W.N. *et al*, *J. Chem. Soc.*, 1965, 2067 (*synth*)
Bassed, J. *et al*, *Analyst (London)*, 1967, **92**, 279 (*detn, Bi, Co, Cu, Pd*)
Caubere, P. *et al*, *J. Org. Chem.*, 1986, **51**, 1419 (*synth*)

1,2-Cyclododecanedione, 9CI C-00332

[3008-41-1]



$C_{12}H_{20}O_2$ M 196.289

Mp 43°. $Bp_{1.5}$ 99-101°.

Dioxime: [18310-17-3].

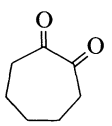
$C_{12}H_{22}N_2O_2$ M 226.318

Used as a soln. in EtOH for gravimetric detn. of Bi, Ni, Pd. Cryst. (C_6H_6). Sol. EtOH, C_6H_6; spar. sol. H_2O. Mp 214°.

Cumper, C.W.N. *et al*, *J. Chem. Soc.*, 1965, 2067 (*synth*)
Bassed, J. *et al*, *Analyst (London)*, 1967, **92**, 279 (*detn, Bi, Ni, Pd*)
Sharpless, K.B. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 3303 (*synth*)
Gregoire, B. *et al*, *J. Org. Chem.*, 1986, **51**, 1419 (*synth*)
Kawada, K. *et al*, *Synth. Commun.*, 1989, **19**, 777 (*synth*)

1,2-Cycloheptanedione C-00333

[3008-39-7]



$C_7H_{10}O_2$ M 126.155

Liq. d_{22}^{22} 1.061. Bp_{17} 107-109°. n_D^{22} 1.4689.

Bis-2,4-dinitrophenylhydrazone: Red needles + C_6H_6 (C_6H_6). Mp 213° (dried).

Dioxime: [530-97-2]. *Heptoxime*

$C_7H_{12}N_2O_2$ M 156.184

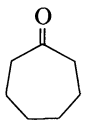
Used as a soln. in EtOH for gravimetric detn. of Ni, Bi, Pd. Cryst. (C_6H_6). Mp 181-182°. pK_{a1} 10.7; pK_{a2} 12.3.

Godchot, M. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1936, **202**, 326 (*synth*)
Cook, J.W. *et al*, *J. Chem. Soc.*, 1952, 4416 (*synth*)
Belcher, R. *et al*, *J. Chem. Soc.*, 1958, 2743.
Bassed, J. *et al*, *Analyst (London)*, 1967, **92**, 279 (*detn, Bi, Ni, Pd*)
Valasquez, J.A. *et al*, *Talanta*, 1970, **17**, 623 (*use, deriv*)
Hanna, J.D. *et al*, *Can. J. Chem.*, 1972, **50**, 2859 (*use, deriv*)
Caubere, P. *et al*, *J. Org. Chem.*, 1986, **51**, 1419 (*synth*)

Cycloheptanone C-00334

Suberone

[502-42-1]



$C_7H_{12}O$ M 112.171

Forms Schiff bases with amines useful for gc anal. Liq. Prac. insol. H_2O; sol. EtOH. d_4^{20} 0.951. Bp 179-180°. n_D^{20} 1.4608.

▷ GU3325000.

Semicarbazone: Mp 163-164°.

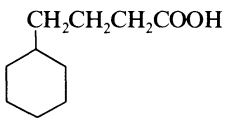
2,4-Dinitrophenylhydrazone: Mp 148°.

Blicke, F.F. *et al*, *J. Am. Chem. Soc.*, 1952, **74**, 2924 (*synth*)
Org. Synth., Coll. Vol., 4, 1963, 221, 225 (*synth*)
Vanden Heuvel, W.J.A. *et al*, *Anal. Chem.*, 1964, **36**, 1550 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SMV000.

Cyclohexanebutanoic acid, 9CI C-00335

4-Cyclohexylbutyric acid

[4441-63-8]



$C_{10}H_{18}O_2$ M 170.251

Salts used as atomic absorption spectrophotometry standards, as cocatalysts for polymerisation reactions and as stabilisers in photographic solns. Insol. H_2O. Mp 31°. Bp_{20} 169°, Bp_4 136-139°. Metal salts sol. many org. solvs.

Me ester: [15972-01-7].

$C_{11}H_{20}O_2$ M 184.278

Bp_{24} 124°.

Et ester: [50934-62-8].

$C_{12}H_{22}O_2$ M 198.305

$Bp_{0.6}$ 86-87°.

Anhydride:

$C_{20}H_{34}O_3$ M 322.487

$Bp_{0.5}$ 169-172°.

Chloride:

$C_{10}H_{17}ClO$ M 188.696

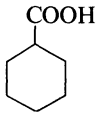
Bp_2 115-120°.

Hiers, G.S. *et al*, *J. Am. Chem. Soc.*, 1926, **48**, 2391, 2392 (*synth*)
Cairns, T.L. *et al*, *J. Am. Chem. Soc.*, 1948, **70**, 1689 (*synth*)
Zikan, V. *et al*, *Collect. Czech. Chem. Commun.*, 1962, **27**, 2704 (*synth*)
Isbell, H.S., *NBS Monogr. (U.S.)*, No. 54, 1962; *CA*, **58**, 2305 (*use*)
Niyazov, A.N. *et al*, *CA*, 1974, **81**, 11328 (*glc, pmr, ir*)
Ger. Pat., 2 437 382, (1975); *CA*, **83**, 19056 (*use*)
U.S. Pat., 3 957 514, (1976); *CA*, **85**, 184868 (*use*)

Cyclohexanecarboxylic acid, 9CI C-00336

Hexahydrobenzoic acid. Naphthenoic acid. Naphthenic acid

[98-89-5]



$C_7H_{12}O_2$ M 128.171

Isol. from the tail gland secretion of the red deer *Cervus elaphus*. Used as a soln. in 4-methyl-2-pentanone for extraction separation of Ca. Prisms. V. sol. EtOH, Et_2O, $CHCl_3$, C_6H_6, spar. Sol. H_2O. Bp_{13} 120-121°.

▷ GU8370000.

4-Bromophenacyl ester:
$C_{15}H_{17}BrO_3$ M 325.201
Mp 91-92°.

Me ester: [4630-82-4].
$C_8H_{14}O_2$ M 142.197
Bp 183°, Bp_{15} 73°.
▷ GU8599000.

Chloride: [2719-27-9].
$C_7H_{11}ClO$ M 146.616
Bp 179-180°, Bp 184°, Bp_{17} 76°. n_D^{15} 1.4766.

Anhydride:
$C_{14}H_{22}O_3$ M 238.326
Mp 25°. Bp 280-283°.

Amide: [1122-56-1].
$C_7H_{13}NO$ M 127.186
Prisms (H_2O). V. sol. EtOH, Et_2O. Mp 185-186°.
▷ GU7875500.

Nitrile: [766-05-2]. *Cyclohexanecarbonitrile. Cyanocyclohexane. Cyclohexyl cyanide*
$C_7H_{11}N$ M 109.171
Bp 184-185°, Bp_{16} 75-77°.

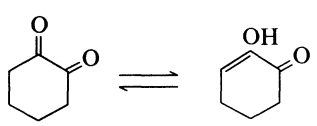
[3198-23-0]

Lumsden, J.S., *J. Chem. Soc.*, 1905, **87**, 90.
Hiers, G.S. *et al*, *J. Am. Chem. Soc.*, 1926, **48**, 2392 (*synth*)
Org. Synth., Coll. Vol., 1, 1932, 364 (*synth*)
Szego, L. *et al*, *Anal. Chim. Acta*, 1968, **42**, 1 (*detn, Ca*)
Gurski, R.N., *CA*, 1972, **76**, 59039s (*synth*)
Schoellkopf, U. *et al*, *Justus Liebigs Ann. Chem.*, 1972, **766**, 130 (*synth*)
White, D.R. *et al*, *J. Chem. Soc., Chem. Commun.*, 1974, 988 (*synth*)
Souma, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1976, **49**, 3335 (*synth*)
Morita, T. *et al*, *J. Chem. Soc., Chem. Commun.*, 1978, **20**, 874 (*synth*)
Williamson, K.L. *et al*, *J. Magn. Reson.*, 1978, **30**, 367 (*cmr*)
Corey, E.J. *et al*, *Tetrahedron Lett.*, 1979, 399 (*synth*)
Bakke, J.M. *et al*, *J. Chem. Ecol.*, 1983, **9**, 513.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CPB050.

1,2-Cyclohexanedione, 9CI C-00337

1,2-Dioxocyclohexane

[765-87-7]



$C_6H_8O_2$ M 112.128

Flavour material for food and perfumes. Reagent for sequence anal. of arginyl peptides by ms. Cryst. (pet. ether). Mod. sol. H_2O. Mp 38-40°. Bp 193-195°, Bp_{17} 85°. pK_a 10.30 (20°, 40% enol form).

▷ Explosion has resulted when prepd. by HNO_3 oxidn. of cyclohexanol. GV0340000.

Dioxime: [492-99-9]. *Nioxime*
$C_6H_{10}N_2O_2$ M 142.157
Used as 0.01*M* soln. in EtOH, for extraction-photometric detn. of Ni, Fe(*II*) (λ_{max} 450 nm, ε 18000, $CHCl_3$). Needles (H_2O), cryst. (dioxan). Sol. EtOH, dioxan, sl. sol. H_2O. Mp 187-188° dec. pK_{a1} 10.70; pK_{a2} 12.16 (25°).

Bis-2,4-dinitrophenylhydrazone: Mp 233-234°.

Bisthiosemicarbazone: see *1,2-Cyclohexanedione bis(thiosemicarbazone), C-00344*

Bis(2-pyridylhydrazone): see *1,2-Cyclohexanedione bis(2-pyridylhydrazone), C-00343*

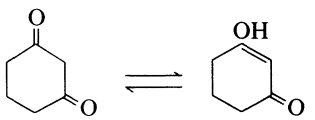
Bisbenzoylhydrazone: see *1,2-Cyclohexanedione bisbenzoylhydrazone, C-00340*

Wallach, O., *Justus Liebigs Ann. Chem.*, 1924, **437**, 148 (*synth*)
Rauh, E.G. *et al*, *J. Org. Chem.*, 1945, **10**, 199 (*synth*)
Monnier, D. *et al*, *Anal. Chim. Acta*, 1959, **20**, 444 (*detn, Ni*)
Org. Synth., Coll. Vol., 4, 1963, 229 (*synth*)
Lenard, J. *et al*, *Anal. Biochem.*, 1969, **29**, 203 (*use*)
Rao, D.V. *et al*, *J. Org. Chem.*, 1979, **44**, 456 (*synth*)
Nazarenko, A.Yu. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 1469 (*detn, Fe*)
Caubere, P. *et al*, *J. Org. Chem.*, 1986, **51**, 1419 (*synth*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 261.

1,3-Cyclohexanedione, 9CI C-00338

Dihydroresorcinol. 1,3-Dioxocyclohexane

[504-02-9]



$C_6H_8O_2$ M 112.128

Fluorogenic derivatising reagent for hplc anal. of aldehydes. Prisms (C_6H_6). Sol. H_2O, EtOH, Me_2CO, $CHCl_3$, spar. sol. Et_2O. pK_{a1} 5.25 (25°).

▷ GV0350000.

Dioxime: [2802-07-5].
$C_6H_{10}N_2O_2$ M 142.157
Mp 155-156°.

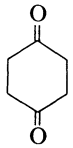
Phenylhydrazone: Needles (EtOH aq.). Mp 176-177°.

Bis(phenylthiosemicarbazone): [77783-17-6].
$C_{20}H_{22}N_6S_2$ M 410.566
Used as 0.1% soln. in DMF for photometric detn. of U(*VI*) (λ_{max} 640 nm, ε 18200). Yellow cryst. (EtOH). Mp 216-218°.

Merling, G., *Justus Liebigs Ann. Chem.*, 1894, **278**, 20 (*synth*)
Org. Synth., Coll. Vol., 3, 1955, 278 (*synth*)
Sircar, J.C. *et al*, *J. Org. Chem.*, 1965, **30**, 3206.
Vanderwalle, M. *et al*, *Bull. Soc. Chim. Belg.*, 1967, **76**, 111 (*ms*)
Rodriguez, J. *et al*, *Talanta*, 1981, **28**, 131 (*deriv, synth*)
Stahovec, W.L. *et al*, *J. Chromatogr.*, 1984, **298**, 399 (*use*)
Rodriguez, J. *et al*, *Quim. Anal. (Madrid)*, 1984, **3**, 66 (*deriv, detn, U*)
Suzuki, Y., *Bunseki Kagaku (Jpn. Anal.)*, 1985, **34**, 314; *CA*, **103**, 115363h (*use*)

1,4-Cyclohexanedione, 9CI C-00339

[637-88-7]



$C_6H_8O_2$ M 112.128
Plates (H_2O). Mp 78°.

Dioxime: [10220-83-4].
$C_6H_{10}N_2O_2$ M 142.157
Cryst. (H_2O). Mp 188°.

Disemicarbazone: Mp 231°.

Dithiosemicarbazone: [83454-03-9]. *2,2′-(1,4-Cyclohexanediylidene)bishydrazinecarbothioamide, 9CI*
$C_8H_{14}N_6S_2$ M 258.371
Used as 0.1% DMF soln. for photometric detn. of Cu (λ_{max} 410 nm, pH 6, DMF aq.). Cryst. (DMF). Sol. DMF; spar. sol. H_2O, EtOH, 4-methyl-2-pentanone, $CHCl_3$. Mp 213-214° dec. pK_{a1} 11.3.

Bis-2,4-dinitrophenylhydrazone: Yellow cryst. ($PhNO_2$). Mp 240°.

Ethylene monoketal: 1,4-Dioxaspiro[4.5]decan-8-one
$C_8H_{12}O_3$ M 156.181
Mp 71-72°.

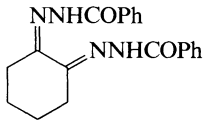
2,2-Dimethylpropylene monoketal: 4,4-Dimethyl-2,6-dioxaspiro[6.6]undecan-9-one
$C_{11}H_{18}O_3$ M 198.261
Useful synthetic intermediate. Cryst. (hexane). Mp 48-49.5°.

Meerwein, H., *Justus Liebigs Ann. Chem.*, 1913, **398**, 248 (*synth*)
Liebermann, H., *Justus Liebigs Ann. Chem.*, 1914, **404**, 272 (*synth*)
Org. Synth., 1965, **45**, 25 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 93.
Dowd, P. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 6327 (*conformn*)
Olah, G.A. *et al*, *J. Org. Chem.*, 1975, **40**, 2102 (*cmr*)
Mussini, P. *et al*, *Synth. Commun.*, 1975, **5**, 283 (*synth*)
Marshall, J. *et al*, *Synth. Commun.*, 1979, **9**, 123 (*deriv*)
Roman Ceba, M. *et al*, *Microchem. J.*, 1982, **27**, 380 (*synth, detn, Cu*)
Kamenka, J.-M. *et al*, *Bull. Soc. Chim. Fr.*, Part II, 1983, 87 (*acetal*)
Hyatt, J.A. *et al*, *J. Org. Chem.*, 1983, **48**, 129 (*deriv*)

1,2-Cyclohexanedione bisbenzoylhydrazone C-00340

Benzoic acid 1,2-cyclohexanediylidenedihydrazide, 9CI

[65158-90-9]



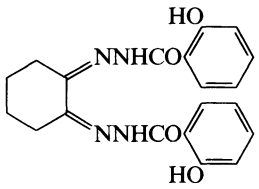
$C_{20}H_{20}N_4O_2$ M 348.404
Used as EtOH soln. for photometric detn. of Ti (λ_{max} 477 nm, ε 10500). Cryst. (EtOH). Sol. EtOH, DMF, $CHCl_3$. Mp 209°.

Garcia-Vargas, M. *et al*, *Talanta*, 1986, **33**, 209 (*synth, detn, Ti*)

1,2-Cyclohexanedione bis(2-hydroxybenzoyl)hydrazone C-00341

2-Hydroxybenzoic acid 1,2-cyclohexanediylidenedihydrazide, 9CI

[94616-63-4]



$C_{20}H_{20}N_4O_4$ M 380.402
Used as 0.1% DMF soln. for photometric detn. of Mn (λ_{max} 435 nm, ε 30400), Fe, Co, Zn, Cu; and in kinetic analysis (Mn, Fe). Bright yellow cryst. (EtOH). Sol. DMF, EtOH, Me_2CO. Mp 243°. pK_{a1} 6.3; pK_{a2} 10.8.

Gallego, M. *et al*, *Talanta*, 1984, **31**, 1075 (*synth, use*)

1,3-Cyclohexanedione bis(2-hydroxybenzoyl)hydrazone C-00342

2-Hydroxybenzoic acid 1,3-cyclohexanediylidenedihydrazide, 9CI

[94616-64-5]

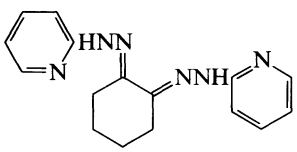
$C_{20}H_{20}N_4O_4$ M 380.402
Used as 0.1% DMF soln. for photometric detn. of Ni (λ_{max} 485 nm, ε 13200); in kinetic analysis (Mn, Fe). Bright yellow cryst. (EtOH). Sol. DMF, EtOH, Me_2CO. Mp 253°. pK_{a1} 5.6; pK_{a2} 10.1.

Gallego, M. *et al*, *Talanta*, 1984, **31**, 1075 (*detn, Ni, Mn, Fe*)

1,2-Cyclohexanedione bis(2-pyridylhydrazone) C-00343

1,2-Cyclohexanedione bis(2-pyridinylhydrazone), 9CI

[94413-93-1]



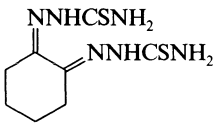
$C_{16}H_{18}N_6$ M 294.358
Used as a 0.25% soln. in DMF for photometric detn. of Bi, Cd (λ_{max} 420 nm, ε 33700), Co (λ_{max} 525 nm, ε 13700), Fe(*II*) (λ_{max} 430 nm, ε 28000), Fe(*III*), Mn, Ni, Pb, Pd, Zn (λ_{max} 450 nm, ε 24800). Yellow cryst. Sol. H_2O, EtOH, CCl_4, $CHCl_3$, DMF. Mp 218-220°. pK_{a1} 4.95; pK_{a2} 6.47 (μ = 0.1).

Rosales, D. *et al*, *Quim. Anal.* (*Madrid*), 1983, **2**, 277 (*synth, use*)
Rosales, D. *et al*, *Analyst* (*London*), 1984, **109**, 1047 (*detn, Co*)

1,2-Cyclohexanedione bis(thiosemicarbazone) C-00344

2,2′-(1,2-Cyclohexanediylidene)bishydrazinecarbothioamide, 9CI

[19901-06-5]



$C_8H_{14}N_6S_2$ M 258.371

Used as soln. in EtOH for extraction-photometric detn. of Pd (λ_{max} 590 nm, ε 5300, $CHCl_3$). Cryst. (EtOH). Sol. DMF, EtOH, $CHCl_3$.

Lopez, P.J. *et al*, *Quim. Anal. (Barcelona)*, 1984, **3**, 226; *CA*, **103**, 47421y (*detn, Pd*)

1,3-Cyclohexanedione bis(thiosemicarbazone) C-00345

2,2'-(1,3-Cyclohexanediylidene)bishydrazinecarbothioamide, 9CI

$C_8H_{14}N_6S_2$ M 258.371

Cryst. (EtOH aq.). Mp 240-242°. pK_{a1} 4.7; pK_{a2} 10.5.

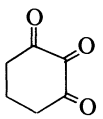
B, HCl: [59871-52-2].

Used as a 0.2% aq. soln. for photometric detn. of $Cr_2O_7^{2\ominus}$ (λ_{max} 370 nm, ε 12000), $ClO_3^{\ominus}$ (λ_{max} 402 nm, ε 17000), $IO_4^{\ominus}$ (λ_{max} 415 nm, ε 15600), $IO_3^{\ominus}$, $BrO_3^{\ominus}$, Ni, Cr(*VI*), Pd, Pt, Os, Cu, Zn, Co; photometric indirect detn. of glycerol and glucose. Yellow cryst. (EtOH aq.). Mp 175-177°.

Berzas Nevado, J.J. *et al*, *Talanta*, 1976, **23**, 257 (*synth*)
Román Ceba, M. *et al*, *An. Quim.*, 1978, **74**, 620, 1075 (*detn, $BrO_3^{\ominus}$, $IO_3^{\ominus}$*)
Román Ceba, M. *et al*, *Analyst (London)*, 1978, **103**, 969 (*detn, $ClO_3^{\ominus}$*)
Reddy, K.H. *et al*, *Analyst (London)*, 1983, **108**, 1247 (*detn, $ClO_3^{\ominus}$*)
Reddy, K.H. *et al*, *Anal. Lett.*, 1984, **17**, 1275 (*detn, Os*)
Callejon Mochon, M. *et al*, *Analyst (London)*, 1984, **109**, 951 (*detn, $IO_4^{\ominus}$, glycerol, glucose*)

1,2,3-Cyclohexanetrione C-00346

[4322-62-7]



$C_6H_6O_3$ M 126.112

Has antiviral and antidiabetic activity. Mp 103-105°. Forms a dihydrate.

1,3-Bis(phenylhydrazone): Bronze-red cryst. (MeOH). Mp 131-132.5°.

Tris(phenylhydrazone): Yellow cryst. (EtOH). Mp 182-183°.

Trioxime: [3570-93-2]. ***Niconoxime.*** *Nicon*

$C_6H_9N_3O_3$ M 171.155

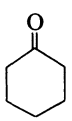
Used as 8-15m*M* soln. in EtOH for photometric detn. of Co (λ_{max} 400 nm) and Ni (λ_{max} 560 nm). Pale yellow cryst. Sol. Me_2CO, EtOH, MeOH.

Pecherer, B. *et al*, *J. Am. Chem. Soc.*, 1948, **70**, 2587.
Tiffany, B.D. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 1682.
Frierson, W.J. *et al*, *Anal. Chem.*, 1961, **33**, 1096; 1962, **34**, 210 (*detn, Co, Ni*)
Fatiadi, A.J. *et al*, *Carbohydr. Res.*, 1967, **5**, 302 (*nmr*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CPB650.

Cyclohexanone, 9CI C-00347

Ketocyclohexane. Oxocyclohexane

[108-94-1]



$C_6H_{10}O$ M 98.144

Solvent, swelling agent for PVC, synthetic intermediate. Feedstock for nylon 6 and nylon 66. H acceptor in Oppenauer oxidns. Used as a solvent in extraction-photometric detns. and in extraction separation of Ga, In, Hg, Bi. Oily liq. Mod. sol. H_2O. d_4^{20} 0.948. Mp −45° (−32°). Bp 155°, Bp_{15} 47°. pK_a 16.7.

▷ Toxic vapour, irritant, TLV 200. Forms explosive peroxide with H_2O_2. GW1050000.

Oxime:

$C_6H_{11}NO$ M 113.159

Prisms. Sol. H_2O, EtOH. Mp 89-90°. Bp 206-210°.

Semicarbazone: Mp 166-167°.

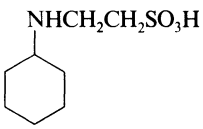
Cyanhydrin: see *1-Hydroxycyclohexanecarboxylic acid, H-00146*

Baeyer, A., *Ber.*, 1893, **26**, 231 (*synth*)
Org. Synth., 1931, **11**, 54 (*synth*)
Hartkamp, H. *et al*, *Talanta*, 1959, **2**, 67 (*detn, Ga, In*)
Jackwerth, E., *Fresenius' Z. Anal. Chem.*, 1964, **202**, 81; **206**, 269; 1965, **211**, 254 (*detn, Hg, Bi*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 178.
Frechet, J.M.J., *J. Org. Chem.*, 1978, **43**, 2618 (*synth*)
Fry, A.J. *et al*, *J. Org. Chem.*, 1979, **44**, 349 (*synth*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 262.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CPC000.

2-(Cyclohexylamino)ethanesulfonic acid, 9CI C-00348

N-*Cyclohexyltaurine. CHES*

[103-47-9]



$C_8H_{17}NO_3S$ M 207.293

Good's buffer with pH range 8.6-10.0. Cryst. Sol. H_2O. Mp 320°. pK_a 9.3 (20°).

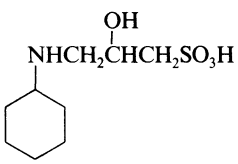
[3076-05-9]

Syverstsen, C. *et al*, *Eur. J. Biochem.*, 1981, **117**, 165 (*use*)
Champseix, A. *et al*, *Bull. Soc. Chim. Fr.*, 1985, 463 (*synth*)
Hutchens, T.W. *et al*, *J. Chromatogr.*, 1986, **359**, 157 (*use*)

3-(Cyclohexylamino)-2-hydroxy-1-propanesulfonic acid, 9CI C-00349

CAPSO

[73463-39-5]



$C_9H_{19}NO_4S$ M 237.319

Good's buffer with pH range 9.3-10.7. Scale and corrosion inhibitor. Cryst. Sol. H_2O. Mp 166-170°. pK_a 10.0 (20°).

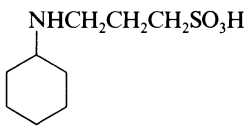
[102601-34-3]

U.S. Pat., 4 187 245, (1980); *CA*, **93**, 8290k (*synth*)
Szewczyk, B. *et al*, *Anal. Biochem.*, 1985, **150**, 403 (*use*)
Geisthardt, D. *et al*, *Anal. Biochem.*, 1987, **160**, 184 (*use*)
Irgum, K., *Anal. Chem.*, 1987, **59**, 358 (*use*)

3-(Cyclohexylamino)-1-propanesulfonic acid, 9CI C-00350

CAPS

[1135-40-6]

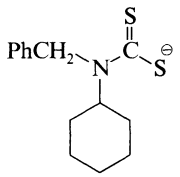


$C_9H_{19}NO_3S$ M 221.320

Commercially available. Good's buffer with pH range 9.7-11.1. Needles (MeOH). Sol. H_2O. Mp 302-303°. pK_a 10.4 (20°).

Dorn, H. *et al*, *Z. Chem.*, 1967, **7**, 151 (*synth*)
Robinson, D.M., *Naturwissenschaften*, 1978, **65**, 438 (*props*)
Vega, C.A. *et al*, *Bull. Soc. Chim. Fr.*, 1979, 124 (*use*)
Kaushal, V. *et al*, *Anal. Biochem.*, 1986, **157**, 291 (*use*)

Cyclohexylbenzyldithiocarbamate(1 –) C-00351



$C_{14}H_{18}NS_2^{\ominus}$ M 264.435 (ion)

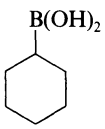
Triethylammonium salt:
$C_{20}H_{34}N_2S_2$ M 366.634
Used as 0.05m*M* $CHCl_3$ soln. for extraction separation of Hg(*II*), Cd, Mn, Pb, Tl (pH 6-7). Cryst. Sol. $CHCl_3$, CCl_4, 1,2-dichloroethane, 4-methyl-2-pentanone. Mp 87° dec. Bp 123°. n_5^{18} 1.5290.

El'nazarov, S. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 1374 (*synth, use*)

Cyclohexylboronic acid, 9CI C-00352

Cyclohexyldihydroxyborane

[4441-56-9]



$C_6H_{13}BO_2$ M 127.978

Derivatisation reagent for bifunctional compds. for gc anal. Cryst. Mp 119-120°.

▷ GU7171000.

Dicyclohexyl ester: Dicyclohexyl cyclohexylboronate
$C_{18}H_{33}BO_2$ M 292.268
d_{70} 0.9206. $Bp_{0.4}$ 134-135°.

Di-Et ester: [86595-45-1]. *Diethyl cyclohexylboronate, 9CI*
$C_{10}H_{21}BO_2$ M 184.086
Oil. Bp_{16} 91-92°.

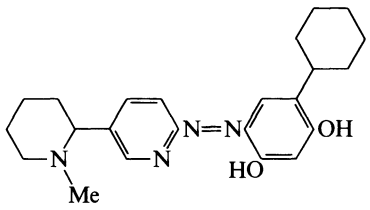
Di-Me ester: [37981-94-5]. *Dimethyl cyclohexylboronate, 9CI*
$C_8H_{17}BO_2$ M 156.032
Bp_{15} 72-73°. n_D^{20} 1.4375.

Di-Ph ester: Diphenyl cyclohexylboronate
$C_{18}H_{21}BO_2$ M 280.174
d_{20} 1.0908. $Bp_{0.5}$ 147-148°. n_D^{20} 1.541.

McCusker, P.A. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 5179 (*synth*)
Hartmann, H. *et al*, *Z. Anorg. Allg. Chem.*, 1959, **299**, 174 (*synth*)
Laurent, J.P. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1961, **253**, 1812; 1962, **254**, 866 (*synth*)
Anthony, G.M. *et al*, *J. Chromatogr. Sci.*, 1969, **7**, 623 (*use*)
Brooks, C.J.W. *et al*, *J. Chromatogr.*, 1971, **54**, 193 (*use*)
Brown, H.C. *et al*, *J. Organomet. Chem.*, 1977, **135**, C10 (*synth, ester*)
Brown, H.C. *et al*, *Organometallics*, 1983, **2**, 1311 (*synth, ester*)

6′-[(5-Cyclohexyl-2,4-dihydroxyphenyl) azo]-1-methylanabasine, 8CI C-00353

[25349-54-6]



$C_{23}H_{30}N_4O_2$ M 394.516

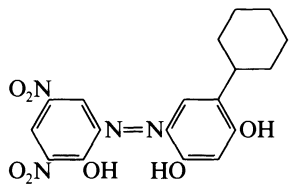
Gives colour reaction with Cd, Co, Cu, Ga, Ni, Pd, U, Zn. Orange-red cryst. Sol. H_2O, Me_2CO.

Kagramanova, N.G. *et al*, *CA*, 1969, **71**, 56314p.

4-Cyclohexyl-6-[(2-hydroxy-3,5-dinitrophenyl)azo]-1,3-benzenediol, 9CI C-00354

5′-Cyclohexyl-2,2′,4′-trihydroxy-3,5-dinitroazobenzene. Picraminazo-4-cyclohexylresorcinol

[53077-67-1]



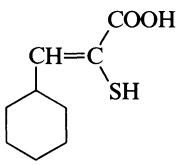
$C_{18}H_{18}N_4O_7$ M 402.363

Used as 0.05% EtOH soln. for extraction-photometric detn. of Co (λ_{max} 555 nm, ε 28000, $CHCl_3$/isopentanol). Cryst. Sol. EtOH, alkalis.

Chaprasova, L.V. *et al*, *Zavod. Lab.*, 1974, **40**, 1327 (*synth, detn, Co*)

3-Cyclohexyl-2-mercapto-2-propenoic acid, 9CI C-00355

[98213-15-1]



$C_9H_{14}O_2S$ M 186.274

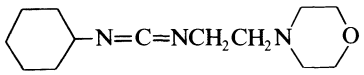
Used as EtOH soln. for colour reactions with Cu, Pd, Mo, Fe, Co, Ni, Mn, Ti. Cryst. (C_6H_6). Sol. C_6H_6, pet. ether. Mp 139-140°. pK_{a1} 4.12; pK_{a2} 9.71 (μ = 0.1, 25°).

Campaigne, E. *et al*, *J. Org. Chem.*, 1956, **21**, 32 (*synth*)
Izquierdo, A. *et al*, *Talanta*, 1985, **32**, 669 (*use*)

Cyclohexyl(2-morpholinoethyl) carbodiimide, 8CI C-00356

N-(*Cyclohexylcarbonimidoyl*)-*4-morpholineethanamine*, *9CI*

[15580-20-8]



$C_{13}H_{23}N_3O$ M 237.344

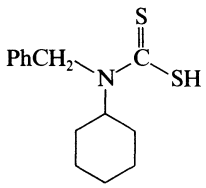
Coupling agent for peptide synth. $Bp_{0.2}$ 145°.

Metho-p-toluenesulfonate: [2491-17-0].

Reagent for peptide coupling; also for spectrophotometric anal. of carboxylic acids by ferric hydroxamate formation. Cryst. (C_6H_6). Sol. H_2O. Mp 113-115°.

Sheehan, J.C. *et al*, *J. Org. Chem.*, 1956, **21**, 439 (*synth*, *use*)
Ondetti, M.A. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 4373 (*use*)
Losse, G. *et al*, *Z. Chem.*, 1967, **7**, 234 (*synth*)
Mumma, R.O. *et al*, *J. Chem. Eng. Data*, 1971, **16**, 492 (*synth*, *use*)
Takeuchi, T. *et al*, *Anal. Lett.*, 1980, **13**, 603 (*use*)
Jaszay, Z.M. *et al*, *Synthesis*, 1987, 520; 1988, 397 (*synth*)

Cyclohexyl(phenylmethyl)carbamodithioic acid C-00357



$C_{14}H_{19}NS_2$ M 265.443

Et_3N salt: [92744-65-5].

$C_{20}H_{34}N_2S_2$ M 366.634

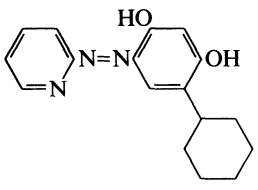
Used as 5m*M* $CHCl_3$ soln. for extraction separation of Zn, Cd, Hg(*II*), Tl, Mn, Pb. Cryst. Sol. $CHCl_3$, CCl_4, C_6H_6, 4-methyl-2-pentanone; sl. sol. EtOH. Mp 87° dec.

El'nazarov, S. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 1374 (*synth*, *use*)

4-Cyclohexyl-6-(2-pyridinylazo)-1,3-benzenediol, 9CI C-00358

6-(2-Pyridylazo-4-cyclohexyl)resorcinol. 2-(2,4-Dihydroxy-5-cyclohexylphenylazo)pyridine. 1′,2′,3′,4′,5′,6′-Hexahydro-5-(2-pyridylphenylazo)-2,4-biphenyldiol

[53799-77-2]



$C_{17}H_{19}N_3O_2$ M 297.356

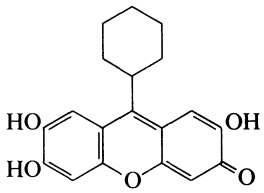
Used as $CHCl_3$ soln. for extraction-photometric detn. of Ti ($CHCl_3$/isopentanol pH 2.9-4.5). Cryst.

Chaprasova, L.V. *et al*, *Uzb. Khim. Zh.*, 1974, **18**, 28; *CA*, **81**, 44915d (*synth*, *detn*, *Ti*)

9-Cyclohexyl-2,6,7-trihydroxy-3*H*-xanthen-3-one, 9CI C-00359

Cyclohexylfluorone

[72007-67-1]



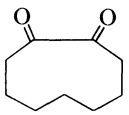
$C_{19}H_{18}O_5$ M 326.348

Used in photometric detn. of Cu (ε 190000). Dark cryst. Sol. EtOH.

Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1979, **298**, 150 (*synth*, *use*)

1,2-Cyclononanedione C-00360

[3008-36-4]



$C_9H_{14}O_2$ M 154.208

Liq. Bp_3 80-85°.

Dioxime: [18310-15-1].

$C_9H_{16}N_2O_2$ M 184.238

Used as a soln. in EtOH for gravimetric detn. of Bi, Ni, Pd. Cryst. (C_6H_6). Sol. EtOH, C_6H_6; spar. sol. H_2O. Mp 178°. $Bp_{0.6}$ 57-59°.

Dihydrazone:

$C_9H_{18}N_4$ M 182.268

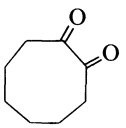
Cryst. (EtOH). Mp 106-107°.

Cumper, C.W.N. *et al*, *J. Chem. Soc.*, 1965, 2067 (*synth*)
Bassed, J. *et al*, *Analyst* (*London*), 1967, **92**, 279 (*use*)
Caubere, P. *et al*, *J. Org. Chem.*, 1986, **51**, 1419 (*synth*)

1,2-Cyclooctanedione C-00361

Suberil

[3008-37-5]



$C_8H_{12}O_2$ M 140.182

Liq. Bp_3 68.8-69.5°.

Dioxime: [18310-14-0]. *Octoxime*

$C_8H_{14}N_2O_2$ M 170.211

Used as a soln. in EtOH for gravimetric detn. of Bi, Ni, Pd. Cryst. (C_6H_6). Sol. EtOH, C_6H_6; spar. sol. H_2O. Mp 170°.

Monophenylhydrazone: Yellow needles (EtOH). Mp 80-81°.

Dihydrazone:

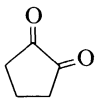
$C_8H_{16}N_4$ M 168.241

Cryst. (C_6H_6). Mp 105-106.5°.

Witkop, B. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 2641 (*synth*)
Blomquist, A.T. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 2153 (*synth*)
Cumper, C.W.N. *et al*, *J. Chem. Soc.*, 1965, 2067 (*synth*)
Bassed, J. *et al*, *Analyst* (*London*), 1967, **92**, 279 (*detn*, *Bi*, *Ni*, *Pd*)
Bauer, D.P. *et al*, *J. Org. Chem.*, 1975, **40**, 1990 (*synth*)
Caubere, P. *et al*, *J. Org. Chem.*, 1986, **51**, 1419 (*synth*)

1,2-Cyclopentanedione, 9CI C-00362

[3008-40-0]



$C_5H_6O_2$ M 98.101

Cryst. with a feeble quinine odour. Sol. H_2O, EtOH, Et_2O, spar. sol. CS_2, ligroin. Mp 55-56°. Bp_{20} 105°. Spar. steam-volatile. Stored at −30° in the dark.

Monoanil:
$C_{11}H_{11}NO$ M 173.214
Mp 112-113°.

Oxime: [31579-37-0].
$C_5H_7NO_2$ M 113.116
Cryst. (H_2O). Mp 210° dec.

Dioxime: [6635-29-6]. *1,2-Cyclopentanedione dioxime*
$C_5H_8N_2O_2$ M 128.130
Used as a 0.01*M* aq. soln. for gravimetric detn. of Ni. Cryst. (H_2O). Sl. sol. H_2O, EtOH. Mp 210°.

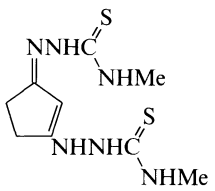
Phenylhydrazone: Mp 203°.

Bisphenylhydrazone: Mp 146°.

Dieckmann, W., *Ber.*, 1897, **30**, 1471 (*synth*)
Voter, R.C. *et al*, *Anal. Chem.*, 1949, **21**, 1320 (*use, dioxime*)
Hesse, G. *et al*, *Justus Liebigs Ann. Chem.*, 1949, **563**, 31 (*synth*)
Rao, D.V. *et al*, *J. Org. Chem.*, 1979, **44**, 456 (*synth, cmr*)
Grégoire, B. *et al*, *J. Org. Chem.*, 1986, **51**, 1419 (*pmr*)
Fadel, A. *et al*, *Synthesis*, 1987, 37 (*synth*)
Quast, H. *et al*, *Chem. Ber.*, 1989, **122**, 523 (*synth*)

1,3-Cyclopentanedione bis(4-methylthiosemicarbazone) C-00363

2,2'-(1,3-Cyclopentanediylidene)bis[N-*methylhydrazinecarbothioamide*], *9CI*



$C_9H_{16}N_6S_2$ M 272.398

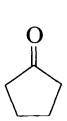
B,HCl: [86946-90-9].
Used as soln. in 1*M* $HClO_4$ for photometric detn. of $ClO_3^{\ominus}$, $BrO_3^{\ominus}$, $IO_3^{\ominus}$, (λ_{max} 415 nm, ε 20500) Cu. Cryst. (EtOH). Sol. EtOH, DMF; spar. sol. H_2O.

Roman Ceba, M. *et al*, *Anal. Lett.*, 1983, **16**, 593 (*detn, $BrO_3^{\ominus}$*)
Roman Ceba, M. *et al*, *Microchem. J.*, 1985, **31**, 256, 340; **32**, 64 (*detn, $IO_3^{\ominus}$, Cu, $ClO_3^{\ominus}$*)

Cyclopentanone, 9CI C-00364

Adipic ketone. Dumasine

[120-92-3]



C_5H_8O M 84.118

Forms Schiff bases with amines useful for gc anal. Liq. with pleasant odour. Spar. sol. H_2O. Fp −58°. Bp 130°. pK_a 16.7 (25°). n_D^{20} 1.4366.

▷ Mod. toxic. Mixtures with HNO_3 and H_2O_2 may explode. GY4725000.

Oxime: [1192-28-5].
C_5H_9NO M 99.132
Prisms. Mp 56.5°. Bp 196°, Bp_{45} 120-121°.
▷ GY5150000.

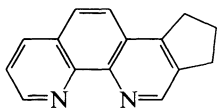
2,4-Dinitrophenylhydrazone: Mp 145.5-146.5°.

Semicarbazone: Mp 224°.

Ethylene ketal: [176-32-9]. *1,4-Dioxaspiro[4.4]nonane*
$C_7H_{12}O_2$ M 128.171
Mp 153°.

Vavon, G. *et al*, *Bull. Soc. Chim. Fr.*, 1928, **43**, 668.
Org. Synth., Coll. Vol., 1, 1932, 192 (*synth*)
Micovic, V.M. *et al*, *Tetrahedron*, 1958, **4**, 186 (*ketal*)
Vanden Heuvel, W.J.A. *et al*, *Anal. Chem.*, 1964, **36**, 1550 (*use*)
Girard, C. *et al*, *Tetrahedron Lett.*, 1974, 3329 (*synth*)
Cortese, N.A. *et al*, *J. Org. Chem.*, 1978, **43**, 3985 (*synth*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 265.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CPW500, CPW750.

3,4-Cyclopenteno-1,10-phenanthroline C-00365



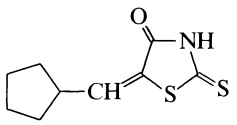
$C_{15}H_{12}N_2$ M 220.273

Used as redox indicator. Cryst. (C_6H_6). Sol. EtOH, C_6H_6; spar. sol. H_2O. Mp 207-208°. pK_{a1} 5.78 (μ = 0.002, 25°).

Case, F.H., *J. Org. Chem.*, 1956, **21**, 1069 (*synth*)
Schilt, A.A. *et al*, *J. Phys. Chem.*, 1956, **60**, 1546 (*pKa*)
Bishop, E., *Indicators*, Pergamon ,Oxford, 1972, 650 (*use*)

5-(Cyclopentylmethylene)-2-thioxo-4-thiazolidinone, 9CI C-00366

5-Cyclopentylmethylenerhodanine



$C_9H_{11}NOS_2$ M 213.324

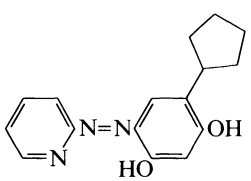
Used as a 0.2% soln. in EtOH for photometric detn. of Au, Ag, Cu, Hg, Pd, Pt. Orange cryst. Sol. Et_2O, Me_2CO, EtOH. Mp 193°.

Kulberg, L.M. *et al*, *Zh. Anal. Khim.*, 1954, **9**, 85 (*use*)

4-Cyclopentyl-6-(2-pyridinylazo)-1,3-benzenediol, 9CI C-00367

1-(2-Pyridylazo)-4-cyclopentylresorcinol. 2-[(5-Cyclopentyl)-2,4-dihydroxyphenylazo]pyridine

[108491-56-1]



$C_{16}H_{17}N_3O_2$ M 283.329

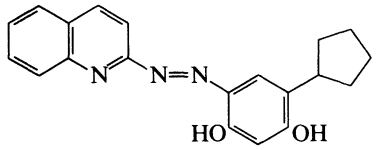
Used as 0.075% EtOH soln. for photometric detn. of Cu (λ_{max} 520 nm, ε 49000, pH ~ 7). Red-brown cryst. Sol. EtOH, Me_2CO, toluene, CCl_4.

Babaev, N.B. *et al*, *Zavod. Lab.*, 1987, **53**, 14 (*synth, detn, Cu*)

4-Cyclopentyl-6-(2-quinolinylazo)-1,3-benzenediol, 9CI C-00368

2-(5-Cyclopentyl-2,4-dihydroxyphenylazo)quinoline. 6-(2-Quinolylazo)-4-cyclopentylresorcinol

[109173-46-8]



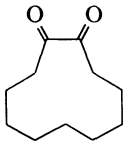
$C_{20}H_{19}N_3O_2$ M 333.389

Used as EtOH soln. for photometric detn. of In (ε 44600, pH 5.3-6.5). Brown cryst. powder. Sol. EtOH.

Ibraimov, C. *et al*, *Uzb. Khim. Zh.*, 1986, **6**, 19; *CA*, **107**, 50872j (*detn, In*)

1,2-Cycloundecanedione C-00369

[3008-34-2]



$C_{11}H_{18}O_2$ M 182.262

Liq. Bp_1 73-74°.

Dioxime: [18310-16-2].

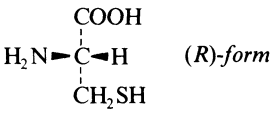
$C_{11}H_{20}N_2O_2$ M 212.291

Used as a soln. in EtOH for gravimetric detn. of Bi, Ni, Pd. Cryst. (C_6H_6). Sol. EtOH, C_6H_6; spar. sol. H_2O. Mp 207°.

Cumper, C.W.N. *et al*, *J. Chem. Soc.*, 1965, 2067 (*synth*)
Bassed, J. *et al*, *Analyst (London)*, 1967, **92**, 279 (*use*)
Caubere, P. *et al*, *J. Org. Chem.*, 1986, **51**, 1419 (*synth*)

Cysteine C-00370

2-Amino-3-mercaptopropanoic acid, 9CI. Thioserine (obsol.). NSC 8746



(*R*)-*form*

$C_3H_7NO_2S$ M 121.160

(R)-form [52-90-4]

L-form

Found in hydrolysates of proteins. Used as a detoxicant. Sol. H_2O, AcOH, NH_3. Mp 178°. $[\alpha]_D^{25}$ −16.5° (c, 2 in H_2O), $[\alpha]_D$ +26.5° (5*M* HCl). pK_{a1} 1.92; pK_{a2} 8.35; pK_{a3} 10.46 (SH). Oxid. rapidly to Cystine. *N*-Protected derivs. useful in peptide synthesis have been listed alphabetically elsewhere.

▷ HA1600000.

B,HCl: [52-89-1].

Mp 175-178° dec.

▷ HA2275000.

Me ester: [2485-62-3]. ***Methyl cysteine*, BAN.** *Mecysteine, INN*

$C_4H_9NO_2S$ M 135.187

Mucolytic. Vasoconstrictor.

(±)-form [3374-22-9]

Used for photometric detn. of Co, Cu, K.

▷ HA1595000.

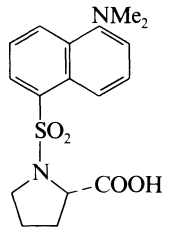
B,HCl: Mp 140-141°.

du Vigneaud, V. *et al*, *J. Am. Chem. Soc.*, 1930, **52**, 4500.
Arnstein, H.R.V. *et al*, *Biochem. J.*, 1954, **57**, 360.
Greenstein, J.P. *et al*, *Chemistry of the Amino Acids*, Wiley, N.Y., Vol. 3, 1961, 1879 (*rev*)
Tominga, T. *et al*, *J. Biochem. (Tokyo)*, 1963, **54**, 220.
Fowden, L., *Annu. Rev. Biochem.*, 1964, **33**, 173 (*occur, derivs*)
Martin, R.B. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 1065 (*pmr*)
Martin, T.A. *et al*, *J. Org. Chem.*, 1965, **30**, 2839.
Saggers, B.A. *et al*, *J. Clin. Pathol.*, 1966, **19**, 313; *CA*, **65**, 9533b.
Burger, K., *Organic Reagents in Metal Analysis*, Akademiai Kiado, Budapest, 1973, 148 (*detn, Co, Cu, K*)
Kerr, K.A. *et al*, *Acta Crystallogr., Sect. B*, 1975, **31**, 2022.
Martens, J. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1981, **20**, 668 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CQK000, CQK250, MBX800.

D

Dansylproline D-00001

1-[[5-(Dimethylamino)-1-naphthalenyl]sulfonyl]proline, 9CI



$C_{17}H_{20}N_2O_4S$ M 348.422

(S)-form [1239-94-7]

L-form

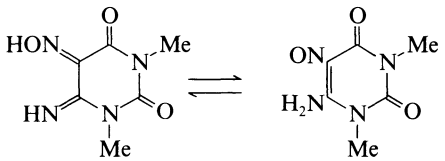
Fluorescent dye. Reagent for the resolution of enantiomeric amines. Yellow powder.

Schoellmann, G., *Hoppe Seyler's Z. Physiol. Chem.*, 1967, **348**, 1629 (*synth*)
Seiler, N. *et al*, *Anal. Biochem.*, 1971, **44**, 451 (*ms*)
Gamoh, K. *et al*, *Anal. Chim. Acta*, 1991, **243**, 251 (*use*)

Daxime D-00002

6-Amino-1,3-dimethyl-5-nitroso-2,4(1H,3H)-pyrimidinedione, 9CI

[6632-68-4]



$C_6H_8N_4O_3$ M 184.154

Used as a 1% aq. soln. of Na salt for photometric detn. of Cu (λ_{max} 382 nm, ε 5050). Violet cryst. Sol. alkalis; spar. sol. H_2O, Me_2CO; insol. EtOH, $CHCl_3$, dioxan, Et_2O.

▷ YQ8780000.

Burger, K., *Organic Reagents in Metal Analysis*, Akadémiai Kiadó, Budapest, 1973 (*detn, Cu*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DPN400.

1,1,1,2,2,6,6,7,7,7-Decafluoro-3,5-heptanedione D-00003

[38007-33-9]

$F_3CCF_2COCH_2COCF_2CF_3$

$C_7H_2F_{10}O_2$ M 308.076

Used for gc separation of lanthanides. Liq. Sol. EtOH, Me_2CO. Bp 96-98°.

Burgett, C.A., *Anal. Chem.*, 1972, **44**, 1738 (*synth*)
Burgett, C.A. *et al*, *Talanta*, 1973, **20**, 363.

1,1,1,5,5,6,6,7,7,7-Decafluoro-2,4-heptanedione, 9CI D-00004

[20583-66-8]

$F_3CCOCH_2COCF_2CF_2CF_3$

$C_7H_2F_{10}O_2$ M 308.076

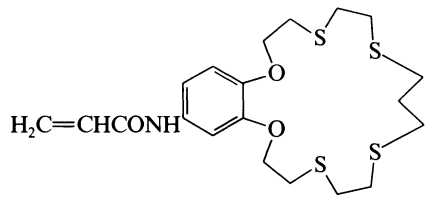
Used as NMR shift reagent; for extraction of lanthanides. Liq. Sol. EtOH, Me_2CO, Et_2O.

Scribner, W.G. *et al*, *CA*, 1970, **73**, 92153k (*use*)
Mitchell, J.W. *et al*, *Talanta*, 1972, **19**, 1157 (*use*)
Sievers, R.E., *NMR Shift Reagents*, New York, Academic Press, 1973 (*use*)

N-(2,3,5,6,9,10,12,13,15,16-Decahydro-8*H*-1,17,4,7,11,14-benzodioxatetrathiacyclononadecin-19-yl)-2-propenamide, 9CI D-00005

2,3-(4-Acryloylaminobenzo)-1,4-dioxa-7,10,14,17-tetrathiadioxacyclononadec-2-ene

[81810-61-9]



$C_{20}H_{29}NO_3S_4$ M 459.718

Used as 0.05m*M* soln. in $CHCl_3$ for selective extraction-separation of Ag from Cu, Hg, Pb and other metals. Cryst. Sol. $CHCl_3$.

Homopolymer: [81848-81-9]. *Poly[2,3-(4'-acryloylaminobenzo)-1,4-dioxa-7,10,14,17-tetrathiacyclononadeca-2-ene]*

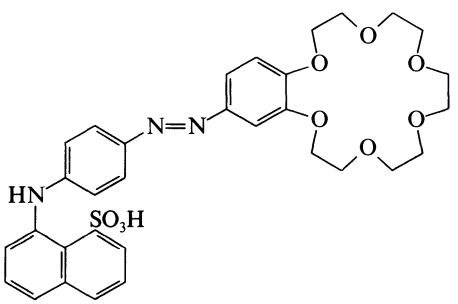
Used as 0.05m*M* $CHCl_3$ soln. for extraction separation of Ag.

Oue, M. *et al*, *J. Polym. Sci., Polym. Chem. Ed.*, 1985, **23**, 2033 (*synth*)
Oue, M. *et al*, *Anal. Chim. Acta*, 1987, **194**, 293 (*sepn, Ag*)

8-[[4-[(2,3,5,6,8,9,11,12,14,15-Decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl)azo]phenyl]amino]-1-naphthalenesulfonic acid, 9CI D-00006

4'-[N-(8-Sulfo-1-naphthyl)-4-aminophenylazo]benzo-18-crown-6

[106029-97-4]



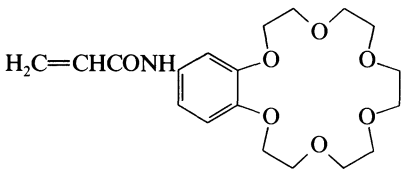
$C_{32}H_{35}N_3O_9S$ M 637.709

Used as 0.01% EtOH soln. for extraction-photometric detn. of K (λ_{max} 520 nm, ε 21000, $CHCl_3$). Cryst. Sol. EtOH.

Iwachido, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1986, **35**, 892 (*synth*, *detn*, *K*)

N-(2,3,5,6,8,9,11,12,14,15-Decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl)-2-propenamide, 9CI D-00007

[68865-32-7]



$C_{19}H_{27}NO_7$ M 381.425

Used as 0.01-0.05m*M* $CHCl_3$ soln. for extraction of Ag, Tl(*I*), alkali and alkaline earth metals (in the presence of picrate). Cryst. Sol. $CHCl_3$, DMF.

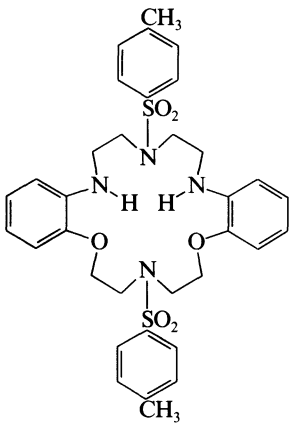
Homopolymer: [68865-33-8].

Used as 0.01-0.05m*M* $CHCl_3$ soln. for extraction of Ag, Tl(*I*), alkali and alkaline earth metals (in the presence of picrate). Sol. $CHCl_3$. Exact formulation unknown.

Kimura, K. *et al*, *Anal. Lett.*, 1978, **A11**, 821 (*synth*)
Maeda, T. *et al*, *Fresenius' Z. Anal. Chem.*, 1979, **298**, 363; 1982, **313**, 407 (*detn*, *Ag*, *Tl*, *alkaline earth*, *metals*)
Kimura, K. *et al*, *Talanta*, 1979, **26**, 945 (*alkali*, *metals*)

7,8,9,10,17,18,19,20,21,22-Decahydro-8,19-bis[(4-methylphenyl)sulfonyl]-6*H*,16*H*-dibenzo-[*h*,*q*][1,7,4,10,13,16]dioxatetraazacyclooctadecine, 9CI D-00008

[109888-84-8]



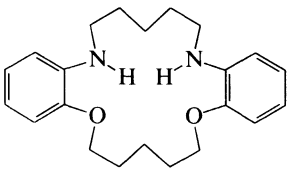
$C_{34}H_{40}N_4O_6S_2$ M 664.845

Used as 1m*M* 1,2-dichloroethane soln., for extraction-kinetic detn. of Os(*IV*). Cryst. Sol. $CHCl_3$, 1,2-dichloroethane, CCl_4.

Beklemishev, M.K. *et al*, *Zh. Neorg. Khim.*, 1986, **31**, 2617 (*synth*)
Beklemishev, M.K. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 356 (*detn*, *Os*)

7,8,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*b*,*k*][1,13,4,10]dioxadiazacyclooctadecine, 9CI D-00009

[109888-79-1]



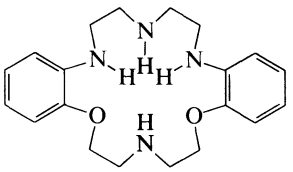
$C_{22}H_{30}N_2O_2$ M 354.491

Used as 1m*M* 1,2-dichloroethane soln. for extraction-kinetic detn. of Os(*IV*). Cryst. Sol. $CHCl_3$, 1,2-dichloroethane, CCl_4.

Beklemishev, M.K. *et al*, *Zh. Neorg. Khim.*, 1986, **31**, 2617 (*synth*)
Beklemishev, M.K. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 356 (*detn*, *Os*)

7,8,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h*,*q*][1,7,4,10,13,16]dioxatetraazacyclooctadecine, 9CI D-00010

[54533-77-6]



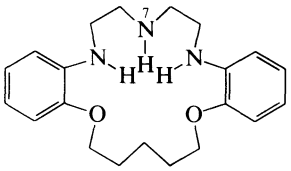
$C_{20}H_{28}N_4O_2$ M 356.467

Used as 1m*M* 1,2-dichloroethane soln. for extraction-kinetic detn. of Os(*IV*). Cryst. Sol. $CHCl_3$, 1,2-dichloroethane, CCl_4.

Beklemishev, M.K. *et al*, *Zh. Neorg. Khim.*, 1986, **31**, 2617 (*synth*)
Beklemishev, M.K. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 356 (*detn*, *Os*)

6,7,8,9,10,11,18,19,20,21-Decahydro-5*H*,17*H*-dibenzo[*b*,*k*][1,13,4,7,10]dioxatriazacyclooctadecine, 9CI D-00011

[109904-91-8]



$C_{21}H_{29}N_3O_2$ M 355.479

Used as 1m*M* 1,2-dichloroethane soln. for extraction-kinetic detn. of Os(*IV*). Cryst. Sol. $CHCl_3$, 1,2-dichloroethane, CCl_4.

N^7-[(*4-Methylphenyl*)*sulfonyl*]: [109888-85-9].
6,7,8,9,10,11,18,19,20,21-Decahydro-8-[(*4-methylphenyl*)*sulfonyl*]-5H,17H-*dibenzo*[b,k][*1,13,4,7,10*]*dioxatriazacyclooctadecine*, *9CI*
$C_{28}H_{35}N_3O_4S$ M 509.668

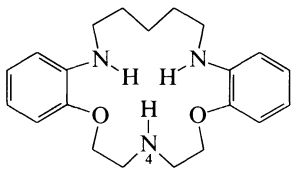
Used as 1m*M* 1,2-dichloroethane soln. for extraction-kinetic detn. of Os(*IV*). Cryst. Sol. $CHCl_3$, 1,2-dichloroethane, CCl_4.

Beklemishev, M.K. *et al*, *Zh. Neorg. Khim.*, 1986, **31**, 2617 (*synth*)
Beklemishev, M.K. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 356 (*detn*, *Os*)

7,8,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h*,*q*][1,7,4,10,16]dioxatriazacyclooctadecine, 9CI

D-00012

[109888-86-0]



$C_{21}H_{29}N_3O_2$ M 355.479

Used as 1m*M* 1,2-dichloroethane soln. for extraction-kinetic detn. of Os(*IV*). Cryst. Sol. $CHCl_3$, 1,2-dichloroethane, CCl_4.

N^4-[(*4-Methylphenyl*)*sulfonyl*]: [109888-87-1].
7,8,9,10,17,18,19,20,21,22-Decahydro-8-[(*4-methylphenyl*)*sulfonyl*]-*6*H,*16*H-*dibenzo*[h,q][*1,7,4,10,16*]*dioxatriazacyclooctadecine*, *9CI*

$C_{28}H_{35}N_3O_4S$ M 509.668

Used as 1m*M* 1,2-dichloroethane soln. for extraction-kinetic detn. of Os(*IV*). Cryst. Sol. $CHCl_3$, 1,2-dichloroethane, CCl_4.

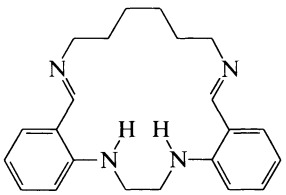
Beklemishev, M.K. *et al*, *Zh. Neorg. Khim.*, 1986, **31**, 2617 (*synth*)
Beklemishev, M.K. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 356 (*detn*, *Os*)

7,8,9,10,11,12,19,20,21,22-Decahydrodibenzo[*e*,*q*][1,4,8,15]tetraazacyclooctadecine, 9CI

D-00013

Macrocyclic schiff's base IV

[94390-11-1]



$C_{22}H_{28}N_4$ M 348.490

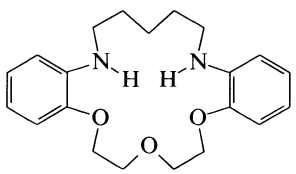
Used as 1m*M* soln. in $CHCl_3$ for selective extraction sepn. of Cu(*II*) (pH 7-9). Cryst. Sol. $CHCl_3$.

Owston, P.G. *et al*, *J. Chem. Soc., Chem. Commun.*, 1980, 1218 (*synth*)
Zolotov, Yu.A. *et al*, *Dokl. Akad. Nauk SSSR*, 1984, **277**, 1145 (*sepn*, *Cu*)
Isakova, N.V. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 859 (*detn*, *Cu*)

6,7,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h*,*q*][1,4,7,10,16]trioxadiazacyclooctadecine, 9CI

D-00014

[109888-81-5]



$C_{21}H_{28}N_2O_3$ M 356.464

Used as 1m*M* 1,2-dichloroethane soln. for extraction-kinetic detn. of Os(*IV*). Cryst. Sol. $CHCl_3$, 1,2-dichloroethane, CCl_4.

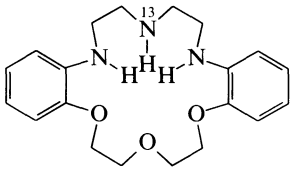
Beklemishev, M.K. *et al*, *Zh. Neorg. Khim.*, 1986, **31**, 2617 (*synth*)
Beklemishev, M.K. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 356 (*detn*, *Os*)

6,7,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h*,*q*][1,4,7,10,13,16]trioxatriazacyclooctadecine, 9CI

D-00015

8,9:17,18-Dibenzo-1,4,7-trioxa-10,13,16-triaza-18-crown-6

[120367-88-6]



$C_{20}H_{27}N_3O_3$ M 357.452

Used as 1m*M* 1,2-dichloroethane or $CHCl_3$ soln. for extraction-kinetic detn. of Os(*IV*); extraction-fluorescence detn. of Tl(*I*). Cryst. Sol. $CHCl_3$, 1,2-dichloroethane, CCl_4.

N^{13}-[(*4-Methylphenyl*)*sulfonyl*]: [109888-80-4].
6,7,9,10,17,18,19,20,21,22-Decahydro-19-[(*4-methylphenyl*)*sulfonyl*]-*16*H-*dibenzo*[h,q][*1,4,7,10,13,16*]*trioxatriazacyclooctadecine*, *9CI*

$C_{27}H_{33}N_3O_5S$ M 511.641

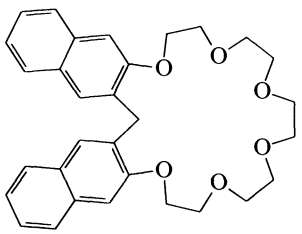
Used as 1m*M* 1,2-dichloroethane or $CHCl_3$ soln. for extraction-kinetic detn. of Os(*IV*); extraction-fluorescence detn. of Tl(*I*). Cryst. Sol. $CHCl_3$, 1,2-dichloroethane, CCl_4.

Beklemishev, M.K. *et al*, *Zh. Neorg. Khim.*, 1986, **31**, 2617 (*synth*)
Beklemishev, M.K. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 356, 1058 (*detn*, *Os*, *Tl*)

8,9,11,12,14,15,17,18,20,21-Decahydro-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16]hexaoxacycloheneicosine, 9CI

D-00016

[88047-11-4]



$C_{31}H_{34}O_6$ M 502.606

Used as soln. in THF for selective extraction of $K^{\oplus}$ over $Na^{\oplus}$ (PVC membrane ion-selective electrode). Cryst.

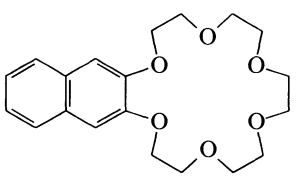
Covington, A.K. *et al*, *Analyst* (*London*), 1988, **113**, 895 (*synth*, *use*)

2,3,5,6,8,9,11,12,14,15-Decahydronaphtho[2,3-*b*]-1,4,7,10,13,16-hexaoxacyclooctadecine, 9CI

D-00017

Naphtho-18-crown-6

[17454-52-3]



$C_{20}H_{26}O_6$ M 362.422

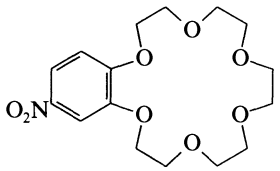
Used as an ionophore in ion-selective electrodes (selective for K over Na). Cryst.

Blair, T.L. *et al*, *Anal. Chim. Acta*, 1989, **222**, 252 (*detn, K*)

2,3,5,6,8,9,11,12,14,15-Decahydro-18-nitro-1,4,7,10,13,16-benzohexaoxacyclooctadecine, 9CI D-00018

4-Nitrobenzo-18-crown-6

[53408-96-1]



$C_{16}H_{23}NO_8$ M 357.360

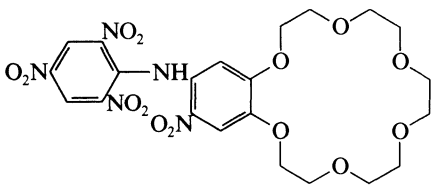
Used as 1% soln. in dipentyl phthalate in K selective electrode (PVC membrane). Yellowish leaflets (C_6H_6/hexane). Sol. C_6H_6, hexane.

Petranek, J. *et al*, *Anal. Chim. Acta*, 1974, **72**, 375 (*use*)
Petranek, J. *et al*, *Collect. Czech. Chem. Commun.*, 1974, **39**, 2033 (*synth*)

2,3,5,6,8,9,11,12,14,15-Decahydro-19-nitro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-amine, 9CI D-00019

4'-Picrylamino-19-nitrobenzo-18-crown-6

[74305-50-3]



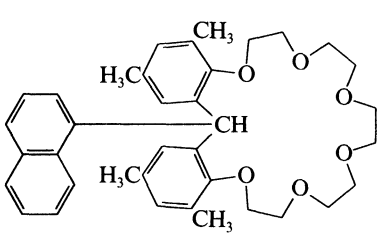
$C_{22}H_{25}N_5O_{14}$ M 583.465

Used as 0.2m*M* soln. in $CHCl_3$ for extraction-photometric detn. of K (λ_{max} 457 nm, ε 21000); extraction of K, Rb, Cs, Na. Orange cryst. (Me_2CO aq.). Sol. Me_2CO, $CHCl_3$. Mp 160-161°. pK_a 8.8 (dioxan aq., 25°).

Nakamura, H. *et al*, *Anal. Chem.*, 1980, **52**, 1668 (*use*)
Yamashita, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1550 (*synth*)

6,7,9,10,12,13,15,16,18,19-Decahydro-2,4,21,23-tetramethyl-25-(1-naphthalenyl)-25*H*-dibenzo[*q*,*t*][1,4,7,10,13,16]hexaoxacycloheneicosine, 9CI D-00020

[116921-74-5]



$C_{37}H_{44}O_6$ M 584.751

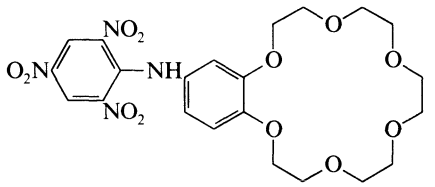
Used as soln. in THF for selective extraction of $K^{\oplus}$ over $Na^{\oplus}$ (PVC membrane ion-selective electrode). Prisms. Sol. THF. Mp 125.4°.

Covington, A.K. *et al*, *Analyst (London)*, 1988, **113**, 895 (*synth, use*)

2,3,5,6,8,9,11,12,14,15-Decahydro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-amine, 9CI D-00021

4'-Picrylaminobenzo-18-crown-6

[74044-87-4]



$C_{22}H_{26}N_4O_{12}$ M 538.467

Used as 0.2m*M* soln. in $CHCl_3$ for extraction-photometric detn. of K (λ_{max} 490 nm, ε 25000), Rb, Cs, Na. Dark red needles (Me_2CO aq.). Sol. Me_2CO, $CHCl_3$, MeOH. Mp 55-56°. pK_a 10.6 (1% dioxan, 25°).

Nakamura, H. *et al*, *Anal. Chem.*, 1980, **52**, 1668 (*use*)
Yamashita, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1550 (*synth*)

Decanedioic acid, 9CI D-00022

Sebacic acid. Octane-1,8-dicarboxylic acid. Ipomic acid

[111-20-6]

$HOOC(CH_2)_8COOH$

$C_{10}H_{18}O_4$ M 202.250

Isol. from yeasts. Used as a cross-linking agent for epoxy resins and for pptn. separation of Th from lanthanides (pH 2.5). Leaflets. Spar. sol. H_2O. Mp 134.5°. Bp_{100} 294.5°, Bp_{15} 243.5°. pK_a 5.59 (100°).

▷ VS0875000.

Mono-Me ester: [818-88-2].
$C_{11}H_{20}O_4$ M 216.277
Mp 40-41°. Bp_{20} 208°.

Boedtker, E., *CA*, 1924, **18**, 3043 (*synth*)
Montonna, R.E., *J. Am. Chem. Soc.*, 1927, **49**, 2114 (*synth*)
Landa, S. *et al*, *CA*, 1932, **26**, 78 (*synth*)
Stoll, M. *et al*, *Helv. Chim. Acta*, 1936, **19**, 253 (*synth*)
Morgan, G.T. *et al*, *J. Chem. Soc.*, 1936, 903 (*synth*)
Carron, M.K. *et al*, *Anal. Chem.*, 1955, **27**, 1058 (*detn, Th*)
Holmes, J.L. *et al*, *Org. Mass Spectrom.*, 1970, **3**, 1505 (*ms*)
Ger. Pat., 2 826 065, (1977); *CA*, **90**, 151587f (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SBJ500.

Decanediperoxoic acid, 9CI D-00023

Diperoxysebacic acid

[5796-85-0]

$HOOOC(CH_2)_8COOOH$

$C_{10}H_{18}O_6$ M 234.249

Used as a 1-10m*M* EtOH soln. as oxidant (Ni(*II*) → Ni(*IV*)) in photometric detn. of Ni with dimethylglyoxime. Cryst. Sol. H_2O, EtOH.

Parker, W.E. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 4037 (*synth*)
Zinchuk, V.K. *et al*, *Zh. Anal. Khim.*, 1987, **42**, 1088 (*use*)

1-Decanesulfonic acid, 9CI D-00024

1-Decylsulfonic acid

[13419-61-9]

$H_3C(CH_2)_8CH_2SO_3H$

$C_{10}H_{22}O_3S$ M 222.348

Na salt: Ion-pairing reagent used in hplc. Sl. hygroscopic cryst. (EtOH). Forms a quarter-hydrate and a hemihydrate.

Me ester: [67779-44-6].
$C_{11}H_{24}O_3S$ M 236.375
Liq. $Bp_{0.3}$ 120°.

Reed, R.M. *et al*, *J. Am. Chem. Soc.*, 1935, **57**, 570 (*synth*)
Jensen, L.H. *et al*, *J. Am. Chem. Soc.*, 1944, **66**, 1946; 1946, **68**, 2730 (*cryst struct, salt*)
Johnson, T.J. *et al*, *Tetrahedron*, 1978, **34**, 547 (*synth*)
Walker, T.A. *et al*, *J. Liq. Chromatogr.*, 1987, **10**, 161 (*use*)

Decanoic acid D-00025

Capric acid. Caprinic acid

[334-48-5]

$H_3C(CH_2)_8COOH$

$C_{10}H_{20}O_2$ M 172.267

Widespread in plant oils, esp. leaf oils and as glycerides in seed oils. Used in corrosion inhibitors and surfactants. Simple esters have perfumery and flavour uses. Used for extraction-preconcentration of Pb. Needles. Sol. EtOH, Et_2O, Me_2CO, C_6H_6, $CHCl_3$, alkalis. d_{40}^4 0.8858. Mp 31.5°. Bp 268-270°, Bp_{11} 148-150°. n_D^{40} 1.4288.

▷ HD9100000.

Me ester: [110-42-9].
$C_{11}H_{22}O_2$ M 186.294
Constit. of many plants. Bp 224°, Bp_{15} 114°.

Et ester: [110-38-3].
$C_{12}H_{24}O_2$ M 200.320
Constit. of many plants. Bp 243-245°, Bp_{13} 122-124°.
▷ HD9420000.

Chloride: [112-13-0].
$C_{10}H_{19}ClO$ M 190.712
Bp_{15} 114°.

Amide: [2319-29-1].
$C_{10}H_{21}NO$ M 171.282
Mp 108°, Mp 98°.

Kao, C.H. *et al*, *J. Chem. Soc.*, 1931, 2046 (*synth*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, no. 697 (*occur*)
Tsang, C.W. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1975, 1718 (*ms*)
Leovey, E.M.K. *et al*, *Prostaglandins*, 1975, **10**, 789 (*pmr*)
Gunstone, F.D., *Chem. Phys. Lipids*, 1976, **17**, 1 (*cmr*)
Umemura, J., *J. Chem. Phys.*, 1978, **48**, 42 (*ir, cryst struct*)
Onishenko, T.A. *et al*, *Zh. Anal. Khim.*, 1987, **42**, 1616 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DAH400, EHE500.

1-Decanol D-00026

Decyl alcohol

[112-30-1]

$H_3C(CH_2)_8CH_2OH$

$C_{10}H_{22}O$ M 158.283

Isol. from plant sources, eg. citrus oils. Has moderate antifoam activity. Used in manuf. of plasticizers, synthetic lubricants, petroleum additives, herbicides, surface active agents and solvents. Alcohol and esters are perfume and flavour ingredients. Anal. reagent for esterification of fatty acids for glc anal. Oil. Fp 7°. Bp_{700} 232-239°, Bp_7 107-108°.

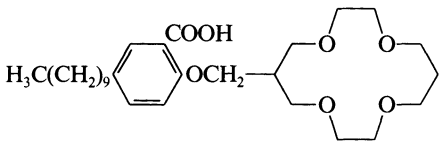
▷ Mod. toxic. HE4375000.

4-Nitrobenzoyl: Mp 57°.
3,5-Dinitrobenzoyl: Mp 52°.

Schrauth, W. *et al*, *Ber.*, 1931, **64**, 1314 (*synth*)
Komppa, G. *et al*, *J. Prakt. Chem.*, 1932, **135**, 193.
Craig, B.M. *et al*, *J. Am. Oil Chem. Soc.*, 1963, **40**, 61 (*use*)
Hoshino, H., *Bull. Chem. Soc. Jpn.*, 1973, **46**, 3043 (*ms*)
Morris, M.W., *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 1037 (*ir*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DAI600.

5-Decyl-2-(1,4,8,11-tetraoxacyclotetradec-6-yl-methoxy)benzoic acid, 9CI D-00027

[97431-13-5]



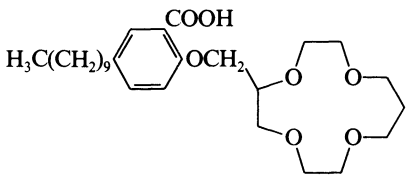
$C_{28}H_{46}O_7$ M 494.667

Ionophore for Li used in ion selective microelectrodes (Ag wire coated with PVC membrane containing crown ether ionophore). Cryst.

Lee, H.K. *et al*, *J. Heterocycl. Chem.*, 1986, **23**, 465 (*synth*)
Attiyat, A.S. *et al*, *Anal. Chem.*, 1988, **60**, 2561 (*use*)

5-Decyl-2-(1,4,7,10-tetraoxacyclotridec-5-ylmethoxy)benzoic acid, 9CI D-00028

[97431-10-2]



$C_{27}H_{44}O_7$ M 480.640

Ionophore for Li used in ion selective microelectrodes (Ag wire coated with PVC membrane containing crown ether ionophore). Cryst.

Lee, H.K. *et al*, *J. Heterocycl. Chem.*, 1986, **23**, 465 (*synth*)
Attiyat, A.S. *et al*, *Anal. Chem.*, 1988, **60**, 2561 (*use*)

Desferrioxamine, BAN D-00029

N'-[5-[[4-[[5-(Acetylhydroxyamino)pentyl]amino]-1,4-dioxobutyl]hydroxyamino]pentyl]-N-(5-aminopentyl)-N-hydroxybutanediamide, 9CI. Deferoxamine, INN, USAN. Desferrin. NSC 527604

[70-51-9]

$H_2N(CH_2)_5N(OH)COCH_2CH_2CONH(CH_2)_5N(OH)$
$COCH_2CH_2CONH(CH_2)_5N(OH)Ac$

$C_{25}H_{48}N_6O_8$ M 560.690

Isol. from *Streptomyces pilosus*. Siderophore. Chelating agent for iron mobilization; used as antidote to iron poisoning; also chelates aluminium, of interest with respect to treatment of Alzheimer's disease. Used as 4m*M* aq. soln. for photometric detn. of V(*V*) (λ_{max} 480 nm, ε 3150, pH 1.3), Fe(*III*). Cryst. + $1H_2O$ (EtOH aq.). Mp 138-140°.

▷ UG5300000.

B,HCl: [1950-39-6]. *Deferoxamine hydrochloride, USAN. Ba 29837*
Mp 172-175°.

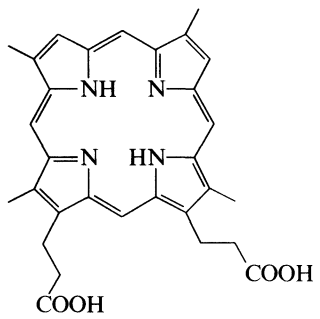
B,MeSO$_3$H: [138-14-7]. *Desferrioxamine mesilate, BAN, JAN. Desferal. Ba 33112. Ciba 33112*
Cryst. (EtOH aq.). Mp 148-149°.
▷ UG5310000.

N-*Ac:* Mp 180-182°.

Bickel, H. *et al, Helv. Chim. Acta*, 1960, **43**, 2118, 2129; 1963, **46**, 1385 (*isol, synth*)
Prelog, V. *et al, Helv. Chim. Acta*, 1962, **45**, 631 (*synth*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1034.
Luterotti, S. *et al, Acta Pharm. Jugosl.*, 1986, **36**, 341; *CA*, **105**, 237518z (*detn, Fe*)
Luterotti, S. *et al, Analyst (London)*, 1986, **111**, 1163 (*detn, V*)
Bergeron, R.J. *et al, J. Org. Chem.*, 1988, **53**, 3131 (*synth, bibl*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DAK200, DAK300.

Deuteroporphyrin IX D-00030

[448-65-7]



$C_{30}H_{30}N_4O_4$ M 510.591
Trace amounts found in faeces and putrefied blood; also formed by resorcinol fusion of Haemin or Protoporphyrin IX. Key intermed. in synth. of Protoporphyin IX and related porphyrins. Used as 0.25m*M* DMF soln. for fluorimetric detn. of Zn (λ_{max} 578 nm, EtOH). Violet cryst. (AcOH/Et_2O). Sol. DMF, EtOH, Me_2CO, dioxan, $CHCl_3$.

Di-Me ester: [10589-94-3].
$C_{32}H_{34}N_4O_4$ M 538.645
Violet cryst. ($CHCl_3$/MeOH). Mp 223°. λ_{max} 400, 497, 530, 566, 593, 621 nm.

Di-Me ester, Cu complex: Reddish-purple cryst. ($CHCl_3$/MeOH). Mp 234°.

Fischer, H. *et al, Justus Liebigs Ann. Chem.*, 1929, **468**, 98 (*struct, synth*)
Bamfield, P. *et al, J. Chem. Soc. C*, 1968, 1259 (*synth*)
Janson, T.R. *et al, The Porphyrins*, (Dolphin, D., Ed.), Academic Press, N.Y., Vol. IV, 1979, 1 (*pmr, cmr*)
Dinello, R.K. *et al, The Porphyrins*, (Dolphin, D., Ed.), Academic Press, N.Y., Vol. I, 1979, 294 (*synth*)
Fakeeva, O.A. *et al, Zh. Anal. Khim.*, 1988, **43**, 827 (*synth, detn, Zn*)

Diacetoxydimethylsilane D-00031

Dimethylsilanediol diacetate, 9CI. Dimethyldiacetoxysilane

[2182-66-3]

$Me_2Si(OAc)_2$

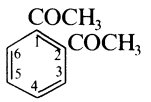
$C_6H_{12}O_4Si$ M 176.244
Silylating agent for *cis*-diols. Liq. Bp 164-166°.

Mehrotra, R.C. *et al, Tetrahedron Lett.*, 1963, 321 (*synth*)
Kelly, R.W., *J. Chromatogr.*, 1969, **43**, 229 (*synth, use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1972, **3**, 113 (*synth, use*)
McFarlane, W. *et al, J. Chem. Soc., Perkin Trans. 2*, 1972, 1561 (*nmr*)
Pola, J. *et al, Collect. Czech. Chem. Commun.*, 1974, **39**, 1169 (*ir, synth*)

1,2-Diacetylbenzene D-00032

1,1'-(1,2-Phenylene)bisethanone, 9CI. o-*Acetylacetophenone*

[704-00-7]



$C_{10}H_{10}O_2$ M 162.188
Colorimetric reagent for amino acids and primary amines. Needles (Et_2O/pet. ether). Mp 39-40°.

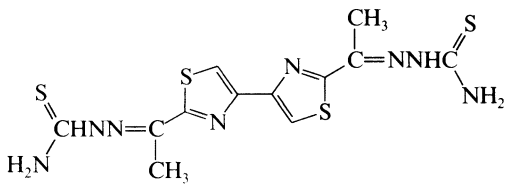
Dioxime:
$C_{10}H_{12}N_2O_2$ M 192.217
Cryst. Mp 183-185°.

Bis-2,4-dinitrophenylhydrazone: Orange solid (C_6H_6/dioxan). Mp 210°.

Goldschmidt, S. *et al, Chem. Ber.*, 1961, **94**, 169 (*synth*)
Cooper, M.A. *et al, J. Am. Chem. Soc.*, 1970, **92**, 1605 (*nmr*)
Krauss, G.J., *J. Chromatogr.*, 1972, **74**, 152 (*use*)

2,2'-Diacetyl-4,4'-bithiazolebis(thiosemicarbazone) D-00033

4,4'-Bisthiazol-2,2'-diacetyldithiosemicarbazone



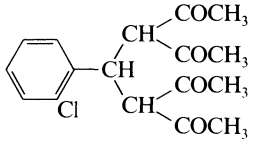
$C_{12}H_{14}N_8S_4$ M 398.560
Used as chelating agent for heavy metals (Ag, Au, Bi, Co, Cu, Ga, Hg, Hn, Ni, Pb, Pd, Tl, Zn). Yellow cryst.

Uno, T. *et al, Bunseki Kagaku (Jpn. Anal.)*, 1960, **10**, 756.
Ballschmiter, K., *Fresenius' Z. Anal. Chem.*, 1973, **263**, 203.

3,5-Diacetyl-4-(2-chlorophenyl)-2,6-heptanedione, 9CI D-00034

1,1,3,3-Tetraacetyl-2-(o-*chlorophenyl)propane*

[101583-43-1]



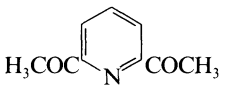
$C_{17}H_{19}ClO_4$ M 322.787
Used for photometric detn. of Nb (λ_{max} 374 nm, MeOH). Sol. EtOH, C_6H_6; insol. H_2O.

Sharma, R.K. *et al, CA*, 1986, **105**, 90298s (*detn, Nb*)

2,6-Diacetylpyridine D-00035

1,1'-(2,6-Pyridinediyl)bis[ethanone], 9CI

[1129-30-2]



$C_9H_9NO_2$ M 163.176

Cryst. Mp 79°.

Dioxime: [36408-72-7].

$C_9H_{11}N_3O_2$ M 193.205

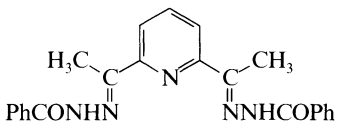
Used as a 1% soln. in MeOH or Me_2CO for photometric detn. of Cu(*II*) (λ_{max} 360 nm), Fe(*II*) (λ_{max} 490 nm). Cryst. Mp 233.5° dec.

Lukes, R. *et al*, *Chem. Listy*, 1958, **52**, 68 (*synth*)
Gagliardi, E. *et al*, *Mikrochim. Acta*, 1965, 1047 (*use*)

2,6-Diacetylpyridine bis(benzoylhydrazone) D-00036

Benzoic acid (2,6-pyridinediyldiethylidene)dihydrazide, 9CI

[73818-26-5]



$C_{23}H_{21}N_5O_2$ M 399.451

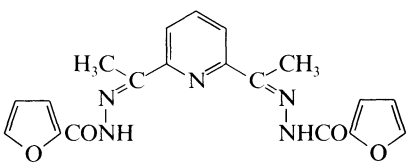
Used as 0.05% soln. in DMF for extraction-photometric detn. of Sb(*III*) (λ_{max} 405 nm, ε 11300, 3-methylbutan-1-ol), U(*VI*) (λ_{max} 420 nm, ε 11000). Cryst. (MeOH). Sol. MeOH, EtOH, DMF, CH_2Cl_2.

Lorenzini, C. *et al*, *J. Chem. Soc., Dalton Trans.*, 1983, 721 (*synth*)
Garcia-Vargas, M. *et al*, *Analyst* (*London*), 1985, **110**, 51 (*detn, Sb*)
Casoli, A. *et al*, *Anal. Chim. Acta*, 1986, **186**, 283 (*detn, U*)

2,6-Diacetylpyridine bis(2-furoylhydrazone) D-00037

2-Furancarboxylic acid (2,6-pyridinediyldiethylidyne) dihydrazide, 9CI

[109632-04-4]



$C_{19}H_{17}N_5O_4$ M 379.374

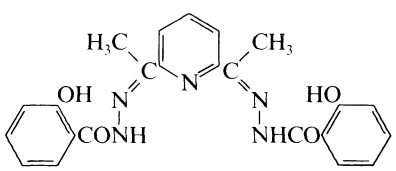
Used as a 2m*M* soln. in MeOH for photometric detn. of U(*VI*) (λ_{max} 400 nm, ε 15000). Cryst. (MeOH). Sol. EtOH, Me_2CO, Et_2O.

Bonilla-Alvarez, M. *et al*, *Talanta*, 1987, **34**, 473 (*synth, detn, U*)

2,6-Diacetylpyridine bis(2-hydroxybenzoylhydrazone) D-00038

2-Hydroxybenzoic acid (2,6-pyridinediyldiethylidene) dihydrazide, 9CI

[76115-25-8]



$C_{23}H_{21}N_5O_4$ M 431.450

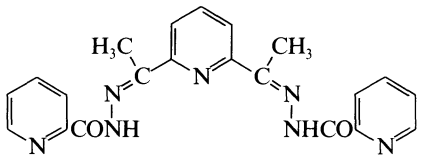
Used as 0.5% soln. in DMF for extraction-photometric detn. of Sb(*III*). Cryst. Sol. DMF; sl. sol. EtOH, H_2O.

Garcia-Vargas, M. *et al*, *Analyst* (*London*), 1985, **110**, 51 (*synth, detn, Sb*)

2,6-Diacetylpyridine bis (2-pyridylhydrazone) D-00039

2-Pyridinecarboxylic acid (2,6-pyridinediyldiethylidyne) dihydrazide, 9CI

[64221-33-6]



$C_{21}H_{19}N_7O_2$ M 401.427

Used as a 2m*M* soln. in MeOH for photometric detn. of U(*VI*) (λ_{max} 350 nm, ε 35000). Cryst. (MeOH). Sol. EtOH, Me_2CO, Et_2O. Mp 194-195°.

Curry, J. *et al*, *Inorg. Chem.*, 1967, **6**, 1570 (*synth*)
Bonilla-Alvarez, M. *et al*, *Talanta*, 1987, **34**, 473 (*use*)

1,6-Diallyl-2,5-dithiobiurea, 8CI D-00040

N,N'-Di-2-propenyl-1,2-hydrazinedicarbothioamide, 9CI. Diallyldithiocarbamidohydrazine. Dalzin

[539-97-9]

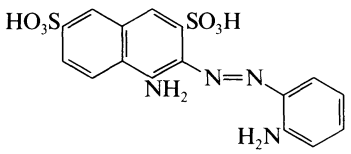
$C_8H_{14}N_4S_2$ M 230.357

Used in gravimetric detn. of Cu, Zn, Ni, Pb. Leaflets (EtOH). Mp 186°.

Busch, M. *et al*, *J. Prakt. Chem.*, 1914, **90**, 265 (*synth*)
Dutt, N.K. *et al*, *Anal. Chim. Acta*, 1956, **15**, 21, 102 (*use*)
Eberhardt, U. *et al*, *Pharmazie*, 1977, **32**, 458.
Nikolaeva, I.V. *et al*, *Zh. Prikl. Khim.* (*Leningrad*), 1985, **58**, 1189 (*synth*)

Diaminazo D-00041

4-Amino-3-[(2-aminophenyl)azo]-2,7-naphthalenedisulfonic acid



$C_{16}H_{14}N_4O_6S_2$ M 422.442

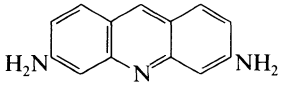
Used as a 0.1% aq. soln. for photometric detn. of Pd (λ_{max} 566 nm, ε 15200). Dark red cryst. powder. Sol. H_2O.

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 558 (*detn, Pd*)

3,6-Diaminoacridine D-00042

3,6-Acridinediamine, 9CI. 2,8-Diaminoacridine (obsol.). ***Proflavine,*** **INN.** *Isoflav. Pancridine. Sanoflavin*

[92-62-6]



$C_{13}H_{11}N_3$ M 209.250

Derivs. are antiseptics. Yellow cryst. Mp 284-286°. Green fluor. in EtOH, blue in H_2SO_4.

▷ Potent mutagen. AR8670000.

B,H_2SO_4: [553-30-0].
Antiseptic. Red or red-brown cryst. + 1H_2O. Spar. sol. H_2O.
▷ AR9065000.

B,MeCl: [8063-24-9]. *3,6-Diamino-10-methylacridinium chloride, 9CI. Acriflavinium chloride, INN. Acriflavine. Numerous proprietary names*
$C_{14}H_{14}ClN_3$ M 259.737
Antiinfective. Used in extraction-separation of Re; forms ion-pair with $ReO_4^{\ominus}$. Redox indicator. Red needles or prisms (H_2O); orange needles (EtOH). Sol. H_2O, EtOH. Commercial Acriflavine is normally a mixt. of B,MeCl.HCl and B,2HCl. Dil. aq. soln. shows green fluorescence.

N^3,N^6-*Tetra-Me:* see *3,6-Bis(dimethylamino)acridine, B-00313*

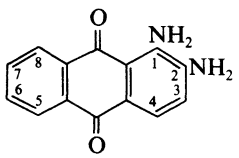
[86-40-8]

Scherlin, S.M. *et al, Justus Liebigs Ann. Chem.*, 1935, **516**, 218 (*synth*)
Albert, A. *et al, J. Chem. Soc.*, 1936, 93 (*synth*)
Goldberg, A.A. *et al, J. Chem. Soc.*, 1946, 102 (*synth*)
Albert, A., *The Acridines*, (Ed.), 2nd Ed., St. Martins Press, N.Y., 1966 (*rev*)
Acheson, R.M., *Acridines*, (Ed.), 2nd Ed., Interscience, N.Y., 1973 (*rev*)
Tarayan, V.M. *et al, Arm. Khim. Zh.*, 1973, **26**, 812; *CA*, **80**, 90824a (*sepn, Re*)
Achari, A. *et al, Acta Crystallogr., Sect. B*, 1976, **32**, 2537 (*cryst struct*)
Holzbecher, Z. *et al, Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976, 340.
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2201, 2271.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 3124 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DBN400, DBN600, XAK000.

1,2-Diaminoanthraquinone, 8CI D-00043

1,2-Diamino-9,10-anthracenedione, 9CI

[1758-68-5]



$C_{14}H_{10}N_2O_2$ M 238.245
Gives colour reactions with Fe(*III*), Co, Ni, Cu. Violet cryst. with bronze lustre ($PhNO_2$). Mp 303°. pK_a 5.68 ($MeNO_2$).

▷ CB6200000.

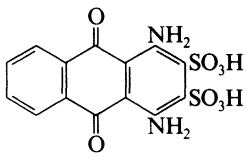
1,2-N-Dibenzoyl:
$C_{28}H_{18}N_2O_4$ M 446.461
Mp 355°.

Groggins, P.H. *et al, Ind. Eng. Chem.*, 1933, **25**, 1030.
Kuznetsov, V.I., *Zh. Anal. Khim.*, 1946, **1**, 259; 1947, **2**, 67 (*use*)
Aldrich Atlas of IR Spectra, 2nd Ed., 1957, 789A (*ir*)
Gorelik, M.V. *et al, Zh. Obshch. Khim.*, 1960, **30**, 2949; *J. Gen. Chem. USSR* (*Engl. Transl.*), 1960, **30**, 2923.
Zaitsev, B.E. *et al, Zh. Fiz. Khim.*, 1971, **45**, 1333 (*uv*)
Aldrich Atlas of NMR Spectra, 1974, **6**, 71B (*pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DBO800.

1,4-Diaminoanthraquinone-2,3-disulfonic acid D-00044

1,4-Diamino-9,10-dihydro-9,10-dioxo-2,3-anthracenedisulfonic acid, 9CI

[65596-11-4]



$C_{14}H_{10}N_2O_8S_2$ M 398.374
Cryst. Mp >300°.

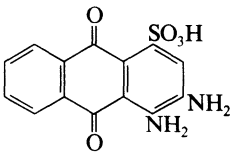
Di-Na salt: [18936-06-6].
Used as 0.1% aq. soln. for photometric detn. of Au(*III*). Cryst.

Capitan, F. *et al, Afinidad*, 1977, **34**, 467 (*detn, Au*)

3,4-Diaminoanthraquinone-1-sulfonic acid D-00045

3,4-Diamino-9,10-dihydro-9,10-dioxo-1-anthracenesulfonic acid, 9CI

[15087-53-3]



$C_{14}H_{10}N_2O_5S$ M 318.309
Used for photometric detn. of Cu. Cryst.

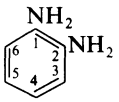
[22518-95-2]

Burger, K., *Organic Reagents in Metal Analysis*, Akadémiai Kiadó, Budapest, 1973 (*use*)

1,2-Diaminobenzene D-00046

1,2-Benzenediamine, 9CI. o-*Phenylenediamine, 8CI*

[95-54-5]



$C_6H_8N_2$ M 108.143
Used as 0.2% aq. soln. for photometric detn. of $Br^{\ominus}$, Se, Pt, V. Intermed. for heterocyclic synth., esp. of quinoxalines. Used in manuf. of antioxidants, photographic chemicals and fibres. Leaflets (H_2O). Mp 104°. Bp 256-258°. pK_{a1} 4.65; pK_{a2} 1.86 (20°, H_2O).

▷ Highly toxic by inhalation and skin absorption. SS7875000.

Sadtler Standard C-13 NMR Spectra, 231 (*cmr*)
Sadtler Standard Ultraviolet Spectra, 460 (*uv*)
Org. Synth., Coll. Vol., 2, 1943, 501 (*synth*)
Ariyoshi, H. *et al, Talanta*, 1960, **5**, 112 (*detn, Se*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 293; **8**, 393.
Golla, E.D. *et al, Talanta*, 1973, **20**, 199 (*detn, Pt*)
Aldrich Library of NMR Spectra, 1974, **5**, 80c (*synth*)
Hendrick, K. *et al, Aust. J. Chem.*, 1974, **27**, 727 (*ms*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 650H (*ir*)
Benerjee, S. *et al, Analyst* (*London*), 1975, **100**, 182 (*detn, V*)
Stålhandske, C., *Acta Crystallogr., Sect. B*, 1976, **32**, 2806 (*cryst struct*)
Weigert, F.J., *J. Org. Chem.*, 1981, **46**, 1936 (*synth*)
Rao, S.B. *et al, Acta Cienc. Indica*, 1982, **7**, 57 (*detn, $Br^{\ominus}$*)
Kasterka, B., *Mikrochim. Acta*, 1989, **1**, 337 (*detn, Se*)

Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 438.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PEY250, TDT000.

1,3-Diaminobenzene D-00047

1,3-Benzenediamine, 9CI. m-*Phenylenediamine, 8CI*

[108-45-2]

$C_6H_8N_2$ M 108.143

Used for photometric detn. of $NO_2^{\ominus}$. Cryst. (C_6H_6/hexane). d 1.139. Mp 65°. Bp 287°, Bp_5 135-140°. pK_a 1.89 (20°, H_2O).

▷ Highly toxic by inhalation and skin absorption. SS7700000.

N-*Ac:* [102-28-3].
$C_8H_{10}N_2O$ M 150.180
Needles (C_6H_6). Mp 86.5-87.5°.
▷ AD8050000.

N,N′-*Di-Ac:* [10268-78-7].
$C_{10}H_{12}N_2O_2$ M 192.217
Prisms (EtOH aq.). Mp 191°.

N-*Benzoyl:* [16091-26-2].
$C_{13}H_{12}N_2O$ M 212.251
Cryst. Mp 125°.

N,N′-*Dibenzoyl:* [17223-18-6].
$C_{20}H_{16}N_2O_2$ M 316.359
Needles (AcOH). Mp 241-242°.

N-*Me:* [50617-73-7].
$C_7H_{10}N_2$ M 122.169
Liq. Bp 265-270°, Bp_{10} 160-163°.

N,N-*Di-Me:* [2836-04-6].
$C_8H_{12}N_2$ M 136.196
Liq. Mp <20°. Bp 268-270°, Bp_{13} 146°.

N,N′-*Di-Me:*
$C_8H_{12}N_2$ M 136.196
Oil. Bp 275-280°, Bp_{10} 165-170°.

N,N,N′-*Tri-Me:*
$C_9H_{14}N_2$ M 150.223
Liq. Bp 280°.

N,N,N′,N′-*Tetra-Me:* [22440-93-3].
$C_{10}H_{16}N_2$ M 164.250
Mp 58°. Bp 266-267°, Bp_{18} 144-145°.

N-*Et:* [50617-74-8].
$C_8H_{12}N_2$ M 136.196
Liq. Bp 276°.

N,N-*Di-Et:* [26513-20-2].
$C_{10}H_{16}N_2$ M 164.250
Bp 276-278°.

N,N′-*Di-Et:* [5857-99-8].
$C_{10}H_{16}N_2$ M 164.250
$Bp_{1.5}$ 115°.

N,N,N′,N′-*Tetra-Et:* [64287-26-9].
$C_{14}H_{24}N_2$ M 220.357
Bp_9 148°.

Sadtler Standard C-13 NMR Spectra, 6632 (*cmr*)
Sadtler Standard Ultraviolet Spectra, 1813 (*uv*)
Druce, J.G.F., *J. Chem. Soc.*, 1918, **113**, 715 (*synth, bibl*)
Aldrich Library of NMR Spectra, 1974, **5**, 82C (*pmr*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 652C (*ir*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976, 491 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 438.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AHQ000, PEY000.

1,4-Diaminobenzene D-00048

1,4-Benzenediamine, 9CI. p-*Phenylenediamine, 8CI*

[106-50-3]

$C_6H_8N_2$ M 108.143

Used as 0.2% aq. soln. for photometric detn. of $CN^{\ominus}$, Au(*III*). Leaflets (Et_2O). Mp 147°. Bp 267°. pK_{a1} 6.31; pK_{a2} 2.97 (20°).

▷ Highly toxic by inhalation and skin absorption, TLV 0.1. SS8050000.

N,N′-*Di-Me:* [105-10-2].
$C_8H_{12}N_2$ M 136.196
Cryst. (pet. ether). Mp 53°. Bp_{17} 149-150°.
▷ ST0875000.

N,N-*Di-Me:* [99-98-9]. N,N-*Dimethyl-1,4-phenylenediamine. 4-(Dimethylamino)aniline.* p-*Aminodimethylaniline*
$C_8H_{12}N_2$ M 136.196
Anal. reagent for phenols, arom. amines, etc. Used for photometric detn. of $SO_4^{2\ominus}$, $S^{2\ominus}$; as indicator in titrimetric detn. of V. Needles. Sol. EtOH, Me_2CO, C_6H_6, Et_2O, aq. HCl, $CHCl_3$; insol. H_2O. Mp 41°. Bp 262°, Bp_{14} 136°.
▷ ST0874000.

N,N,N′,N′-*Tetra-Me:* [100-22-1].
$C_{10}H_{16}N_2$ M 164.250
Used as a 0.25% soln. in aq. soln. of citric acid for photometric detn. of O_3 (λ_{max} 565 nm). Cryst. Mp 49-51°. Bp 260°.
▷ ST4200000.

N-*Et:* [5840-09-5].
$C_8H_{12}N_2$ M 136.196
Liq. Bp 261-262°.

N,N′-*Di-Et:* [3010-30-8].
$C_{10}H_{16}N_2$ M 164.250
Cryst. (pet. ether). Mp 47°. $Bp_{1.2}$ 120°.
▷ SS9450000.

N,N-*Di-Et:* [93-05-0]. N,N-*Diethyl-1,4-phenylenediamine. 4-(Diethylamino)aniline*
$C_{10}H_{16}N_2$ M 164.250
Used as a soln. in 50% H_2SO_4 for photometric detn. of $S^{2\ominus}$, Cl_2. Liq. Bp 260-262°.
▷ SS9275000.

N-*Isopropyl*, N′-*Ph:* [101-72-4]. N-(*1-Methylethyl*)-N′-*phenyl-1,4-benzenediamine, 9CI.* N-*Isopropyl*-N′-*phenyl-1,4-phenylenediamine. Accinox ZA*
$C_{15}H_{18}N_2$ M 226.321
Antioxidant stabilizer for rubbers and other polymers. Mp 79.5-80°.
▷ ST2650000.

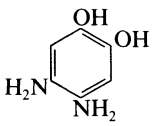
N-*Isopropyl*, N′-*Ph; B,HCl:* Mp 191-192°.

Registry of Mass Spectral Data, Wiley-Interscience, 119 (*ms*)
Sadtler Standard C-13 NMR Spectra, 6466 (*cmr*)
Sadtler Standard Ultraviolet Spectra, 1187 (*uv*)
Hazlet, S.E. *et al*, *J. Am. Chem. Soc.*, 1944, **66**, 1781 (*synth*)
UK Pat., 817 142, (1959); *CA*, **54**, 2252 (*Accinox ZA*)
Galster, H., *Fresenius' Z. Anal. Chem.*, 1962, **186**, 359 (*detn, ozone*)
Dovell, F.S. *et al*, *J. Org. Chem.*, 1964, **29**, 1265 (*Accinox ZA*)
Bark, K.S. *et al*, *Talanta*, 1964, **11**, 471, 621 (*detn, $CN^{\ominus}$*)
Zutshi, P.K. *et al*, *Talanta*, 1970, **17**, 1014 (*use, N,N-di-Me*)
Kramer, D.N. *et al*, *Anal. Chem.*, 1971, **43**, 834 (*deriv, use*)
Shkrobot, E.P. *et al*, *Zavod. Lab.*, 1971, **37**, 1296 (*detn, Au*)
Aldrich Library of NMR Spectra, 1974, **5**, 83D (*pmr*)
Matheson, N.A., *Analyst (London)*, 1974, **99**, 577 (*use, N,N-di-Me*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 653A (*ir*)
Domenicano, A. *et al*, *Acta Crystallogr., Sect. B*, 1977, **33**, 1664 (*cryst struct*)
Siemer, D.D. *et al*, *Anal. Chem.*, 1980, **52**, 1971 (*use, N,N-di-Me*)

Snell, F.D., *Photometric and Fluorimetric Methods of Analysis, Non-Metals*, John Wiley, New York, 1981, 225, 400 (*detn*, Cl_2, $S^{2\ominus}$)
Weller, H. *et al*, *J. Am. Chem. Soc.*, 1983, **105**, 6268 (*deriv*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 438.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AHQ250, BJF500, DJV200, DTL600, DTL800, PEY500, PFL000.

4,5-Diamino-1,2-benzenediol, 9CI D-00049

4,5-Diaminopyrocatechol, 8CI. 4,5-Dihydroxy-α-phenylenediamine. 4,5-Diaminocatechol



$C_6H_8N_2O_2$ M 140.141
Prisms.

Di-Ac:
$C_{10}H_{12}N_2O_4$ M 224.216
Mp 204-205°.

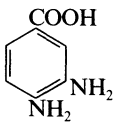
Di-Me ether: [27841-33-4]. *4,5-Dimethoxy-1,2-benzenediamine. 1,2-Diamino-4,5-dimethoxybenzene. 4,5-Diaminoveratrole*
$C_8H_{12}N_2O_2$ M 168.195
Fluorimetric reagent for aromatic aldehydes and α-ketoacids. Prisms. Mp 131-132°.

Di-Me ether; B,HCl: Sl. pink needles (EtOH). Mp 240° dec. Stable on storage in a desiccator.

Heinisch, W., *Monatsh. Chem.*, 1894, **15**, 229.
Iorio, M.A., *Ann. Chim. (Rome)*, 1959, **49**, 370.
Nakamura, M. *et al*, *Anal. Chim. Acta*, 1982, **134**, 39 (*synth, deriv*)
Hara, S. *et al*, *Chem. Pharm. Bull.*, 1985, **33**, 3493 (*use, deriv*)
Nakamura, M. *et al*, *Chem. Pharm. Bull.*, 1987, **35**, 687 (*use, deriv*)

3,4-Diaminobenzoic acid D-00050

[619-05-6]



$C_7H_8N_2O_2$ M 152.152
Used as 0.6% aq. DMF or 0.1*M* HCl soln. for photometric detn. of Ru (λ_{max} 550 nm, ε 4200), Pt (λ_{max} 715 nm, ε 11400). Leaflets. Sl. sol. H_2O; sol. DMF, acids. Mp 207°, Mp 210-211° dec., Mp 215-218°. pK_a 7.77 (80% 2-methoxyethanol).

Me ester: [36692-49-6].
$C_8H_{10}N_2O_2$ M 166.179
Needles (H_2O). Mp 108-109°.

Et ester: [37466-90-3].
$C_9H_{12}N_2O_2$ M 180.206
Needles (H_2O). Mp 112-113°.

3,4-N-Di-Ac:
$C_{11}H_{12}N_2O_4$ M 236.227
Mp 218° dec.

Johnson, L.D. *et al*, *Anal. Chem.*, 1966, **38**, 1218 (*detn, Pt*)
Keil, R., *Fresenius' Z. Anal. Chem.*, 1971, **254**, 191 (*detn, Pt*)
Ayres, G.H. *et al*, *Talanta*, 1971, **18**, 411 (*detn, Ru*)
Ceré, V. *et al*, *Tetrahedron*, 1972, **28**, 3271 (*synth*)
Aldrich Library of NMR Spectra, 1974, **6**, 168D (*pmr*)
Lepri, L. *et al*, *J. Chromatogr.*, 1974, **88**, 331 (*tlc*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 852H (*ir*)
Kalfus, K. *et al*, *Collect. Czech. Chem. Commun.*, 1975, **40**, 3009.

3,5-Diaminobenzoic acid D-00051

[535-87-5]

$C_7H_8N_2O_2$ M 152.152
Used in the fluorimetric determination of DNA. Needles. Mp 228° (slow heat), Mp 240° (rapid heat). pK_a 5.30 (25°). Forms a monohydrate.

▷ Mod. toxic.

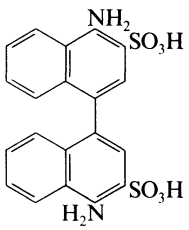
B,2HCl: [618-56-4].
Mp >300°.
▷ DG6240000.

Et ester: [1949-51-5].
$C_9H_{12}N_2O_2$ M 180.206
Mp 84°.

Kailan, A. *et al*, *Monatsh. Chem.*, 1903, **56**, 407.
Robertson, F.W. *et al*, *Anal. Biochem.*, 1971, **41**, 477.
U.S.S.R. Pat., 311 903, (1971); *CA*, **75**, 140498s (*synth*)
Aldrich Library of NMR Spectra, 1974, **6**, 174D, 175A (*pmr*)
Lepri, L. *et al*, *J. Chromatogr.*, 1974, **88**, 331 (*tlc*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 856D, 856E (*ir*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 541.

4,4′-Diamino-1,1′-binaphthalene-3,3′-disulfonic acid D-00052

Naphthidine-3,3′-disulfonic acid



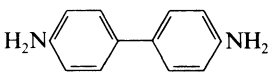
$C_{20}H_{16}N_2O_6S_2$ M 444.488
Redox indicator. Cryst. Mod. sol. H_2O.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 590.

4,4′-Diaminobiphenyl D-00053

[1,1′-Biphenyl]-4,4′-diamine, 9CI. Benzidine, 8CI. p,p′-*Bianiline*

[92-87-5]



$C_{12}H_{12}N_2$ M 184.240
Used for precipitation of $SO_4^{2\ominus}$, $WO_4^{2\ominus}$; gives colour reactions with Au(*III*), Tl(*III*), Cl_2; used for photometric detn. of $CN^{\ominus}$, $NO_2^{\ominus}$, $ClO_3^{\ominus}$, $SO_4^{2\ominus}$ (indirectly). Cryst. (H_2O or EtOH). Sol. EtOH, H_2O. Mp 128°. Bp_{740} 400°. There are also two metastable forms, Mps 122° and 125°.

▷ Potent carcinogen. Use prohibited in the UK under the Carcinogenic Substances Regulations 1968. DC9625000.

B,2HCl: [531-85-1].
Leaflets. Sol. H_2O.
▷ DD0600000.

B,H_2SO_4: Scales. Prac. insol. H_2O, EtOH.

N-*Ac:* [3366-61-8].
$C_{14}H_{14}N_2O$ M 226.277
Needles (EtOH aq.). Mp 199°.
▷ AD8585000.

*4,4′-Di-*N-*Ac:* [613-35-4].
$C_{16}H_{16}N_2O_2$ M 268.315
Mp 317°.

▷ Carcinogen. DT2800000.

Tetra-N-Ac:
$C_{20}H_{20}N_2O_4$ M 352.389
Needles ($EtOH/C_6H_6$). Mp 214-215°.

N-*Benzoyl:*
$C_{19}H_{16}N_2O$ M 288.348
Mp 203-205°.

4,4′-Di-N-benzoyl: [4471-10-7].
$C_{26}H_{20}N_2O_2$ M 392.456
Needles. Mp 352°.

N-*Et:* N-*Ethylbenzidine.* N-*Ethyl-[1,1′-biphenyl]-4,4′-diamine*
$C_{14}H_{16}N_2$ M 212.294
Redox indicator. Used as 1% soln. in 5% AcOH. Pale yellow prisms (MeOH). Mp 85°.

N,N′-*Di-Et:* [6290-86-4]. N,N′-*Diethylbenzidine*
$C_{16}H_{20}N_2$ M 240.347
Redox indicator. Used as a 0.01% soln. in 1*M* H_2SO_4. Plates or needles (EtOH). Sol. Et_2O, $CHCl_3$, EtOH, C_6H_6; insol. H_2O. Mp 115.5-116°.

N,N′-*Diphenyl:* [531-91-9]. *4,4′-Dianilinobiphenyl.* N,N′-*Diphenyl-[1,1′-biphenyl]-4,4′-diamine, 9CI.* N,N′-*Diphenylbenzidine. 3,3′-Diphenylbenzidine*
$C_{24}H_{20}N_2$ M 336.435
Used as 0.1% soln. in conc. H_2SO_4 or in conc. H_2SO_4/AcOH as redox indicator; photometric detn. of V(*V*). Plates (xylene). Sol. conc. H_2SO_4, CCl_4, AcOH; spar. sol. EtOH. Mp 244-245°, Mp 251-252°. E° +0.76V (20°, pH O).

N,N′-*Di-Me:* [2810-74-4]. N,N′-*Dimethylbenzidine*
$C_{14}H_{16}N_2$ M 212.294
Redox indicator. Used as a 0.01% soln. in 1*M* H_2SO_4. Needles (EtOH aq.). Sol. Et_2O, $CHCl_3$, EtOH, C_6H_6; insol. H_2O. Mp 74-76°.

N-*Tetra-Me:* [366-29-0]. N,N,N′,N′-*Tetramethylbenzidine*
Used as a 0.2% soln. in 1*M* HCl as redox indicator. Needles. Sol. dil. HCl. Mp 198°. E° 0.86V (1*M* H_2SO_4); E° 0.90 (1*M* $HClO_4$).

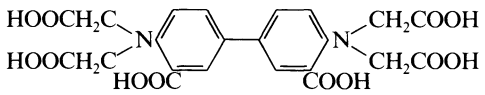
N-*Tetra-Et:* [6860-63-5]. N,N,N′,N′-*Tetraethylbenzidine*
Used as redox indicator. Cryst. ($CHCl_3$). Mp 90.2°.

N,N′-*Di-Me*, N,N′-*di-Ph:* [27164-41-6]. N,N′-*Dimethyldiphenylbenzidine.* N,N′-*Dimethyl*-N,N′-*diphenyl-1,1′-biphenyl-4,4′-diamine*
$C_{26}H_{24}N_2$ M 364.489
Used as 0.1% soln. in conc. H_2SO_4 as redox indicator (colour change; colourless → blue); used for photometric detn. of V (λ_{max} 529 nm, ε 45000). Cryst. (toluene). Sol. hot toluene, AcOH, conc. H_2SO_4; sp. sol. EtOH, C_6H_6.

Ullmann, F. *et al*, *Ber.*, 1904, **37**, 23 (*synth, N,N,N′,N′-tetra Me*)
Eegriwe, E., *Fresenius' Z. Anal. Chem.*, 1924, **65**, 183 (*use, preciptn*)
Busch, M. *et al*, *J. Prakt. Chem.*, 1936, **146**, 1 (*synth*)
Williamson, B. *et al*, *J. Am. Chem. Soc.*, 1941, **63**, 3018 (*uv*)
Fomin, V.V. *et al*, *Zavod. Lab.*, 1947, **13**, 679 (*use*)
Stockdale, D., *Analyst* (*London*), 1950, **75**, 150 (*N,N-diPh, use*)
Adams, R.N. *et al*, *Anal. Chem.*, 1951, **23**, 744 (*use, N,N,N′,N′-tetra Me*)
Belcher, R. *et al*, *J. Chem. Soc.*, 1954, 2543 (*synth, use, N-Et, N,N-diEt*)
Vogel, A.I., *Textbook of Practical Organic Chemistry*, London, 3rd Ed., 1956, 633 (*synth*)
Burns, E.A., *Anal. Chem.*, 1960, **32**, 1800 (*detn,* $ClO_3^\ominus$)
Aroney, M. *et al*, *J. Chem. Soc.*, 1960, 3600 (*struct*)
Agazzi, E.J. *et al*, *Anal. Chem.*, 1963, **35**, 332 (*use, N,N′-diphenyl*)
Org. Synth., Coll. Vol., 4, 1963, 283 (*deriv*)
Dieteren, H.M.L. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1963, **82**, 5 (*synth, uv*)
Smejtek, P. *et al*, *Collect. Czech. Chem. Commun.*, 1965, **30**, 3875 (*pmr*)
Frumina, N.S. *et al*, *Talanta*, 1969, **16**, 138 (*detn, V*)
Friedmann, G. *et al*, *Bull. Soc. Chim. Fr.*, 1970, 706 (*synth, tetra-Et*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 583 (*use*)
Royer, J.L. *et al*, *Anal. Lett.*, 1973, **6**, 619 (*detn,* $CN^\ominus$)
Mroczkowski, W. *et al*, *Chem. Anal.* (*Warsaw*), 1981, **26**, 861 (*detn,* $SO_4^{2\ominus}$)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 192.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ACC000, BBX000, BBX750, BFX000.

4,4′-Diaminobiphenyl-3,3′-dicarboxylic acid-*N,N,N′,N′*-tetraacetic acid D-00054

N,N′-(*3,3′-Dicarboxy[1,1′-biphenyl]-4,4′-diyl)bis*[N-(*carboxymethyl)glycine*]. *3,3′-Dicarboxybenzidine-*N,N,N′,N′-*tetraacetic acid*

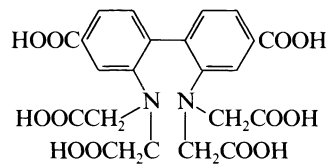


$C_{22}H_{20}N_2O_{12}$ M 504.406
Unstable.

Hexa-Na salt: Used as a 1% dispersion in pulverised KNO_3. Fluorescent indicator used for titrimetric detn. of Ca (colour change: no fluorescence→ green). Cryst. (H_2O). Sol. H_2O.

Belcher, R. *et al*, *Talanta*, 1960, **4**, 78.
Rees, D.I. *et al*, *J. Chem. Soc.*, 1961, 5101 (*synth*)

2,2′-Diaminobiphenyl-4,4′-dicarboxylic acid-*N,N,N′,N′*-tetraacetic acid D-00055



$C_{22}H_{20}N_2O_{12}$ M 504.406

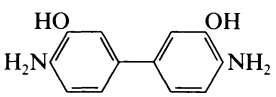
Hexa-Na salt: Used as an aq. 0.01*M* soln. as a fluorescent indicator for titrimetric detn. of Cu, Ni. Flakes. Sol. H_2O.

Kirkbright, G.F. *et al*, *Anal. Chim. Acta*, 1965, **32**, 544 (*synth, detn, Cu, Ni*)

4,4′-Diamino-3,3′-biphenyldiol, 8CI D-00056

4,4′-Diamino-3,3′-dihydroxybiphenyl. 3,3′-Dihydroxybenzidine

[2373-98-0]



$C_{12}H_{12}N_2O_2$ M 216.239
Plates (Me_2CO). Mp 160°.

▷ Exp. carcinogen. DV4900000.

B,2HCl: Plates. Mp 144°.

Tetrabenzoyl:
$C_{40}H_{28}N_2O_6$ M 632.671
Microcryst. ($CHCl_3$). Mp 180°.

Di-Me ether: [119-90-4]. *4,4′-Diamino-3,3′-dimethoxybiphenyl. 3,3′-Dimethoxybenzidine.* o-*Dianisidine*
$C_{14}H_{16}N_2O_2$ M 244.293

Used in photometric detn. of $Fe(CN)^{3\ominus}$, Ce(*IV*), V(*V*), Cr(*VI*), $IO_4^{\ominus}$, H_2O_2 (redox reactions) and as a soln. in glac. AcOH as redox indicator for titrimetric detn. of Ce(*IV*), $Cr_2O_7^{2\ominus}$. Leaflets. Sol. C_6H_6, AcOH; spar. sol. H_2O. Mp 137-138°.

▷ Toxic by inhalation and skin contact, carcinogen, irritant. Use controlled in UK by Carcinogenic Substances Regulations 1967. DD0875000.

Di-Et ether: [6264-77-3]. *4,4′-Diamino-3,3′-diethoxybiphenyl. 3,3′-Diethoxybenzidine. Di-o-phenetidine*

$C_{16}H_{20}N_2O_2$ M 272.346

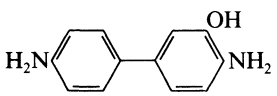
Used as a redox indicator. Cryst. Mp 117°. E° + 0.75 V (19°, 1*M* H_2SO_4).

Burkhardt, G.N. *et al*, *J. Chem. Soc.*, 1929, 141 (*synth*)
Sen, R.N. *et al*, *J. Indian Chem. Soc.*, 1932, **9**, 403 (*synth*)
Popa, G. *et al*, *Fresenius' Z. Anal. Chem.*, 1959, **167**, 329 (*detn, Ce*)
Rees, D.I. *et al*, *Talanta*, 1959, **2**, 361 (*use, di-Et ether*)
Ariel, M. *et al*, *Anal. Chim. Acta*, 1961, **25**, 248 (*detn, V(V)*)
Cheng, K.L. *et al*, *Chemist-Analyst*, 1963, **52**, 73 (*detn, Cr*)
Guernet, M., *Bull. Soc. Chim. Fr.*, 1964, 478 (*detn, $IO_4^{\ominus}$*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 585, 593 (*use, di-Et ether, di-Me ether*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 296.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DCJ200, DMI400.

4,4′-Diamino-3-biphenylol, 8CI D-00057

4,4′-Diamino-3-hydroxybiphenyl. 3-Hydroxybenzidine

[3366-54-9]



$C_{12}H_{12}N_2O$ M 200.240

Plates (H_2O). Mp 185°.

3-Me ether: [3365-87-5]. *3-Methoxybenzidine*

$C_{13}H_{14}N_2O$ M 214.266

Used as a redox indicator. Cryst. (H_2O). Mod. sol. H_2O; sol. dil. alkalis.

3-Et ether: 4,4′-Diamino-3-ethoxybiphenyl. 3-Ethoxybenzidine

$C_{14}H_{16}N_2O$ M 228.293

Used as 0.5% soln. in AcOH as redox indicator. Needles (H_2O). Mp 139°, Mp 134-135°. E° +0.80V, (1*M* H_2SO_4 19°).

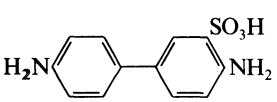
[29263-55-6]

Weinberg, A., *Ber.*, 1887, **20**, 3171 (*synth*)
Jacobson, P. *et al*, *Ber.*, 1903, **36**, 4069 (*synth*)
Rees, D.I. *et al*, *Talanta*, 1959, **2**, 361 (*use, 3-Me ether, 3-Et ether*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 585 (*use, 3-Et ether*)

4,4′-Diaminobiphenyl-3-sulfonic acid D-00058

Benzidine-3-sulfonic acid

[2051-89-0]



$C_{12}H_{12}N_2O_3S$ M 264.304

Azo-dye intermediate. Cryst. Mp >300°.

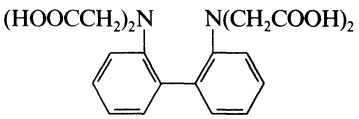
N,N,N′N′-*Tetra-Me:* [81503-68-6]. N,N,N′,N′-*Tetramethylbenzidine-3-sulfonic acid*

$C_{16}H_{20}N_2O_3S$ M 320.412

Used as a 0.2% soln. in HCl as redox indicator. Cryst. E° + 0.880 V (1*M* H_2SO_4), E° + 0.910 V (1*M* $HClO_4$).

Finzi, C. *et al*, *Ann. Chim. (Rome)*, 1950, **40**, 334 (*synth*)
Adams, R.N. *et al*, *Anal. Chem.*, 1951, **23**, 744 (*use, ind*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BBY250.

2,2′-Diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid D-00059



$C_{20}H_{20}N_2O_8$ M 416.387

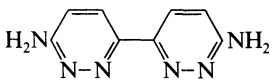
Tetra-Na salt: Used as metallofluorescent indicator in titrimetric detn. of Co, Cr, Cu, Mn, Zn. Cryst.

Kirkbright, G. *et al*, *Anal. Chim. Acta*, 1965, **32**, 544 (*use*)

6,6′-Diamino-3,3′-bipyridazine D-00060

[*3,3′-Bipyridazine*]-*6,6′-diamine*

[24049-47-6]



$C_8H_8N_6$ M 188.191

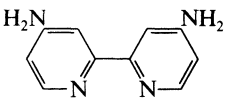
Used as MeOH soln. for photometric detn. of Fe(*II*). Cryst. (MeOH). Sol. Et_2O, C_6H_6, EtOH; insol. H_2O. Mp 320°.

Igeta, H. *et al*, *Tetrahedron Lett.*, 1969, 2359 (*synth*)
Maeda, M. *et al*, *Chem. Pharm. Bull.*, 1970, **18**, 1548 (*detn, Fe*)

4,4′-Diamino-2,2′-bipyridine, 8CI D-00061

[*2,2′-Bipyridine*]-*4,4′-diamine*, *9CI*

[18511-69-8]



$C_{10}H_{10}N_4$ M 186.216

Used in photometric detn. of Fe(*II*), Cu, Co, Ni. Mp 277-278°. pK_a 5.85 (40% v/v EtOH aq.).

N,N′-*Di-Ac:* [52597-40-7].

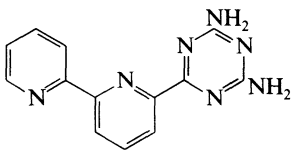
$C_{14}H_{14}N_4O_2$ M 270.290

Cryst. (H_2O). Mp 320°.

Maerker, G. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 2745 (*synth*)
Tsai, C.S., *Can. J. Chem.*, 1967, **45**, 2862 (*uv*)
Schilt, A., *Analytical Applications of 1,10-Phenanthroline and Related Compounds*, Pergamon, Oxford, 1969 (*use*)
Cook, M.J. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1984, 1293 (*synth*)

2,4-Diamino-6-(2,2′-bipyridyl)-1,3,5-triazine D-00062

[10495-74-6]

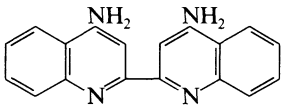


$C_{13}H_{11}N_7$ M 265.277

Used as a 5m*M* soln. in 50% EtOH aq. for photometric detn. of Co (λ_{max} 440 nm), Cu(*I*) (λ_{max} 427 nm, ε 2500), Fe(*II*) (λ_{max} 557 nm, ε 9100). Cryst. (DMF aq.). Sol. common org. solvs. Mp 284-285° (as hydrate).

Case, F.H., *J. Org. Chem.*, 1966, **31**, 2398 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 475 (*detn, Co, Cu, Fe*)

4,4′-Diamino-2,2′-biquinoline D-00063



$C_{18}H_{14}N_4$ M 286.335

N,N,N′,N′-*Tetra-Et:* [29197-25-9]. *4,4′-Bis(diethylamino)-2,2′-biquinoline, 8CI*
$C_{26}H_{30}N_4$ M 398.550
Used as a soln. in butanol for photometric detn. of Cu (λ_{max} 560 nm, ε 9700). Cryst. (dioxan). Sol. hot EtOH, DMF, dioxan; spar. sol. EtOH; insol. H_2. Mp 199-202°.

N,N′-*Bisbenzyl: 4,4′-Bis(benzylamino)-2,2′-biquinoline*
$C_{32}H_{26}N_4$ M 466.584
Used as a soln. in butanol for photometric detn. of Cu (λ_{max} 550 nm, ε 10200). Cryst. (EtOH). Sol. hot EtOH, DMF, dioxan; insol. H_2O. Mp 235-238°.

N,N′-*Bisphenyl:* [29197-26-0]. *4,4′-Dianilino-2,2′-biquinoline, 8CI*
$C_{30}H_{22}N_4$ M 438.531
Used as a soln. in butanol for photometric detn. of Cu (λ_{max} 550 nm, ε 14000). Yellow cryst. (EtOH). Sol. hot EtOH, DMF, dioxan; insol. H_2O. Mp 285-287°.

N,N′-*Bis(4-diethylaminophenyl):* [29197-34-0]. *4,4′-Di[(p-diethylamino)anilino]-2,2′-biquinoline, 8CI*
$C_{38}H_{40}N_6$ M 580.774
Used as a soln. in butanol for photometric detn. of Cu (λ_{max} 556 nm, ε 15000). Cryst. (dioxan). Mp 260-262°.

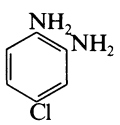
N,N′-*Bis(4-chlorophenyl):* [29197-33-9]. *4,4′-Di(p-chloroanilino)-2,2′-biquinoline, 8CI*
$C_{30}H_{20}Cl_2N_4$ M 507.420
Used as a soln. in butanol for photometric detn. of Cu (λ_{max} 550 nm, ε 15200). Yellow cryst. (EtOH). Mp 320-323°.

Gershuns, A.L. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1970, **36**, 595; *CA*, **73**, 98771 (*detn, Cu*)

1,2-Diamino-4-chlorobenzene D-00064

4-Chloro-1,2-benzenediamine, 9CI. 4-Chloro-o-phenylenediamine, 8CI

[95-83-0]



$C_6H_7ClN_2$ M 142.587
Leaflets (H_2O). Mp 76°.

▷ SS8850000.

B,2HCl: [57803-83-5].
Used as a 0.3% aq. soln. in gc detn. of Se; extraction of Se. Cryst. Sol. H_2O, acids, EtOH, C_6H_6. Mp 72-74°. pK_{a1} −0.11; pK_{a2} 4.16 (μ = 0.1, 20°).

1,2-N-Di-Ac:
$C_{10}H_{11}ClN_2O_2$ M 226.662
Leaflets. Mp 208°.

1,2-N-Dibenzoyl: [19614-04-1].
$C_{20}H_{15}ClN_2O_2$ M 350.803
Silky needles (EtOH). Mp 230°.

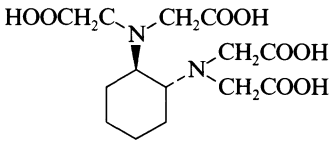
1,2-N-Di-Me:
$C_8H_{11}ClN_2$ M 170.641
Mp 61°.

Ullmann, F. *et al*, *Ber.*, 1903, **36**, 4026 (*synth*)
Mangini, A. *et al*, *Gazz. Chim. Ital.*, 1933, **63**, 612 (*synth*)
Popov, A.M., *CA*, 1934, **28**, 1671 (*synth*)
Knobloch, W., *Chem. Ber.*, 1958, **91**, 2557 (*synth*)
Bassl, A. *et al*, *J. Prakt. Chem.*, 1967, **36**, 265, 274 (*tlc*)
Nakamuro, K. *et al*, *CA*, 1973, **78**, 67735x (*chromatog*)
Akiba, M. *et al*, *Analyst* (*London*), 1975, **100**, 648 (*use*)
Neve, J. *et al*, *Anal. Lett.*, 1977, **10**, 133 (*uv*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CFK125.

1,2-Diaminocyclohexane-*N*,*N*,*N*′,*N*′-tetraacetic acid D-00065

N,N′-*1,2-Cyclohexanediylbis*[N-*carboxymethylglycine*], *9CI. (1,2-Cyclohexylenedinitrilo)tetraacetic acid, 8CI. 1,2-Cyclohexanediamine*-N,N,N′,N′-*tetraacetic acid. Complexone IV. DCTA. CDTA. CyDTA*

[482-54-2]



(1*R**,2*R**)-*form*

$C_{14}H_{22}N_2O_8$ M 346.336

▷ Irritant.

(1R*,2R*)-form
(+)-trans-*form*
Cryst. (AcOH). Mp 237°. $[\alpha]_D$ +53° (c, 0.5 in H_2O).

(1S*,2S*)-form
(−)-trans-*form*
Cryst. (AcOH). $[\alpha]_D$ −53° (c, 0.5 in H_2O).

(1RS,2RS)-form [13291-61-7]
(±)-trans-*form*
Powerful chelating agent. Complexometric titrant, masking agent; used for ion-exchange sepn. of Sr and Ba, for extraction sepn. of Cr (as anionic complex). Monohydrate. Mp 213-216°. pK_{a1} 2.43; pK_{a2} 3.52; pK_{a3} 6.12; pK_{a4} 11.70. Could not be resolved.

Tetra-Na salt: [18763-65-0].
Cryst. powder.

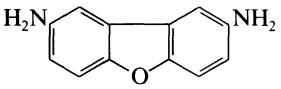
[7307-88-2, 18763-65-0, 28684-63-1, 121310-47-2]

Aldrich Library of NMR Spectra, **1**, 503 (*nmr*)
U.S. Pat., 2 519 708, (1950); *CA*, **45**, 6218f (*synth*)
Pribil, R., *Collect. Czech. Chem. Commun.*, 1955, **20**, 162 (*complexes*)
Dwyer, F.P. *et al*, *J. Am. Chem. Soc.*, 1961, **83**, 2610 (*synth*)
Fuhrman, D.L. *et al*, *Talanta*, 1967, **14**, 1199 (*detn, Cr*)
Anderson, N.R. *et al*, *Anal. Chim. Acta*, 1968, **40**, 207 (*detn, Sr, Ba*)
Carr, J.D. *et al*, *Anal. Chem.*, 1970, **42**, 1238 (*use*)
Howarth, O.W. *et al*, *J. Chem. Soc., Chem. Commun.*, 1974, 664 (*cmr, complexes*)
Adam, J. *et al*, *Talanta*, 1974, **21**, 1205 (*detn, Cr*)
Strelow, F.W. *et al*, *Talanta*, 1979, **26**, 538 (*masking*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982 (*rev*)
Merciny, E. *et al*, *Anal. Chim. Acta*, 1984, **160**, 87 (*synth*)
Aldrich Library of FT-IR Spectra, 1st Ed., 1985, **1**, 569 (*ir*)

2,7-Diaminodibenzofuran D-00066

2,7-Dibenzofurandiamine, 9CI

[24229-85-4]



$C_{12}H_{10}N_2O$ M 198.224

Used as a 0.65% soln. in glac. AcOH for spot test detn. of oxidising ions. Cryst. (EtOH) or needles (H_2O). Sol. dil. acids, C_6H_6, EtOH, Et_2O. Mp 152°.

N,N′-*Di-Ac:*

$C_{16}H_{14}N_2O_3$ M 282.298

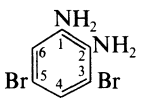
Cryst. (EtOH). Mp 290° dec.

Cullinane, N.M., *J. Chem. Soc.*, 1932, 2366 (*synth*)
Gilman, H. *et al*, *J. Chem. Soc. C*, 1934, **56**, 2473 (*synth*)
Cullinane, N.M. *et al*, *Analyst (London)*, 1948, **73**, 95 (*synth, use*)
Oshima, Y. *et al*, *CA*, 1968, **71**, 112712f (*synth*)

1,2-Diamino-3,5-dibromobenzene D-00067

3,5-Dibromo-1,2-benzenediamine, 9CI

[1575-38-8]



$C_6H_6Br_2N_2$ M 265.935

Used as 0.12% soln. in conc. HCl for detn. of Se(*IV*) in river water. Prisms. Sol. acids, toluene. Mp 83°, Mp 75°.

1,2-N-*Di-Ac:*

$C_{10}H_{10}Br_2N_2O_2$ M 350.009

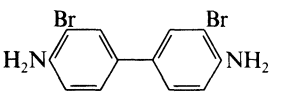
Needles. Mp 227-228°.

Scott, R.M. *et al*, *J. Chem. Soc.*, 1959, 417 (*synth*)
Samuel, E.L., *Aust. J. Chem.*, 1972, **25**, 2725 (*synth, pmr*)
Shimoishi, Y. *et al*, *Anal. Chim. Acta*, 1978, **100**, 65 (*synth, detn, Se*)

4,4′-Diamino-3,3′-dibromobiphenyl D-00068

3,3′-Dibromo[1,1′-biphenyl]-4,4′-diamine, 9CI. 3,3′-Dibromobenzidine, 8CI

[34237-98-4]



$C_{12}H_{10}Br_2N_2$ M 342.032

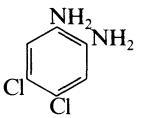
Used as soln. in dil. H_2SO_4 as redox indicator (oxidized form yellow). Cryst. (C_6H_6). Sol. conc. acids, C_6H_6; insol. H_2O. Mp 127-129°. E° + 0.94 V (1*M* H_2SO_4).

Snyder, H.R. *et al*, *J. Am. Chem. Soc.*, 1948, **71**, 289 (*synth*)
Belcher, R. *et al*, *J. Chem. Soc.*, 1958, 2336 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 585 (*use*)

1,2-Diamino-4,5-dichlorobenzene D-00069

4,5-Dichloro-o-phenylenediamine. 4,5-Dichloro-1,2-benzenediamine

[5348-42-5]



$C_6H_6Cl_2N_2$ M 177.032

Used as 0.4m*M* soln. in MeOH for photometric detn. of Se. Needles (H_2O). Sol. MeOH. Mp 162-163°. pK_{a1} 3.39; pK_{a2} −0.82 (25°, μ 2.0*M*).

B,HCl: Plates (EtOH/Et_2O). Mp 200-220° dec. Subl.$_{0.2}$ 100°.

B,2HCl: [72435-64-4].

Plates. Mp 205-220° dec.

1,2-N-*Dibenzoyl:*

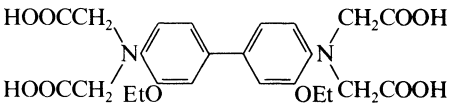
$C_{20}H_{14}Cl_2N_2O_2$ M 385.248

Needles or prisms. Mp 257°.

Adams, R. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 5687 (*synth*)
Davis, W. *et al*, *J. Chem. Soc.*, 1951, 3258 (*synth*)
Knobloch, W., *Chem. Ber.*, 1958, **91**, 2557 (*synth*)
Acheson, R.M. *et al*, *J. Chem. Soc.*, 1958, 3750 (*synth, bibl*)
Neve, J. *et al*, *Anal. Lett.*, 1977, **10**, 133 (*detn, Se*)
Neve, J. *et al*, *Talanta*, 1979, **26**, 15 (*synth, acidity const*)

4,4′-Diamino-3,3′-diethoxybiphenyl-*N,N,N′,N′*-tetraacetic acid D-00070

N,N′-(*3,3′-Diethoxy[1,1′-biphenyl]-4,4′-diyl*)*bis*[N-(*carboxymethyl*)*glycine*]. o-*Diphenetidine*-N,N,N′,N′-*tetraacetic acid*



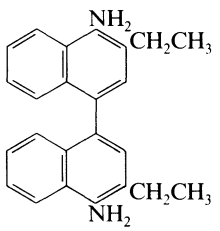
$C_{24}H_{28}N_2O_{10}$ M 504.493

Tetra-Na salt: Used as 1% dispersion in pulverized KNO_3 as metal fluorescent indicator for titrimetric detn. of Cu, Hg (colour change: no fluorescence → blue). Cryst. (H_2O). Sol. H_2O.

Belcher, R. *et al*, *Talanta*, 1960, **4**, 78.
Rees, D.I. *et al*, *J. Chem. Soc.*, 1961, 5101 (*synth*)

4,4′-Diamino-3,3′-diethyl-1,1′-binaphthyl D-00071

3,3′-Diethyl[1,1′-binaphthyl]-4,4′-diamine. 3,3′-Diethylnaphthidine



$C_{24}H_{24}N_2$ M 340.467

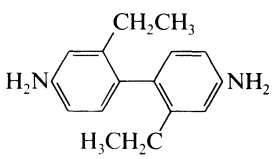
Redox indicator (colour change: colourless → blue). Used as a 0.2% soln. in glac. AcOH. Cryst. (ligroin). Sol. acids, AcOH, C_6H_6; insol. H_2O. Mp 103°.

Hydrate: Red-purple needles. Mp 110-116°. E° +0.7 V (0.1*M* H_2SO_4, 20°).

Belcher, R. *et al*, *J. Chem. Soc.*, 1958, 3243, 4454 (*synth*)

4,4′-Diamino-2,2′-diethylbiphenyl D-00072

3,3′-Diethylbenzidine



$C_{16}H_{20}N_2$ M 240.347

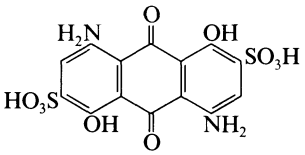
Redox indicator used as the sulfate salt. Cryst. Sol. C_6H_6, acids; insol. H_2O.

Belcher, R. *et al*, *J. Chem. Soc.*, 1951, 547, 550 (*use*)

4,8-Diamino-9,10-dihydro-1,5-dihydroxy-9,10-dioxo-2,6-anthracenedisulfonic acid, 9CI D-00073

4,8-Diamino-1,5-dihydroxyanthraquinone-2,6-disulfonic acid. C.I. Acid blue 45. C.I. 63010

[128-86-9]



$C_{14}H_{10}N_2O_{10}S_2$ M 430.372

Used as 1m*M* aq. soln. for photometric and kinetic fluorimetric detn. of Ce(*IV*), Mn(*VII*) (λ_{max} 585 nm, 7-22 ng/ml), Be (λ_{max} 645 nm). Also used as sodium salt. Dark blue cryst. Sol. H_2O.

Na salt: [2861-02-1].

Sol. H_2O; sl. sol. EtOH, Me_2CO; insol. C_6H_6, CCl_4.

Navas, A. *et al*, *An. Quim.*, 1979, **75**, 514; *CA*, **92**, 14768t (*detn, Be*)

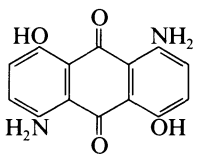
Navas, A. *et al*, *Mikrochim. Acta*, 1982, **1**, 175 (*detn, Ce*)

Navas, A. *et al*, *Talanta*, 1984, **31**, 437 (*detn, Mn*)

1,5-Diamino-4,8-dihydroxyanthraquinone D-00074

1,5-Diamino-4,8-dihydroxy-9,10-anthracenedione. 4,8-Diaminoanthrarufin

[145-49-3]



$C_{14}H_{10}N_2O_4$ M 270.244

Used as a 0.1% soln. in conc. H_2SO_4 for photometric detn. of B. Dark red cryst. powder. Sol. conc. H_2SO_4; spar. sol. H_2O, EtOH.

Wuensch, G. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **258**, 30.

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DBP909.

1,8-Diamino-4,5-dihydroxyanthraquinone D-00075

1,8-Diamino-4,5-dihydroxy-9,10-anthracenedione, 9CI. 4,5-Diaminochrysazin

[128-94-9]

$C_{14}H_{10}N_2O_4$ M 270.244

Used in photometric detn. of B, Se(*IV*). Blue needles (xylene). Sol. C_6H_6, xylene, EtOH; spar. sol. alkalis; insol. H_2O.

▷ CB6482000.

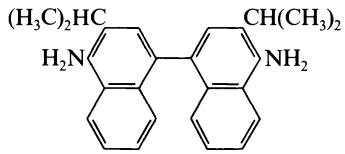
Cogbill, E.C. *et al*, *Anal. Chem.*, 1957, **29**, 1251.

Eberle, A.R. *et al*, *Anal. Chem.*, 1960, **32**, 146 (*detn, B*)

Brown, R.S., *Anal. Chim. Acta*, 1975, **74**, 441 (*detn, Se*)

4,4′-Diamino-3,3′-diisopropyl-1,1′-binaphthyl D-00076

3,3′-Bis(1-methylethyl)-[1,1′-binaphthalene]-4,4′-diamine, 9CI. 3,3′-Diisopropylnaphthidine



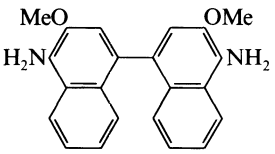
$C_{26}H_{28}N_2$ M 368.521

Used as a 0.2% soln. in AcOH as redox indicator (colour change: colourless → blue). Cubes (ligroin). Sol. acids, AcOH, C_6H_6; insol. H_2O. Mp 260°. E° +0.73 V (0.1 *M* H_2SO_4, 20°).

Belcher, R. *et al*, *J. Chem. Soc.*, 1958, 3243, 4454 (*synth*)

4,4′-Diamino-3,3′-dimethoxy-1,1′-binaphthyl D-00077

3,3′-Dimethoxy-[1,1′-binaphthalene]-4,4′-diamine, 9CI. 3,3′-Dimethoxynaphthidine



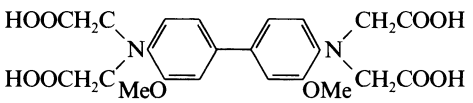
$C_{22}H_{20}N_2O_2$ M 344.412

Used as redox indicator (colour change: colourless → blue). Pale yellow flakes (ligroin). Sol. acids, AcOH, C_6H_6; insol. H_2O. Mp 218°. E° + 0.69 V (0.1*M* H_2SO_4, 20°).

Belcher, D. *et al*, *J. Chem. Soc.*, 1958, 3243, 4454 (*synth*)

4,4′-Diamino-3,3′-dimethoxybiphenyl-*N,N,N′,N′*-tetraacetic acid D-00078

N,N′-(*3,3′-Dimethoxy[1,1′-biphenyl]-4,4′-diyl)bis*[N-(*carboxymethyl)glycine*], *9CI. o-Dianisidine*-N,N,N′,N′-*tetraacetic acid. Anisidine blue*



$C_{22}H_{24}N_2O_{10}$ M 476.439

Tetra-Na salt: [60683-89-8].

Used as a 1% dispersion in pulverized KNO_3 as metal fluorescent indicator for titrimetric detn. of Bi, Cd, Ce(*III*), Cu, Fe(*II*), $Cl^{\ominus}$ (colour change: no fluorescence → blue), Ni. Cryst. (H_2O). Sol. H_2O.

Belcher, R. *et al*, *Talanta*, 1960, **4**, 78 (*detn, metals*)

Rees, D.I. *et al*, *J. Chem. Soc.*, 1961, 5101 (*synth*)

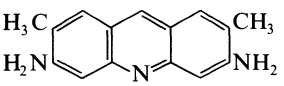
Kirkbright, C.F. *et al*, *Anal. Chim. Acta*, 1965, **32**, 544 (*synth, use, ind*)

Konobu, K., *CA*, 1976, **85**, 19383a (*detn, $Cl^{\ominus}$*)

3,6-Diamino-2,7-dimethylacridine D-00079

2,7-Dimethyl-3,6-acridinediamine, 9CI

[92-26-2]



$C_{15}H_{15}N_3$ M 237.304

Cryst. ($PhNH_2$). Mp 325°.

▷ AR8750000.

B,HCl: [135-49-9]. *Acridine yellow. C.I. 46025. Aurazine* Dyestuff. Used as 1m*M* aq. soln. in extraction. photometric detn. of Re (λ_{max} 455 nm, ε 35000), Tl(*III*) (λ_{max} 460 nm, ε 50000); adsorption fluorescent indicator for titrimetric detn. of Ag; detn. of substituted aromatic carboxylic acids. Red cryst. powder. Sol. hot H_2O, EtOH. Orange-yellow soln. with green fluor. in H_2O.

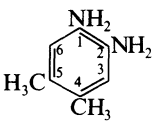
▷ AR8790000.

Albert, A., *J. Chem. Soc.*, 1947, 248 (*synth*)
Kokko, J.P. *et al*, *Spectrochim. Acta*, 1963, **19**, 1119 (*pmr*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*detn, Ag*)
Artsruni, V.Z. *et al*, *Arm. Khim. Zh.*, 1974, **27**, 106; *CA*, **81**, 44961 (*detn, Tl*)
Tarayan, V.M. *et al*, *Arm. Khim. Zh.*, 1974, **27**, 934; *CA*, **83**, 21525d (*detn, Re*)
Obtemperanskaya, S.I. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 349 (*detn, carboxylic acids*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DBT200, DBT400.

1,2-Diamino-4,5-dimethylbenzene D-00080

4,5-Dimethyl-1,2-benzenediamine, 9CI. 4,5-Dimethyl-o-phenylenediamine. 4,5-Diamino-o-xylene

[3171-45-7]



$C_8H_{12}N_2$ M 136.196

Prod. by a mutant of *Aspergillus nidulans*. Reagent for the spectrophotometric detn. of 21-hydroxycorticosteroids and ascorbic acid and extraction-photometric detn. of $NO_2^{\ominus}$ (λ_{max} 405 nm, ε 1050, butanol). Leaflets. Sol. H_2O. Mp 127-129°.

▷ Irritant.

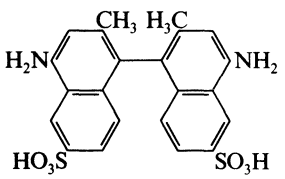
1,2-N-Di-Ac:
$C_{12}H_{16}N_2O_2$ M 220.271
Needles. Mp 227-228°.

Nölting, E. *et al*, *Ber.*, 1901, **34**, 2251 (*synth*)
Sadique, J. *et al*, *Curr. Sci.*, 1966, **35**, 336 (*isol*)
Braeuniger, H. *et al*, *Pharmazie*, 1969, **24**, 24 (*synth*)
Lin, E. *et al*, *Mikrochim. Acta*, 1970, 652 (*detn, $NO_2^{\ominus}$*)
Gorog, S. *et al*, *Anal. Chem.*, 1972, **44**, 1079.
Ceré, V. *et al*, *Tetrahedron*, 1972, **28**, 3271 (*uv*)
Szepesi, G., *Fresenius' Z. Anal. Chem.*, 1973, **265**, 334 (*use*)
Aldrich Library of NMR Spectra, 1974, **5**, 82A (*pmr*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 651G (*ir*)

4,4′-Diamino-3,3′-dimethyl-[1,1′-binaphthalene]-6,6′-disulfonic acid, 9CI D-00081

3,3′-Dimethylnaphthidinedisulfonic acid

[55802-03-4]



$C_{22}H_{20}N_2O_6S_2$ M 472.542

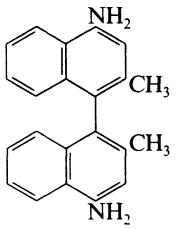
Used as 0.1% aq. soln. as redox indicator, photometric detn. of V (8-13*M* H_3PO_4) and Cl_2 (λ_{max} 555 nm, ε 19400). Cryst. Sol. H_2O.

Belcher, R. *et al*, *J. Chem. Soc.*, 1952, 1269 (*synth, indicator*)
Frumina, N.S. *et al*, *Khim. Khim. Tekhnol.* (*Minsk*), 1974, **17**, 1422; *CA*, **82**, 89911m (*detn, Cl_2*)
Sanke Gowda, H. *et al*, *Analyst* (*London*), 1978, **103**, 1215 (*detn, V*)

4,4′-Diamino-3,3′-dimethyl-1,1′-binaphthyl D-00082

2,2′-Dimethyl-[1,1′-binaphthyl]-4,4′-diamine. 3,3′-Dimethylnaphthidine

[13138-48-2]



$C_{22}H_{20}N_2$ M 312.413

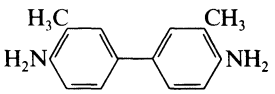
Used as a 0.1-0.2% soln. in glac. AcOH as redox indicator; titrimetric detn. of Zn. Commercially available. Prisms (EtOH or ligroin). Sol. C_6H_6, AcOH, EtOH; sol. sol. H_2O, pet. ether. Mp 213°.

Belcher, R. *et al*, *J. Chem. Soc.*, 1951, 1520; 1952, 3857; 1958, 4454 (*detn, Zn, ind*)
Brown, E.G. *et al*, *Anal. Chim. Acta*, 1953, **9**, 6 (*detn, Zn*)

4,4′-Diamino-3,3′-dimethylbiphenyl D-00083

3,3′-Dimethyl-[1,1′-biphenyl]-4,4′-diamine, 9CI. 3,3′-Dimethylbenzidine, 8CI. p, p′-*Diamino*-m,m′-*bitolyl.* o-*Tolidine*

[119-93-7]



$C_{14}H_{16}N_2$ M 212.294

Used as 0.05% MeOH soln. for photometric detn. of Cl_2 (ε 34000), Br_2, Ce(*IV*), Mn(*IV*). Leaflets. Sol. MeOH, EtOH, Et_2O; sl. sol. H_2O. Mp 131-132°.

▷ Suspected human carcinogen. Use controlled in the UK by the Carcinogenic Substances Regulations 1967. DD1225000.

4,4′-Di-N-Ac:
$C_{18}H_{20}N_2O_2$ M 296.368
Mp 318-319°.

4,4′-Di-N-benzoyl:
$C_{28}H_{24}N_2O_2$ M 420.510
Mp 268-270°.

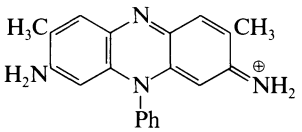
N,N,N′,N′-*Tetra-Me: 4,4′-Bis(dimethylamino)-3,3′-dimethylbiphenyl.* N,N,N′,N′-*Tetramethyl-3,3′-dimethylbenzidine. Tetron*
$C_{18}H_{24}N_2$ M 268.401
Used as a 0.1% soln. in 5% H_2SO_4 for photometric detn. of Au (λ_{max} 480 nm), Ce (λ_{max} 470 nm, ε 25300); redox indicator. Cryst. E_o + 0.948 V.

Schultz, G. *et al*, *Ber.*, 1884, **17**, 467; 1904, **37**, 1401 (*synth*)
Carlin, R.B. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 100 (*uv*)
Badger, G.M. *et al*, *Aust. J. Chem.*, 1963, **16**, 1042 (*derivs*)
Jordanov, N. *et al*, *Talanta*, 1963, **10**, 163; 1966, **13**, 1459; 1968, **15**, 963 (*ind, detn, Ce, Au*)
Daiev, C. *et al*, *Talanta*, 1964, **11**, 501 (*detn, Au*)
Blazejak-Ditges, D., *Fresenius' Z. Anal. Chem.*, 1970, **251**, 11 (*detn, Ce*)
Maly, J. *et al*, *Analyst* (*London*), 1974, **99**, 128 (*detn, Mn*)
Scheubeck, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1979, **249**, 370; 1971, **254**, 185 (*detn, Cl_2, Br_2*)
Powell, R. *et al*, *CA*, 1980, **92**, 7831 (*manuf, use*)

Leggett, D.J. *et al*, *Analyst (London)*, 1982, **107**, 433 (*detn, Cl_2*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 507.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TGJ750.

3,7-Diamino-2,8-dimethyl-5-phenylphenazinium(1+), 9CI D-00084

Safranine T. Safranine O. C.I. Basic red 2. C.I. 50240. Gossypimine. Cotton red



$C_{20}H_{19}N_4^{\oplus}$ M 315.397 (ion)
The reagent is reduced to colourless leuco-safranine.

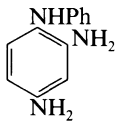
Chloride: [477-73-6].
$C_{20}H_{19}ClN_4$ M 350.850
Used as 0.2% aq. soln. for extraction-photometric detn. of Sb (λ_{max} 530 nm, ε 40000), Bi, P(*V*), Re(*VII*), Au(*III*), Tl(*III*), Si(*IV*). Biological stain. Blue-violet powder. Sol. H_2O, EtOH.
▷ SG1623000.

Ducret, L. *et al*, *Anal. Chim. Acta*, 1959, **21**, 86 (*detn, P*)
Pilipenko, A.T. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1968, **34**, 1286; 1976, **42**, 1183 (*detn, Sb, Si*)
Burgess, C. *et al*, *Analyst (London)*, 1973, **98**, 605 (*detn, Sb*)
Flyantikova, C.V. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 1452 (*detn, Bi*)

2,4-Diaminodiphenylamine D-00085

N^1-*Phenyl-1,2,4-benzenetriamine, 9CI, 8CI*

[136-17-4]



$C_{12}H_{13}N_3$ M 199.255
Starting prod. for many polymers; rubber antioxidant. Used as a redox indicator. Needles. Sol. dil. acids; mod. sol. H_2O. Mp 130°. E° + 0.7 V (1*M* H_2SO_4).
▷ DC1954000.

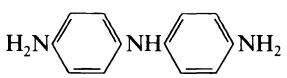
2,4-N-Di-Ac:
$C_{16}H_{17}N_3O_2$ M 283.329
Mp 188°.
2-N-Benzoyl:
$C_{19}H_{17}N_3O$ M 303.363
Mp 213-214°.

Nietzki, R. *et al*, *Ber.*, 1895, **28**, 2970 (*synth*)
Hammett, L.P. *et al*, *J. Am. Chem. Soc.*, 1934, **56**, 1092 (*use, indicator*)
U.S. Pat., 1 948 330, (1934); *CA*, **28**, 2724 (*synth*)
Kraft, K., *Pharmazie*, 1950, **5**, 257 (*pharmacol*)
Brown, J.C., *J. Soc. Dyers Colour.*, 1964, **80**, 185; *CA*, **61**, 9623 (*tlc*)
U.S.S.R. Pat., 164 294, (1964); *CA*, **61**, 16011 (*synth*)

4,4′-Diaminodiphenylamine, 8CI D-00086

N-(*4-Aminophenyl*)-*1,4-benzenediamine, 9CI*

[537-65-5]



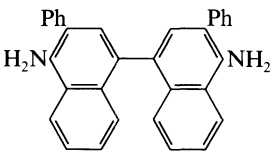
$C_{12}H_{13}N_3$ M 199.255
Starting prod. for many polymers. Used as soln. in dil. H_2SO_4 as a redox indicator. Leaflets (H_2O). Sol. acids. Mp 158°. E° + 0.75 V.

B,2HCl: [51589-08-3].
Antistatic agent in photography.
4-N-Di-Me: [17913-63-2].
$C_{14}H_{17}N_3$ M 227.308
Needles. Mp 116°.

Nietzki, R., *Ber.*, 1883, **16**, 474 (*synth*)
Oldfield, L.F. *et al*, *J. Phys. Colloid Chem.*, 1951, **55**, 1255 (*use*)
Erdey, L. *et al*, *Acta Chim. Acad. Sci. Hung.*, 1961, **26**, 53 (*synth*)
Dvorak, V. *et al*, *Microchem. J.*, 1967, **12**, 350 (*polarog*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)
Popov, A.F., *CA*, 1973, **79**, 114932 (*ir*)
Lepri, L. *et al*, *J. Chromatogr.*, 1974, **90**, 331 (*tlc*)

4,4′-Diamino-3,3′-diphenyl-1,1′-binaphthyl D-00087

3,3′-Diphenyl[1,1-binaphthalene]-4,4′-diamine, 9CI. 3,3′-Diphenylnaphthidine



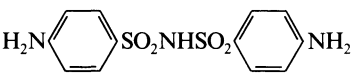
$C_{32}H_{24}N_2$ M 436.555
Redox indicator (colour change: colourless → blue). Used as a 0.2% soln. in AcOH. Needles (ligroin). Sol. acids, AcOH, C_6H_6; insol. H_2O. Mp 219°. E° +0.75 V (0.1*M* H_2SO_4, 20°).

Belcher, R. *et al*, *J. Chem. Soc.*, 1958, 3243, 4454 (*synth*)

4,4′-Diaminodiphenyldisulfimide D-00088

4-Amino-N-[(4-aminophenyl)sulfonyl]benzenesulfonamide, 9CI

[6402-89-7]



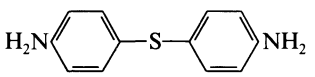
$C_{12}H_{13}N_3O_4S_2$ M 327.384
Used as acidimetric standard. Cryst. Sol. H_2O.

Runge, F. *et al*, *Fresenius' Z. Anal. Chem.*, 1957, **158**, 266 (*use*)

4,4′-Diaminodiphenyl sulfide D-00089

4,4′-Thiobisbenzenamine, 9CI. 4,4′-Thiodianiline, 8CI. Bis(4-aminophenyl) sulfide. Thioaniline

[139-65-1]



$C_{12}H_{12}N_2S$ M 216.306
Used in polymerisations. Used as 0.015*M* soln. in 0.8*M* HCl for photometric detn. of Re (λ_{max} 390 nm, ε 13000). Needles (H_2O). Sol. aq. HCl; insol. H_2O. Mp 108-109°.
▷ Suspected carcinogen. BY9625000.

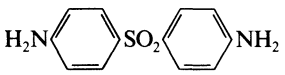
4,4′-N-Di-Ac:
$C_{16}H_{16}N_2O_2S$ M 300.381
Needles. Mp 220-221°, Mp 275-278°.

v. Arendok, A.M. *et al*, *J. Am. Chem. Soc.*, 1940, **62**, 3521 (*synth*)
Fuson, R.C. *et al*, *J. Org. Chem.*, 1948, **13**, 690 (*synth*)
Lazarev, A.I. *et al*, *CA*, 1971, **71**, 108808z (*detn, Re*)
Pappalardo, G.C., *Spectrochim. Acta, Part A*, 1973, **29**, 2055 (*pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TFI000.

4,4′-Diaminodiphenyl sulfone D-00090

4,4′-Sulfonylbisbenzenamine, 9CI. 4,4′-Sulfonyldianiline, 8CI. Bis(4-aminophenyl) sulfone. ***Dapsone,*** **BAN, USAN, INN.** *Avlosulfon. Diaphenylsulfone. Metabolite C. NSC 6091. Other proprietary names*

[80-08-0]



$C_{12}H_{12}N_2O_2S$ M 248.305

Dimorphic. Antileprotic drug. Used in polymerisation. Used as 0.2% soln. in conc. H_2SO_4 for photometric detn. of $NO_3^{\ominus}$ (λ_{max} 600 nm, ε 3000). Cryst. (EtOH aq.). Sol. dil. acids. Mp 175-176°, Mp 180.5°.

▷ BY8925000.

N,N′-*Di-Ac:* [77-46-3]. *Bis(4-acetamidophenyl)sulfone.* ***Acedapsone,*** **BAN, INN, USAN.** *Acetyldiphenasone. Other proprietary names*

$C_{16}H_{16}N_2O_4S$ M 332.379

Antimalarial and antileprotic drug. Mp 289-292°.

▷ AE7175000.

N,N′-*Di-Me:* [7324-96-1].

$C_{14}H_{16}N_2O_2S$ M 276.359

Leaflets (1,2-dichlorobenzene). Mp 276°.

N,N,N′,N′-*Tetra-Me:*

$C_{16}H_{20}N_2O_2S$ M 304.412

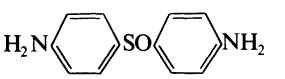
Leaflets (1,2-dichlorobenzene). Mp 304°.

Heymann, H. *et al, J. Am. Chem. Soc.*, 1945, **67**, 1979 (*synth, derivs*)
Org. Synth., Coll. Vol., 3, 1955, 239 (*synth*)
Szekely, E., *Talanta*, 1967, **14**, 941; 1968, **15**, 795 (*use*)
Elslager, E.F. *et al, J. Med. Chem.*, 1969, **12**, 357, 591 (*Acedapsone*)
Dickinson, C. *et al, J. Chem. Soc., Chem. Commun.*, 1970, 920 (*cryst struct*)
Bass, A.D., *Drill's Pharmacol. Med., 4th Ed.*, 1971, 1674 (*rev, derivs*)
Popoff, I.C. *et al, J. Med. Chem.*, 1971, **14**, 550 (*Acedapsone*)
Orzech, C.A. *et al, Anal. Profiles Drug Subst.*, 1976, **5**, 87 (*rev*)
Ayyangar, N.R. *et al, Synthesis*, 1981, 640 (*synth, ir, pmr, ms*)
Kulkarni, M.S. *et al, Indian J. Phys., A*, 1982, **56**, 420 (*cryst struct*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 6551, 6554, 6559.
Zuidema, J. *et al, Clin. Pharmacokinet.*, 1986, **11**, 299 (*rev*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 2261, 3939 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SNY500, SOA500.

4,4′-Diaminodiphenyl sulfoxide D-00091

4,4′-Sulfinylbisbenzenamine, 9CI. 4,4′-Sulfinyldianiline, 8CI. Bis(4-aminophenyl) sulfoxide. Medapsol

[119-59-5]



$C_{12}H_{12}N_2OS$ M 232.306

Used in photometric detn. of $NO_3^{\ominus}$. Prisms (EtOH or H_2O). Sol. conc. H_2SO_4. Mp 175°, Mp 184°.

▷ BY8440000.

4,4′-N-*Di-Ac:*

$C_{16}H_{16}N_2O_3S$ M 316.380

Mp 278°.

Gadzar, M. *et al, J. Chem. Soc.*, 1908, **93**, 1835 (*synth*)
Buu-Hoï, Ng.Ph. *et al, J. Org. Chem.*, 1956, **21**, 415 (*synth*)
Khosla, M.C. *et al, J. Sci. Ind. Res., Sect. B*, 1957, **16**, 69 (*synth*)
Szekely, E., *Talanta*, 1967, **14**, 941 (*detn, $NO_3^{\ominus}$*)
Lepape, P., *Ann. Pharm. Fr.*, 1970, **28**, 181 (*synth*)

3,3′-Diaminodipropylamine, 8CI D-00092

N-(*3-Aminopropyl*)-*1,3-propanediamine, 9CI. Bis(3-aminopropyl)amine*

[56-18-8]

$(H_2NCH_2CH_2CH_2)_2NH$

$C_6H_{17}N_3$ M 131.220

Colorimetric reagent for nitro compds. Liq. Bp_2 100°.

▷ Mod. toxic. JL9450000.

B,3HCl: Cryst. (MeOH aq. or EtOH/Et_2O). Mp 259°, Mp 270°.

Tripicrate: Cryst. (H_2O). Mp 226-227°.

N-*Me:* [105-83-9]. N,N-*Bis(3-aminopropyl)methylamine*

$C_7H_{19}N_3$ M 145.247

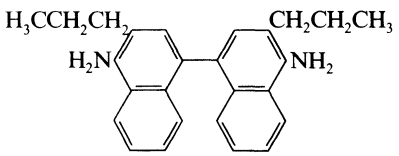
Liq. Bp_{12} 112-114°.

▷ Mod. toxic. JL9625000.

Wiedeman, D.F. *et al, J. Am. Chem. Soc.*, 1945, **67**, 1994 (*synth*)
Terent'ev, A.P. *et al, Zh. Obshch. Khim.*, 1950, **20**, 1073; *CA*, **44**, 9350a (*synth*)
Israel, M. *et al, J. Med. Chem.*, 1964, **7**, 710 (*synth*)
Schrier, M. *et al, Mikrochim. Acta*, 1965, 1091; 1967, 218 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AIX250, BGU750.

4,4′-Diamino-3,3′-dipropyl-1,1′-binaphthyl D-00093

3,3′-Dipropyl[1,1′-binaphthalene]-4,4′-diamine. 3,3′-Dipropylnaphthidine



$C_{26}H_{28}N_2$ M 368.521

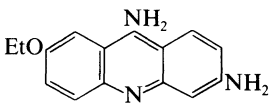
Used as redox indicator (colour change: colourless → blue). Used as a 0.2% soln. in AcOH. Needles (ligroin). Sol. acids, AcOH, C_6H_6; insol. H_2O. Mp 100°. E° +0.70 V (0.1 *M* H_2SO_4, 20°).

Belcher, R. *et al, J. Chem. Soc.*, 1958, 3243, 4454 (*synth*)

3,9-Diamino-7-ethoxyacridine D-00094

7-Ethoxy-3,9-acridinediamine, 9CI. ***Ethacridine,*** **INN**

[442-16-0]



$C_{15}H_{15}N_3O$ M 253.303

Orange-yellow cryst. (EtOH aq.). Mp 226°.

3,9-Di-N-*Ac:*

$C_{19}H_{19}N_3O_3$ M 337.377

Cryst. (Py aq.). Mp 296-297° dec.

Lactate: [1837-57-6]. *Rivanol. Antidiar 200. Acrinolum*

Antiseptic, disinfectant. Used for indirect photometric detn. of P(*V*); photometric detn. of Cl_2 and $ClO^{\ominus}$. Pale-yellow cryst. + $1H_2O$ (EtOH/Et_2O). Mp 235°. Darkens at 200°.

▷ OD4725000.

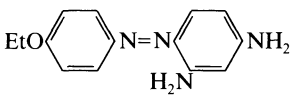
Albert, A. *et al, Chem. Ind. (London)*, 1942, 159 (*synth*)

Sasa, T., *Yuki Gosei Kagaku Kyokaishi*, 1954, **12**, 24; *CA*, **51**, 2780 (*synth*)
Gabler, K. *et al*, *Pharmazie*, 1957, **12**, 79 (*rev*)
Khaletskii, A.M. *et al*, *Zh. Obshch. Khim.*, 1958, **28**, 2821; *CA*, **53**, 9224.
Florea, I., *Rev. Roum. Chim.*, 1972, **17**, 1457 (*detn, P*)
U.S.S.R. Pat., 433 332, (1974); *CA*, 1975, **82**, 51103m (*detn, Cl_2, $ClO^{\ominus}$*)
Rising, T.J. *et al*, *Arzneim.-Forsch.*, 1977, **27**, 872; 1978, **28**, 631 (*metab*)
Neidle, S. *et al*, *Acta Crystallogr., Sect. B*, 1982, **38**, 2420 (*cryst struct*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2243.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 3536 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EDW500.

2,4-Diamino-4′-ethoxyazobenzene D-00095

4-[(4-Ethoxyphenyl)azo]-1,3-benzenediamine, 9CI. 4-[(p-Ethoxyphenyl)azo]-m-phenylenediamine, 8CI. **Etoxazene, INN.** *Carmurit. Cystural. Ethoxazene.* p-*Ethoxychrysoidine*

[94-10-0]



$C_{14}H_{16}N_4O$ M 256.307

Analgesic, acid/base indicator (pH range: 3.5-5.5; colour change: red → yellow); redox indicator in bromatometric arsenite detn.; adsorption indicator in argentometry. Used as 0.2% soln. in H_2O or EtOH. Orange needles. Sol. H_2O, EtOH, Me_2CO. Mp 116-117°.

▷ ST2500000.

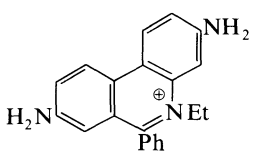
B,HCl: [2313-87-3]. *Ethoxazene hydrochloride, USAN. Serenium. SQ 2128. NSC 7214. SN 612*
Red powder. Sol. boiling H_2O, EtOH.

Lott, W.A. *et al*, *J. Am. Pharm. Assoc.*, 1934, **23**, 785 (*pharmacol*)
Belcher, R., *Anal. Chim. Acta*, 1949, **3**, 578; 1950, **4**, 580 (*bromatometry, arsenite detn*)
Schulek, E. *et al*, *Anal. Chim. Acta*, 1952, **7**, 446 (*ind*)
Czech. Pat., 90 620, (1959); *CA*, **55**, 7767f (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 86 (*argentometric ind*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2643.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 3161 (*synonyms*)

3,8-Diamino-5-ethyl-6-phenylphenanthridinium(1+), 9CI, 8CI D-00096

Homidium. Ethidium. Babidium. Novidium

[3546-21-2]



$C_{21}H_{20}N_3^{\oplus}$ M 314.409 (ion)

▷ SF7949800.

Bromide: [1239-45-8]. *Homidium bromide, BAN, INN. Dromilac. Ethidium bromide. RD 1572*
$C_{21}H_{20}BrN_3$ M 394.313
Reagent used for spectrofluorimetric anal. of nucleic acids. Antimetab., antitrypanosomiatic. Dyestuff. DNA intercalator. Fluorescent stain for nucleic acids in electropherograms. Dark-red cryst. (EtOH). Mp 238-240°.

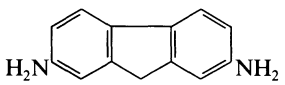
▷ Potent mutagen to yeast DNA. LD_{50} 20 mg/kg (mouse, i.p.). Potent mutagen to yeast DNA. SF7950000.

Walls, L.P. *et al*, *J. Chem. Soc.*, 1950, 41 (*synth*)
Le Pecq, J.B. *et al*, *Anal. Biochem.*, 1966, **17**, 100 (*use, bromide*)
Slonimski, P.P. *et al*, *Biochem. Biophys. Res. Commun.*, 1968, **30**, 232 (*tox*)
Bauer, W. *et al*, *J. Mol. Biol.*, 1970, **47**, 419 (*use*)
Thomas, G. *et al*, *FEBS Lett.*, 1972, **26**, 169 (*pmr*)
Nathans, D. *et al*, *Annu. Rev. Biochem.*, 1975, **44**, 273 (*use*)
Waring, M., *Antibiotics*, 1975, **3**, 141 (*rev, pharmacol*)
Shabanowitz, J. *et al*, *Biomed. Mass Spectrom.*, 1975, **2**, 164 (*ms*)
Hudson, B. *et al*, *Biopolymers*, 1975, **14**, 1309 (*uv*)
Griggs, B.G. *et al*, *Org. Magn. Reson.*, 1980, **14**, 371 (*cmr*)
Fraire, C. *et al*, *Drug Metab. Dispos.*, 1981, **9**, 156 (*metab*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 12826.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DBV400.

2,7-Diaminofluorene D-00097

9H-Fluorene-2,7-diamine, 9CI

[525-64-4]



$C_{13}H_{12}N_2$ M 196.251

Used as 1m*M* soln. in conc. H_2SO_4 or in dil. HCl for photometric detn. of $NO_3^{\ominus}$ and $NO_2^{\ominus}$. Plates (C_6H_6 or Et_2O). Sol. acids. Mp 164-165°. pK_a 4.97 (70% EtOH).

▷ Carcinogenic. LL6980000.

2-N-Ac:
$C_{15}H_{14}N_2O$ M 238.288
Mp 200-202°.

Di-N-Ac:
$C_{17}H_{16}N_2O_2$ M 280.326
Plates (C_6H_6). Mp 281°.

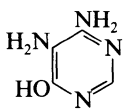
Tri-N-Ac:
$C_{19}H_{18}N_2O_3$ M 322.363
Needles (C_6H_6). Mp 234°.

Tetra-N-Ac:
$C_{21}H_{20}N_2O_4$ M 364.400
Needles (pet. ether). Mp 179-181°.

Morgan, G.T. *et al*, *J. Chem. Soc.*, 1926, 2691 (*synth, deriv*)
Eitel, M., *Fresenius' Z. Anal. Chem.*, 1934, **98**, 227 (*synth, detn, $NO_2^{\ominus}$, $NO_3^{\ominus}$*)
Mangini, A. *et al*, *Gazz. Chim. Ital.*, 1954, **84**, 606 (*uv*)
Fletcher, T.L. *et al*, *J. Org. Chem.*, 1958, **23**, 680.
Mathieu, A. *et al*, *Bull. Soc. Chim. Fr.*, 1974, 299 (*pmr*)
Hainberger, L. *et al*, *Mikrochim. Acta*, 1979, **1**, 75; **2**, 187 (*detn, $NO_2^{\ominus}$, $NO_3^{\ominus}$*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FDM000.

4,5-Diamino-6-hydroxypyrimidine, 9CI D-00098

[1672-50-0]



$C_4H_6N_4O$ M 126.118

Cryst. Sol. dil. acids. Mp 300° dec.

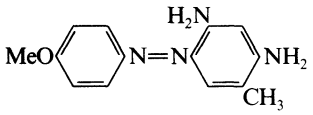
Sulfate: [102783-18-6].

Used as a 0.3% aq. soln. for photometric detn. of Ru (λ_{max} 530 nm, ε 65000). Cryst. Sol. H_2O. Mp 270°.

Landauer, P. *et al*, *J. Chem. Soc.*, 1953, 3721 (*synth*)
Kostolansky, A. *et al*, *Chem. Zvesti*, 1956, **10**, 170 (*synth*)
Veer, C.G.R. *et al*, *Mikrochim. Acta*, 1974, 611 (*detn, Ru*)

2,4-Diamino-4′-methoxy-5-methylazobenzene D-00099

4-[(4-Methoxyphenyl)azo]-6-methyl-1,3-benzenediamine

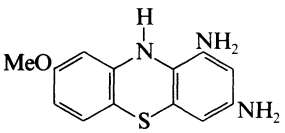


$C_{14}H_{16}N_4O$ M 256.307
Used as acid-base indicator (pH range: 4.9-6.7; colour change: red → yellow). Orange cryst. Sol. EtOH, C_6H_6, Et_2O.

Schulek, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1948, **128**, 398 (*use, ind*)

1,3-Diamino-8-methoxyphenothiazine D-00100

8-Methoxy-10H-phenothiazine-1,3-diamine, *9CI*
[63082-84-8]

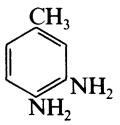


$C_{13}H_{13}N_3OS$ M 259.331
Used for extraction-photometric detn. of Ag (λ_{max} 480 nm, ε 14600, CCl_4). Yellow cryst. powder. Sol. acids.

Soni, K.P. *et al*, *Ann. Soc. Sci. Bruxelles*, Ser. I, 1976, **90**, 337; *CA*, **87**, 15460v (*detn, Ag*)

1,2-Diamino-4-methylbenzene D-00101

4-Methyl-1,2-benzenediamine, *9CI*. *Toluene-3,4-diamine*, *8CI*. *4-Methyl-o-phenylenediamine*. *3,4-Diaminotoluene*. *3,4-Tolylenediamine*
[496-72-0]



$C_7H_{10}N_2$ M 122.169
Used in rubber manuf. and hair dyes. Used as a 1% aq. soln. for extraction-photometric detn. of Se(*IV*) (λ_{max} 337 nm, $CHCl_3$), $NO_2^{\ominus}$ (λ_{max} 373 nm, ε 2900). Plates (pet. ether). Sol. H_2O, acids. Mp 89-90°. Bp 265°, Bp_{18} 155-156°.

▷ XS9820000.

1,2-N-Di-Ac: [5433-07-8].
$C_{11}H_{14}N_2O_2$ M 206.244
Needles (H_2O). Mp 210°.

1-N-Me:
$C_8H_{12}N_2$ M 136.196
Plates (Et_2O). Mp 43-44°. Bp_{752} 260°.

1,2-N-Di-Me:
$C_9H_{14}N_2$ M 150.223
Oil. Bp_{740} 259-260°.

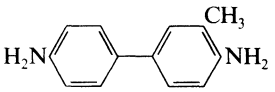
1-N-Di-Me:
$C_9H_{14}N_2$ M 150.223
Oil. Bp 234°.

1,2-N-Tetra-Me:
$C_{11}H_{18}N_2$ M 178.277
Oil. Bp_{717} 244.5-225.5°.

Noelting, E. *et al*, *Ber.*, 1891, **24**, 565 (*synth*)
Bamberger, E. *et al*, *Ber.*, 1891, **24**, 2082 (*synth*)
Cavagnol, J.C. *et al*, *J. Am. Chem. Soc.*, 1947, **69**, 795 (*synth*)
Tanaka, M. *et al*, *Talanta*, 1965, **12**, 211 (*detn, Se*)
Lin, E. *et al*, *Mikrochim. Acta*, 1970, 652 (*use*)
Kawashima, T. *et al*, *Anal. Chim. Acta*, 1972, **58**, 219 (*use*)
Ceré, V. *et al*, *Tetrahedron*, 1972, **28**, 3271 (*uv*)
Ast, T. *et al*, *Org. Mass Spectrom.*, 1973, **7**, 503 (*ms*)
Lepri, L. *et al*, *J. Chromatogr.*, 1974, **90**, 331 (*tlc*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TGM250.

4,4′-Diamino-3-methylbiphenyl D-00102

3-Methyl[1,1′-biphenyl]-4,4′-diamine, *9CI*. *3-Methylbenzidine*, *8CI*
[67683-35-6]



$C_{13}H_{14}N_2$ M 198.267
Syrup. Bp_4 225°.

B, HCl: [76787-88-7].
Used as a 1% soln. in glac. AcOH as redox indicator; titrimetric detn. of Ag, Au. Cryst. (H_2O). Sol. acids. EtOH, C_6H_6.

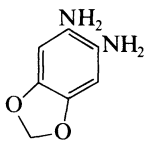
Picrate: Yellow solid. Mp 204°.

4,4′-Di-N-benzylidene:
$C_{27}H_{22}N_2$ M 374.484
Mp 134.5-135°.

Jacobson, P. *et al*, *Ber.*, 1895, **28**, 2544.
v. Braun, J. *et al*, *Ber.*, 1917, **50**, 1651.
Belcher, R. *et al*, *J. Chem. Soc.*, 1951, 546, 547, 550 (*detn, Ag, Au*)
Badger, G.M. *et al*, *Aust. J. Chem.*, 1963, **16**, 1042.

1,2-Diamino-4,5-methylenedioxybenzene D-00103

1,3-Benzodioxole-5,6-diamine, *9CI*
[38608-07-0]



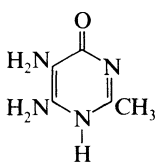
$C_7H_8N_2O_2$ M 152.152
Fluorogenic reagent for α-keto acids and other α-dicarbonyl compds.

B,2HCl: Needles (EtOH). Mp 176-179° dec.

Nakamura, M. *et al*, *Chem. Pharm. Bull.*, 1987, **35**, 687 (*synth, use*)
Hara, S. *et al*, *Anal. Chim. Acta*, 1988, **215**, 267 (*use*)
Wang, Z. *et al*, *J. Chromatogr.*, 1988, **430**, 223 (*use*)

5,6-Diamino-2-methyl-4(1*H*)-pyrimidinone, 9CI D-00104

4,5-Diamino-2-methylpyrimidinol
[45741-61-5]



$C_5H_8N_4O$ M 140.144

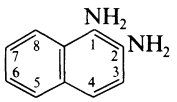
Used for photometric detn. of Os (λ_{max} 480 nm, ε 25300). Cryst. Sol. dil. acids.

Jain, P. *et al*, *Sci. Cult.*, 1978, **44**, 85; *CA*, **89**, 122466q (*detn, Os*)

1,2-Diaminonaphthalene D-00105

1,2-Naphthalenediamine, 9CI

[938-25-0]



$C_{10}H_{10}N_2$ M 158.202

Used in detn. of $NO_3^{\ominus}$, $NO_2^{\ominus}$. Fluorimetric reagent for aromatic aldehydes. Spar. sol. hot H_2O. Mp 198°. Bp_{13} 214°, $Bp_{0.5}$ 150°.

▷ QJ3360000.

N,N′-*Di-Ac:*
$C_{14}H_{14}N_2O_2$ M 242.277
Mp 234°.

Bamberger, E. *et al*, *Ber.*, 1889, **22**, 1374 (*synth*)
Reilly, J. *et al*, *J. Soc. Chem. Ind., London*, 1927, **46**, 436T (*synth*)
Ohkura, Y. *et al*, *Talanta*, 1974, **21**, 547 (*use*)

2,3-Diaminonaphthalene D-00106

2,3-Naphthalenediamine, 9CI

[771-97-1]

$C_{10}H_{10}N_2$ M 158.202

Used as a 0.1% soln. in 0.1*M* HCl for photometric, fluorimetric detn. of Se. Leaflets (Et_2O or H_2O). Spar. sol. H_2O; sol. EtOH, Et_2O. Mp 199°. pK_a 3.90.

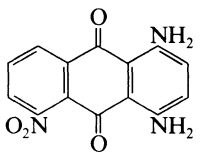
N,N′-*Di-Ph:* [69905-74-4]. *2,3-Dianilinonaphthalene*
$C_{22}H_{18}N_2$ M 310.398
Needles (AcOH). Mp 143°.

Knoevenagel, E., *J. Prakt. Chem.*, 1914, **89**, 37 (*deriv*)
Goldstein, H. *et al*, *Helv. Chim. Acta*, 1937, **20**, 520 (*synth*)
Lott, P.F. *et al*, *Anal. Chem.*, 1963, **35**, 1159 (*detn, Se*)
Smith, J.L. *et al*, *Org. Mass Spectrom.*, 1971, **5**, 473 (*ms*)

1,4-Diamino-5-nitroanthraquinone D-00107

1,4-Diamino-5-nitro-9,10-anthracenedione, 9CI

[82-33-7]



$C_{14}H_9N_3O_4$ M 283.243

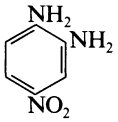
Used as a 0.1% soln. in EtOH as metallochromic indicator in titrimetric detn. of urea, thiourea, photometric detn. of Pd. Violet needles (EtOH). Mp 278°.

Capitan, F. *et al*, *Quim. Anal. (Madrid)*, 1975, **29**, 27 (*detn, urea, thiourea*)
Roman, M. *et al*, *Afinidad*, 1977, **34**, 118 (*detn, Pd*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DBY700.

1,2-Diamino-4-nitrobenzene D-00108

4-Nitro-1,2-benzenediamine, 9CI. 4-Nitro-o-phenylenediamine, 8CI

[99-56-9]



$C_6H_7N_3O_2$ M 153.140

Used as a 0.6-1% soln. in 1*M* HCl for extraction-photometric detn. of Se (toluene), SO_2 (λ_{max} 475 nm), gc detn. of Se. Reagent for α-keto acids. Dark-red needles (H_2O). Sol. EtOH, Me_2CO, C_6H_6, $CHCl_3$; mod. sol. dil. acids. Mp 201°.

▷ ST2975000.

1-N-*Ac:* [53987-32-9]. *2-Amino-4-nitroacetanilide*
$C_8H_9N_3O_3$ M 195.177
Cryst. (EtOH). Mp 205°.

2-N-*Ac: 2-Amino-5-nitroacetanilide*
$C_8H_9N_3O_3$ M 195.177
Cryst. (EtOH). Mp 195°.

1,2-N-*Di-Ac:* [30152-85-3].
$C_{10}H_{11}N_3O_4$ M 237.215
Prisms (AcOH aq.). Mp 255°.

1,2-N-*Dibenzoyl:*
$C_{20}H_{15}N_3O_4$ M 361.356
Needles (EtOH). Mp 235-236°.

1-N-*Me:* [41939-61-1].
$C_7H_9N_3O_2$ M 167.167
Red-brown needles with blue reflex. Mp 177-178°.

2-N-*Me:*
$C_7H_9N_3O_2$ M 167.167
Yellow plates (C_6H_6). Mp 184°.

1-N-*Di-Me:* [5367-52-2]. *2-Amino*-N-*dimethyl-4-nitroaniline*
$C_8H_{11}N_3O_2$ M 181.194
Orange-yellow needles (H_2O). Mp 63°.

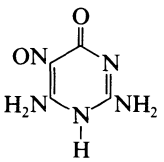
1,2-N-*Di-Me:* [1457-55-2].
$C_8H_{11}N_3O_2$ M 181.194
Red prisms (AcOH). Mp 172°.

Rabinowitz, J.L. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 3030.
Hockenhull, D.J.D. *et al*, *Biochem. J.*, 1952, **52**, 38 (*use*)
Taylor, K.W. *et al*, *Analyst (London)*, 1955, **80**, 607 (*use*)
Org. Synth., Coll. Vol., 3, 1955, 242.
Toei, K. *et al*, *Talanta*, 1965, **12**, 211 (*detn, Se*)
Corbett, J., *Spectrochim. Acta, Part A*, 1967, **23**, 2315 (*uv*)
Bil, M., *Chem. Ind. (London)*, 1969, 198.
Shimoishi, Y. *et al*, *Analyst (London)*, 1976, **101**, 298 (*detn, Se*)
Akiba, M. *et al*, *Analyst (London)*, 1976, **101**, 644 (*chromatog, Se*)
Lambert, J.L. *et al*, *Anal. Chim. Acta*, 1978, **99**, 379 (*detn, SO_2*)
Neve, J. *et al*, *Talanta*, 1979, **26**, 15 (*ir*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ALL500.

2,6-Diamino-5-nitroso-4(1*H*)-pyrimidinone, 9CI D-00109

2,6-Diamino-4-hydroxy-5-nitrosopyrimidine

[2387-48-6]



$C_4H_5N_5O_2$ M 155.116

Used as a soln. in 0.02*M* KOH for photometric detn. of Co (λ_{max} 370 nm), Fe (λ_{max} 653 nm, ε 20000). Pink cryst. Sol. alkalis; spar. sol. H_2O.

N^2-*Di-Et:* [131734-09-3]. *6-Amino-2-(diethylamino)-5-nitroso-4(1H)-pyrimidinone, 9CI. 2-Diethylamino-4-hydroxy-5-nitroso-6-aminopyrimidine*

$C_8H_{13}N_5O_2$ M 211.223

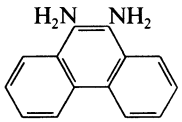
Used as 0.2% aq. soln. for photometric detn. of Fe(*II*) (λ_{max} 660 nm, ε 30000, pH 10.2). Pink needles (EtOH aq.). Sol. EtOH; mod. sol. H_2O. Mp 198°.

Landauer, P.D. *et al*, *J. Chem. Soc.*, 1953, 3721 (*synth*)
McDonald, C.W. *et al*, *Mikrochim. Acta*, 1971, 767 (*detn, Fe*)
Jimenez, R.M. *et al*, *Afinidad*, 1983, **40**, 342; *CA*, **99**, 186537c (*detn, Co*)
Tsuchiya, M. *et al*, *Anal. Sci.*, 1990, **6**, 701 (*synth, deriv, detn, Fe*)

9,10-Diaminophenanthrene D-00110

9,10-Phenanthrenediamine, 9CI

[53348-04-2]



$C_{14}H_{12}N_2$ M 208.262

Fluorescence derivatisation reagent used in hplc of fatty acids. Pale-yellow leaflets (C_6H_6). Mp 160-166°.

Di-N-*Ac:*

$C_{18}H_{16}N_2O_2$ M 292.337

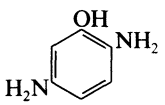
Cryst. (H_2O). Mp 330° dec.

Pschorr, R., *Ber.*, 1902, **35**, 2729.
Buu-Hoï, Ng.Ph. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1948, **228**, 2155.
Dornow, A. *et al*, *Chem. Ber.*, 1957, **90**, 2124.
Lloyd, J.B.F., *J. Chromatogr.*, 1980, **189**, 359 (*use*)
Manoharan, R. *et al*, *Bull. Chem. Soc. Jpn.*, 1989, **62**, 1292 (*uv*)

2,5-Diaminophenol, 9CI, 8CI D-00111

*2-Hydroxy-*p*-phenylenediamine*

[636-25-9]



$C_6H_8N_2O$ M 124.142

*2,5-*N*-Di-Ac:* [59997-00-1].

$C_{10}H_{12}N_2O_3$ M 208.216

Needles. Mp 265°. Turns brown in air.

1,2,5-Tri-Ac:

$C_{12}H_{14}N_2O_4$ M 250.254

Mp 234°.

5-N-*Di-Me:* [15103-39-6].

$C_8H_{12}N_2O$ M 152.196

Used for detn. of diketones. Grey cryst. (dihydrochloride). Mp 230° dec. (dihydrochloride). Readily oxidised in air to 3,7-bis(dimethylamino) phenoxazine (blue).

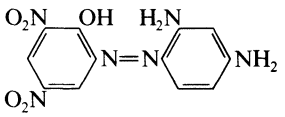
[14703-85-6]

Kehrmann, F. *et al*, *Ber.*, 1897, **30**, 2096 (*synth*)
Ishidate, M., *Mikrochim. Acta*, 1938, **3**, 284 (*use*)
Amery, G.W. *et al*, *J. Chem. Soc. C*, 1967, 1053 (*synth*)
U.S.S.R. Pat., 1 863 033, (1972); *CA*, **82**, 139631t (*synth*)
Japan. Pat., 75 84 537, (1975); *CA*, **85**, 123554w (*synth*)
Le Bris, M.T., *J. Heterocycl. Chem.*, 1985, **22**, 1275 (*synth*)
Trebaul, C. *et al*, *Bull. Chem. Soc. Jpn.*, 1987, **60**, 2657 (*synth*)

2-[(2,4-Diaminophenyl)azo]-4,6-dinitrophenol, 9CI D-00112

*2′,4′-Diamino-2-hydroxy-3,5-dinitroazobenzene. Picraminazo-*m*-phenylenediamine*

[6364-36-9]



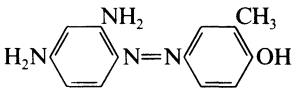
$C_{12}H_{10}N_6O_5$ M 318.248

Used as a 0.63m*M* soln. in DMF for photometric detn. of Co. Cryst.

Nasyrova, Z.B. *et al*, *Uzb. Khim. Zh.*, 1973, **17**, 26; *CA*, **80**, 43695z (*use*)

4-[(2,4-Diaminophenyl)azo]-2-methylphenol D-00113

2,4-Diamino-4′-hydroxy-3′-methylazobenzene



$C_{13}H_{14}N_4O$ M 242.280

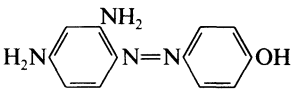
Used as acid-base indicator (colour change: red → yellow; pH range: 3.8-5.8). Orange cryst. (H_2O). Sol. EtOH, Me_2CO; mod. sol. H_2O.

Schulek, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1948, **128**, 398.

4-[(2,4-Diaminophenyl)azo]phenol, 9CI D-00114

2,4-Diamino-4′-hydroxyazobenzene

[53685-81-7]



$C_{12}H_{12}N_4O$ M 228.253

Used as acid-base indicator (colour change: red → yellow; pH range: 3.4-5.4). Orange cryst. (H_2O). Sol. EtOH, Me_2CO; mod. sol. H_2O.

Schulek, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1948, **128**, 398.

1,2-Diaminopropane-*N,N,N′,N′*-tetraacetic acid D-00115

(Propylenedinitrilo)tetraacetic acid. N,N′-*(1-Methyl-1,2-ethanediyl)bis*[N-*(carboxymethyl)glycine*], *9CI. 1,2-Propylenediaminetetraacetic acid. PDTA. MEDTA*

[4408-81-5]

$(HOOCCH_2)_2NCH(CH_3)CH_2N(CH_2COOH)_2$

$C_{11}H_{18}N_2O_8$ M 306.272

Used as aq. soln. for pptn. separation of Ba from Sr and Pb; for photometric detn. of V(*V*) (λ_{max} 260 nm, ε 3500), Cr (λ_{max} 540 nm), Cu (λ_{max} 730 nm), Fe(*III*) (λ_{max} 258 nm), Mo(*V*) (λ_{max} 296 nm); masking agent for multivalent cations. Cryst. Sol. H_2O. Mp 241-243° dec.

▷ AJ3500000.

D-form [15456-17-4]

Cryst. (H_2O). Mp 198° (monohydrate). $[\alpha]_D$ −47° (monohydrate).

[15250-41-6, 22991-67-9]

Dwyer, F.P. *et al*, *J. Am. Chem. Soc.*, 1959, **81**, 2955 (*synth, resoln*)
Wing, R.M. *et al*, *Inorg. Chem.*, 1969, **8**, 2303 (*synth*)

Palma, R.J. *et al*, *Anal. Chem.*, 1970, **42**, 47, 416 (*use*)
Caldwell, D.L. *et al*, *Anal. Chim. Acta*, 1970, **49**, 497, 505 (*use*)
Carr, J.D. *et al*, *Anal. Chem.*, 1971, **43**, 583 (*use*)
Firsching, F.H. *et al*, *Talanta*, 1972, **19**, 790 (*detn, Ba*)
Vincente-Perez, S. *et al*, *Quim. Anal.* (*Barcelona*), 1974, **28**, 283; 1975, **29**, 83 (*detn, Cr, Cu, V*)
Fernandez Solis, J.M. *et al*, *CA*, 1982, **96**, 154639j (*detn, Fe*)
Vincente-Perez, D. *et al*, *Afinidad*, 1983, **40**, 262 (*detn, Mo*)

1,3-Diamino-2-propanol-*N,N,N',N'*-tetraacetic acid D-00116

N,N'-(*2-Hydroxy-1,3-propanediyl*)*bis*[N-(*carboxymethyl*)*glycine*], *9CI*

[3148-72-9]

$HOCH[CH_2N(CH_2COOH)_2]_2$

$C_{11}H_{18}N_2O_9$ M 322.271

Used as 2m*M* aq. soln. as complexing agent for for Al, Fe(*III*), V. Cryst. (H_2O). Sol. H_2O. pK_{a1} 1.6; pK_{a2} 2.52; pK_{a3} 6.96; pK_{a4} 9.48 (0.1*M* KNO_3, 25°).

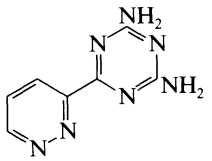
▷ AI2930000.

[29463-09-0]

Smith, R. *et al*, *J. Org. Chem.*, 1949, **14**, 355 (*synth*)
Hoyle, W. *et al*, *Talanta*, 1959, **2**, 158; **3**, 47 (*use*)
Grimes, J.H. *et al*, *J. Inorg. Nucl. Chem.*, 1963, **25**, 1225 (*use*)
Thompson, L.C. *et al*, *J. Inorg. Nucl. Chem.*, 1966, **28**, 2945 (*detn, V, use*)
Klausen, K.S. *et al*, *Anal. Chim. Acta*, 1971, **57**, 351 (*pKa, use*)

2,4-Diamino-6-(3-pyridazinyl)-1,3,5-triazine D-00117

[18211-92-2]



$C_7H_7N_7$ M 189.179

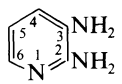
Used as a 5m*M* soln. in 50% EtOH aq. for photometric detn. of Cu(*I*) (λ_{max} 457 nm, ε 3600). Cryst. (DMF aq.). Sol. C_6H_6, dil. HCl; mod. sol. H_2O. Mp 310-311°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **5**, 223 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn, Cu*)

2,3-Diaminopyridine D-00118

2,3-Pyridinediamine, *9CI*

[452-58-4]



$C_5H_7N_3$ M 109.130

Used in photometric detn. of Ru. Cryst. (C_6H_6). Mp 116°. pK_a 6.84. Sublimes.

▷ US7548000.

Org. Synth., 1964, **44**, 34 (*synth*)
Streef, J.W. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1966, **85**, 803 (*synth*)
Ayres, G.H. *et al*, *Anal. Chim. Acta*, 1969, **44**, 67 (*detn, Ru*)
Essassi, E.M. *et al*, *Tetrahedron*, 1977, **33**, 2807 (*synth*)
Zecchini, G.P. *et al*, *J. Heterocycl. Chem.*, 1985, **22**, 313 (*derivs*)
Campbell, J.B. *et al*, *J. Heterocycl. Chem.*, 1986, **23**, 669 (*synth, pmr*)

2,6-Diaminopyridine D-00119

2,6-Pyridinediamine, *9CI*

[141-86-6]

$C_5H_7N_3$ M 109.130

Reagent for the fluorimetric detn. of primary aromatic amines. Leaflets. Mp 121.5°. Bp_5 148-150°.

▷ Toxic. Emits highly toxic fumes when heated to dec.. US7570000.

B,HCl: [26878-34-2].
Cryst. (EtOH) in 2 forms. Mp 81-83°, Mp 156-157° (dimorph.).

N-*Ac:*
$C_7H_9N_3O$ M 151.168
Mp 156-157°.

2,6-N-*Di-Ac:* [5441-02-1].
$C_9H_{11}N_3O_2$ M 193.205
Used as a 1% soln. in conc. H_2SO_4 for photometric detn. of $NO_3^{\ominus}$ (λ_{max} 385 nm, ε 12000). Cryst. (H_2O). Sol. acids. Mp 203°.

2,6-N-*Di-Ac, 1-oxide:*
$C_9H_{11}N_3O_3$ M 209.204
Mp 212-213°.

2,6-N-*Dibenzoyl:* [74305-33-2].
$C_{19}H_{15}N_3O_2$ M 317.346
Mp 176°.

1-Oxide:
$C_5H_7N_3O$ M 125.130
Mp 206-207°.

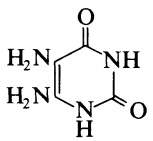
N^2,N^6-*Di-Me:* [40263-64-7]. *2,6-Bis*(*methylamino*)*pyridine*
$C_7H_{11}N_3$ M 137.184
Cryst. (hexane). Mp 70-71°.

Plazek, E., *Pol. J. Chem.* (*Rocz. Chem.*), 1936, **16**, 403 (*synth*)
den Hertog, H.J. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1936, **55**, 122 (*synth*)
Bergstrom, F.W. *et al*, *J. Org. Chem.*, 1946, **11**, 239 (*synth*)
Bernstein, J. *et al*, *J. Am. Chem. Soc.*, 1947, **69**, 1151 (*derivs*)
Dombrowski, L.J. *et al*, *Anal. Chem.*, 1971, **43**, 1042 (*use*)
Luk'yanov, V.F. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 2175 (*synth, use*)
Inuzuka, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1990, **63**, 216 (*uv, tautom*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DCC800.

5,6-Diamino-2,4(1*H*,3*H*)-pyrimidinedione, 9CI D-00120

5,6-Diaminouracil

[3240-72-0]



$C_4H_6N_4O_2$ M 142.117

Prod. by a riboflavin-free mutant of *Aspergillus nidulans*.

B,2HCl: Cryst. Mp 300-305°.

1,3-Di-Me: [5440-00-6].
$C_6H_{10}N_4O_2$ M 170.171
Used as 0.1*M* aq. soln. for photometric detn. of Co. Long needles (H_2O). Hydrol on standing; turns yellow. Mp 209°, Mp 275° dec.

1-Phenyl:
$C_{10}H_{10}N_4O_2$ M 218.215
Yellow-brownish cryst. (Py aq.). Mp 232-233°.

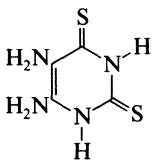
[50787-05-8, 50996-16-2]

Org. Synth., Coll. Vol., 4, 1963, 247.
Sadique, J. *et al*, *Naturwissenschaften*, 1966, **53**, 282 (*isol*)
Ruzička, E. *et al*, *Mikrochim. Acta*, 1968, 938 (*detn, Co*)
Khmelnitskii, R.A. *et al*, *CA*, 1974, **81**, 62685h (*ms, struct*)

5,6-Diamino-2,4(1*H*,3*H*)-pyrimidinedithione, 9CI D-00121

4,5-Diamino-2,6-dimercaptopyrimidine

[31295-41-7]



$C_4H_6N_4S_2$ M 174.250

Used as a 0.1% soln. in 10% glycol/EtOH soln. for photometric detn. of Se (λ_{max} 495 nm, ε 19000). Gold needles (H_2O). Sol. EtOH, Me_2CO. Mp 310°.

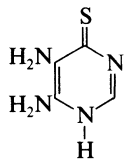
N^1-*Me:* Yellow prismatic needles. Dec. >300°.

Levin, G. *et al*, *J. Org. Chem.*, 1960, **25**, 1753 (*synth*)
Izquierdo, A. *et al*, *Analyst* (*London*), 1981, **106**, 720 (*detn*, *Se*)

5,6-Diamino-4(1*H*)-pyrimidinethione, 9CI D-00122

5,6-Diamino-4-pyrimidinethiol

[2846-89-1]



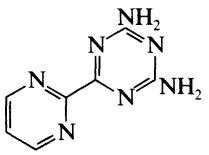
$C_4H_6N_4S$ M 142.184

Gives colour reactions with many metal ions; used for photometric detn. of Se (λ_{max} 380 nm, ε 19000). Cryst. (EtOH). Sol. EtOH.

Brown, D.J., *The Pyrimidines*, Interscience, New York, 1962 (*synth*)
Chan, F.L., *Talanta*, 1964, **11**, 1019 (*detn*, *Se*)

2,4-Diamino-6-(2-pyrimidinyl)-1,3,5-triazine D-00123

[18106-98-4]



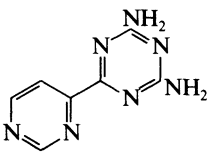
$C_7H_7N_7$ M 189.179

Used as a 5m*M* soln. in 50% EtOH aq. for photometric detn. of Cu(*I*) (λ_{max} 430 nm, ε 3640). Cryst. (H_2O). Sol. C_6H_6, dil. HCl; mod. sol. H_2O. Mp 355-356°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **5**, 223 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn*, *Cu*)

2,4-Diamino-6-(4-pyrimidinyl)-1,3,5-triazine D-00124

[18106-99-5]



$C_7H_7N_7$ M 189.179

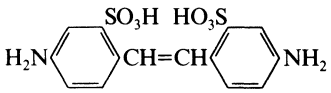
Used as a 5m*M* soln. in 50% EtOH aq. for photometric detn. of Cu(*I*) (λ_{max} 450 nm, ε 2700). Cryst. (H_2O). Sol. C_6H_6, dil. HCl; mod. sol. H_2O. Mp 298-299°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **5**, 223 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn*, *Cu*)

4,4′-Diaminostilbene-2,2′-disulfonic acid, 8CI D-00125

2,2′-(1,2-Ethenediyl)bis[5-aminobenzenesulfonic acid], *9CI. Amsonic acid*

[81-11-8]



$C_{14}H_{14}N_2O_6S_2$ M 370.406

Anal. reagent for pyridine derivs. Fine yellow needles. Mp >300°.

▷ WJ6603000.

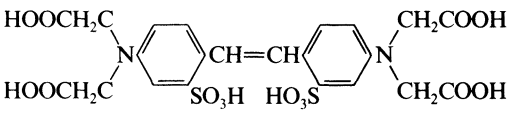
Di-Na salt: [7336-20-1].
Fluorescent whitening agent.

[28096-93-7, 38151-69-8, 38151-70-1, 98367-20-5]

Huang-Minlon, *J. Am. Chem. Soc.*, 1948, **70**, 2802 (*synth*)
Cassasas, E. *et al*, *CA*, 1972, **76**, 94336h (*use*)
Rauret, G. *et al*, *An. Quim., Ser. B*, 1988, **84**, 325; *CA*, **111**, 89544m (*use*)

4,4′-Diamino-2,2′-stilbenedisulfonic acid *N*,*N*,*N*′,*N*′-tetraacetic acid D-00126

2,2′-Disulfo-4,4′-diaminostilbene-N,N,N′,N′-*tetraacetic acid*

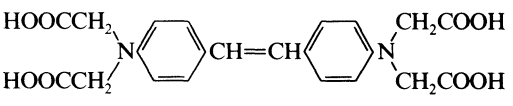


$C_{22}H_{22}N_2O_{14}S_2$ M 602.553

Used as a 0.1% dispersion of tetra-Na salt in KNO_3 as fluorescent indicator for titrimetric detn. of Bi, Cu, Fe(*III*), Ni, Pb, V(*IV*) (colour change: blue→no fluorescence). Pale brown cryst. powder. Sol. H_2O; insol. C_6H_6, EtOH.

Kirkbright, G.F. *et al*, *Anal. Chim. Acta*, 1962, **27**, 558.

4,4′-Diaminostilbene-*N*,*N*,*N*′,*N*′-tetraacetic acid D-00127



$C_{22}H_{22}N_2O_8$ M 442.424

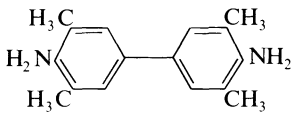
Tetra-Na salt: Used as 0.1% dispersion in KNO_3 as fluorescence indicator for titrimetric detn. of Bi, Co, Cu, Fe, Ni (colour change: no fluorescence → blue). Brown powder. Sol. alkalis.

Kirkbright, G.F. *et al*, *Anal. Chim. Acta*, 1962, **27**, 558.

4,4′-Diamino-3,3′,5,5′-tetramethylbiphenyl D-00128

3,3′,5,5′-Tetramethyl[1,1′-biphenyl]-4,4′-diamine. 3,3′,5,5′-Tetramethylbenzidine. TMBZ

[54827-17-7]



$C_{16}H_{20}N_2$ M 240.347

Reagent for the detn. of blood. More sensitive and less carcinogenic than benzidine. Fine needles (MeOH). Prac. insol. H_2O; v. sol. MeOH. Mp 168-169.5°.

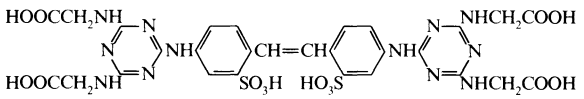
▷ DV2300000.

Holland, V.R. *et al*, *Tetrahedron*, 1974, **30**, 3299 (*synth, uv, ir, pmr*)
Thomas, P.E. *et al*, *Anal. Biochem.*, 1976, **75**, 168 (*use*)
Pinkus, J.L. *et al*, *J. Chem. Educ.*, 1977, **54**, 380 (*synth, use*)
Bomfield, P. *et al*, *Synthesis*, 1978, 537 (*synth*)
Jaffe, R.M. *et al*, *J. Lab. Clin. Med.*, 1979, **93**, 879 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TDM800.

4,4′-[(4,6-Diamino-1,3,5-triazin-2-yl) amino]-2,2′-stilbenedisulfonic acid-*N,N′,N″,N‴*-tetraacetic acid D-00129

N,N′,N″,N‴-[*Vinylenebis*[(*3-sulfo*-p-*phenylene*)*imino*-*s-triazine-6,2,4-triyl*]]*tetraglycine*, *8CI*

[18299-08-6]



$C_{28}H_{28}N_{12}O_{14}S_2$ M 820.733

Hexa-Na salt: [10130-11-7].

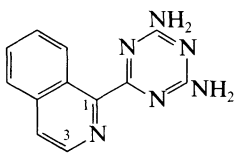
Used as a 0.1% aq. soln. for lumimetric detn. of Cr; fluorescent acid-base indicator.

Lastovskii, R.P. *et al*, *CA*, 1967, **66**, 91423s (*detn, Cr*)
Tiemkina, V.Y. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 632, 1830 (*ind*)

1-(4,6-Diamino-1,3,5-triazin-2-yl) isoquinoline D-00130

2,4-Diamino-6-(1-isoquinolyl)-1,3,5-triazine

[17583-57-2]



$C_{12}H_{10}N_6$ M 238.251

Used as a 5m*M* soln. in aq. EtOH to give colour reaction with Cu(*I*). Cryst. (2-methoxyethanol). Sol. common org. solvents. Mp 251-253°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 483 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

3-(4,6-Diamino-1,3,5-triazin-2-yl) isoquinoline, 8CI D-00131

2,4-Diamino-6-(3-isoquinolyl)-1,3,5-triazine

[17583-58-3]

$C_{12}H_{10}N_6$ M 238.251

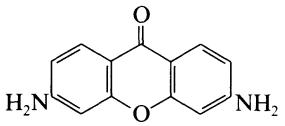
Used as a 5m*M* soln. in EtOH aq. to give colour reaction with Cu(*I*). Cryst. (2-methoxyethanol). Sol. common org. solvents. Mp 354°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 483 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

3,6-Diaminoxanthone D-00132

3,6-Diamino-9H-xanthen-9-one, *9CI*

[71641-67-3]



$C_{13}H_{10}N_2O_2$ M 226.234

Cryst. (Py aq.). Mp 324-326°.

N,N,N′,N′-*Tetra-Me:* [56860-23-2]. *3,6-Bis(dimethylamino)-9H-xanthen-9-one*, *9CI*

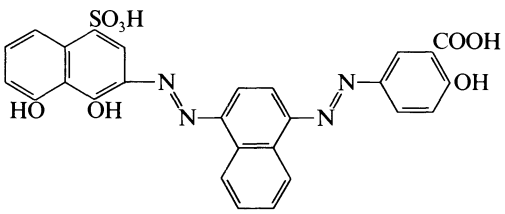
$C_{17}H_{18}N_2O_2$ M 282.341

Used as a 1% soln. in EtOH as a fluorescent acid-base indicator (pH range: 1.2 - 3.4; colour change: green → blue). Bluish red cryst. Sol. dil. acids, EtOH. Mp 240-242°.

Biehringer, J., *J. Prakt. Chem.*, 1896, **54**, 217 (*synth, deriv*)
Goldberg, A.A. *et al*, *J. Chem. Soc.*, 1953, 1348 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

Diamond green BW D-00133

C.I. Acid green 34. C.I. Mordant green 12. C.I. 27520. Diamond green 3G. Diamond green SSA



$C_{27}H_{18}N_4O_8S$ M 558.527

Strictly the name Diamond green BW applies to the disodium salt.

Di-Na salt: [8015-02-9].

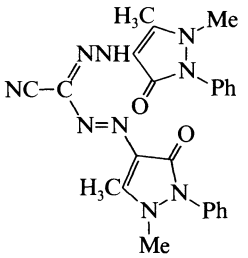
Used as metallochromic indicator for titrimetric detn. of Ca, Sr. Dark green cryst. powder. Sol. H_2O; mod. sol. EtOH.

Belcher, R. *et al*, *Chemist-Analyst*, 1957, **46**, 86 (*detn, Ca, Sr*)

1,5-Diantipyrinyl-3-formazancarbonitrile, 8CI D-00134

1,5-Diantipyryl-3-cyanoformazan

[30842-86-5]



$C_{24}H_{23}N_9O_2$ M 469.505

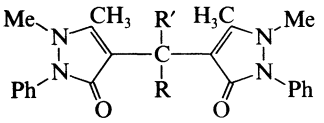
Used in photometric detn. of Sc. Cryst. Sol. $CHCl_3$.

Budešinsky, B. *et al*, *Microchem. J.*, 1971, **16**, 253.

1,1-Diantipyrylbutane D-00135

4,4′-Butylidenebis[1,2-dihydro-1,5-dimethyl-2-phenyl-3H-pyrazol-3-one], 9CI. DAPM

[1461-17-2]



R = $CH_2CH_2CH_3$, R′ = H

$C_{26}H_{30}N_4O_2$ M 430.549

Forms extractable ion-pairs with many anionic metal complexes. Cryst. Sol. EtOH; sl. sol. H_2O. Mp 155-156°.

Shendrikar, A.D. *et al*, *Anal. Chim. Acta*, 1969, **47**, 299 (*detn, Pt*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 1324 (*detn, Ti*)
Akimov, V.K. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 118 (*detn, Re*)
Alexandrov, A. *et al*, *J. Radioanal. Chem.*, 1984, **83**, 247 (*detn, Nb*)

1,1-Diantipyrylethane D-00136

4,4′-(Ethylidene)bis[1,2-dihydro-1,5-dimethyl-2-phenyl-3H-pyrazol-3-one], 9CI. DAMM

[1606-56-0]

As 1,1-Diantipyrylbutane, D-00135 with

R = CH_3, R′ = H

$C_{24}H_{26}N_4O_2$ M 402.495

Forms extractable ion-pairs with anionic complexes of Bi, Sb, Pd, Pt. Cryst. Sol. EtOH, Me_2CO; spar. sol. H_2O.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1964, **19**, 1346; 1970, **25**, 918 (*detn, Sb, Bi*)
Akimov, V.K. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1792; 1974, **29**, 2112 (*detn, Pd, Pt*)

1,1-Diantipyrylheptane D-00137

4,4′-(1,7-Heptanediyl)bis[1,2-dihydro-1,5-dimethyl-2-phenyl-3H-pyrazol-3-one], 9CI. 1,7-Bis(1,2-dihydro-2,3-dimethyl-4-oxo-5-phenyl-3-pyrazolyl)heptane

[6667-84-1]

As 1,1-Diantipyrylbutane, D-00135 with

R = $(CH_2)_7$, R′ = H

$C_{29}H_{36}N_4O_2$ M 472.629

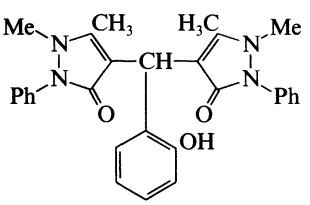
Used as 0.01-0.1*M* solns. in $CHCl_3$ or dichloroethane for extraction sepn. of Ag from Pb, U from Th, Zr. Cryst. Sol. $CHCl_3$, dichloroethane.

Petrov, B.I. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1722; 1983, **38**, 80 (*sepn, Ag, U*)

1,1-Diantipyryl-2-hydroxyphenylmethane D-00138

1,2-Dihydro-4,4′-[(2-hydroxyphenyl)methylene]bis[1,5-dimethyl-2-phenyl-3H-pyrazol-3-one], 9CI

[1606-55-9]



$C_{29}H_{28}N_4O_3$ M 480.565

Used as a 0.7% soln. in MeOH for extraction-photometric detn. of Ti(*IV*) (λ_{max} 347 nm, ε 9100). Cryst. Sol. EtOH, Me_2CO; spar. sol. H_2O.

Ishii, H. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1974, **23**, 1344 (*detn, Ti*)

1,1-Diantipyrylmethane D-00139

4,4′-Methylenebis[1,2-dihydro-1,5-dimethyl-2-phenyl-3H-pyrazol-3-one], 9CI. DAM

[1251-85-0]

As 1,1-Diantipyrylbutane, D-00135 with

R = R′ = H

$C_{23}H_{24}N_4O_2$ M 388.468

Forms extractable ion-pairs with many anionic metal complexes; used in photometric detn. of Ti (ε 14500), Fe(*III*), Mo, U(*VI*), Nb. Cryst. Sol. $CHCl_3$, C_6H_6; insol. H_2O. Mp 155-157° dec.

Jeffery, P.C. *et al*, *Analyst* (*London*), 1965, **90**, 177 (*detn, Ti*)
Zhivopistsev, V.P., *Zavod. Lab.*, 1965, **31**, 1043 (*rev*)
Ganago, L.I. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 2186 (*detn, Nb*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 495 (*use*)
Petrov, B.I. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 80 (*detn, U*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIb: Individual Metals. Magnesium to Zinc*, John Wiley, New York, 4th Ed., 1989, 545.

1,1-Diantipyrylphenylmethane D-00140

4,4′-(Phenylmethylene)bis[1,2-dihydro-1,5-dimethyl-2-phenyl-3H-pyrazol-3-one], 9CI. Diantipyrylbenzomethane. α,α′-Diantipyryltoluene

[1861-84-3]

As 1,1-Diantipyrylbutane, D-00135 with

R = Ph, R′ = H

$C_{29}H_{28}N_4O_2$ M 464.566

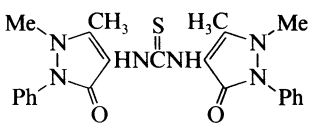
Forms extractable ion-pairs with anionic complexes of Ti, V(*V*), Pd, Mo. Cryst. Sol. EtOH, Me_2CO; spar. sol. H_2O.

Podchainova, V.N. *et al*, *CA*, 1966, **68**, 18286 (*detn, V, Ti*)
Akimov, V.K. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 2112 (*detn, Pd*)
Akimov, V.K. *et al*, *Zavod. Lab.*, 1975, **41**, 391 (*detn, Mo*)

Diantipyrylthiourea D-00141

N,N′-Bis(2,3-dihydro-1,5-dimethyl-3-oxo-2-phenyl-1H-pyrazol-4-yl)thiourea, 9CI

[26084-35-5]



$C_{23}H_{24}N_6O_2S$ M 448.548

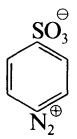
Used as 0.025-0.05 M solns. in $CHCl_3$ in extraction and separation of Cd (from 0.2*M* NH_3); extraction-photometric detn. of Cu(*I*). Cryst. Sol. $CHCl_3$.

Degtev, M.I. *et al*, *Zavod. Lab.*, 1983, **49**, 7; 1984, **50**, 9 (*detn, Cd, Cu*)

4-Diazobenzenesulfonic acid, 9CI D-00142

Diazosulfanilic acid

[305-80-6]



$C_6H_4N_2O_3S$ M 184.175

Used as aq. soln. for photometric detn. of Al, Mg. Needles (H_2O). Sol. H_2O.

▷ Explosive when dry.

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, Princeton, 1947, **4**, 276 (*detn, Al, Mg, synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BBO250.

1-Diazobutane, 9CI D-00143

[764-43-2]

$H_3CCH_2CH_2CHN_2$

$C_4H_8N_2$ M 84.121

Prepd. from various *N*-nitroso-*N*-butyl compds. Butylating agent. Used for esterifying amino acids for gc sepn.

Wilds, A.L. *et al*, *J. Org. Chem.*, 1948, **13**, 763 (*synth*)
Mussini, E. *et al*, *J. Chromatogr.*, 1967, **26**, 481 (*synth, use*)
Sekiya, M. *et al*, *Chem. Pharm. Bull.*, 1976, **24**, 369 (*synth*)
Yamashita, H. *et al*, *Chem. Pharm. Bull.*, 1979, **27**, 682 (*synth*)

Diazoethane, 9CI D-00144

[1117-96-0]

H_3CCHN_2

$C_2H_4N_2$ M 56.067

Prepd. from various *N*-nitroso-*N*-ethyl amino compds. Powerful ethylating agent. Can be used to esterify carboxylic acids for gc anal.

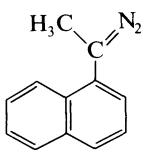
▷ Poses severe toxic and explosive hazards.

Adamson, D.W. *et al*, *J. Chem. Soc.*, 1935, 286 (*synth*)
Stanley, C.W., *J. Agric. Food Chem.*, 1966, **14**, 321 (*use*)
Sekiya, M. *et al*, *Chem. Pharm. Bull.*, 1976, **24**, 369 (*synth*)
Yamashita, H. *et al*, *Chem. Pharm. Bull.*, 1979, **27**, 682 (*synth*)
Emmanuel, J.A.O. *et al*, *Ind. Eng. Chem. Prod. Res. Dev.*, 1984, **23**, 172 (*synth, hazard*)

1-(1-Diazoethyl)naphthalene, 9CI D-00145

1-α-Naphthyldiazoethane. 1-Diazo-1-α-naphthylethane

[102421-45-4]



$C_{12}H_{10}N_2$ M 182.224

Used as derivatising reagent for gc detn. of carboxylic acids. Red oil.

Corina, D.L. *et al*, *J. Chromatogr.*, 1983, **260**, 51 (*synth, use*)
Barcus, R.L. *et al*, *J. Am. Chem. Soc.*, 1986, **108**, 3928 (*synth, pmr*)

2-(1-Diazoethyl)naphthalene, 9CI D-00146

1-(2-Naphthyl)diazoethane

[31490-17-2]

$C_{12}H_{10}N_2$ M 182.224

Derivatisation reagent for hplc anal. of fatty acids.

Matthewes, D.P. *et al*, *Anal. Chim. Acta*, 1979, **109**, 61 (*use*)

(1-Diazoethyl)pentafluorobenzene, 9CI D-00147

1-(Pentafluorophenyl)diazoethane

[98670-02-1]

$(C_6F_5)C(CH_3)N_2$

$C_8H_3F_5N_2$ M 222.117

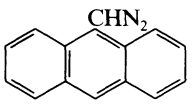
Derivatisation reagent for carboxylic acids. Red-orange oil. Fp −31° to −28°. $n_D^{22.2}$ 1.5007.

Meese, C.O., *Justus Liebigs Ann. Chem.*, 1985, 1711 (*synth, ir, uv, pmr*)
Hofmann, U. *et al*, *J. Chromatogr.*, 1990, **508**, 349 (*use*)

9-(Diazomethyl)anthracene, 9CI D-00148

9-Anthryldiazomethane

[10401-59-9]



$C_{15}H_{10}N_2$ M 218.257

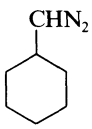
Used as hplc reagent for fluorescent labelling of carboxylic acids. Red cryst. Mp 65-67°.

Nakaya, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1967, **40**, 691 (*synth*)
Barker, S.A. *et al*, *Anal. Biochem.*, 1980, **107**, 116; 1983, **132**, 456 (*use, synth*)
Yoshida, T. *et al*, *J. Chromatogr.*, 1985, **348**, 425 (*use*)
Yoshida, T. *et al*, *Anal. Biochem.*, 1988, **173**, 70 (*synth, use*)

(Diazomethyl)cyclohexane, 9CI D-00149

Cyclohexyldiazomethane

[86328-83-8]



$C_7H_{12}N_2$ M 124.185

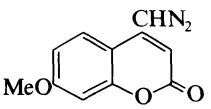
Used as a soln. in THF/Et_2O (1:1) as a derivatisation reagent used in gc of carboxylic acids.

Corina, D.L. *et al*, *J. Chromatogr.*, 1983, **260**, 51 (*synth, use*)

4-(Diazomethyl)-7-methoxy-2*H*-1-benzopyran-2-one, 9CI D-00150

4-Diazomethyl-7-methoxycoumarin

[84471-16-9]



$C_{11}H_8N_2O_3$ M 216.196

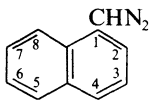
Fluorescent labelling probe for alcohols and carboxylic acids. Yellow needles. Mp 160° dec.

Takadate, A. *et al*, *Chem. Pharm. Bull.*, 1982, **36**, 4120 (*synth, use*)

1-(Diazomethyl)naphthalene D-00151

1-Naphthyldiazomethane

[10378-55-9]



$C_{11}H_8N_2$ M 168.198

Derivatisation reagent used in anal. of carboxylic acids. Red cryst. Mp 40-41° dec.

▷ Explosive.

Nakaya, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1967, **40**, 690 (*synth*)
Matthees, D.P. *et al*, *Anal. Chim. Acta*, 1979, **109**, 161 (*use*)
Corina, D.L. *et al*, *J. Chromatogr.*, 1983, **51**, 260 (*synth, use*)
Chapman, O.L. *et al*, *J. Org. Chem.*, 1986, **51**, 1316 (*synth, ir*)

(Diazomethyl)pentafluorobenzene, 9CI D-00152

(Pentafluorophenyl)diazomethane. α-Diazo-2,3,4,5,6-pentafluorotoluene

[7651-11-8]

$(C_6F_5)CHN_2$

$C_7HF_5N_2$ M 208.090

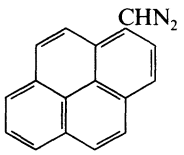
Derivatisation reagent for carboxylic acids. Orange oil. Mp 2-4°. $n_D^{21.8}$ 1.5080.

Meese, C.O., *Justus Liebigs Ann. Chem.*, 1985, 1711 (*synth, ir, uv, pmr*)
Hofmann, U. *et al*, *J. Chromatogr.*, 1990, **508**, 349 (*use*)

1-(Diazomethyl)pyrene, 9CI D-00153

1-Pyrenyldiazomethane

[78377-23-8]



$C_{17}H_{10}N_2$ M 242.279

Reagent for prepn. of 1-pyrenylmethyl esters, photolabile protecing group. Fluorescent labelling reagent for anal. of carboxylic acids. Dark-red cryst. Mp 112°. Stable in dark at 0°.

Iwamura, M. *et al*, *Tetrahedron Lett.*, 1987, **28**, 679 (*synth, use*)
Nimura, N. *et al*, *Anal. Chem.*, 1988, **60**, 2067 (*use*)

1-Diazopropane, 9CI D-00154

[764-02-3]

$H_3CCH_2CHN_2$

$C_3H_6N_2$ M 70.094

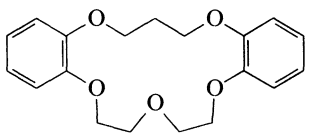
Prepd. from various *N*-nitroso-*N*-propylamino compds. Propylating agent. Used for esterifying amino acids for gc sepn.

Adamson, D.W. *et al*, *J. Chem. Soc.*, 1935, 286; 1937, 1551 (*synth*)
Dyer, J.R. *et al*, *J. Org. Chem.*, 1964, **29**, 3423 (*synth*)
Mussini, E. *et al*, *J. Chromatogr.*, 1967, **26**, 481 (*synth, use*)
Yamashita, H. *et al*, *Chem. Pharm. Bull.*, 1979, **27**, 682 (*synth*)

Dibenzo-16-crown-5 D-00155

6,7,9,10,18,19-Hexahydro-17H-dibenzo[b,k][*1,4,7,10,13*]*pentaoxacyclohexadecin, 9CI*

[14696-06-1]



$C_{19}H_{22}O_5$ M 330.380

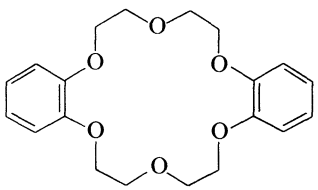
Used as 1% soln. in dipentyl phthalate in K-selective electrode (PVC membrane). Oil. Sol. hexane, Et_2O.

Ryba, O. *et al*, *J. Electroanal. Chem.*, 1973, **44**, 425 (*synth*)
Petranek, J. *et al*, *Anal. Chim. Acta*, 1974, **72**, 375 (*use*)

Dibenzo-18-crown-6 D-00156

6,7,9,10,17,18,20,21-Octahydrodibenzo[b,k][*1,4,7,10,13,16*]*hexaoxacyclooctadecine, 9CI, 8CI. 2,3,11,12-Dibenzo-1,4,7,10,13,16-hexaoxacyclooctadeca-2,11-diene*

[14187-32-7]



$C_{20}H_{24}O_6$ M 360.406

Used for extraction, separation of alkali and alkaline-earth metals. Fibrous needles (C_6H_6). Sol. C_6H_6, $CHCl_3$, dioxan, Py; sl. sol. H_2O, EtOH. Mp 162.5-163.5°. Bp *ca.* 380-384°.

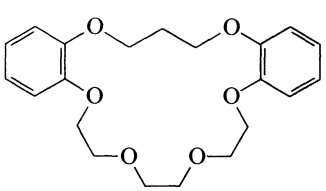
▷ Irritant.

Pedersen, C.J., *J. Am. Chem. Soc.*, 1967, **89**, 2495 (*synth, uv, ir, pmr*)
Org. Synth., 1972, **52**, 66 (*synth, uv, pmr, ms, tox, bibl*)
Christensen, J.J. *et al*, *Chem. Rev.*, 1974, **74**, 351 (*rev*)
Kyba, P. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 2564 (*synth*)
Kolthoff, I.M., *Anal. Chem.*, 1979, **51**, IR (*rev*)
Torizuka, K. *et al*, *Org. Magn. Reson.*, 1979, **12**, 190 (*cmr*)
Zolotov, Y.A., *Zh. Anal. Khim.*, 1982, **37**, 1543 (*rev*)
Krasnushkina, E.A. *et al*, *TrAC, Trends Anal. Chem.* (*Pers. Ed.*), 1983, **2**, 158.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, COD575.

Dibenzo-19-crown-6 D-00157

6,7,9,10,12,13,21,22-Octahydro-20H-dibenzo[b,n][*1,4,7,10,13,16*]*hexaoxacyclononadecine, 9CI*

[14098-39-6]



$C_{21}H_{26}O_6$ M 374.433

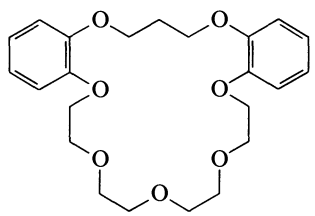
Used as 1% soln. in dipentyl phthalate in K-selective electrode (PVC membrane). Oil. Sol. hexane, Et_2O.

Ryba, O. *et al*, *J. Electroanal. Chem.*, 1973, **44**, 425 (*synth*)
Petranek, J. *et al*, *Anal. Chim. Acta*, 1974, **72**, 375 (*use*)

Dibenzo-22-crown-7 D-00158

6,7,9,10,12,13,15,16,24,25-Decahydro-23H-dibenzo[b,q][*1,4,7,10,13,16,19*]*heptaoxacyclodocosin, 9CI*

[54160-01-9]



$C_{23}H_{30}O_7$ M 418.486

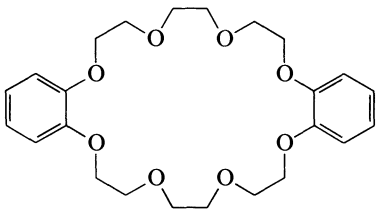
Used in 1% soln. in dipentyl phthalate in K-selective electrode (PVC membrane). Oil. Sol. hexane, Et_2O.

Ryba, O. *et al*, *J. Electroanal. Chem.*, 1973, **44**, 425 (*synth*)
Petranek, J. *et al*, *Anal. Chim. Acta*, 1974, **72**, 375 (*use*)

Dibenzo-24-crown-8 D-00159

6,7,9,10,12,13,20,21,23,24,26,27-Dodecahydro-dibenz[b,n][*1,4,7,10,13,16,19,22*]*octaoxacyclotetracosin, 9CI*

[14174-09-5]



$C_{24}H_{32}O_8$ M 448.512

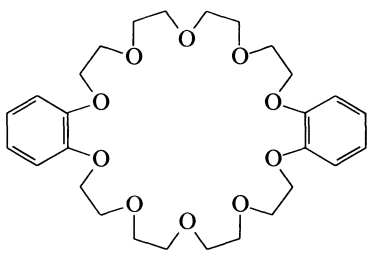
Used for extraction and separation of alkali and alkaline-earth metals. Cryst. Sl. sol. H_2O, EtOH; sol. C_6H_6, $CHCl_3$, dioxan. Mp 103-105°, Mp 113-114°.

Pedersen, C.J., *J. Am. Chem. Soc.*, 1967, **89**, 7017 (*synth*)
Dietrich, B. *et al*, *Tetrahedron Lett.*, 1969, **34**, 2885.
Kolthoff, I.M., *Anal. Chem.*, 1979, **51**, 1R (*rev*)

Dibenzo-30-crown-10 D-00160

6,7,9,10,12,13,15,16,23,24,26,27,29,30,32,33-Hexadecahydrodibenzo[b,q][*1,4,7,10,13,16,19,22,25,28*]*decaoxacyclotriacontin, 9CI*

[17455-25-3]



$C_{28}H_{40}O_{10}$ M 536.618

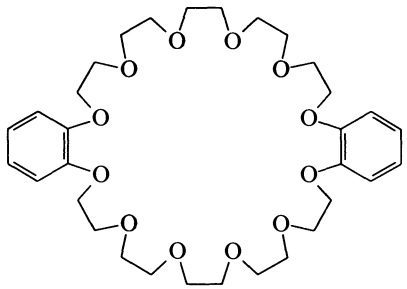
Used as 1% soln. in dipentyl phthalate in K-selective electrode (PVC membrane). Cryst. (hexane/Et_2O). Sol. hexane, Et_2O. Mp 104-105°.

Ryba, O. *et al*, *J. Electroanal. Chem.*, 1973, **44**, 425 (*synth*)
Petranek, J. *et al*, *Anal. Chim. Acta*, 1974, **72**, 375 (*use*)

Dibenzo-36-crown-12 D-00161

6,7,9,10,12,13,15,16,18,19,26,27,29,30,32,33,35,36,38,39-Eicosahydrodibenzo[b,t][*1,4,7,10,13,16,19,22,25,28,31,34*]*dodecaoxacyclohexatriacontin, 9CI*

[54159-98-7]



$C_{32}H_{48}O_{12}$ M 624.724

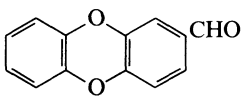
Used as 1% soln. in dipentyl phthalate in K-selective electrode (PVC membrane). Cryst. (hexane/Et_2O). Sol. hexane, Et_2O. Mp 73-74°.

Ryba, O. *et al*, *J. Electroanal. Chem.*, 1973, **44**, 425 (*synth*)
Patranek, J. *et al*, *Anal. Chim. Acta*, 1974, **72**, 375 (*use*)

Dibenzo[*b,e*][1,4]dioxin-2-carboxaldehyde D-00162

2-Formyldibenzo[b,e][*1,4*]*dioxin*

[17054-71-6]



$C_{13}H_8O_3$ M 212.204

Cryst. Mp 91-93°.

Oxime: [17054-73-8].

$C_{13}H_9NO_3$ M 227.219

Used as a 0.2% soln. in EtOH for extraction-photometric detn. of Pd (λ_{max} 318 nm, ε 17000, C_6H_6). Cryst. Sol. common org. solvs. Mp 192-193°.

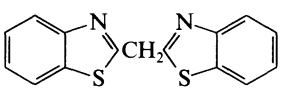
2,4-Dinitrophenylhydrazone: Cryst. (Py/EtOH). Mp 300-301°.

Gilman, H. *et al*, *J. Org. Chem.*, 1957, **22**, 1403 (*synth*)
Vasiliu, G. *et al*, *CA*, 1968, **68**, 59509e (*synth*)
Popa, G. *et al*, *Rev. Chim.* (*Bucharest*), 1974, **25**, 573 (*detn, Pd*)
Singh, R.B. *et al*, *Talanta*, 1979, **26**, 425 (*detn, Pd*)

Di-2-benzothiazolylmethane D-00163

2,2'-Methylenebisbenzothiazole, 8CI

[1945-78-4]



$C_{15}H_{10}N_2S_2$ M 282.389

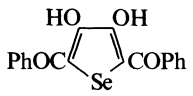
Used as a 0.1m*M* soln. in dioxan for fluorimetric detn. of Zn, Li. Yellowish cryst. Sol. EtOH, dioxan; insol. H_2O. Mp 96-97°.

Rai, C. *et al*, *J. Org. Chem.*, 1961, **26**, 3434 (*synth*)
Trenholm, R.R. *et al*, *Anal. Chim. Acta*, 1965, **32**, 317 (*detn, Zn*)
Pitts, A.E. *et al*, *Anal. Chim. Acta*, 1967, **37**, 460 (*detn, Li*)
Ryan, R.E. *et al*, *Anal. Chim. Acta*, 1969, **44**, 115 (*detn, Zn*)

2,5-Dibenzoyl-3,4-dihydroxyselenophene D-00164

2,5-Dibenzoyl-3,4-selenophenediol, 8CI

[16303-98-3]



$C_{18}H_{12}O_4Se$ M 371.250

Used as a 0.1m*M* soln. in EtOH for photometric detn. of Bi (λ_{max} 490 nm, ε 4600). Bright orange prisms (Me_2CO). Sol. EtOH, Me_2CO; sl. sol. H_2O. Mp 165°. $Subl._{0.02}$ 140°. λ_{max} 360 nm (EtOH).

Balenovič, K. *et al*, *J. Org. Chem.*, 1954, **10**, 1556 (*synth*)
Balenovič-Solter, A. *et al*, *Mikrochim. Acta*, 1968, 344.

Dibenzoyl peroxide, 9CI D-00165

***Benzoyl peroxide*, USAN.** *Benzoyl superoxide. Benoxyl. Benzac. Eloxyl. Persadox. Numerous proprietary names*

[94-36-0]

PhCO-O-O-OCPh

$C_{14}H_{10}O_4$ M 242.231

Catalyst for radical reactions. Added to bread as bleaching agent. Keratolytic agent. Reagent for anal. of amines by chemiluminescence. Prisms. Mp 106-108° dec. Component of Benzamycin and Vanoxide.

▷ Toxic, irritant, TLV 5. Explodes on heating. Can explode spontaneously when dry. DM8576200.

Food Chemicals Codex, 2nd Ed., **2**, 82 (*anal*)
Gambarjan, S., *Chem. Ber.*, 1909, **42**, 4003 (*synth*)
Hey, D.H. *et al*, *J. Chem. Soc.*, 1948, 2213 (*synth*)
Cadogan, J.I.G., *J. Chem. Soc.*, 1959, 2844 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 89.
Burguera, J.L. *et al*, *Talanta*, 1979, **26**, 795 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 270.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BDS000.

Dibenzylamine, 8CI D-00166

N-(Phenylmethyl)benzenemethanamine, 9CI

[103-49-1]

$PhCH_2NHCH_2Ph$

$C_{14}H_{15}N$ M 197.279

Corrosion inhibitor, antioxidant. Used in detn. of Co, Fe, $CN^{\ominus}$. Oil. Sol. EtOH, Et_2O; insol. H_2O. d 1.0256. Mp −26°. Bp_{250} 270°.

▷ Causes burns.

N-Me: [102-05-6].
$C_{15}H_{17}N$ M 211.306
Liq. Bp_1 143°, $Bp_{0.7}$ 125°.

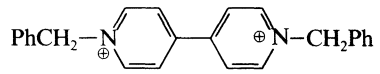
N-Me; B,MeI: Cryst. Mp 189-191°.

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **2**, 344.
Aihara, A. *et al*, *Bull. Chem. Soc. Jpn.*, 1972, **45**, 1942 (*nmr*)
Donetti, A. *et al*, *J. Org. Chem.*, 1972, **37**, 3352 (*synth*)
Vora, J.C. *et al*, *Werkst. Korros.*, 1974, **25**, 753 (*use*)
Gribble, G.W. *et al*, *Synthesis*, 1987, 709 (*deriv, synth, pmr*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 547.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 271.

1,1′-Dibenzyl-4,4′-bipyridinium(2+) D-00167

N,N′-Dibenzylviologen. 1,1′-Bis(phenylmethyl)-4,4′-bipyridinium(2+), 9CI

[13096-46-3]



$C_{24}H_{22}N_2^{2\oplus}$ M 338.451 (ion)

Dichloride: [1102-19-8].
$C_{24}H_{22}Cl_2N_2$ M 409.357
Redox indicator (reduced form blue). Used as a soln. in dil. AcOH. Extremely air-sensitive needles (C_6H_6/EtOH). Sol. EtOH; spar. sol. C_6H_6. E° −0.359 V (30°).

▷ DW1930000.

Michaelis, L. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 1481 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 521.

Dibenzyl disulfide D-00168

Bis(phenylmethyl) disulfide, 9CI. Benzyl disulfide, 8CI

[150-60-7]

$PhCH_2SSCH_2Ph$

$C_{14}H_{14}S_2$ M 246.397

Lubricating oil additive, corrosion inhibitor. Reference material used in elemental microanalysis. Mp 71-72°. Exp. to sunlight causes conversion to a second form, Mp 69-70°.

▷ JO1750000.

Cumper, C.W.N. *et al*, *J. Chem. Soc.*, 1965, 5323 (*synth*)
Bowie, J.H. *et al*, *J. Chem. Soc. B*, 1966, 946 (*ms*)
Voronkov, M.G. *et al*, *Zh. Strukt. Khim.*, 1968, **9**, 627 (*pmr*)
Reiter, G.F., *J. Appl. Phys.*, 1970, **41**, 1368 (*uv*)
Srinivasan, R. *et al*, *Acta Crystallogr., Sect. B*, 1972, **28**, 2615 (*cryst struct*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Subrahmanyan, B. *et al*, *Chem. Age India*, 1975, **26**, 333 (*synth, use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DXH200.

Dibenzyldithiooxamide D-00169

N,N′-Bis(phenylmethyl)ethanedithioamide, 9CI

[122-65-6]

$PhCH_2NHCSCSNHCH_2Ph$

$C_{16}H_{16}N_2S_2$ M 300.448

Used as 1% Me_2CO soln. in extraction-photometric detn. of Pt (λ_{max} 737 nm, ε 26000), Pd (λ_{max} 450 nm, ε 19000). Cryst. Sol. Me_2CO.

▷ RO9100000.

Pyle, J.T. *et al*, *Talanta*, 1962, **9**, 761.

Dibenzyl selenide D-00170

1,1′-[Selenobis(methylene)]bisbenzene, 9CI. Benzyl selenide

[1842-38-2]

$PhCH_2SeCH_2Ph$

$C_{14}H_{14}Se$ M 261.225

Used as a 2% soln. in C_6H_6 for extraction-photometric detn. of Pd (λ_{max} 342 nm, ε 27000, C_6H_6). Cryst. (EtOH). Sol. EtOH, Me_2CO, C_6H_6; insol. H_2O. Mp 45°.

Pitombo, L., *Anal. Chim. Acta*, 1969, **46**, 158; 1972, **62**, 103 (*detn, Pd*)
Pitombo, L.K.M. *et al*, *Talanta*, 1974, **21**, 965 (*synth*)
Tamagaki, S. *et al*, *Chem. Lett.*, 1976, 301 (*synth*)

Dibenzyl sulfide D-00171

1,1′-[Thiobis(methylene)]bisbenzene, 9CI. Benzyl sulfide, 8CI. Dibenzyl thioether

[538-74-9]

$PhCH_2SCH_2Ph$

$C_{14}H_{14}S$ M 214.331

Corrosion inhibitor. Used for extraction-photometric detn. of Pd. Plates (Et_2O or $CHCl_3$). Sol. Me_2CO, EtOH, C_6H_6. Mp 49°.

Trabanelli, G. *et al*, *Werkst. Korros.*, 1969, **20**, 1012 (*use*)
Wladislaw, B. *et al*, *Ann. Acad. Bras. Ciénc.*, 1970, **42**, 691 (*ir*)
Wahl, G.H., *Org. Mass Spectrom.*, 1970, **3**, 1349 (*ms*)
Pitombo, L., *Anal. Chim. Acta*, 1972, **62**, 103 (*detn, Pd*)
Zetta, L. *et al*, *Org. Magn. Reson.*, 1972, **4**, 585 (*pmr*)
Ho, T.-L. *et al*, *Synthesis*, 1973, 206 (*synth*)

Dibenzyl sulfoxide D-00172

1,1′-[Sulfinylbis(methylene)]bisbenzene, 9CI. Benzyl sulfoxide, 8CI

[621-08-9]

$PhCH_2SOCH_2Ph$

$C_{14}H_{14}OS$ M 230.330

Corrosion inhibitor. Used as 8% soln. in CH_2Cl_2 for extraction separation of Fe(*III*) (as SCN complex). Leaflets (EtOH or H_2O). Sol. $CHCl_3$, CH_2Cl_2. Mp 133-135°.

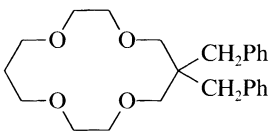
▷ DA9275000.

Bowie, J.H. *et al*, *Tetrahedron*, 1966, **22**, 3515 (*ms*)
Hardy, F.E. *et al*, *J. Chem. Soc. C*, 1969, 2334 (*synth*)
Ziegler, M. *et al*, *Mikrochim. Acta*, 1970, 1270 (*sepn, Fe*)
Horner, L. *et al*, *Werkst. Korros.*, 1971, **22**, 867 (*use*)
Dhingra, M.M. *et al*, *Chem. Phys. Lett.*, 1975, **30**, 83 (*nmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DDH800.

6,6-Dibenzyl-1,4,8,11-tetraoxacyclotetradecane D-00173

Dibenzyl-14-crown-4

[106868-21-7]



$C_{24}H_{32}O_4$ M 384.514

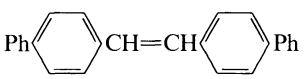
Used as ionophore in the ion-selective electrode for Li. Cryst. Sol. $CHCl_3$. Mp 102-103°.

Kimura, K. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1986, 1945 (*synth*)
Kimura, K. *et al*, *Anal. Chem.*, 1987, **59**, 2331 (*detn, Li*)

1,2-Di-4-biphenylethylene D-00174

4,4′-(1,2-Ethenediyl)bis-1,1′-biphenyl, 9CI. p,p′-*Diphenylstilbene*

[2039-68-1]



$C_{26}H_{20}$ M 332.444

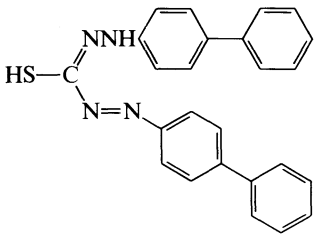
(*E*)-*form* [1657-71-2]
DPS
Laser dye. Used in liquid scintillation spectrometry. Mp 300-302° dec.

(*Z*)-*form* [1657-73-4]
Mp 222-223°.

Basile, L.J., *J. Chem. Phys.*, 1957, **27**, 801 (*props*)
Drefahl, G. *et al*, *Chem. Ber.*, 1960, **93**, 472 (*synth*)
Amata, C.D. *et al*, *J. Chem. Phys.*, 1968, **48**, 2374 (*use*)
Maeda, M. *et al*, *Jpn. J. Appl. Phys.*, 1974, **13**, 827 (*use*)
Goedicke, C. *et al*, *Z. Phys. Chem. (Munich)*, 1976, **101**, 181 (*spectra*)

Di-4-biphenylylthiocarbazone D-00175

4,4′-Diphenyldithizone



$C_{25}H_{20}N_4S$ M 408.526

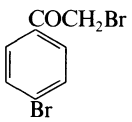
Used as a 0.01% soln. in CCl_4 or $CHCl_3$ for extraction-photometric detn. of Ag, Hg, Cd, Cu. Greenish-black cryst. powder. Sol. alkalis, Me_2CO, CCl_4, $CHCl_3$, EtOH; insol. H_2O.

Takei, S., *Bunseki Kagaku (Jpn. Anal.)*, 1960, **9**, 409 (*use*)

2,4′-Dibromoacetophenone, 8CI D-00176

2-Bromo-1-(4-bromophenyl)ethanone, 9CI. p-*Bromophenacyl bromide*

[99-73-0]



$C_8H_6Br_2O$ M 277.943

Pepsin inhibitor. Reagent for characterisation of alcohols. Derivatisation reagent for carboxylic acids for chromatogr. Needles (EtOH). Mp 110-111°.

▷ AM6950000.

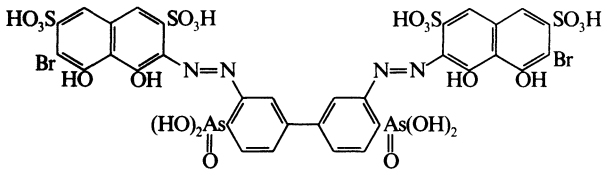
Oxime: [57342-22-0].
$C_8H_7Br_2NO$ M 292.957
Mp 115°.

Shevchuk, M.I. *et al*, *Zh. Obshch. Khim.*, 1963, **33**, 1135 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 77.
Umeh, E.O., *J. Chromatogr.*, 1971, **56**, 29 (*use*)
Lokshina, L.A. *et al*, *Biokhimiya (Moscow)*, 1972, **37**, 275 (*pharmacol*)
Pannell, K.H. *et al*, *Org. Mass Spectrom.*, 1975, **10**, 550 (*ms*)
Lau, B.W. *et al*, *J. Korean Phys. Soc.*, 1976, **9**, 29 (*cryst struct*)
Pei, P.T.S. *et al*, *Lipids*, 1976, **11**, 814 (*use*)
Patience, R.L. *et al*, *J. Chromatogr.*, 1982, **249**, 183 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DDJ600.

Dibromoarsenazo II D-00177

3,3'-[(4,4'-Diarsono[1,1'-biphenyl]-3,3'-diyl)-bis(azo)]bis[6-bromo-4,5-dihydroxy-2,7-naphthalenedisulfonic acid], 9CI. 7,7'-Dibromoarsenazo II

[42342-70-1]



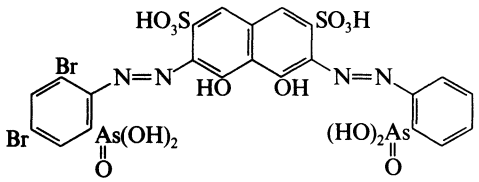
$C_{32}H_{22}As_2Br_2N_4O_{22}S_4$ M 1252.455

Used as 0.2% soln. in dil. HCl for photometric detn. of Th (1*M* HCl). Dark blue cryst. Used as 0.2% soln. in diluted HCl.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 61.

Dibromoarsenazo III D-00178

3-[(2-Arsonophenyl)azo]-6-[(2-arsono-4,6-dibromophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI



$C_{22}H_{16}As_2Br_2N_4O_{14}S_2$ M 934.170

Used for photometric detn. of Be, Th, U(*VI*), Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

N,N-Dibromobenzenesulfonamide, 9CI D-00179

Dibromamine B

[938-05-6]

$PhSO_2NBr_2$

$C_6H_5Br_2NO_2S$ M 314.985

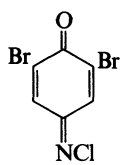
Used as 0.025*M* soln. in glacial AcOH for indirect titrimetric detn. of $CN^{\ominus}$ and $SCN^{\ominus}$ (with $I^{\ominus}$ and $S_2O_3^{2\ominus}$). Yellow cryst. Sol. AcOH. Mp 110-111° dec.

Mahadevappa, D.S. *et al*, *Talanta*, 1979, **26**, 590 (*synth, use*)
Mahadevappa, D.S. *et al*, *Microchem. J.*, 1983, **28**, 314 (*use*)

2,6-Dibromo-4-(chloroimino)-2,5-cyclohexadien-1-one, 9CI D-00180

*2,6-Dibromo-*p*-benzoquinone-4-chloroimine. 2,6-Dibromo-*N*-chloro-*p*-benzoquinone imine*

[537-45-1]



$C_6H_2Br_2ClNO$ M 299.349

Reagent for the detn. of phenols. Used as a 0.34m*M* soln. in DMSO for fluorimetric detn. of $CN^{\ominus}$. Yellow cryst. (pet. ether). Sol. EtOH, $CHCl_3$, Me_2CO, Et_2O. Mp 85-86°.

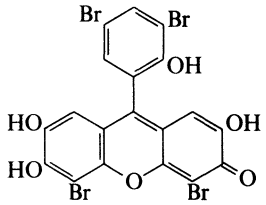
▷ Can decompose violently; explodes on heating above 50°. LD_{50} 63 mg/kg (mouse, i.p.). GU5435000.

Gibbs, H.D., *J. Biol. Chem.*, 1927, **72**, 649 (*synth, use*)
Hartmann, W.W. *et al*, *Org. Synth.*, 1935, **15**, 8 (*synth*)
Feigl, F. *et al*, *Talanta*, 1964, **11**, 662 (*use*)
Guilbault, G.G. *et al*, *Anal. Chem.*, 1965, **37**, 1395 (*detn, $CN^{\ominus}$*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CHQ750.

4,5-Dibromo-9-(3,5-dibromo-2-hydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, 8CI D-00181

Tetrabromosalicylfluorone

[90457-25-3]



$C_{19}H_8Br_4O_6$ M 651.885

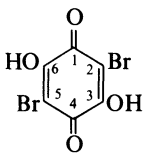
Used as a 0.5m*M* soln. in aq. EtOH for photometric detn. of W (λ_{max} 564 nm, ε 77000). Cryst.

Nazarenko, V.A. *et al*, *Talanta*, 1987, **34**, 215 (*detn, W*)

2,5-Dibromo-3,6-dihydroxy-1,4-benzoquinone D-00182

2,5-Dibromo-3,6-dihydroxy-2,5-cyclohexadiene-1,4-dione, 9CI. Bromanilic acid

[4370-59-6]



$C_6H_2Br_2O_4$ M 297.887

Used for photometric detn. of Mo(*VI*), W. Dark-red needles or bronze leaflets by subl. Sol. EtOH, alkalis, Et_2O. pK_{a1} 0.80; pK_{a2} 3.10 (25°).

Di-Ac:

$C_{10}H_6Br_2O_6$ M 381.962

Yellow plates (CCl_4). Mp 205°.

Di-Me ether: [57998-72-8]. *2,5-Dibromo-3,6-dimethoxy-1,4-benzoquinone*

$C_8H_6Br_2O_4$ M 325.941

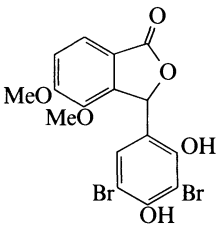
Mp 158°.

Graebe, C. *et al*, *Justus Liebigs Ann. Chem.*, 1891, **263**, 31 (*struct, synth*)
Jackson, C. *et al*, *J. Am. Chem. Soc.*, 1914, **36**, 1478 (*synth*)
Bucsis, L. *et al*, *Chem. Ber.*, 1976, **109**, 2462 (*ether*)
Poirier, J.M. *et al*, *Talanta*, 1979, **26**, 341, 349 (*detn, Mo, W*)

3-(3,5-Dibromo-2,4-dihydroxyphenyl)-4,5-dimethoxy-1(3*H*)-isobenzofuranone, 9CI D-00183

3-(3,5-Dibromo-2,4-dihydroxyphenyl)-4,5-dimethoxyphthalide

[52301-59-4]



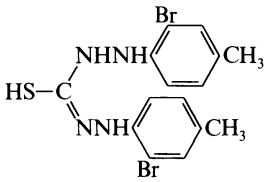
$C_{16}H_{12}Br_2O_6$ M 460.075

Used as a 0.2% soln. in EtOH as adsorption indicator in argentometric titrimetric detn. of halides, $SCN^{\ominus}$. Red cryst. Sol. EtOH, Me_2CO, C_6H_6. Mp >300°.

Singh, E. *et al*, *J. Indian Chem. Soc.*, 1973, **50**, 676 (*synth*)
Singh, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1975, **276**, 71 (*use*)

o,o′-Dibromo-*p,p′*-dimethyldithizone D-00184

2-Bromo-4-methylphenyldiazenecarbothioic acid 2-(2-bromo-4-methylphenyl)hydrazide, 9CI. Di-(o-*dibromo-*p-*tolyl) thiocarbazone*



$C_{15}H_{16}Br_2N_4S$ M 444.192

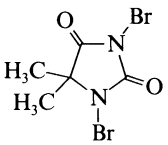
Used a 0.01% soln. in CCl_4 or $CHCl_3$ for extraction-photometric detn. of Ag, Hg, Cd, Cu. Greenish black cryst. powder. Sol. alkalis, Me_2CO, CCl_4, $CHCl_3$, EtOH; insol. H_2O.

Takei, S., *Bunseki Kagaku* (*Jpn. Anal.*), 1960, **9**, 402.

1,3-Dibromo-5,5-dimethyl-2,4-imidazolidinedione, 9CI D-00185

1,3-Dibromo-5,5-dimethylhydantoin. DDH

[77-48-5]



$C_5H_6Br_2N_2O_2$ M 285.923

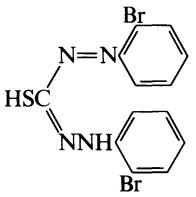
Selective brominating agent. Used in detn. of alkenes. Used as 0.25*M* soln. in glacial AcOH for photometric detn. of As(*III*), Sb(*III*), Sn(*II*). White powder. Sol. AcOH, $CHCl_3$, EtOH. Mp 187-190°, Mp 197-199° dec.

▷ Severe irritant.

Orazi, O.O. *et al*, *CA*, 1951, **45**, 561c (*synth, use*)
Okada, T. *et al*, *CA*, 1957, **51**, 13852 (*synth*)
Oakes, V. *et al*, *J. Chem. Soc.*, 1962, 4678 (*use*)
Kopecky, K.R. *et al*, *Can. J. Chem.*, 1975, **53**, 1103 (*use*)
Adam, W. *et al*, *J. Org. Chem.*, 1978, **43**, 1154 (*use*)
Radhamma, M.P. *et al*, *Talanta*, 1983, **30**, 49 (*use*)
Sigma-Aldrich Library of Chemical Safety Data, 1988, **1**, 1077A.

2,2′-Dibromodithizone D-00186

2-Bromophenyldiazenecarbothioic acid 2-(2-bromophenyl) hydrazide, 9CI



$C_{13}H_{10}Br_2N_4S$ M 414.123

Used as a 0.01% soln. in $CHCl_3$ or CCl_4 for extraction-photometric detn. of Ag, Cd, Cu, Hg, Ni, Pb, Zn. Greenish black cryst. powder. Sol. alkalis, Me_2CO, C_6H_6, $CHCl_3$, CCl_4; insol. H_2O.

Takei, S., *Bunseki Kagaku* (*Jpn. Anal.*), 1960, **9**, 402 (*use*)

4,4′-Dibromodithizone D-00187

[(p-Bromophenyl)azo]thiosulfonic acid 2-(p-bromophenyl) hydrazide, 8CI. 4-Bromophenyldiazenecarbothioic acid 2-(4-bromophenyl)hydrazide, 9CI

[1643-06-7]

$C_{13}H_{10}Br_2N_4S$ M 414.123

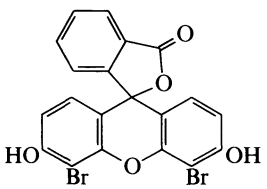
Used as 0.01% soln. in $CHCl_3$ or CCl_4 for extraction-photometric detn. of Co, Cu, Hg, Ni, Zn. Greenish black cryst. powder with coppery reflex. Sol. alkalis, Me_2CO, C_6H_6, $CHCl_3$ CCl_4; insol. H_2O. Mp 150-151° (145-147°). pK_a 4.4 (50% dioxan aq. μ = 0.1, 25°).

Irving, H. *et al*, *J. Chem. Soc.*, 1953, 3538 (*synth*)
Takei, S., *Bunseki Kagaku* (*Jpn. Anal.*), 1960, **9**, 402 (*use*)
Busev, A.I. *et al*, *Zh. Neorg. Khim.*, 1961, **6**, 2805.
Al-Salihy, A.R. *et al*, *Talanta*, 1970, **17**, 182 (*detn, Co, use, Zn*)

4′,5′-Dibromofluorescein D-00188

4′,5′-Dibromo-3′,6′-dihydroxyspiro[isobenzofuran-1(3H),9′-[9H]xanthen]-3-one, 9CI. C.I. Acid orange 11. C.I. 45370. D & C Orange No. 6. C.I. Solvent red 72

[596-03-2]



$C_{20}H_{10}Br_2O_5$ M 490.104

▷ LM5200000.

Di-Na salt: [56136-34-6].

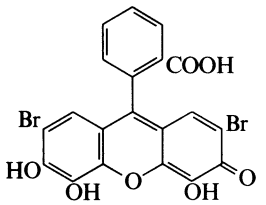
Used as a 1m*M* soln. in EtOH as adsorption indicator for titrimetric detn. of $Br^{\ominus}$, $I^{\ominus}$. Red cryst. (EtOH). Sol. EtOH, Me_2CO, alkalis. Mp 285°.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 440.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DDO200.

2,7-Dibromogallein D-00189

2′,7′-Dibromo-3′,4′,5′,6′-tetrahydroxyspiro[isobenzofuran-1(3H),9′-[9H]xanthen]-3-one, 9CI. 2,7-Dibromo-3,4,5-trihydroxy-9-(2-carboxyphenyl)-6-fluorone

[35236-70-5]



$C_{20}H_{10}Br_2O_7$ M 522.103

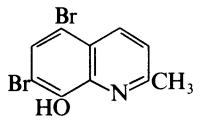
Used in photometric detn. of Mo, W, Nb, Ta. Red-brown cryst. powder. Sol. hot AcOH.

Antonovich, V.P. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 81 (*synth, use*)

5,7-Dibromo-8-hydroxy-2-methylquinoline D-00190

5,7-Dibromo-2-methyl-8-quinolinol. 5,7-Dibromo-8-hydroxyquinaldine. ***Broquinaldol,*** **INN**

[15599-52-7]



$C_{10}H_7Br_2NO$ M 316.979

Shows fungistatic props. Used as complexing agent for Co, Ni. Cryst. (EtOH). Mp 127°.

Benzoyl: [3684-46-6]. ***Broxaldine,*** **INN.** *AL 307*

$C_{17}H_{11}Br_2NO_2$ M 421.087

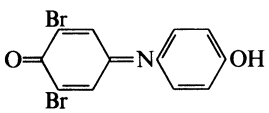
Antiseptic. Mp 130-132°.

Irving, H. *et al*, *J. Chem. Soc.*, 1957, 285 (*synth*)
Fiedler, H., *Arch. Pharm.* (*Weinheim, Ger.*), 1960, **293**, 609 (*synth*)
Zsolani, T., *Biochem. Pharmacol.*, 1961, **7**, 195 (*props*)
Bourquin, J.P. *et al*, *Arch. Pharm.* (*Weinheim, Ger.*), 1962, **295**, 383 (*Broxaldine*)
U.S. Pat., 3 136 768, (1964); *CA*, **61**, 6998b (*Broxaldine*)
Gershon, H. *et al*, *Antimicrob. Agents Chemother.*, 1972, **1**, 373 (*pharmacol*)
Gomeź-Beltran, F. *et al*, *CA*, 1973, **78**, 131535m (*use*)
Hartmann, V., *Pharm. Technol.*, 1975, **21**, 215 (*glc*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 4760 (*Broxaldine*)

2,6-Dibromo-4-[(4-hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, 9CI D-00191

2,6-Dibromoindophenol

[2582-33-4]



$C_{12}H_7Br_2NO_2$ M 357.001

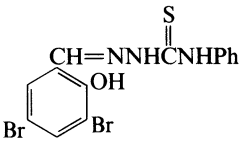
Acid-base indicator (colour change: red → blue); redox indicator. Used as 0.02% aq. soln. of Na salt. Dark green cryst. powder. Sol. H_2O, EtOH, Me_2CO. pK_a 5.7. E° +0.668 V (30°).

Misra, G.J. *et al*, *Fresenius' Z. Anal. Chem.*, 1965, **214**, 94 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 133, 483.

2-[(3,5-Dibromo-2-hydroxyphenyl)methylene]-*N*-phenylhydrazinecarbothioamide, 9CI D-00192

3,5-Dibromosalicylaldehyde phenylthiosemicarbazone

[1713-69-5]



$C_{14}H_{11}Br_2N_3OS$ M 429.134

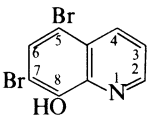
Used for extraction-photometric detn. of Cu (λ_{max} 400 nm, ε 21000). Cryst. Sol. EtOH, Et_2O, Me_2CO.

Kato, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1982, **31**, 579 (*detn, Cu*)

5,7-Dibromo-8-hydroxyquinoline D-00193

5,7-Dibromo-8-quinolinol, 9CI. ***Broxyquinoline,*** **INN, JAN.** *Dibromooxine. Bromooxine. Brodiar. Broxykinolin. Colepur. Fenilor. Dibromoquin. Numerous proprietary names*

[521-74-4]



$C_9H_5Br_2NO$ M 302.953

Fungicide; amoebicide. Used as 0.1% $CHCl_3$ soln. for photometric detn. of In (λ_{max} 415 nm, ε 8800), Ca, Mg. Needles (EtOH). Insol. dil. acids; sol. $CHCl_3$, AcOH, EtOH. Mp 196° (190°). Sublimes.

▷ VC5300000.

B,HBr: Yellow needles. Mp 250°.

Me ether: 5,7-Dibromo-8-methoxyquinoline

$C_{10}H_7Br_2NO$ M 316.979

Needles (EtOH aq.). Mp 99°.

N-*Oxide:* [16846-41-6].

$C_9H_5Br_2NO_2$ M 318.952

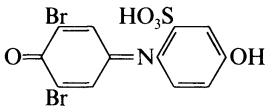
Used as freshly prepared Me_2CO soln. for photometric detn. of Ru(*III*) (λ_{max} 420 nm, ε 3800); as 1m*M* EtOH soln. for photometric detn. of Fe(*III*), U(*VI*); pptn. sepn. and gravimetric detn. of Ce, Th. Yellow cryst. Sol. Me_2CO.

Irving, H. *et al*, *J. Chem. Soc.*, 1957, 285 (*synth*)
Cawthorne, M.A., *J. Chromatogr.*, 1966, **25**, 164 (*tlc*)
Bhat, A.N. *et al*, *Indian J. Appl. Chem.*, 1967, **30**, 110 (*detn, U*)
Bhat, A.N. *et al*, *J. Indian Chem. Soc.*, 1967, **44**, 187 (*detn, Fe*)
Berggren, L. *et al*, *Clin. Pharmacol. Ther.* (*St. Louis*), 1968, **9**, 67 (*metab, tox*)
Gupta, R.D. *et al*, *J. Less-Common Met.*, 1969, **18**, 139 (*synth*)
Gupta, R.D. *et al*, *Anal. Chim. Acta*, 1970, **50**, 109 (*detn, Ru*)
Nguen Shi Zueng, *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1970, **36**, 1159, 1273 (*detn, In*)
Belt'yukova, S.V., *Zh. Anal. Khim.*, 1970, **25**, 1714 (*detn, Ca, Mg*)
Bathia, P.G. *et al*, *Anal. Chim. Acta*, 1972, **62**, 481 (*detn, Ce, Th*)
Gershon, H. *et al*, *J. Org. Chem.*, 1972, **37**, 4078 (*deriv*)
Kashino, S. *et al*, *Bull. Chem. Soc. Jpn.*, 1973, **46**, 1094 (*cryst struct*)
Hartmann, V. *et al*, *Pharm. Ind.*, 1974, **36**, 202 (*glc*)
Corsini, A. *et al*, *Talanta*, 1974, **21**, 252 (*pmr*)
Barsode, C.D. *et al*, *J. Indian Chem. Soc.*, 1975, **52**, 942 (*ms*)
Stankovic, S. *et al*, *Cryst. Struct. Commun.*, 1976, **5**, 645 (*cryst struct*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 4761.

Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1070 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DDS600.

2,6-Dibromo-4-[(4-hydroxy-2-sulfophenyl)imino]-2,5-cyclohexadien-1-one D-00194

2,6-Dibromoindophenol-2'-sulfonic acid



$C_{12}H_7Br_2NO_5S$ M 437.065
pK_a 7.4.

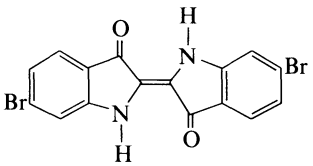
Na salt: Redox indicator (pH range 3.8-11.5). Dark green cryst. powder. Sol. H_2O. E° + 0.691 V (30°).

Gibbs, H.D. *et al*, *Public Health Rep., Suppl.* 69, 1928.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 133, 483.

6,6'-Dibromoindigotin D-00195

6-Bromo-2-(6-Bromo-1,3-dihydro-3-oxo-2H-indol-2-ylidene)-1,2-dihydro-3H-indol-3-one, 9CI. 6,6'-Dibromoindigo

[19201-53-7]



$C_{16}H_8Br_2N_2O_2$ M 420.059
Major component of Tyrian Purple obt. from *Murex brandaris* and other molluscs. Important dyestuff in ancient times, but which has never been produced commercially. Violet cryst. (1,2-dichlorobenzene).

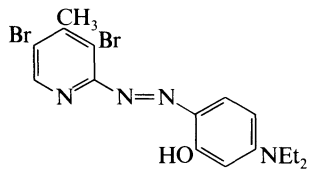
N,N'-*Di-Ac:* Mp 306°.

Sachs, F. *et al*, *Ber.*, 1904, **37**, 1868 (*synth*)
Friedländer, P., *Ber.*, 1909, **42**, 765 (*struct*)
Baker, J.T. *et al*, *Tetrahedron Lett.*, 1968, 43 (*biosynth*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **8**, 364 (*bibl*)
Süsse, P. *et al*, *Naturwissenschaften*, 1979, **66**, 110 (*cryst struct*)
Larsen, S. *et al*, *Acta Chem. Scand., Ser. A*, 1980, **34**, 171 (*cryst struct*)
Voss, G. *et al*, *Chem. Ber.*, 1989, **122**, 1199 (*synth, ir, bibl*)

2-[(3,5-Dibromo-4-methyl-2-pyridinyl)azo]-5-(diethylamino)phenol, 9CI D-00196

3,5-Dibromo-2-(4-diethylamino-2-hydroxyphenylazo)-4-methylpyridine. 3,5-Dibromo-MePADAP

[57074-63-2]

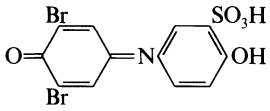


$C_{16}H_{18}Br_2N_4O$ M 442.152
Used as a 2m*M* soln. in EtOH for extraction-photometric detn. of V(*V*) (λ_{max} 615 nm, ε 54300). Blackish red needles with a metallic lustre. Sol. EtOH, Me_2CO; spar. sol. H_2O.

Kiss, E., *Anal. Chim. Acta*, 1975, **77**, 205 (*detn, V*)

5-[(3,5-Dibromo-4-oxo-2,5-cyclohexylidene)amino]-2-hydroxybenzenesulfonic acid D-00197

2,6-Dibromo-4-[(4-hydroxy-3-sulfophenyl)imino]-2,5-cyclohexadien-1-one. 2,6-Dibromoindophenol-3'-sulfonic acid



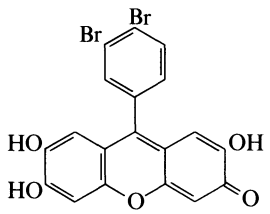
$C_{12}H_7Br_2NO_5S$ M 437.065
Acid-base indicator (pH range 1.1-11.5; colour change: red → blue), redox indicator. Used as 0.02% aq. soln. of Na salt. Dark green cryst. powder. Sol. H_2O, alkalis. pK_a 6.1. E° +0.669 V (30°).

Gibbs, H.D. *et al*, *Public Health Rep., Suppl.* 69, 1928.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 133, 483.

9-(3,4-Dibromophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one D-00198

3',4'-Dibromophenylfluorone

[73008-85-2]



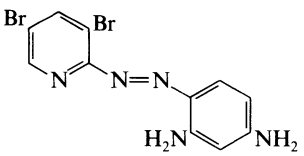
$C_{19}H_{10}Br_2O_5$ M 478.093
Used as EtOH soln. in photometric detn. of Sb (λ_{max} 540 nm, ε 57000), Bi, Sn. Brown cryst. powder. Sol. EtOH, EtOAc.

Antonovich, V.P. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 458; 1982, **37**, 429 (*synth, detn, Sb, Bi, Sn*)

4-[(3,5-Dibromo-2-pyridinyl)azo]-1,3-benzenediamine, 9CI D-00199

3,5-Dibromo-2-(2,4-diaminophenylazo)pyridine. 3,5-Dibromo-PADAB

[50768-79-1]



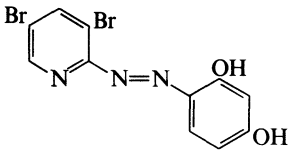
$C_{11}H_9Br_2N_5$ M 371.034
Used as a 1m*M* soln. in EtOH for extraction-photometric detn. of Co (λ_{max} 590 nm, ε 120000). Pink cryst. (EtOH aq.). Sol. EtOH, Me_2CO; spar. sol. H_2O. Mp 231-233°.

Kiss, E., *Anal. Chim. Acta*, 1973, **66**, 385; 1975, **77**, 320 (*detn, Co*)

4-[(3,5-Dibromo-2-pyridinyl)azo]-1,3-benzenediol D-00200

3,5-Dibromo-2-(2,4-dihydroxyphenylazo)pyridine

[26075-14-9]



$C_{11}H_7Br_2N_3O_2$ M 373.003

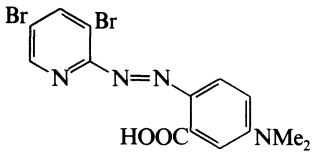
1-Me ether: [77350-02-8]. *2-[(3,5-Dibromo-2-pyridinyl)azo]-5-methoxyphenol, 9CI. 3,5-Dibromo-2-(4-hydroxy-2-methoxyphenylazo)pyridine*
$C_{12}H_9Br_2N_3O_2$ M 387.030
Used as 0.02% MeOH soln. for extraction-photometric detn. of Ni (λ_{max} 552 nm, ε 57000, $CHCl_3$), Cu, Co. Cryst. Sol. MeOH, EtOH, dioxan; sl. sol. H_2O. Mp 231°. pK_{a1} <1; pK_{a2} 9.55 (aq. dioxan, 25°, 0.1*M* KNO_3).

Ohshita, K. *et al*, *Anal. Chim. Acta*, 1981, **124**, 193 (*synth, use*)

2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(dimethylamino)benzoic acid, 9CI D-00201

3,5-diBr-PAMB

[72833-87-5]

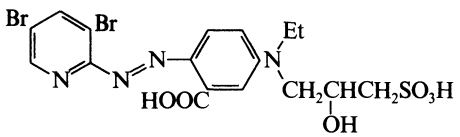


$C_{14}H_{12}Br_2N_4O_2$ M 428.082
Used as a 0.05% soln. in DMF for photometric detn. of V (λ_{max} 640 nm, ε 59500, Me_2CO aq.), Co (λ_{max} 673 nm, ε 155000, CH_2Cl_2), Ni (λ_{max} 618 nm, ε 145000, $CHCl_3$). Brown cryst. Sol. CH_2Cl_2, $CHCl_3$, DMF.

Furukawa, M. *et al*, *Anal. Chim. Acta*, 1982, **140**, 301 (*detn, Ni, synth*)
Katami, T. *et al*, *Analyst (London)*, 1983, **108**, 864; 1984, **109**, 461, 731 (*detn, Co, V, Ni*)

2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[ethyl(2-hydroxy-3-sulfopropyl)amino]benzoic acid, 9CI D-00202

[102387-13-3]



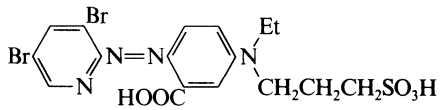
$C_{17}H_{18}Br_2N_4O_6S$ M 566.226
Di-Na salt: Used as a 0.08m*M* aq. soln. for photometric detn. of Co(*III*), Cu, Ni, Zn. Dark red cryst. (H_2O). Sol. H_2O.

Horiguchi, D. *et al*, *Anal. Sci.*, 1985, **1**, 461 (*detn, Co, Cu, Ni, Zn*)

2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[ethyl(3-sulfopropyl)amino]benzoic acid, 9CI D-00203

DSAB

[102387-15-5]

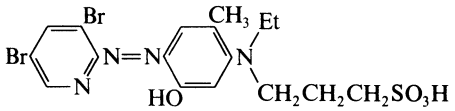


$C_{17}H_{18}Br_2N_4O_5S$ M 550.227
Di-Na salt: Used as a 0.08m*M* aq. soln. for photometric detn. of Co(*III*) (λ_{max} 670 nm, ε 152000), Cu, Ni (λ_{max} 620 nm, ε 137000), Zn. Dark red cryst. (H_2O). Sol. H_2O.

Horiguchi, D. *et al*, *Anal. Sci.*, 1985, **1**, 461 (*synth, detn, Co*)

3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-5-hydroxy-2-methylphenyl]ethylamino]-1-propanesulfonic acid D-00204

[98311-73-0]

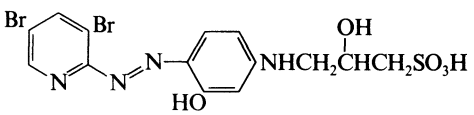


$C_{17}H_{20}Br_2N_4O_4S$ M 536.243
Di-Na salt: Used as a 0.08m*M* aq. soln. for photometric detn. of Co(*III*), Cu, Ni, Zn. Orange-red cryst. (H_2O). Sol. H_2O.

Horiguchi, D. *et al*, *Anal. Sci.*, 1985, **1**, 461 (*use*)

3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]amino]-2-hydroxy-1-propanesulfonic acid D-00205

[102362-78-7]



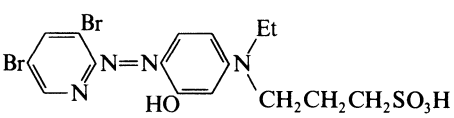
$C_{14}H_{14}Br_2N_4O_5S$ M 510.162
Di-Na salt: Used as a 0.08m*M* aq. soln. for photometric detn. of Co(*III*), Cu, Ni, Zn. Orange-red cryst. (H_2O). Sol. H_2O.

Horiguchi, D. *et al*, *Anal. Sci.*, 1985, **1**, 461 (*detn, Co, Cu, Ni, Zn*)

3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]ethylamino]-1-propanesulfonic acid D-00206

2-(3,5-Dibromo-2-pyridylazo)-5-(N-ethyl-N-sulfopropylamino)phenol

[86190-06-9]

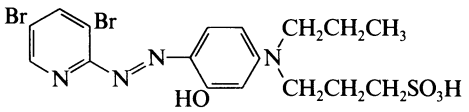


$C_{16}H_{18}Br_2N_4O_4S$ M 522.217
Di-Na salt: Used as a 0.08m*M* aq. soln. for photometric detn. of Co, Cu, Fe(*II*), Ni, Zn, $UO_2^{2\oplus}$. Orange-red cryst. (H_2O). Sol. H_2O.

Ohshita, K. *et al*, *Anal. Chim. Acta*, 1983, **149**, 269 (*synth, detn, U*)
Horiguchi, D. *et al*, *Anal. Sci.*, 1985, **1**, 461 (*use*)

3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-1-propanesulfonic acid D-00207

[98311-72-9]



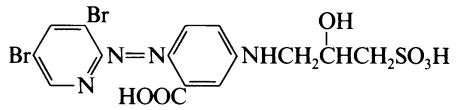
$C_{17}H_{20}Br_2N_4O_4S$ M 536.243

Di-Na salt: Used as a 0.08m*M* aq. soln. for photometric detn. of Co, Cu, Fe(*II*), Ni, Zn, $UO_2^{2\oplus}$. Orange-red cryst. (H_2O). Sol. H_2O.

Horiguchi, D. *et al*, *Anal. Sci.*, 1985, **1**, 461 (*use*)

2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[(2-hydroxy-3-sulfopropyl)amino]benzoic acid, 9CI D-00208

[102387-12-2]



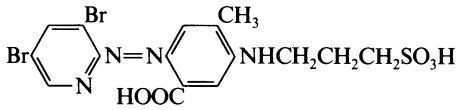
$C_{15}H_{14}Br_2N_4O_6S$ M 538.173

Di-Na salt: Used as a 0.08m*M* aq. soln. for photometric detn. of Co(*III*), Cu, Ni, Zn. Dark red cryst. (H_2O). Sol. H_2O.

Horiguchi, D. *et al*, *Anal. Sci.*, 1985, **1**, 461 (*use*)

2-[(3,5-Dibromo-2-pyridinyl)azo]-4-methyl-5-[(3-sulfopropyl)amino]benzoic acid D-00209

[102387-14-4]



$C_{16}H_{16}Br_2N_4O_5S$ M 536.200

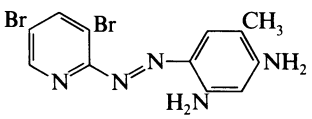
Di-Na salt: Used as a 0.08m*M* aq. soln. for photometric detn. of Co(*III*), Cu, Ni, Zn. Dark red cryst. (H_2O). Sol. H_2O.

Horiguchi, D. *et al*, *Anal. Sci.*, 1985, **1**, 461 (*use*)

5-(3,5-Dibromo-2-pyridylazo)-2,4-diaminotoluene D-00210

4-[(3,5-Dibromo-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, 9CI. 3,5-Dibromo-PADAT

[54776-50-0]



$C_{12}H_{11}Br_2N_5$ M 385.060

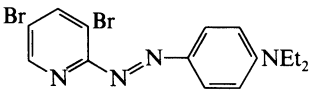
Used as a 0.1% soln. in EtOH for extraction-photometric detn. of Co (λ_{max} 591 nm, ε 142000). Purplish black lustrous needles (EtOH aq.). Sol. EtOH, Me_2CO; spar. sol. H_2O. Mp 230°.

Shibata, S. *et al*, *Anal. Chim. Acta*, 1974, **73**, 107 (*synth, detn, Co*)

4-(3,5-Dibromo-2-pyridylazo)-*N*,*N*-diethylaniline D-00211

4-[(3,5-Dibromo-2-pyridinyl)azo]-N,N-diethylbenzenamine, 9CI. 3,5-DiBr-PAEA

[100743-66-6]



$C_{15}H_{16}Br_2N_4$ M 412.126

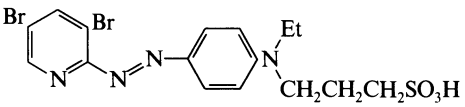
Used as 0.04m*M* EtOH soln. for photometric detn. of Ag, Cu (λ_{max} 638 nm, ε 110000). Cryst. (EtOH). Sol. EtOH, MeOH. pK_{a2} 2.75 (20% EtOH).

Ohshita, K. *et al*, *Anal. Chim. Acta*, 1985, **176**, 41 (*synth, detn, Ag, Cu*)

4-(3,5-Dibromo-2-pyridylazo)-*N*-ethyl-*N*-(3-sulfopropyl)aniline D-00212

3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]phenyl]ethylamino]-1-propanesulfonic acid, 9CI. 3,5-DiBr-PAESA

[100743-65-5]



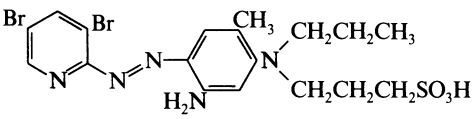
$C_{16}H_{18}Br_2N_4O_3S$ M 506.217

Used as 0.04m*M* aq. soln. for photometric detn. of Ag, Cu (λ_{max} 638 nm, ε 124000). Cryst. (EtOH). Sol. H_2O, EtOH. pK_{a2} 2.45 (H_2O).

Ohshita, K. *et al*, *Anal. Chim. Acta*, 1985, **176**, 41 (*synth, detn, Ag, Cu*)

2-(3,5-Dibromo-2-pyridylazo)-4-methyl-5-(*N*-propyl-*N*-sulfopropylamino)aniline D-00213

3-[[3-Amino-4-[(3,5-dibromo-2-pyridinyl)azo]-6-methylphenyl]propylamino]-1-propanesulfonic acid



$C_{18}H_{23}Br_2N_5O_3S$ M 549.285

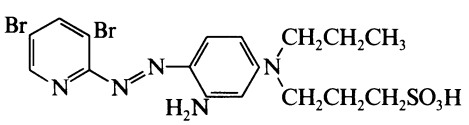
Na salt: Used as a 1m*M* aq. soln. for photometric detn. of Fe(*II*), Co, Cu, Ni. Cryst. (H_2O). Sol. H_2O. Mp 262-264°.

Horiguchi, D. *et al*, *Anal. Chim. Acta*, 1983, **151**, 457 (*use*)

2-(3,5-Dibromo-2-pyridylazo)-5-(*N*-propyl-*N*-sulfopropylamino)aniline D-00214

3-[[3-Amino-4-[(3,5-dibromo-2-pyridinyl)azo]phenyl]propylamino]-1-propanesulfonic acid, 9CI

[87035-62-9]



$C_{17}H_{21}Br_2N_5O_3S$ M 535.259

Na salt: [87035-63-0].

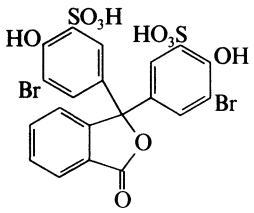
Used as a 1m*M* aq. soln. for photometric detn. of Fe(*II*), Co, Cu, Ni. Cryst. (H_2O). Sol. H_2O. Mp 240-260° dec.

Horiguchi, D. *et al*, *Anal. Chim. Acta*, 1983, **151**, 457 (*use*)

Dibromosulfonephthalein D-00215

3,3′-(4,7-Dibromo-3-oxo-1(3H)-isobenzofuranylidene)bis[6-hydroxybenzenesulfonic acid], 9CI. Dibromsulfalein

[17199-35-8]



$C_{20}H_{12}Br_2O_{10}S_2$ M 636.249

Used as adsorption indicator in titrimetric detn. of $Br^{\ominus}$, $Cl^{\ominus}$, $I^{\ominus}$, $SCN^{\ominus}$. Sol. H_2O.

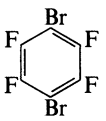
▷ DB6000000.

[20971-73-7]

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*).

1,4-Dibromo-2,3,5,6-tetrafluorobenzene, 9CI D-00216

[344-03-6]



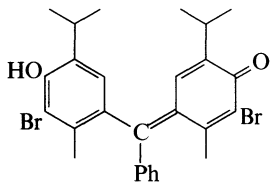
$C_6Br_2F_4$ M 307.868

Standard for F-19 nmr. Cryst. (MeOH aq.). Mp 76-77°.

Aldrich Library of FT-IR Spectra, 1st Ed., **1**, 1015B (*ir*)
Hellman, M. *et al, J. Am. Chem. Soc.*, 1953, **75**, 4590 (*synth*)
Bruce, M.I., *J. Chem. Soc. A*, 1968, 1459 (*F nmr*)
Smithson, L.D. *et al, Org. Mass Spectrom.*, 1970, **4**, 1 (*ms*)
Jameson, A.K. *et al, J. Am. Chem. Soc.*, 1973, **95**, 8555 (*use*)
Pawley, G.S. *et al, Acta Crystallogr., Sect. A*, 1977, **33**, 142 (*struct*)
Green, J.H.S. *et al, Spectrochim. Acta, Part A*, 1977, **33**, 193 (*ir, raman*)

3,3′-Dibromothymolbenzein D-00217

2-Bromo-4-[[3-bromo-4-hydroxy-2-methyl-5-(1-methylethyl) phenyl]phenylmethylene]-3-methyl-6-(1-methylethyl)-2,5-cyclohexadien-1-one, 9CI



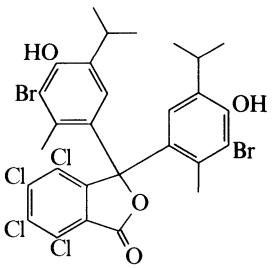
$C_{27}H_{28}Br_2O_2$ M 544.325

Used as a 0.1% soln. in EtOH as acid-base indicator (pH range:5.6-7.2; colour change: yellow →blue). Red cryst. (C_6H_6). Sol. Me_2CO, Et_2O, EtOH, C_6H_6; spar. sol. pet. ether; insol. H_2O. Mp 89-90°.

Orndorff, W.R. *et al, J. Am. Chem. Soc.*, 1929, **51**, 818.

3,3′-Dibromothymoltetrachlorophthalein D-00218

3,3-Bis[3-bromo-4-hydroxy-2-methyl-5-(1-methylethyl) phenyl]-4,5,6,7-tetrachloro-1(3H)-isobenzofuranone, 9CI



$C_{28}H_{24}Br_2Cl_4O_4$ M 726.114

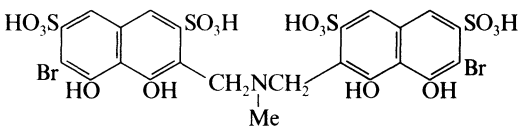
Used as acid-base indicator (pH range: 8.4-8.8; colour change: colourless → blue). Colourless cryst. (AcOH). Sol. Me_2CO, C_6H_6, Et_2O, EtOH; insol. H_2O. Mp 223-225°.

Cornwall, R.T. *et al, J. Am. Chem. Soc.*, 1927, **49**, 826.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 100.

Dibromotichromin D-00219

3,3′-[(Methylimino)bis(methylene)]bis[6-bromo-4,5-dihydroxy-2,7-naphthalenedisulfonic acid], 9CI. N-Methylene-N,N-bismonobromochromotropic acid

[52025-70-4]



$C_{23}H_{19}Br_2NO_{16}S_4$ M 853.472

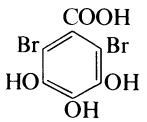
Used as a 0.5% soln. in 3% Na_2SO_3 for photometric detn. of Ti (λ_{max} 480 nm, ε 10300, butanol). Cryst. Sol. H_2O.

Basargin, N.N. *et al, Zavod. Lab.*, 1973, **39**, 1043, 1305 (*detn, Ti*)

2,6-Dibromo-3,4,5-trihydroxybenzoic acid D-00220

Dibromogallic acid

[602-92-6]



$C_7H_4Br_2O_5$ M 327.914

Used as 10% aq. soln. in photometric detn. of Nb and Ta. Cryst.

Tri-Me ether: [6307-91-1]. *2,6-Dibromo-3,4,5-trimethoxybenzoic acid*
$C_{10}H_{10}Br_2O_5$ M 369.994
Needles (H_2O). Mp 144-145°.

Tri-Me ether, amide:
$C_{10}H_{11}Br_2NO_4$ M 369.009
Mp 183-185°.

Friedrich, K. *et al, Chem. Ber.*, 1959, **92**, 2574.
Ackermann, G. *et al, Talanta*, 1969, **16**, 95, 284, 288; 1970, **17**, 757.

1,1-Dibutoxytrimethylamine, 8CI D-00221

1,1-Dibutoxy-N,N-dimethylmethanamine, 9CI. Dimethylformamide dibutyl acetal

[18503-90-7]

$Me_2NCH(OCH_2CH_2CH_2CH_3)_2$

$C_{11}H_{25}NO_2$ M 203.324
Alkylating reagent used for derivatisation of fatty acids and amino acids for gc anal. Oil. Bp_{20} 96-98°, Bp_{12} 93°. n_D^{20} 1.4142.

Meerwein, H. *et al*, *Justus Liebigs Ann. Chem.*, 1961, **641**, 1 (*synth*)
Bredereck, H. *et al*, *Chem. Ber.*, 1968, **101**, 41 (*synth*)
Thenot, J.P. *et al*, *Anal. Lett.*, 1972, **5**, 217, 519 (*use*)
Kantlehner, W. *et al*, *Chem. Ber.*, 1972, **105**, 1340 (*synth*)

1,1-Di-*tert*-butoxytrimethylamine, 8CI D-00222

N,N-*Dimethyl-1,1-bis(1,1-dimethylethoxy)methanamine, 9CI. Dimethylformamide di*-tert-*butyl acetal*

[36805-97-7]

$$[(H_3C)_3CO]_2CHNMe_2$$

$C_{11}H_{25}NO_2$ M 203.324
Alkylating reagent used for derivatisation of fatty acids and amino acids for gc anal. Oil. Bp_{25} 75-78°, Bp_8 56-57°. n_D^{20} 1.4140.

Arnold, Z. *et al*, *Collect. Czech. Chem. Commun.*, 1964, **29**, 645 (*synth*)
Thenot, J.P. *et al*, *Anal. Lett.*, 1972, **5**, 217, 519 (*use*)
Kantlehner, W. *et al*, *Chem. Ber.*, 1972, **105**, 1340 (*synth*)
Mohacsi, E., *Synth. Commun.*, 1985, **15**, 723 (*synth*)

Dibutylamine D-00223

N-*Butyl-1-butanamine, 9CI*

[111-92-2]

$$(H_3CCH_2CH_2CH_2)_2NH$$

$C_8H_{19}N$ M 129.245
Used for purifn. of Abietic and related acids by salt formn. Anal. reagent for org. isothiocyanates. Sol. H_2O, EtOH. Fp −61.9°. Bp 159°.

▷ Toxic, irritant, TLV 15. HR7780000.

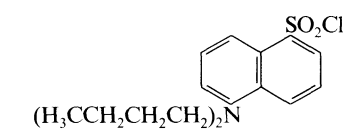
Picrate: Mp 59° (98-99°).
N-*Me:* [3405-45-6]. *Dibutylmethylamine*
$C_9H_{21}N$ M 143.272
Liq. d_{20}^{20} 0.761. Fp −62°. Bp 159.6°.
▷ Highly toxic, flammable. HR8225000.

Werner, E.A., *J. Chem. Soc.*, 1919, **115**, 1010 (*synth*)
Vliet, E.B., *J. Am. Chem. Soc.*, 1924, **46**, 1307 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 209.
Verma, B.C. *et al*, *Talanta*, 1986, **33**, 704 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 218.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DDT800, DEE400.

5-(Dibutylamino)-1-naphthalenesulfonyl chloride, 9CI D-00224

Bansyl chloride. BANS-Cl

[43040-76-2]



$C_{18}H_{24}ClNO_2S$ M 353.912
Used as derivatisation reagent for tlc analysis of dopamine derivs. with electron impact and field desorption ms detection. Orange-red oil.

Seiter, N. *et al*, *J. Chromatogr.*, 1973, **84**, 95; 1973, **97**, 286 (*synth, use*)
Lehmann, W.D. *et al*, *Anal. Chem.*, 1976, **48**, 1572 (*use*)

N-[(Dibutylamino)thioxomethyl] benzamide, 9CI D-00225

N,N-*Di*-n-*butyl*-N′-*benzoylthiourea. 1,1-Dibutyl-3-benzoylthiourea*

[68141-55-9]

$$(H_3CCH_2CH_2CH_2)_2NCSNHCOPh$$

$C_{16}H_{24}N_2OS$ M 292.444
Used as 0.1m*M* soln. in toluene for extraction separation of platinum group metals; as 5m*M* soln. in 0.1*M* NaOH for extraction separation of Ir(*III*), Ir(*IV*) ($CHCl_3$, sl. acidic media). Cryst. (EtOH). Sol. toluene, $CHCl_3$, decane, alkalis, EtOH. Mp 93°.

Beyer, L. *et al*, *J. Prakt. Chem.*, 1975, **317**, 829 (*synth*)
Röbisch, G. *et al*, *Anal. Chim. Acta*, 1983, **151**, 255 (*detn, Ir*)
Koenig, K.H. *et al*, *Fresenius' Z. Anal. Chem.*, 1985, **321**, 457 (*synth, use*)

Dibutylarsinic acid D-00226

Dibutylhydroxyarsine oxide, 8CI

[2850-61-5]

$$(H_3CCH_2CH_2CH_2)_2As(O)OH$$

$C_8H_{19}AsO_2$ M 222.158
Synth. from C_4H_9Br with $C_4H_9AsCl_2$ and 10*M* NaOH aq. Used for extraction separation of U ($CHCl_3$, pH 2-2.5). Prisms (H_2O) or cryst. (Me_2CO). Sol. EtOH; sl. sol. H_2O. Mp 138°. pK_a 14.4 (DMF).

▷ CH7280000.

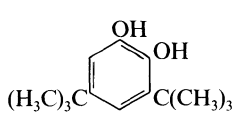
Et ester: [64448-13-1]. *Ethyl dibutylarsinate. Dibutylethoxyarsine oxide*
$C_{10}H_{23}AsO_2$ M 250.212
Liq. d_4^{20} 1.11. $Bp_{0.02}$ 99-100°. n_D^{20} 1.4624.
Propyl ester: [64448-12-0]. *Propyl dibutylarsinate. Dibutylpropoxyarsine oxide*
$C_{11}H_{25}AsO_2$ M 264.239
Solid. Mp 34-35°. $Bp_{0.015}$ 118-120°.
Butyl ester: [56269-03-5]. *Butyl dibutylarsinate. Butoxydibutylarsinate*
$C_{12}H_{27}AsO_2$ M 278.266
Liq. d_4^{20} 1.09. $Bp_{0.01}$ 102-104°. n_D^{20} 1.4685.

Quick, A.J. *et al*, *J. Am. Chem. Soc.*, 1922, **44**, 805 (*synth*)
Pietsch, R. *et al*, *Fresenius' Z. Anal. Chem.*, 1962, **190**, 319 (*sepn, U*)
Iordolic, K. *et al*, *J. Organomet. Chem.*, 1966, **6**, 17 (*synth*)
Smith, M.R. *et al*, *J. Organomet. Chem.*, 1969, **20**, 105 (*cryst struct*)
Smith, M.R. *et al*, *Thermochim. Acta*, 1970, **1**, 51, 555 (*dta, cryst struct*)
Gamayurova, V.S. *et al*, *Zh. Obshch. Khim.*, 1976, **46**, 2073; 1979, **49**, 174; *J. Gen. Chem. USSR* (*Engl. Transl.*), 1976, **46**, 1995; 1979, **49**, 153 (*synth, derivs, pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DDV250.

3,5-Di-*tert*-butyl-1,2-benzenediol D-00227

3,5-Bis(1,1-dimethylethyl)-1,2-benzenediol, 9CI. 3,5-Di-tert-*butylcatechol*

[1020-31-1]



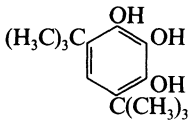
$C_{14}H_{22}O_2$ M 222.327

Used as 0.017 *M* soln. in toluene for extraction-photometric detn. of B (λ_{max} 610 nm, ε 105000). Cryst. Sol. C_6H_6, toluene, $CHCl_3$. Mp 96-99°.

Schulze, H. *et al*, *Justus Liebigs Ann. Chem.*, 1952, **575**, 231 (*synth*)
Oshima, M. *et al*, *Anal. Chem.*, 1984, **56**, 984 (*detn, B*)

4,6-Di-*tert*-butyl-1,2,3-benzenetriol D-00228

[3934-77-8]



$C_{14}H_{22}O_3$ M 238.326
Cryst. (pet. ether). Mp 122-123°.

1-Me ether: [4055-71-4]. *4,6-Di-*tert*-butyl-3-methoxy-1,2-benzenediol. 4,6-Bis(1,1-dimethylethyl)-3-methoxy-1,2-benzenediol, 9CI. 4,6-Di-*tert*-butyl-3-methoxycatechol*
$C_{15}H_{24}O_3$ M 252.353
Used as 0.035*M* soln. in toluene for extraction photometric detn. of B (λ_{max} 610 nm, ε 100000). Cryst. (pet. ether). Sol. toluene, pet. ether. Mp 129-131°.

1-Me ether, di-Ac: [49746-14-7].
$C_{19}H_{28}O_5$ M 336.427
Cryst. (hexane). Mp 130-132°.

Tri-Ac:
$C_{20}H_{28}O_6$ M 364.438
Cryst. (EtOH or pet. ether). Mp 166°.

Schulze, H. *et al*, *Justus Liebigs Ann. Chem.*, 1952, **575**, 231 (*synth*)
Salfeld, J.C., *Chem. Ber.*, 1960, **93**, 737, 745 (*synth*)
Eckert, R.C. *et al*, *J. Org. Chem.*, 1974, **39**, 718 (*synth, deriv*)
Oshima, M. *et al*, *Talanta*, 1988, **35**, 351 (*1-Me ether, synth, detn, B*)

Dibutyl carbonate D-00229

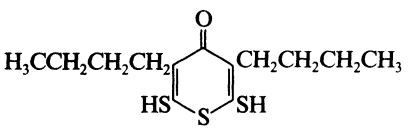
[542-52-9]

$H_3C(CH_2)_3OCOO(CH_2)_3CH_3$

$C_9H_{18}O_3$ M 174.239
Reagent for the preparation of butyl esters for glc. Liq. d_4^{20} 0.924. Bp_{740} 207°, Bp_4 118-122°.

Sampugna, J. *et al*, *J. Dairy Sci.*, 1966, **49**, 1462 (*use*)
Bondar, S. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1972, 308 (*synth*)
Kondo, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1975, **48**, 108 (*synth*)

3,5-Dibutyl-2,6-dimercapto-4*H*-thiopyran-4-one, 9CI D-00230



$C_{13}H_{20}OS_3$ M 288.498
Used as 0.1m*M* aq. soln. for photometric detn. of Bi (λ_{max} 425 nm, ε 31000), Sn (λ_{max} 410 nm, ε 21900). Cryst.

Usatenko, Y.I. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 462; 1967, **22**, 1823 (*detn, Sn, Bi*)

Dibutyldiselenocarbamic acid D-00231

Dibutylcarbamodiselenoic acid

[45016-22-6]

$[H_3C(CH_2)_3]_2NCSeSeH$

$C_9H_{19}NSe_2$ M 299.176

Na salt: [18938-33-5].
Used as a 0.03m*M* soln. in CH_2Cl_2 for extraction-photometric detn. of Cu(*II*) (λ_{max} 440 nm, ε 15000, CH_2Cl_2), Na, Ag(*I*), Au(*III*), Co(*II*), Hg(*II*), Ni(*II*), Pd(*II*), Zn. Unstable orange-red oily solid (CH_2Cl_2). Sol. H_2O, CH_2Cl_2.

Honjo, T., *Bull. Chem. Soc. Jpn.*, 1984, **57**, 591 (*synth, detn, Cu*)

N-Dibutyldithiocarbamic acid D-00232

[150-11-8]

$(H_3CCH_2CH_2CH_2)_2NCSSH$

$C_9H_{19}NS_2$ M 205.388
Esters are used as plasticisers. Used as 0.01-0.1*M* aq. soln. of Na salt in extraction of numerous elements.

Vinyl ester: [15351-45-8].
Liq. Bp_5 148°.

Butyl ester:
$C_{13}H_{27}NS_2$ M 261.495
Liq. Bp_1 163°.

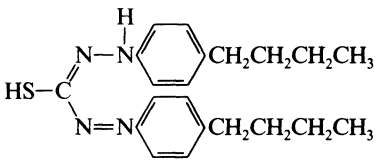
2-Dimethylaminoethyl ester: Animal growth-promoting substance, tuberculostatic. Light-yellow oil. $Bp_{0.2}$ 163°.

Damiens, R., *Ann. Chim. (Paris)*, 1951, **6**, 835 (*synth*)
U.S. Pat., 2 579 384, (1951); *CA*, **46**, 6149 (*synth*)
Campbell, A.W. *et al*, *Ind. Eng. Chem.*, 1953, **45**, 125 (*synth*)
U.K. Pat., 687 701, (1954); *CA*, **48**, 2769 (*synth, use*)
Tulyupa, F.M. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 1844 (*use*)

4,4′-Dibutyldithizone D-00233

4-Butylphenyldiazenecarbothioic acid 2-(4-butylphenyl) hydrazide. Bis(4-butylphenyl)thiocarbazone. Di(p-butylphenyl)thiocarbazone. Butyldithizone

[65388-10-5]



$C_{21}H_{28}N_4S$ M 368.545
Used as a 0.01% soln. in $CHCl_3$ or CCl_4 for extraction-photometric detn. of Co, Cu, Hg, Ni, Zn. Greenish black cryst. powder. Sol. alkalis, Me_2CO, C_6H_6, $CHCl_3$, CCl_4; insol. H_2O. Mp 118-120°.

Uesugi, K. *et al*, *Essays Anal. Chem.*, Pergamon Press, Oxford, 1977 (*use*)
Hutton, A.T., *Polyhedron*, 1987, **6**, 13 (*synth, pmr*)

Dibutyl-(2-hydroxypropyl)thiophosphonic acid D-00234

(2-Hydroxypropyl)phosphonothioic acid O,O-dibutyl ester, 9CI

[35734-59-9]

$(H_3CCH_2CH_2CH_2O)_2PSCH_2CHOHCH_3$

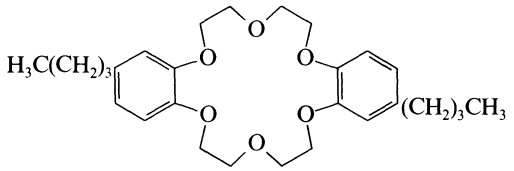
$C_{11}H_{25}O_3PS$ M 268.356
Used as a soln. in CCl_4 for extraction sepn. of Hg from Zn and Cd. Cryst. Sol. $CHCl_3$, CCl_4, C_6H_6.

Pudovik, A.N. *et al*, *Izv. Akad. Nauk SSSR*, 1952, 932 (*synth*)
Sevdič, D. *et al*, *Mikrochim. Acta*, 1972, 1 (*use*)

2,13-Dibutyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecin, 9CI D-00235

2,13-Dibutyldibenzo-18-crown-6

[68725-68-8]



$C_{28}H_{40}O_6$ M 472.620

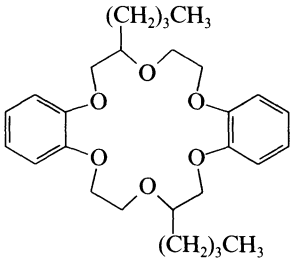
Used for detn. of K (membrane ion-selective electrode). Cryst. Sol. $CHCl_3$.

Norov, S.K. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 613; 1987, **42**, 429 (*synth, use*)

7,18-Dibutyl-6,7,9,10,17,18,20,21-octahydrodibenzo-[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecin, 9CI D-00236

7,18-Dibutyldibenzo-18-crown-6

[87834-23-9]



$C_{28}H_{40}O_6$ M 472.620

Used as 0.2m*M* $CHCl_3$ soln. for extraction separation of Li, Na, K (pH 8-9). Cryst. Sol. $CHCl_3$.

Mamedova, Yu.G. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 1578 (*synth, use*)

Dibutyl phosphate, 9CI, 8CI D-00237

Dibutyl hydrogen phosphate. Dibutyl phosphoric acid

[107-66-4]

$(H_3CCH_2CH_2CH_2O)_2P(O)OH$

$C_8H_{19}O_4P$ M 210.209

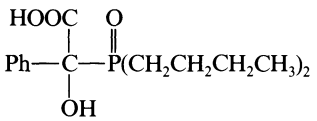
Metal extractant used in regeneration of irradiated nuclear fuels. Metabolite of tributyl phosphate. Used for extraction separation of In, Ga, Mo, Ti. Oil. Sol. butanol, CCl_4. d_4^{20} 1.06. $Bp_{0.05}$ 135-138°. pK_a 1.75 (H_2O), pK_a 3.00 (75% EtOH aq.), pK_a 6.97 (EtOH), pK_a 10.49 ($MeNO_2$). n_D^{20} 1.4288.

▷ TB9605000.

Cook, H.G. *et al*, *J. Chem. Soc.*, 1949, 635 (*fluoride, synth, tox*)
Grosse-Ruyken, H. *et al*, *J. Prakt. Chem.*, 1962, **18**, 287 (*synth*)
Kiss, A.B. *et al*, *Acta Chim. Hung.*, 1965, **44**, 357 (*use, In*)
Mitsunobu, O. *et al*, *J. Org. Chem.*, 1965, **30**, 1071 (*synth*)
Kiss, A.B. *et al*, *Mikrochim. Acta*, 1966, 771 (*use, Mo*)
Bliznyuk, N.K. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1061), 1967, **37**, 1119 (*synth*)
Solovkin, A.S., *Radiokhimiya*, (*Engl. transl.* p. 49), 1982, **24**, 56 (*use, rev*)
Krejzler, J. *et al*, *J. Radioanal. Nucl. Chem.*, 1984, **85**, 57 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DEG700.

α-(Dibutylphosphinyl)-α-hydroxybenzeneacetic acid, 9CI D-00238

[33313-45-0]



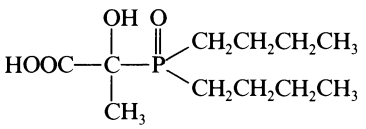
$C_{16}H_{25}O_4P$ M 312.345

Used as a 0.1*M* soln. in isopentanol or $CHCl_3$ for extraction of Al, Cd, Co, Cu, Ga, Hg, In; extraction sepn. of Al, Zn ($CHCl_3$, isopentanol). Cryst. Sol. isopentanol, $CHCl_3$, dioxan. pK_{a1} 4.22 (μ = 0.1, 25°).

Pupovik, A.N. *et al*, *Zh. Obshch. Khim.*, 1971, **41**, 1222 (*synth*)
Miftakhova, A.K. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1771 (*use*)

2-(Dibutylphosphinyl)-2-hydroxypropanoic acid, 9CI D-00239

[30980-88-2]



$C_{11}H_{23}O_4P$ M 250.274

Used as a 0.1*M* aq. soln. for extraction-photometric detn, of Al (λ_{max} 575 nm, ε 3150, $CHCl_3$), extraction of Cu, Fe, Ti, Cd, Co, Ga, In, Ni, Zn. Cryst. (EtOH/hexane). Sol. H_2O. Mp 105°. pK_{a1} 3.0; pK_{a2} 11.6 (μ = 0.1, 25°).

Toropova, V.F. *et al*, *Zh. Obshch. Khim.*, 1970, **40**, 2172 (*synth, detn, Cu*)
Toropova, V.F. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 1836 (*detn, Fe, Ti*)
Miftakhova, A.K. *et al*, *Zavod. Lab.*, 1976, **42**, 262 (*detn, Al*)

O,O-Dibutyl phosphonothioate, 9CI D-00240

O,O-*Dibutyl thiophosphite*

[17529-47-4]

$(H_3CCH_2CH_2CH_2O)_2P(S)H \rightleftharpoons (H_3CCH_2CH_2CH_2O)_2PSH$

$C_8H_{19}O_2PS$ M 210.277

Tautomeric but exists almost completely in the thiophosphoryl form. Used in extraction, separation of Hg from Cd and Zn. Liq. with strong, sickly odour. Bp_3 88-89°. n_D^{20} 1.4535.

Murav'ev, I.V. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 133), 1968, **38**, 133 (*synth*)
Sedivic, D. *et al*, *Mikrochim. Acta*, 1972, 1 (*use*)

O,O-Dibutyl phosphorodithioate, 9CI, 8CI D-00241

O,O-*Dibutyl hydrogen dithiophosphate.* O,O-*Dibutyl dithiophosphoric acid*

[2253-44-3]

$(H_3CCH_2CH_2CH_2O)_2P(S)SH$

$C_8H_{19}O_2PS_2$ M 242.343

Oil. Sol. EtOH, C_6H_6, CCl_4, Me_2CO, $CHCl_3$. d_4^{20} 1.06. Bp_2 99-99.5°, $Bp_{0.8\text{-}1.0}$ 120°. pK_a 2.64 (80% EtOH aq.). n_D^{20} 1.4971.

K salt: [3549-51-7].
Flotation agent for Cu and Ni sulfide ores. Used as a soln. in $CHCl_3$, C_6H_6 or CCl_4 for extraction of Cd, In, Ni, Pb, Tl, Zn, Zr. Zr complex used as lubricant additive. Solid. Mp 147-147.5°.

McIver, R.A. *et al*, *Can. J. Chem.*, 1958, **36**, 820 (*ir*)
Kabachnik, M.I. *et al*, *Tetrahedron*, 1960, **9**, 10 (*synth*)
Busev, A.I. *et al*, *Tr. Kom. Anal. Khim., Akad. Nauk SSSR*, 1960, **11**, 172 (*use*)
Almasi, L. *et al*, *CA*, 1965, **62**, 2729 (*synth*)
Bolotova, G.L. *et al*, *CA*, 1965, **63**, 6897 (*synth*)
Lefferts, J.L. *et al*, *Inorg. Chem.*, 1980, **19**, 1662 (*synth, complexes*)
Toropova, V.F. *et al*, *Talanta*, 1987, **34**, 211 (*use*)
Sasaki, Y. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1988, **38**, 707 (*use*)

O,O-Dibutyl phosphorothioate, 9CI, 8CI D-00242

O,O-*Dibutyl hydrogen phosphorothioate.* O,O-*Dibutylphosphorothioic acid.* O,O-*Dibutyl hydrogen thiophosphate.* O,O-*Dibutyl thiophosphoric acid*

[10163-62-9]

$$(H_3CCH_2CH_2CH_2O)_2P(O)SH \rightleftharpoons (H_3CCH_2CH_2CH_2O)_2P(S)OH$$

$C_8H_{19}O_3PS$ M 226.276
Conveniently isol. and stored as K or NH_4 salt; 38% thiol form (7% EtOH aq.), 11% thiol form (80% EtOH aq.) at r.t. Used as solns. in nonpolar solvs. for extraction separation of Ni, Zn, Cd, Tl(*I*), In. Oil. Sol. $CHCl_3$, CCl_4, C_6H_6, heptane. d_4^{20} 1.07. $Bp_{0.08}$ 88-89°. n_D^{20} 1.4654.

NH_4 salt: [35329-22-7].
Solid. Mp 147-150°.

K salt: [51825-87-7].
Cryst. ($CHCl_3$).

Foss, O., *Acta Chem. Scand.*, 1947, **1**, 8 (*synth*)
Kabachnik, M.I. *et al*, *Tetrahedron*, 1960, **9**, 10 (*synth, struct*)
Pesin, V.G. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 2337), 1961, **31**, 2508 (*synth*)
Mastryukova, T.A. *et al*, *Zh. Obshch. Khim.*, 1974, **44**, 1001 (*Engl. transl.* p. 963;h*Phosphorus Sulfur Relat. Elem.*, 1976, **1**, 211 (*props*)
Toropova, V.F. *et al*, *Talanta*, 1987, **34**, 211 (*use*)

Dicarbonic acid, 9CI D-00243

Oxydiformic acid, 8CI. Pyrocarbonic acid

[503-81-1]

$$HOOC—O—COOH$$

$C_2H_2O_5$ M 106.035

Di-Me ester: [4525-33-1]. *Dimethyl dicarbonate. Dimethyl pyrocarbonate. Velcorin*
$C_4H_6O_5$ M 134.088
Yeast inhibitor and preservative for alcoholic beverages. Bp_5 44-47°. n_D^{20} 1.3948.

Di-Et ester: [1609-47-8]. *Diethyl dicarbonate. Diethyl pyrocarbonate. Baycovin*
$C_6H_{10}O_5$ M 162.142
Preservative for beverages, food additive. Reagent for the gc sepn. of amines as urethanes. d_4^{20} 1.12. Bp_3 58.5-62°. n_D^{25} 1.3975.
▷ Poss. protocarcinogen. Irritant. LQ9350000.

Di-tert-*butyl ester:* [4525-32-0]. *Di*-tert-*butyl dicarbonate. Di*-tert-*butyl pyrocarbonate*
$C_{10}H_{18}O_5$ M 218.249
Coupling reagent in organic synthesis. Liq. Mp 21-22°. Bp_3 73-75°. n_D^{25} 1.4071, 1.4085.

Dibenzyl ester: [31139-36-3]. *Dibenzyl dicarbonate. Dibenzyl pyrocarbonate*
$C_{16}H_{14}O_5$ M 286.284
Reagent for prepn. of *N*-benzyloxycarbonyl protected amino acids. Cryst. (hexane). Mp 28°.

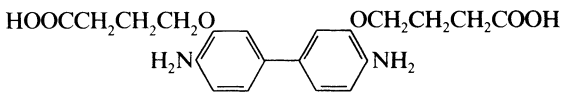
Di(2-propenyl) ester: [115491-93-5]. *Diallyl dicarbonate. Diallyl pyrocarbonate*
$C_8H_{10}O_5$ M 186.164
Reagent for protection of amino-sugars, aminoacids and nucleosides. $Bp_{0.05}$ 65°. Stable at r.t.

Rosnati, L., *Chem. Ber.*, 1963, **96**, 3098 (*synth, diethyl ester*)
Fr. Pat., 1 542 382, (1968); *CA*, **71**, 123555h (*manuf, dimethyl ester*)
Gejvall, T., *J. Chromatogr.*, 1974, **90**, 157 (*use, ethyl ester*)
Brysova, V.P. *et al*, *J. Org. Chem., USSR*, 1974, **10**, 2551 (*synth, dimethyl ester*)
Turczan, J.W. *et al*, *J. Agric. Food Chem.*, 1977, **25**, 594 (*pmr, diethyl ester*)
Org. Synth., 1977, **57**, 45 (*di-tert*-butyl ester)
Pauli, G.H., *J. Chem. Educ.*, 1984, **61**, 332 (*rev, diethyl ester*)
Sennyey, G. *et al*, *Tetrahedron Lett.*, 1986, **27**, 5375; 1987, **28**, 5809 (*Diallyl, dibenzyl esters*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DIZ100, DRJ850.

Dicarboxidine D-00244

4,4'-[(4,4'-Diamino[1,1'-biphenyl]-3,3'-diyl)bis(oxy)] bisbutanoic acid, 9CI. γ,γ'-(4,4'-Diamino-3,3'-biphenylenedioxy)dibutyric acid

[34915-18-9]

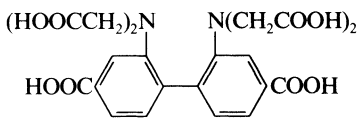


$C_{20}H_{24}N_2O_6$ M 388.419
Used as a 1.25% aq. soln. for photometric detn. of $CN^{\ominus}$, Cl_2. Mod. sol. H_2O, dil. alkalis.

B,2HCl: [56455-90-4].
Peroxidase substrate; used in TLC detn. of amino acids, peptides and barbiturates.

Gröningsson, K., *Analyst (London)*, 1979, **104**, 367.
Svahn, C.M. *et al*, *J. Chromatogr.*, 1979, **170**, 292, 294 (*tlc*)
Paul, K.G. *et al*, *Anal. Biochem.*, 1982, **124**, 102 (*peroxidase*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DEK000.

4,4-Dicarboxy-2,2'-diaminobiphenyl-*N,N,N',N'*-tetraacetic acid D-00245



$C_{22}H_{20}N_2O_{12}$ M 504.406
Used as metallofluorescent indicator in titrimetric detn. of Co, Cr, Cu, Mn, Zn. Flakes.

Kirkbright, G. *et al*, *Anal. Chim. Acta*, 1965, **32**, 544 (*use*)

Dichloroacetic acid, 9CI D-00246

Dichloroethanoic acid

[79-43-6]

$$Cl_2CHCOOH$$

$C_2H_2Cl_2O_2$ M 128.942
Has fungicidal props. Corrosive liq. d_4^{20} 1.563. Mp 5-6° (11°). Bp 194°, Bp_{20} 102°. n_D^{22} 1.4659.
▷ Highly irritant, causes severe burns. AG6125000.

Me ester: [116-54-1].
$C_3H_4Cl_2O_2$ M 142.969

Liq. Bp 143-144°.
▷ Highly irritant. Emits highly toxic fumes when heated to dec.. AG6625000.

Chloride: [79-36-7].
C_2HCl_3O M 147.387
Derivatisation reagent used in gc anal. of diethylstilbestrol. Liq. Bp 108-111°.
▷ Causes severe burns. AO6650000.

Amide: [683-72-7]. *Dichloroacetamide*
$C_2H_3Cl_2NO$ M 127.957
Constit. of the red alga *Marginisporum aberrans*. Preservative. Shows antimicrobial props. Cryst. Mp 98°. Bp_{745} 234°. Steam-volatile, subl.
▷ AB6475000.

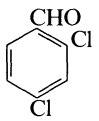
Anhydride: [4124-30-5].
$C_4H_2Cl_4O_3$ M 239.869
Liq. Bp 215-216° dec., Bp_{35} 140°.
▷ AG6300000.

Nitrile: [3018-12-0]. *Dichlorocyanomethane*
C_2HCl_2N M 109.942
Liq. $d^{11.5}$ 1.374. Bp 113°.
▷ AL8465000.

Doughty, H.W., *J. Am. Chem. Soc.*, 1931, **53**, 1594 (*synth, bibl*)
Liston, T.R. *et al*, *J. Am. Chem. Soc.*, 1938, **60**, 1264 (*ester*)
Org. Synth., Coll. Vol., 2, 1943, 181 (*synth*)
Org. Synth., Coll. Vol., 3, 1955, 260 (*amide*)
Donoho, A.L. *et al*, *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 785 (*use, chloride*)
Matsumura, K. *et al*, *Chem. Pharm. Bull.*, 1976, **24**, 912.
Fritz, H. *et al*, *Org. Magn. Reson.*, 1977, **9**, 108 (*cmr*)
Ohta, K. *et al*, *Phytochemistry*, 1977, **16**, 1085 (*isol, amide*)
Pellegata, R. *et al*, *Synthesis*, 1985, 517 (*amide*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 275, 278.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DEL000, DEM800, DEM825, DEN000, DEN400.

2,4-Dichlorobenzaldehyde D-00247

[874-42-0]



$C_7H_4Cl_2O$ M 175.013
Anal. reagent for carboxylic acid hydrazides. Prisms (hexane). Mp 74.5°, Mp 72°.

Oxime: [56843-28-8].
$C_7H_5Cl_2NO$ M 190.028
Needles. Mp 136-137°.
▷ CU5610500.

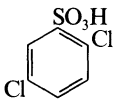
2,4-Dinitrophenylhydrazone: Mp 224-227°.

Anil: N-(*2,4-Dichlorobenzylidene*)*aniline*
$C_{13}H_9Cl_2N$ M 250.126
Yellow needles (methylcyclohexane). Mp 88-89°.

Gindraux, L., *Helv. Chim. Acta*, 1929, **12**, 933.
Lock, G. *et al*, *Ber.*, 1937, **70**, 923.
Latour, A.A. *et al*, *Anal. Chem.*, 1964, **36**, 2479 (*use*)
Bernstein, J., *J. Chem. Soc., Perkin Trans. 2*, 1972, 946 (*cryst struct, deriv*)
Aldrich Library of NMR Spectra, 1974, **6**, 88C (*pmr*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 803E (*ir*)
Bell, R.P. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1976, 1594 (*uv*)

2,5-Dichlorobenzenesulfonic acid D-00248

[88-42-6]



$C_6H_4Cl_2O_3S$ M 227.067
Needles (H_2O). Mp 92-93°, Mp 104-105°. pK_a 6.23. Forms mono-, di-, and trihydrates and cryst. metal salts.

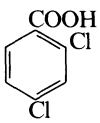
Chloride: [5402-73-3].
$C_6H_3Cl_3O_2S$ M 245.513
Derivatisation reagent for gc analysis of carbamate pesticides. Needles (EtOH). Mp 39°.

Amide: [7720-45-8].
$C_6H_5Cl_2NO_2S$ M 226.082
Mp 182°, Mp 185-186°.

van der Linden, M.T. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1911, **30**, 334.
Stewart, J., *J. Chem. Soc.*, 1922, **121**, 2555 (*synth, chloride*)
de Crauw, Th., *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1931, **50**, 766.
Kolthoff, I.M. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 4428.
Eriksson, A., *Acta Chem. Scand.*, 1972, **26**, 1591 (*ir*)
Lundgren, J.O., *Acta Crystallogr., Sect. B*, 1972, **28**, 486 (*cryst struct*)
Moye, H.A., *J. Agric. Food Chem.*, 1975, **23**, 415 (*use, chloride*)
Roziere, J. *et al*, *J. Chem. Phys.*, 1978, **68**, 2896.

2,4-Dichlorobenzoic acid D-00249

[50-84-0]



$C_7H_4Cl_2O_2$ M 191.013
Used for extraction-photometric detn. of U(*VI*). Needles (H_2O or C_6H_6). Sol. H_2O, EtOH, Et_2O. Mp 164° (160°). pK_a 2.68 (25°). λ_{max} 282 nm (MeOH).
▷ DG6650000.

Me ester: [35112-28-8].
$C_8H_6Cl_2O_2$ M 205.040
d_{20}^{20} 1.572. Bp_{15} 132°.

Chloride: [89-75-8].
$C_7H_3Cl_3O$ M 209.458
Bp_{28} 146-149°, $Bp_{1.5}$ 91.9-92.2°.

Amide: [2447-79-2].
$C_7H_5Cl_2NO$ M 190.028
Cryst. (EtOH). Mp 193-194°.

Nitrile: [6574-98-7]. *2,4-Dichloro-1-cyanobenzene*
$C_7H_3Cl_2N$ M 172.013
Mp 61°.

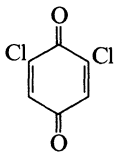
[56882-52-1]

Norris, J.F., *J. Am. Chem. Soc.*, 1939, **61**, 1418.
Lutz, R.E. *et al*, *J. Org. Chem.*, 1947, **12**, 678.
Ross, S.D., *J. Am. Chem. Soc.*, 1948, **70**, 4039 (*synth, uv*)
Aldrich Library of NMR Spectra, 1974, **6**, 160B (*pmr*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 848A (*ir*)
Georgieva, M., *Anal. Chim. Acta*, 1978, **101**, 139.
Apak, R. *et al*, *Talanta*, 1989, **36**, 993 (*detn, U*)

2,5-Dichloro-1,4-benzoquinone D-00250

2,5-Dichloro-2,5-cyclohexadiene-1,4-dione, 9CI

[615-93-0]



$C_6H_2Cl_2O_2$ M 176.986

Reagent for the spectrophotometric anal. of morpholine and piperazine. Yellow prisms (EtOH). Mp 161-162°.

Monoxime: [35421-04-6]. *2,5-Dichloro-4-nitrosophenol*
$C_6H_3Cl_2NO_2$ M 192.001
Yellow cryst. (C_6H_6). Mp 155-156° dec.

Dioxime:
$C_6H_4Cl_2N_2O_2$ M 207.015
Yellow cryst. (C_6H_6).

Benzenesulfonimide: Yellow needles (AcOH). Mp 234-235°.

Kohn, M. *et al*, *Monatsh. Chem.*, 1930, **56**, 135 (*synth*)
Adams, R. *et al*, *J. Am. Chem. Soc.*, 1952, **74**, 2608 (*deriv*)
Cain, B.F., *J. Chem. Soc.*, 1961, 936 (*synth*)
Rees, B., *Acta Crystallogr., Sect. B*, 1970, **26**, 1304 (*cryst struct*)
Berger, S. *et al*, *Tetrahedron*, 1972, **28**, 3123 (*cmr*)
Girlando, A. *et al*, *Spectrochim. Acta, Part A*, 1975, **31**, 1187 (*ir*)
Muralikrishna, U. *et al*, *Indian J. Chem., Sect. A*, 1983, **22**, 904 (*use*)
Muralikrishna, U. *et al*, *Analyst (London)*, 1984, **109**, 1277 (*use*)

2,6-Dichloro-1,4-benzoquinone D-00251

2,6-Dichloro-2,5-cyclohexadiene-1,4-dione, 9CI

[697-91-6]

$C_6H_2Cl_2O_2$ M 176.986

Reagent for the spectrophotometric anal. of morpholine and piperazine. Used as 0.3m*M* soln. in DMSO for photometric detn. of $CN^{\ominus}$. Yellow prisms (EtOH). Sol. EtOH, $CHCl_3$, Me_2CO, C_6H_6, Et_2O. Mp 121°.

▷ DK4000000.

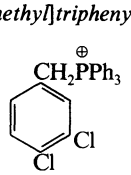
4-Oxime: [17277-19-9]. *2,6-Dichloro-4-nitrosophenol*
$C_6H_3Cl_2NO_2$ M 192.001
Yellow leaflets. Mp 140° dec.

4-Semicarbazone: Orange needles. Mp 218° dec.

Ling, A.R., *J. Chem. Soc.*, 1892, 558 (*synth*)
v. Erp, H., *Ber.*, 1925, **58**, 663 (*synth*)
Guilbault, G.G. *et al*, *Anal. Chem.*, 1965, **37**, 1395 (*detn, $CN^{\ominus}$*)
Rees, B., *Acta Crystallogr., Sect. B*, 1970, **26**, 1298.
Girlando, A. *et al*, *Spectrochim. Acta, Part A*, 1975, **31**, 1187 (*ir*)
Höfle, G., *Tetrahedron*, 1976, **32**, 1431 (*cmr*)
Muralikrishna, U. *et al*, *Indian J. Chem., Sect. A*, 1983, **22**, 904 (*use*)
Muralikrishna, U. *et al*, *Analyst (London)*, 1984, **109**, 1277 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DES400.

(3,4-Dichlorobenzyl) triphenylphosphonium(1+) D-00252

[(2,4-Dichlorophenyl)methyl]triphenylphosphonium(1+), 9CI



$C_{25}H_{20}Cl_2P^{\oplus}$ M 422.312 (ion)

Chloride: [2492-23-1].
$C_{25}H_{20}Cl_3P$ M 457.765

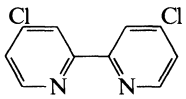
Used as 5m*M* soln. in Me_2CO/1,2-dichloroethane for extraction-photometric detn. of Co (λ_{max} 328 nm, ε 11000); fluorimetric detn. of Co. Sol. EtOH, Me_2CO, C_6H_6, $CHCl_3$.

▷ TA2200000.

Burns, D.T. *et al*, *Anal. Chim. Acta*, 1982, **134**, 397 (*detn, Co*)

4,4′-Dichloro-2,2′-bipyridine D-00253

[1762-41-0]



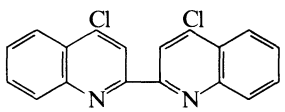
$C_{10}H_6Cl_2N_2$ M 225.076

Used as a 0.1% soln. in EtOH as redox indicator. Needles (pet. ether). Sol. EtOH, C_6H_6, pet. ether; spar. sol. H_2O. Mp 131-132°.

Maerker, G. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 2745 (*synth*)
Schilt, A.A., *Analytical Applications of 1,10-Phenanthroline and Related Compounds*, Pergamon, Oxford, 1969 (*use, ind*)

4,4′-Dichloro-2,2′-biquinoline, 8CI D-00254

[6495-84-7]



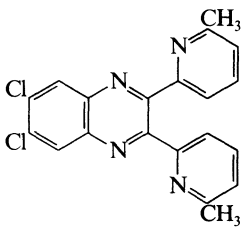
$C_{18}H_{10}Cl_2N_2$ M 325.196

Used as a soln. in butanol for photometric detn. of Cu (λ_{max} 555 nm, ε 3700). Yellow-brown needles (C_6H_6). Sol. hot EtOH, DMF, dioxan; insol. H_2O. Mp 288-290° (297°).

Nakano, S. *et al*, *CA*, 19, **68**, 104943e.
Gershuns, A.L. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1970, **36**, 595; *CA*, **73**, 98771 (*detn, Cu*)

6,7-Dichloro-2,3-bis(6-methyl-2-pyridyl) quinoxaline, 8CI D-00255

[17401-73-9]



$C_{20}H_{14}Cl_2N_4$ M 381.263

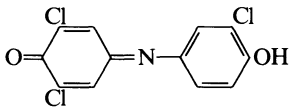
Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 550 nm, ε 4190, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 129°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)

2,6-Dichloro-4-[(3-chloro-4-hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, 9CI D-00256

2,6,3′-Trichloroindophenol

[2582-42-5]



$C_{12}H_6Cl_3NO_2$ M 302.543

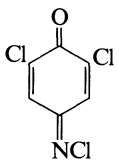
Used as a redox indicator. Cryst. pK_{a1} 5.8. E° +0.668 V (30°).

Koch, D., *Chem.-Ztg.*, 1925, **49**, 479.
Russo, C., *Gazz. Chim. Ital.*, 1964, **44**, 1.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 484.

2,6-Dichloro-4-(chloroimino)-2,5-cyclohexadien-1-one, 9CI D-00257

*2,6-Dichloro-*p*-benzoquinone-4-chloroimine. N-2,6-Trichloro-1,4-benzoquinone imine. Gibbs reagent*

[101-38-2]



$C_6H_2Cl_3NO$ M 210.446

Reagent for the detn. of phenols. Spray reagent for org. compds. used in tlc. Yellow needles (EtOH). Mp 66.5-66.7°.

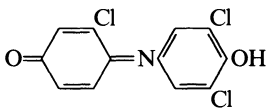
▷ Can decompose violently; LD_{50} 20 mg/kg (mouse, i.p.). GU5470000.

Gibbs, H.D., *J. Biol. Chem.*, 1927, **72**, 649 (*synth, use*)
Feigl, F. *et al*, *Talanta*, 1964, **11**, 662 (*use*)
Ross, J.H., *Anal. Chem.*, 1968, **40**, 2138 (*use*)
Dacre, J.C. *et al*, *Anal. Chem.*, 1971, **43**, 589.
Turney, T.A., *N.Z. J. Sci.*, 1974, **17**, 381; *CA*, **82**, 105986x (*use*)
Vinson, J.A. *et al*, *J. Chromatogr.*, 1975, **105**, 415 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CHR000.

2,6-Dichloro-4-[(2-chloro-4-oxo-2,5-cyclohexadien-1-ylidene)amino]phenol, 9CI D-00258

3,3′,5′-Trichloroindophenol, 8CI

[30168-88-8]



$C_{12}H_6Cl_3NO_2$ M 302.543

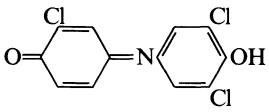
Acid-base indicator (colour change: red → blue) used as a 0.02% aq. soln. Dark green cryst. powder. Sol. H_2O, alkalis, EtOH, Me_2CO. pK_a 6.2.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 133, 483.

2,6-Dichloro-4-[(3-chloro-4-oxo-2,5-cyclohexadien-1-ylidene)amino]phenol, 9CI D-00259

2,3′,5′-Trichloroindophenol

[6038-83-1]



$C_{12}H_6Cl_3NO_2$ M 302.543

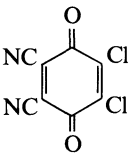
Acid-base indicator (pH range: 5.7-11.4; colour change: red → blue). Used as a 0.02% soln. of Na salt. Dark green cryst. powder. Sol. alkalis, H_2O, EtOH, Me_2CO. pK_a 5.8.

Gibbs, H.D. *et al*, *Public Health Rep., Suppl.* 69, 1928.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 133.

2,3-Dichloro-5,6-dicyano-1,4-benzoquinone D-00260

4,5-Dichloro-3,6-dioxo-1,4-cyclohexadiene-1,2-dicarbonitrile, 9CI. DDQ

[84-58-2]



$C_8Cl_2N_2O_2$ M 227.006

High-potential quinone used as dehydrogenating agent. Reagent for the spectrophotometric anal. of alkaloids, and other amines. Amber needles ($CHCl_3$). Mp 215-217°. Dec. by H_2O. The hydroquinone produced as a byprod. of oxidns. using DOQ can be readily reoxidised and reused.

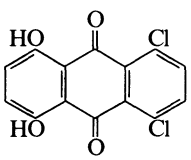
▷ GU4825000.

Mitchell, P.W.D., *Can. J. Chem.*, 1963, **41**, 550 (*synth, ir, uv*)
Matsunaga, Y., *J. Chem. Phys.*, 1964, **41**, 1609 (*ir*)
Berger, S. *et al*, *Tetrahedron*, 1972, **28**, 3123 (*cmr*)
Brinker, U.H. *et al*, *Synthesis*, 1975, **10**, 671 (*synth*)
Lane, C.F., *Synth. Reagents*, (Pizey, J.S., Ed.), Ellis Horwood, 1977, **3**, 1 (*rev*)
Ohki, A. *et al*, *Tetrahedron*, 1979, **35**, 1737 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 153 (*use*)
Lott, R.S. *et al*, *J. Org. Chem.*, 1980, **45**, 1151 (*use*)
Becker, H.D. *et al*, *J. Org. Chem.*, 1980, **45**, 1596 (*use*)
Lee, H. *et al*, *J. Org. Chem.*, 1983, **48**, 749 (*use*)
Bartos, J. *et al*, *Pure Appl. Chem.*, 1984, **56**, 467 (*use*)
Newman, M.S. *et al*, *Org. Prep. Proced. Int.*, 1985, **17**, 422 (*reuse*)
Abdel-Homid, M.E. *et al*, *Talanta*, 1985, **32**, 1002 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DEX400.

1,4-Dichloro-5,8-dihydroxyanthraquinone D-00261

1,4-Dichloro-5,8-dihydroxy-9,10-anthracenedione, 9CI. 5,8-Dichloroquinisarine

[2832-30-6]



$C_{14}H_6Cl_2O_4$ M 309.104

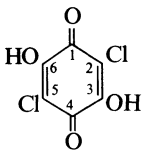
Used for fluorimetric detn. of Ba. Red needles (EtOH). Sol. EtOH, Et_2O, C_6H_6.

Goto, H. *et al*, *Nippon Kagaku Kaishi*, 1959, **80**, 1448 (*detn, Ba*)

2,5-Dichloro-3,6-dihydroxy-1,4-benzoquinone D-00262

2,5-Dichloro-3,6-dihydroxy-2,5-cyclohexadiene-1,4-dione, 9CI. Chloranilic acid

[87-88-7]



$C_6H_2Cl_2O_4$ M 208.985

Used in photometric detn. of $CN^{\ominus}$, $F^{\ominus}$, Pb, Ba, Ca. Reddish leaflets + $2H_2O$ (H_2O). Mp 283-284°. pK_{a1} 0.76; pK_{a2} 2.58 (25°, 0.5*M* $NaClO_4$). Forms stable Na, K, Ba salts.

Di-Me ether: [7210-71-1]. *2,5-Dichloro-3,6-dimethoxy-1,4-benzoquinone*

$C_8H_6Cl_2O_4$ M 237.038

Dark-red prisms (AcOH). Mp 141-142°.

Di-Et ether: [20764-96-9]. *2,5-Dichloro-3,6-diethoxy-1,4-benzoquinone*

$C_{10}H_{10}Cl_2O_4$ M 265.092

Reddish prisms. Mp 107°.

Di-Ac:

$C_{10}H_6Cl_2O_6$ M 293.059

Yellow needles. Mp 182.5°.

Ba salt: [13435-46-6]. *Barium chloroanilate*

$C_6BaCl_2O_4$ M 344.296

Reagent for photometric detn. of $SO_4^{2\ominus}$. Insol. H_2O.

La salt: [32607-23-1]. *Lanthanum chloroanilate*

$C_{18}Cl_6La_2O_{12}$ M 898.718

Reagent for photometric detn. of $PO_4^{3\ominus}$.

$Hg^{2\oplus}$ salt: [33770-60-4]. *Mercury chloroanilate*

$C_6Cl_2HgO_4$ M 407.559

Reagent for photometric detn. of $CN^{\ominus}$, $SO_4^{2\ominus}$, $SO_3^{2\ominus}$ and $Cl^{\ominus}$.

Th salt: Thorium chloroanilate

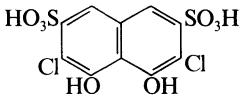
Reagent for photometric detn. of $F^{\ominus}$.

Graebe, C., *Justus Liebigs Ann. Chem.*, 1891, **263**, 16 (*synth*)
Lucchesi, P.J. *et al*, *Anal. Chem.*, 1954, **26**, 521 (*detn, Ba*)
Bertolacini, R.J. *et al*, *Anal. Chem.*, 1957, **29**, 281 (*use, Ba salt*)
Wallenfels, K. *et al*, *Chem. Ber.*, 1957, **90**, 2819 (*deriv*)
Hayashi, K. *et al*, *Talanta*, 1960, **4**, 244 (*use, La salt*)
Wynne, E.A. *et al*, *Anal. Chem.*, 1961, **33**, 807 (*detn, Pb*)
Nardozzi, J. *et al*, *Anal. Chem.*, 1961, **33**, 1261 (*use, Th salt*)
Bode, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1966, **216**, 30 (*use*)
Bowie, J.H. *et al*, *J. Chem. Soc. B*, 1966, 335 (*ms*)
Kikot, B.S. *et al*, *J. Gen. Chem. USSR* (*Engl. Transl.*), 1968, **38**, 883 (*deriv, ir*)
Papay, M.K. *et al*, *Acta Chim. Acad. Sci. Hung.*, 1970, **66**, 13 (*detn, $F^{\ominus}$*)
Humphrey, R.E. *et al*, *Anal. Chem.*, 1971, **43**, 1100, 1101 (*use, Hg salt, detn, $CN^{\ominus}$*)
Novacek, L. *et al*, *Cesk. Farm.*, 1974, **23**, 366; *CA*, **83**, 4137m (*use, Hg salt*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 77 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DFC800.

3,6-Dichloro-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI D-00263

2,7-Dichlorochromotropic acid

[55778-38-6]



$C_{10}H_6Cl_2O_8S_2$ M 389.190

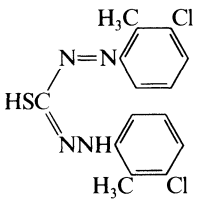
Used as 1m*M* aq. soln. in photometric detn. of Al (ε 11200) and Fe(*III*). Needles (H_2O). Sol. H_2O; sl. sol. Et_2OH.

Kusnetsov, V.I. *et al*, *Zh. Anal. Khim.*, 1961, **16**, 573 (*detn, Ti*)
Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 966 (*detn, Fe*)
Kovaleva, L.V. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 388 (*detn, Ti*)

3,3′-Dichloro-2,2′-dimethyldithizone D-00264

(3-Chloro-2-methylphenyl)diazenecarbothioic acid 2-(3-chloro-2-methylphenyl)hydrazide, 9CI

[104170-14-1]



$C_{15}H_{14}Cl_2N_4S$ M 353.274

Used as a 0.01% soln. in CCl_4 or $CHCl_3$ for extraction-photometric detn. of Bi, Cd, Co, Hg, Ni, Pb, Tl(*III*), Zn (CCl_4, $CHCl_3$). Greenish-black cryst. Sol. $CHCl_3$, CCl_4, EtOH, Me_2CO, alkalis; insol. H_2O. Mp 156°. pK_{a1} 5.49.

Kiwan, A.M. *et al*, *Anal. Chim. Acta*, 1986, **182**, 245 (*use*)

4,4′-Dichloro-2,2′-dimethyldithizone D-00265

(4-Chloro-2-methylphenyl)diazenecarbothioic acid 2-(4-chloro-2-methylphenyl)hydrazide

[104170-13-0]

$C_{15}H_{14}Cl_2N_4S$ M 353.274

Used as a 0.01% soln. in $CHCl_4$ or $CHCl_3$ for extraction-photometric detn. of Bi, Cd, Co, Hg, Ni, Pb, Tl(*III*), Zn (CCl_4, $CHCl_3$). Greenish black cryst. Sol. $CHCl_3$, CCl_4, EtOH, Me_2CO, alkalis; insol. H_2O. Mp 153°. pK_{a1} 5.87.

Kiwan, A.M. *et al*, *Anal. Chim. Acta*, 1986, **182**, 245 (*use*)

5,5′-Dichloro-2,2′-dimethyldithizone D-00266

(5-Chloro-2-methylphenyl)diazenecarbothioic acid 2-(5-chloro-2-methylphenyl)hydrazide, 9CI

[104170-12-9]

$C_{15}H_{14}Cl_2N_4S$ M 353.274

Used as a 0.01% soln. in CCl_4 or $CHCl_3$ for extraction-photometric detn. of Bi, Cd, Co, Hg, Ni, Pb, Ti(*III*), Zn, (CCl_4, $CHCl_3$). Greenish-black cryst. Sol. $CHCl_3$, CCl_4, EtOH, Me_2CO, alkalis; insol. H_2O. Mp 166°. pK_a 5.2.

Kiwan, A.M. *et al*, *Anal. Chim. Acta*, 1986, **182**, 245.

Dichlorodimethylsilane, 9CI D-00267

[75-78-5]

Me_2SiCl_2

$C_2H_6Cl_2Si$ M 129.060

Pinacol cyclisation agent. Forms siliconides with *cis*-diols suitable for gc anal. Liq. d_4^{20} 1.06. Mp −16°. Bp 70°.

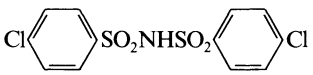
▷ VV3150000.

Inorg. Synth., 1950, **3**, 56 (*synth*)
Hirt, C.A., *Anal. Chem.*, 1961, **33**, 1786 (*ms*)
Kelly, R.W., *Steroids*, 1967, **13**, 507 (*use*)
Hunter, B.K. *et al*, *Can. J. Chem.*, 1968, **46**, 1399 (*nmr*)
Marchand, A. *et al*, *J. Organomet. Chem.*, 1968, **12**, 305 (*ir*)
Kelly, R.W., *Tetrahedron Lett.*, 1969, 967 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 183.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DFE259.

4,4′-Dichlorodiphenyldisulfimide D-00268

4-Chloro-N-[(*4-chlorophenyl*)*sulfonyl*]*benzenesulfonamide*, *9CI*

[2725-55-5]



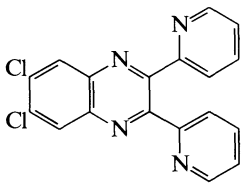
$C_{12}H_9Cl_2NO_4S_2$ M 366.245
Used as acidimetric standard. Cryst. Sol. H_2O.

Runge, F. *et al*, *Fresenius' Z. Anal. Chem.*, 1957, **158**, 266 (*use*)

6,7-Dichloro-2,3-di-2-pyridylquinoxaline, 8CI D-00269

2,3-Bis(*2-pyridyl*)-*6,7-dichloroquinoxaline*

[17401-72-8]



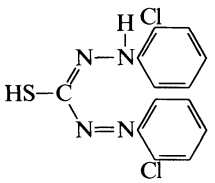
$C_{18}H_{10}Cl_2N_4$ M 353.209
Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 526 nm, ε 2670, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 194°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)

2,2′-Dichlorodithizone D-00270

2-Chlorophenyldiazenecarbothioic acid 2-(*2-chlorophenyl*) *hydrazide*, *9CI*

[19403-31-7]



$C_{13}H_{10}Cl_2N_4S$ M 325.220
Used as a 0.01% soln. in $CHCl_3$ or CCl_4 for extraction-photometric detn. of Bi, Cd, Co, Cu, Hg, Ni, Pb, Zn ($CHCl_3$). Greenish-black cryst. powder. Sol. $CHCl_3$, CCl_4, EtOH, alkalis; insol. H_2O. pK_a 4.75.

Kiwan, A.M. *et al*, *Talanta*, 1975, **22**, 931.

4,4′-Dichlorodithizone D-00271

4-Chlorophenyldiazenecarbothioic acid 2-(*4-chlorophenyl*) *hydrazide*, *9CI*. [(p-*Chlorophenyl*)*azo*]*thiosulfonic acid 2-*(p-*chlorophenyl*)*hydrazide*, *8CI*

[1643-05-6]

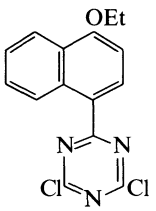
$C_{13}H_{10}Cl_2N_4S$ M 325.220
Used as a 0.01% soln. in $CHCl_3$ or CCl_4 for extraction-photometric detn. of Bi, Co, Ni, Zn. Greenish black cryst. powder. Sol. alkalis, Me_2CO, C_6H_6, $CHCl_3$, CCl_4; insol. H_2O. Mp 72-73° (173-174°). pK_{a1} 4.63 (dioxan aq., μ = 0.1, 25°).

Busev, A.I. *et al*, *Zh. Neorg. Khim.*, 1961, **6**, 2805 (*detn, Bi*)
Al-Salihy, A.R. *et al*, *Talanta*, 1970, **17**, 182 (*detn, Co, Ni, Zn*)

2,4-Dichloro-6-(4-ethoxy-1-naphthalenyl)-1,3,5-triazine, 9CI D-00272

2,4-Dichloro-6-(*4-ethoxy-1-naphthyl*)-s-*triazine*, *8CI*. *1-*(*2,4-Dichloro-1,3,5-triazinyl*)-*4-ethoxynaphthalene*

[21614-17-5]



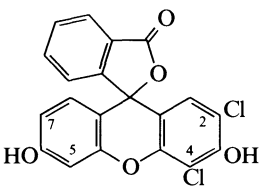
$C_{15}H_{11}Cl_2N_3O$ M 320.177
Used in fluorimetric assay of corticosteroids. Mp 107-107.5°.

Shaw, R.A. *et al*, *J. Chem. Soc. B*, 1968, 1431 (*synth*)
Chayen, R. *et al*, *Anal. Biochem.*, 1971, **39**, 533 (*use*)

2′,4′-Dichlorofluorescein D-00273

2′,4′-Dichloro-3′,6′-dihydroxyspiro[*isobenzofuran-1*(*3H*),*9′*-[*9H*]*xanthen*]-*3-one*, *9CI*

[2320-99-2]



$C_{20}H_{10}Cl_2O_5$ M 401.201
Used as a 1m*M* soln. in MeOH for photometric and fluorimetric detn. of Ag (λ_{max} 540 nm); fluorimetric detn. of cetylpyridinium chloride, thiourea. Orange cryst. (EtOH). Sol. EtOH, Me_2CO, alkalis.

Mori, I. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1973, **22**, 1202; 1974, **23**, 610 (*detn, Ag, cetylpyridinium chloride, thiourea*)

2′,5′-Dichlorofluorescein D-00274

2′,5′-Dichloro-3′,6′-dihydroxyspiro[*isobenzofuran-1*(*3H*),*9′*-[*9H*]*xanthen*]-*3-one*, *9CI*

[2320-97-0]

$C_{20}H_{10}Cl_2O_5$ M 401.201
Used as a 1m*M* soln. in MeOH for photometric and fluorimetric detn. of Ag (λ_{max} 545nm). Orange cryst. (EtOH). Sol. EtOH, Me_2CO, alkalis.

Mori, I. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1973, **22**, 1202 (*detn, Ag*)

2′,7′-Dichlorofluorescein D-00275

2′,7′-Dichloro-3′,6′-dihydroxyspiro[isobenzofuran-1(3H),9′-[9H]xanthen]-3-one, 9CI. Dichloro(R)fluorescein

[76-54-0]

$C_{20}H_{10}Cl_2O_5$ M 401.201

Used as a 1m*M* soln. in MeOH for photometric and fluorimetric detn. of Ag (λ_{max} 540nm); fluorimetric detn. of cetylpyridinium, thiourea, chloride; spray reagent for detn. of saturated and unsaturated lipids. Orange cryst. (EtOH). Sol. EtOH, Me_2CO, alkalis.

Mori, I. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1973, **22**, 1202; 1974, **23**, 610 (*use*)

4′,5′-Dichlorofluorescein D-00276

4′,5′-Dichloro-3′,6′-dihydroxyspiro[isobenzofuran-1(3H),9′-[9H]xanthen]-3-one, 9CI. C.I. Solvent orange 32

[2320-96-9]

$C_{20}H_{10}Cl_2O_5$ M 401.201

Di-Na salt: [3474-67-7].

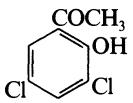
Used as a 1m*M* soln. in MeOH for photometric and fluorimetric detn. of Ag (λ_{max} 545nm), fluorescence indicator. Yellow-orange cryst. (EtOH). Sol. H_2O.

Katoh, K., *Bunseki Kagaku* (*Jpn. Anal.*), 1968, **17**, 1377 (*indicator*)
Mori, I. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1973, **22**, 1202 (*detn, Ag*)

3′,5′-Dichloro-2′-hydroxyacetophenone D-00277

1-(3,5-Dichloro-2-hydroxyphenyl)ethanone, 9CI

[3321-92-4]



$C_8H_6Cl_2O_2$ M 205.040

Cryst. (C_6H_6). Mp 97°.

Oxime: [55779-51-6].

$C_8H_7Cl_2NO_2$ M 220.054

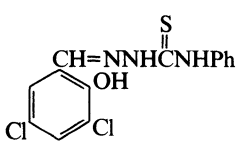
Used as a 0.01*M* soln. in EtOH for extraction-photometric detn. of V(*V*) (λ_{max} 400 nm), Co (λ_{max} 400 nm, ε 1400, $CHCl_3$); photometric detn. of Mo, U; gravimetric detn. of Pd; complexing agent for Be, Cd, Co, Mn, Ni, U, V, Zn. Cryst. Sol. common org. solvs.

Jha, B.C. *et al*, *Tetrahedron*, 1958, **2**, 241 (*synth*)
Givens, E.N. *et al*, *J. Chem. Eng. Data*, 1969, **14**, 392 (*ms, pmr*)
Lal, K. *et al*, *Curr. Sci.*, 1975, **44**, 178, 652; 1976, **45**, 84 (*detn, Co, Cu, Ni, Mo, U*)
Gupta, S.P. *et al*, *Indian J. Chem.*, 1975, **13**, 297 (*complexing agent for Co, Cu, Ni*)
Lal, K. *et al*, *Indian J. Chem., Sect. A*, 1975, **13**, 973; 1976, **14**, 260 (*detn, Be, Cd, Co, Mn, Ni, U, V, Zn*)
Lal, K. *et al*, *Chem. Era*, 1976, **12**, 414 (*detn, V*)

3,5-Dichloro-2-hydroxybenzaldehyde phenylthiosemicarbazone D-00278

2-[(3,5-Dichloro-2-hydroxyphenyl)methylene]-N-phenylhydrazinecarbothioamide, 9CI. 3,5-Dichlorosalicylaldehyde phenylthiosemicarbazone

[1713-68-4]



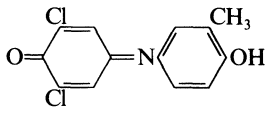
$C_{14}H_{11}Cl_2N_3OS$ M 340.232

Used as 0.25m*M* soln. in $CHCl_3$ for extraction-photometric detn. of Pd (λ_{max} 410 nm, ε 14300). Cryst. (EtOH). Sol. $CHCl_3$, EtOH.

Yamaguchi, S. *et al*, *Analyst* (*London*), 1985, **110**, 1241 (*synth, detn, Pd*)

2,6-Dichloro-4-[(4-hydroxy-3-methylphenyl)imino]-2,5-cyclohexadien-1-one, 9CI D-00279

2,6-Dichloro-3′-methylindophenol



$C_{13}H_9Cl_2NO_2$ M 282.125

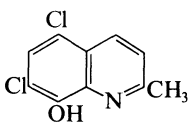
Redox indicator; acid-base indicator (pH range: 5.7-11.4; colour change: red → blue), used as a 0.02% aq. soln. of Na salt. Dark green cryst. powder. Sol. H_2O, alkalis, EtOH, Me_2CO. pK_a 5.5. E° +0.639V (30°).

Gibbs, H.D. *et al*, *Public Health Rep., Suppl.* 69, 1928.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

5,7-Dichloro-8-hydroxy-2-methylquinoline D-00280

5,7-Dichloro-2-methyl-8-quinolinol, 9CI, 8CI. ***Chlorquinaldol,*** **BAN, INN.** *Steroxin. Sterosan. Numerous proprietary names*

[72-80-0]



$C_{10}H_7Cl_2NO$ M 228.077

Antibacterial agent, fungicide. Used as $CHCl_3$ soln. for extraction separation of Co and Ni (pH 7-8). Yellow needles (EtOH). Insol. H_2O; sol. $CHCl_3$, EtOH, C_6H_6, hexane. Mp 111-111.5°, Mp 114-115° dec.

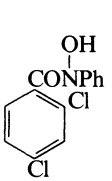
▷ VC5600000.

Fiedler, H., *J. Prakt. Chem.*, 1961, **13**, 86 (*synth*)
Vaidya, M.G. *et al*, *J. Med. Chem.*, 1962, **5**, 389 (*synth*)
Silberg, A. *et al*, *CA*, 1967, **67**, 54015 (*synth*)
Ellenrieder, M. *et al*, *Arzneim.-Forsch.*, 1970, **20**, 821 (*pharmacol*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1601.
Izquierdo, A. *et al*, *Mikrochim. Acta*, 1983, **1**, 371; 1984, **2**, 343 (*detn, Co, Ni*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1400 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CLC500.

2,4-Dichloro-*N*-hydroxy-*N*-phenylbenzamide, 9CI D-00281

N-(*2,4-Dichlorobenzoyl*)*phenylhydroxylamine*

[16845-41-3]



$C_{13}H_9Cl_2NO_2$ M 282.125

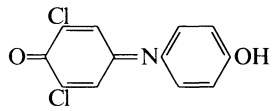
Used for pptn. of Al, Cu, Fe, Hf, Mn, Pb, Sn(*II*), Sn(*IV*), Ti, Zr. Cryst. Sol. common org. solvs.; spar. sol. H_2O. Mp 137°.

Lutwick, G.D. *et al*, *Can. J. Chem.*, 1954, **32**, 949 (*use*)
Shendrikar, A.D. *et al*, *Talanta*, 1969, **16**, 51 (*use*)

2,6-Dichloro-4-[(4-hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, 9CI D-00282

2,6-Dichloroindophenol

[956-48-9]



$C_{12}H_7Cl_2NO_2$ M 268.098

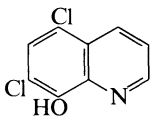
Redox indicator. Used in detn. of $[Fe(CN)_6]^{3\ominus}$(*III*) (with ascorbic acid) and many other anions. Dark green cryst. powder. Fairly unstable in aq. soln. Sol. H_2O, EtOH, Me_2CO. pK_a 5.7. E° +0.668 V (30°).

Gibbs, H.D. *et al*, *Public Health Rep., Suppl. no.* 69, 1928.
Erdey, L. *et al*, *Anal. Chim. Acta*, 1962, **27**, 164, 363, 498; 1963, **28**, 398 (*detn, Fe(CN$_6$)$^{3\ominus}$*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 133.

5,7-Dichloro-8-hydroxyquinoline D-00283

5,7-Dichloro-8-quinolinol, 9CI. ***Chloroxine,*** **USAN.** *Chlorquinol. Halquinol. Capitrol. Endiaron. Halquivet. Olinkol. Permin. Quinolor. Quixalin. Quixalud. SQ 16401*

[773-76-2]



$C_9H_5Cl_2NO$ M 214.050

Bactericide, fungicide, antiseborrheic, used, e.g., in shampoos. Used in extraction separation of Cd; for photometric detn. of Ni (complex associated with basic dyes). Needles (EtOH). Sol. pet. ether, spar. sol. EtOH, AcOH, $CHCl_3$. Mp 180-181°.

B,HCl: Mp 215°.

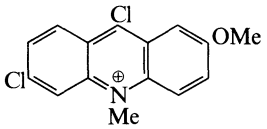
O-*Ac:* [52174-94-4].
$C_{11}H_7Cl_2NO_2$ M 256.087
Cryst. (pet. ether). Mp 97-98°.

O-*Benzoyl:* [18193-10-7].
$C_{16}H_9Cl_2NO_2$ M 318.158
Mp 188-189°.

1-Oxide: [21168-33-2].
$C_9H_5Cl_2NO_2$ M 230.049
Used as freshly prepd. Me_2CO soln. for photometric detn. of Ru(*III*) (λ_{max} 430 nm, ε 3200). Cryst. (C_6H_6). Sol. Me_2CO. Mp 206-207°.

Hebebrand, A., *Ber.*, 1888, **21**, 2977 (*synth*)
Schweitzer, G.K. *et al*, *Anal. Chim. Acta*, 1962, **26**, 567 (*detn, Cd*)
Gupta, R.D. *et al*, *J. Less-Common Met.*, 1969, **18**, 139 (*synth, oxide*)
Gupta, R.D. *et al*, *Anal. Chim. Acta*, 1970, **50**, 109 (*detn, Ru*)
Corsini, A. *et al*, *Talanta*, 1974, **21**, 252 (*pmr*)
Sawada, Y. *et al*, *Chem. Pharm. Bull.*, 1978, **26**, 1357 (*metab*)
Chwastowska, J. *et al*, *Chem. Anal.* (*Warsaw*), 1979, **24**, 369 (*detn, Ni*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 4785.

6,9-Dichloro-2-methoxy-10-methylacridinium(1+), 9CI D-00284



$C_{15}H_{12}Cl_2NO^{\oplus}$ M 293.171 (ion)

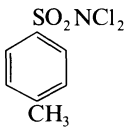
Trifluoromethanesulfonate: [133393-23-4].
$C_{16}H_{12}Cl_2F_3NO_4S$ M 442.242
Spectrophotometric derivatisation reagent for primary amines. Yellow cryst. Mp 238-241°.

Dunning, J.W. *et al*, *Talanta*, 1991, **38**, 631 (*synth, use, uv, ir, pmr*)

N,N-Dichloro-4-methylbenzenesulfonamide, 9CI D-00285

N,N-*Dichloro*-p-*toluenesulphonamide. Dichloramine T. Peraktivin*

[473-34-7]



$C_7H_7Cl_2NO_2S$ M 240.109

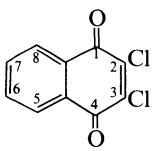
Germicide. Used as 0.1*M* soln. in AcOH as titrant in titrimetric detn. of $I^{\ominus}$, As(*III*), Sn(*II*), Sb(*III*), Tl(*I*), Fe(*II*), ascorbic acid, hydrazine, hydroquinone. Prisms ($CHCl_3$/pet. ether). Cryst. Sol. AcOH. Mp 83°, Mp 71-72°.

Krauss, R.B. *et al*, *J. Am. Chem. Soc.*, 1917, **39**, 2720 (*synth*)
Soper, F.G., *J. Chem. Soc.*, 1924, **125**, 1899 (*synth*)
Petterson, R.C. *et al*, *J. Org. Chem.*, 1960, **25**, 1595 (*ir*)
Boberg, F. *et al*, *Justus Liebigs Ann. Chem.*, 1969, **728**, 36 (*synth*)
Jacob, T.J. *et al*, *Talanta*, 1972, **19**, 347 (*synth, use*)
Nair, C.G. *et al*, *Talanta*, 1973, **20**, 696 (*use*)
Heintzelman, R.W. *et al*, *Synthesis*, 1976, 731 (*synth*)

2,3-Dichloro-1,4-naphthoquinone, 8CI D-00286

2,3-Dichloro-1,4-naphthalenedione, 9CI. Dichlone. Phygon

[117-80-6]



$C_{10}H_4Cl_2O_2$ M 227.046

Fungicide. Used for photometric detn. of amines, thioureas, hydrazides, thiosemicarbazides and semicarbazones. Yellow needles (EtOH). Mp 194-195°.

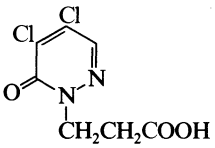
▷ Irritant. QL7525000.

Ter Horst, W.P. *et al*, *Ind. Eng. Chem.*, 1943, **35**, 1255 (*use*)
Fieser, L.F., *J. Am. Chem. Soc.*, 1948, **70**, 3151 (*synth*)
Gaertner, R., *J. Am. Chem. Soc.*, 1954, **76**, 6150 (*synth*)
Crecely, R.W. *et al*, *J. Mol. Spectrosc.*, 1969, **32**, 407 (*nmr*)
Hutzinger, O. *et al*, *J. Assoc. Off. Anal. Chem.*, 1971, **54**, 178 (*ms*)
Gore, R.C. *et al*, *J. Assoc. Off. Anal. Chem.*, 1971, **54**, 1040 (*uv, ir*)
Devani, M.B. *et al*, *Analyst* (*London*), 1973, **98**, 759 (*use*)
Abou-Ouf, A.A. *et al*, *J. Pharm. Sci.*, 1973, **62**, 1700 (*use*)
Plaizier, J.A. *et al*, *Anal. Chem.*, 1976, **48**, 1536 (*detn, hydrazides*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DFT000.

4,5-Dichloro-6-oxo-1(6*H*)-pyridazinepropanoic acid, 9CI D-00287

1-(2-Carboxyethyl)-4,5-dichloro-6-pyridazone

[2496-71-1]



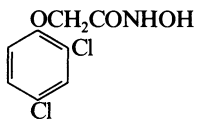
$C_7H_6Cl_2N_2O_3$ M 237.041

Anal. reagent for thiols.

Schreiber, W., *Hoppe Seyler's Z. Physiol. Chem.*, 1967, **348**, 371 (*use*)

Schreiber, W., *Fresenius' Z. Anal. Chem.*, 1971, **254**, 345 (*use*)

2,4-Dichlorophenoxyacetohydroxamic acid D-00288



$C_8H_7Cl_2NO_3$ M 236.054

N-*Ph:* [25310-26-3]. *2-(2,4-Dichlorophenoxy)-N-phenylacetohydroxamic acid, 8CI.* N-*Phenyl-2,4-dichlorophenoxyacetohydroxamic acid*

$C_{14}H_{11}Cl_2NO_3$ M 312.151

Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 505 nm, ε 3050, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

N-(*4-Methylphenyl*): [25310-27-4]. *2-(2,4-Dichlorophenoxy)-N-(4-methylphenyl)acetohydroxamic acid*

$C_{15}H_{13}Cl_2NO_3$ M 326.178

Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 500 nm, ε 3250, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

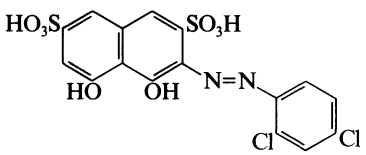
Gupta, V.K. *et al, J. Indian Chem. Soc.*, 1969, **66**, 831 (*synth*)

Gupta, V.K. *et al, Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

3-[(2,4-Dichlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI D-00289

2,4-Dichlorophenylazochromotropic acid

[62106-16-5]



$C_{16}H_{10}Cl_2N_2O_8S_2$ M 493.301

Cryst. Sol. H_2O, EtOH. pK_{a2} 4.08; pK_{a3} 7.41; pK_{a4} 9.50.

Di-Na salt: [68504-32-5].

Used as a 0.01*M* aq. soln. for photometric detn. of Th; metallochromic indicator in titrimetric detn. of Th; acid-base indicator. Dark red cryst. powder. Sol. H_2O.

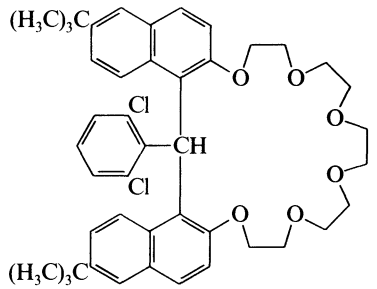
Khater, M.M. *et al, Fresenius' Z. Anal. Chem.*, 1977, **284**, 45 (*use, ind*)

Khalifa, H. *et al, Microchem. J.*, 1977, **22**, 288 (*synth, ind*)

Khater, M.M. *et al, Microchem. J.*, 1977, **22**, 299 (*detn, Th*)

29-(2,6-Dichlorophenyl)-3,26-bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21-decahydro-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16]hexaoxacycloheneicosin, 9CI D-00290

[112700-82-0]



$C_{45}H_{52}Cl_2O_6$ M 759.808

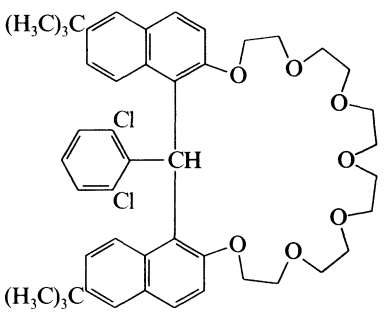
Used as soln. in THF as ionophore for the PVC membrane ion-selective electrode (selective for $K^{\oplus}$ over $Na^{\oplus}$). Cryst. Mp 293°.

Lockhart, J.C. *et al, J. Chem. Soc., Perkin Trans. 2*, 1987, 639 (*synth*)

Covington, A.K. *et al, Analyst (London)*, 1988, **113**, 895 (*use*)

32-(2,6-Dichlorophenyl)-3,29-bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21,23,24-dodecahydro-32*H*-dinaphtho[2,1-*t*:1′,2′-*w*][1,4,7,10,13,16,19]-heptaoxacyclotetracosin, 9CI D-00291

[112700-83-1]



$C_{47}H_{56}Cl_2O_7$ M 803.861

Used as soln. in THF as ionophore for the PVC membrane ion-selective electrode (selective for $Rb^{\oplus}$ over $Na^{\oplus}$). Cryst. Mp 265°.

Lockhart, J.C. *et al, J. Chem. Soc., Perkin Trans. 2*, 1987, 639 (*synth*)

Covington, A.K. *et al, Analyst (London)*, 1988, **113**, 895 (*use*)

Dichlorophenylbismuthine, 9CI D-00292

Phenylbismuthine dichloride. Phenylbismuth dichloride

[7205-00-7]

$PhBiCl_2$

$C_6H_5BiCl_2$ M 356.991

Unstable in pure form. Synth. from Ph_3Bi and $BiCl_3$. Used to convert H_2O into HCl in detn. of H in org. compds. Solid. Mp 72°. With $IF_5 \rightarrow PhBiF_2 + BiF_3$.

Bis-Py complex:

$C_{16}H_{15}BiCl_2N_2$ M 515.194

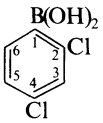
Solid. Mp 136-137°.
Bipy complex:
$C_{16}H_{13}BiCl_2N_2$ M 513.178
Solid. Mp 244-247°.
Phen complex:
$C_{18}H_{13}BiCl_2N_2$ M 537.200
Solid. Mp >275°.

Klimova, V.A. *et al*, *CA*, 1962, **36**, 8003g (*use*)
Okawara, R. *et al*, *Bull. Chem. Soc. Jpn.*, 1965, **39**, 1823 (*props*)
Smith, B.C. *et al*, *J. Organomet. Chem.*, 1971, **32**, C11 (*pmr*)
Faleschini, S. *et al*, *J. Organomet. Chem.*, 1972, **44**, 317 (*props, complexes*)
Singh, A., *Talanta*, 1975, **22**, 551 (*monothiosemicarbazone, synth, use*)
Ali, M. *et al*, *J. Organomet. Chem.*, 1989, **371**, 11 (*synth*)

(2,4-Dichlorophenyl)dihydroxyborane D-00293

(2,4-Dichlorophenyl)boronic acid, 10CI. 2,4-Dichlorobenzeneboronic acid

[68716-47-2]



$C_6H_5BCl_2O_2$ M 190.821
Used as derivatisation reagent in gc of diols, hydroxyamines, hydroxyacids. Cryst. (toluene). Mp 242-245°. Commercially available.

Poole, C.F. *et al*, *J. Chromatogr.*, 1978, **158**, 33 (*use, synth, props*)
Poole, C.F. *et al*, *Analyst (London)*, 1979, **104**, 82 (*props*)
Singhawangcha, S. *et al*, *HRC & CC, J. High Resolut. Chromatogr. Chromatogr. Commun.*, 1979, **2**, 77 (*props, use*)
Poole, C.F. *et al*, *J. Chromatogr.*, 1979, **186**, 307 (*props*)

(2,6-Dichlorophenyl)dihydroxyborane D-00294

(2,6-Dichlorophenyl)boronic acid, 10CI. 2,6-Dichlorobenzeneboronic acid

[73852-17-2]

$C_6H_5BCl_2O_2$ M 190.821
Used as derivatisation reagent for gc of diols, hydroxyamines, hydroxyacids. Cryst. (MeOH). Mp 149-151°.

Poole, C.F. *et al*, *J. Chromatogr.*, 1979, **186**, 307 (*synth, props, use*)

(3,5-Dichlorophenyl)dihydroxyborane D-00295

(3,5-Dichlorophenyl)boronic acid, 10CI. 3,5-Dichlorobenzeneboronic acid

[67492-50-6]

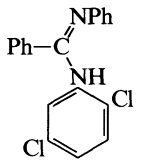
$C_6H_5BCl_2O_2$ M 190.821
Used as derivatisation reagent in gc detn. of diols, hydroxyamines and hydroxyacids. Cryst. (toluene). Mp 310-315°.

Poole, C.F. *et al*, *Chromatographia*, 1978, **11**, 347 (*use*)
Poole, C.F. *et al*, *J. Chromatogr.*, 1978, **158**, 33 (*synth, props, use*)

N-2,5-Dichlorophenyl-*N'*-phenylbenzamidine D-00296

N-(*2,5-Dichlorophenyl*)-N'-*phenylbenzenecarboximidamide, 9CI*

[79458-83-6]



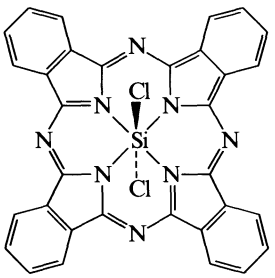
$C_{19}H_{14}Cl_2N_2$ M 341.238
Used as 0.1% soln. in C_6H_6 for extraction-photometric detn. of Mo (λ_{max} 470 nm, ε 16800; 1-5*M* HCl, in the presence of $SCN^{\ominus}$ and ascorbic acid). Cryst. (EtOH + HCl). Sol. EtOH, C_6H_6, $CHCl_3$.

Patel, K.S. *et al*, *Anal. Chem.*, 1982, **54**, 52 (*synth, detn, Mo*)

Dichloro[29*H*,31*H*-phthalocyaninato(2–)]silicon D-00297

(Phthalocyaninato)dichlorosilicon

[19333-10-9]



$C_{32}H_{16}Cl_2N_8Si$ M 611.523
Prepd. from reaction of $SiCl_4$ with 1,3-diiminoisoindoline in refluxing quinoline. Commercially available nmr shift reagent. Purple cryst. (1-chloronaphthalene).

Lowery, M.K. *et al*, *Inorg. Chem.*, 1965, **4**, 128 (*synth*)
Shaulov, Yu.Kh. *et al*, *Russ. J. Inorg. Chem. (Engl. Transl.)*, 1971, **16**, 75 (*synth, ir, uv*)
Dirk, C.W. *et al*, *J. Am. Chem. Soc.*, 1983, **105**, 1539 (*synth*)

1,3-Dichloro-2-propanol, 9CI D-00298

Glycerol 1,3-dichlorohydrin. α-Dichlorohydrin

[96-23-1]

$ClCH_2CH(OH)CH_2Cl$

$C_3H_6Cl_2O$ M 128.985
Solv. for hard resins and nitrocellulose; binder for water colours. Reagent for Vitamin A detn. Liq. Sol. H_2O, Et_2O. d_4^{17} 1.351, d_4^{20} 1.367. Bp 174-175°. n_D^{17} 1.4802.
▷ Toxic by inhalation and skin absorption. Irritant. UB1400000.
Ac: [3674-10-0].
$C_5H_8Cl_2O_2$ M 171.022
Bp_{15} 81°.
Phenylurethane: Mp 73°.

Hill, A.J. *et al*, *J. Am. Chem. Soc.*, 1922, **44**, 2582 (*synth*)
Fairbourne, A., *J. Chem. Soc.*, 1930, 369 (*synth*)
Org. Synth., Coll. Vol., 1, 1932, 292.
Oliver, L.K. *et al*, *Clin. Chem. (Winston-Salem, N.C.)*, 1976, **22**, 1541 (*use*)

Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 282.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DGG400.

4-[(3,5-Dichloro-2-pyridinyl)azo]-1,3-benzenediamine, 9CI D-00299

4-[(3,5-Dichloro-2-pyridyl)azo]-1,3-diaminobenzene. 3,5-Dichloro-2-(2,4-diaminophenylazo)pyridine. 3,5-Dichloro-PADAB

[50768-78-0]

$C_{11}H_9Cl_2N_5$ M 282.131

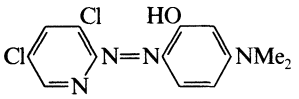
Used as 1m*M* soln. in EtOH for extraction-photometric detn. of Co (λ_{max} 588 nm, ε 150000). Red cryst. (EtOH aq.). Sol. EtOH, Me_2CO; spar. sol. H_2O. Mp 237-239°.

Kiss, E., *Anal. Chim. Acta*, 1973, **66**, 385 (*synth, use*)

2-[(3,5-Dichloro-2-pyridinyl)azo]-5-(dimethylamino)phenol, 9CI D-00300

3,5-Dichloro-2-(4-dimethylamino-2-hydroxyphenylazo) pyridine

[108609-82-1]



$C_{13}H_{12}Cl_2N_4O$ M 311.169

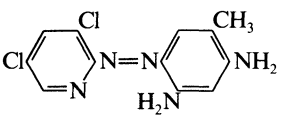
Used as a 1m*M* soln. in EtOH for photometric detn. of Co (λ_{max} 590 nm, ε 84000), La (ε 145000, pH 9.8). Red needles ($CHCl_3$). Sol. EtOH, $CHCl_3$. Mp 189-191°. pK_{a2} 1.1; pK_{a3} 10.9 (0.1*M* KNO_3, 30% dioxan aq., 25°).

Nakamura, M. *et al*, *Talanta*, 1987, **34**, 369 (*synth, detn, Co*)
Fernandez, L. *et al*, *Talanta*, 1991, **38**, 339 (*synth, detn, La*)

4-[(3,5-Dichloro-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, 9CI D-00301

5-(3,5-Dichloro-2-pyridylazo)-2,4-diaminotoluene. 3,5-Dichloro-2-(2,4-diamino-5-methylphenylazo)pyridine. 3,5-Dichloro-PADAT

[51833-10-4]



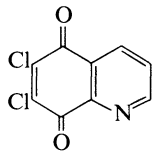
$C_{12}H_{11}Cl_2N_5$ M 296.158

Used as a 0.1% soln. in EtOH for extraction-photometric detn. of Co (λ_{max} 590 nm, ε 138000). Purplish black lustrous needles (EtOH). Sol. EtOH, Me_2CO; spar. sol. H_2O. Mp 183°.

Shibata, S. *et al*, *Anal. Chim. Acta*, 1974, **73**, 107 (*detn, Co*)

6,7-Dichloro-5,8-quinolinedione, 9CI D-00302

[6541-19-1]



$C_9H_3Cl_2NO_2$ M 228.034

Used for photometric detn. of isoniazid. Bright-yellow cryst. (CH_2Cl_2/MeOH). Mp 221-223°.

N-*Oxide:* [84289-01-0].
$C_9H_3Cl_2NO_3$ M 244.033
Bright-orange cryst. (CH_2Cl_2). Mp 209-210°.

Shaikh, I.A. *et al*, *J. Med. Chem.*, 1986, **29**, 1329 (*synth, ir, pmr, ms*)
El-Kommos, M.E. *et al*, *Analyst (London)*, 1988, **113**, 1091 (*use*)

1,3-Dichloro-1,1,3,3-tetrafluoro-2-propanone, 9CI D-00303

[127-21-9]

$C_3Cl_2F_4O$ M 198.931

Used to derivatise amino acids for gc anal. Liq. d_4^{20} 1.52. Bp 44°.

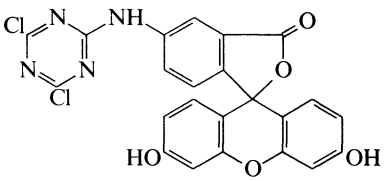
▷ UC1575000.

Miller, C.B. *et al*, *CA*, 1959, **53**, 4137i; 5133i (*synth*)
Husek, P. *et al*, *J. Chromatogr.*, 1974, **91**, 475; 1979, **180**, 53; 1982, **234**, 381 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DGL400.

5-[(4,6-Dichloro-1,3,5-triazin-2-yl)amino]-3′,6′-dihydroxyspiro[isobenzofuran-1(3*H*),9′-[9*H*]xanthen]-3-one, 9CI D-00304

5-[(4,6-Dichloro-1,3,5-triazin-2-yl)amino]fluorescein. DTAF

[51306-35-5]



$C_{23}H_{12}Cl_2N_4O_5$ M 495.277

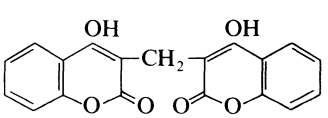
Fluorescent label. Used as a derivatisation reagent for the anal. of secondary amines. Yellow solid.

Barskii, V.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Biol.*, 1968, 744 (*synth*)
Blakeslee, D. *et al*, *J. Immunol. Methods*, 1976, **13**, 305 (*synth, use*)
Siegler, R. *et al*, *J. Pharm. Biomed. Anal.*, 1989, **7**, 45 (*use*)

Dicoumarol, INN D-00305

3,3′-Methylenebis[4-hydroxy-2H-1-benzopyran-2-one], 9CI. 3,3′-Methylenebis-4-hydroxycoumarin, 8CI. Dicoumarin. Dufalone. Melitoxin. Dicumarol. Numerous proprietary names

[66-76-2]



$C_{19}H_{12}O_6$ M 336.300

Isol. from *Melilotus alba* and *Anthoxanthum* spp.
Haemorrhagic agent causing "sweet clover" disease in cattle; vitamin *K* antagonist. Used as a 0.25-0.5% soln. in EtOH as turbidimetric acid-base indicator (pH range: 5.4-5.7). Cryst. (cyclohexanone). Mp 288-289°.

▷ Mod. toxic. GN7875000.

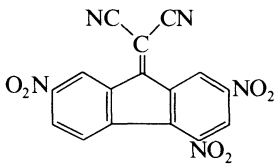
Di-Ac: Cryst. (C_6H_6). Mp 250-252° dec.

Stahmann, M.A. *et al*, *J. Biol. Chem.*, 1941, **138**, 21, 513, 529 (*isol, synth, uv*)
Wittmann, H. *et al*, *Monatsh. Chem.*, 1965, **96**, 1200 (*synth*)
Korenmann, I.M. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1305 (*use*)
Hutchinson, D.W. *et al*, *Tetrahedron*, 1969, **25**, 2531 (*ir, pmr, struct*)
Levy, G., *J. Pharmacokinet. Biopharm.*, 1973, **1**, 541 (*rev*)
Owen, C.A., *Mayo Clin. Proc.*, 1974, **49**, 912 (*rev, pharmacol*)
Kirkiacharian, B.S. *et al*, *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1977, **284**, 697 (*cmr*)
Alcock, N.W. *et al*, *Acta Crystallogr., Sect. B*, 1978, **28**, 1957 (*cryst struct*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 4811.
Hayward, R.C., *J. Chem. Educ.*, 1984, **61**, 87 (*synth*)
Griminger, P., *J. Nutr.*, 1987, **117**, 1325 (*rev*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 5099.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BJZ000.

9-Dicyanomethylene-2,4,7-trinitrofluorene D-00306

(2,4,7-Trinitro-9H-fluoren-9-ylidene)propanedinitrile, 9CI. DTF

[1172-02-7]



$C_{16}H_5N_5O_6$ M 363.245

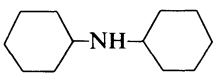
Forms stable charge-transfer complexes. Chromogenic agent for the detection of aromatic ethers, etc. Large yellow cryst. (MeCN). Mp 266-268°.

Mukherjee, T.K. *et al*, *J. Org. Chem.*, 1965, **30**, 644 (*synth, use*)
Forrest, J.E. *et al*, *J. Chromatogr.*, 1972, **65**, 439 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 206 (*use*)

Dicyclohexylamine, 8CI D-00307

N-*Cyclohexylcyclohexanamine, 9CI.*
Dodecahydrodiphenylamine. Perhydrodiphenylamine. DCHA

[101-83-7]



$C_{12}H_{23}N$ M 181.320

Corrosion inhibitor, industrial solvent. Forms cryst. salts with many *N*-protected aminoacids. Reagent for the titrimetric detn. of isocyanates. Liq. Mp 20°, Fp −0.1°. Bp_{13} 87-93°, Bp 256°.

▷ Highly toxic orally. Causes exp. neoplasms. Skin irritant, sensitiser. HY4025000.

B,HCl: Needles (H_2O). Mp °*ca.*350, Mp 334-335° (sealed tube).

N-*Ac:*
$C_{14}H_{25}NO$ M 223.358
Prisms (Et_2O). Mp 103°.

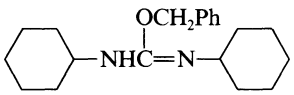
N-*Et:* Base used for amine alkylations, dehydrohalogenations and esterifications. Bp_{10} 132-134°.

Carswell, T.S. *et al*, *Ind. Eng. Chem.*, 1937, **29**, 1247 (*rev*)
Dovell, F.S. *et al*, *J. Org. Chem.*, 1964, **29**, 1265 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 231; **2**, 195.
Takeshima, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1968, **41**, 506 (*synth*)
Beazley, P.M., *Anal. Chem.*, 1971, **43**, 148 (*use*)
Watanabe, Y. *et al*, *Tetrahedron Lett.*, 1974, 1879 (*synth*)
Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1975, **95**, 2394 (*synth*)
Bose, A.K. *et al*, *Tetrahedron*, 1975, **31**, 3025 (*cmr*)
De Angelis, F. *et al*, *Synthesis*, 1979, 70 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DGT600.

N,N'-Dicyclohexyl-*O*-benzylisourea D-00308

Phenylmethyl N,N'*-dicyclohexylcarbamimidate, 9CI*

[6738-17-6]



$C_{20}H_{30}N_2O$ M 314.470

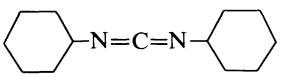
Used as benzylating derivatisation reagent for gc analysis of fatty acids. $Bp_{0.0001}$ 130°. n_D^{20} 1.5325.

Vowinkel, E., *Chem. Ber.*, 1966, **99**, 1479 (*synth*)
Klemm, H.P. *et al*, *J. Chromatogr.*, 1973, **75**, 19 (*use*)
Mathias, L.J., *Synthesis*, 1979, 561 (*synth, use*)

Dicyclohexylcarbodiimide, 8CI D-00309

N,N'-*Methanetetraylbiscyclohexanamine, 9CI. DCC*

[538-75-0]



$C_{13}H_{22}N_2$ M 206.330

Dehydrating agent esp. as coupling agent in peptide synth. Used for photometric detn. of carboxylic acids; detn. of carboxylic acids in tlc. Cryst. Mp 35-36°. Bp_{11} 154-156°, $Bp_{0.5}$ 98-100°.

▷ Highly toxic by inhalation, sensitiser, irritant.

Schmidt, E. *et al*, *Chem. Ber.*, 1938, **71**, 1933 (*synth*)
Stevens, C.L. *et al*, *J. Org. Chem.*, 1967, **32**, 2895 (*synth*)
Bestmann, H.J. *et al*, *Justus Liebigs Ann. Chem.*, 1968, **718**, 24 (*synth, bibl*)
Bushweller, C.H. *et al*, *J. Org. Chem.*, 1970, **35**, 276 (*pmr*)
Tanimura, T. *et al*, *Chem. Pharm. Bull.*, 1972, **20**, 1845 (*use, tlc*)
Pesez, M. *et al*, *Talanta*, 1974, **21**, 1306 (*use*)
Kasai, Y. *et al*, *Anal. Chem.*, 1975, **47**, 34 (*use*)
Anet, F.A.L. *et al*, *Org. Magn. Reson.*, 1976, **8**, 327 (*cmr*)
Rich, D.H. *et al*, *Pept., Proc. Eur. Pept. Symp., 14th*, 1976, **1**, 241 (*rev, use*)
Mogul, P.H. *et al*, *Spectrosc. Lett.*, 1977, **10**, 959 (*ir, uv*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1982, **10**, 142.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 283.

N,N'-Didodecylethanedithioamide, 9CI D-00310

Didodecyldithiooxamide

[120-88-7]

$H_3C(CH_2)_{11}NHCSCSNH(CH_2)_{11}CH_3$

$C_{26}H_{52}N_2S_2$ M 456.842

Used as soln. in Me_2CO for extn.-photometric detn. of Pd (λ_{max} 450 nm, $CHCl_3$). Cryst. Sol. Me_2CO, EtOH.

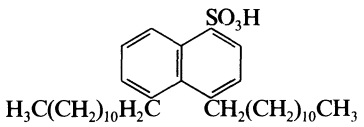
▷ RO9450000.

Jacobs, W.D. *et al*, *Talanta*, 1962, **9**, 243 (*synth, detn, Pd*)

4,5-Didodecyl-1-naphthalenesulfonic acid, 9CI D-00311

HDDNS

[40038-00-4]



$C_{34}H_{56}O_3S$ M 544.881

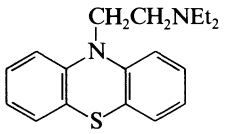
Liq.-liq. cation exchanger. Used as 0.5*M* aq. soln in the extraction of lanthanides (in the presence of crown ether, toluene, pH 2). Cryst. Sol. H_2O.

Ensor, D.D. *et al*, *Anal. Chem.*, 1986, **58**, 1814 (*use*)

Diethazine, BAN, INN D-00312

N,N-*Diethyl-10H-phenothiazine-10-ethanamine*, *9CI*. *10-(2-Diethylaminoethyl)phenothiazine*, *8CI*. *Antipar*. *Diparcol*. *Other proprietary names*

[60-91-3]



$C_{18}H_{22}N_2S$ M 298.451

Anticholinergic agent used for treatment of Parkinson's disease. Oily liq. Sol. EtOH, C_6H_6, $CHCl_3$, acids, insol. H_2O. $Bp_{4\text{-}5}$ 195-208°. E° +0.76 V (0.5*M* H_2SO_4 at 25°).

▷ SO4200000.

B,HCl: [341-70-8].

Used for extraction-photometric detn. of Mo, W, V; photometric detn. of Os (λ_{max} 515 nm, ε 12200), Pt; redox indicator. Insol. Et_2O. Sol. H_2O. Mp 184-186°.

▷ SO4375000.

Heymans, C. *et al*, *Arch. Int. Pharmacodyn. Ther.*, 1949, **79**, 123 (*pharmacol*)
Friebel, H. *et al*, *Arzneim.-Forsch.*, 1954, **4**, 171 (*pharmacol*)
Cavallito, C.J. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 1862 (*synth*)
Wassermann, N. *et al*, *Rev. Chim. (Bucharest)*, 1959, **10**, 81 (*synth*)
Gilbert, J.N.T. *et al*, *Org. Mass Spectrom.*, 1969, **2**, 17 (*ms*)
Marsau, P., *Acta Crystallogr., Sect. B*, 1971, **27**, 42 (*cryst struct*)
Poltorakov, A.P. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1973, 2106 (*pharmacol*)
De Leenheer, A., *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 105 (*uv*)
Rylski, L. *et al*, *Acta Pol. Pharm.*, 1974, **31**, 711 (*synth*)
Gowda, H.S. *et al*, *Anal. Chim. Acta*, 1974, **84**, 189 (*detn, Os*)
Blazek, J. *et al*, *Cesk. Farm.*, 1975, **24**, 174 (*ir*)
Puzanowska-Tarasiewicz, H. *et al*, *Anal. Chem.*, 1977, **94**, 435 (*detn, Mo*)
Puzanowska-Tarasiewicz, H. *et al*, *Talanta*, 1977, **25**, 609 (*detn, U*)
Szabo, W.A. *et al*, *J. Org. Chem.*, 1980, **45**, 744 (*synth*)
Puzanowska-Tarasiewicz, H. *et al*, *Mikrochim. Acta*, 1981, **1**, 19 (*detn, W*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 361.
Kojlo, A. *et al*, *Talanta*, 1983, **30**, 529 (*detn, Pt*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 4867 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DHF600, DII200.

(Diethoxymethyl)dimethylamine D-00313

*1,1-Diethoxy-*N,N*-dimethylmethanamine*, *9CI*. *1,1-Diethoxytrimethylamine*, *8CI*. *Dimethylformamide diethyl acetal*

[1188-33-6]

$(EtO)_2CHNMe_2$

$C_7H_{17}NO_2$ M 147.217

Alkylating reagent used for derivatisation of fatty acids and amino acids for gc anal. Oil. Bp 135-136°. n_D^{20} 1.4000.

Meerwein, H. *et al*, *Justus Liebigs Ann. Chem.*, 1961, **641**, 1 (*synth*)
Arnold, Z. *et al*, *Collect. Czech. Chem. Commun.*, 1964, **29**, 645 (*synth*)
Bredereck, H. *et al*, *Chem. Ber.*, 1968, **101**, 41 (*synth*)
Thenot, J.P. *et al*, *Anal. Lett.*, 1972, **5**, 217, 519 (*use*)

Diethylamine D-00314

N-*Ethylethanamine*, *9CI*

[109-89-7]

Et_2NH

$C_4H_{11}N$ M 73.138

Base used in org. synth. Used in indirect photometric detn. of CS_2. Liq. with powerful amine odour. Misc. H_2O. d_4^{18} 0.711. Fp −50°. Bp 55.5°. pK_a 11.1. n_D^{18} 1.3873. Usually encountered as aq. soln. Forms a dihydrate, Fp −19°.

▷ Mod. toxic, irritant, TLV 15. Extremely flammable, flash p. −26°. HZ8750000.

B,HCl: Diethylammonium chloride

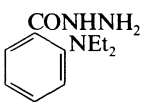
Leaflets. Sol. H_2O, EtOH, $CHCl_3$; insol. Et_2O. Mp 223.5°. Bp 320-330°.

Garner, W.E. *et al*, *J. Chem. Soc.*, 1916, **109**, 174 (*synth*)
Watt, G.W. *et al*, *J. Am. Chem. Soc.*, 1947, **69**, 836 (*synth*)
Hunt, E.C. *et al*, *Analyst (London)*, 1973, **98**, 585 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 148.
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 572.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 285.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DHJ200.

2-(Diethylamino)benzoic acid hydrazide, 9CI D-00315

Deayl hydrazide

[100343-97-3]



$C_{11}H_{17}N_3O$ M 207.275

Fluorescent reagent for hplc anal. of carbonyl compds.

Anderson, J.M., *Anal. Biochem.*, 1986, **152**, 146 (*use*)

(Diethylamino)dimethyl(pentafluorophenyl) silane D-00316

N,N-*Diethyl-1,1-dimethyl-1-(pentafluorophenyl)silanamine*, *9CI*. *Flophemesyldiethylamine*

[55485-74-0]

$(C_6F_5)SiMe_2NEt_2$

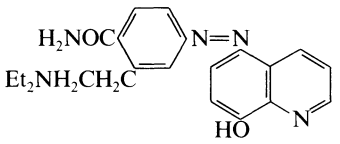
$C_{12}H_{16}F_5NSi$ M 297.343

Silylation derivatising reagent for gc anal. of alcohols, acids, amines etc. Oil. Bp_{10} 81°.

Morgan, E.D. *et al*, *J. Chromatogr.*, 1975, **104**, 351 (*synth, use*)
Poole, C.F. *et al*, *Org. Mass Spectrom.*, 1975, **10**, 1164 (*ms*)
Francis, A.J. *et al*, *J. Chromatogr.*, 1978, **161**, 111 (*use*)

N-[2-(Diethylamino)ethyl]-4-[(8-hydroxy-5-quinolinyl)azo]benzamide, 9CI D-00317

[61925-21-1]



$C_{22}H_{25}N_5O_2$ M 391.472

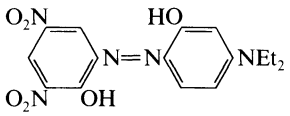
Used as a 0.1m*M* soln. in $CHCl_3$/butanol for extraction-photometric detn. of V(*V*) (λ_{max} 460 nm, ε 31000). Red-brown cryst. powder. Sol. EtOH, Me_2CO, $CHCl_3$; insol. H_2O.

Mishcheryakova, N.G. *et al*, *Khim. Khim. Tekhnol.* (*Minsk*), 1979, **22**, 1210; *CA*, **93**, 18446e.

2-[4-(Diethylamino)-2-hydroxyphenylazo]-4,6-dinitrophenol, 9CI D-00318

Picraminazo-5-diethylaminophenol. 4'-(Diethylamino)-2,2'-dihydroxy-3,5-dinitroazobenzene

[54723-29-4]



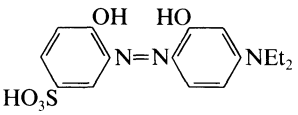
$C_{16}H_{17}N_5O_6$ M 375.340

Used as a 1m*M* aq. soln. for photometric detn. of Zr; titrimeric detn. of Bi. Dark cryst. powder. Spar. sol. H_2O, EtOH, DMF, Me_2CO, $CHCl_3$, ethane.

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 568 (*use*)

[3-(4-Diethylamino-2-hydroxyphenyl)azo]-4-hydroxybenzenesulfonic acid D-00319

4'-Diethylamino-2',6-dihydroxyazobenzene-3-sulfonic acid



$C_{16}H_{19}N_3O_5S$ M 365.409

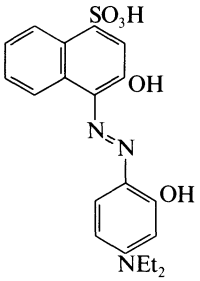
Used as sl. ammoniacal 0.03% aq. soln. for photometric detn. of Al (λ_{max} 540 nm, ε 41000). Yellow-orange cryst. Sol. H_2O, EtOH, alkalis.

Florence, T.M., *Anal. Chem.*, 1965, **37**, 704 (*synth, detn, Al*)

4-[[4-(Diethylamino)-2-hydroxyphenyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, 9CI D-00320

2-(2-Hydroxy-4-sulfo-1-naphthylazo)-5-(N,N-diethylamino) phenol

[23204-21-9]



$C_{20}H_{21}N_3O_5S$ M 415.469

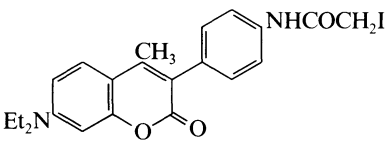
Used as 0.05m*M* aq. soln. for photometric detn. of Mg (λ_{max} 563 nm), Ca (λ_{max}, pH ~10). Used as a 0.1% soln. in aq. EtOH as metallochromic indicator in titrimetric detn. of water hardness; photometric detn. of Ga (λ_{max} 580 nm, ε 40000). Dark brown cryst. (EtOH/HCl aq.). Sol. H_2O, EtOH, alkalis; sl. sol. Me_2CO. Mp 226°. pK_{a1} 3.65; pK_{a2} 8.50; pK_{a3} 12.6 (μ = 0.1, 25°).

Gusev, S.I., *Zh. Anal. Khim.*, 1969, **24**, 585 (*synth, use*)
Wada, H. *et al*, *Anal. Chim. Acta*, 1984, **159**, 289 (*synth, detn, Ca, Mg*)

N-[4-[7-(Diethylamino)-4-methyl-2-oxo-2*H*-1-benzopyran-3-yl]phenyl]-2-iodoacetamide, 9CI D-00321

7-(Diethylamino)-3-[4-[(iodoacetyl)amino]phenyl]-4-methylcoumarin

[76877-34-4]



$C_{22}H_{23}IN_2O_3$ M 490.340

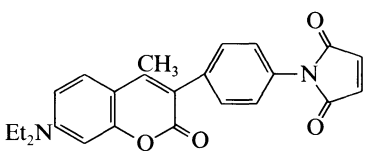
Used as derivatising agent for carboxylic acid detn., using peroxyoxalate chemiluminescence in liquid chromatography. Yellow needles. Mp 215-216° dec.

Sippel, T.O., *J. Histochem. Cytochem.*, 1981, **29**, 314 (*synth*)
Grayeski, M.L. *et al*, *Anal. Chem.*, 1987, **59**, 1203 (*use*)

1-[4-[7-(Diethylamino)-4-methyl-2-oxo-2*H*-1-benzopyran-3-yl]phenyl]-1*H*-pyrrole-2,5-dione, 9CI D-00322

7-(Diethylamino)-3-(4-maleimidylphenyl)-4-methylcoumarin. N-[4-(7-Diethylamino-4-methylcoumarin-3-yl)phenyl] maleimide. CPM

[76877-33-3]



$C_{24}H_{22}N_2O_4$ M 402.449

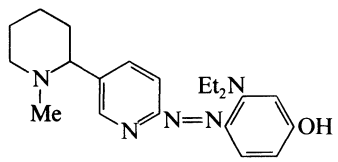
Fluorescent label for thiols. Orange needles (EtOH). Mp 159-161°.

Sippel, T.O., *J. Histochem. Cytochem.*, 1981, **29**, 314, 1377 (*synth, use*)

3-Diethylamino-4-[5-(1-methyl-2-piperidinyl)-2-pyridyl]phenol D-00323

6'-[[2-(Diethylamino)-4-hydroxyphenyl]azo]-1-methylanabasine, 8CI

[25349-56-8]



$C_{21}H_{29}N_5O$ M 367.493

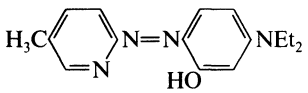
Gives colour reactions with Cd, Co, Cu, Ga, Ni, Pd, U, Zn. Orange-red cryst. Sol. EtOH, Me_2CO.

Kagramanova, N.G. *et al*, *CA*, 1969, **71**, 56314p (*use*)

5-(Diethylamino)-2-[(5-methyl-2-pyridinyl)azo]phenol, 9CI D-00324

2-(4-Diethylamino-2-hydroxyphenylazo)-5-methylpyridine. 5-Me-PADAP

[56808-92-5]



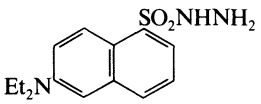
$C_{16}H_{20}N_4O$ M 284.360

Used as 2.5m*M* soln. in 0.1*M* H_2SO_4 for extraction-photometric detn. of Pd (λ_{max} 553 nm, ε 38000, in the presence of $Br^{\ominus}$, toluene). Red needles (EtOH aq.). Sol. acids, EtOH. Mp 164-165°. pK_{a1} 1.8; pK_{a2} 3.9; pK_{a3} 11.3.

Kasahara, I. *et al*, *Analyst (London)*, 1989, **114**, 1479 (*synth, detn, Pd*)

6-(Diethylamino)-2-naphthalenesulfonic acid hydrazide, 9CI D-00325

[100344-00-1]



$C_{14}H_{19}N_3O_2S$ M 293.389

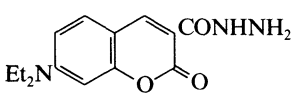
Fluorescent reagent for hplc anal. of carbonyl compds.

Anderson, J.M., *Anal. Biochem.*, 1986, **152**, 146 (*use*)

7-(Diethylamino)-2-oxo-2*H*-1-benzopyran-3-carboxylic acid hydrazide, 9CI D-00326

7-(Diethylamino)coumarin-3-carbohydrazide. DCCH. Deccyl hydrazide

[100343-98-4]

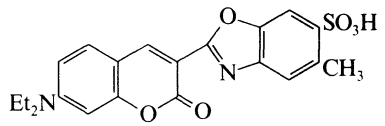


$C_{14}H_{17}N_3O_3$ M 275.307

Used as derivatising agent for carboxylic acid detn., using peroxyoxalate chemiluminescence in liquid chromatography.

Anderson, J.M., *Anal. Biochem.*, 1986, **152**, 146 (*use*)
Grayeski, M.L. *et al*, *Anal. Chem.*, 1987, **59**, 1203 (*use*)

2-[7-(Diethylamino)-2-oxo-2*H*-1-benzopyran-3-yl]-5-methyl-6-benzoxazolesulfonic acid, 9CI D-00327



$C_{21}H_{20}N_2O_6S$ M 428.465

Fluorescent reagent for anal. of tertiary-amine drugs.

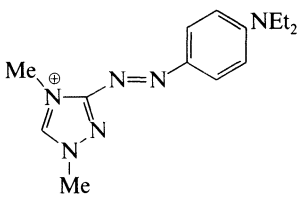
[35773-53-6]

Wintersteiger, R. *et al*, *Sci. Pharm.*, 1989, **57**, 407 (*synth, use*)

3-[[4-(Diethylamino)phenyl]azo]-1,4-dimethyl-1*H*-1,2,4-triazolium(1+) D-00328

4-[3-(1,4-Dimethyl-1,2,4-triazolyl)azo]-N,N-diethylaniline

[47083-56-7]



$C_{14}H_{21}N_6^{\oplus}$ M 273.360 (ion)

Chloride: [29120-27-2].

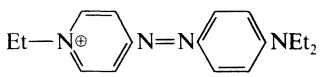
$C_{14}H_{21}ClN_6$ M 308.813

Used as a 0.1% aq soln. for extraction-photometric detn. of Bi (ε 96000), In, Sb, Tl, Pb (iodide and bromide complexes extracted as ion-pairs with azo dye). Orange-red cryst. Sol. H_2O, EtOH, dil. acids.

Kish, P.P. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1970, **25**, 112, 500; 1973, **28**, 1923; 1974, **29**, 1741 (*detn, Sb, In, Tl*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 298 (*detn, Bi*)
Kish, P.P. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1982, **48**, 969 (*detn, Pb*)

4-[[4-(Diethylamino)phenyl]azo]-1-ethylpyridinium(1+), 9CI D-00329

[76749-76-3]



$C_{17}H_{23}N_4^{\oplus}$ M 283.395 (ion)

Cationic azo dye; occurs as salt with halide or other anion.

Chloride:

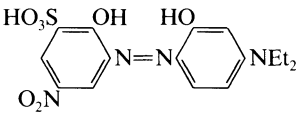
$C_{17}H_{23}ClN_4$ M 318.848

Forms extractable ion-pairs with Cu, Co, Ni and other metals (as ionic complexes) which are used in sensitive extraction-photometric detn. of metals e.g. Co (λ_{max} 564 nm, ε 168000, $CHCl_3$). Cryst. Sol. H_2O.

Motomizu, S. *et al*, *Anal. Chim. Acta*, 1980, **120**, 267 (*synth, use*)
Motomuzu, S. *et al*, *Anal. Sci.*, 1987, **3**, 265 (*synth*)
Yamamoto, K. *et al*, *Anal. Sci.*, 1989, **5**, 195 (*detn, Cu*)

3-[2-(5-Diethylaminophenyl)azo]-2-hydroxy-5-nitrobenzenesulfonic acid D-00330

4'-Diethylamino-2,2'-dihydroxy-5-nitroazobenzene-3-sulfonic acid. Sulfonitrazo DAF



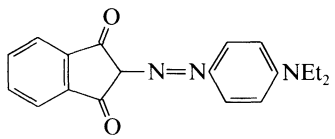
$C_{16}H_{18}N_4O_7S$ M 410.407

Used as 0.1% aq. soln. for photometric detn. of Al (λ_{max} 545 nm, ε 54000, pH 2.5-4). Yellow cryst. Sol. H_2O, EtOH. pK_{a2} 4.7; pK_{a3} 11.5.

Ermolenko, L.V. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 1030 (*synth, detn, Al*)

2-[[4-(Diethylamino)phenyl]azo]-1,3-indanedione, 8CI D-00331

[13059-73-9]



$C_{19}H_{19}N_3O_2$ M 321.378

Cryst. (Py). Mp 215-216.5°.

Monooxime: [13059-70-6].

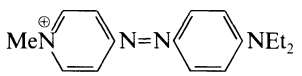
$C_{19}H_{20}N_4O_2$ M 336.393

Used as a 0.01*M* soln. in aq. Me_2CO as acid-base indicator (pH range: 4.8 - 6.2; colour change: yellow → red-violet). Yellow needles. Sol. EtOH; sl. sol. H_2O. Mp 211-213°. pK_{a1} 5.74.

Kuchar, E. *et al*, *Chem. Zvesti*, 1966, **20**, 423 (*use, oxime*)
Kuchar, E. *et al*, *CA*, 1969, **71**, 38612e (*synth*)

4-[[4-(Diethylamino)phenyl]azo]-1-methylpyridinium(1+), 9CI D-00332

[76749-75-2]



$C_{16}H_{21}N_4^{\oplus}$ M 269.369 (ion)

Cationic azo dye; used as salt with halide or other anion.

Chloride:

$C_{16}H_{21}ClN_4$ M 304.821

Used as aq. soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 575 nm, ε 15000). Forms extractable ion-pairs with Co, Ni and other metals (as anionic complexes) used in sensitive extraction-photometric detn. of metals (e.g. Co, λ_{max} 564 nm, ε 99000, $CHCl_3$). Orange red cryst. (dil. HCl). Sol. H_2O. Mp 182-184°.

Iodide: [74920-80-2].

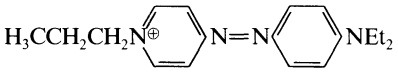
$C_{16}H_{21}IN_4$ M 396.273

Used for the photometric detn. of anionic surfactants.

Motomizu, S. *et al*, *Anal. Chim. Acta*, 1980, **120**, 267 (*synth, detn, Co, Ni*)
Huang, Z. *et al*, *CA*, 1985, **103**, 8010u (*synth*)
Motomizu, S. *et al*, *Anal. Sci.*, 1987, **3**, 265 (*detn, surfactants*)
Yamamoto, K. *et al*, *Anal. Sci.*, 1989, **5**, 195 (*detn, Cu*)

4-[[4-(Diethylamino)phenyl]azo]-1-propylpyridinium(1+), 9CI D-00333

[76749-59-2]



$C_{18}H_{25}N_4$ M 297.422

Cationic azo dye; occurs as salt with halide or other anion.

Chloride:

$C_{18}H_{25}ClN_4$ M 332.875

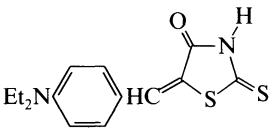
Used as aq. soln. Forms extractable ion-pairs with Co, Ni and other metals (as anionic complexes). Used in sensitive extraction-photometric detn. of metals (for Co λ_{max} 566 nm, ε 166000, $CHCl_3$; Cu(*I*): λ_{max} 575 nm, ε 30000). Cryst. Sol. H_2O.

Motomizu, S. *et al*, *Anal. Chim. Acta*, 1980, **120**, 267 (*synth, use*)
Motomizu, S. *et al*, *Anal. Sci.*, 1987, **3**, 265 (*synth*)
Yamamoto, K. *et al*, *Anal. Sci.*, 1989, **5**, 195 (*detn, Cu*)

5-[[4-(Diethylamino)phenyl]methylene]-2-thioxo-4-thiazolidinone, 9CI D-00334

p-*Diethylaminobenzylidenerhodanine*

[35778-58-6]



$C_{14}H_{16}N_2OS_2$ M 292.425

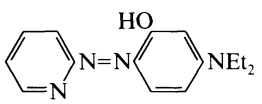
Several tautomers possible. Used as 0.05% soln. in EtOH for photometric detn. of Ag, Au, Cu, Hg, Pd, Pt. Red-orange needles (EtOH). Sol. EtOH, Et_2O, Me_2CO. Mp 161-164°.

Sandell, E.B. *et al*, *Anal. Chem.*, 1951, **23**, 1863.
Sandell, E.B. *et al*, *Anal. Chim. Acta*, 1951, **5**, 445.
Kulberg, L.M. *et al*, *Zh. Anal. Khim.*, 1954, **9**, 85 (*use*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, New York, 4th Ed., 1986, 631.

2-(Diethylamino)-6-(2-pyridinylazo)phenol, 9CI D-00335

2-(4-Diethylamino-2-hydroxyphenylazo)pyridine

[14337-52-1]



$C_{15}H_{18}N_4O$ M 270.333

Used as 0.1% soln. in propanol for photometric detn. of Ir (λ_{max} 560 nm, ε 43000), Rh (λ_{max} 560 nm, ε 65000); as 0.03% soln. in EtOH for photometric detn. of Co (λ_{max} 570 nm, ε 86000). Orange-red cryst. Sol. EtOH, Me_2CO, alkalis. Mp 109°.

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 1042; 1969, **24**, 210 (*synth, detn, Co*)
Goroshko, G.G. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 1114 (*detn, Ir, Rh*)

(Diethylamino)trimethylsilane D-00336

N,N-*Diethyl-1,1,1-trimethylsilanamine, 9CI. Trimethylsilyldiethylamine. TMSDEA*

[996-50-9]

Et_2NSiMe_3

$C_7H_{19}NSi$ M 145.319
Derivatisation reagent for amino acids, steroids, etc., for gc/ms anal. Liq. d 0.767. Bp 125-126°.

▷ Lachrymator.

Smith, E.D. *et al*, *Nature* (*London*), 1965, **208**, 878 (*use*)
Chan, S. *et al*, *Inorg. Chem.*, 1973, **12**, 51 (*pmr*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 634 (*use*)
Org. Synth., 1977, **57**, 51 (*synth*)
Bassindale, A.R. *et al*, *J. Organomet. Chem.*, 1979, **175**, 273 (*nmr*)
Filleux-Blanchard, M.L. *et al*, *Org. Magn. Reson.*, 1979, **12**, 12 (*nmr*)
Hung, L. *et al*, *Org. Mass Spectrom.*, 1986, **21**, 726 (*use*)

N,N-Diethylaniline, 8CI D-00337

N,N-*Diethylbenzenamine*, *9CI*
[91-66-7]

$PhNEt_2$

$C_{10}H_{15}N$ M 149.235
Gives colour reactions with Mn, Zn. Liq. Sol. acids; sl. sol. EtOH, Et_2O, $CHCl_3$. d 0.938. Mp −38.8°. Bp 215.5°, Bp_{100} 147°, Bp_{10} 92°.

▷ Highly toxic by inhalation and skin absorption, if swallowed danger of cumulative effects. Irritant. BX3400000.

B,2HBr: Cryst. Mp 37.3°.
Picrate: Yellow prisms. Mp 142°.

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **2**, 347.
Brownlee, R.T.C. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 1757 (*ir*)
Baker, A.D. *et al*, *J. Chem. Soc. B*, 1968, 22.
Suhr, H., *J. Mol. Struct.*, 1968, **1**, 295 (*nmr*)
Schmid, E.D. *et al*, *CA*, 1972, **76**, 33451 (*raman*)
Gribble, G.W. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 7812 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 212.
Rudenko, B.A. *et al*, *J. Chromatogr.*, 1975, **112**, 373 (*synth, glc*)
Kuehne, M.E. *et al*, *J. Org. Chem.*, 1977, **42**, 2082 (*synth*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 286.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DIS700.

N,N-Diethyl-*N'*-benzoylthiourea D-00338

N-[(*Diethylamino*)*thioxomethyl*]*benzamide*, *9CI*
[58328-36-2]

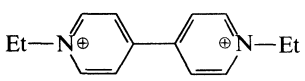
$Et_2NC(S)NHCOPh$

$C_{12}H_{16}N_2OS$ M 236.337
Used as 0.1*M* soln. in toluene for extraction separation of platinum group metals. Cryst. (EtOH). Sol. toluene, $CHCl_3$, decane. Mp 98°.

Koenig, K.H. *et al*, *Fresenius' Z. Anal. Chem.*, 1985, **321**, 457 (*synth, use*)

1,1'-Diethyl-4,4'-bipyridinium(2+), 9CI D-00339

N,N'-*Diethylviologen*
[46713-38-6]



$C_{14}H_{18}N_2^{2\oplus}$ M 214.310 (ion)
Dichloride: [3688-18-4].
$C_{14}H_{18}Cl_2N_2$ M 285.215
Redox indicator (reduced form is blue). Used as a soln. in aq. AcOH. V. air-sensitive needles (C_6H_6/EtOH). E° −0.449 V (30°).

Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

Diethyl diethylphosphoramidate, 9CI, 8CI D-00340

Diethyl diethylamidophosphate
[3167-69-9]

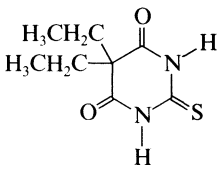
$(EtO)_2P(O)NEt_2$

$C_8H_{20}NO_3P$ M 209.225
Used as a 0.02*M* soln. in C_6H_6 for extraction separation of Zr. Liq. d_4^{20} 1.01-1.04. Bp_{25} 116-119°, Bp_1 60°. n_D^{20} 1.4318 (1.4214).

Petrov, K.A. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 3761), 1956, **26**, 3378 (*synth*)
Alimarin, I.P. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1386 (*sepn, Zr*)
Abramov, V.S. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 2180), 1969, **39**, 2234 (*synth*)
Zwierzak, A., *Synthesis*, 1975, 507 (*synth, P nmr*)
Appel, R. *et al*, *Z. Anorg. Allg. Chem.*, 1975, **414**, 241 (*synth*)
Zverev, V.V. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 74), 1979, 84 (*pe*)

5,5-Diethyldihydro-2-thioxo-4,6(1*H*,5*H*)-pyrimidinedione, 9CI D-00341

5,5-Diethylthiobarbituric acid. Certodorm. Ibition. Sedothyron. Thiobaral. Thiobarbital. Thiothyr. Thyreosedine
[77-32-7]

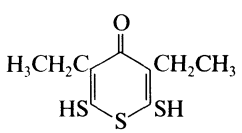


$C_8H_{12}N_2O_2S$ M 200.261
Thyroid inhibitor and hypnotic. Reagent for the colorimetric anal. of nicotine metabolites. Pale yellow needles (H_2O). Insol. C_6H_6; sol. EtOH, $CHCl_3$, Et_2O, Me_2CO, alkalis. Mp 180°.

Fischer, E. *et al*, *Justus Liebigs Ann. Chem.*, 1904, **335**, 350 (*synth*)
Carrington, H.C., *J. Chem. Soc.*, 1944, 124 (*synth*)
Bartels, E.C., *N. Engl. J. Med.*, 1948, **238**, 6 (*pharmacol*)
Bush, M.T. *et al*, *J. Pharmacol. Exp. Ther.*, 1960, **19**, 30 (*metab*)
Gruetzmacher, H.F. *et al*, *Tetrahedron Lett.*, 1966, 1365 (*ms*)
Poupaert, J. *et al*, *J. Pharm. Sci.*, 1976, **65**, 1258 (*ir*)
Smith, C.L. *et al*, *Anal. Proc.* (*London*), 1989, **26**, 358 (*use*)

3,5-Diethyl-2,6-dimercapto-4*H*-thiopyran-4-one, 8CI D-00342

[1913-89-9]



$C_9H_{12}OS_3$ M 232.391
Used as a 0.01*M* soln. in 0.3*M* aq. KOH for photometric detn. of Bi (λ_{max} 360 nm), Sn(*IV*) (λ_{max} 430 nm, ε 30400); titrimetric amperometric detn. of Bi, Cu, Hg. Yellow cryst. powder. Sol. alkalis EtOH, $CHCl_3$; spar. sol. H_2O.

Usatenko, Y.I. *et al*, *J. Anal. Chem. USSR* (*Engl. Transl.*), 1965, **20**, 429 (*detn, Bi*)

Usatenko, Y.I. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1823 (*detn, Sn*)
Akhmetshin, A.G. *et al*, *CA*, 1972, **76**, 10021r, 10057g (*detn, Bi, Hg, Tl, Cu*)

Diethyldiselenocarbamic acid D-00343

Diethylcarbamodiselenoic acid, 9CI

[44640-72-4]

$Et_2NCSeSeH$

$C_5H_{11}NSe_2$ M 243.069
Insol. H_2O.

Na salt: [30611-89-3].
Sol. H_2O.

K salt: [18820-71-8].
Used for extraction-photometric detn. of Bi (λ_{max} 412 nm, ε 9800, $CHCl_3$), Co (λ_{max} 407 nm, ε 16400, $CHCl_3$), Cu (λ_{max} 494 nm, ε 12300, $CHCl_3$), Ni (λ_{max} 427 nm, ε 89000, $CHCl_3$). Cryst. Sol. H_2O.

Zn salt: Pale yellow cryst. (Me_2CO). Mp 154.5-155°.

Barnard, D. *et al*, *J. Chem. Soc.*, 1961, 2922 (*synth*)
Kirspuu, K.K. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 354 (*use*)

Diethyldithiocarbamic acid D-00344

Diethylcarbamodithioic acid, 9CI

[147-84-2]

$Et_2NC(S)SH$

$C_5H_{11}NS_2$ M 149.281
Free acid unstable. Salts used as vulcanisation accelerators, esters as plasticisers. Na and K salts sol. H_2O.

▷ Salts emit highly toxic fumes when heated.

Zn salt: Vulcanisation accelerator. Mp 180°.

Na salt: Sodium diethyldithiocarbamate. Ditiocarb sodium, INN. Dithiocarb. Cupral. Imuthiol. DTC
$C_5H_{10}NNaS_2$ M 171.262
Antidote (in Wilson's disease). Immunopotentiator. Chelating agent. Used as 0.1% aq. soln. (pH ≃8.5) in photometric detn. of Cu(*II*) (ε 14000), Te, Bi, Mn, As (with Ag-DDTC); for preciptn. and extraction separation of many heavy metals; extraction separation of ionic organotin and organolead compds. Cryst. Sol. H_2O; insol. $CHCl_3$. Mp 94-96° (when anhydr.). pK_a 3.95. Used as trihydrate. Dec. by acid solns.

Diethylamine salt (1:1): [1518-58-7]. *Contramine*
Antidote. Antibacterial. Used for photometric detn. of Cu. Cryst. (Et_2O). Mp 83-84°.
▷ EZ5425000.

Ag salt: [38351-46-1]. *Silver diethyldithiocarbamate. SDDC*
Photometric reagent for As, Sb.

Diethylammonium salt: [2391-78-8]. *Diethylammonium diethyldithiocarbamate*
$C_9H_{22}N_2S_2$ M 222.418
Used as 1% soln. in $CHCl_3$ as chelating agent for Cu, Hg, Bi, Mn; extraction separation of Cu, Bi, As. Cryst. Sol. $CHCl_3$, CCl_4. Mp 82-83°.

Me ester: [686-07-7].
$C_6H_{13}NS_2$ M 163.307
d_4^0 1.098. Mp 2°. Bp 256°.
▷ EZ5700000.

S-*Oxide:*
$C_5H_{11}NOS_2$ M 165.280
New class of sulfine.

[38351-46-1]

Grodzki, M., *Ber.*, 1881, **14**, 2754 (*synth*)
Clifford, A.M. *et al*, *J. Am. Chem. Soc.*, 1932, **54**, 1163 (*synth*)
Wyatt, P.F., *Analyst (London)*, 1945, **70**, 232; 1953, **78**, 624, 656; 1955, **80**, 368 (*detn, As*)
Vasak, V. *et al*, *Collect. Czech. Chem. Commun.*, 1953, **18**, 64 (*use, Ag salt*)
Campbell, A.W. *et al*, *Ind. Eng. Chem.*, 1953, **45**, 125 (*use*)
Cluley, H.J., *Analyst (London)*, 1954, **79**, 561 (*detn, Cu*)
Malissa, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1959, **105**, 281 (*use*)
Bode, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1959, **169**, 440; 1960, **172**, 1; 1967, **222**, 261; 1968, **241**, 18 (*detn, As*)
Hulanicki, A., *Talanta*, 1967, **14**, 1371 (*use*)
Wahlberg, A., *Acta Crystallogr., Sect. B*, 1978, **34**, 3822 (*cryst struct*)
Van Gaal, H.L.M. *et al*, *Inorg. Chem.*, 1979, **18**, 3251 (*cmr*)
Cavell, K.J. *et al*, *J. Inorg. Nucl. Chem.*, 1979, **41**, 1277 (*Et_2NH salt, synth, ir*)
Honjo, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1753.
Braun, T. *et al*, *Anal. Chim. Acta*, 1981, **131**, 311 (*detn, Hg*)
Snell, F.D., *Photometric and Fluorimetric Methods of Analysis, Non-Metals*, John Wiley, New York, 1981, 533.
Renoux, G. *et al*, *Dev. Immunol.*, 1982, **17**, 575 (*pharmacol*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 395 (*use*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1053-1054 (*oxide*)
Mereiter, K. *et al*, *Inorg. Chim. Acta*, 1985, **98**, 71 (*struct*)
Renoux, G., *Int. Encycl. Pharmacol. Ther.*, 1985, **115**, 393 (*rev*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 153.
Watanabe, Y. *et al*, *J. Org. Chem.*, 1988, **53**, 2119 (*oxide*)
Lobínski, R. *et al*, *Anal. Chem.*, 1992, **64**, 159 (*organotin*)
Lobínski, R. *et al*, *Anal. Chim. Acta*, 1992, **262**, 285 (*detn, organolead*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DJC800, DJD000.

Diethylenetriamine D-00345

N-(*2-Aminoethyl*)-*1,2-ethanediamine*, *9CI. Di(2-aminoethyl) amine. 2,2'-Diaminodiethylamine. Bis(2-aminoethyl)amine*

[111-40-0]

$HN(CH_2CH_2NH_2)_2$

$C_4H_{13}N_3$ M 103.167
Used in manuf. of chelating agents, wet strength resins, epoxy resin curing agents, surfactants and corrosion inhibitors. Used in photometric detn. of Ni. Yellow viscous liq. Misc. H_2O, EtOH. Mp −39°. Bp 208°.

▷ Irritant, causes burns TLV 4. IE1225000.

Tripicrate: Prisms (H_2O). Mp 210-212° dec.

Tri-Ac:
$C_{10}H_{19}N_3O_3$ M 229.278
Felted needles (EtOH). Mp 220°.

N,N',N''-*Tris(4-methylbenzenesulfonyl):* [87555-93-9].
Cryst. (DMF aq.). Mp 176-177°.

Copolymer with epichlorohydrin: [50925-79-6]. ***Colestipol, INN.*** *Colestid*
Antihyperlipoproteinaemic.

Copolymer with epichlorohydrin; B,HCl: [37296-80-3]. *Colestipol hydrochloride, USAN. U 26597A*
Pale-yellow granules.

Ger. Pat., 2 053 585; *CA*, **75**, 49997 (*synth, Colestipol*)
Hofmann, A.W., *Proc. R. Soc. London*, 1862, **11**, 420.
Fargher, R.G., *J. Chem. Soc.*, 1920, **117**, 1351 (*synth*)
Mann, F.G., *J. Chem. Soc.*, 1934, 461.
v. Braun, J., *Ber.*, 1937, **70**, 979 (*synth*)
Whealy, R.D. *et al*, *Anal. Chem.*, 1956, **28**, 1897 (*use*)
Alhadeff, M. *et al*, *Med. Actual.*, 1978, **14**, 65 (*rev, Colestipol*)
Heel, R.C. *et al*, *Drugs*, 1980, **19**, 161 (*rev, Colestipol*)
Denney, D.B. *et al*, *J. Am. Chem. Soc.*, 1980, **102**, 7072.
Newkome, G.R. *et al*, *J. Org. Chem.*, 1983, **48**, 4848 (*pmr, ms*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 288.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DJG600.

Diethyl ether D-00346

1,1'-Oxybisethane, 9CI. Ether. Ethyl ether. Diethyl oxide

[60-29-7]

EtOEt

$C_4H_{10}O$ M 74.122

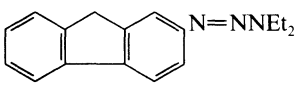
Detected in hop oil (*Humulus lupulus*). Widely used solvent dissolves P, S, Br_2, I. Formerly used as anaesthetic. Often used in extraction separation. Volatile liq. with characteristic odour. Sol. H_2SO_4, spar. sol. H_2O, misc. most org. solvs. d_4^{20} 0.714, d^{25} 0.712. Mp −116.2°. Bp 34.6°. n_D^{25} 1.3542.

▷ Narcotic, TLV 1200. Extremely flammable flash p −45°. Forms explosive peroxides; powerful oxidants produce explosions. KI5775000.

Krafft, F., *Ber.*, 1893, **26**, 2831 (*synth, props*)
Bruhl, J.W., *Ber.*, 1897, **30**, 158 (*props*)
Buttery, R.G. *et al*, *Nature (London)*, 1963, **200**, 435 (*isol*)
André, D. *et al*, *Acta Crystallogr., Sect. B*, 1972, **28**, 2389 (*cryst struct*)
Price, H.L., *Pharmacol. Basis Ther., 5th Ed. 1975*, 1975, 89 (*pharmacol*)
Sandell, E.B. *et al*, *Photometric Determination of Traces of Metals*, Wiley, New York, 1978 (*use*)
Keeley, D.E., *Kirk-Othmer Encycl. Chem. Technol.*, 3rd Ed., Wiley, N.Y., 1978-1984, **9**, 381 (*rev*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 3107.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 289.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EJU000.

3,3-Diethyl-1-(9*H*-fluoren-2-yl)-1-triazene, 9CI D-00347

[123852-79-9]



$C_{17}H_{19}N_3$ M 265.357

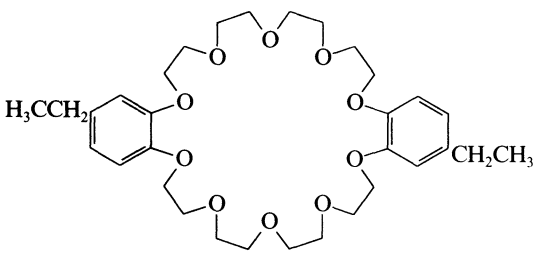
Used for photometric detn. of phenols.

Kupletskaya, N.B. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 2070 (*use*)

2,19-Diethyl-6,7,9,10,12,13,15,16,23,24,26,27,29,30,32,33-hexadecahydrodibenzo[*b,q*][1,4,7,10,13,16,19,22,25,28]decaoxacyclotriacontin, 9CI D-00348

2,19-Diethyldibenzo-30-crown-10

[90043-70-2]



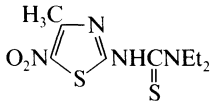
$C_{32}H_{48}O_{10}$ M 592.725

Used for detn. of K (membrane ion-selective electrode). Cryst. Sol. $CHCl_3$.

Norov, S.K. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 222; 1987, **42**, 429 (*synth, use*)

N,N-Diethyl-*N'*-(4-methyl-5-nitro-2-thiazolyl)thiourea, 9CI D-00349

[86107-98-4]



$C_9H_{14}N_4O_2S_2$ M 274.367

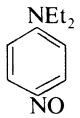
Used as 1m*M* soln. in MeOH or 2m*M* soln. in Me_2CO for extraction-photometric detn. of Pd (λ_{max} 415 nm, ε 42800, $CHCl_3$). Orange cryst. (EtOH aq.). Sol. MeOH, EtOH, $CHCl_3$, Me_2CO; spar. sol. H_2O. Mp 194°.

Yoda, R. *et al*, *Mikrochim. Acta*, 1983, **2**, 75 (*synth, detn, Pd*)

N,N-Diethyl-4-nitrosoaniline D-00350

N,N-*Diethyl-4-nitrosobenzenamine, 9CI.* p-*Nitrosodiethylaniline*

[120-22-9]



$C_{10}H_{14}N_2O$ M 178.233

Used as 0.5% soln. in EtOH for photometric detn. of Pd, Pt. Green prisms (Et_2O); green leaflets (Me_2CO). Sol. EtOH, Et_2O; sl. sol. H_2O. d^{15} 1.24. Mp 87-88°, Mp 82-84°. pK_a 4.25.

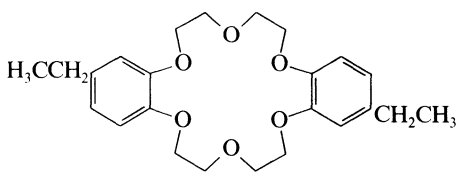
B,HCl: Mp 128-129° dec.

Overholser, L.H. *et al*, *J. Am. Chem. Soc.*, 1941, **63**, 3224 (*synth*)
Hodgson, H. *et al*, *J. Chem. Soc.*, 1941, 470 (*synth*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **3** (*use*)
Schroll, G. *et al*, *Ark. Kemi*, 1967, **28**, 413; *CA*, **69**, 26600 (*ms*)
Yasuda, K. *et al*, *CA*, 1968, **69**, 64478 (*tlc*)
Marczenko, Z. *et al*, *Chem. Anal. (Warsaw)*, 1970, **15**, 1233 (*detn, Pd, Pt*)
Talberg, H.J., *Acta Chem. Scand., Ser. A*, 1977, **31**, 743 (*cryst struct*)
Carreira, L.A. *et al*, *J. Chem. Phys.*, 1977, **66**, 4360 (*raman*)
Shapiro, B.L. *et al*, *J. Phys. Chem. Ref. Data*, 1977, **6**, 919 (*nmr*)

2,13-Diethyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecin, 9CI D-00351

2,13-Diethyldibenzo-18-crown-6

[68726-12-5]



$C_{24}H_{32}O_6$ M 416.513

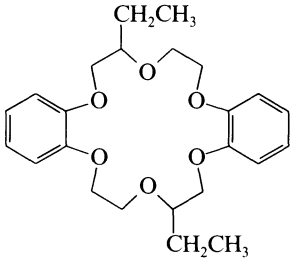
Used for detn. of K (membrane ion-selective electrode). Cryst. Sol. $CHCl_3$.

Norov, S.K. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 613; 1987, **42**, 429 (*synth, use*)

7,18-Diethyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecin, 9CI D-00352

7,18-Diethyldibenzo-18-crown-6

[87834-22-8]



$C_{24}H_{32}O_6$ M 416.513

Used as 0.2m*M* $CHCl_3$ soln. for extraction separation of Li, Na, K (in the presence of picrate, pH 8-9). Cryst. Sol. $CHCl_3$.

Mamedova, Yu.G. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 1578 (*synth, use*)

Diethylphosphoramidic acid, 9CI, 8CI D-00353

Phosphoric acid diethylamide

$Et_2NP(O)(OH)_2$

$C_4H_{12}NO_3P$ M 153.117

Di-Me ester: [65659-19-0]. *Dimethyl diethylphosphoramidate*
$C_6H_{16}NO_3P$ M 181.171
Liq. d_4^{20} 1.07. Bp_8 82.5-83°. n_D^{20} 1.4265.

Di-Et ester: see *Diethyl diethylphosphoramidate, D-00340*

Diisopropyl ester: [74124-48-4]. *Diisopropyl diethylphosphoramidate. Bis(1-methylethyl) diethylphosphoramidate*
$C_{10}H_{24}NO_3P$ M 237.278
Liq. Bp_{20} 115°. n_D^{20} 1.4205.

Dibutyl ester: [6626-39-7]. *Dibutyl diethylphosphoramidate*
$C_{12}H_{28}NO_3P$ M 265.332
Liq. d_4^{20} 0.97. Bp_2 124-126°. n_D^{20} 1.4380.

Di-Ph ester: [6214-04-6]. *Diphenyl diethylphosphoramidate*
$C_{16}H_{20}NO_3P$ M 305.313
Cryst. (C_6H_6, pet. ether or EtOH aq.). Mp 61-62°.

Dibenzyl ester: [3881-20-7]. *Dibenzyl diethylphosphoramidate. Bis(phenylmethyl) diethylphosphoramidate*
$C_{18}H_{24}NO_3P$ M 333.366
Liq. n_D^{20} 1.5317.

Diheptyl ester: [26084-40-2].
$C_{18}H_{40}NO_3P$ M 349.493
Used as a 0.02*M* soln. in C_6H_6 for extraction-separation of Th, Zr. Oil. Bp_5 165°. n_D^{20} 1.4450.

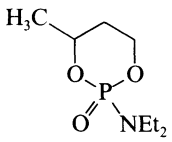
Cyclic 1-methyltrimethylene ester: see *Diethylphosphoramidic acid cyclic 1-methyltrimethylene ester, D-00354*

Kamai, G. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 3093), 1957, **27**, 3064 (*esters*)
Cheymol, J. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1959, **249**, 1240 (*esters*)
Stock, J.A. *et al*, *J. Chem. Soc. C*, 1966, 637 (*diphenyl ester*)
Alimarin, I.P. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1386 (*detn, Zr*)
Abramov, V.S. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 2596), 1969, **39**, 2658 (*dibutyl ester*)
Alimarin, I.P. *et al*, *CA*, 1975, **83**, 33456v (*detn, Th, Zr*)
Zwierzak, A., *Synthesis*, 1975, 507 (*dibenzyl ester*)

Diethylphosphoramidic acid cyclic 1-methyltrimethylene ester, 8CI D-00354

N,N-*Diethyl-4-methyl-1,3,2-dioxaphosphorinan-2-amine 2-oxide, 9CI*

[20726-64-1]



$C_8H_{18}NO_3P$ M 207.209

Used as a 0.02*M* soln. in C_6H_6 for extraction-separation of Zr. Oily liq. Bp_7 142°. n_D^{20} 1.4548.

Alimarin, I.P. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1386 (*use*)

Diethyl phosphorochloridate, 9CI, 8CI D-00355

Diethyl phosphoryl chloride. Diethyl chlorophosphate. Diethyl chlorophosphonate

[814-49-3]

$(EtO)_2P(O)Cl$

$C_4H_{10}ClO_3P$ M 172.548

Phosphorylating agent. Assists reduction of phenols and enols. Reagent for conversion of phenols to amines. Derivatisation reagent for gc anal. of phenols. Liq. with irritating, unpleasant odour. d_4^{20} 1.21. Bp_{15} 88-89°, $Bp_{0.4}$ 39°. Fumes in moist air.

▷ Highly toxic. TD1400000.

Inorg. Synth., 1953, **4**, 78 (*synth, bibl*)
Bliznyaks, N.K. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1279), 1967, **37**, 1353 (*synth*)
Williamson, M.P. *et al*, *J. Phys. Chem.*, 1968, **72**, 4043 (*pmr, bibl*)
Potenza, J.A. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 4356 (*epr, nmr*)
Sosnovsky, G. *et al*, *J. Org. Chem.*, 1969, **34**, 968 (*synth*)
Ireland, R. *et al*, *Tetrahedron Lett.*, 1969, 2145 (*use*)
Pritchard, J.G., *Org. Mass Spectrom.*, 1970, **3**, 163 (*ms*)
Heenan, M.P. *et al*, *J. Chromatogr. Sci.*, 1974, **12**, 89 (*use*)
Zverev, V.V. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 74), 1979, **28**, 84 (*pe*)
Chattopadhyay, S. *et al*, *J. Electron Spectrosc. Relat. Phenom.*, 1981, **24**, 27 (*pe*)
Gloede, J., *Z. Anorg. Allg. Chem.*, 1982, **484**, 231 (*synth*)
Araki, S. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1984, 969 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DIY000.

O,O-Diethyl phosphorodithioate, 9CI, 8CI D-00356

O,O-*Diethyl dithiophosphate.* O,O-*Diethyl dithiophosphoric acid. Diethoxo(hydrogensulfido)thiophosphorus*(V)

[298-06-6]

$(EtO)_2P(S)SH$

$C_4H_{11}O_2PS_2$ M 186.235

Extractant for As(*III*) or Sb(*III*) in hexane from acid soln.; and also Bi(*III*) and Sb(*III*) in EtOAc/1*M* $HClO_4$ in the presence of Sn(*II*), Cu(*II*), Pb(*II*), Cd(*II*), Zn(*II*) and Tl(*I*). Used as 1% aq. soln. for extraction-photometric detn. of Re; potentiometric detn. of Cu(*II*). Liq. Sol. H_2O. d_4^{20} 1.17. Bp_9 92-94°, Bp_1 60°. pK_{a1} 2.84 (EtOH), pK_{a1} 1.62 (7% EtOH aq., 20°). n_D^{20} 1.5120, 1.5070.

▷ TD7350000.

Na salt: [3338-24-7]. *Hostaflot*
Used in flotation of U and Cd ores.
▷ TD8550000.

K salt: [3454-66-8].
Cryst. ($EtOH/Et_2O$). Mp 152-153°, Mp 195°.

NH_4 salt: [1068-22-0].
Employed for detn. of Ni in presence of other metals. Cryst. Mp 164-166°.
▷ BP8145000.

Et_2NH_2 salt: [39857-88-0].
Cryst. (C_6H_6/pet. ether). Mp 83-85°.

Morpholinium salt: Solid. Mp 79-81°.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1956, **11**, 523 (*detn, Cu*)
Kabachnik, M.I. *et al*, *Tetrahedron*, 1960, **9**, 10 (*synth*)
Zemlyanskii, N.I. *et al*, *Zh. Obshch. Khim.*, 1960, **30**, 4056; 1972, **42**, 54; *J. Gen. Chem. USSR* (*Engl. Transl.*), 1960, **30**, 4018; 1972, **42**, 50 (*raman, synth*)
Lazarev, A.I. *et al*, *Zh. Anal. Khim.*, 1961, **16**, 243 (*detn, Re*)
Nyquist, R.A., *Spectrochim. Acta, Part A*, 1969, **25**, 47 (*ir*)
Jowitt, R.N. *et al*, *J. Chem. Soc. A*, 1970, 1702 (*ir, pmr, complexes*)
Khaskin, B.A. *et al*, *Zh. Obshch. Khim.*, 1973, **43**, 1916; 1974, **44**, 95; *J. Gen. Chem. USSR* (*Engl. Transl.*), 1973, **43**, 1901; 1974, **44**, 93 (*salts*)
Olah, G.A. *et al*, *J. Org. Chem.*, 1975, **40**, 2582 (*props, P-31 nmr*)
Lefferts, J.L. *et al*, *Inorg. Chem.*, 1980, **19**, 1662 (*synth, complexes*)
Chattopadhyay, S. *et al*, *J. Electron Spectrosc. Relat. Phenom.*, 1981, **24**, 27 (*pe*)
Toropova, V.F. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 1238; *J. Anal. Chem. USSR* (*Engl. Transl.*), 1984, **39**, 988 (*props, use*)
Hayashi, K. *et al*, *Anal. Sci.*, 1986, **2**, 347 (*props, use*)
Fillippova, E.A. *et al*, *Zh. Prikl. Spektrosk.*, 1988, **49**, 454; *J. Appl. Spectrosc.* (*Engl. Transl.*), 1988, **49**, 952 (*ir, raman*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DJW875, PHG500, PHG750.

O,O-Diethylphosphoroselenoic acid, 9CI, 8CI D-00357

O,O-*Diethyl hydrogen phosphoroselenoate*

$$(EtO)_2P(O)SeH \rightleftharpoons (EtO)_2P(Se)OH$$

$C_4H_{11}O_3PSe$ M 217.063
Exists mainly as the OH-tautomer. Used for deoxygenation of sulphoxides. Free acid known in soln. only.

Na salt: [7452-29-1].
$C_4H_{10}NaO_3PSe$ M 239.045
Used for extraction of metals, esp. Pd and Cu from acid solns. Needles. Mp 146°.

Foss, O. *et al*, *Acta Chem. Scand.*, 1947, **1**, 8 (*synth*)
Michalski, J. *et al*, *Bull. Acad. Pol. Sci., Ser. Sci. Chim.*, 1966, **14**, 303; *CA*, **65**, 10450d (*synth*)
Stec, W.J. *et al*, *Phosphorus Relat. Group V Elem.*, 1972, **2**, 97 (*tautom*)
Clive, D.J. *et al*, *J. Chem. Soc., Chem. Commun.*, 1977, 657 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 169.

Diethyl sulfate D-00358

Sulfuric acid diethyl ester, 9CI. Ethyl sulfate

[64-67-5]

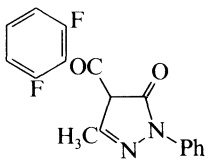
$$EtOSO_2OEt$$

$C_4H_{10}O_4S$ M 154.187
Ethylating agent. Reagent for derivatising phenols and carboxylic acids for gc anal. Oily liq. Insol. H_2O. d_0^{18} 1.180. Mp −24.5°. Bp 208° sl. dec., Bp_{15} 96°. n_D^{18} 1.4010.
▷ Highly toxic by inhalation and skin absorption. Exp. carcinogen. WS7875000.

Suter, C.M., *The Organic Chemistry of Sulphur*, Wiley, N.Y., 1944 (*rev*)
Kraft, M.Y. *et al*, *CA*, 1963, **58**, 12407 (*synth*)
Gilbert, E.E., *Sulfonation and Related Reactions*, Interscience, N.Y., 1965 (*rev*)
Ladhabhoy, M.E., *Indian J. Chem.*, 1970, **5**, 24 (*rev*)
Tanaka, M. *et al*, *J. Chromatogr.*, 1982, **234**, 373 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 291.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DKB110.

4-(2,6-Difluorobenzoyl)-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00359

[132915-90-3]



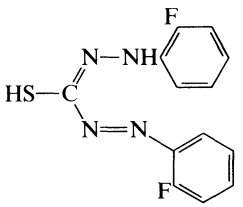
$C_{17}H_{12}F_2N_2O_2$ M 314.291
Used as 0.01*M* C_6H_6 soln. for extraction separation of Lu(*III*) (pH 1-2). Cryst. (dioxan aq.). Sol. C_6H_6, 1,2-dichloroethane, dioxan. Mp 172°.

Mukai, H. *et al*, *Anal. Chim. Acta*, 1990, **239**, 277 (*synth, use*)

2,2′-Difluorodithizone D-00360

1,5-Bis(2-fluorophenyl)-3-mercaptoformazan. (2-Fluorophenyl)diazenecarbothioic acid 2-(2-fluorophenyl) hydrazide

[64712-91-0]



$C_{13}H_{10}F_2N_4S$ M 292.312
Used as $CHCl_3$ or CCl_4 soln. for extraction separation of Cu(*II*), Zn, Ni, Co. Cryst. Sol. $CHCl_3$, CCl_4, C_6H_6. Mp 120°.

Kiwan, A.M. *et al*, *Anal. Chim. Acta*, 1977, **88**, 177 (*synth, use*)

4,4′-Difluorodithizone D-00361

[(p-*Fluorophenyl*)*azo*]*thioformic acid 2-*(p-*fluorophenyl*) *hydrazide. Di-*p-*fluorophenylthiocarbazone*

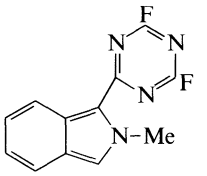
[2805-80-3]

$C_{13}H_{10}F_2N_4S$ M 292.312
Used as a 0.01% soln. in $CHCl_3$ or CCl_4 for extraction-photometric detn. of Co, Ni, Zn ($CHCl_3$). Dark green cryst. powder. Sol. $CHCl_3$, CCl_4, EtOH, alkalis; insol. H_2O. Mp 149-150°. pK_{a1} 4.99 (25°, μ = 0.1).

Pupko, L.S. *et al*, *Zh. Org. Khim.*, 1965, **1**, 735 (*use*)
Salihy, A.R. *et al*, *Talanta*, 1970, **17**, 182 (*use*)

1-(4,6-Difluoro-1,3,5-triazin-2-yl)-2-methyl-2*H*-isoindole, 9CI D-00362

[122855-66-7]



$C_{12}H_8F_2N_4$ M 246.219

Fluorescent derivatisation reagent for corticosteroids. Mp 152-154°.

Fujino, H. *et al*, *Yakugaku Zasshi*, 1989, **109**, 195 (*synth*, *use*)

1,5-Di-2-furanyl-1,4-pentadien-3-one, 9CI D-00363

1,5-Difuryl-1,4-pentadien-3-one. Difurfurylideneacetone

[886-77-1]

$C_{13}H_{10}O_3$ M 214.220

Used as 1m*M* soln. in dry AcOH as an acid-base indicator. Yellow prisms (ligroin). Sol. EtOH, Et_2O, $CHCl_3$, AcOH, mod. sol. pet. ether. Mp 60-61°. Bp_4 181-184°. pK_a 2.26. Dec. on standing in air.

Phenylhydrazone: Mp 121-122°. Fluor. in soln.

2,4-Dinitrophenylhydrazone: Mp 175°.

Kasiwagi, I., *Bull. Chem. Soc. Jpn.*, 1926, **1**, 90; *CA*, **20**, 3005.
Maxim, N. *et al*, *CA*, 1935, **29**, 4355.
Kamenskii, I.V. *et al*, *CA*, 1961, **55**, 11907d.
deJongh, H.A.P. *et al*, *Tetrahedron*, 1965, **21**, 515.
Isacescu, D.A. *et al*, *CA*, 1968, **68**, 49378x (*purifn*)
Sarbar, M. *et al*, *Talanta*, 1986, **33**, 907 (*synth*, *use*, *ind*)

Di(2-furyl)ethanedione, 9CI D-00364

Furil, 8CI. Di-2-furylglyoxal. α,α-Furil. Di-α-furoyl. Di-α-furyl diketone

[492-94-4]

$C_{10}H_6O_4$ M 190.155

Yellow needles (C_6H_6 or EtOH). Mp 165-166°.

▷ LV0580000.

Monoxime: [4339-69-9].

$C_{10}H_7NO_4$ M 205.170

Used as 10% soln. in Py for photometric detn. of Co, Ru. Yellow cryst. Mp 97-98°.

▷ LV0592000.

Dioxime: [522-27-0]. *α-Furildioxime. Neonickelone*

$C_{10}H_8N_2O_4$ M 220.184

Used as 0.5% EtOH soln. for extraction-photometric detn. of Ni (λ_{max} 435 nm, ε 20000, $CHCl_3$), Pd (ε 23000, $CHCl_3$), Re (λ_{max} 530 nm, ε 41000, Me_2CO aq.), Co. Cryst. + $1H_2O$ (H_2O). Sol. EtOH, Et_2O, hot H_2O. Mp 84-85° (hydrate), Mp 166-168° (anhyd.). Forms metal complexes.

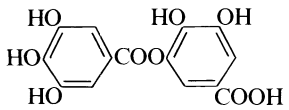
▷ LV0590000.

Corson, B.B. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 2822.
Hartman, W.W. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 1228.
Reed, S.A. *et al*, *J. Org. Chem.*, 1947, **12**, 792 (*deriv*)
Gahler, A.R. *et al*, *Anal. Chem.*, 1951, **23**, 500 (*dioxime*, *detn*, *Ni*)
Martinek, J. *et al*, *Chem. Listy*, 1956, **50**, 1450 (*monoxime*, *synth*, *detn*, *Co*)
Fryer, F.A. *et al*, *Analyst (London)*, 1963, **88**, 188, 191 (*dioxime*, *detn*, *Re*)
Sterk, H., *Monatsh. Chem.*, 1968, **99**, 999.
Bodart, D.E. *et al*, *Fresenius' Z. Anal. Chem.*, 1969, **247**, 32 (*dioxime*, *detn*, *Ni*)
Jones, J.L. *et al*, *Anal. Chim. Acta*, 1970, **51**, 130 (*dioxime*, *detn*, *Co*)
Vlačil, F. *et al*, *Collect. Czech. Chem. Commun.*, 1975, **40**, 539; 1976, **41**, 3749 (*monoxime*, *detn*, *Co*)
Pennanen, S.I., *Heterocycles*, 1977, **6**, 701 (*synth*, *spectra*)
Savostina, V.M. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 607 (*monoxime*, *detn*, *Ru*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, C Press, Boca Raton, 1982 (*dioxime*, *use*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 396, 481 (*use*, *dioxime*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIb: Individual Metals. Magnesium to Zinc*, John Wiley, New York, 4th Ed., 1989, 288.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FPZ000, FQB000.

Digallic acid D-00365

3,4-Dihydroxy-5-[(3,4,5-trihydroxybenzoyl)oxy]benzoic acid, 9CI

[536-08-3]



$C_{14}H_{10}O_9$ M 322.228

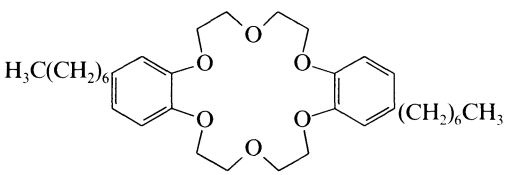
Isol. from *Acacia farnesia* and *A. arabica*, *Metasequoia glyptostroboides* and *Castanopsis* spp. Used to ppt. W(*VI*), Nb, Ta. Hydrated cryst. (EtOH aq.), cryst. (Me_2CO aq.). Mp 261°.

Schoeller, R., *Analyst (London)*, 1927, **52**, 702 (*use*)
Crabtree, P.W. *et al*, *J. Chem. Soc.*, 1965, 6888 (*synth*)
Sato, A. *et al*, *CA*, 1968, **68**, 41228c (*isol*)
Arthur, H.R. *et al*, *Aust. J. Chem.*, 1969, **22**, 597 (*isol*)
El Sissi, H.I. *et al*, *Phytochemistry*, 1973, **12**, 2303 (*isol*)

2,13-Diheptyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b*,*k*][1,4,7,10,13,16]hexaoxacyclooctadecin, 9CI D-00366

2,13-Diheptyldibenzo-18-crown-6

[68725-71-3]



$C_{34}H_{52}O_6$ M 556.781

Used for detn. of K (membrane ion-selective electrode). Cryst. Sol. $CHCl_3$.

Norov, S.K. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 613 (*synth*, *detn*, *K*)

Dihexylamine, 8CI D-00367

N-*Hexyl-1-hexanamine*, *9CI*

[143-16-8]

$C_{12}H_{27}N$ M 185.352

Used for extraction sepn. of Be (from $SCN^{\ominus}$) and Nb (from HCl). Cryst. d 0.795. Mp 193-195°. Bp_{24} 124-130°, Bp_1 75°.

▷ Highly toxic by skin absorption. LD_{50} 10 mg/kg (mouse, i.v.). IH6600000.

B,HCl: Mp 268-270°.

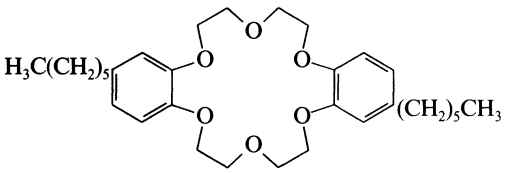
3-Nitrobenzenesulfonyl:
$C_{18}H_{30}N_2O_4S$ M 370.512
Mp 119-120°.

King, H. *et al, J. Chem. Soc.*, 1940, 1314 (*synth*)
Closson, R.D. *et al, J. Org. Chem.*, 1957, **22**, 646 (*synth*)
Novoselova, A.V. *et al, Vestn. Mosk. Univ., Ser. 2: Khim.*, 1969, **24**, 44; *CA*, **71**, 85108 (*use, Be*)
Ivanov, N.A. *et al, Izv. Akad. Nauk SSSR, Ser. Khim.*, 1970, 2664; *CA*, **74**, 103692 (*use, Nb*)
de Angelis, F. *et al, Synthesis*, 1979, 70 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DKO600.

2,13-Dihexyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecin, 9CI D-00368

2,13-Dihexyldibenzo-18-crown-6

[68725-70-2]



$C_{32}H_{48}O_6$ M 528.728

Used for detn. of K (membrane ion-selective electrode). Cryst. Sol. $CHCl_3$.

Norov, S.K. *et al, Zh. Anal. Khim.*, 1984, **39**, 613; 1987, **42**, 429 (*synth, detn, K*)

O,O-Dihexyl phosphorodithioate, 9CI, 8CI D-00369

O,O-*Dihexyl hydrogen dithiophosphate.* O,O-*Dihexyl dithiophosphoric acid*

[78-64-8]

$[H_3C(CH_2)_5O]_2P(S)SH$

$C_{12}H_{27}O_2PS_2$ M 298.450

Zn and Pb complexes used as lubricant additives. Used as a soln. in EtOH, $CHCl_3$, C_6H_6 for extraction of Cd, In, Ni, Pb, Tl, Zn, Zr. Sol. Me_2CO, EtOH, $CHCl_3$, C_6H_6.

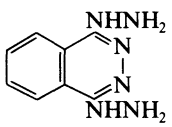
K salt: [3287-87-4].
Solid. Mp 154-155.5°.

Busev, A.I. *et al, Tr. Kom. Anal. Khim., Akad. Nauk SSSR*, 1960, **11**, 172 (*use*)
Bolotova, G.L. *et al, CA*, 1965, **63**, 6897.
Toropova, V.F. *et al, Talanta*, 1987, **34**, 211 (*use*)
Sasaki, Y. *et al, Bunseki Kagaku (Jpn. Anal.)*, 1988, **38**, 707 (*use*)

Dihydralazine, BAN, INN D-00370

2,3-Dihydro-1,4-phthalazinedione dihydrazone, 9CI. 1,4-Dihydrazinophthalazine, 8CI. Dihydrallazine

[484-23-1]



$C_8H_{10}N_6$ M 190.207

Antihypertensive agent. Orange cryst. (H_2O). Mp 180° (dec.).

▷ TH8849900.

B,H_2SO_4: [7327-87-9]. *Nepresol. Other proprietary names* Used for photometric detn. of Fe(*III*) (λ_{max} 546 nm); reducing agent used in potentiometric detn. in the presence of $Ce^{4\oplus}$, reducing agent for picric and phosphomolybdic acids. Needles. Cryst. Mp 233° dec.

▷ TH8880000.

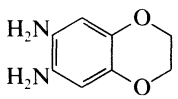
[69467-96-5]

Druey, J. *et al, Helv. Chim. Acta*, 1951, **34**, 195 (*synth*)
Ruggieri, R., *Anal. Chim. Acta*, 1957, **16**, 241 (*detn, Fe*)
Reynolds, G.A. *et al, J. Org. Chem.*, 1959, **24**, 1205 (*synth*)
Grecu, I. *et al, Farmacia (Bucharest)*, 1967, **15**, 193 (*ir*)
van Zwieten, P.A., *Arzneim.-Forsch.*, 1968, **18**, 79 (*pharmacol*)
Curea, E. *et al, CA*, 1972, **77**, 39345f (*reducing agent*)
Modras, Z., *Chem. Anal. (Warsaw)*, 1973, **17**, 1349 (*stability*)
Stadnicka, K. *et al, Acta Crystallogr., Sect. B*, 1979, **35**, 770 (*cryst struct*)
Herrnstadt, C. *et al, J. Chem. Soc., Perkin Trans. 2*, 1979, 735 (*cryst struct*)
Gao, S. *et al, CA*, 1984, **100**, 156556 (*synth*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 925.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DKQ600, OJD300.

2,3-Dihydro-1,4-benzodioxin-6,7-diamine, 9CI D-00371

1,2-Diamino-4,5-ethylenedioxybenzene

[81927-47-1]



$C_8H_{10}N_2O_2$ M 166.179

Fluorogenic reagent for keto acids and for aromatic aldehydes.

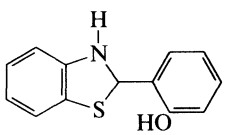
B,2HCl: [73448-02-9].
Needles. Mp 215-218° dec.

Nakamura, M. *et al, Chem. Pharm. Bull.*, 1987, **35**, 687 (*synth, use*)
Chao, W.F. *et al, Anal. Chim. Acta*, 1988, **215**, 289 (*use*)

2-(2,3-Dihydro-2-benzothiazolyl)phenol, 9CI D-00372

2-(o-Hydroxyphenyl)benzothiazoline

[7361-94-6]



$C_{13}H_{11}NOS$ M 229.302

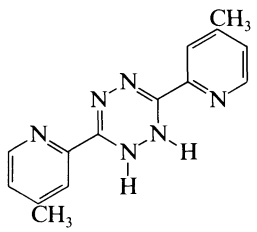
Used as 0.2% soln. in EtOH for photometric detn. of Pb, Sn (ε 17000). Cryst. EtOH, $CHCl_3$. Mp 132-133°.

Uhlemann, E. *et al, Anal. Chim. Acta*, 1973, **65**, 319 (*synth, use, detn, Pb, Sn*)

1,2-Dihydro-3,6-bis(4-methyl-2-pyridinyl)-1,2,4,5-tetrazine, 9CI D-00373

3,6-Bis(4-methyl-2-pyridyl)-1,2-dihydro-1,2,4,5-tetrazine

[18818-52-5]



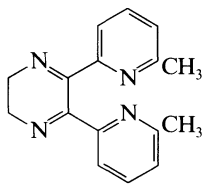
$C_{14}H_{14}N_6$ M 266.305

Used as a 5m*M* soln. in aq. EtOH to give colour reactions with Co, Cu(*I*), Fe(*II*). Cryst. (DMF). Sol. common org. solvs. Mp 210-211°.

Case, F.H., *J. Heterocycl. Chem.*, 1968, **5**, 431 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

2,3-Dihydro-5,6-bis(6-methyl-2-pyridyl) pyrazine, 8CI D-00374

[25005-99-6]



$C_{16}H_{16}N_4$ M 264.329

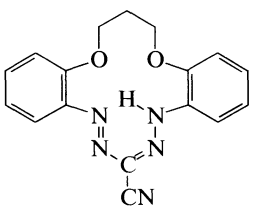
Used as a 5m*M* soln. in HCl aq. to give colour reaction with Fe(*II*). Cream cryst. (hexane). Sol. EtOH, C_6H_6; sl. sol. dil. acids. Mp 109°.

Stephen, W., *Talanta*, 1969, **16**, 939 (*detn, Fe*)

16,17-Dihydro-5*H*,15*H*-dibenzo[*b*,*i*][1,11,4,5,7,8]dioxatetraazacyclotetradecine-7-carbonitrile, 9CI D-00375

*16,17-Dihydro-7-cyano-5*H*,15*H*-dibenzo*[b,i]-*1,11,4,5,7,8-dioxatetraazacyclotetradecine. TMC-crownformazan*

[71997-58-5]



$C_{17}H_{15}N_5O_2$ M 321.338

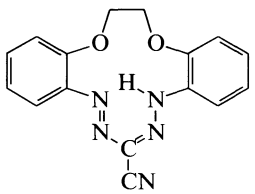
Used as 2m*M* soln. in Me_2CO as a selective chelating reagent for alkali metals; photometric detn. of Li; ionophore in ion selective electrode for Cs. Dark red cryst. Sol. C_6H_6, $CHCl_3$, Py, DMF; spar. sol. EtOH, Me_2CO. Mp 250-251°.

Dziomko, V.M. *et al*, *Zh. Obshch. Khim.*, 1981, **51**, 2324 (*synth, use*)
Attiyat, A.S. *et al*, *Microchem. J.*, 1988, **37**, 114, 122 (*synth, detn, Li, Cs*)

15,16-Dihydro-5*H*-dibenzo[*b*,*i*][1,11,4,5,7,8]dioxatetraazacyclotridecine-7-carbonitrile, 9CI D-00376

*15,16-Dihydro-7-cyano-5*H*-dibenzo*[e,l]-*1,4,7,8,10,11-dioxatetraazacyclotridecine*

[80473-45-6]



$C_{16}H_{13}N_5O_2$ M 307.311

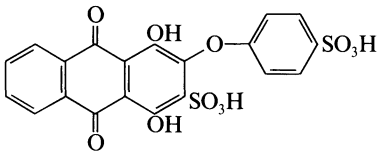
Used as Me_2CO soln. as a selective chelating reagent for alkali metals. Dark red cryst. Sol. C_6H_6, $CHCl_3$, DMF; spar. sol. EtOH. Mp 243-244°.

Dziomko, V.M. *et al*, *Zh. Obshch. Khim.*, 1981, **51**, 2324 (*synth, use*)

9,10-Dihydro-1,4-dihydroxy-9,10-dioxo-3-(4-sulfophenoxy)-2-anthracenesulfonic acid, 9CI D-00377

2-Phenoxyquinizarin-3,4′-disulfonic acid. C.I. 58225. Helio fast rubine FF. Alizarine fast pink B. C.I. Pigment violet 20. Pyrolux maroon lake 10411

[6486-92-6]



$C_{20}H_{12}O_{11}S_2$ M 492.440

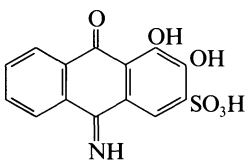
Used as metallochromic indicator in titrimetric detn. of Th. Cryst.

Owens, E.G. *et al*, *Anal. Chim. Acta*, 1960, **23**, 321 (*detn, Th*)

9,10-Dihydro-3,4-dihydroxy-10-imino-9-oxo-2-anthracenesulfonic acid, 9CI D-00378

3-Sulfoalizarin-9-imine

[74475-23-3]



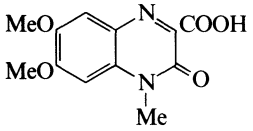
$C_{14}H_9NO_6S$ M 319.294

Used as 0.1% aq. soln. to give colour reactions with Al, Be, Cu, V, Th, Ga. Cryst. (Me_2CO). Sol. H_2O, Me_2CO. pK_{a2} 5.74; pK_{a3} 9.05.

Blanco, M. *et al*, *Talanta*, 1980, **27**, 371 (*use*)

3,4-Dihydro-6,7-dimethoxy-4-methyl-3-oxo-2-quinoxalinecarboxylic acid D-00379

[1222-43-1]



$C_{12}H_{12}N_2O_5$ M 264.237
Yellow needles (dioxan aq.). Mp 222°.

Me ester: [104077-14-7].
$C_{13}H_{14}N_2O_5$ M 278.264
Yellow needles. Mp 164°.

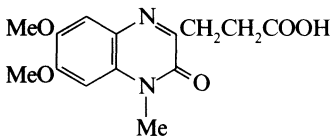
Azide: [110926-94-8]. *3,4-Dihydro-6,7-dimethoxy-4-methyl-3-oxo-2-quinoxalinecarbonyl azide, 9CI*
$C_{12}H_{11}N_5O_4$ M 289.250
Fluorescence hplc derivatisation reagent for alcohols. Cryst. (C_6H_6/hexane). Mp 272°.

Chloride: [104077-15-8]. *3,4-Dihydro-6,7-dimethoxy-4-methyl-3-oxo-2-quinoxalinecarbonyl chloride, 9CI. DMEQ-COCl*
$C_{12}H_{11}ClN_2O_4$ M 282.683
Fluorescence hplc derivatisation reagent for alcohols and amines. Orange needles (C_6H_6/pet. ether). Mp 261°.

Iwata, T. *et al*, *J. Chromatogr.*, 1986, **362**, 209; 1987, **421**, 43 (*synth, use*)
Yamaguchi, M. *et al*, *Anal. Chim. Acta*, 1987, **193**, 209 (*synth, use, azide*)
Ishida, J. *et al*, *Anal. Chim. Acta*, 1989, **223**, 319 (*use, chloride*)
Iwata, T. *et al*, *Anal. Sci.*, 1989, **5**, 671 (*use, azide*)
Dave, K.J. *et al*, *J. Pharm. Biomed. Anal.*, 1990, **8**, 307 (*synth*)

3,4-Dihydro-6,7-dimethoxy-4-methyl-3-oxo-2-quinoxalinepropanoic acid, 9CI D-00380

[132788-56-8]



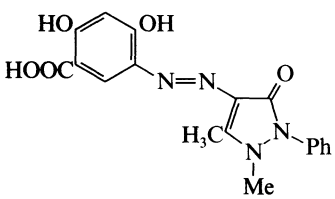
$C_{14}H_{16}N_2O_5$ M 292.291
Cryst. (MeOH/$CHCl_3$). Mp 239-241°.

Hydrazide: [131426-28-3].
$C_{14}H_{18}N_4O_4$ M 306.321
Fluorescent derivatisation reagent for carboxylic acids. Needles (EtOH). Mp 205-206°.

Yamaguchi, M. *et al*, *Analyst (London)*, 1990, **115**, 1363 (*synth, use, deriv*)
Shimizu, M. *et al*, *Anal. Biochem.*, 1991, **194**, 77 (*synth*)

5-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-2,4-dihydroxybenzoic acid, 9CI D-00381

[74606-81-8]



$C_{18}H_{16}N_4O_5$ M 368.348

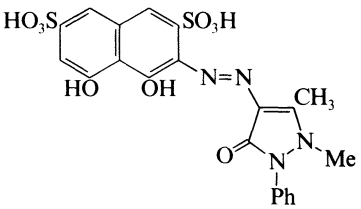
Used as a 1m*M* soln. in aq. KOH for photometric detn. of Zn (λ_{max} 600 nm, ε 27500). Dark red cryst. powder. Sol. alkalis; spar. sol. H_2O. pK_{a1} 3.90 (μ = 0.1).

Demchenko, V.Ya. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1980, **46**, 650 (*detn, Zn*)

3-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI D-00382

1,8-Dihydroxy-2-(1-phenyl-4-antipyrylazo)-3,6-naphthalenedisulfonic acid

[53013-55-1]

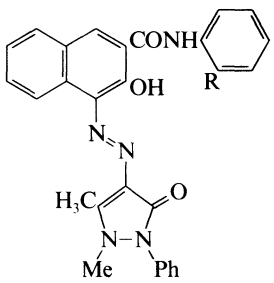


$C_{21}H_{18}N_4O_9S_2$ M 534.527
Used for photometric detn. of Zn (λ_{max} 490 nm, ε 31200). Orange-red cryst. Sol. H_2O. pK_{a1} 0.15; pK_{a2} 8.41.

Bezhaeva, N.M. *et al*, *CA*, 1977, **87**, 123480k.

4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-(2-methoxyphenyl)-2-naphthalenecarboxamide, 9CI D-00383

[59104-67-5]



R = OMe

$C_{29}H_{25}N_5O_4$ M 507.548
Used for photometric detn. of Fe(*III*) (λ_{max} 655 nm, ε 2100). Orange-red cryst. Mp 151°. pK_{a1} 0.24; pK_{a2} 8.54.

Smaglyuk, N.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1680 (*detn, Fe*)

4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-2-(methylphenyl)-2-naphthalenecarboxamide, 9CI D-00384

[59104-68-6]

As 4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-(2-methoxyphenyl)-2-naphthalenecarboxamide, D-00383 with

R = CH_3

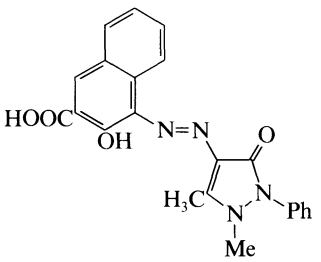
$C_{29}H_{25}N_5O_3$ M 491.548

Used for photometric detn. of Fe(*III*) (λ_{max} 655 nm, ε 1600). Orange-red cryst. Mp 180°. pK_{a1} 0.50; pK_{a2} 9.06.

Smaglyuk, N.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1680 (*detn, Fe*)

4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-2-naphthalenecarboxylic acid, 9CI D-00385

[51359-17-2]



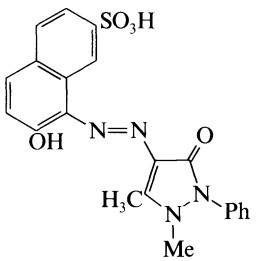
$C_{22}H_{18}N_4O_4$ M 402.409

Used as a 1m*M* soln. in EtOH/AcOH for extraction-photometric detn. of Au, Fe, In, Mn, Mo, Re (3-methylbutyl acetate). Orange-red cryst. Sol. alkalis, acids, EtOH. λ_{max} 410 nm (EtOH); λ_{max} 510 nm (1*M* HCl).

Pilipenko, A.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1973, **39**, 601 (*use*)

8-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-7-hydroxy-2-naphthalenesulfonic acid, 9CI D-00386

[51359-16-1]



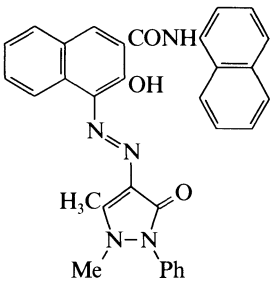
$C_{21}H_{18}N_4O_5S$ M 438.463

Used as 1m*M* soln. in dil. NaOH for extraction-photometric detn. of Au, Mo; flotation sepn. of Au, Mo (1,2-dichloroethane). Orange-red cryst. Sol. alkalis, acids, EtOH. λ_{max} 560 nm (EtOH); λ_{max} 500 nm (1*M* KOH).

Pilipenko, A.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1973, **39**, 601 (*use*)

4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-1-naphthalenyl-2-naphthalenecarboxamide, 9CI D-00387

[59104-70-0]



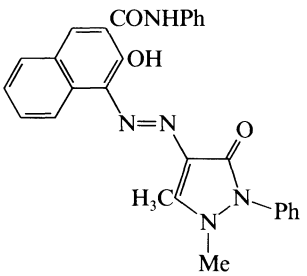
$C_{32}H_{25}N_5O_3$ M 527.581

Used for photometric detn. of Fe(*III*) (λ_{max} 365 nm, ε 1700). Orange-red cryst. Mp 197°. pK_{a1} 0.22; pK_{a2} 10.88.

Smaglyuk, N.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1680 (*detn, Fe*)

4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-phenyl-2-naphthalenecarboxamide, 9CI D-00388

[59104-66-4]



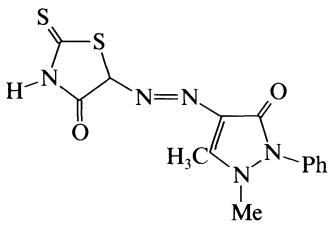
$C_{28}H_{23}N_5O_3$ M 477.521

Used for photometric detn. of Fe(*III*) (λ_{max} 660 nm, ε 4300). Orange red cryst. Mp 179°. pK_{a1} 0.50; pK_{a2} 9.06.

Smaglyuk, N.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1680 (*detn, Fe*)

1,2-Dihydro-1,5-dimethyl-4-[(4-oxo-2-thioxo-5-thiazolidinyl)azo]-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00389

[36575-98-1]



$C_{14}H_{13}N_5O_2S_2$ M 347.421

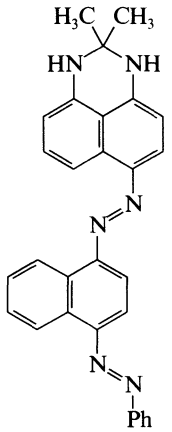
Various tautomers possible. Used as EtOH soln. for photometric detn. of Pt(*II*) (λ_{max} 500 nm, ε 5000). Red cryst. powder. Sol. DMF, EtOH.

Basargin, N.N. *et al*, *Zavod. Lab.*, 1972, **38**, 260 (*synth, detn, Pt*)

2,3-Dihydro-2,2-dimethyl-6-[[4-(phenylazo)-1-naphthalenyl]azo]-1*H*-perimidine, 9CI D-00390

C.I. Solvent black 3, 8CI

[4197-25-5]



$C_{29}H_{24}N_6$ M 456.549

The main component of the dye Sudan Black B. Stain for lipids. Mp 120-124°.

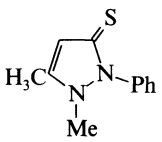
▷ SD4431500.

Ikegami, H. *et al*, *CA*, 1955, **49**, 12836g (*synth*)
Pfueller, U. *et al*, *Histochemistry*, 1977, **54**, 237 (*struct, synth, ir, ms, nmr*)
Frederiks, W.M. *et al*, *Acta Histochem., Suppl.*, 1981, **24**, 259 (*use*)

1,2-Dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione, 9CI D-00391

Thiopyrine

[5702-69-2]



$C_{11}H_{12}N_2S$ M 204.295

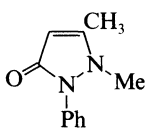
Used as a 0.5% soln. in AcOH or a 0.2% aq. soln. for photometric detn. of Pd (λ_{max} 330 nm, ε 36500), Os (λ_{max} 735 nm, ε 870000); extraction-photometric detn. of Os (λ_{max} 590 nm, $CHCl_3$). Prisms (EtOH). Mp 169-170°.

Akimov, V.K. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 1004 (*synth, detn, Os*)
Tanaki, T., *Bunseki Kagaku* (*Jpn. Anal.*), 1978, **27**, 148 (*detn, Pd*)

1,2-Dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00392

1,5-Dimethyl-2-phenyl-3-pyrazolone. 2,3-Dimethyl-1-phenyl-5-pyrazolone. Dimethyloxyquinazine. ***Antipyrine,*** **USAN.** *Phenazone, BAN, INN. Other proprietary names*

[60-80-0]



$C_{11}H_{12}N_2O$ M 188.229

Analgesic, antipyretic; parent substance of a large group of compds. with similar props. Also used as protonated form (in acid solns.) which serves as counter-ion in extraction of anionic complexes. Used as 1% soln. in $CHCl_3$ for extraction-photometric detn. of Mo (λ_{max} 455 nm, ε 22000). Used in the detn. of $BrO_3^{\ominus}$, urea, citrulline and $NO_3^{\ominus}$. Leaflets or scales (Et_2O, C_6H_6 or H_2O). V. sol. H_2O, EtOH; spar. sol. Et_2O. Mp 114°. Bp_{175} 319°. pK_a 1.10 (20°, H_2O). Weak base; aq. soln. neut. to litmus. Component of Auralgan and Larylgan.

▷ Mod. toxic, exp. carcinogen. CD2450000.

Compd. with 2-Acetoxybenzoic acid (1:1): [569-84-6]. *Antipyrine acetylsalicylate. Acetasol. Acetopyrine. Acopyrine*
Antipyretic and antirheumatic. Mp 63-65°.

Compd. with 2-Hydroxybenzoic acid (1:1): [520-07-0]. *Antipyrine salicylate. Salazolon. Saldoren. Salizol. Saliphenazone. Salipyrazolon. Salipyrine*
Antipyretic, analgesic and antineuralgic. Mp 91-92°.
▷ VO1740000.

Compd. with 2-Hydroxy-2-methylbutanoic acid (1:1): [5794-16-1]. *Antipyrine methylethylglycolate. Astrolin*
Analgesic. Mp 64-65.5°.

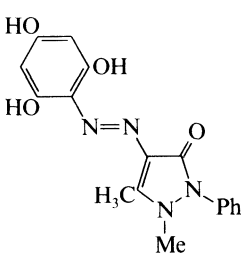
Compd. with α-Hydroxyphenylacetic acid (1:1): [603-64-5]. *Antipyrine mandelate. Antipyrine amygdalate. Tussol*
Antitussive. Mp 52-55°.

Picrate: Yellow needles. Mp 188°.

Sadtler Standard C-13 NMR Spectra, 8046 (*cmr*)
Sadtler Standard Ultraviolet Spectra, 1503 (*uv*)
Pfeiffer, P., *Hoppe Seyler's Z. Physiol. Chem.*, 1928, **178**, 97 (*deriv*)
Klebanskii, A.L. *et al*, *J. Appl. Chem.*, 1935, **8**, 269; *CA*, **29**, 6891 (*synth*)
U.S. Pat., 2 005 505, (1935); *CA*, **29**, 5130 (*synth*)
Vogel, A.I., *Textbook of Practical Organic Chemistry*, 3rd Ed., Longman, 1957, 998 (*synth*)
Müller, A. *et al*, *Monatsh. Chem.*, 1958, **89**, 23 (*synth*)
Siest, G. *et al*, *Clin. Chim. Acta*, 1968, **20**, 373 (*detn, urea, citrulline*)
Qureshi, M., *Mikrochim. Acta*, 1970, 831 (*detn, $BrO_3^{\ominus}$*)
Weiss, K.G. *et al*, *Anal. Chim. Acta*, 1971, **55**, 77 (*detn, $NO_3^{\ominus}$*)
Akimov, V.K. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 134, 964 (*use*)
Singh, T.P. *et al*, *Acta Crystallogr., Sect. B*, 1973, **29**, 714; 1974, **30**, 557 (*cryst struct*)
Aldrich Library of NMR Spectra, 1974, **7**, 94C (*pmr*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 956C (*ir*)
Borsub, L. *et al*, *Tetrahedron Lett.*, 1976, 105.
Stevenson, I.H., *Br. J. Clin. Pharmacol.*, 1977, **4**, 261 (*rev*)
Moroshkina, T.M. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 872 (*use*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2682.
Danhof, M. *et al*, *Pharm. Int.*, 1984, **5**, 11 (*rev, metab*)
Goya, P. *et al*, *Magn. Reson. Chem.*, 1986, **24**, 444 (*N-15 nmr*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1911.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AQN000, AQN250.

1,2-Dihydro-1,5-dimethyl-2-phenyl-4-[(2,4,6-trihydroxyphenyl)azo]-3*H*-pyrazol-3-one, 9CI D-00393

[51359-19-4]

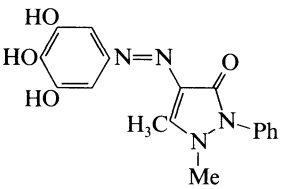


$C_{17}H_{16}N_4O_4$ M 340.338
Used as 1m*M* soln. in dil. NaOH for photometric detn. of Bi, Co(*III*), Cu, Fe(*II*), Ga, In, Ni, Pd; extraction-photometric detn. of Au, Cd, Cr, Cu, Fe, Hg, In, Mn, Pb, Ni, Re, Te, Zn. Orange-red cryst. Sol. alkalis, EtOH. Mp 300° dec. pK_{a1} 1.03. λ_{max} 425 nm (EtOH); λ_{max} 480 nm (1*M* HCl); λ_{max} 420 nm (1*M* KOH).

Pilipenko, A.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1973, **39**, 601 (*detn, Au, Cd, Cr, Cu, Fe, Hg, In, Mn, Pb, Ni, Re, Te, Zn*)
Smaglyuk, N.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1680 (*detn, Bi, Co(III)*, Cu, Fe(*II*), Ga, In, Pd)

1,2-Dihydro-1,5-dimethyl-2-phenyl-4-[5-(1,2,3-trihydroxyphenyl)azo]-3*H*-pyrazol-3-one, 9CI D-00394

[57125-58-3]

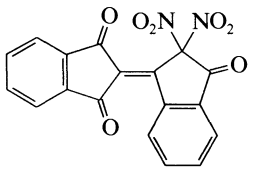


$C_{17}H_{16}N_4O_4$ M 340.338
Used as a 1m*M* soln. in aq. EtOH for photometric detn. of Ga (λ_{max} 460 nm); In (λ_{max} 460 nm ε 36000); metallochromic indicator for titrimetric detn. of Ga, In. Orange-red cryst.

Gambarov, D.G. *et al*, *Azerb. Khim. Zh.*, 1975, 23; 1978, 99 (*detn, In, Ga*)
Gambarov, D.G. *et al*, *CA*, 1979, **90**, 97010x (*indicator*)

2-(2,3-Dihydro-2,2-dinitro-3-oxo-1*H*-inden-1-ylidene)-1*H*-indene-1,3(2*H*)-dione, 9CI D-00395

Dinitrobindone
[98742-60-0]



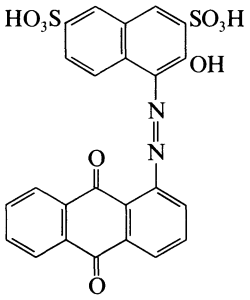
$C_{18}H_8N_2O_7$ M 364.270
Reagent for spectrophotometric anal. of nitrogen-containing drugs. Mp 178-181°.

[86166-64-5]

Zorya, B.P. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1987, **53**, 421 (*synth, use*)

4-[(9,10-Dihydro-9,10-dioxo-1-anthracenyl)azo]-3-hydroxy-2,7-naphthalenedisulfonic acid D-00396

1-Anthraquinoneazo R

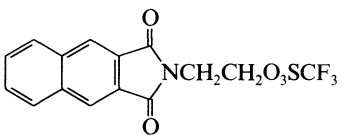


$C_{24}H_{14}N_2O_9S_2$ M 538.515
Ba salt: [74716-93-1].
Used for indirect photometric detn. of $SO_4^{2\ominus}$. Orange-red cryst. Sol. H_2O; insol. EtOH, C_6H_6.

Koita, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1980, **29**, 176 (*detn, $SO_4^{2\ominus}$*)

2-(1,3-Dihydro-1,3-dioxo-2*H*-benz[*f*]isoindol-2-yl) ethyltrifluoromethanesulfonate, 9CI D-00397

2-(2,3-Naphthalimino)ethyl trifluoromethanesulfonate
[128651-50-3]

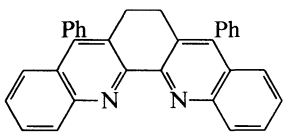


$C_{15}H_{10}F_3NO_5S$ M 373.309
Uv and fluorescent labelling reagent for hplc of carboxylic acids. Flakes (CH_2Cl_2/CCl_4). Mp 138-140°.

Yasuta, Y. *et al*, *J. Chromatogr.*, 1990, **508**, 133 (*synth, use*)

6,7-Dihydro-5,8-diphenyldibenzo[*b,j*][1,10]phenanthroline, 9CI D-00398

3,3'-Dimethylene-4,4'-diphenyl-2,2'-bisquinoline
[5951-01-9]



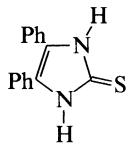
$C_{32}H_{22}N_2$ M 434.539
Used as 0.25m*M* soln. in isopentanol for photometric detn. of Cu(*I*) (λ_{max} 555 nm, ε 9800). Needles (EtOH aq.). Sol. EtOH, $CHCl_3$, C_6H_6; spar. sol. H_2O. Mp 365°.

Uhlemann, P.T. *et al*, *Z. Anorg. Allg. Chem.*, 1965, **341**, 11 (*synth*)
Uhlemann, P.T. *et al*, *Anal. Chim. Acta*, 1968, **41**, 161 (*detn, Cu*)

1,3-Dihydro-4,5-diphenyl-2*H*-imidazole-2-thione, 9CI D-00399

4,5-Diphenyl-2(3H)-imidazolethione. 2-Mercapto-4,5-diphenylglyoxaline. Diphenylthioglyoxalone. 4,5-Diphenyl-4-imidazole-2-thiol, 8CI

[2349-58-8]



$C_{15}H_{12}N_2S$ M 252.339

Used as a 0.01*M* soln. in pentanol for extraction-photometric detn. of Pd (λ_{max} 440 nm, ε 6500). Cryst. (AcOH). Sol. H_2O, EtOH. Mp >260°.

Disulfide: [16116-44-2]. *2,2'-Dithiobis(4,5-diphenyl-1H-imidazole), 9CI*

$C_{30}H_{22}N_4S_2$ M 502.663

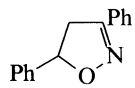
Cryst. Mp 222-225° dec.

Biltz, H. *et al*, *Justus Liebigs Ann. Chem.*, 1912, **391**, 191 (*synth*)
Willems, J.F. *et al*, *Bull. Soc. Chim. Belg.*, 1961, **70**, 745 (*synth*)
Tserkasevich, K.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 532 (*use, detn, Pd*)
Freeman, F. *et al*, *Synthesis*, 1989, 714 (*disulfide, synth, pmr, cmr, ms*)

4,5-Dihydro-3,5-diphenylisoxazole, 9CI D-00400

3,5-Diphenyl-2-isoxazoline

[4894-23-9]



$C_{15}H_{13}NO$ M 223.274

(±)-*form*

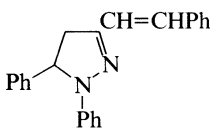
Used as 0.01% EtOH soln. for kinetic-fluorimetric detn. of V(*V*) (λ_{max} 465 nm). Cryst. (EtOH). Mod. sol. EtOH. Mp 75-76° (71-73°).

Stagno d'Alcontres, G. *et al*, *Gazz. Chim. Ital.*, 1950, **80**, 831 (*synth*)
Perold, G.W. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 462 (*synth*)
Grases, F. *et al*, *Anal. Chim. Acta*, 1983, **148**, 245 (*synth, use*)
Shono, T. *et al*, *J. Org. Chem.*, 1989, **54**, 2249 (*synth, pmr, ir*)

4,5-Dihydro-1,5-diphenyl-3-(2-phenylethenyl)-1*H*-pyrazole, 9CI D-00401

1,5-Diphenyl-3-styryl-Δ²-pyrazoline

[2515-62-0]



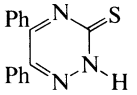
$C_{23}H_{20}N_2$ M 324.424

Used as 0.01% EtOH soln. for kinetic-fluorimetric detn. of V(*V*) (λ_{max} 510 nm; oxidation to pyrazole). Cryst. Sol. EtOH.

Grases, F. *et al*, *Anal. Chim. Acta*, 1983, **148**, 245 (*synth, detn, V*)

2,3-Dihydro-5,6-diphenyl-1,2,4-triazine-3-thione D-00402

[37469-24-2]



$C_{15}H_{11}N_3S$ M 265.338

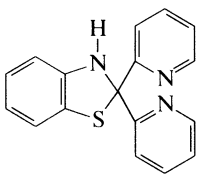
Used as a 0.2% soln. in Me_2CO or 0.01*M* soln. in NaOH aq. for photometric detn. of Hg and gravimetric detn. of Pd, Re, Tl. Yellow cryst. (EtOH/Et_2O). Sol. EtOH, alkalis, C_6H_6, Me_2CO; insol. H_2O. Mp 240° dec. (217°).

Polonovski, M. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1951, **232**, 1260 (*synth*)
Edrissi, M. *et al*, *Talanta*, 1972, **19**, 814 (*detn, Pd, Tl*)
Smagin, S.S. *et al*, *CA*, 1975, **83**, 108311e (*synth*)
Majumdar, *et al*, *Anal. Chim. Acta*, 1978, **97**, 129 (*detn, Re*)
Edrissi, M. *et al*, *Microchem. J.*, 1982, **27**, 323 (*detn, Hg*)

2,3-Dihydro-2,2-di-(2-pyridinyl) benzothiazole, 9CI D-00403

2,2'-Di-2-pyridylbenzothiazoline

[31231-08-0]



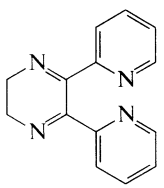
$C_{17}H_{13}N_3S$ M 291.376

Used as a 0.1% soln. in EtOH for photometric detn. of Os (λ_{max} 490 nm, ε 10000). Needles (EtOH). Sol. EtOH, Me_2CO, C_6H_6. Mp 132°.

Bag, S.P. *et al*, *J. Indian Chem. Soc.*, 1978, **55**, 615.

2,3-Dihydro-5,6-di-(2-pyridyl)pyrazine, 8CI D-00404

[25005-95-2]



$C_{14}H_{12}N_4$ M 236.276

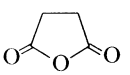
Used as a 5m*M* soln. in HCl/EtOH aq. to give colour reaction with Fe(*II*). Pale yellow cryst. (EtOH). Sol. EtOH, C_6H_6; sl. sol. dil. acids. Mp 188°.

Stephen, W., *Talanta*, 1969, **16**, 939 (*detn, Fe*)

Dihydro-2,5-furandione, 9CI D-00405

Succinic anhydride, 8CI. 2,5-Dioxotetrahydrofuran

[108-30-5]



$C_4H_4O_3$ M 100.074

Used for derivatisation of amino acids and peptides for ms anal. Cryst. ($CHCl_3$). Mp 119-120°. Bp 261°, Bp_{50} 169°.

▷ WN0875000.

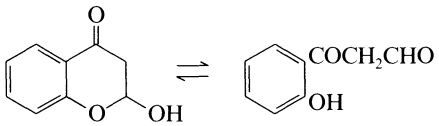
Jeffery, G.H. *et al*, *J. Chem. Soc.*, 1934, 1103 (*synth*)
Leffler, M.T. *et al*, *J. Am. Chem. Soc.*, 1936, **58**, 1551 (*synth*)

Org. Synth., Coll. Vol., 2, 1943, 560 (*synth*)
Mori, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1969, **42**, 777 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 468.
De Jongh, D.C. *et al*, *Biomed. Mass Spectrom.*, 1976, **3**, 191 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SNC000.

2,3-Dihydro-2-hydroxy-4*H*-1-benzopyran-4-one, 9CI D-00406

2-Hydroxy-β-oxobenzenepropanal, 9CI. Salicyloylacetaldehyde, 8CI. ω-Formyl-o-hydroxyacetophenone. 2-Hydroxy-4-chromanone

[57669-32-6]



$C_9H_8O_3$ M 164.160
Exhibits ring-chain tautomerism. Ring form predominates. Used for photometric detn. of amines. Cryst. (C_6H_6/pet. ether). Mp 105°.

[14386-66-4]

Schonberg, A. *et al*, *J. Am. Chem. Soc.*, 1950, **72**, 3397 (*synth*)
Dean, F.M. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1975, 1706 (*synth*)
Kostka, K. *et al*, *Chem. Anal. (Warsaw)*, 1979, **24**, 103; 1980, **25**, 77; *CA*, **91**, 49011x; **93**, 125201t (*use*)
Borbely, J. *et al*, *Tetrahedron Lett.*, 1984, **25**, 5813 (*pmr, tautom*)
Soni, R.K. *et al*, *Indian J. Chem., Sect. B*, 1988, **27**, 811 (*synth*)

2,3-Dihydro-3-hydroxy-4*H*-1-benzopyran-4-one, 9CI D-00407

3-Hydroxychromanone

[74736-89-3]

$C_9H_8O_3$ M 164.160
Used as a 0.02*M* soln. in MeOH for fluorimetric detn. of Zr. Light yellow cryst. Sol. Et_2O, MeOH, EtOH. Mp 61-62°, Mp 178.5°. pK_{a1} 8.37.

Murata, A. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1966, **15**, 143; 1974, **23**, 1274 (*detn, Zr*)
Moriarty, R.M. *et al*, *Synth. Commun.*, 1984, **14**, 1373 (*synth*)

2,3-Dihydro-5-hydroxy-4*H*-1-benzopyran-4-one, 8CI D-00408

5-Hydroxychromanone. 5-Hydroxyhydrocoumarin

[19816-15-0]

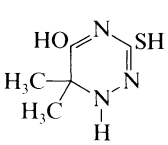
$C_9H_8O_3$ M 164.160
Used for extraction-photometric detn. of Be, Fe, Pd. Pale yellow cryst. Sol. EtOH, Et_2O, C_6H_6. Mp 125.5-127.5°. pK_a 10.75.

Murata, A. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1965, **14**, 630; 1967, **16**, 248; 1969, **18**, 1471 (*pKa, detn, Be, Fe, Pd*)

1,6-Dihydro-5-hydroxy-3-mercapto-6,6-dimethyl-1,2,4-triazine D-00409

Dihydro-6,6-dimethyl-3-thio-1,2,4-triazine-3,5(2H,4H)-dione, 9CI

[16992-40-8]



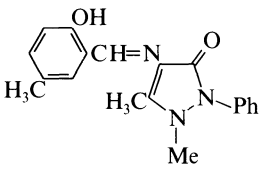
$C_5H_9N_3OS$ M 159.212
Used as 0.2% soln. in 1% NaOH for photometric detn. of Os. Cryst.

Bainlescu, G. *et al*, *Anal. Chim. Acta*, 1961, **24**, 463 (*detn, Os*)

1,2-Dihydro-4-[(2-hydroxy-5-methylphenyl)methyleneamino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00410

4-(2-Hydroxy-5-methylbenzylideneamino)antipyrine

[65144-68-5]

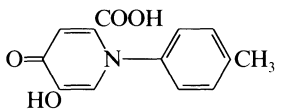


$C_{19}H_{19}N_3O_2$ M 321.378
Used as a 0.05m*M* soln. in EtOH for fluorimetric detn. of Ga. Cryst. (EtOH). Sol. common org. solvs.

Pilipenko, A.T. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1977, **43**, 536 (*detn, Ga*)

1,4-Dihydro-5-hydroxy-1-(4-methylphenyl)-4-oxo-2-pyridinecarboxylic acid, 9CI D-00411

[91901-49-4]



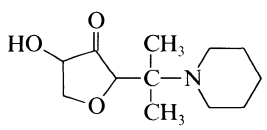
$C_{13}H_{11}NO_4$ M 245.234
Cryst. (EtOH aq.). Mp 176-177°.

Et ester: [10299-10-2].
$C_{15}H_{15}NO_4$ M 273.288
Used as a 5m*M* soln. in aq. EtOH for extraction-photometric detn. of Fe(*III*) (λ_{max} 432 nm, ε 7450, $CHCl_3$), V (λ_{max} 615 nm, ε 5100, $CHCl_3$); extraction separation of Ga, Nb, Pa, Ta, Th, Zr. Cryst. (EtOH aq.). Sol. EtOH, C_6H_6, $CHCl_3$; sl. sol. H_2O. Mp 178-181°. pK_{a1} 8.53 (50% EtOH).

Hahn, V. *et al*, *Croat. Chem. Acta*, 1961, **33**, 137; 1966, **38**, 113 (*synth*)
Blazevic, K. *et al*, *Croat. Chem. Acta*, 1966, **38**, 113 (*detn, Fe*)
Janko, M. *et al*, *CA*, 1972, **76**, 132116w (*pKa, uv*)
Herak, M.J. *et al*, *J. Inorg. Nucl. Chem.*, 1972, **34**, 2627; 1973, **35**, 1665 (*detn, Ga, Pa, Th*)
Janko, M. *et al*, *Mikrochim. Acta*, 1972, 198 (*detn, Nb, Ta, Zr*)
Herak, M.K. *et al*, *Mikrochim. Acta*, 1973, 783; 1975, 45 (*detn, V, Fe*)
Jancevska-Nikolovska, M. *et al*, *J. Serb. Chem. Soc.*, 1989, **54**, 127 (*synth*)

Dihydro-4-hydroxy-2-(1-methyl-1-piperidinoethyl)-3(2*H*)-furanone, 8CI D-00412

[27644-20-8]



$C_{12}H_{21}NO_3$ M 227.303

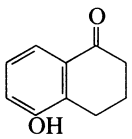
Used as satd. soln. in EtOH for photometric detn. of Mo(*VI*), Ti, V(*V*), U(*IV*), W(*VI*). pK_{a1} 3.8; pK_{a4} 10.4; pK_{a5} 11.5 (1*M* KCl).

Skorokhod, O.R. *et al*, *Zh. Anal. Khim.*, 1961, **16**, 426 (*detn, Ti*)
Tishchenko, I.G. *et al*, *Zh. Obshch. Khim.*, 1962, **32**, 3808 (*detn, Mo, V, U, W*)
Gruchenkov, R.G. *et al*, *Zh. Obshch. Khim.*, 1970, **40**, 171 (*pKa*)

3,4-Dihydro-5-hydroxy-1(2*H*)-naphthalenone, 9CI D-00413

5-Hydroxy-1-tetralone

[28315-93-7]



$C_{10}H_{10}O_2$ M 162.188

Fluorimetric reagent for hexoses; used in detn. of blood sugar. Light yellow cryst. Mp 209-211°.

Hydrazone: Cryst. (H_2O). Mp 188-189°.

Me ether: [33892-75-0]. *3,4-Dihydroxy-5-methoxy-1*(2H)-*naphthalenone, 9CI. 5-Methoxy-1-tetralone*

$C_{11}H_{12}O_2$ M 176.215

White plates (pet. ether). Mp 92-93°.

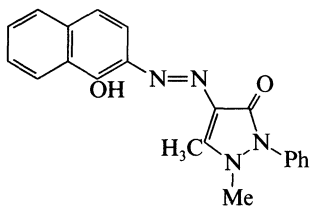
▷ QK4800000.

Me ether, semicarbazone: Mp 249-250°.

Lockett, J. *et al*, *J. Chem. Soc.*, 1939, 787 (*synth*)
Papa, D. *et al*, *J. Org. Chem.*, 1949, 366 (*synth*)
Momose, T. *et al*, *Chem. Pharm. Bull.*, 1956, **4**, 209; 1958, **6**, 412 (*use*)
Momose, T. *et al*, *Talanta*, 1959, **3**, 151 (*use*)
Ohkura, Y. *et al*, *Chem. Pharm. Bull.*, 1971, **19**, 1842 (*use*)
Schneider, H.J. *et al*, *Org. Magn. Reson.*, 1984, **22**, 180 (*cmr*)

1,2-Dihydro-4-[(1-hydroxy-2-naphthalenyl)azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00414

[59104-62-0]



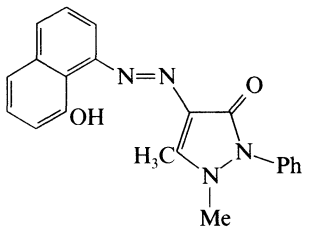
$C_{21}H_{18}N_4O_2$ M 358.399

Used for photometric detn. of Bi (λ_{max} 530 nm, ε 41500), Ga (λ_{max} 525 nm, ε 45500), In (λ_{max} 530 nm, ε 32300). Orange-red cryst. Mp 170° dec. pK_{a1} 2.22; pK_{a2} 8.39.

Smaglyuk, N.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1680 (*use*)

1,2-Dihydro-4-[(2-hydroxynaphthalenyl)azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00415

[51359-15-0]



$C_{21}H_{18}N_4O_2$ M 358.399

Used as a 1m*M* soln. in dil. NaOH for extraction-photometric detn. of Au, Mo, Te (3-methylbutyl acetate). Orange-red cryst. Sol. alkalis, acids, EtOH. λ_{max} 450 nm (EtOH); λ_{max} 540 nm (1*M* HCl); λ_{max} 480 nm (1*M* KOH).

Pilipenko, A.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1973, **39**, 601 (*detn, Au, Mo, Te*)

1,2-Dihydro-4-[(4-hydroxynaphthalenyl)azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00416

[51359-18-3]

$C_{21}H_{18}N_4O_2$ M 358.399

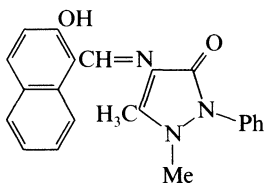
Used as a 1m*M* soln. in dil. NaOH for extraction-photometric detn. of Au, Cd, Co, Cu, Fe, Hg, In, Mo, Pd, Ni, Zn (3-methylbutyl acetate). Orange-red cryst. Sol. alkalis, acids, EtOH. λ_{max} 410 nm (EtOH); λ_{max} 520 nm (1*M* HCl); λ_{max} 485 nm (1*M* KOH).

Pilipenko, A.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1973, **39**, 601 (*use*)

1,2-Dihydro-4-[[(2-hydroxy-1-naphthalenyl)methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00417

4-(2-Hydroxy-1-naphthylideneamino)antipyrine

[58732-04-0]



$C_{22}H_{19}N_3O_2$ M 357.411

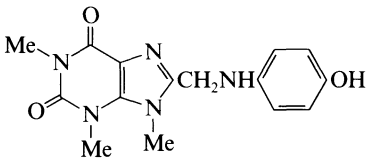
Used as a 0.05m*M* soln. in EtOH for fluorimetric detn. of Ga; gives colour reaction with Cu. Cryst. (EtOH). Sol. common org. solvs. Mp 209°.

Radhakrishnan, T. *et al*, *J. Inorg. Nucl. Chem.*, 1976, **38**, 2217 (*synth, detn, Cu*)
Pilipenko, A.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1977, **43**, 536 (*detn, Ga*)

3,7-Dihydro-8-[[(4-hydroxyphenyl)amino] methyl]-1,3,7-trimethyl-1*H*-purine-2,6-dione, 9CI D-00418

8-(p-Hydroxyanilinomethyl)-1,3,7-trimethylisocaffeine. Xanthaminol yellow

[108602-37-5]



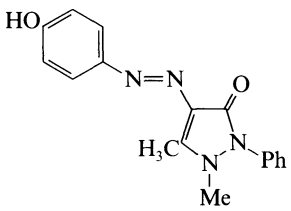
$C_{15}H_{17}N_5O_3$ M 315.331

Acid-base indicator.

Abdel-Moety, E.M. *et al*, *Egypt. J. Pharm. Sci.*, 1984, **25**, 267; *CA*, **107**, 12986s.

1,2-Dihydro-4-[(4-hydroxyphenyl)azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00419

[29474-20-2]



$C_{17}H_{16}N_4O_2$ M 308.339

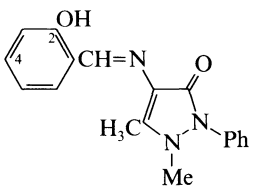
Used for photometric detn. of Bi (λ_{max} 485 nm, ε 13800), Ga (λ_{max} 500 nm, ε 25600), In (λ_{max} 500 nm, ε 11300). Orange-red cryst. Mp 87°. pK_{a1} 2.90; pK_{a2} 8.51.

Smaglyuk, N.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1680 (*detn, Bi, Ga, In*)

1,2-Dihydro-4-[[(2-hydroxyphenyl) methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00420

N-*Salicylidene-4-aminoantipyrine*

[30957-66-5]



$C_{18}H_{17}N_3O_2$ M 307.351

Used as a 0.05m*M* soln. in EtOH for fluorimetric detn. of Ga; luminescence analysis of Ga, Al, In, Zr, Hf. Gives colour reaction with Cu. Cryst. (EtOH). Sol. common org. solvs. Mp 199°.

Talipov, S.T. *et al*, *CA*, 1972, **77**, 132699j (*detn, Ga*)

Tashkhodzhayev, A.T. *et al*, *Uzb. Khim. Zh.*, 1972, **16**, 22; *CA*, **77**, 96589n (*detn, Zr*)

Radhakrishnan, T. *et al*, *J. Inorg. Nucl. Chem.*, 1976, **38**, 2217 (*synth, detn, Cu*)

Pilipenko, A.T. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1977, **43**, 536 (*detn, Ga*)

Zel'tser, L.E. *et al*, *Talanta*, 1987, **34**, 873 (*synth, use*)

1,2-Dihydro-4-[[(4-hydroxyphenyl) methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00421

4-(4-Hydroxybenzylideneamino)antipyrine

[65144-69-6]

$C_{18}H_{17}N_3O_2$ M 307.351

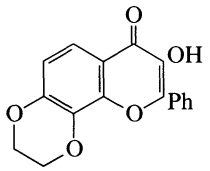
Used as a 0.05m*M* soln. in EtOH for fluorimetric detn. of Ga. Cryst. (EtOH). Sol. common org. solvs.

Pilipenko, A.T. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1977, **43**, 536 (*detn, Ga*)

2,3-Dihydro-8-hydroxy-9-phenyl-7*H*-pyrano[2,3-*f*]-1,4-benzodioxin-7-one, 8CI D-00422

7,8-Ethylenedioxyflavonol

[26190-56-7]



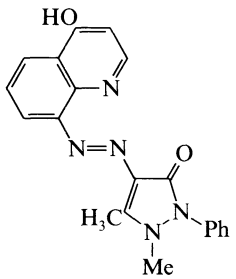
$C_{17}H_{12}O_5$ M 296.279

Used as 0.7m*M* soln. in Me_2CO for photometric detn. of Ti (λ_{max} 415 nm, ε 15000, pH 2.8-3.5). Cryst. (dil. HCl). Sol. Me_2CO, 1,2-dichloroethane. Mp 280-281.5°.

Abromaityte, D. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1512 (*synth, detn, Ti*)

1,2-Dihydro-4-[(4-hydroxyquinolin-8-yl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00423

[51289-07-7]



$C_{20}H_{17}N_5O_2$ M 359.387

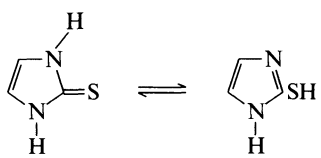
Used as 1m*M* soln. in dil. HCl for extraction-photometric detn. of Au, Mo, Pd; extraction separation of Au, Mo, Pd. Orange-red cryst. Sol. alkalis, acids, EtOH. λ_{max} 395 nm (EtOH); λ_{max} 465 nm (1*M* HCl); λ_{max} 480 nm (1*M* KOH).

Pilipenko, A.T. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1973, **39**, 601 (*use*)

1,3-Dihydro-2*H*-imidazole-2-thione, 9CI D-00424

2-Imidazolethione. 2-Mercaptoimidazole. 2-Imidazolethiol, 8CI

[872-35-5]



$C_3H_4N_2S$ M 100.144
Used for extraction-photometric detn. of Pd. Cryst. (H_2O). Mp 226-228°.

▷ NI8515000.

S-*Me:* [7666-04-8]. *2-(Methylthio)-1H-imidazole, 9CI*
$C_4H_6N_2S$ M 114.171
Mp 142°.

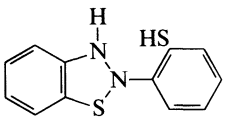
Disulfide: [89418-44-0]. *2,2'-Dithiobis-1H-imidazole, 9CI*
$C_6H_6N_4S_2$ M 198.272
Cryst. Mp 152-155° dec.

[29797-34-0]

Marckwald, W., *Ber.*, 1892, **25**, 2354 (*synth*)
Akobori, S., *Ber.*, 1933, **66**, 151 (*synth*)
Simon, I.B. *et al*, *J. Gen. Chem. USSR* (*Engl. Transl.*), 1955, **25**, 1173 (*synth, deriv*)
Tserkasevich, K.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 532 (*use*)
Freeman, F. *et al*, *J. Am. Chem. Soc.*, 1988, **110**, 2586 (*ir, pmr, cmr, uv, ms, cryst struct*)
Freeman, F. *et al*, *Synthesis*, 1989, 714 (*disulfide, synth, pmr, cmr, ms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IAO000.

2,3-Dihydro-2-(2-mercaptophenyl)-1,2,3-benzothiadiazole D-00425

2-(2-Mercaptophenyl)-1,2,3-benzothiadiazoline

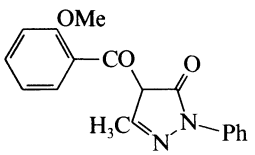


$C_{12}H_{10}N_2S_2$ M 246.356
Used as 0.01% MeOH soln. for extraction-photometric detn. of Pd (λ_{max} 788 nm, ε 29000). Cryst. (H_2O). Mp 90-91°.

Watanabe, K. *et al*, *Anal. Sci.*, 1989, **5**, 419 (*synth, detn, Pd*)

2,4-Dihydro-4-(2-methoxybenzoyl)-5-methyl-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00426

[132915-88-9]



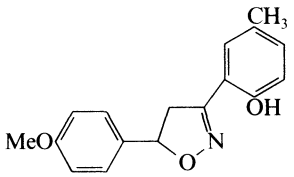
$C_{18}H_{16}N_2O_3$ M 308.336
Used as 0.01*M* C_6H_6 soln. for extraction separation of Lu(*III*) (pH 1-2). Cryst. (dioxan aq.). Sol. C_6H_6, 1,2-dichloroethane, dioxan. Mp 115°.

Mukai, H. *et al*, *Anal. Chim. Acta*, 1990, **239**, 277 (*synth, use*)

2-[4,5-Dihydro-5-(4-methoxyphenyl)-3-isoxazolyl]-4-methylphenol, 9CI D-00427

3-(2-Hydroxy-5-methylphenyl)-5-(p-methoxyphenyl) isoxazoline

[29976-88-3]



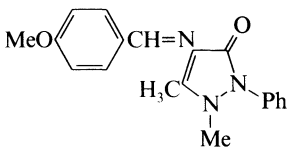
$C_{17}H_{17}NO_3$ M 283.326
Used as a 2m*M* soln. in butan-2-ol for extraction-photometric detn. of Pd. Cryst. (EtOH). Sol. EtOH, Et_2O.

Desmukh, B.K. *et al*, *Bull. Chem. Soc. Jpn.*, 1978, **52**, 584 (*detn, Pd*)

1,2-Dihydro-4-[[(4-methoxyphenyl) methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00428

4-(4-Methoxyphenylmethyleneamino)antipyrine

[32061-14-6]



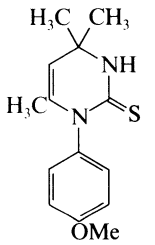
$C_{19}H_{19}N_3O_2$ M 321.378
Used as a 0.05m*M* soln. in EtOH for fluorimetric detn. of Ga. Cryst. (EtOH). Sol. common org. solvs.

Pilipenko, A.T. *et al*, *Uzb. Khim. Zh.*, 1977, **43**, 536 (*detn, Ga*)

3,4-Dihydro-1-(4-methoxyphenyl)-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, 9CI D-00429

1-Anisyl-4,4,6-trimethyl-(1H,4H)-2-pyrimidinethiol

[18957-56-7]



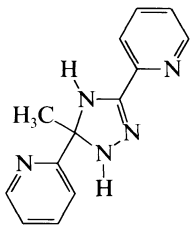
$C_{14}H_{18}N_2OS$ M 262.375
Used as 0.01*M* $CHCl_3$ soln. for extraction-photometric detn. of Pd(*II*) (λ_{max} 430 nm, ε 4400, 1-10*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6, dioxan.

Mathes, R.A., *J. Am. Chem. Soc.*, 1953, **75**, 1747 (*synth*)
Singh, A.K. *et al*, *Talanta*, 1976, **23**, 337 (*detn, Pd*)

4,5-Dihydro-5-methyl-3,5-di-2-pyridyl-1*H*-1,2,4-triazole D-00430

*2,2'-(4,5-Dihydro-5-methyl-1*H*-1,2,4-triazole-3,5-diyl) bispyridine, 9CI*

[42838-21-1]



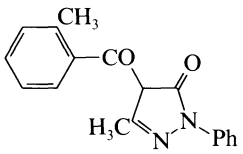
$C_{13}H_{13}N_5$ M 239.279

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 484 nm, ε 6900). Cryst. (MeOH). Sol. common org. solvents. Mp 107-108°.

Case, F.H., *J. Heterocycl. Chem.*, 1973, **10**, 353 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

2,4-Dihydro-5-methyl-4-(2-methylbenzoyl)-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00431

[73087-94-2]



$C_{18}H_{16}N_2O_2$ M 292.337

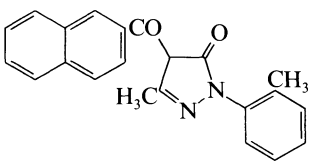
Used as 0.01*M* C_6H_6 soln. for extraction separation of Lu(*III*) (pH 1-2). Cryst. (dioxan aq.). Sol. C_6H_6, 1,2-dichloroethane, dioxan. Mp 114°.

Mukai, H. *et al*, *Anal. Chim. Acta*, 1990, **239**, 277 (*synth, use*)

2,4-Dihydro-5-methyl-2-(2-methylphenyl)-4-(2-naphthalenylcarbonyl)-3*H*-pyrazol-3-one, 9CI D-00432

*3-Methyl-4-(2-naphthoyl)-1-*o*-tolyl-5-pyrazolone*

[123035-89-2]



$C_{22}H_{18}N_2O_2$ M 342.396

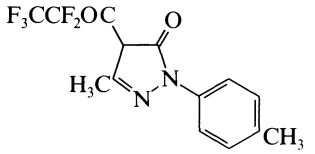
Used as 0.01*M* C_6H_6 soln. for extraction separation of Li and Na. Cryst. (dioxan aq.). Sol. dioxan, cyclohexane, C_6H_6, $CHCl_3$. Mp 129°.

Mukai, H. *et al*, *Anal. Chim. Acta*, 1989, **220**, 111 (*synth, use*)

2,4-Dihydro-5-methyl-2-(4-methylphenyl)-4-(2,2,3,3,3-pentafluoro-1-oxopropyl)-3*H*-pyrazol-3-one, 9CI D-00433

*3-Methyl-4-(perfluoropropyl)-1-*p*-tolyl-5-pyrazolone*

[111278-71-8]



$C_{14}H_{11}F_5N_2O_2$ M 334.245

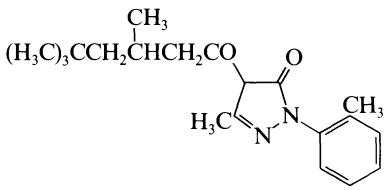
Used as a 0.05*M* soln. in C_6H_6 or cyclohexane for extraction separation of Li, Na. Cryst. (EtOH aq.). Sol. cyclohexane, C_6H_6. Mp 115°.

Jensen, B.S., *Acta Chem. Scand.*, 1959, **13**, 1668 (*synth*)
Umetani, S. *et al*, *Talanta*, 1987, **34**, 779 (*sepn, Li, Na*)

2,4-Dihydro-5-methyl-2-(2-methylphenyl)-4-(3,5,5-trimethyl-1-oxohexyl)-3*H*-pyrazol-3-one, 9CI D-00434

*3-Methyl-1-*o*-tolyl-4-(3,5,5-trimethylhexanoyl)-5-pyrazolone*

[123035-92-7]



$C_{20}H_{28}N_2O_2$ M 328.453

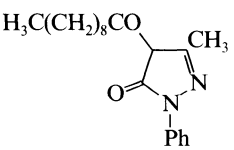
Used as 0.01*M* C_6H_6 soln. for extraction separation of Li and Na. Cryst. (dioxan aq.). Sol. dioxan, cyclohexane, C_6H_6, $CHCl_3$. Mp 47°.

Mukai, H. *et al*, *Anal. Chim. Acta*, 1989, **220**, 111 (*synth, use*)

2,4-Dihydro-5-methyl-4-(1-oxodecyl)-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00435

3-Methyl-1-phenyl-4-caproyl-5-pyrazolone

[18199-28-5]



$C_{20}H_{28}N_2O_2$ M 328.453

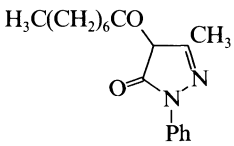
Used as a 0.1% butanol soln. for extraction-photometric detn. of V. Cryst. Sol. EtOH, Et_2O.

Kawamura, F. *et al*, *CA*, 1978, **88**, 15478c (*detn, V*)

2,4-Dihydro-5-methyl-4-(1-oxooctyl)-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00436

3-Methyl-4-octanoyl-1-phenyl-5-pyrazolone

[18664-71-6]



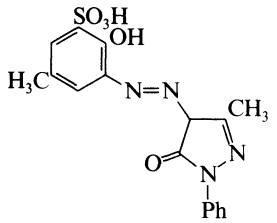
$C_{18}H_{24}N_2O_2$ M 300.400

Used as $CHCl_3$ soln. for extraction-separation of rare earth elements. Golden needles. Sol. $CHCl_3$, C_6H_6. Mp 72.1-72.5°. pK_a ~4.5.

Jensen, B.S., *Acta Chem. Scand.*, 1959, **13**, 1668 (*synth*)
Tochiyama, O. *et al*, *Anal. Chim. Acta*, 1981, **131**, 233 (*use, sepn, rare earth elements*)

3-[(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]-2-hydroxy-5-methylbenzenesulfonic acid, 9CI D-00437

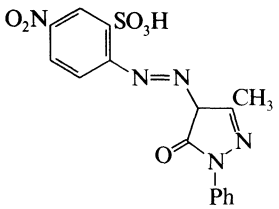
Geigy red dye. C.I. Mordant red 17. Eriochrome red G. Acid alizarin red G. Chrome fast red G. Monochrome red G. Omega chrome red G. C.I. 18750



$C_{17}H_{16}N_4O_5S$ M 388.403
Strictly, the trade names apply to the sodium salt.
Na salt: [6232-55-9].
Used as metallochromic indicator for titrimetric detn. of Zn. Orange-yellow cryst. powder. Sol. H_2O.

Belcher, R. *et al*, *Chemist-Analyst*, 1958, **47**, 2 (*detn, Zn*)
Colour Index, 3rd Edn., 1971, **4**, 4123 (*synth*)

2-[(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]-5-nitrobenzenesulfonic acid, 9CI D-00438

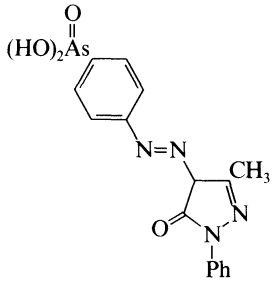


$C_{16}H_{13}N_5O_6S$ M 403.375
K salt: [41364-41-4].
Used as a 4m*M* soln. in DMF for photometric detn. of Na (λ_{max} 550 nm). Orange cryst. Sol. DMF; spar. sol. H_2O.

Markovich, I.S., *Zh. Anal. Khim.*, 1973, **28**, 227 (*detn, Na*)
Zelichenok, S.L. *et al*, *CA*, 1975, **83**, 125656p (*detn, Na*)

[4-[(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]phenyl]arsonic acid, 9CI D-00439

4-(4-Arsonophenylazo)-3-methyl-1-phenyl-5-pyrazolone
[42459-24-5]

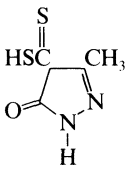


$C_{16}H_{15}AsN_4O_4$ M 402.240
Various tautomers possible. Struct. corresp. to 9CI name shown. Used for amperometric detn. of Zr. Dark red cryst. powder.

Popa, G. *et al*, *CA*, 1973, **79**, 48905g (*detn, Zr*)

4,5-Dihydro-3-methyl-5-oxo-1*H*-pyrazole-4-carbodithioic acid, 9CI D-00440

3-Methyl-5-pyrazolone-4-dithiocarboxylic acid
[71310-44-6]

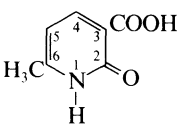


$C_5H_6N_2OS_2$ M 174.247
Used as a 0.1m*M* aq. soln. for indirect photometric detn. of Hg. Cryst. (H_2O). Sol. H_2O.

Papini, P. *et al*, *Gazz. Chim. Ital.*, 1959, **89**, 539 (*detn, Hg*)
Janik, B. *et al*, *Fresenius' Z. Anal. Chem.*, 1979, **296**, 414 (*detn, Hg*)

1,2-Dihydro-6-methyl-2-oxo-3-pyridinecarboxylic acid, 9CI D-00441

6-Methyl-2(1H)-pyridone-3-carboxylic acid. 2-Hydroxy-6-methyl-3-pyridinecarboxylic acid
[38116-61-9]



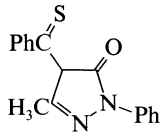
$C_7H_7NO_3$ M 153.137
Used for photometric detn. of Fe (λ_{max} 410 nm, ε 5000). Cryst. (H_2O). Sol. H_2O, EtOH. Mp 230-232°.
tert-*Butyl ester:* [81450-67-1].
$C_{11}H_{15}NO_3$ M 209.244
Solid. Mp 121-122°.

Kushwaha, V. *et al*, *Talanta*, 1973, **20**, 431.
Showalter, H.D.H. *et al*, *J. Heterocycl. Chem.*, 1981, **18**, 1609 (*ester*)
DeJohn, D. *et al*, *J. Heterocycl. Chem.*, 1983, **20**, 1295 (*synth, ir, pmr*)

2,4-Dihydro-5-methyl-2-phenyl-4-(phenylthioxomethyl)-3*H*-pyrazol-3-one, 9CI D-00442

3-Methyl-1-phenyl-4-thiobenzoyl-5-pyrazolone

[62574-31-6]



$C_{17}H_{14}N_2OS$ M 294.376

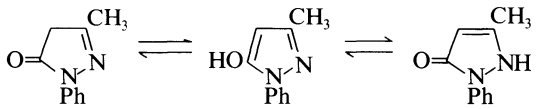
Used for photometric detn. of Co, Cu, Ni, Pb, U, Zn. Cryst.

Rao, G.N. *et al*, *Chem. Era*, 1978, **14**, 395 (*use*)

2,4-Dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00443

3-Methyl-1-phenyl-2-pyrazolin-5-one, 8CI. 5-Hydroxy-3-methyl-1-phenylpyrazole. Monopyrazolone

[89-25-8]



$C_{10}H_{10}N_2O$ M 174.202

Three tautomers exist in solv.-dependent equilib. Used for photometric detn. of Ag, Co, Cu, Fe, $CN^{\ominus}$, $SCN^{\ominus}$, $OCN^{\ominus}$. Widely-used intermediate. Couples with diazonium salts. Massive prisms (H_2O or C_6H_6). Sol. hot EtOH, $CHCl_3$, acids; insol. H_2O. Mp 127°, Mp 128-130°.

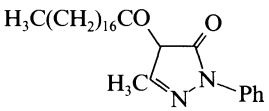
▷ UQ9625000.

Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, (*detn, Ag, Cu, Fe*)
Knorr, L., *Justus Liebigs Ann. Chem.*, 1887, **238**, 137 (*synth*)
Katritzky, A.R. *et al*, *Tetrahedron*, 1964, **20**, 299 (*ir, uv, pmr, struct, bibl*)
Bechtel, F. *et al*, *Cryst. Struct. Commun.*, 1973, **2**, 469 (*cryst struct*)
Larsen, E. *et al*, *Org. Mass Spectrom.*, 1973, **7**, 89 (*ms*)
Hawkes, G.E. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1977, 1024 (*nmr*)
Boltz, D.F. *et al*, *Colorimetric Determination of Nonmetals*, Wiley, New York, 1978 (*detn, $CN^{\ominus}$, $SCN^{\ominus}$, $OCN^{\ominus}$*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NNT000.

3,4-Dihydro-3-methyl-1-phenyl-4-stearoyl-5-pyrazolone D-00444

3-Methyl-1-phenyl-4-stearoyl-5-pyrazolone

[84356-27-4]



$C_{28}H_{44}N_2O_2$ M 440.668

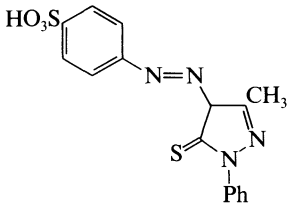
Used as 0.02*M* soln. in C_6H_6 for extraction-separation of Ca and Sr. Cryst. (MeOH). Sol. MeOH, C_6H_6.

Jensen, B.S., *Acta Chem. Scand.*, 1959, **13**, 1668 (*synth*)
Akama, Y. *et al*, *Anal. Sci.*, 1987, **3**, 141 (*use*)

4-[(4,5-Dihydro-3-methyl-1-phenyl-5-thioxo-1*H*-pyrazol-4-yl)azo] benzenesulfonic acid, 9CI D-00445

Azothiopyrinesulfonic acid

[77958-62-4]



$C_{16}H_{14}N_4O_3S_2$ M 374.444

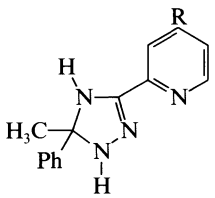
The tautomer illus. to which the 9CI name refers, is improbable (hydrazone or azo-thiol tautomers more probable). pK_{a1} 7.05.

Na salt: Used as 0.1% soln. in MeOH for photometric detn. of Ni, Co, Cd, Pb, Zn (alkaline media), Ag, Cu,Hg, Pd (acid media). Dark red needles (MeOH). Sol. H_2O, EtOH, Me_2CO; insol. C_6H_6. Mp 270°.

Tanaka, T. *et al*, *Chem. Pharm. Bull.*, 1981, **29**, 165.

2-(4,5-Dihydro-5-methyl-5-phenyl-1*H*-1,2,4-triazol-3-yl)-4-methylpyridine, 9CI D-00446

[42838-18-6]



R = CH_3

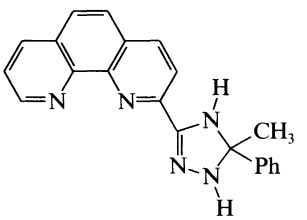
$C_{15}H_{16}N_4$ M 252.318

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 493 nm, ε 8000). Cryst. (MeOH). Sol. common org. solvs. Mp 82°.

Case, F.H., *J. Heterocycl. Chem.*, 1973, **10**, 353 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

2-(4,5-Dihydro-5-methyl-5-phenyl-1*H*-1,2,4-triazol-3-yl)-1,10-phenanthroline, 9CI D-00447

[42838-20-0]



$C_{21}H_{17}N_5$ M 339.399

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 555 nm, ε 13500). Cryst. (EtOH aq.). Sol. common org. solvs. Mp 217-218°.

Case, F.H., *J. Heterocycl. Chem.*, 1973, **10**, 353 (*detn, Fe*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*use*)

2-(4,5-Dihydro-5-methyl-5-phenyl-1*H*-1,2,4-triazol-3-yl)-4-phenylpyridine, 9CI D-00448

[42838-19-7]

As 2-(4,5-Dihydro-5-methyl-5-phenyl-1*H*-1,2,4-triazol-3-yl)-4-methylpyridine, D-00446 with

R = Ph

$C_{20}H_{18}N_4$ M 314.389

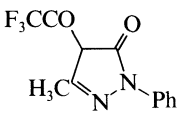
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 526 nm, ε 14600). Cryst. (EtOH). Sol. common org. solvs. Mp 130°.

Case, F.H., *J. Heterocycl. Chem.*, 1973, **10**, 353 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

2,4-Dihydro-5-methyl-2-phenyl-4-(trifluoroacetyl)-3*H*-pyrazol-3-one, 9CI D-00449

3-Methyl-1-phenyl-4-trifluoroacetyl-5-pyrazolone

[1691-93-6]



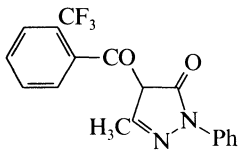
$C_{12}H_9F_3N_2O_2$ M 270.210

Enolised. Used as C_6H_6 or cyclohexane soln. for synergic extraction-separation of Li. Cryst. (dioxan aq.). Sol. dioxan, EtOH, cyclohexane, C_6H_6. Mp 146°.

Umetani, S. *et al*, *Talanta*, 1987, **34**, 779 (*synth, sepn, Li*)

2,4-Dihydro-5-methyl-2-phenyl-4-[2-(trifluoromethyl)benzoyl]-3*H*-pyrazol-3-one, 9CI D-00450

[132915-89-0]

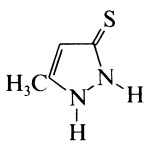


$C_{18}H_{13}F_3N_2O_2$ M 346.308

Used as 0.01*M* C_6H_6 soln. for extraction separation of Lu(*III*) (pH 1-2). Cryst. (dioxan aq.). Sol. C_6H_6, 1,2-dichloroethane, dioxan. Mp 163°.

Mukai, H. *et al*, *Anal. Chim. Acta*, 1990, **239**, 277 (*synth, use*)

1,2-Dihydro-5-methyl-3*H*-pyrazole-3-thione D-00451



$C_4H_6N_2S$ M 114.171

Parent compd. not known.

1,2-Di-Me: [32323-27-6]. *1,2,3-Trimethyl-3-pyrazoline-5-thione, 8CI*

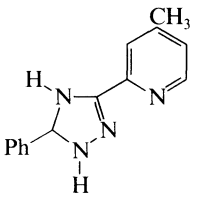
$C_6H_{10}N_2S$ M 142.224

Used for gravimetric detn. of Se. Cryst. Sol. H_2O, Me_2CO, EtOH. Mp 110°.

Tanaka, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1971, **20**, 163.

4,5-Dihydro-3-(4-methyl-2-pyridinyl)-5-phenyl-1*H*-1,2,4-triazole D-00452

2-(5-Phenyl-Δ²-1,2,4-triazolin-3-yl)-4-picoline, 8CI. 3-(4-Methyl-2-pyridinyl)-5-phenyl-1,2,4-triazoline



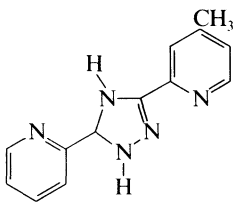
$C_{14}H_{14}N_4$ M 238.291

Used as a 5m*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 490 nm, ε 15000). Cryst. (EtOH). Sol. common org. solvs. Mp 115°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

4,5-Dihydro-3-(4-methyl-2-pyridinyl)-5-(2-pyridinyl)-1,2,4-triazole D-00453

3-(4-Methyl-2-pyridinyl)-5-(2-pyridinyl)-1,2,4-triazoline. 2-[4,5-Dihydro-5-(2-pyridinyl)-1H-1,2,4-triazol-3-yl]-4-methylpyridine. 2-[(5-(2-Pyridyl)-Δ²-1,2,4-triazolin-3-yl)]-4-picoline, 8CI



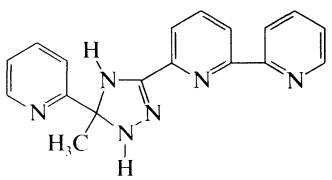
$C_{13}H_{13}N_5$ M 239.279

Used as a 5m*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 520 nm, ε 9900). Cryst. (EtOH). Sol. common org. solvs. Mp 152-153°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

6-[4,5-Dihydro-5-methyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-2,2′-bipyridine, 9CI D-00454

[42838-25-5]



$C_{18}H_{16}N_6$ M 316.365

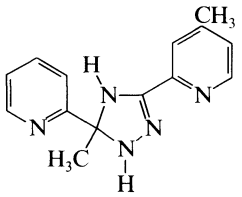
Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*) (λ_{max} 550 nm, ε 8900). Cryst. (EtOH aq.). Sol. common org. solvs. Mp 92-93° (as monohydrate).

Case, F.H., *J. Heterocycl. Chem.*, 1973, **10**, 353 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

2-[4,5-Dihydro-5-methyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-4-methylpyridine, 9CI D-00455

4,5-Dihydro-5-methyl-3-(4-methyl-2-pyridyl)-5-(2-pyridyl)-1H-1,2,4-triazole

[42838-22-2]



$C_{14}H_{15}N_5$ M 253.306

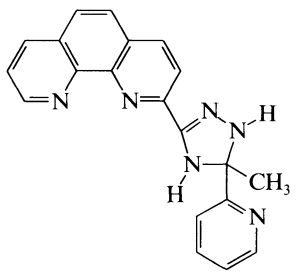
Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*) (λ_{max} 490 nm, ε 6700). Cryst. (EtOH). Sol. common org. solvs. Mp 172-173°.

Case, F.H., *J. Heterocycl. Chem.*, 1973, **10**, 353 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

2-[4,5-Dihydro-5-methyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-1,10-phenanthroline, 9CI D-00456

4,5-Dihydro-5-methyl-3-(1,10-phenanthrolin-2-yl)-5-(2-pyridyl)-1H-1,2,4-triazole

[42838-24-4]



$C_{20}H_{16}N_6$ M 340.387

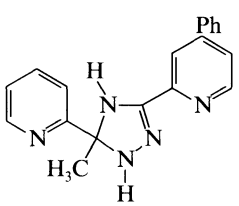
Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*)(λ_{max} 495 nm, ε 10000). Cryst. (EtOH aq.). Sol. common org. solvs. Mp 180-181°.

Case, F.H., *J. Heterocycl. Chem.*, 1973, **10**, 353 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

2-[4,5-Dihydro-5-methyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-4-phenylpyridine, 9CI D-00457

4,5-Dihydro-5-methyl-3-(4-phenyl-2-pyridyl)-5-(2-pyridyl)-1H-1,2,4-triazole

[42838-23-3]



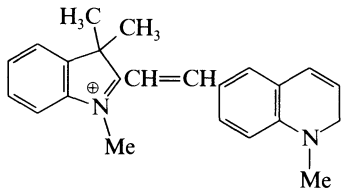
$C_{19}H_{17}N_5$ M 315.377

Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*) (λ_{max} 484 nm, ε 7700). Cryst. (EtOH). Sol. common org. solvs. Mp 134°.

Case, F.H., *J. Heterocycl. Chem.*, 1973, **10**, 353 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

2-[2-(1,2-Dihydro-1-methyl-6-quinolinyl)ethenyl]-1,3,3-trimethyl-3*H*-indolinium(1+), 9CI D-00458

2-(1-Methyl-6-quinolinyl)vinyl-1,3,3-trimethyl-3H-indolium(1+)



$C_{23}H_{25}N_2^{\oplus}$ M 329.464 (ion)

Basic cyanine dye.

Chloride:

$C_{23}H_{25}ClN_2$ M 364.917

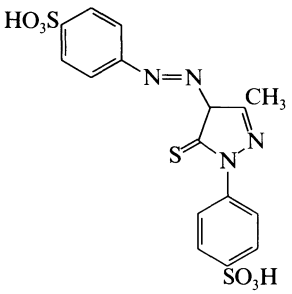
Used as 1m*M* aq. soln. for photometric detn. of Pb (λ_{max} 560 nm, ε 110000). Cryst. Sol. H_2O, EtOH; insol. $CHCl_3$.

[125232-89-5]

Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 313 (*detn, Pb*)

4-[4,5-Dihydro-3-methyl-4-[(4-sulfophenyl)azo]-5-thioxo-1*H*-pyrazol-1-yl] benzenesulfonic acid D-00459

Azothiopyrinedisulfonic acid



$C_{16}H_{14}N_4O_6S_3$ M 454.508

The tautomer illus. to which the 9CI name refers is unlikely (hydrazone or thiol-azo tautomers more probable). pK_{a1} 7.08.

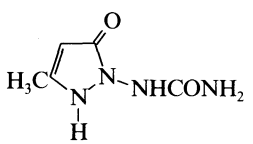
Di-Na salt: [77958-63-5].

Used as 0.1% son. in MeOH for photometric detn. of Ni, Co, Cd, Pb, Zn (alkaline media), Ag, Cu, Hg, Pd (acid media); as 0.01*M* aq. soln. for separation and fluorimetric detn. of Se(*IV*). Dark reddish violet needles (isopropanol aq.). Sol. H_2O, EtOH, Me_2CO; insol. C_6H_6.

Tanaka, T. *et al*, *Chem. Pharm. Bull.*, 1981, **29**, 165 (*synth*)
Nakayama, M. *et al*, *Talanta*, 1983, **30**, 455 (*detn, Se*)

2,3-Dihydro-5-methyl-2-ureido-3*H*-pyrazol-3-one D-00460

1-Carbamido-3-methyl-5-pyrazolone



$C_5H_8N_4O_2$ M 156.144

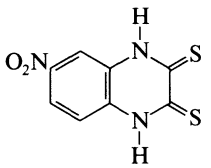
Used for photometric detn. of $OsO_4^{2\ominus}$, Fe(*III*). Cryst. Sol. EtOH, Me_2CO; sl. sol. cold H_2O.

Poddar, S.N., *Fresenius' Z. Anal. Chem.*, 1964, **203**, 333.

1,4-Dihydro-6-nitro-2,3-quinoxalinedithione, 9CI D-00461

6-Nitro-2,3-quinoxalinedithiol. 2,3-Dimercapto-6-nitroquinoxaline

[32830-09-4]



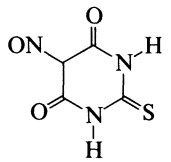
$C_8H_5N_3O_2S_2$ M 239.278

Used as a 0.5% soln. in aq. NH_3 for photometric detn. of Co, Ni. Yellow-orange cryst. Sol. dil. alkalis.

Bhaskare, C.K. *et al*, *Fresenius' Z. Anal. Chem.*, 1976, **278**, 127 (*detn, Co*)
Bhaskare, C.K. *et al*, *Anal. Chim. Acta*, 1977, **93**, 335 (*use*)

Dihydro-5-nitroso-2-thioxo-4,6(1*H*,5*H*)-pyrimidinedione, 9CI D-00462

[63681-88-9]



$C_4H_3N_3O_3S$ M 173.152

Used as aq. soln. for photometric detn. of Fe(*II*) (λ_{max} 660 nm, ε 26600). Cryst.

N^1,N^3-*Di-Et:* [75356-78-4]. *1,3-Diethyldihydro-5-nitroso-2-thioxo-4,6(1*H*,5*H*)-pyrimidinedione, 9CI*

$C_8H_{11}N_3O_3S$ M 229.259

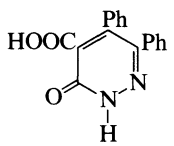
Used as a soln. in EtOH for extraction-photometric detn. of Fe(*II*) (λ_{max} 640 nm, isopentanol). Cryst.

Tsuchiya, M., *CA*, 1979, **90**, 114417e (*use*)
Tsuchiya, M. *et al*, *CA*, 1980, **93**, 197084e (*use*)

2,3-Dihydro-3-oxo-5,6-diphenyl-4-pyridazinecarboxylic acid, 9CI D-00463

*6-Oxo-3,4-diphenyl-1*H*-pyridazine-5-carboxylic acid*

[82231-91-2]



$C_{17}H_{12}N_2O_3$ M 292.293

Cryst. (EtOH). Mp 233-234° dec.

Amide:

$C_{17}H_{13}N_3O_2$ M 291.309

Used as the Et_4N salt for detn. of Na.

Et ester: [54108-26-8].

$C_{19}H_{16}N_2O_3$ M 320.347

Cryst. Mp 218-219°.

Nitrile: [79225-55-1].

$C_{17}H_{11}N_3O$ M 273.293

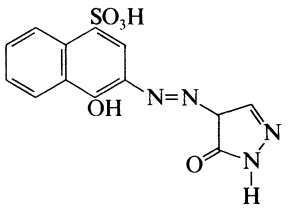
Cryst. Mp 272-273°.

[51649-27-5]

Schmidt, P. *et al*, *Helv. Chim. Acta*, 1954, **37**, 134 (*synth*)
Knotz, F. *et al*, *Mikrochim. Acta*, 1974, 81 (*use*)

3-[(4,5-Dihydro-5-oxo-1*H*-pyrazol-4-yl)azo]-4-hydroxy-1-naphthalenesulfonic acid, 9CI D-00464

[65593-06-8]



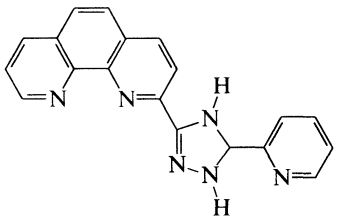
$C_{13}H_{10}N_4O_5S$ M 334.312

Used as 1m*M* soln. in 2m*M* NaOH for photometric detn. of Rh (λ_{max} 490 nm, ε 19400, pH 3.5). Cryst. Sol. alkalis, EtOH.

Pilipenko, A.T. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 1822 (*synth, detn, Rh*)

4,5-Dihydro-3-(1,10-phenanthrolin-2-yl)-5-(2-pyridinyl)-1,2,4-triazole D-00465

3-[(1,10-Phenanthrolin-2-yl)]-5-(2-pyridyl)-1,2,4-triazoline



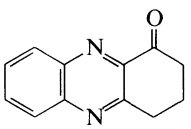
$C_{19}H_{14}N_6$ M 326.360

Used as a 5m*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 552 nm, ε12600). Cryst. + $2H_2O$. Mp 151-152° (as dihydrate).

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

3,4-Dihydro-1(2*H*)-phenazinone, 9CI D-00466

[119426-78-7]



$C_{12}H_{10}N_2O$ M 198.224

Oxime: [42272-79-7]. *1,2,3,4-Tetrahydro-1-hydroxyiminophenazine*

$C_{12}H_{11}N_3O$ M 213.238

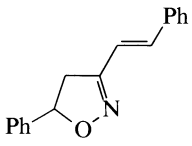
Used as 0.05% soln. in dil. NaOH aq. for photometric detn. of Cu(*I*). Yellow plates (Py). Sol. alkalis, Et_2O. Mp 213°. pK_{a1} 1.7; pK_{a2} 10.25 (25°, μ = 0.1).

Cookson, G.H., *J. Chem. Soc.*, 1953, 1328 (*synth*)
Riolo, C.B. *et al*, *Talanta*, 1973, **20**, 684 (*detn, Cu*)

4,5-Dihydro-5-phenyl-3-(2-phenylethenyl) isoxazole, 9CI D-00467

5-Phenyl-3-styryl-Δ^2-isoxaline

[17819-43-1]



$C_{17}H_{15}NO$ M 249.312

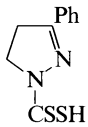
Used as 0.01% EtOH soln. for kinetic-fluorimetric detn. of V(*V*) (λ_{max} 530 nm). Cryst. Sol. mod. EtOH.

Grases, F. *et al*, *Anal. Chim. Acta*, 1983, **148**, 245 (*synth, detn, V*)

4,5-Dihydro-3-phenyl-1*H*-pyrazole-1-carbodithioic acid, 9CI D-00468

3-Phenylpyrazoline-1-dithiocarbamic acid

[38567-24-7]



$C_{10}H_{10}N_2S_2$ M 222.334

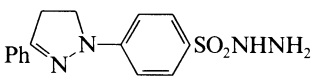
Used as 0.5% soln. in $CHCl_3$/isopentanol for photometric detn. of Re (λ_{max} 370 nm, ε 45000, $CHCl_3$). Yellow cryst. (H_2O). Sol. alkalis, $CHCl_3$.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1028 (*synth, detn, Re*)

4-(4,5-Dihydro-3-phenyl-1*H*-pyrazol-1-yl) benzenesulfonic acid hydrazide, 9CI D-00469

Darpsyl hydrazide

[100343-99-5]



$C_{15}H_{16}N_4O_2S$ M 316.383

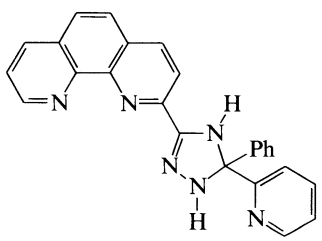
Fluorescent reagent for hplc anal. of carbonyl compds.

Anderson, J.M., *Anal. Biochem.*, 1986, **152**, 146 (*use*)

2-[4,5-Dihydro-5-phenyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-1,10-phenanthroline, 9CI D-00470

5-Phenyl-5-(2-pyridyl)-3-[2-(1,10-phenanthroly)]-Δ^2-1,2,4-triazoline

[42838-26-6]



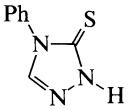
$C_{25}H_{18}N_6$ M 402.457

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 515 nm, ε 4200). Cryst. (EtOH). Sol. common org. solvs. Mp 176-177°.

Case, F.H., *J. Heterocycl. Chem.*, 1973, **10**, 353 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*use*)

2,4-Dihydro-4-phenyl-3*H*-1,2,4-triazole-3-thione D-00471

[5373-72-8]



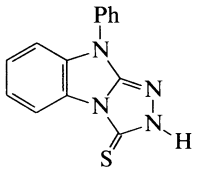
$C_8H_7N_3S$ M 177.229

Used as 0.02% AcOH soln. for extraction-photometric detn. of Pt, Rh, Os, Ru (1*M* HCl, pH 5, $CHCl_3$, isopentanol). Yellowish cryst. Sol. AcOH, EtOH.

Radushev, A.V. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 742 (*synth, use*)

2,9-Dihydro-9-phenyl-3*H*-1,2,4-triazolo[4,3-*a*]benzimidazole-3-thione, 9CI D-00472

[4502-97-0]



$C_{14}H_{10}N_4S$ M 266.326

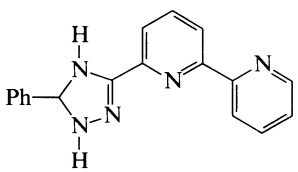
Used as 0.2% AcOH soln. for extraction-photometric detn. of Pd, Pt, Au, Os, Ru (6-7*M* HCl, $CHCl_3$). Yellowish cryst. Sol. AcOH, EtOH (hot).

Radushev, A.V. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 742 (*synth, use*)

6-(2,5-Dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)-2,2′-bipyridine, 9CI D-00473

3-(2,2′-Bipyridin-6-yl)-5-phenyl-Δ^2-1,2,4-triazoline

[31696-97-6]



$C_{18}H_{15}N_5$ M 301.350

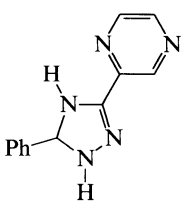
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 548 nm, ε 9200). Cryst. (EtOH). Sol. common org. solvs. Mp 135°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 173 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

2-(4,5-Dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)pyrazine, 9CI D-00474

5-Phenyl-3-pyrazinyl-2-pyrazoline

[31696-91-0]



$C_{12}H_{11}N_5$ M 225.252

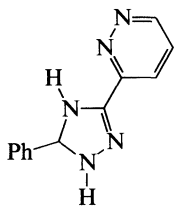
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 530 nm, ε 7400). Cryst. (EtOH). Sol. common org. solvs. Mp 164°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 173 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

3-(4,5-Dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)pyridazine, 9CI D-00475

5-Phenyl-2-(3-pyridazinyl)-2-pyrazoline

[31696-93-2]



$C_{12}H_{11}N_5$ M 225.252

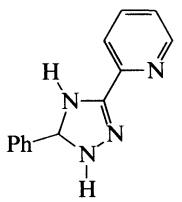
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 523 nm, ε 12300). Cryst. (EtOH). Sol. common org. solvs. Mp 173°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 173 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*use*)

2-(4,5-Dihydro-4-phenyl-1*H*-1,2,4-triazol-3-yl)pyridine D-00476

2-(5-Phenyl-Δ^2-1,2,4-triazolin-3-yl)pyridine, 8CI. 5-Phenyl-3-(2-pyridyl)-1,2,4-triazoline

[26728-25-6]



$C_{13}H_{12}N_4$ M 224.265

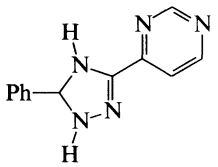
Used as 5m*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 500 nm, ε 9200). Cryst. (EtOH). Sol. common org. solvs. Mp 111°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

4-(2,5-Dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)pyrimidine, 9CI D-00477

3-(4-Pyrimidyl)-5-phenyl-Δ^2-1,2,4-triazoline

[31696-95-4]



$C_{12}H_{11}N_5$ M 225.252

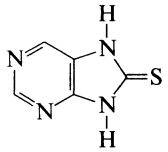
Used as 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 530 nm, ε 3000). Cryst. (EtOH). Sol. common org. solvs. Mp 155°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 173 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

1,3-Dihydro-2*H*-purine-2-thione, 9CI D-00478

2-Mercaptopurine

[28128-19-0]



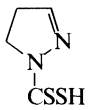
$C_5H_4N_4S$ M 152.179

Tautomeric with enol form. Used as 0.005% aq. soln. for photometric detn. of Au. Yellow cryst. (H_2O). Mod. sol. H_2O.

Kurzawa, Z. *et al*, *Chem. Anal.* (*Warsaw*), 1976, **21**, 797 (*detn, Au*)

4,5-Dihydro-1*H*-pyrazole-1-carbodithioic acid D-00479

Pyrazoline-1-dithiocarbamic acid



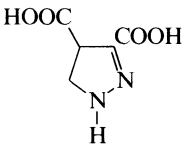
$C_4H_6N_2S_2$ M 146.237

Used as $CHCl_3$ soln. for extraction-separation of heavy metals, e.g. Bi, Pd, Re, Mo, Cu, Cd. Cryst. Sol. alkalis, $CHCl_3$.

Byr'ko, V.M., *Tr. Kom. Anal. Khim., Akad. Nauk SSSR*, 1963, **14**, 191; *CA*, **59**, 14929g (*synth, use*)

4,5-Dihydro-1*H*-pyrazole-3,4-dicarboxylic acid D-00480

Δ^2-Pyrazoline-3,4-dicarboxylic acid



$C_5H_6N_2O_4$ M 158.113

Cryst. Mp 233° dec.

Diamide, N-di-Me:
$C_7H_{12}N_4O_2$ M 184.197
Used for photometric detn. of phosphoric (λ_{max} 815 nm, ε 24800), arsenic, silicic and germanic acids. Cryst. Mp 175°.

Di-Me ester: [87387-81-3].
$C_7H_{10}N_2O_4$ M 186.167
Cryst. Mp 98°.

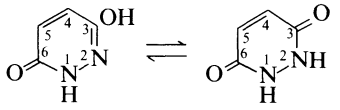
Di-Et ester:
$C_9H_{14}N_2O_4$ M 214.221
Cryst. Mp 87-88°.

Von Auwers, K. *et al*, *Justus Liebigs Ann. Chem.*, 1932, **496**, 27 (*synth, ester*)
Fischer, H. *et al*, *Z. Physiol. Chem.*, 1935, **234**, 97 (*synth*)
Grandberg, I.I. *et al*, *Zh. Obshch. Khim.*, 1961, **31**, 544; *CA*, **55**, 23497b (*synth, ester*)
Vinogradova, N.B. *et al*, *Zh. Anal. Khim.*, 1964, **19**, 997 (*deriv, synth, use*)
Zhukovsky, Y.G., *Zh. Anal. Khim.*, 1964, **19**, 1361 (*deriv, use*)

1,2-Dihydro-3,6-pyridazinedione, 9CI D-00481

Maleic hydrazide

[123-33-1]



(A) (B)

$C_4H_4N_2O_2$ M 112.088

▷ Mod. toxic. Emits highly toxic fumes when heated to dec.. UR5950000.

A-form

Plant growth inhibitor. Used for photometric detn. of Fe(*III*) (λ_{max} 480 nm). Cryst. (H_2O). Mp 260° dec., >300°. Major tautomer.

1-Me: [5436-01-1].
$C_5H_6N_2O_2$ M 126.115
Mp 210-211°.

1-Me, Me ether: [7154-81-6]. *6-Methoxy-2-methyl-3(2H)-pyridazinone, 9CI*
$C_6H_8N_2O_2$ M 140.141
Mp 65-66°.

1-Phenyl: [1698-54-0].
$C_{10}H_8N_2O_2$ M 188.185
Cryst. (AcOH). Mp 255-256°.

1-Phenyl, Me ether: [14634-50-5]. *6-Methoxy-2-phenyl-1(2H)-pyridazinone, 9CI*
$C_{11}H_{10}N_2O_2$ M 202.212
Cryst. (diisopropyl ether). Mp 76-77°.

B-form

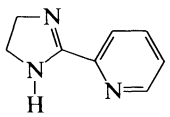
Minor tautomer.

1,2-Di-Me: [7685-97-4].
$C_6H_8N_2O_2$ M 140.141
Cryst. (Me_2CO/hexane). Mp 137-138°.

Schoene, D.L. *et al*, *Science* (*Washington, D.C.*), 1949, **109**, 588.
Eichenberger, K. *et al*, *Helv. Chim. Acta*, 1954, **37**, 510, 837 (*derivs*)
Feuer, H. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 3890.
Ohashi, O. *et al*, *Can. J. Chem.*, 1964, **42**, 970.
Katritzky, A.R. *et al*, *J. Chem. Soc.*, 1964, 1523 (*tautom*)
Rubenstein, H. *et al*, *J. Org. Chem.*, 1971, **36**, 3372 (*pmr*)
Hashmi, M.M. *et al*, *Microchem. J.*, 1971, **16**, 626 (*detn, Fe*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 785.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DMC600.

2,3-Dihydro-5-(2-pyridinyl)-1*H*-imidazole D-00482

2-(2-Pyridinyl)imidazoline



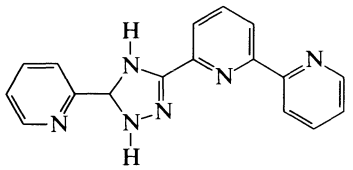
$C_8H_9N_3$ M 147.179
Used as 2% EtOH soln. for photometric detn. of Fe(*II*) (λ_{max} 560 nm, ε 7800, pH 5.7). Cryst. (pet. ether). Sol. EtOH, Me_2CO, $CHCl_3$; sl. sol. H_2O. Mp 96-98°.

Walter, J.L. *et al*, *Anal. Chem.*, 1954, **26**, 217 (*synth, detn, Fe*)

6-[4,5-Dihydro-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-2,2′-bipyridine, 9CI D-00483

3-(2,2′-Bipyridin-6-yl)-5-(2-pyridyl)-Δ²-1,2,4-triazoline

[31892-84-9]

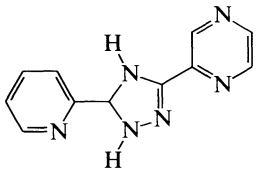


$C_{17}H_{14}N_6$ M 302.338
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 551 nm, ε 9000). Cryst. (EtOH). Sol. common org. solvents. Mp 181°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 173 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

[4,5-Dihydro-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]pyrazine, 9CI D-00484

[31696-92-1]

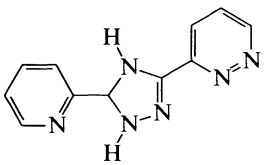


$C_{11}H_{10}N_6$ M 226.240
Used as 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 424 nm, ε 10400), Fe(*II*) (λ_{max} 512 nm, ε 7200). Cryst. (EtOH). Sol. common org. solvs. Mp 190°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 173 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*use*)

3-[4,5-Dihydro-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]pyridazine, 9CI D-00485

[31696-94-3]



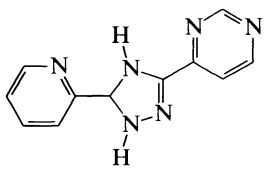
$C_{11}H_{10}N_6$ M 226.240
Used as 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 514 nm, ε 9400). Cryst. (EtOH). Sol. common org. solvs. Mp 204°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 173 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

4-[4,5-Dihydro-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]pyrimidine, 9CI D-00486

3-(4-Pyrimidyl)-5-(2-pyridyl)-Δ²-1,2,4-triazoline

[31696-96-5]



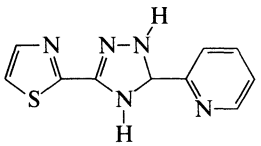
$C_{11}H_{10}N_6$ M 226.240

Used as 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 510 nm, ε 7100). Cryst. (EtOH). Sol. common org. solvs. Mp 179°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 173 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*use*)

4,5-Dihydro-5-(2-pyridyl)-3-(2-thiazolyl)-1*H*-1,2,4-triazole D-00487

2-[3-(2-Thiazolyl)-Δ²-1,2,4-triazolin-5-yl]pyridine, *8CI*. *5-(2-Pyridyl)-3-(2-thiazolyl)-1,2,4-triazoline*. *2-[4,5-Dihydro-3-(2-thiazolyl)-1*H*-1,2,4-triazol-5-yl]pyridine*

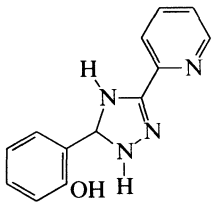


$C_{10}H_9N_5S$ M 231.281
Used as a 5m*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 635 nm, ε 4800). Cryst. (EtOH). Sol. common org. solvs. Mp 180-181°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn*, *Fe*)

2-[4,5-Dihydro-3-(2-pyridyl)-1*H*-1,2,4-triazolyl]phenol D-00488

o-[*3-(2-Pyridyl)-Δ²-1,2,4-triazolin-5-yl]phenol*, *8CI*. *4,5-Dihydro-5-(2-hydroxyphenyl)-3-(2-pyridyl)-1,2,4-triazole*



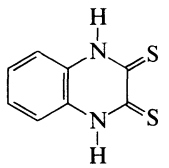
$C_{13}H_{12}N_4O$ M 240.264
Used as 5m*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 520 nm, ε 5000). Cryst. (EtOH). Sol. common org. solvs. Mp 127°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn*, *Fe*)

1,4-Dihydro-2,3-quinoxalinedithione, 9CI D-00489

Quinoxaline-2,3-dithiol. *2,3-Dimercaptoquinoline*

[1199-03-7]

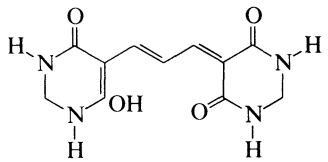


$C_8H_6N_2S_2$ M 194.281
Used as 5m*M* soln. in EtOH/DMF for photometric detn. of Ni (λ_{max} 660 nm ε 18000), Co, Cu, Bi, Pd, Pt. Cryst. Sol. EtOH, DMF, Me_2CO.

Ayres, G.H. *et al*, *Anal. Chem.*, 1964, **36**, 133, 138 (*detn*, *Pt*, *Pd*)
Dalziel, J.A. *et al*, *Talanta*, 1968, **15**, 367 (*detn*, *Co*, *Ni*)
Burke, R.W. *et al*, *Talanta*, 1970, **17**, 255 (*detn*, *Co*, *Cu*, *Ni*)
Chernomorchenko, L.I. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 2262 (*detn*, *Co*)
Chernomorchenko, L.I. *et al*, *Zavod. Lab.*, 1973, **39**, 1448 (*detn*, *Bi*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 407 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, QSJ000.

Dihydro-5-[3-(1,2,3,4-tetrahydro-6-hydroxy-4-oxo-5-pyrimidinyl)-2-propenylidene]-4,6(1*H*,5*H*)-pyrimidinedione, 9CI D-00490

[52748-90-0]



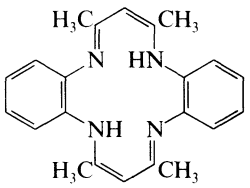
$C_{11}H_{12}N_4O_4$ M 264.240
Used as 0.015% soln. in aq. Me_2CO for photometric detn. of Mg (λ_{max} 546 nm). Cryst. Sol. H_2O, Me_2CO, EtOH.

Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1969, **248**, 291; 1973, **266**, 343 (*synth*, *detn*, *Mg*)

5,14-Dihydro-6,8,15,17-tetramethyldibenzo[*b*,*i*][1,4,8,11]tetraazacyclotetradecine, 9CI D-00491

6,8,15,17-Tetramethyldibenzo-5,9,14,18-tetraazacyclotetradecene

[56276-51-8]



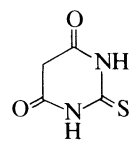
$C_{22}H_{24}N_4$ M 344.458
Used as a 0.1m*M* aq. soln. for photometric detn. of Cu (λ_{max} 381 nm, ε 43500).

Toda, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1979, **28**, 440 (*detn*, *Cu*)

Dihydro-2-thioxo-4,6(1*H*,5*H*)-pyrimidinedione, 9CI D-00492

Thiobarbituric acid. *Malonylthiourea*. *Bathyran*

[504-17-6]



$C_4H_4N_2O_2S$ M 144.154
Bactericide, thyroid inhibitor. Used as 0.03*M* aq. soln. for photometric detn. of Bi, Cu, Pd, Ru(*III*) (λ_{max} 338 nm, ε 11000). Plates (H_2O). Sol. H_2O, alkalis. Mp 235° dec. (rapid heating).

▷ CQ7700000.

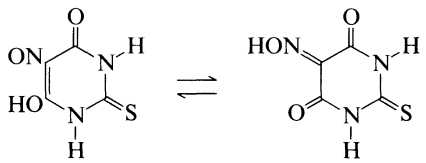
N,N'-*Di-Ph:* [35221-12-6]. *1,3-Diphenyl-2-thiobarbituric acid*. *Dihydro-1,3-diphenyl-2-thioxo-4,6-(1*H*,5*H*)-pyrimidinedione*, *9CI*
$C_{16}H_{12}N_2O_2S$ M 296.349
Fluorescence labelling reagent used in hplc anal. of lipoperoxides. Cryst. (EtOH). Mp 216°, 245°.

Michael, A., *J. Prakt. Chem.*, 1894, **49**, 38 (*synth*)
Harwood, H.J., *CA*, 1933, **27**, 1676 (*synth*)
Dass, I.N.D. *et al*, *Proc. - Indian Acad. Sci., Sect. A*, 1938, **8**, 145 (*deriv, synth*)
Japan. Pat., 77 07 054, (1977); *CA*, **87**, 128882c (*use*)
Gupta, S.P. *et al*, *Indian J. Chem., Sect. B*, 1979, **18**, 463 (*deriv, synth*)
Morelli, B., *Analyst (London)*, 1982, **107**, 282; 1983, **108**, 386, 870, 1506; 1984, **109**, 47 (*detn, Bi, Cu, Pd, Ru*)
Ohsawa, K., *Anal. Sci.*, 1985, **1**, 473 (*deriv, synth*)
Nakashima, K. *et al*, *Chem. Pharm. Bull.*, 1985, **33**, 5380 (*deriv, use*)
Das, P.K. *et al*, *Indian J. Chem., Sect. B*, 1985, **24**, 437 (*deriv, synth*)
Katritzky, A.R. *et al*, *Can. J. Chem.*, 1986, **64**, 2087 (*synth, cmr*)
Gotthardt, H. *et al*, *Chem. Ber.*, 1986, **119**, 2094 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MCK500.

Dihydro-2-thioxo-4,5,6(1*H*)-pyrimidinetrione 5-oxime, 9CI D-00493

5-Nitrosothiobarbituric acid. Thiovioluric acid

[23036-77-3]



$C_4H_3N_3O_3S$ M 173.152

Used as a 7.5m*M* aq. soln. for photometric detn. of Co, Fe(*II*). Cryst. (Me_2CO/pet. ether). pK_{a1} 4.14.

N,N′-*Di-Ph:* [35778-69-9]. *Diphenylthiovioluric acid*

$C_{16}H_{11}N_3O_3S$ M 325.347

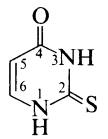
Used as 0.2% Me_2CO soln. for extraction-photometric detn. of Co, Ru. Cryst.

Chawla, R.S. *et al*, *Talanta*, 1971, **18**, 1245 (*deriv, detn, Ru*)
Toropova, V.F. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1545 (*detn, Fe*)
Ershova, L.V. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1367 (*detn, Co*)

2,3-Dihydro-2-thioxo-4(1*H*)-pyrimidinone, 9CI D-00494

2-Thiouracil

[141-90-2]



$C_4H_4N_2OS$ M 128.154

6 Tautomers theoretically possible; *NH*-form (illus.) prob. predominates. Present in *E. coli* t-RNA. Shows antibacterial and antiviral props. by alterations to protein synth. Antithyroid agent. Antidote for Hg poisoning. Used as 0.3% soln. in Me_2CO/HCl (pH 1) for photometric detn. of Pd(*II*) (λ_{max} 428 nm). Prisms (H_2O or EtOH). Sol. Me_2CO, EtOH, H_2O. Mp 340° dec.

▷ Exp. carcinogen. YR1575000.

NH-form

1-Me: [615-78-1].
$C_5H_6N_2OS$ M 142.181
Cryst. (EtOH). Mp 226°.

3-Me: [576-28-3].
$C_5H_6N_2OS$ M 142.181
Cryst. (EtOH). Mp 207°.

1,3-Di-Me:
$C_6H_8N_2OS$ M 156.208
Cryst. (EtOH). Mp 109°.

SH-form

Minor tautomer.

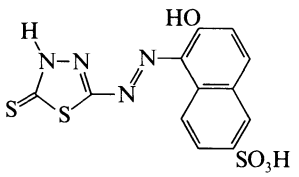
Me thioether: [5751-20-2]. *2-(Methylthio)-4(1*H*)-pyrimidinone*
$C_5H_6N_2OS$ M 142.181
Cryst. Mp 199-201°.

Et thioether: [6965-19-1]. *2-(Ethylthio)-4(1*H*)-pyrimidinone*
$C_6H_8N_2OS$ M 156.208
Cryst. Mp 151-152°.

Warrener, R.N. *et al*, *Chem. Ind. (London)*, 1964, 1989 (*deriv*)
Croitoru, V. *et al*, *CA*, 1968, **68**, 9076r (*detn, Pd*)
Yoshimura, M. *et al*, *Yakugaku Zasshi*, 1976, **96**, 1094 (*synth*)
Maruizumi, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1978, **51**, 978 (*nmr*)
Still, I.W.J. *et al*, *Can. J. Chem.*, 1978, **56**, 725 (*cmr*)
Hirota, K. *et al*, *J. Org. Chem.*, 1978, **43**, 1193 (*synth*)
Katritzky, A.R. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1989, 1499, 1507 (*tautom, bibl*)
Katritzky, A.R. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1990, 871 (*pe, tautom*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TFR250.

5-[(4,5-Dihydro-5-thioxo-1,3,4-thiadiazol-2-yl)azo]-6-hydroxy-2-naphthalenesulfonic acid, 9CI D-00495

Mebidom 6S



$C_{12}H_8N_4O_4S_3$ M 368.418

pK_{a1} 4.78; pK_{a2} 7.85.

Na salt: [60593-00-2].

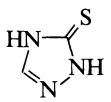
Used as 0.1-0.3m*M* soln. in MeOH or buffer (acetate, borate) to give colour reactions with Cd, Co, Cu, Fe, Ni. Dark red needles. Sol. EtOH.

Domagalina, E., *Chem. Anal. (Warsaw)*, 1976, **21**, 105, 411 (*synth, pKa, use*)

1,2-Dihydro-3*H*-1,2,4-triazole-3-thione, 9CI D-00496

s-*Triazole-3-thiol, 8CI. 3-Mercapto-1,2,4-triazole*

[3179-31-5]



$C_2H_3N_3S$ M 101.132

Thione-form (illus.) is most probable. Mp 214-216°.

▷ XZ5267500.

K salt: [39751-89-8].

Used as 0.05*M* aq. soln. for photometric detn. of Rh(*III*) (λ_{max} 300 nm, ε 32000), Pt(*IV*), Pd(*II*). Cryst. Sol. H_2O, acids.

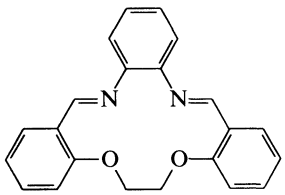
Freund, M., *Ber.*, 1896, **29**, 2483 (*synth*)
Goerdeler, J. *et al*, *Chem. Ber.*, 1957, **90**, 202 (*synth*)
Radushev, A.V. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 2209 (*detn, Rh, Pt*)
Romanenko, L.P. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1908 (*detn, Pd*)

Singh, H. *et al*, *Tetrahedron*, 1986, **42**, 1449 (*synth, ir, pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, THT000.

6,7-Dihydrotribenzo[*e,i,m*][1,4,8,11] dioxadiazacyclotetradecine, 9CI D-00497

3,4:9,10:13,14-Tribenzo-1,12-diaza-5,8-dioxacyclotetradeca-1,11-diene

[78972-98-2]



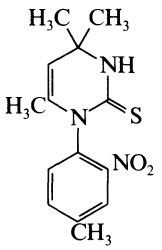
$C_{22}H_{18}N_2O_2$ M 342.396
Used as 1-10m*M* soln. in $CHCl_3$ for selective extraction separation of Cu(*II*) (pH 4-6). Cryst. Sol. $CHCl_3$.

Zolotov, Yu.A. *et al*, *Dokl. Akad. Nauk SSSR*, 1981, **258**, 889 (*synth, sepn, Cu*)
Zolotov, Yu.A. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 1543 (*sepn, Cu*)

3,4-Dihydro-4,4,6-trimethyl-1-(4-methyl-2-nitrophenyl)-2(1*H*)-pyrimidinethione, 9CI D-00498

4,4,6-Trimethyl-1-(4-methyl-2-nitrophenyl)-2(1H,4H)-pyrimidinethiol

[37951-55-6]

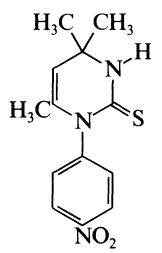


$C_{14}H_{17}N_3O_2S$ M 291.373
Used as 0.01*M* $CHCl_3$ soln. for extraction separation of Pt metals and Au; photometric detn. of Pd, Os, Ru. Cryst. Sol. $CHCl_3$, C_6H_6, DMF, dioxan.

Mathes, R.A., *J. Am. Chem. Soc.*, 1953, **75**, 1747 (*derivs, synth*)
Anuse, M.A. *et al*, *Talanta*, 1983, **30**, 323 (*use*)

3,4-Dihydro-4,4,6-trimethyl-1-(4-nitrophenyl)-2(1*H*)-pyrimidinethione, 9CI D-00499

[21038-75-5]



$C_{13}H_{15}N_3O_2S$ M 277.346

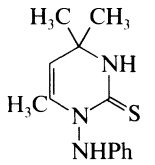
Used as 0.01*M* $CHCl_3$ soln. for extraction-photometric detn. of Pd(*II*) (λ_{max} 430 nm, ε 5000, 1-10*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6, dioxan.

Mathes, R.A., *J. Am. Chem. Soc.*, 1953, **75**, 1747 (*synth*)
Singh, A.K. *et al*, *Talanta*, 1976, **23**, 337 (*detn, Pd*)

3,4-Dihydro-4,4,6-trimethyl-1-(phenylamino)-2(1*H*)-pyrimidinethione, 9CI D-00500

1-Anilino-4,4,6-trimethyl-1H,4H-2-pyrimidinethiol

[55111-84-7]



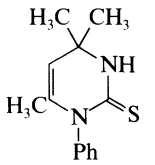
$C_{13}H_{17}N_3S$ M 247.363
Used as 0.01*M* $CHCl_3$ soln. for extraction-photometric detn. of Pd(*II*) and Os (λ_{max} 525 nm, ε 14400, 0.8-1.8*M* HCl). Cryst. Sol. $CHCl_3$. Mp 170-171°.

Mathes, R.A., *J. Am. Chem. Soc.*, 1953, **75**, 1747 (*synth*)
Singh, A.K. *et al*, *Talanta*, 1976, **23**, 851 (*detn, Pd, Os*)

3,4-Dihydro-4,4,6-trimethyl-1-phenyl-2(1*H*)-pyrimidinethione, 9CI D-00501

1-Phenyl-4,4,6-trimethyl-2-pyrimidinethiol. 1,4-Dihydro-2-mercapto-4,4,6-trimethyl-1-phenylpyrimidine

[16325-43-2]



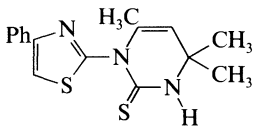
$C_{13}H_{16}N_2S$ M 232.349
Used as 1m*M* soln. in DMF for photometric detn. of Os (λ_{max} 525nm, ε 13300); as 0.01*M* $CHCl_3$ soln. for extraction-photometric detn. of Pd(*II*) (λ_{max} 430 nm, ε 3850, 1-10*M* HCl). Cryst. Sol. DMF, $CHCl_3$, C_6H_6.
▷ UW4980000.

Mathes, R.A., *J. Am. Chem. Soc.*, 1953, **75**, 1747 (*synth*)
Singh, A.K. *et al*, *Talanta*, 1976, **23**, 337 (*detn, Pd*)
Wasey, A. *et al*, *Talanta*, 1984, **31**, 205 (*detn, Os*)

3,4-Dihydro-4,4,6-trimethyl-1-(4-phenyl-2-thiazolyl)-2(1*H*)-pyrimidinethione, 9CI D-00502

4,4,6-Trimethyl-1-(4-phenylthiazolyl)-1H,4H-pyrimidine-2-thiol

[100111-29-3]



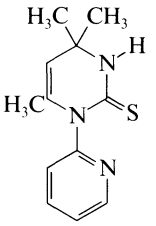
$C_{16}H_{17}N_3S_2$ M 315.462
Used as 0.01*M* $CHCl_3$ soln. for extraction-photometric detn. of Pd(*II*) (λ_{max} 340 nm, ε 25000, 1-2.5*M* HCl), Os (λ_{max} 400 nm, ε 20000, pH 10-11.5). Cryst. Sol. $CHCl_3$, butanol, Me_2CO.

Mathes, R.A., *J. Am. Chem. Soc.*, 1953, **75**, 1947 (*synth*)
Singh, A.K. *et al*, *J. Indian Chem. Soc.*, 1985, **62**, 316 (*detn, Os, Pd*)

3,4-Dihydro-4,4,6-trimethyl-1-(2-pyridinyl)-2(1*H*)-pyrimidinethione, 9CI D-00503

1,4-Dihydro-2-mercapto-4,4,6-trimethyl-1-(2-pyridyl) pyrimidine

[80500-90-9]



$C_{12}H_{15}N_3S$ M 233.337

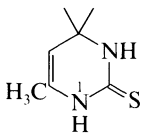
Used as 0.01*M* EtOH soln. for photometric detn. of Pt(*IV*) (λ_{max} 430 nm, ε 5000); as 0.01*M* butanol soln. for extraction-photometric detn. of Pd(*II*) (λ_{max} 430 nm, ε 52000, 0.1-1.8*M* HCl), Os. Cryst. (C_6H_6). Sol. EtOH, C_6H_6, butanol, $CHCl_3$, Me_2CO.

Mathes, R.A., *J. Am. Chem. Soc.*, 1953, **75**, 1747 (*synth*)
Singh, A.K. *et al*, *J. Indian Chem. Soc.*, 1985, **62**, 316 (*use*)
Roy, B. *et al*, *Microchem. J.*, 1985, **31**, 326 (*detn, Pt*)

3,4-Dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, 9CI D-00504

*4,4,6-Trimethyl-1*H,*4*H-*pyrimidine-2-thiol*

[5392-23-4]



$C_7H_{12}N_2S$ M 156.251

Used as a soln. in 0.2*M* $HClO_4$ for photometric detn. of Bi (λ_{max} 500 nm, ε 12700), Te (λ_{max} 385 nm, ε 12600); as 0.01*M* EtOH soln. for extraction-photometric detn. of Pd (λ_{max} 420 nm, ε 39000, pH ~5.5, $CHCl_3$). Cryst. (EtOH). Sol. EtOH, Me_2CO, acids, $CHCl_3$, C_6H_6, dioxan. Mp 266-267° dec., Mp 274-276° dec.

N[1]-*Propyl: 3,4-Dihydro-4,4,6-trimethyl-1-propyl-2(1*H)-*pyrimidinethione, 9CI*

$C_{10}H_{18}N_2S$ M 198.332

Used as 0.01*M* soln. in 0.02*M* HCl for extraction-photometric detn. of Os (λ_{max} 510 nm, ε 8200, 0.5-3.5*M* HCl, butanol). Cryst. Sol. acids, MeOH.

N[1]-*Butyl:* [37929-28-5]. *1-Butyl-3,4-dihydro-4,4,6-trimethyl-2(1*H)-*pyrimidinethione, 9CI*

$C_{11}H_{20}N_2S$ M 212.358

Used as 0.01*M* $CHCl_3$ soln. for extraction-photometric detn. of Pd(*II*) (λ_{max} 430 nm, ε 4600, 1-10*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6, dioxan.

N[1]-*NH_2: 1-Amino-3,4-dihydro-4,4,6-trimethyl-2(1*H)-*pyrimidinethione, 9CI*

$C_7H_{13}N_3S$ M 171.266

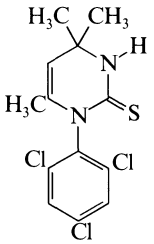
Used as a 0.01*M* DMSO soln. for photometric detn. of Pd(*II*) and Os (λ_{max} 525 nm, ε 4000). Cryst. Sol. DMSO.

[5778-17-6, 18957-53-4]

Mathes, R.A., *J. Am. Chem. Soc.*, 1953, **75**, 1747 (*synth*)
Takeshima, T. *et al*, *J. Org. Chem.*, 1968, **33**, 2877 (*synth*)
Singh, A.K. *et al*, *Talanta*, 1976, **23**, 337 (*detn, Pd*)
Singh, A. *et al*, *Indian J. Chem., Sect. A*, 1977, **15**, 257 (*use*)
Singh, A.K. *et al*, *J. Indian Chem. Soc.*, 1979, **56**, 423 (*detn, Os*)
Safavi, A. *et al*, *Microchem. J.*, 1990, **42**, 314 (*detn, Pd*)

3,4-Dihydro-4,4,6-trimethyl-1-(2,4,6-trichlorophenyl)-2(1*H*)-pyrimidinethione, 9CI D-00505

[99796-49-3]



$C_{13}H_{13}Cl_3N_2S$ M 335.683

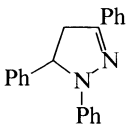
Used as a 0.01*M* soln. in $CHCl_3$ for extraction-photometric detn. of Au(*III*) (λ_{max} 480 nm, ε 4600, $CHCl_3$). Cryst. Sol. common org. solvs. Mp 243°.

Anuse, M.A. *et al*, *Talanta*, 1985, **32**, 1008 (*detn, Au*)

4,5-Dihydro-1,3,5-triphenyl-1*H*-pyrazole, 9CI D-00506

1,3,5-Triphenyl-Δ^2-pyrazoline

[742-01-8]



$C_{21}H_{18}N_2$ M 298.387

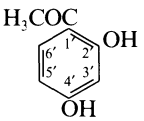
Used as 0.01% EtOH soln. for kinetic-fluorimetric detn. of V(*V*) (λ_{max} 465 nm). Cryst. Sol. EtOH.

Grases, F. *et al*, *Anal. Chim. Acta*, 1983, **148**, 245 (*synth, detn, V*)

2′,4′-Dihydroxyacetophenone, 8CI D-00507

1-(2,4-Dihydroxyphenyl)ethanone, 9CI. Resacetophenone. 4-Acetylresorcinol

[89-84-9]



$C_8H_8O_3$ M 152.149

Used as 1% soln. in EtOH for fluorimetric detn. of B; used as a metallochromic indicator in titration of Fe(*III*) with CyDTA (pH 1-2); photometric detn. of $F^{\ominus}$. Leaflets or needles. Mp 147°. pK_a −5.11, pK_{a1} 7.42; pK_{a2} 12.0 (25°).

▷ AM7525000.

Semicarbazone: [56644-47-4].

$C_9H_{11}N_3O_3$ M 209.204

Used as EtOH soln. for photometric detn. of Cu(*II*), Fe(*III*) (λ_{max} 355 nm, ε 10000, acetate buffer). Cryst. (EtOH). Sol. EtOH, DMF.

Thiosemicarbazone: [57872-20-5].

$C_9H_{11}N_3O_2S$ M 225.271

Used as 8m*M* soln. in EtOAc for extraction-photometric detn. of Cu (λ_{max} 360 nm, ε 14000), Ni, Co, Ag. Cryst. (EtOH). Sol. EtOAc, EtOH, butanol. pK_{a1} 9.6; pK_{a2} 11.2.

Phenylhydrazone: [7327-79-9].

$C_{14}H_{14}N_2O_2$ M 242.277

Used for gravimetric and amperometric detn. of Cu. Cryst.

2,4-Dinitrophenylhydrazone: Maroon cryst. Mp 242-245°.
Oxime: [6134-79-8].
$C_8H_9NO_3$ M 167.164
Used as a 1% soln. in EtOH as metallochromic indicator in titrimetric detn. of Fe; photometric detn. of Fe(*III*); amperometric detn. of Cu, Ni. Mp 198-200° dec.
Di-Ac:
$C_{12}H_{12}O_5$ M 236.224
Mp 38°.
2′-Me ether: [493-33-4]. *4′-Hydroxy-2′-methoxyacetophenone, 8CI. Isopeonol*
$C_9H_{10}O_3$ M 166.176
Needles (H_2O). Mp 139-140°.
4′-Me ether: [552-41-0]. *2′-Hydroxy-4′-methoxyacetophenone.* ***Paeonol.*** *Peonol*
$C_9H_{10}O_3$ M 166.176
Constit. of *Paeonia moutan, Xanthorrhoea arborea, X. reflexa* and *Primula auricula.* Needles (EtOH). Mp 52-53°. Steam-volatile.
▷ RT1215000.
Di-Me ether: [829-20-9]. *2′,4′-Dimethoxyacetophenone. Peonol methyl ether. Isopeonol methyl ether*
$C_{10}H_{12}O_3$ M 180.203
Mp 44°.
4′-Me ether, glucoside: ***Glucopaeonol***
$C_{15}H_{20}O_8$ M 328.318
Isol. from *Paeonia arborea* seeds. Mp 82-83°.

Robinson, R. *et al, J. Chem. Soc.*, 1934, 1491 (*synth*)
Nichols, M.L. *et al, Anal. Chem.*, 1954, **26**, 703 (*use*)
Mather, K.B.L. *et al, J. Am. Chem. Soc.*, 1957, **79**, 3582 (*derivs*)
Umapathy, P. *et al, Indian J. Chem.*, 1964, **2**, 248 (*detn, Cu*)
Huisgen, R. *et al, Justus Liebigs Ann. Chem.*, 1964, **677**, 21 (*derivs*)
Arnaud, R., *Bull. Soc. Chim. Fr.*, 1967, 4541.
Gumprecht, D.L., *J. Chromatogr.*, 1967, **30**, 528 (*chromatog*)
Kristalev, P.V. *et al, CA*, 1970, **77**, 13584h (*detn, B*)
Lutskii, A.E. *et al, Zh. Prikl. Spektrosk.*, 1970, **13**, 298 (*uv*)
Desai, M.N. *et al, J. Indian Chem. Soc.*, 1973, **50**, 369 (*detn, Fe*)
Aydin, A. *et al, Chim. Acta Turc.*, 1975, **3**, 51 (*synth, detn, Co, Cu*)
Chowdray, G.S. *et al, Curr. Sci.*, 1975, **44**, 343 (*detn, Fe*)
Rao, K.V.K. *et al, Curr. Sci.*, 1975, **44**, 547; *CA*, **83**, 130838d (*props*)
Ingle, D.B. *et al, Indian J. Chem.*, 1975, **13**, 605 (*pKa*)
Reddy, Y.K. *et al, Talanta*, 1975, **22**, 545 (*oxime, Cu, Ni*)
Reddy, Y.K. *et al, CA*, 1976, **85**, 201672z (*detn, Cu*)
Gupta, V.P. *et al, Indian J. Pure Appl. Phys.*, 1976, **14**, 846 (*ir*)
Lutskii, A.E. *et al, Zh. Obshch. Khim.*, 1977, **47**, 905 (*nmr*)
Pelter, A. *et al, J. Chem. Soc., Perkin Trans. 1*, 1978, 668 (*cmr*)
Reddy, K.H., *J. Indian Chem. Soc., Sect. A*, 1984, **23**, 535 (*synth, use*)
Reddy, A.V. *et al, J. Radioanal. Nucl. Chem.*, 1984, **86**, 391; 1985, **93**, 279; 1986, **103**, 169 (*detn, Co, Ag*)
Lau, C.K. *et al, J. Org. Chem.*, 1987, **52**, 1670 (*deriv, synth, pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DMG400, PAC250.

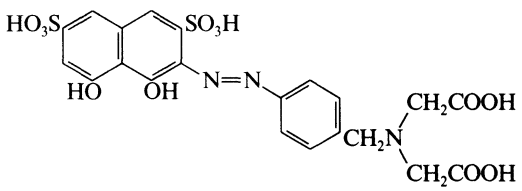
2′,5′-Dihydroxyacetophenone, 8CI D-00508

1-(2,5-Dihydroxyphenyl)ethanone, 9CI. Acetylquinol. Acetylhydroquinone. Quinacetophenone
[490-78-8]
$C_8H_8O_3$ M 152.149
Green needles (H_2O). Mp 202-203°. pK_{a1} 9.48; pK_{a2} 12.9 (25°).
▷ AM7700000.
2,5-Di-Ac: [31405-72-8].
$C_{12}H_{12}O_5$ M 236.224
Needles (AcOH). Mp 68°.
Oxime: [24558-42-7].
$C_8H_9NO_3$ M 167.164
Used as 40% EtOH aq. soln. for amperometric detn. of Cu, Ni, Pd. Plates (toluene). Mp 149-150°.
5-Me ether: [705-15-7]. *2′-Hydroxy-5′-methoxyacetophenone*
$C_9H_{10}O_3$ M 166.176
Isol. from rhizomes of *Primula acaulis.* Green cryst. or yellow prisms. Mp 52° (48-50°).
5-Me ether, 2-O-β-D-glucopyranoside:
$C_{15}H_{20}O_8$ M 328.318
Prob. occurs in *P. acaulis.* Fine needles (EtOAc). Mp 139-140° (synthetic).
Di-Me ether: [1201-38-3]. *2′,5′-Dimethoxyacetophenone*
$C_{10}H_{12}O_3$ M 180.203
Cryst. Mp 20-22°. Bp_{14} 155-158°.

Klinger, H. *et al, Ber.*, 1898, **31**, 1214 (*synth*)
Goris, A. *et al, C. R. Hebd. Seances Acad. Sci.*, 1935, **200**, 1990 (*isol, deriv*)
Org. Synth., 1948, **28**, 42 (*synth*)
Eugster, C.H. *et al, Helv. Chim. Acta*, 1963, **46**, 815 (*uv*)
Bartram, C.A. *et al, J. Chem. Soc.*, 1963, 4691 (*deriv*)
Gupta, B.D. *et al, Mikrochim. Acta*, 1969, 634 (*use, oxime*)
Kamat, P.V. *et al, J. Indian Chem. Soc.*, 1970, **47**, 493 (*ir*)
Shulgin, A.T. *et al, J. Med. Chem.*, 1975, **18**, 1201 (*deriv*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DMG600.

4,5-Dihydroxy-3-[4-(aminomethyl) phenylazo]-2,7-naphthalenedisulfonic acid *N,N*-diacetic acid D-00509

N-(*Carboxymethyl*)-N-[[4-[(*1,8-dihydroxy-3,6-disulfo-2-naphthalenyl*)*azo*]*phenyl*]*methyl*]*glycine, 9CI. Chromazo BRZ*
[76268-67-2]

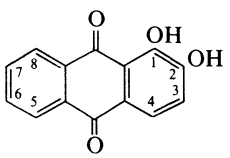


$C_{21}H_{19}N_3O_{12}S_2$ M 569.526
Used as 0.5% aq. soln. for photometric detn. of Al (λ_{max} 540 nm, ε 8300, pH 4.5-5.0). Cryst. Sol. H_2O.

Basargin, N.N. *et al, Zavod. Lab.*, 1988, **54**, 22 (*detn, Al*)

1,2-Dihydroxyanthraquinone D-00510

1,2-Dihydroxy-9,10-anthracenedione, 9CI. ***Alizarin.*** *Madder. Lizarinic acid. C.I. Mordant red 11. Numerous proprietary names*
[72-48-0]



$C_{14}H_8O_4$ M 240.215
Found in madder root (*Rubia tinctorum*) as the glycoside, Ruberythric acid. Also found in *R. iberica, R. cordifolia* and in tissue cultures of *Galium mollugo, Morinda citrifolia, Cinchona ledgeriana* and *C. pubescens.* Bonds with calcifying tissues and has been used in studies of bone formation. Used in photometric detn. of B, Al, Ge, $F^{\ominus}$, $SO_4^{2\ominus}$; acid-base indicator (pH range 5.8-7.2 and 11.0-13.0). Orange or red needles or prisms (EtOH or by subl.). V. spar. sol. H_2O. Mp 288-289°. Bp 430°. pK_{a1} 7.45; pK_{a2} 11.80. Sublimes.
▷ CB6580000.

2-O-Ac: [40975-46-0].
$C_{16}H_{10}O_5$ M 282.252
Yellow needles. Mp 204-205°.
Di-Ac: [1629-51-2].
$C_{18}H_{12}O_6$ M 324.289
Mp 203-205°.
1-Me ether: [6170-06-5]. *2-Hydroxy-1-methoxyanthraquinone*
$C_{15}H_{10}O_4$ M 254.242
Found in *M. lucida*, *M. parvifolia*, *Plocama pendula*, *Relbunium hypocarpium*, *C. ledgeriana* and *C. pubescens*. Orange needles (MeOH aq.). Mp 176-177°.
2-Me ether: [6003-11-8]. *1-Hydroxy-2-methoxyanthraquinone*
$C_{15}H_{10}O_4$ M 254.242
Found in roots of *Rubia cordifolia*. Orange-yellow needles (EtOH). Mp 229-230°.
Di-Me ether: [6003-12-9]. *1,2-Dimethoxyanthraquinone*
$C_{16}H_{12}O_4$ M 268.268
Yellow needles (C_6H_6). Mp 212-214°.
2-O-β-Primeveroside: [152-84-1]. ***Ruberythric acid.*** *Ruberythrinic acid. Rubian. Rubianic acid*
$C_{25}H_{26}O_{13}$ M 534.473
Isol. from madder, from *Oldenlandia umbellata* and other plants. Yellow prisms or needles (H_2O). Mp 258-261°.
9-Imine: see *3,4-Dihydroxy-10-imino-9(10H)-anthracenone, D-00634*

Kido, H. *et al*, *Anal. Chim. Acta*, 1960, **23**, 116 (*ir*)
Kuhn, R. *et al*, *Chem. Ber.*, 1961, **94**, 2258.
Davies, D.G. *et al*, *J. Chem. Soc., Chem. Commun.*, 1968, 953.
Adesida, G.A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1972, 405 (*isol, deriv*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 2369 (*detn, Ge*)
Idris, K.A. *et al*, *Egypt. J. Chem.*, 1973, 67 (*uv*)
Leistner, G., *Phytochemistry*, 1973, **12**, 1669; *Planta Med.*, Suppl., 1975, 214 (*biosynth*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*use*)
McEwan, C.N. *et al*, *Anal. Chem.*, 1977, **49**, 922 (*ms*)
Parham, W.E. *et al*, *J. Org. Chem.*, 1981, **46**, 1057 (*synth*)
Khanapure, S.P. *et al*, *J. Org. Chem.*, 1987, **52**, 5685 (*deriv, synth, pmr, ir*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DMG800.

1,4-Dihydroxyanthraquinone, 8CI D-00511

1,4-Dihydroxy-9,10-anthracenedione, 9CI. Quinizarin

[81-64-1]

$C_{14}H_8O_4$ M 240.215
Used as soln. in conc. H_2SO_4 for fluorimetric detn. of B (λ_{max} 595 nm). Red cryst. (AcOH). Mp 194°, Mp 200-202°. pK_{a1} 9.90; pK_{a2} 11.18 (25°, H_2O), pK_{a1} 12.23; pK_{a2} 13.92 (25°, dioxan aq.).

▷ CB6600000.

Ac: [52869-29-1].
$C_{16}H_{10}O_5$ M 282.252
Orange-yellow needles (C_6H_6). Mp 186°.
Di-Ac: [2289-36-3].
$C_{18}H_{12}O_6$ M 324.289
Orange-yellow cryst. (AcOH). Mp 198°, Mp 207-208°.
Mono-Me ether: [7336-64-3]. *1-Hydroxy-4-methoxyanthraquinone*
$C_{15}H_{10}O_4$ M 254.242
Yellow needles (MeOH). Mp 189°, Mp 167-168°.
Di-Me ether: [6119-74-0]. *1,4-Dimethoxyanthraquinone*
$C_{16}H_{12}O_4$ M 268.268
Cryst. (C_6H_6). Mp 143°, Mp 170-171°.

Green, A., *J. Chem. Soc.*, 1926, 1428.
Org. Synth., Coll. Vol., 1, 1932, 464.
Kozlov, V.V. *et al*, *Zh. Org. Khim.*, 1959, **29**, 3450.
Kido, H. *et al*, *Anal. Chim. Acta*, 1960, **23**, 116 (*ir*)
Bloom, S.M. *et al*, *Tetrahedron Lett.*, 1963, 1993 (*pmr*)
Holme, A., *Acta Chem. Scand.*, 1967, **21**, 1679 (*detn, B*)
Idris, K.A. *et al*, *Egypt. J. Chem.*, 1973, 67 (*uv*)
Khanapure, S.P. *et al*, *J. Org. Chem.*, 1987, **52**, 5685 (*deriv, synth, pmr, cmr, ir*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DMH000.

1,8-Dihydroxyanthraquinone, 8CI D-00512

1,8-Dihydroxy-9,10-anthracenedione, 9CI. Chrysazin. ***Danthron,*** **BAN.** *Dorbane. Istizin. Danivac. Dantron, INN. Other proprietary names*

[117-10-2]

$C_{14}H_8O_4$ M 240.215
Occurs in roots of *Rheum palmatum*, leaves and stems of *Xyris semifuscata*, tissue culture of *Cinchona ledgeriana* and leaves of *Pyrrhalta luteola*. Cathartic. Used in photometric detn. of B; fluorimetric detn. of Mg (λ_{max} 600 nm). Reddish-yellow needles or leaflets. Sol. EtOH, alkalis. Mp 193°. pK_{a1} 8.30; pK_{a2} 12.46 (25°).

▷ CB6650000.

Di-Ac: [1963-82-2].
$C_{18}H_{12}O_6$ M 324.289
Yellow needles. Mp 231-232°.

▷ CB6690000.

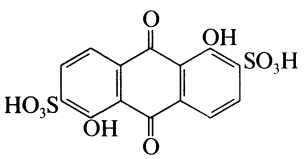
Me ether: [5539-66-2]. *1-Hydroxy-8-methoxyanthraquinone*
$C_{15}H_{10}O_4$ M 254.242
Orange-red needles (EtOH). Mp 197-198°.
Di-Me ether: [6407-55-2]. *1,8-Dimethoxyanthraquinone*
$C_{16}H_{12}O_4$ M 268.268
Yellow cryst. Mp 219°.

Naylor, C.A. *et al*, *J. Am. Chem. Soc.*, 1931, **53**, 4112.
Aoyama, S. *et al*, *Yakugaku Zasshi*, 1932, **52**, 17.
Lish, P.M. *et al*, *J. Am. Pharm. Assoc.*, 1958, **47**, 371 (*pharmacol*)
Kido, H. *et al*, *Anal. Chim. Acta*, 1960, **23**, 116 (*ir*)
Benyon, J.H. *et al*, *Appl. Spectrosc.*, 1960, **14**, 156 (*ms*)
Ruggieri, R., *Anal. Chim. Acta*, 1961, **25**, 145 (*use*)
Prakesh, A., *Z. Kristallogr., Kristallgeom., Kristallphys., Kristallchem.*, 1965, **122**, 272 (*cryst struct*)
Fairbairn, J.W. *et al*, *J. Pharm. Pharmacol.*, 1970, **22**, 584 (*pharmacol*)
Idris, K.A. *et al*, *Egypt. J. Chem.*, 1973, 67 (*uv*)
Morley, J.O. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1973, 1626 (*pmr*)
Fournier, G. *et al*, *Phytochemistry*, 1975, **14**, 2099 (*isol*)
Breimer, D.D. *et al*, *Pharmacology*, 1976, **14**, 30 (*metab*)
Case, M.T. *et al*, *Drug Chem. Toxicol.*, 1978, **1**, 89 (*tox*)
Berger, Y. *et al*, *Org. Magn. Reson.*, 1978, **11**, 375 (*cmr*)
Cameron, A.W. *et al*, *Aust. J. Chem.*, 1982, **35**, 2095 (*synth*)
Howard, D.F. *et al*, *Naturwissenschaften*, 1982, **69**, 91 (*isol*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7510.
Roman Ceba, M. *et al*, *Mikrochim. Acta*, 1983, **2**, 85 (*detn, Mg*)
Mueller, K. *et al*, *Arch. Pharm. (Weinheim, Ger.)*, 1984, **317**, 120 (*synth*)
Khanapure, S.P. *et al*, *J. Org. Chem.*, 1987, **52**, 5685 (*deriv, synth, pmr, ir*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 2970 (*synonyms*)
Grunwell, J.R. *et al*, *J. Org. Chem.*, 1991, **56**, 91 (*synth, pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DMH400.

1,5-Dihydroxyanthraquinone-2,6-disulfonic acid D-00513

9,10-Dihydro-1,5-dihydroxy-9,10-dioxo-2,6-anthracenedisulfonic acid. Anthrarufin-2,6-disulfonic acid

[6492-85-9]



$C_{14}H_8O_{10}S_2$ M 400.343

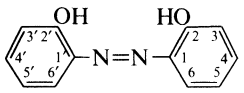
Used as 1m*M* aq. soln. for photometric detn. of Sc. Orange-red cryst. (H_2O), clear red soln. in H_2O. Sol. H_2O, alkalis, EtOH; insol. C_6H_6, CCl_4.

MacDonald, J.C. *et al*, *Anal. Chim. Acta*, 1963, **28**, 264.

2,2′-Dihydroxyazobenzene D-00514

2,2′-Azobisphenol, 9CI. 2,2′-Azodiphenol, 8CI

[2050-14-8]



$C_{12}H_{10}N_2O_2$ M 214.223

Used in photometric detn. of Mg, U and also for titrimetric detn. of Ca, Mg. Yellow leaflets (C_6H_6, EtOH). Mp 172°. pK_{a1} 7.8; pK_{a2} 11.5 (μ 0.1).

Di-Ac:

$C_{16}H_{14}N_2O_4$ M 298.298

Orange-red cryst. Mp 150°.

Di-Me ether: [613-55-8]. *2,2′-Dimethoxyazobenzene. 2,2′-Azodianisole. o,o′-Azoanisole*

$C_{14}H_{14}N_2O_2$ M 242.277

Orange leaflets. Mp 153°.

Di-Et ether: 2,2′-Azodiphenetole

$C_{16}H_{18}N_2O_2$ M 270.330

Reddish prisms. Mp 131°.

Willstätter, R. *et al*, *Ber.*, 1906, **39**, 3492 (*synth*)
Diehl, H. *et al*, *Anal. Chem.*, 1960, **32**, 1120; 1963, **35**, 1144 (*synth, detn, Mg*)
Kirby, J.R. *et al*, *Anal. Chim. Acta*, 1962, **26**, 458 (*detn, Ca*)
Gumprecht, D.L. *et al*, *J. Chromatogr.*, 1968, **37**, 268 (*chromatog*)
Dedkov, Yu.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1973, 1334 (*ir*)
Simon, D. *et al*, *J. Mol. Struct.*, 1973, **19**, 255 (*uv*)
Kotov, A.V. *et al*, *Zh. Fiz. Khim.*, 1978, **52**, 1879 (*struct*)
Taketatsu, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1980, **29**, 78 (*detn, U*)
Crank, G. *et al*, *Aust. J. Chem.*, 1984, **37**, 845 (*synth*)

3,4-Dihydroxyazobenzene D-00515

4-(Phenylazo)-1,2-benzenediol, 9CI. 4-(Phenylazo) pyrocatechol, 8CI

[6833-64-3]

$C_{12}H_{10}N_2O_2$ M 214.223

Used in photometric detn. of Zr, Mo, Sb(*III*), Ti(*IV*); gives colour reactions with Ga. Deep-red needles or prisms with blue reflex (EtOH). Mp 165° dec.

Di-Na salt: [35033-43-3]. Cryst.

3-Me ether: [25538-77-6]. *4-Hydroxy-3-methoxyazobenzene*

$C_{13}H_{12}N_2O_2$ M 228.250

Red prisms (ligroin). Mp 70-71°.

Di-Me ether: 3,4-Dimethoxyazobenzene

$C_{14}H_{14}N_2O_2$ M 242.277

Red needles (ligroin). Mp 53-54°.

Witt, O.N. *et al*, *Ber.*, 1893, **26**, 1072 (*synth*)
Barton, D.H.R. *et al*, *Q. J. Pharm. Pharmacol.*, 1945, **18**, 41 (*synth*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 181.
Gen, L.I. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2097 (*detn, Ga*)
Kazlaukas, R. *et al*, *CA*, 1972, **76**, 67684p (*detn, Sb*)
Vilkova, O.M. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 1785; 1979, **34**, 720 (*detn, Zr*)
Wakamatsu, Y., *Bunseki Kagaku* (*Jpn. Anal.*), 1980, **29**, 472 (*detn, Mo*)
Ivanov, V.M. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 2124 (*detn, Ti*)

4,4′-Dihydroxyazobenzene D-00516

4,4′-Azobisphenol, 9CI. 4,4′-Azodiphenol, 8CI. p-*Azophenol. 4-[(4-Hydroxyphenyl)azo]phenol*

[2050-16-0]

$C_{12}H_{10}N_2O_2$ M 214.223

Two forms known which may be tautomers. Green powder or deep-red powder. Mp 216° (both forms).

Di-Ac:

$C_{16}H_{14}N_2O_4$ M 298.298

Yellow prisms and needles (AcOH). Mp 198-199°.

Di-Me ether: [501-58-6]. *4,4′-Dimethoxyazobenzene. 4,4′-Azodianisole.* p,p′-*Azoanisole*

$C_{14}H_{14}N_2O_2$ M 242.277

Yellow leaflets and prisms (MeOH). Mp 165°.

Et ether: [2496-26-6]. *4′-Ethoxy-4-hydroxyazobenzene. 4-[(4-Ethoxyphenyl)azo]phenol, 9CI*

$C_{14}H_{14}N_2O_2$ M 242.277

Used as 0.1% EtOH soln. as an acid-base indicator (pH 6.0-8.0; colour change: pale yellow→yellow). Orange needles (EtOH). Sol. EtOH, Et_2O, C_6H_6, $CHCl_3$; insol. H_2O.

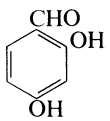
[588-52-3]

Willstätter, R. *et al*, *Ber.*, 1906, **39**, 3492 (*synth*)
Cook, A.H. *et al*, *J. Chem. Soc.*, 1939, 1309 (*synth*)
Schulek, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1944, **128**, 398 (*use*)
Brode, W.R. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 2762 (*synth, uv*)
Fatiadi, A.J., *J. Res. Natl. Bur. Stand., Sect. A*, 1967, **71**, 227 (*ir*)
Gumprecht, D.L. *et al*, *J. Chromatogr.*, 1968, **37**, 268 (*chromatog*)
Simon, D. *et al*, *J. Mol. Struct.*, 1973, **19**, 255 (*uv*)
Crank, G. *et al*, *Aust. J. Chem.*, 1984, **37**, 845 (*synth*)

2,4-Dihydroxybenzaldehyde, 9CI D-00517

β-Resorcylaldehyde, 8CI

[95-01-2]



$C_7H_6O_3$ M 138.123

Used for photometric detn. of Fe(*III*). Needles (Et_2O/ligroin). Sol. H_2O, EtOH, $CHCl_3$, Et_2O. Mp 135-136°, Mp 201-202°. Bp_{22} 220-228°. pK_{a1} 7.10; pK_{a2} 9.42 (20°, 0.15*M* $NaClO_4$, 4% EtOH).

Formylhydrazone:

$C_8H_8N_2O_3$ M 180.163

Used as EtOH soln. for fluorimetric detn. of Sc and Ga. Pale yellow cryst. Sol. EtOH, AcOH; sl. sol. H_2O. Mp 200-240° dec. pK_{a1} 8.8; pK_{a2} 10.4 (20°, 50% EtOH).

Semicarbazone: [3030-93-1].

$C_8H_9N_3O_3$ M 195.177

Used as 0.1% DMF or EtOH soln. for fluorimetric detn. of Sc (λ_{max} 455 nm, pH 6) and Ga (λ_{max} 425 nm, pH 2.4-2.5), Zr. Cryst. (EtOH). Sol. DMF, EtOH.

Thiosemicarbazone:
$C_8H_9N_3O_2S$ M 211.244
Used as a 1m*M* EtOH soln. for photometric detn. of Cu (λ_{max} 374 nm, ε 12400). Cryst. Sol. MeOH, EtOH.

Oxime: [5399-68-8]. *Resorcylaldoxime*
$C_7H_7NO_3$ M 153.137
Used as 0.2-1% EtOH soln. as a metallochromic indicator for titrimetric detn. of Fe(*III*) (purple colour). Cryst. (H_2O). Sol. EtOH, Et_2O, H_2O. Mp 192°, Mp 198-199°.

Di-Ac: [41777-08-6].
$C_{11}H_{10}O_5$ M 222.197
Mp 69°.

2-Me ether: [18278-34-7]. *4-Hydroxy-2-methoxybenzaldehyde*
$C_8H_8O_3$ M 152.149
Leaflets (C_6H_6). Mp 153°.

4-Me ether: [673-22-3]. *2-Hydroxy-4-methoxybenzaldehyde. 2-Hydroxyanisaldehyde. 4-Methoxysalicylaldehyde*
$C_8H_8O_3$ M 152.149
Mp 40-42°. pK_{a1} 8.89 (25°).

Di-Me ether: [613-45-6]. *2,4-Dimethoxybenzaldehyde. 2-Methoxyanisaldehyde*
$C_9H_{10}O_3$ M 166.176
Needles (pet. ether). Mp 71°. Bp_{10} 165°.

Di-Me ether, oxime: [31874-34-7].
$C_9H_{11}NO_3$ M 181.191
Needles (H_2O). Mp 106°.

Shoesmith, J.B. *et al*, *J. Chem. Soc.*, 1923, 2704 (*synth*)
Hinkel, L.E. *et al*, *J. Chem. Soc.*, 1932, 2793; 1936, 184 (*synth*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, N.Y., 1947, **3**, 258 (*synth, use, oxime*)
Raju, N., *Nature (London)*, 1955, **175**, 167 (*use*)
Holzbecher, Z. *et al*, *Collect. Czech. Chem. Commun.*, 1961, **20**, 1204 (*use*)
Gross, H. *et al*, *Chem. Ber.*, 1963, **96**, 308 (*synth*)
Holzbecher, Z., *Microchem. J.*, 1965, **9**, 288 (*use*)
de Ropp, R.S. *et al*, *Arch. Int. Pharmacodyn. Ther.*, 1969, **181**, 127 (*pharmacol*)
Stankoviansky, S. *et al*, *Chem. Zvesti*, 1971, **25**, 123 (*thiosemicarbazone, use*)
Santavy, F. *et al*, *Collect. Czech. Chem. Commun.*, 1972, **37**, 1825 (*uv*)
Desai, M. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **259**, 367 (*detn, Fe*)
Desai, M. *et al*, *Indian J. Appl. Chem.*, 1972, **35**, 142 (*use*)
Steinegger, E. *et al*, *Pharm. Acta Helv.*, 1972, **47**, 133 (*tlc*)
de Kowalewski, D.G. *et al*, *J. Mol. Struct.*, 1973, **16**, 451 (*nmr*)
Morishige, K., *Anal. Chim. Acta*, 1974, **73**, 245 (*synth, detn, Sc*)
Kiyotoshi, M. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1975, **24**, 321 (*detn, Sc*)
Deguchi, M. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1983, **32**, 507; *CA*, **99**, 186547p (*synth, detn, Ga*)
Karl, J. *et al*, *J. Med. Chem.*, 1988, **31**, 72 (*Di-Me ether*)

2,5-Dihydroxybenzaldehyde, 9CI D-00518

Gentisaldehyde, 8CI. Gentisic aldehyde. 5-Hydroxysalicylaldehyde

[1194-98-5]

$C_7H_6O_3$ M 138.123
Obt. by oxidn. of beechwood lignin. Used as a 1% soln. in EtOH as indicator for ascorbimetric detn. of Fe(*III*). Yellow needles (C_6H_6). Sol. EtOH. Mp 99°. pK_{a1} 8.28; pK_{a2} 10.29 (20°, 0.15*M* $NaClO_4$, 4% EtOH).

Di-Ac:
$C_{11}H_{10}O_5$ M 222.197
Mp 71-72°.

5-Me ether: [672-13-9]. *2-Hydroxy-5-methoxybenzaldehyde, 9CI. 5-Methoxysalicylaldehyde*
$C_8H_8O_3$ M 152.149
Mp 4°. Bp 247-248°, $Bp_{0.5}$ 80°.
▷ BZ2800000.

5-Me ether, oxime: [17580-69-7]. *2-Hydroxy-5-anisaldoxime*
$C_8H_9NO_3$ M 167.164
Used for photometric detn. of Mo; gravimetric detn. of Cu, Ni, Pd. Yellow cryst. (H_2O). Sol. EtOH, Et_2O; mod. sol. H_2O.

Di-Me ether: [93-02-7]. *2,5-Dimethoxybenzaldehyde, 9CI, 8CI*
$C_9H_{10}O_3$ M 166.176
Needles. Mp 53°. Bp 270°, Bp_{10} 146°.

Di-Me ether, semicarbazone: Needles (EtOH). Mp 208°.

Semicarbazone: [54825-14-8].
$C_8H_9N_3O_3$ M 195.177
Used as 0.1% DMF soln. for fluorimetric detn. of Sc (λ_{max} 507 nm, pH 2.5). Cryst. (EtOH). Sol. DMF, EtOH. Mp 249°.

Oxime: [37110-11-5].
$C_7H_7NO_3$ M 153.137
Used as a soln. in aq. EtOH for gravimetric detn. of Cu, Ni, Pd. Sol. H_2O, Me_2CO, Et_2O.

[34967-19-6, 37110-11-5]

Hodgson, H.H. *et al*, *J. Chem. Soc.*, 1927, 2340 (*synth*)
Amakasu, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1967, **40**, 1428 (*synth*)
Desai, B.M. *et al*, *Indian J. Chem.*, 1970, **8**, 305.
Santavy, F. *et al*, *Collect. Czech. Chem. Commun.*, 1972, **37**, 1825 (*uv*)
Ryabokolko, Yu.S. *et al*, *Zh. Strukt. Khim.*, 1972, **47**, 133 (*ir, nmr*)
de Kowalewski, D.G. *et al*, *J. Mol. Struct.*, 1973, **16**, 451 (*nmr*)
Gumprecht, D.L., *Anal. Chim. Acta*, 1974, **73**, 245 (*semicarbazone, synth, detn, Sc*)
Morishige, K., *Anal. Chim. Acta*, 1974, **73**, 245 (*semicarbazone, synth, detn, Sc*)
Blanco, M., *Ion (Madrid)*, 1975, **35**, 507; *CA*, **84**, 25489p.
Buscarons, F. *et al*, *Quim. Anal. (Barcelona)*, 1975, **29**, 99 (*use*)
Casiraghi, G. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1978, 318 (*synth*)
Baker, R. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1990, 47 (*Me ether, synth*)

3,4-Dihydroxybenzaldehyde D-00519

Protocatechualdehyde, 8CI. Protocatechuic aldehyde. Rancinamycin IV

[139-85-5]

$C_7H_6O_3$ M 138.123
Used as 0.1% aq. soln. for photometric detn. of Mo. Cryst. (toluene). Sol. EtOH, H_2O, Et_2O. Mp 153-154°. pK_{a1} 7.27; pK_{a2} 11.4 (25°).
▷ UL0380000.

Guanylhydrazone: see *2-[(3,4-Dihydroxyphenyl)methylene] hydrazinecarboximidamide, D-00712*

Oxime: [3343-59-7].
$C_7H_7NO_3$ M 153.137
Mp 157° dec.

Di-Ac: [67727-64-4].
$C_{11}H_{10}O_5$ M 222.197
Cryst. (EtOH). Mp 54°.

3-Me ether: [121-33-5]. *4-Hydroxy-3-methoxybenzaldehyde.* ***Vanillin*, USAN.** *Zimco*
$C_8H_8O_3$ M 152.149
Constit. of vanilla (*Vanilla* spp.) and many other plants, obt. from spent wood-pulp liquors. Constit. of wing gland and abdominal hairpencils of the male African sugarcane borer *Eldana saccharina*. Used as a 1% aq. soln. for separation and gravimetric detn. of Zr. Used in flavours and perfumes. Anal. reagent for amines and

other org. compds. Reference material used in elemental microanalysis. Needles or tetragonal cryst. with characteristic pleasant odour (H_2O). Spar. sol. cold H_2O; mod. sol. hot. Mp 81-82°, Mp 77-79° (dimorph.). Bp_{15} 170°. pK_{a1} 7.40 (25°). Slowly oxid. in air.

▷ YW5775000.

3-Me ether, oxime: [2874-33-1].
$C_8H_9NO_3$ M 167.164
Used for pptn. sepn. and gravimetric detn. of Ni, Pd. Cryst. Mp 121-122°.

3-Me ether, 2,4-dinitrophenylhydrazone: Orange-red microprisms (AcOH). Mp 267-268°.

3-Et ether: [121-32-4]. *3-Ethoxy-4-hydroxybenzaldehyde. Vanillal. Bourbonal.* ***Ethyl vanillin,*** USAN†. *Aethylvanillin. Homovanillin. Vanirom*
$C_9H_{10}O_3$ M 166.176
Used extensively in perfumery and flavour industries, hydrazone derivs. as tuberculostatics. Cryst. (EtOH). Mp 76-78°.

▷ CU6125000.

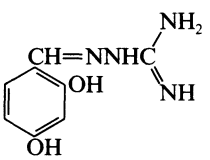
[2169-98-4]

Org. Synth., 1938, **18**, 75 (*synth*)
Weijlard, J., *J. Am. Chem. Soc.*, 1947, **69**, 2070 (*synth, deriv*)
Shapiro, M.J., *Zh. Anal. Khim.*, 1951, **6**, 371.
Deeb, E.N., *Drug Stand.*, 1958, **26**, 175; *CA*, **53**, 8918h (*deriv, use*)
Kratzl, K. *et al*, *Monatsh. Chem.*, 1960, **91**, 219 (*synth, deriv*)
Pichat, L. *et al*, *Bull. Soc. Chim. Fr.*, 1961, 2255 (*synth*)
Jain, B.D., *Proc. - Indian Acad. Sci., Sect. A*, 1966, **64**, 182 (*detn, Zr*)
Goel, D.P. *et al*, *Curr. Sci.*, 1967, **36**, 517 (*detn, Ni, Pd*)
Froment, P., *Chromatographia*, 1971, **4**, 173 (*tlc*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Santavy, F. *et al*, *Collect. Czech. Chem. Commun.*, 1972, **37**, 1825 (*uv*)
Iwasaki, F., *Chem. Lett.*, 1973, 277 (*cryst struct, deriv*)
de Kowalewski, D.G. *et al*, *J. Mol. Struct.*, 1973, **16**, 451 (*nmr*)
Slabbert, N.P., *Tetrahedron*, 1977, **37**, 821.
Ger. Pat., 2 804 063, (1978); *CA*, **90**, 22595 (*synth*)
Maggioni, P. *et al*, *Chim. Ind. (Milan)*, 1979, **61**, 101 (*synth*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2417.
Ramage, R. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1984, 1539 (*deriv*)
Blanchflower, W.J. *et al*, *Analyst (London)*, 1985, **110**, 1283 (*deriv, use*)
Burger, B.V. *et al*, *Z. Naturforsch., C*, 1985, **40**, 847.
Gannett, P.M. *et al*, *J. Org. Chem.*, 1988, **53**, 1064 (*deriv, synth, ir, pmr, cmr, ms, uv*)
Loupy, A. *et al*, *Org. Prep. Proced. Int.*, 1990, **22**, 99 (*synth, derivs*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EQF000, VFK000.

2,4-Dihydroxybenzaldehyde guanylhydrazone D-00520

2-[(2,4-Dihydroxyphenyl)methylene] hydrazinecarboximidamide, 9CI

[46322-73-0]



$C_8H_{10}N_4O_2$ M 194.193
Used for photometric detn. of Cu. Cryst.

Carsky, J. *et al*, *CA*, 1980, **83**, 234305a (*detn, Cu*)

α,*N*-Dihydroxybenzeneacetamide, 9CI D-00521

Mandelohydroxamic acid, 8CI

[2292-53-7]

PhCH(OH)CONHOH

$C_8H_9NO_3$ M 167.164

(±)-***form***
Used as 0.01*M* aq. soln. for photometric detn. of Fe (λ_{max} 440 nm, pH 9.7). Plates (EtOH). Sol. MeOH; spar. sol. C_6H_6. Mp 147° dec.

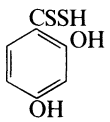
Benzoyl:
$C_{15}H_{13}NO_4$ M 271.272
Cryst. (EtOH). Mp 101-102°. Dec. by H_2O.

Jones, L.W. *et al*, *J. Am. Chem. Soc.*, 1917, **39**, 659 (*synth*)
Winternitz, F. *et al*, *Bull. Soc. Chim. Fr.*, 1960, 509 (*synth*)
Stankovic, B. *et al*, *Pharmazie*, 1977, **32**, 414 (*synth, detn, Fe*)
Salinas, F. *et al*, *Anal. Lett.*, 1989, **22**, 187.

2,4-Dihydroxybenzenecarbodithioic acid, 9CI D-00522

2,4-Dihydroxydithiobenzoic acid

[32361-58-3]

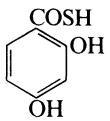


$C_7H_6O_2S_2$ M 186.255
Used for extraction-photometric detn. of Pd (λ_{max} 322 nm, $CHCl_3$); extraction separation of Cu, Fe: chelating agent for transition metals. Cryst.

Kulikova, L.D. *et al*, *Latv. PSR Zinat. Akad. Vestis, Fiz. Teh. Zinat. Ser.*, 1970, **6**, 741 (*detn, Pd*)
Rudzitis, G. *et al*, *CA*, 1972, **76**, 37921w, 153288u (*synth, detn, transition metals*)
Bockans, P. *et al*, *CA*, 1972, **76**, 77178r, 107373v (*detn, Cu, Fe*)

2,4-Dihydroxybenzenecarbothioic acid D-00523

Thio-β-resorcylic acid



$C_7H_6O_3S$ M 170.189

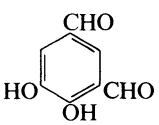
S-*Me ester:*
$C_8H_8O_3S$ M 184.215
Cryst. (C_6H_6 or $CHCl_3$). Mp 97-98°. Forms a monohydrate (Mp 70-71°).

S-*Propyl ester:* [19343-44-3].
$C_{10}H_{12}O_3S$ M 212.269
Used as a 0.25-0.5% soln. in EtOH as acid-base turbidimetric indicator (pH range: 6.0-7.0). Cryst. Mp 66°.

Kaufmann, R.J. *et al*, *J. Am. Chem. Soc.*, 1923, **45**, 1744 (*synth*)
Zil'berman, E.N. *et al*, *CA*, 1964, **60**, 9192c (*synth*)
Korenman, I.M. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1305 (*use*)

4,5-Dihydroxy-1,3-benzenedicarboxaldehyde, 9CI D-00524

4,5-Dihydroxyisophthalaldehyde, 8CI



$C_8H_6O_4$ M 166.133

5-Me ether: [2931-90-0]. *4-Hydroxy-5-methoxy-1,3-benzenedicarboxaldehyde. 4-Hydroxy-5-methoxyisophthalaldehyde*

$C_9H_8O_4$ M 180.160

Found in deciduous and coniferous tree barks. Reagent for the detn. of Me_2CO. Yellow needles (EtOH or H_2O). Mp 119-121°.

Di-Me ether: [10536-24-0]. *4,5-Dimethoxy-1,3-benzenedicarboxaldehyde*

$C_{10}H_{10}O_4$ M 194.187

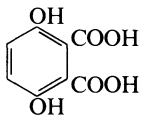
Cryst. (EtOH aq.). Mp 125°.

Koetschet, J. *et al*, *Helv. Chim. Acta*, 1930, **13**, 485 (*synth, deriv*)
Eegriwe, E., *Fresenius' Z. Anal. Chem.*, 1943, **126**, 134 (*deriv, use*)
Schill, G. *et al*, *Chem. Ber.*, 1966, **99**, 2689; 1978, **111**, 2615 (*synth*)
Giesecke, H. *et al*, *Justus Liebigs Ann. Chem.*, 1978, 345 (*synth, derivs*)

3,6-Dihydroxy-1,2-benzenedicarboxylic acid, 9CI D-00525

3,6-Dihydroxyphthalic acid, 8CI. Hydroquinone-2,3-dicarboxylic acid

[3786-46-7]



$C_8H_6O_6$ M 198.132

Yellow-green needles (H_2O). Mp 224-225° dec.

Di-Me ester: [7474-92-2].

$C_{10}H_{10}O_6$ M 226.185

Needles (H_2O). Mp 141-142°.

Di-Et ester:

$C_{12}H_{14}O_6$ M 254.239

Mp 89°.

Dinitrile: [4733-50-0]. *2,3-Dicyano-1,4-benzenediol. 2,3-Dicyanohydroquinone. 3,6-Dihydroxy-1,2-benzenedicarbonitrile, 9CI*

$C_8H_4N_2O_2$ M 160.132

Used as 1% EtOH soln. as fluorescent acid-base indicator (pH range: 5.8-8.2; colour change: blue → green). Yellow leaflets + $2H_2O$. Sol. alkalis, EtOH, Et_2O, Me_2CO; spar. sol. H_2O, C_6H_6, $CHCl_3$. Blackens at 230°.

Di-Me ether: [64019-77-8]. *3,6-Dimethoxy-1,2-benzenedicarboxylic acid. 3,6-Dimethoxyphthalic acid*

$C_{10}H_{10}O_6$ M 226.185

Yellow prisms + $1H_2O$ (H_2O). Mp 183-186° dec.

Di-Me ether, di-Me ester: [65489-47-6].

$C_{12}H_{14}O_6$ M 254.239

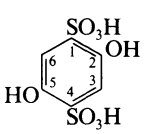
Prisms. Mp 102-103°.

Brunner, K., *Monatsh. Chem.*, 1913, **34**, 913 (*synth*)
Helferich, B., *Ber.*, 1921, **54**, 155 (*synth*)
Jensen, K.A., *Fresenius' Z. Anal. Chem.*, 1933, **94**, 177 (*use*)
Ansell, M.F. *et al*, *J. Chem. Soc.*, 1963, 3028 (*synth*)

2,5-Dihydroxy-1,4-benzenedisulfonic acid, 9CI D-00526

***Persilic acid*, INN**

[4444-23-9]



$C_6H_6O_8S_2$ M 270.241

Virucide, haemostatic, capillary protective agent. Used a 0.1% aq. soln. of K salt as fluorescent acid-base indicator (pH range: 6-7; colour change non-fluorescent → blue). Needles (H_2O). Sol. hot H_2O; mod. sol. cold H_2O; spar. sol. EtOH; insol. C_6H_6.

Di-NH_4 salt: Cryst. Dec. >300.

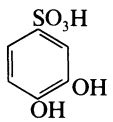
Diethylamine salt (1:2): [57775-25-4]. *Dietilan. 263-E*

Seyda, A., *Ber.*, 1883, **16**, 690 (*synth*)
Kauffman, H., *Ber.*, 1907, 838 (*synth*)
Quilico, A., *Gazz. Chim. Ital.*, 1927, **57**, 793 (*synth*)
Kostir, J.V., *Nature (London)*, 1946, **157**, 586 (*use*)
Heymann, H. *et al*, *Arch. Biochem. Biophys.*, 1958, **73**, 366 (*pharmacol*)
Sim, A. *et al*, *Arzneim.-Forsch.*, 1981, **31**, 962 (*pharmacol*)
Solans, X. *et al*, *Acta Crystallogr., Sect. B*, 1982, **38**, 651 (*cryst struct*)

3,4-Dihydroxybenzenesulfonic acid, 9CI D-00527

Pyrocatechol-4-sulfonic acid

[7134-09-0]



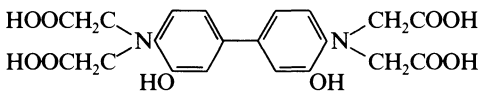
$C_6H_6O_5S$ M 190.176

Used for extraction-photometric detn. of Fe(*III*) (λ_{max} 480 nm). Cryst. Sol. H_2O.

Kohara, H. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1968, **17**, 616.

3,3′-Dihydroxybenzidine-*N*,*N*,*N*′,*N*′-tetraacetic acid D-00528

Bis[N-*carboxymethyl*-N-(*2-hydroxyphenyl*)*glycine*]



$C_{20}H_{20}N_2O_{10}$ M 448.385

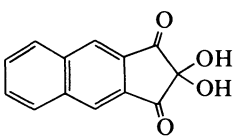
Used as fluorescent indicator for titrimetic detn. of Cu, Pb (colour change: blue → no fluorescence); Cd, Co, Mn, Zn (colour change: pink → blue). Used as a 0.1% dispersion of tetra-Na salt in KNO_3. Pale brown cryst. powder. Sol. alkalis; insol. C_6H_6, EtOH.

Kirkbright, G.F. *et al*, *Anal. Chim. Acta*, 1963, **28**, 327.

2,2-Dihydroxy-1*H*-benz[*f*]indene-1,3(2*H*)dione, 9CI D-00529

Benzo[f]*ninhydrin*

[38627-57-5]



$C_{13}H_8O_4$ M 228.204

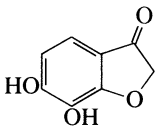
Colour reagent for α-amino acids, used in fingerprint detection. Plates (dioxan aq.). Mp 276-280°.

Jones, D.W. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1972, 2722 (*synth*)
Heffler, R. *et al*, *Tetrahedron Lett.*, 1987, 6539 (*synth, bibl*)

6,7-Dihydroxy-3(2*H*)-benzofuranone, 8CI D-00530

6,7-Dihydroxy-3-coumaranone

[6272-27-1]



$C_8H_6O_4$ M 166.133

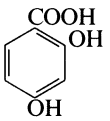
Used as a 0.15% aq. soln. for photometric detn. of Ge (λ_{max} 330 nm, ε 167000). Pale yellow cryst. (dioxan aq.). Sol. EtOH, Me_2CO, H_2O; insol. Et_2O. Mp 226°. pK_{a1} 6.7; pK_{a2} 11 (25°).

Feuerstein, W. *et al*, *Ber.*, 1904, **37**, 817 (*synth*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 895 (*detn, Ge*)

2,4-Dihydroxybenzoic acid, 9CI D-00531

β-Resorcylic acid, 8CI. Resorcinol-4-carboxylic acid

[89-86-1]



$C_7H_6O_4$ M 154.122

Gives colour reaction with Fe; fluorescence reaction with B. Cryst. (H_2O). Mp 218-219° (213° rapid heat). pK_a 3.22.

▷ VH3708050.

Di-Ac: [51-01-4].
$C_{11}H_{10}O_6$ M 238.196
Mp 136-138°.

Me ester: [2150-47-2].
$C_8H_8O_4$ M 168.149
Cryst. + $1H_2O$. Mp 78-80° (anhyd. 118-119°). pK_{a1} 8.02; pK_{a2} 11.73 (20°).

Amide: [3147-45-3]. *β-Resorcylamide*
$C_7H_7NO_3$ M 153.137
Used as a 1% soln. in EtOH as a metallochromic indicator in titrimetric detn. of Fe. Mp 228-229°. pK_{a1} 7.5 (20°, 1-4% EtOH).

Org. Synth., 1930, **10**, 94 (*synth*)
Robinson, R. *et al*, *J. Chem. Soc.*, 1934, 1491 (*synth*)
King, L.C. *et al*, *J. Am. Chem. Soc.*, 1945, **67**, 2089 (*synth*)
Dean, M. *et al*, *J. Chem. Soc.*, 1957, 3112.
Idris Jones, J., *Chem. Ind. (London)*, 1958, 228 (*synth*)
Tocuo, C., *Bunseki Kagaku (Jpn. Anal.)*, 1963, **12**, 385 (*detn, B*)
Coward, R.F. *et al*, *J. Chromatogr.*, 1969, **45**, 311 (*glc*)
Desai, M.N. *et al*, *Microchem. J.*, 1969, **14**, 503 (*amide, detn, Fe*)
Desai, M.N. *et al*, *Mikrochim. Acta*, 1970, 190 (*detn, Fe*)
Desai, M.N. *et al*, *CA*, 1972, **77**, 172256u (*amide, detn, Fe*)
Scott, K.N., *J. Am. Chem. Soc.*, 1972, **92**, 8564 (*cmr*)
Kamath, B.V. *et al*, *J. Appl. Chem. Biotechnol.*, 1975, **25**, 743 (*uv*)
Lutskii, A.E. *et al*, *Zh. Obshch. Khim.*, 1977, **47**, 905 (*nmr*)
Scriven, F.M. *et al*, *J. Liq. Chromatogr.*, 1979, **2**, 125 (*hplc*)
Robertson, D.W. *et al*, *J. Med. Chem.*, 1985, **28**, 717 (*deriv, synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HOE600.

2,5-Dihydroxybenzoic acid, 9CI D-00532

***Gentisic acid*, INN, 8CI.** *Hydroquinonecarboxylic acid. 5-Hydroxysalicylic acid. Gentisinic acid. Hydroxyquinonecarboxylic acid*

[490-79-9]

$C_7H_6O_4$ M 154.122

Widely distributed in higher plants. Metab. of *Penicillium* spp. Analgesic, antirheumatic, antiarthritic. Used for photometric detn. of $MoO_4^{2\ominus}$. Needles or prisms (H_2O). Sol. H_2O, Et_2O, EtOH. Mp 204.5-205°.

▷ LY3850000.

Na salt: [4955-90-2]. *Sodium gentisate. Gentinatre. Gentisod. Legential. Other synonyms*
Cryst. + $5\frac{1}{2}H_2O$ (H_2O).

▷ LY3860000.

Me ester: [2150-46-1].
$C_8H_8O_4$ M 168.149
Counterirritant, antirheumatic. Mp 88°. pK_{a1} 9.63; pK_{a2} 12.02 (20°).

Et ester: [3943-91-7].
$C_9H_{10}O_4$ M 182.176
Mp 77°.

[1084-96-4, 6245-34-7, 21715-15-1, 52405-73-9]

Puxeddu, E., *Gazz. Chim. Ital.*, 1929, **59**, 10 (*synth*)
Raistrick, H. *et al*, *Biochem. J.*, 1933, **27**, 628 (*synth*)
Meyer, K. *et al*, *Science (Washington, D.C.)*, 1948, **108**, 281 (*pharmacol*)
Lowenthal, J. *et al*, *J. Am. Chem. Soc.*, 1950, **72**, 3292 (*synth*)
Forrest, J. *et al*, *J. Chem. Soc.*, 1950, 2340 (*synth, Me ester*)
U.S. Pat., 2 782 232, (1957); *CA*, **51**, 10578a (*synth*)
Griffiths, L.A., *Nature (London)*, 1958, **182**, 733 (*isol, occur*)
Ibrahim, R.K. *et al*, *Arch. Biochem. Biophys.*, 1960, **87**, 125 (*isol, 2-hydroxy-5-methoxybenzoic acid*)
Kaarlo, J.V. *et al*, *Acta Chem. Scand.*, 1963, **17**, 62 (*metab*)
Meek, W.H. *et al*, *J. Chem. Eng. Data*, 1969, **14**, 388 (*deriv*)
Scott, K.N., *J. Magn. Reson.*, 1970, **2**, 361 (*pmr*)
Šantavý, F. *et al*, *Collect. Czech. Chem. Commun.*, 1972, **37**, 1825 (*uv*)
Scott, K.N., *J. Am. Chem. Soc.*, 1972, **94**, 8564 (*cmr*)
Dukanovič, A.B. *et al*, *CA*, 1977, **86**, 82932t.
Haisa, M. *et al*, *Acta Crystallogr., Sect. B*, 1982, **38**, 1480 (*cryst struct*)
Kung, H.F. *et al*, *J. Med. Chem.*, 1988, **31**, 1039 (*deriv, synth, pmr, ir*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, GCU000.

2,6-Dihydroxybenzoic acid, 9CI D-00533

γ-Resorcylic acid, 8CI. Resorcinol-2-carboxylic acid

[303-07-1]

$C_7H_6O_4$ M 154.122

Used in photometric detn. of B. Cryst. + $1H_2O$ (H_2O). Mp 150° to 170° (variable acc. to rate of heating). pK_a 1.08.

Me ester: [2150-45-0].
$C_8H_8O_4$ M 168.149
Mp 67-68°. pK_{a1} 8.96; pK_{a2} 11.56 (20°).

Mono-Me ether: [3147-64-6]. *2-Hydroxy-6-methoxybenzoic acid*
$C_8H_8O_4$ M 168.149
Isol. from *Gloria superba* tubers and bulbs of *Colchicum* spp. Cryst. ($CHCl_3/C_6H_6$). Mp 135°.

Me ether, benzyl ester:
$C_{15}H_{14}O_4$ M 258.273
Constit. of *Aster ptarmicoides*. Cryst. (Et_2O/pet. ether). Mp 40°.

Me ether, 2-methoxybenzyl ester:
$C_{16}H_{16}O_5$ M 288.299
Constit. of *A. ptarmicoides*. Cryst. (Et_2O/pet. ether). Mp 35°.

p-*Bromoanilide:* [20788-07-2]. N-(*4-Bromophenyl*)-*2,6-dihydroxybenzamide, 9CI.* ***Resorantel*, INN.** *4'-Bromo-γ-resorcylamide, 8CI. Terenol. Hoe 296V*
$C_{13}H_{10}BrNO_3$ M 308.131
Veterinary anthelmintic, teniacide. Mp 221-230°.

[3144-59-0, 3147-50-0, 57764-46-2]

Mauthner, F., *J. Prakt. Chem.*, 1930, **124**, 319 (*synth*)
Shah, L.G. *et al*, *J. Sci. Ind. Res., Sect. B*, 1956, **15**, 159 (*synth*)
Doyle, F.P. *et al*, *J. Chem. Soc.*, 1962, 1453.
U.K. Pat., 916 548, (1963); *CA*, **59**, 3840 (*manuf*)
Dell, H.D. *et al*, *Justus Liebigs Ann. Chem.*, 1967, **709**, 70 (*ir, uv*)
U.K. Pat., 1 124 613, (1968); *CA*, **70**, 3574w (*Resorantel, synth, pharmacol*)
Bohlmann, F. *et al*, *Chem. Ber.*, 1969, **102**, 1682 (*isol, derivs*)
Coward, R.F. *et al*, *J. Chromatogr.*, 1969, **45**, 311 (*glc*)
Scott, K.N., *J. Magn. Reson.*, 1970, **2**, 361 (*nmr*)
Scott, K.N., *J. Am. Chem. Soc.*, 1972, **92**, 8564 (*cmr*)
Steinegger, E. *et al*, *Pharm. Acta Helv.*, 1972, **47**, 133 (*tlc*)
Ruschig, H. *et al*, *Arzneim.-Forsch.*, 1973, **23**, 1745 (*Resorantel*)
Williams, S.G. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 508.
Oshima, M. *et al*, *Anal. Chim. Acta*, 1982, **134**, 73 (*detn, B*)
Kung, H.F. *et al*, *J. Med. Chem.*, 1988, **31**, 1039 (*deriv, synth, pmr, ir*)

3,5-Dihydroxybenzoic acid, 9CI D-00534

α-Resorcylic acid, 8CI. Resorcinol-5-carboxylic acid

[99-10-5]

$C_7H_6O_4$ M 154.122

Used as 1% soln. in EtOH as metallochromic indicator in titrimetric detn. of Fe(*III*). Cryst. + $1\frac{1}{2}$ H_2O (H_2O). Sol. H_2O. Mp 232-233° (anhyd.). pK_a 4.04.

▷ VH3708000.

Me ester: [2150-44-9].
$C_8H_8O_4$ M 168.149
Leaflets. Mp 163-165°. pK_{a1} 8.71; pK_{a2} 10.66 (20°).

Di-Ac: [35354-29-1].
$C_{11}H_{10}O_6$ M 238.196
Mp 161-162°.

Mono-Me ether: [19520-75-3]. *3-Hydroxy-5-methoxybenzoic acid*
$C_8H_8O_4$ M 168.149
Cryst. ($CHCl_3$/pet. ether). Mp 202°.

Ph ester: [133551-50-5].
$C_{13}H_{10}O_4$ M 230.220
Cryst. (MeOH aq.). Mp 174-176°.

Dibenzyl ether: [28917-43-3]. *3,5-Dibenzyloxybenzoic acid*
$C_{21}H_{18}O_4$ M 334.371
Cryst. (EtOH). Mp 210-211°.

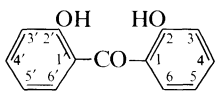
[3147-62-4, 41696-97-3]

Suter, C.M. *et al*, *J. Am. Chem. Soc.*, 1939, **61**, 232 (*synth*)
Birkenshaw, J.H. *et al*, *J. Chem. Soc.*, 1942, 368 (*synth*)
Witiak, D.T. *et al*, *J. Am. Chem. Soc.*, 1967, **89**, 1908 (*nmr*)
Curtis, R.F. *et al*, *J. Chem. Soc. C*, 1968, 1807 (*deriv*)
Coward, R.F. *et al*, *J. Chromatogr.*, 1969, **45**, 311 (*glc*)
Desai, M.N. *et al*, *Mikrochim. Acta*, 1970, 190 (*detn, Fe*)
Scott, K.N., *J. Am. Chem. Soc.*, 1972, **92**, 8564 (*cmr*)
Belg. Pat., 833 181, (1975); *CA*, **86**, 72210 (*manuf*)
Kamath, B.V. *et al*, *J. Appl. Chem. Biotechnol.*, 1975, **25**, 743 (*uv*)
Williams, S.G. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 508.
Hawker, C.J. *et al*, *J. Am. Chem. Soc.*, 1991, **113**, 4583 (*deriv, synth, ir, pmr, cmr, ms*)

2,2′-Dihydroxybenzophenone, 8CI D-00535

Bis(2-hydroxyphenyl)methanone, 9CI

[835-11-0]



$C_{13}H_{10}O_3$ M 214.220

Leaflets or prisms (ligroin). Mp 59-60°.

Di-Ac: [65594-66-3].
$C_{17}H_{14}O_5$ M 298.295
Plates (EtOH). Mp 96°.

Di-Me ether: [13102-33-5]. *2,2′-Dimethoxybenzophenone. Di-o-anisylketone*
$C_{15}H_{14}O_3$ M 242.274
Mp 104°.

Phenylhydrazone: Mp 152°.

Thiosemicarbazone: [70384-39-3].
$C_{14}H_{13}N_3O_2S$ M 287.342
Used as 0.2% soln. in EtOH for photometric detn. of Mo (λ_{max} 500 nm, ε 3300). Cryst. (EtOH aq.). Sol. Et_2O. Mp 163°.

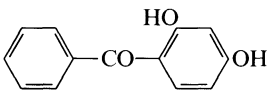
[21147-18-2]

Graebe, C. *et al*, *Ber.*, 1886, **19**, 2607 (*synth*)
Merrill, J., *J. Phys. Chem.*, 1961, **65**, 2023 (*nmr*)
Gumprecht, D.L. *et al*, *J. Chromatogr.*, 1968, **37**, 268 (*chromatog*)
Ballantine, J.A. *et al*, *Org. Mass Spectrom.*, 1968, **1**, 425 (*ms*)
López-Fernandez, J.M., *Analyst (London)*, 1978, **103**, 1210 (*synth, detn, Mo*)
v. Duuren, B.L. *et al*, *J. Med. Chem.*, 1978, **21**, 26 (*tox*)
Stocklinski, A.W. *et al*, *J. Chromatogr.*, 1979, **170**, 495 (*tlc*)
Schlemper, E.O., *Acta Crystallogr., Sect. B*, 1982, **38**, 1619 (*cryst struct*)
Faerman, C. *et al*, *Can. J. Chem.*, 1985, **63**, 3374 (*cryst struct, deriv*)

2,4-Dihydroxybenzophenone, 8CI D-00536

(2,4-Dihydroxyphenyl)phenylmethanone, 9CI. 4-Benzoylresorcinol

[131-56-6]



$C_{13}H_{10}O_3$ M 214.220

Polymer stabiliser, antioxidant; sunscreen agent. Used as 0.006% soln. in conc. H_2SO_4 for fluorimetric detn. of B (λ_{max} 503 nm). Needles (H_2O). Sol. conc. H_2SO_4. Mp 142.6-144.6°.

▷ DJ0700000.

Di-Ac: [75697-71-1].
$C_{17}H_{14}O_5$ M 298.295
Prisms. Mp 78°.

4-Me ether: [131-57-7]. *(2-Hydroxy-4-methoxyphenyl)methanone, 9CI. 2-Hydroxy-4-methoxybenzophenone.* ***Oxybenzone,* INN, USAN.** *Anuvex. Cyasorb UV 9 (obsol.). Eusolex 4360. Spectra-Sorb UV. Uvinul M40. MOB. NSC 7778*
$C_{14}H_{12}O_3$ M 228.247
Ultraviolet sunscreen. Cryst. (2-propanol). Mp 66°.

▷ DJ1575000.

Di-Me ether: [3555-84-8]. *2,4-Dimethoxybenzophenone*
$C_{15}H_{14}O_3$ M 242.274
Prisms (EtOH aq.). Mp 87-88°.

Semicarbazone: [106538-73-2].
$C_{14}H_{13}N_3O_3$ M 271.275
Used as EtOH soln. for photometric detn. of Cu(*II*) (λ_{max} 355 nm, ε 11400, acetate buffer medium). Cryst. (EtOH). Sol. DMF, EtOH.

[131-57-7]

König, B. *et al*, *Ber.*, 1906, **39**, 4027 (*synth*)
Cox, E.H., *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1931, **50**, 848 (*synth*)
Zilberman, E.N., *Zh. Obshch. Khim.*, 1960, **30**, 1992 (*synth*)
Monnier, D. *et al*, *Helv. Chim. Acta*, 1964, **47**, 1980 (*detn, B*)
Marcantonatos, M. *et al*, *Anal. Chim. Acta*, 1966, **35**, 309 (*detn, B*)
Ledger, M.B. *et al*, *Spectrochim. Acta, Part A*, 1967, **23**, 641 (*uv*)
Homrowski, S., *CA*, 1968, **69**, 50613 (*tox*)
Liebich, B.W. *et al*, *Acta Crystallogr., Sect. B*, 1974, **30**, 2522 (*cryst struct, deriv*)

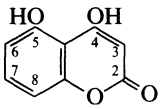
Kristalev, P.V. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1650 (*detn, B*)
South African Pat., 7 602 667, (1977); *CA*, **87**, 201102 (*synth*)
Stocklinski, A.W. *et al*, *J. Chromatogr.*, 1979, **170**, 495 (*tlc*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 9312, 9320.
Reddy, K.G. *et al*, *Indian J. Chem., Sect. A*, 1986, **25**, 982.
Piccolo, O. *et al*, *Tetrahedron*, 1986, **42**, 885 (*synth, Oxybenzone*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DMI600, MES000.

4,5-Dihydroxy-2*H*-1-benzopyran-2-one, D-00537

9CI

4,5-Dihydroxycoumarin

[30992-74-6]



$C_9H_6O_4$ M 178.144

Tautomeric with 2,5-dihydroxy-4*H*-1-benzopyran-4-one. Used in photometric detn. of $NO_2^{\ominus}$, $NO_3^{\ominus}$. Cryst. (EtOH). Mp 221°.

4-O-Me: [65692-19-5].
$C_{10}H_8O_4$ M 192.171
Needles (MeOH). Mp 248°.

5-O-Me: [53666-76-5].
$C_{10}H_8O_4$ M 192.171
Cryst. (EtOH aq.). Mp 155°.

Di-O-Me: [53666-77-6].
$C_{11}H_{10}O_4$ M 206.198
Mp 179-180°.

Barker, W.M. *et al*, *J. Med. Chem.*, 1971, **14**, 167 (*synth*)
Masrani, K.V. *et al*, *J. Appl. Chem. Biotechnol.*, 1974, **24**, 331 (*uv*)
Nakamura, M. *et al*, *Analyst (London)*, 1979, **104**, 985; 1981, **106**, 483 (*detn, $NO_2^{\ominus}$*)
Nakamura, M., *Mikrochim. Acta*, 1983, **2**, 69 (*detn, $NO_3^{\ominus}$*)

6,7-Dihydroxy-2*H*-1-benzopyran-2-one, D-00538

9CI

6,7-Dihydroxycoumarin, 8CI. Aesculetin. Esculetin. Cichorigenin. Esculetol

[305-01-1]

$C_9H_6O_4$ M 178.144

Metab. of infected sweet potato also found in *Aesculus, Atropa, Datura, Digitalis* and other plants; found in some ferns. Used in photometric detn. of Nb, U. Antifungal agent. Cryst. (EtOH). Mp 270°.

Di-Ac: [14894-87-2].
Prisms (EtOH). Mp 134-135°.

Head, F.S.H. *et al*, *J. Chem. Soc.*, 1939, 1266 (*synth*)
Bohlmann, F. *et al*, *Chem. Ber.*, 1957, **90**, 1512 (*synth*)
Jain, B.D., *Anal. Chim. Acta*, 1967, **37**, 1358 (*detn, Nb, U*)
Bursey, M.M. *et al*, *J. Chem. Soc., Chem. Commun.*, 1967, 712 (*ms*)
Khan, M.A.S. *et al*, *Anal. Chim. Acta*, 1968, **43**, 153 (*pmr*)
Sato, M. *et al*, *Phytochemistry*, 1972, **11**, 657 (*biosynth*)
Günther, H. *et al*, *Org. Magn. Reson.*, 1975, **7**, 339 (*cmr, deriv*)
Cussans, N.J. *et al*, *Tetrahedron*, 1975, **31**, 2719 (*cmr*)
Kelkar, S.L. *et al*, *Indian J. Chem., Sect. B*, 1984, **23**, 458 (*synth*)
Joseph-Nathan, P. *et al*, *J. Heterocycl. Chem.*, 1984, **21**, 1141 (*pmr, deriv*)
Abu-Eittah, R.H. *et al*, *Can. J. Chem.*, 1985, **63**, 1173 (*uv*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DRS800.

7,8-Dihydroxy-2*H*-1-benzopyran-2-one D-00539

7,8-Dihydroxycoumarin, 8CI. ***Daphnetin.*** *Daphnetol*

[486-35-1]

$C_9H_6O_4$ M 178.144

Isol. from *Daphne odora* (as glucoside) and from other plants. Used in photometric detn. of Nb, U. Pale-yellow needles (MeOH). Mp 253-255°.

Di-Ac: [21784-71-4].
$C_{13}H_{10}O_6$ M 262.218
Mp 137° (128-130°).

Bohm, B.A. *et al*, *Can. J. Biochem.*, 1961, **39**, 1389 (*struct*)
Barnes, C.S. *et al*, *Aust. J. Chem.*, 1964, **17**, 975 (*ms*)
Jain, B.D., *Anal. Chim. Acta*, 1967, **37**, 1358 (*use*)
Mendéz, J. *et al*, *Microchem. J.*, 1969, **14**, 567 (*uv*)
Jurd, L. *et al*, *Aust. J. Chem.*, 1974, **27**, 2697 (*synth*)
Abyshev, A.Z., *Khim. Prir. Soedin.*, 1974, **10**, 568 (*isol*)
Cussans, N.J. *et al*, *Tetrahedron*, 1975, **31**, 2719 (*cmr*)
Ueno, K. *et al*, *Acta Crystallogr., Sect. B*, 1976, **31**, 946 (*cryst struct*)
MacLeod, J.K. *et al*, *Aust. J. Chem.*, 1978, **31**, 1545 (*synth*)
Joseph-Nathan, P. *et al*, *J. Heterocycl. Chem.*, 1984, **21**, 1141 (*pmr, deriv*)

2,5-Dihydroxy-1,4-benzoquinone D-00540

2,5-Dihydroxy-2,5-cyclohexadiene-1,4-dione, 9CI

[615-94-1]

$C_6H_4O_4$ M 140.095

Used as a satd. aq. soln. for photometric detn. of Sc, Th, Zr. Golden-orange cryst. (EtOH), dark-yellow needles (EtOAc). Sol. EtOH, Me_2CO; sl. sol. H_2O. Mp 210° dec. (215-220° subl.). pK_{a1} 2.73; pK_{a2} 5.18 (25°).

Di-Ac:
$C_{10}H_8O_6$ M 224.170
Yellow plates or prisms (C_6H_6). Mp 150-152°.

Dibenzoyl:
$C_{20}H_{12}O_6$ M 348.311
Gold plates (AcOH). Mp 174°.

Di-Me ether: [3117-03-1]. *2,5-Dimethoxy-1,4-benzoquinone.* ***Thermophillin.*** *Thermophyllin*
$C_8H_8O_4$ M 168.149
Prod. by *Polyporus fumosus*; also isol. from cultures of *Lenzites thermophilia, Trichoderma pseudokoningis* and *Glocophyllum sepiarum*. Also isol. from higher plants *Acorus calamus, Cassia obtusifolia, Dalbergia melanoxylon*. Mildly active against gram-positive bacteria and mycobacteria. Yellow prisms (MeOH). Mp 250° dec. (300° dec.).

Di-Et ether: [20765-04-2]. *2,5-Diethoxy-1,4-benzoquinone*
$C_{10}H_{12}O_4$ M 196.202
Cryst. (EtOH). Mp 184°.

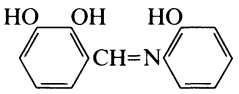
Knoevenagel, E. *et al*, *Ber.*, 1901, **34**, 3993 (*synth*)
Jones, R.G. *et al*, *J. Am. Chem. Soc.*, 1945, **67**, 1034 (*synth*)
Huisman, H.O., *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1950, **69**, 1133 (*isol*)
Ungnade, H.E. *et al*, *J. Org. Chem.*, 1951, **16**, 64 (*deriv*)
Davidge, H. *et al*, *J. Chem. Soc.*, 1958, 4569 (*synth*)
Singhal, S.P. *et al*, *Anal. Chim. Acta*, 1966, **35**, 195 (*use*)
Bowie, J.H. *et al*, *J. Chem. Soc. B*, 1966, 335 (*ms*)
Wanzlick, H.W. *et al*, *Chem. Ber.*, 1968, **101**, 3744 (*synth*)
Donnelly, B.J. *et al*, *Tetrahedron*, 1969, **25**, 4409 (*isol*)
Le Blanc, G.D. *et al*, *Can. J. Microbiol.*, 1972, **18**, 261 (*isol*)
Nakajima, S. *et al*, *Agric. Biol. Chem.*, 1976, **40**, 811 (*isol*)
Höfle, G., *Tetrahedron*, 1976, **32**, 1431 (*cmr*)
Semmingsen, D., *Acta Chem. Scand., Ser. B*, 1977, **31**, 11 (*cryst struct*)
Patra, A. *et al*, *Indian J. Chem., Sect. B*, 1979, **17**, 412 (*isol*)
Tindale, C.R., *Aust. J. Chem.*, 1984, **37**, 611 (*synth, ir*)

Matsumoto, M. *et al*, *Synth. Commun.*, 1985, **15**, 515 (*synth*)
Kitanaka, S. *et al*, *Yakugaku Zasshi*, 1986, **106**, 302 (*isol*)
Orita, H. *et al*, *Bull. Chem. Soc. Jpn.*, 1989, **62**, 1652 (*synth*)

N-(2,3-Dihydroxybenzylidene)-2-hydroxyaniline D-00541

2,3-Dihydroxybenzaldehyde 2-hydroxyanil

[1761-58-6]



$C_{13}H_{11}NO_3$ M 229.235

Gives colour reactions with Ag, Cd, Co, Cu, Fe(*III*), Hg, Mn, Ni, Zn. Yellow cryst. Sol. EtOH, dil. alkalis. pK_{a2} 7.75 (4% EtOH aq., 20°).

3-Me ether: [1761-30-4]. N-(*2-Hydroxy-3-methoxybenzylidene*)-*2-hydroxyaniline*. *2-*[[(*2-Hydroxyphenyl*)*imino*]*methyl*]-*6-methoxyphenol*, *9CI. 2-Hydroxy-3-methoxybenzaldehyde 2-hydroxyanil*

$C_{14}H_{13}NO_3$ M 243.262

Used as a 1m*M* soln. in EtOH for fluorimetric detn. of Al. Cryst. (EtOH). Sol. EtOH; sl. sol. H_2O. Mp 194-195°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)
Fiedler, H., *Arch. Pharm. (Weinheim, Ger.)*, 1964, **297**, 226 (*synth, deriv*)
Kábre, L. *et al*, *Collect. Czech. Chem. Commun.*, 1968, **33**, 3734 (*synth, pKa*)

N-(2,4-Dihydroxybenzylidene)-2-hydroxyaniline D-00542

4-[N-(o-*Hydroxyphenyl*)*formimidoyl*]*resorcinol*, *8CI. 2,4-Dihydroxybenzaldehyde 2-hydroxyanil*

[1761-59-7]

$C_{13}H_{11}NO_3$ M 229.235

Gives colour reactions with Ag, Cd, Co, Cu, Fe(*III*), Hg, Mn, Ni, Zn. Yellow cryst. Sol. EtOH, dil. alkalis. pK_{a2} 7.01; pK_{a3} 9.67 (4% EtOH aq., 20°).

Kábrt, L. *et al*, *Collect. Czech. Chem. Commun.*, 1968, **33**, 3734 (*synth*, pK_a, use)

N-(2,5-Dihydroxybenzylidene)-2-hydroxyaniline D-00543

2,5-Dihydroxybenzaldehyde 2-hydroxyanil

[1761-55-3]

$C_{13}H_{11}NO_3$ M 229.235

Gives colour reactions with Ag, Cd, Co, Cu, Fe(*III*), Hg, Mn, Ni, Zn. Yellow cryst. pK_{a2} 8.41; pK_{a3} 10.42 (4% EtOH, 20°).

5-Me ether: [1761-44-0]. N-*2-Hydroxy-5-methoxybenzylidene-2-hydroxyaniline*. *2-*[[(*2-Hydroxyphenyl*)*imino*]*methyl*]-*4-methoxyphenol*, *9CI. 2-Hydroxy-5-methoxybenzaldehyde 2-hydroxyanil*

$C_{14}H_{13}NO_3$ M 243.262

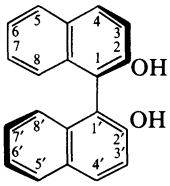
Used as a 1m*M* soln. in EtOH for fluorimetric detn. of Al. Cryst. (EtOH). Sol. EtOH; sl. sol. H_2O. Mp 155.0-155.6°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)
Kábre, L. *et al*, *Collect. Czech. Chem. Commun.*, 1968, **33**, 3734 (*synth, pKa, use*)

2,2′-Dihydroxy-1,1′-binaphthyl D-00544

[*1,1′-Binaphthalene*]-*2,2′-diol*, *9CI, 8CI. β-Dinaphthol*

[602-09-5]



(*R*)-*form*

$C_{20}H_{14}O_2$ M 286.329

Chiral auxilliary.

(***R*)-*form*** [18531-94-7]

Reagent for resoln. of racemic sulphoxides. Cryst. Mp 206-207°. $[\alpha]_D^{20}$ +35.2° (c, 1 in THF).

Di-Me ether: [35294-28-1]. *2,2′-Dimethoxy-1,1′-binaphthyl*

$C_{22}H_{18}O_2$ M 314.383

Cryst. $[\alpha]_D$ +135° (89% o.p.).

(***S*)-*form*** [18531-99-2]

Cryst. (EtOH aq.). Mp 206-207°. $[\alpha]_D^{20}$ −35.2° (c, 1 in THF).

(±)-***form***

Cryst. (EtOH or toluene). Mp 218°.

Di-Me ether: Mp 190°.

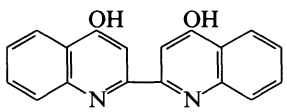
[75640-87-8, 75685-01-7]

Pummerer, R. *et al*, *Ber.*, 1926, **59**, 2159 (*synth*)
Korczynski, A. *et al*, *Pol. J. Chem. (Rocz. Chem.)*, 1931, **2**, 655; *CA*, **26**, 4044 (*synth*)
Akimoto, H. *et al*, *Tetrahedron*, 1971, **27**, 5999 (*synth, config*)
Brussee, J. *et al*, *Tetrahedron*, 1985, **41**, 3313 (*synth, props*)
Wu, S.-H. *et al*, *Tetrahedron Lett.*, 1985, **26**, 4323 (*synth, resoln*)
Toda, F. *et al*, *J. Org. Chem.*, 1988, **53**, 3607 (*resoln*)
Tamai, Y. *et al*, *Synthesis*, 1990, 222 (*resoln*)
Gong, B. *et al*, *J. Org. Chem.*, 1991, **56**, 423 (*resoln*)
Gottarelli, G. *et al*, *J. Org. Chem.*, 1991, **56**, 2096 (*Di-Me ether, resoln*)

4,4′-Dihydroxy-2,2′-biquinoline D-00545

[*2,2′-Biquinoline*]-*4,4′-diol*, *9CI*

[6495-85-8]



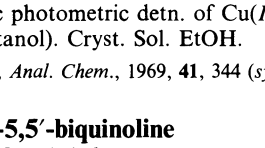
$C_{18}H_{12}N_2O_2$ M 288.305

Used in specific photometric detn. of Cu(*I*) (λ_{max} 525 nm, ε 6900, isopentanol). Cryst. Sol. EtOH.

Schilt, A.A. *et al*, *Anal. Chem.*, 1969, **41**, 344 (*synth, use*)

8,8′-Dihydroxy-5,5′-biquinoline D-00546

[*5,5′-Biquinoline*]-*8,8′-diol*



$C_{18}H_{12}N_2O_2$ M 288.305

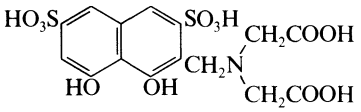
Used as a satd. soln. in dil. HCl aq. for extraction-photometric detn. of Al, Cu, Fe, Ni, Zn. Cryst. powder. Sol. EtOH; spar. sol. H_2O, HCl aq. (0.49mg per 100cm^3). Mp >310° dec. pK_{a1} 3.6; pK_{a2} 10.1 (20% EtOH).

Philips, J.P. *et al*, *Anal. Chim. Acta*, 1960, **23**, 131 (*synth, use*)

4,5-Dihydroxy-3-[*N,N*-bis(carboxymethyl) aminomethyl]-2,7-naphthalenedisulfonic acid D-00547

N-(*Carboxymethyl*)-N-[(*1,8-dihydroxy-3,6-disulfo-2-naphthalenyl)methyl*]*glycine*, *9CI*. *Khimdu*

[23101-11-3]



$C_{15}H_{15}NO_{12}S_2$ M 465.415

Strictly, the name Khimdu applies to the disodium salt. pK_{a1} 2.35; pK_{a2} 5.60; pK_{a3} 8.70; pK_{a4} 10.30 (μ = 0.1).

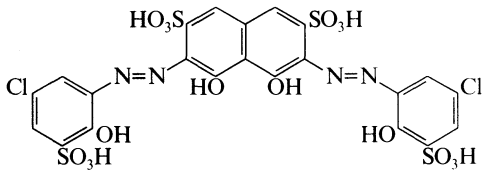
Di-Na salt: [7543-56-8].

Used as a 1m*M* aq. soln. for photometric detn. of Ti (λ_{max} 510 nm, ε 7800). Brown cryst. powder (Me_2CO aq.). Sol. alkalis; sl. sol. H_2O; insol. EtOH.

Lee, Y.K. *et al*, *Talanta*, 1972, **19**, 1665 (*detn, Ti*)

Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 979; 1986, **23**, 1813 (*synth*)

4,5-Dihydroxy-3,6-bis[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI D-00548



$C_{22}H_{14}Cl_2N_4O_{16}S_4$ M 789.539

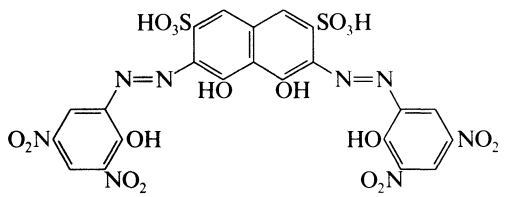
Used for photometric detn. of Be, Cu, Nb, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

4,5-Dihydroxy-3,6-bis[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI D-00549

Picramine S. Picraminazochrome

[20650-52-6]



$C_{22}H_{12}N_8O_{18}S_2$ M 740.512

Used as a 0.1% aq. soln. for photometric detn. of V (λ_{max} 620 nm, ε 10700). Dark red cryst. powder. Sol. H_2O. pK_{a1} 2.55; pK_{a2} 10.2.

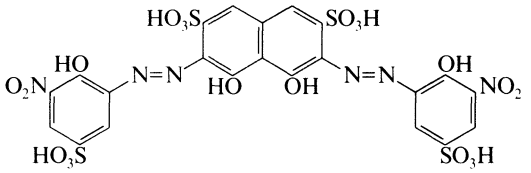
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 653; 1971, **26**, 2364.

Muk, A.A. *et al*, *Anal. Chim. Acta*, 1969, **44**, 59; **45**, 534 (*pKa*)

4,5-Dihydroxy-3,6-bis[(2-hydroxy-3-nitro-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI D-00550

2,4-Nitrosulfophenol C

[5177-68-4]



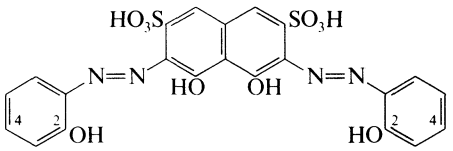
$C_{22}H_{14}N_6O_{20}S_4$ M 810.645

Used as 0.1% aq. soln. for photometric detn. of Zr (λ_{max} 625 nm, ε 75000, pH 3.7-4.1). Cryst. Sol. H_2O.

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 574 (*synth, detn, Zr*)

4,5-Dihydroxy-3,6-bis[(2-hydroxyphenyl) azo]-2,7-naphthalenedisulfonic acid D-00551

[21668-02-0]



$C_{22}H_{16}N_4O_{10}S_2$ M 560.521

Bis(2′-Me ether): [32736-63-3]. *4,5-Dihydroxy-3,6-bis[(o-methoxyphenyl)azo]-2,7-naphthalenedisulfonic acid*, *8CI*

$C_{24}H_{20}N_4O_{10}S_2$ M 588.575

Used for photometric detn. of rare earth elements. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 297 (*use*)

4,5-Dihydroxy-3,6-bis[(4-hydroxyphenyl) azo]-2,7-naphthalenedisulfonic acid, 8CI D-00552

[23157-01-9]

$C_{22}H_{16}N_4O_{10}S_2$ M 560.521

Used as a 0.05% or 0.1% aq. soln. for photometric detn. of Ba, Ca (λ_{max} 650 nm, ε 30000), Cu, Mg (λ_{max} 640 nm, ε 37000), La, Pd, Sr, Th, U(*VI*), Yb; photometric detn. of H_2O in organic solvents. Dark red cryst. powder. Mod. sol. H_2O. pK_{a3} 10.42.

4,4′-Di-Me ether: [27963-16-2]. *4,5-Dihydroxy-3,6-bis[(4-methoxyphenyl)azo]-2,7-naphthalenedisulfonic acid*, *9CI*

$C_{24}H_{20}N_4O_{10}S_2$ M 588.575

Used as a 0.1% aq. soln. for photometric detn. of La (λ_{max} 800 nm), Yb (λ_{max} 790 nm); photometric detn. of H_2O in organic solvs. Dark red cryst. powder. pK_{a3} 9.44; pK_{a4} 14.55.

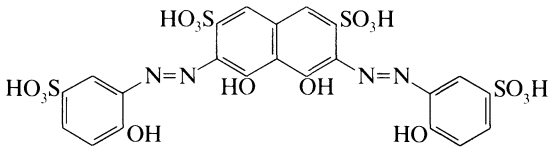
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177, 490; 1971, **26**, 297 (*detn, Ba, Ca, Cu, Mg, La, Pd, Sr, Th, U, Yb*)

Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226; 1973, **28**, 436, 1452 (*detn, H_2O, pKa*)

Petrova, T.V. *et al*, *CA*, 1972, **77**, 147337p (*detn, H_2O*)

Perisic-Janic, N.U. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 208 (*spectra*)

4,5-Dihydroxy-3,6-bis[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00553



$C_{22}H_{16}N_4O_{16}S_4$ M 720.650

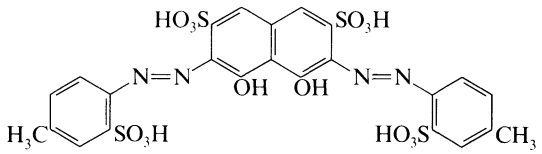
Used for photometric detn. of Ca, La, Th, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

4,5-Dihydroxy-3,6-bis[(4-methyl-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI D-00554

Dimethylsulfonazo III

[14979-11-4]



$C_{24}H_{20}N_4O_{14}S_4$ M 716.704

Strictly, the name Dimethylsulfonazo III applies to the tetrasodium salt.

Tetra-Na salt: [65271-28-5].

Used in photometric detn. of $SO_4^{2\ominus}$ and Sr. Dark red cryst. Sol. H_2O, EtOH.

Budešinsky, B. *et al*, *Acta Chim. Acad. Sci. Hung.*, 1967, **52**, 37 (*detn, Sr*)

Reijnders, H.F. *et al*, *Fresenius' Z. Anal. Chem.*, 1979, **295**, 122; 1980, **300**, 273.

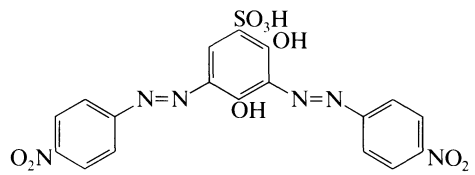
Bartels, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1982, **310**, 13.

Nakashima, S. *et al*, *Fresenius' Z. Anal. Chem.*, 1984, **317**, 29 (*synth*)

2,4-Dihydroxy-3,5-bis[(4-nitrophenyl)azo]benzenesulfonic acid, 8CI D-00555

2,4-Bis(4-nitrophenylazo)resorcinol-6-sulfonic acid

[27831-63-6]



$C_{18}H_{12}N_6O_9S$ M 488.394

Acid-base indicator used as 0.1% aq. soln. of Na salt. Red-brown cryst. powder. Sol. alkalis. pK_{a1} 7.64; pK_{a2} 11.64.

[17716-26-6]

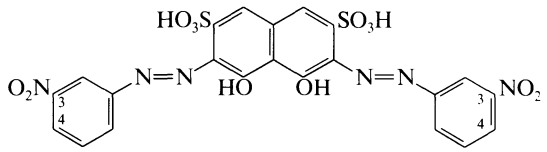
Podstata, J. *et al*, *Collect. Czech. Chem. Commun.*, 1967, **12**, 3020 (*use*)

Janik, J. *et al*, *Talanta*, 1970, **17**, 231 (*use*)

4,5-Dihydroxy-3,6-bis[(3-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI D-00556

3,6-Bis-[(3,3'-Dinitrophenyl)azo]chromotropic acid

[24430-49-7]



$C_{22}H_{14}N_6O_{12}S_2$ M 618.518

Used as a 0.05 or 0.1% aq. soln. for photometric detn. of Ba, Ca (λ_{max} 600 nm, ε 28000), Li (λ_{max} 580 nm, ε 27000), Sr, Th (λ_{max} 620 nm, ε 22000). Dark red cryst. powder. Mod. sol. H_2O. pK_{a3} 8.44; pK_{a4} 13.72.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177, 490 (*detn, Ba, Ca, Sr, Li, Th*)

Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226 (*pKa*)

4,5-Dihydroxy-3,6-bis[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00557

4,4'-Dinitrobisphenylazochromotropic acid

[23156-95-8]

$C_{22}H_{14}N_6O_{12}S_2$ M 618.518

Used as a 0.05 or 0.1% aq. soln. for photometric detn. of Ba, Ca, La, Th (λ_{max} 660 nm, ε 15000); gives colour reactions with Co, Cu, Fe(*III*), Mn, Ni, Zn (dioxan aq., Me_2CO aq.); photometric detn. of H_2O in organic solvents. Dark red cryst. powder. Mod. sol. H_2O. pK_{a3} 8.1; pK_{a4} 13.

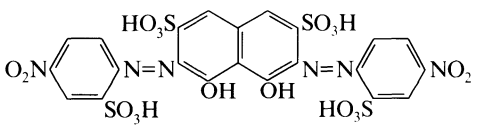
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177, 490 (*detn, Ba, Ca, Th*)

Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226; 1973, **28**, 208, 1452, 1888 (*detn, H_2O, La, Co, Cu, Fe, Mn, Ni, Zn*)

4,5-Dihydroxy-3,6-bis[(4-nitro-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI D-00558

Dinitrosulfonazo III. Nitchromazo. Nitrosoorthanilic S

[1964-89-2]



$C_{22}H_{12}N_6O_{18}S_4$ M 776.630

Used as 0.1*M* aq. soln. as indicator for titrimetric detn. of Ba, S; as 0.1% aq. soln. for photometric detn. of Sr (Me_2CO aq., pH 2.8), Ba. Dark green cryst. powder. Sol. H_2O, EtOH; insol. C_6H_6, $CHCl_3$. Mp 222°. pKa_1 14.5; pK_{a2} 9.7; pK_{a3} 2.6; pK_{a4} 2.1; pK_{a5} 1.8; pK_{a6} 0.7; pK_{a7} 0.3; pK_{a8} −2.3.

Kuznetsov, V.I. *et al*, *Zavod. Lab.*, 1965, **31**, 538.

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 440 (*synth, detn, Sr*)

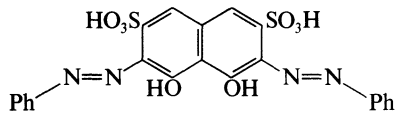
Budešinsky, B. *et al*, *Acta Chim. Acad. Sci. Hung.*, 1967, **52**, 37; *CA*, **68**, 45935d.

Kreshkov, A.P. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 49, 874 (*detn, Sr, Ba*)

4,5-Dihydroxy-3,6-bis(phenylazo)-2,7-naphthalenedisulfonic acid, 8CI D-00559

3,6-Bisphenylazochromotropic acid

[7525-08-8]



$C_{22}H_{16}N_4O_8S_2$ M 528.522

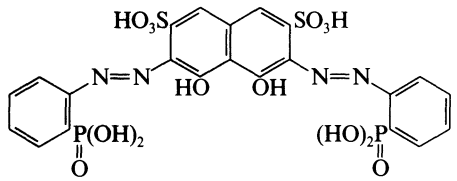
Used as a 0.05% or 0.1% aq. soln. for photometric detn. of Ba, Ca (λ_{max} 560 nm, ε 26000), Sr, Th (λ_{max} 590 nm, ε 30000); gives colour reactions with Co, Cu, Fe(*III*), Mn, Ni, Zn. Dark red cryst. powder. Mod. sol. H_2O. pK_{a1} 0.32; pK_{a3} 8.94; pK_{a4} 14.34.

Muk, A.A. *et al*, *Anal. Chim. Acta*, 1969, **44**, 59 (*pKa*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177, 490, 1460 (*detn, Th, Sr, Ba, Ca*)
Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226; 1973, **28**, 1888 (*pKa, detn, Co, Cu, Fe(III)*, Mn, Ni, Zn)

4,5-Dihydroxy-3,6-bis[(2-phosphonophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI D-00560

Phosphonazo III

[16017-11-1]



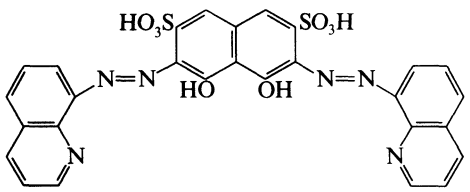
$C_{22}H_{18}N_4O_{14}P_2S_2$ M 688.482

Used as 0.05% aq. soln. for photometric detn. of U (ε 60000, 3*M* HCl). Dark red cryst. powder. Sol. H_2O, EtOH.

Luk'yanov, V.F. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 772 (*detn, U*)

4,5-Dihydroxy-3,6-bis(8-quinolylazo)-2,7-naphthalenedisulfonic acid, 9CI D-00561

[22106-89-4]

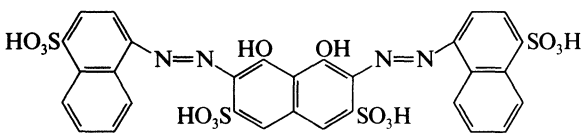


$C_{28}H_{18}N_6O_8S_2$ M 630.618

Used for extraction-photometric detn. of Cu (butanol). Dark red cryst. Sol. H_2O, EtOH.

Okhanova, L.A., *Zh. Anal. Khim.*, 1968, **23**, 1562 (*detn, Cu*)

4,5-Dihydroxy-3,6-bis[(4-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid D-00562



$C_{30}H_{20}N_4O_{14}S_4$ M 788.770

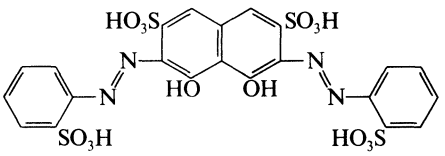
Used as a 0.05% aq. soln. for extraction-photometric detn. of Th; metal indicator for titrimetric detn. of Th. Dark violet cryst. powder. Sol. H_2O. Available as tetrasodium salt.

Datta, S.K., *Fresenius' Z. Anal. Chem.*, 1956, **149**, 270, 328; **150**, 347 (*detn, Th, Tb*)

4,5-Dihydroxy-3,6-bis[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI D-00563

Sulfonazo III. Orthanilic S

[1738-02-9]



$C_{22}H_{16}N_4O_{14}S_4$ M 688.651

Used as 1m*M* aq. soln. for photometric detn. of Ba (λ_{max} 642 nm, ε 64500), Sr, rare earth elements, $SO_4^{2\ominus}$, K, Na, Pb. Dark purple cryst. powder. Sol. H_2O, EtOH, acids. Mp 222° dec. pK_{a1} 10.92; pK_{a2} 14.97.

Budešinsky, B. *et al*, *Fresenius' Z. Anal. Chem.*, 1965, **210**, 161 (*synth, detn, Ba, $SO_4^{2\ominus}$*)
Slovak, Z. *et al*, *Talanta*, 1968, **15**, 831 (*detn, Ba*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 653; 1971, **26**, 1677 (*pKa*)
Savvin, S.B. *et al*, *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)
Kemp, P.J. *et al*, *Anal. Chem.*, 1973, **45**, 124 (*detn, Sr, Ba*)
Kharzeeva, S.E. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 1022 (*detn, rare earths*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, New York, 4th Ed., 1986, 202.

4,5-Dihydroxy-3,6-bis[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid D-00564

3,6-Bis(m-*sulfophenylazo*)*chromotropic acid*

[7572-33-0]

$C_{22}H_{16}N_4O_{14}S_4$ M 688.651

Used for photometric detn. of Al; gives colour reactions with Co, Cu, Fe(*III*), Mn, Ni, Zn. Dark red cryst. powder. Sol. H_2O. pK_{a5} 8.51; pK_{a6} 13.90.

Alykov, N.M. *et al*, *CA*, 1968, **69**, 113200h (*detn, Al*)
Nikolic, V.N. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1677 (*pKa*)
Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1888 (*detn, Co, Cu, Fe(III), Mn, Ni, Zn*)

4,5-Dihydroxy-3,6-bis[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00565

3,6-Bis(p-*sulfophenylazo*)*chromotropic acid*

[7525-18-0]

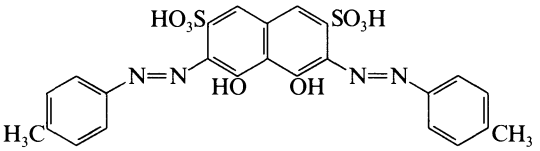
$C_{22}H_{16}N_4O_{14}S_4$ M 688.651

Used as a 0.05% or 0.1% aq. soln. for photometric detn. of Al, Ba, Ca (λ_{max} 610 nm, ε 38000), Li (λ_{max} 570 nm, ε 33000), Mg, Th (λ_{max} 580 nm, ε 40000); photometric detn. of H_2O in organic solvents; gives colour reactions with K, La, Li, Mn, Na, Ni, Sr. Dark red cryst. powder. Mod. sol. H_2O. pK_{a5} 9.50; pK_{a6} 13.95, pK_{a5} 8.34; pK_{a6} 14.12.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177, 490 (*detn, Al, Li, Th, Ba, Ca, Mg*)
Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 266; 1973, **28**, 436, 1888 (*pKa, detn, H_2O, K, La, Li, Mn, Na, Ni, Sr*)
Nikolic, V.N. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1677 (*pKa*)

4,5-Dihydroxy-3,6-bis(*p*-tolylazo)-2,7-naphthalenedisulfonic acid, 8CI D-00566

[23156-94-7]

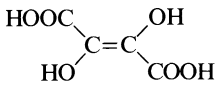


$C_{24}H_{20}N_4O_8S_2$ M 556.576

Used as a 0.05% or 0.1% aq. soln. for photometric detn. of Ca (λ_{max} 600 nm, ε 28000), La, Pd (λ_{max} 640 nm, ε 23000), Th (λ_{max} 640 nm, ε 33000); photometric detn. of H_2O in organic solvents. Dark red cryst. powder. Mod. sol. H_2O. pK_{a3} 9.15; pK_{a4} 14.34.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 490 (*detn, Ca, La, Pd, Th*)
Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226; 1973, **28**, 436, 1452 (*pKa, detn, H_2O, La*)
Petrova, T.V. *et al*, *CA*, 1972, **77**, 147337p (*detn, H_2O*)

Dihydroxybutenedioic acid, 9CI D-00567



(*E*)-*form*

$C_4H_4O_6$ M 148.072

Used as saturated soln. in MeOH for gravimetric detn. of rare earth elements; photometric detn. of U(*VI*).

(*E*)-*form* [133-38-0]

Dihydroxyfumaric acid

Prisms + $2H_2O$ (H_2O). Mp 154° dec. pK_a 7.09.

▷ LT1500000.

Di-Me ester: [133-47-1].
$C_6H_8O_6$ M 176.126
Mp 162-162.5°.

(*Z*)-*form* [526-84-1]

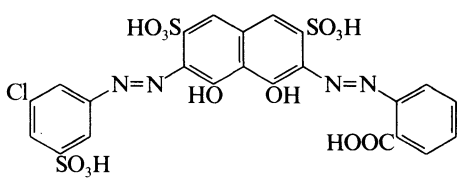
Dihydroxymaleic acid

Occurs in *Glaucium luteum*. Plates + $2H_2O$ (H_2O). pK_a 7.14. Loses $2H_2O$ *in vacuo*. Dec. at *ca.* 155° without melting. Aq. solns. dec. on standing.

Biochem. Prep., 1953, **3**, 56 (*synth*)
Hartree, E.F., *J. Am. Chem. Soc.*, 1953, **75**, 6244 (*synth*)
Goodwin, S. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 5599 (*rev*)
Gault, H. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1955, **240**, 536 (*synth*)
Spacu, P. *et al*, *Rev. Roum. Chim.*, 1965, **10**, 421 (*detn, rare earths*)
Gupta, M.P. *et al*, *Acta Crystallogr.*, 1968, **24**, 631 (*cryst struct*)
Popea, P. *et al*, *Rev. Roum. Chim.*, 1968, **13**, 591 (*detn, U*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DMW200.

2-[[1,8-Dihydroxy-7-[(5-chloro-3-sulfophenyl)azo]-3,6-disulfo-2-naphthyl]azo]benzoic acid, 8CI D-00568

3-(2-Carboxyphenylazo)-6-(3-chloro-5-sulfophenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid



$C_{23}H_{15}ClN_4O_{13}S_3$ M 687.041

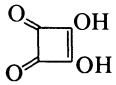
Used as a 0.1% aq. soln. for photometric detn. of V (λ_{max} 630 nm, ε 52300). Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2364 (*use, detn, V*)

3,4-Dihydroxy-3-cyclobutene-1,2-dione, 9CI D-00569

Squaric acid. 1,2-Dihydroxycyclobutenedione. Quadratic acid. Diketocyclobutenediol

[2892-51-5]



$C_4H_2O_4$ M 114.057

Used for photometric detn. of Cu, Fe(*III*), U(*VI*) (λ_{max} 400 nm, ε 1450). Cryst. (H_2O). Sol. H_2O. Mp 293° dec. approx. pK_{a1} 0.55-1.2; pK_{a2} 3.48 (25°). λ_{max} 269.5 nm (ε 37000).

▷ GU1800000.

Mono-Me ester: [5231-86-7]. *1-Hydroxy-2-methoxycyclobutenedione*
$C_5H_4O_4$ M 128.084
Solid. Mp 132-134°.

Di-Me ester: [5222-73-1]. *1,2-Dimethoxycyclobutenedione*
$C_6H_6O_4$ M 142.111
Fluffy-white cryst. (Et_2O). Mp 56.7-56.8°.

Di-Et ester: [5231-87-8]. *1,2-Diethoxycyclobutenedione*
$C_8H_{10}O_4$ M 170.165
Has fungicidal props. $Bp_{0.4}$ 88-91°.

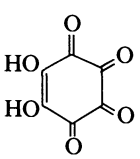
Diisopropyl ether:
$C_{10}H_{14}O_4$ M 198.218
Cryst. Mp 43-44°.

Cohen, S. *et al*, *J. Am. Chem. Soc.*, 1959, **81**, 3480 (*synth*)
Maahs, G. *et al*, *Angew. Chem.*, 1966, **78**, 927 (*rev*)
Tedesco, P.H. *et al*, *Inorg. Chem.*, 1969, **8**, 932 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 466.
Stevens, R.E., *Am. Lab.* (*Fairfield, Conn.*), 1975, **7**, 57.
Japan. Pat., 77 156 836, (1977); *CA*, **89**, 42570d (*synth*)
Pericas, M.A. *et al*, *Tetrahedron Lett.*, 1977, 4437 (*synth*)
Schmidt, A.H., *Synthesis*, 1980, 961 (*rev*)
Law, K.-L. *et al*, *Can. J. Chem.*, 1986, **64**, 2267 (*derivs*)
Reed, M.W. *et al*, *J. Org. Chem.*, 1988, **53**, 2477 (*ether synth*)
Liebeskind, L.S. *et al*, *J. Org. Chem.*, 1988, **53**, 2482 (*ether synth, ir, pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DMJ600.

5,6-Dihydroxy-5-cyclohexene-1,2,3,4-tetrone, 9CI D-00570

Dihydroxydiquinone. Rhodizonic acid

[118-76-3]



$C_6H_2O_6$ M 170.078

Deep-orange needles. Mp 155-160°. Salt solns. have no carbonyl abs. in IR suggesting a delocalized struct.

Di-Na salt: [523-21-7].
Black-green solid.

Di-K salt: [13021-40-4].

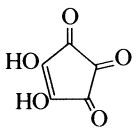
Used as aq. soln. for photometric detn. of Ca (λ_{max} 570 nm, pH ~12); indirect detn. of $SO_4^{2\ominus}$; pptn. sepn. of Sr. Dark-purple prisms. Fairly sol. H_2O giving deep-yellow soln. Partially dec. on recryst. Solns. rapidly oxidised.

Feigl, F. *et al*, *Ind. Eng. Chem., Anal. Ed.*, 1942, **14**, 840 (*use*)
Preisler, P.W. *et al*, *J. Am. Chem. Soc.*, 1942, **64**, 67 (*synth*)
Weiss, H.V. *et al*, *Anal. Chem.*, 1957, **29**, 1764 (*detn, Ca*)
Eistert, B. *et al*, *Angew. Chem.*, 1958, **70**, 595 (*synth*)
West, R. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 6204 (*struct*)
Boni, A.L., *Anal. Chem.*, 1963, **35**, 744 (*detn, Sr*)
Babko, A.K. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 237 (*detn, $SO_4^{2\ominus}$*)
Chalmers, R.A. *et al*, *Mikrochim. Acta*, 1967, 1126 (*use*)
Moeckel, P. *et al*, *Z. Chem.*, 1967, **7**, 62 (*synth, bibl*)
Skujins, S. *et al*, *Tetrahedron*, 1968, **24**, 4805 (*ms*)
West, R. *et al*, *Chem. Carbonyl Group 1966*, 1970, **2**, 241 (*rev*)
Bailey, R.T., *J. Chem. Soc. B*, 1971, 627 (*struct, ir, raman*)
Prokopov, T.S., *Mikrochim. Acta*, 1973, 429 (*detn, Ca*)
Aihara, J., *Bull. Chem. Soc. Jpn.*, 1974, **47**, 2899 (*uv*)
Staedeli, W. *et al*, *Helv. Chim. Acta*, 1977, **60**, 948 (*cmr*)
Douglas, K.T. *et al*, *FEBS Lett.*, 1979, **106**, 393 (*props*)

4,5-Dihydroxy-4-cyclopentene-1,2,3-trione, 9CI D-00571

Croconic acid

[488-86-8]



$C_5H_2O_5$ M 142.068

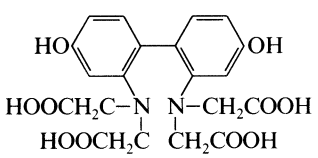
One of the very first cyclic compounds to be synthesised. Used as a 4m*M* aq. soln. for photometric detn. of Fe; gravimetric detn. of Ba; detn. of K, Na. Cryst. Mp 150° dec., 120° dec. (trihydrate). pK_{a1} 0.89; pK_{a2} 3.06. λ_{max} 231, 298 nm.

K salt: Orange cryst. (H_2O).

Di-Me ether: [36394-33-9]. *4,5-Dimethoxy-4-cyclopentene-1,2,3-trione*
$C_7H_6O_5$ M 170.121
Cryst. Mp 113°.

Gmelin, L., *Ann. Phys. (Leipzig)*, 1825, **4**, 31.
Prebendowski, S., *Chem. Anal. (Warsaw)*, 1957, **31**, 329 (*detn, K, Na*)
Fatiadi, A.J. *et al*, *J. Res. Natl. Bur. Stand., Sect. A*, 1963, **67**, 153 (*synth*)
Adamovich, L.P. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 782; 1970, **25**, 1668; 1971, **26**, 545; 1972, **27**, 1726 (*synth, detn, Na, Fe, Ba, pKa*)
Städeli, W. *et al*, *Helv. Chim. Acta*, 1977, **60**, 948 (*cmr*)
Gelb, R.I. *et al*, *J. Phys. Chem.*, 1977, **81**, 1268 (*struct*)
Fatiadi, A.J., *J. Am. Chem. Soc.*, 1978, **100**, 2586.
Bauer, H., *Naturwissenschaften*, 1978, **65**, 487 (*rev*)

4,4′-Dihydroxy-2,2′-diaminobiphenyl-*N,N,N′,N′*-tetraacetic acid D-00572



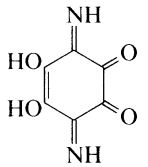
$C_{20}H_{20}N_2O_{10}$ M 448.385

Tetra-Na salt: Used as a 0.01*M* aq. soln. as a fluorescent indicator for titrimetric detn. of Cu, Ni. Grey cryst. Sol. H_2O.

*4,4′-Di-Me ether: 4,4′-Dimethoxy-2,2′-diaminobiphenyl-*N,N,N′,N′*-tetraacetic acid*
$C_{22}H_{24}N_2O_{10}$ M 476.439
Tetrasodium salt used as metallofluorescent indicator in titrimetric detn. of Co, Cr, Cu, Mn, Zn. Cryst. (as Na salt).

Kirkbright, G.F. *et al*, *Anal. Chim. Acta*, 1965, **32**, 544 (*synth, detn, Cu, Ni*)

4,5-Dihydroxy-3,6-diimino-1,2-benzoquinone D-00573



$C_6H_4N_2O_4$ M 168.109

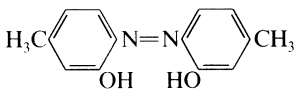
Used for detn. of Hg(*II*). Greenish black cryst. Spar. sol. Na_3PO_4, NaOAc; insol. Et_2O, H_2O, EtOH, $CHCl_3$.

Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1946, **1**, 322 (*use*)

2,2′-Dihydroxy-4,4′-dimethylazobenzene D-00574

2,2′-Azobis[5-methylphenol], 9CI

[55041-49-1]



$C_{14}H_{14}N_2O_2$ M 242.277

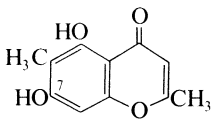
Used as 0.02% soln. in dioxan for fluorimetric detn. of Al (λ_{max} 575 nm, pH 6.9-7.6, aq. dioxan). Cryst. Sol. dioxan, MeOH.

Aoki, I. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1990, **39**, 419; *CA*, **113**, 144454c (*detn, Al*)

5,7-Dihydroxy-2,6-dimethyl-4*H*-1-benzopyran-4-one, 9CI D-00575

5,7-Dihydroxy-2,6-dimethylchromone. ***Eugenitol***

[491-48-5]



$C_{11}H_{10}O_4$ M 206.198

Constit. of the flowers of *Eugenia caryophyllata*. Prisms (EtOH or Me_2CO). Mp 290-292°.

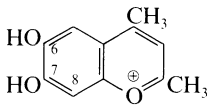
7-Me ether: [480-12-6]. *5-Hydroxy-7-methoxy-2,6-dimethyl-4H-1-benzopyran-4-one.* ***Eugenitin***
$C_{12}H_{12}O_4$ M 220.224
From *E. caryophyllata*, *Leconora rupicola*, *Chaetomium thielavioideum*, and *Cylindrocarpon* spp. Used as a 0.02*M* MeOH soln. for extraction-photometric detn. of Ti (λ_{max} 515 nm). Prisms (EtOH or Me_2CO). Sol. MeOH. Mp 162°.

7-Me ether, 5-Ac:
$C_{14}H_{14}O_5$ M 262.262
Cryst. (EtOH). Mp 176-177°.

Schmid, H., *Helv. Chim. Acta*, 1949, **32**, 813; 1950, **33**, 917 (*isol, synth*)
Schönberg, A. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 4992 (*synth*)
Mukerjee, S.K. *et al*, *Proc. - Indian Acad. Sci., Sect. A*, 1953, **38**, 207 (*synth*)
Mukerjee, S.K. *et al*, *Chem. Ind. (London)*, 1955, 1009.
Murata, A. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1970, **119**, 1346 (*synth*)

Coombe, R.G. *et al*, *Aust. J. Chem.*, 1972, **25**, 875 (*isol*)
Ito, T. *et al*, *Anal. Chim. Acta*, 1980, **113**, 343 (*detn, Ti*)
Sekita, K. *et al*, *Chem. Pharm. Bull.*, 1980, **28**, 2428 (*deriv*)

6,7-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+), 9CI D-00576



$C_{11}H_{11}O_3^{\oplus}$ M 191.206 (ion)

Chloride: [51833-03-5].
$C_{11}H_{11}ClO_3$ M 226.659
Used as a 0.01*M* aq. soln. for extraction-photometric detn. of Ga, Ge, In, Mo. Dark red cryst. Sol. H_2O, EtOH, Me_2CO.

Kononenko, L.I., *Zh. Anal. Khim.*, 1960, **15**, 61 (*synth*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1961, **16**, 578 (*detn, Mo*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 719; 1974, **29**, 2287 (*detn, In, Ge*)
Bazilevich, A.A. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 2047 (*Detn, Ga*)

7,8-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+), 9CI D-00577

$C_{11}H_{11}O_3^{\oplus}$ M 191.206 (ion)

Chloride: [1658-62-4].
$C_{11}H_{11}ClO_3$ M 226.659
Used as a 0.01*M* aq. soln. for extraction-photometric detn. of Ga, Mo. Dark red cryst. powder. Sol. H_2O, EtOH, Me_2CO.

Kononenko, L.I., *Zh. Anal. Khim.*, 1960, **15**, 61 (*synth*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1961, **16**, 578 (*detn, Mo*)
Bazilevich, A.A. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 2047 (*detn, Ga*)

N,N'-Dihydroxy-2,3-dimethyl-2,3-butanediamine, 9CI D-00578

2,3-Dimethyl-2,3-bis(hydroxylamino)butane

[14384-45-3]

$HONHC(CH_3)_2C(CH_3)_2NHOH$

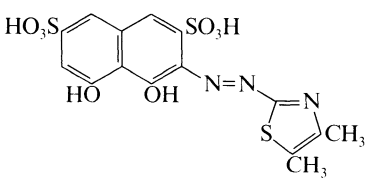
$C_6H_{16}N_2O_2$ M 148.205
Used for photometric detn. of aldehydes and ketones by free radical formation. Cryst. (pet. ether). Mp 157-159° (149-150°).

Monosulfate: [14538-51-3].
Cryst. (EtOH aq.). Mp 172-174° ; Mp 194-195°.
Tripicrate: [14384-46-4].
Yellow cryst. (H_2O). Mp 104-106°.

Lanchen, M. *et al*, *J. Chem. Soc. C*, 1966, 2300 (*synth*)
Munsen, J.W. *et al*, *J. Pharm. Sci.*, 1975, **64**, 1043 (*use*)
Munsen, J.W. *et al*, *Microchem. J.*, 1975, **20**, 39 (*use*)

4,5-Dihydroxy-3-[4,5-(dimethyl-2-thiazolyl)azo]-2,7-naphthalenedisulfonic acid, 9CI D-00579

[21468-90-6]

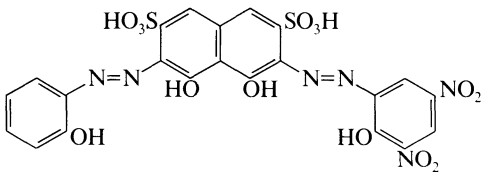


$C_{15}H_{13}N_3O_8S_3$ M 459.481

Used as a 0.1% aq. soln. for photometric detn. of Al (λ_{max} 630 nm, ε 45000), Th, Zr. Red cryst. Sol. H_2O, EtOH. Mp 224-225°.

Savvin, S.B. *et al*, *CA*, 1969, **70**, 68239k (*synth, detn, Th, Zr*)
Rozovskii, Y.T. *et al*, *CA*, 1969, **71**, 4491z (*synth*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 423 (*detn, Al*)

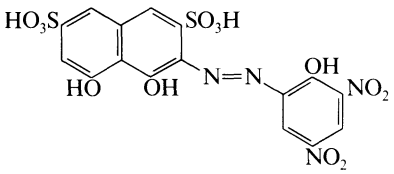
4,5-Dihydroxy-3-[(3,5-dinitro-2-hydroxyphenyl)azo]-6-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00580



$C_{22}H_{14}N_6O_{14}S_2$ M 650.516
Used for photometric detn. of Nb, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

4,5-Dihydroxy-3-[(3,5-dinitro-2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid D-00581



$C_{16}H_{10}N_4O_{13}S_2$ M 530.406
Used as a 0.1% soln. in EtOH to give colour reaction with Al, Ga, Zn. Orange-red cryst.

Poluektov, N.S. *et al*, *Zh. Anal. Khim.*, 1958, **13**, 555 (*use*)

1,8-Dihydroxy-2,4-dinitronaphthalene D-00582

2,4-Dinitro-1,8-naphthalenediol, 9CI

[67708-10-5]

$C_{10}H_6N_2O_6$ M 250.167
Used in extraction-photometric detn. of B (anionic complex associated with basic dye). Red prisms (MeOH or H_2O). Mp 180-182° dec.

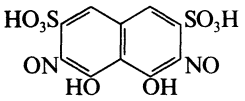
▷ Sternutatory.

1-Ac:
$C_{12}H_8N_2O_7$ M 292.204
Pale-yellow plates (MeOH or EtOH). Mp 115-117°.
8-Ac:
$C_{12}H_8N_2O_7$ M 292.204
Pale-yellow plates or prisms (AcOH). Mp 200° dec.
1-Me ether: 8-Methoxy-5,7-dinitro-1-naphthol
$C_{11}H_8N_2O_6$ M 264.194
Yellow needles (EtOH). Mp 170-171°.
8-Me ether: 8-Methoxy-2,4-dinitro-1-naphthol
$C_{11}H_8N_2O_6$ M 264.194
Yellow plates (EtOH). Mp 179-180°.
Di-Me ether: 1,8-Dimethoxy-2,4-dinitronaphthalene
$C_{12}H_{10}N_2O_6$ M 278.221
Yellow prisms or needles (MeOH). Mp 137-139°.

Calvert, F. *et al*, *J. Chem. Soc.*, 1936, 556 (*synth*)
Tôei, K. *et al*, *Analyst (London)*, 1981, **106**, 776 (*detn, B*)
Fogg, T.R. *et al*, *Anal. Chem.*, 1983, **55**, 2179 (*detn, B*)

4,5-Dihydroxy-3,6-dinitroso-2,7-naphthalenedisulfonic acid D-00583

Dinitrosochromotropic acid



$C_{10}H_6N_2O_{10}S_2$ M 378.297

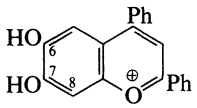
Used as 0.025% aq. soln. as metal indicator for titrimetric detn. of Cu, Th. Red-brown cryst. powder. Sol. H_2O; insol. EtOH, C_6H_6.

Datta, S.K. *et al*, *Anal. Chim. Acta*, 1956, **15**, 415; 1957, **16**, 115 (*synth, detn, Th*)

Sen, A.B. *et al*, *Fresenius' Z. Anal. Chem.*, 1963, **193**, 412 (*detn, Cu*)

6,7-Dihydroxy-2,4-diphenyl-1-benzopyrylium(1+), 9CI D-00584

6,7-Dihydroxyphenylchromenol



$C_{21}H_{15}O_3^{\oplus}$ M 315.348 (ion)

Chloride: [55927-42-9].

$C_{21}H_{15}ClO_3$ M 350.800

Used as a 0.2% soln. in EtOH for extraction-photometric detn. of In, Ge (λ_{max} 420 nm), Mo (λ_{max} 535 nm, ε 50400, $CHCl_3$), W (ε 93000). Dark violet cryst. Sol. EtOH, Me_2CO; spar. sol. H_2O.

Kononenko, L.I. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 61 (*synth, detn, Ge*)

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1961, **16**, 578 (*detn, Mo*)

Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 1161, 1658; 1970, **25**, 719; 1974, **29**, 2287 (*detn, Ge, W, In*)

Bazilevich, A.A. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 2047 (*detn, Ga*)

Olenovich, N.L. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 2120; 1977, **32**, 2346 (*detn, Ga, In*)

7,8-Dihydroxy-2,4-diphenyl-1-benzopyrylium(1+), 9CI D-00585

$C_{21}H_{15}O_3^{\oplus}$ M 315.348 (ion)

Chloride: [22640-19-3].

$C_{21}H_{15}ClO_3$ M 350.800

Used as a 0.01*M* soln. in EtOH for extraction-photometric detn. of Ga, Mo. Dark red cryst. powder. Sol. H_2O, EtOH, Me_2CO.

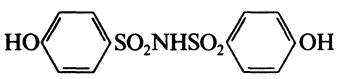
Kononenko, L.I., *Zh. Anal. Khim.*, 1960, **15**, 61 (*synth*)

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1961, **16**, 578 (*detn, Mo*)

Bazilevich, A.A. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 2047 (*Ga*)

4,4′-Dihydroxydiphenyl disulfimide D-00586

4,4′-Dihydroxydibenzenesulfonamide



$C_{12}H_{11}NO_6S_2$ M 329.354

Used as acidimetric standard. Cryst. Sol. H_2O.

Runge, F. *et al*, *Z. Anorg. Allg. Chem.*, 1957, **158**, 266 (*use*)

N,N′-Dihydroxy-*N,N′*-diphenylheptanediamide, 9CI D-00587

[28484-25-5]

$C_{19}H_{22}N_2O_4$ M 342.394

Used as a 0.4% soln. in $CHCl_3$ for extraction-photometric detn. of Ti(*IV*) (λ_{max} 410 nm, $CHCl_3$). Cryst. Sol. common org. solvents. Mp 131°.

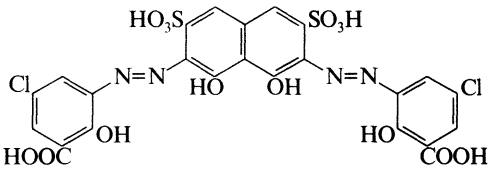
Ghosh, N.N. *et al*, *J. Indian Chem. Soc.*, 1970, **47**, 562 (*synth*)

Ghosh, N.N. *et al*, *Fresenius' Z. Anal. Chem.*, 1973, **266**, 364 (*detn, Ti*)

3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[5-chlorosalicylic acid] D-00588

3,6-Bis(3-carboxy-5-chloro-2-hydroxyphenylazo)-4,5-dihydroxy-2,7-napthalenedisulfonic acid

[14041-34-0]



$C_{24}H_{14}Cl_2N_4O_{14}S_2$ M 717.430

Used for photometric detn. of Pu. Dark red cryst. powder. Mod. sol. H_2O.

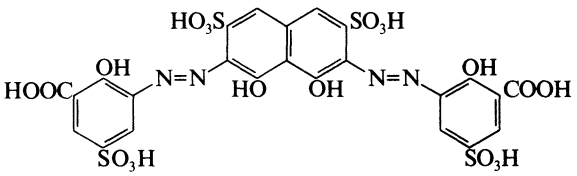
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 1075 (*detn, Pu*)

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*detn, use*)

3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[2-hydroxy-5-sulfobenzoic acid] D-00589

3,6-Bis(3-carboxy-2-hydroxy-5-sulfophenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid. 3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[5-sulfosalicylic acid], 8CI

[21549-84-8]



$C_{24}H_{16}N_4O_{20}S_4$ M 808.669

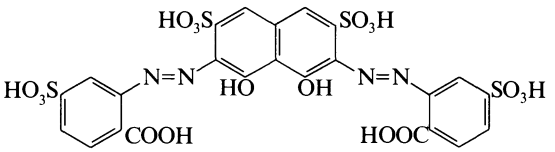
Used for photometric detn. of rare earth elements, Th, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

2,2′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[5-sulfobenzoic acid], 8CI D-00590

3,6-Bis-(2-carboxy-5-sulfophenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid

[21549-83-7]



$C_{24}H_{16}N_4O_{18}S_4$ M 776.670

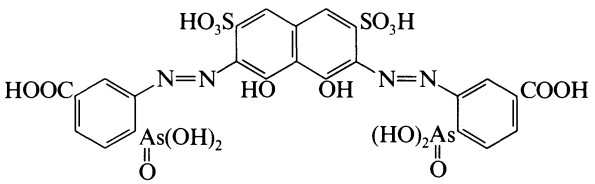
Used for photometric detn. of Al, In, rare earth elements, Th. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bis[4-arsonobenzoic acid], 9CI D-00591

3,6-Bis(2-arsono-5-carboxyphenylazo)-4,5-dihydroxy-2,7-benzenedisulfonic acid. Dicarboxyarsenazo III

[2604-69-5]



$C_{24}H_{18}As_2N_4O_{18}S_2$ M 864.397

Used as 2m*M* aq. soln. in photometric detn. of Y, Th, U, Zr and rare earth elements. Dark red cryst. powder. Sol. H_2O.

Budešinsky, B. *et al*, *Collect. Czech. Chem. Commun.*, 1965, **30**, 2373 (*synth*)

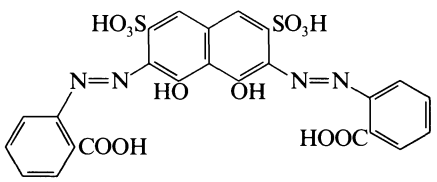
Budešinsky, B. *et al*, *Fresenius' Z. Anal. Chem.*, 1965, **210**, 263 (*use*)

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

2,2′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bisbenzoic acid, 8CI D-00592

2,2′-Dicarboxybisphenylazochromotropic acid

[7451-57-2]



$C_{24}H_{16}N_4O_{12}S_2$ M 616.542

Used as a 0.05% or 0.1% aq. soln. for photometric detn. of Ba, Ca, La, Sr (EtOH aq.). Dark red cryst. powder. Mod. sol. H_2O. pK_{a1} 0.30; pK_{a5} 10.60; pK_{a6} 15.13.

Muk, A.A. *et al*, *Anal. Chim. Acta*, 1969, **44**, 59 (*pKa*)

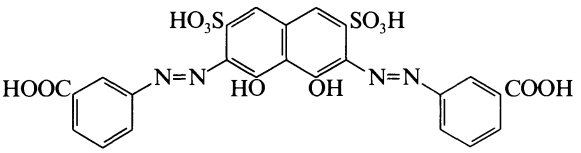
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177, 1460; 1971, **26**, 297 (*detn, La, Ba, Ca, Sr*)

Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226 (*pKa*)

3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bisbenzoic acid, 8CI D-00593

3,6-Bis(3-carboxyphenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid

[21577-69-5]



$C_{24}H_{16}N_4O_{12}S_2$ M 616.542

Used as a 0.05 or 0.1% aq. soln. for photometric detn. of Ca, La, Pd (λ_{max} 650 nm, ε 12000), Th (λ_{max} 600 nm, ε 22000), Yb. Dark red cryst. powder. Mod. sol. H_2O. pK_{a1} 9.70; pK_{a2} 14.28.

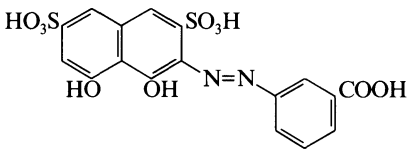
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 490; 1971, **26**, 297 (*detn, Ca, Pd, Th, La, Yb*)

Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226; 1973, **28**, 1452 (pK_a, detn, La)

3-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]benzoic acid, 9CI D-00594

3-(3-Carboxyphenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid. m-*Carboxyphenylazochromotropic acid*

[52788-87-1]



$C_{17}H_{12}N_2O_{10}S_2$ M 468.421

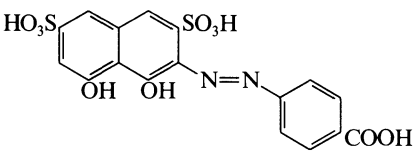
Used as a 1m*M* aq. soln. for photometric detn. of U. Orange-red cryst. (H_2O). Sol. H_2O; insol. C_6H_6.

Khalifa, H. *et al*, *Mikrochim. Acta*, 1976, **1**, 451 (*detn, U*)

4-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]benzoic acid, 9CI D-00595

3-(4-Carboxyphenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid. p-*Carboxyphenylazochromotropic acid*

[15475-86-2]



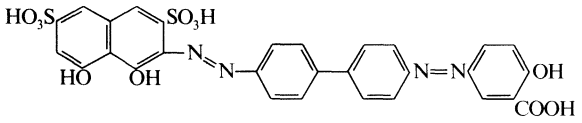
$C_{17}H_{12}N_2O_{10}S_2$ M 468.421

Used as a 1m*M* aq. soln. for photometric detn. of U (λ_{max} 595 nm, ε 13000). Orange red cryst. (H_2O). Sol. H_2O; insol. C_6H_6.

Khalifa, H. *et al*, *Mikrochim. Acta*, 1976, **1**, 451 (*detn, U*)

5-[[4′-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo][1,1′-biphenyl]-4-yl]azo]-2-hydroxybenzoic acid, 9CI D-00596

[61695-98-5]



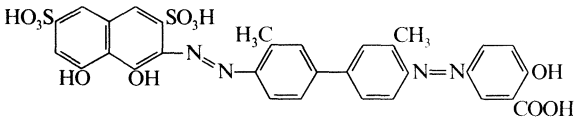
$C_{29}H_{20}N_4O_{11}S_2$ M 664.629

Tri-Na salt: [61695-97-4].

Used as a 0.1% aq. soln. for photometric detn. of Be. Cryst.

Nistreanu, V. *et al*, *Rev. Roum. Chim.*, 1976, **27**, 709 (*use*)

5-[[4′-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]-3,3′-dimethyl[1,1′-biphenyl]-4-yl]azo]-2-hydroxybenzoic acid, 9CI D-00597



$C_{31}H_{24}N_4O_{11}S_2$ M 692.683

Tri-Na salt: [61696-00-2].

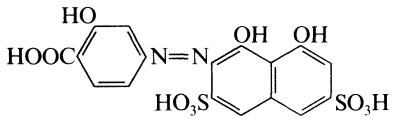
$C_{31}H_{21}N_4Na_3O_{11}S_2$ M 758.628

Used as a 0.1% aq. soln. for photometric detn. of Be. Cryst.

Nistreanu, V. *et al*, *Rev. Roum. Chim.*, 1976, **27**, 709 (*use*)

4-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]-2-hydroxybenzoic acid D-00598

3-(4-Carboxy-3-hydroxyphenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid. 2-(4-Carboxy-3-hydroxyphenylazo)chromotropic acid



$C_{17}H_{12}N_2O_{11}S_2$ M 484.421

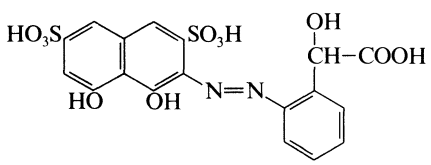
Used as a 0.05% aq. soln. as metallochromic indicator for titrimetric detn. of Th (colour change: pink violet → deep red). Dark red cryst. powder. Sol. H_2O.

Datta, S.K., *J. Sci. Ind. Res., Sect. B*, 1960, **19**, 168; *CA*, **54**, 24124 (*detn, Th*)

[2-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]phenyl]-2-hydroxyacetic acid D-00599

[2-[(1,8-Dihydroxy-3,6-disulfo-2-naphthyl)azo]phenyl] mandelic acid, 8CI

[1571-46-6]



$C_{18}H_{14}N_2O_{11}S_2$ M 498.447

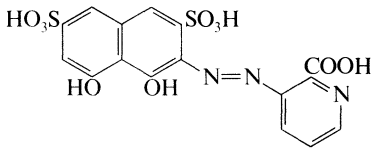
Gives colour reactions with Ba, Ca, Mg, Sr. Orange cryst. Sol. H_2O.

Katayama, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1971, **44**, 2712 (*use*)

3-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]-2-pyridinecarboxylic acid D-00600

3-[(1,8-Dihydroxy-3,6-disulfo-2-naphthyl)azo]picolinic acid, 8CI. 3-(2-Carboxy-3-pyridylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid. 2-(2-Carboxy-3-pyridylazo) chromotropic acid

[34334-90-2]



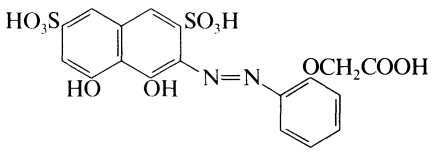
$C_{16}H_{11}N_3O_{10}S_2$ M 469.409

Used as a 0.05% aq. soln. for photometric detn. of Al. Orange cryst. (H_2O). Sol. H_2O; insol. C_6H_6.

Majumdar, A.K. *et al*, *Mikrochim. Acta*, 1967, 663 (*detn, Al*)

2-(1,8-Dihydroxy-3,6-disulfo-2-naphthylazo)phenoxyacetic acid D-00601

[17120-09-1]



$C_{18}H_{14}N_2O_{11}S_2$ M 498.447

Dark cryst. powder.

Di-Na salt: Used for photometric detn. of Th, indirect photometric detn. of $F^{\ominus}$. Greenish needles (H_2O). Sol. H_2O. pK_{a1} 2.9; pK_{a2} 9.7 (μ = 0.1, 25°).

[23292-23-1]

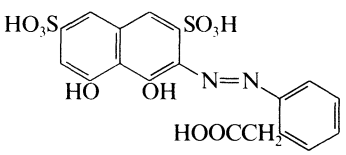
Tôei, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1965, **38**, 334; 1966, **39**, 638; 1967, **40**, 1875; 1971, **44**, 2721 (*detn, Th, $F^{\ominus}$*)

Shimoishi, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1967, **40**, 1139.

[o-[(1,8-Dihydroxy-3,6-disulfo-2-naphthyl)azo]phenyl]acetic acid, 8CI D-00602

3-[2-(Carboxymethyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid

[34353-08-7]



$C_{18}H_{14}N_2O_{10}S_2$ M 482.448

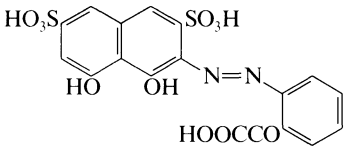
Gives colour reactions with Ba, Ca, Mg, Sr. Orange cryst. Sol. H_2O.

Katayama, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1971, **44**, 2712.

2-[(1,8-Dihydroxy-3,6-disulfo-2-naphthylazo)phenyl]-2-oxoacetic acid D-00603

[o-[(*1,8-Dihydroxy-3,6-disulfo-2-naphthyl)azo]phenyl] glyoxylic acid, 8CI. 3-(2-Oxaloylphenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid*

[34353-10-1]



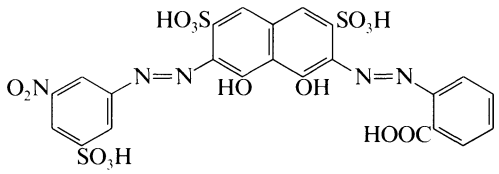
$C_{18}H_{12}N_2O_{11}S_2$ M 496.432

Gives colour reactions with Ba, Ca, Mg, Sr. Orange cryst. Sol. H_2O.

Katayama, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1971, **44**, 2712.

2-[[1,8-Dihydroxy-3,6-disulfo-7-[(3-nitro-5-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid D-00604

2-(2-Carboxyphenylazo)-7-[(3-nitro-5-sulfophenyl)azo] chromotropic acid. 3-(2-Carboxyphenylazo)-4,5-dihydroxy-6-(3-nitro-5-sulfophenylazo)-2,7-naphthalenedisulfonic acid

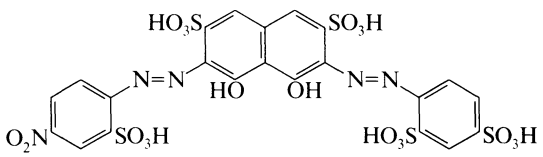


$C_{23}H_{15}N_5O_{15}S_3$ M 697.594

Used as a 0.1% aq. soln. for photometric detn. of V. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 653; 1971, **26**, 2364 (*detn, V*)

4,5-Dihydroxy-3-[(2,4-disulfophenyl)azo]-6-[(4-nitro-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00605



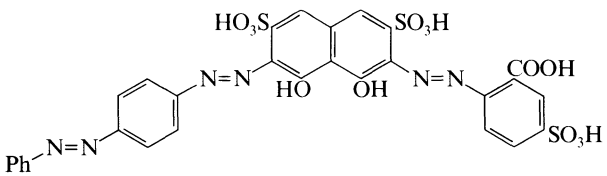
$C_{22}H_{15}N_5O_{19}S_5$ M 813.713

Used for photometric detn. of Ba, Sr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

2-[[[1,8-Dihydroxy-3,6-disulfo-7-[(4-phenylazo)phenyl]azo]-2-naphthyl]azo]-5-sulfobenzoic acid D-00606

3-(2-Carboxy-4-sulfophenylazo)-4,5-dihydroxy-6-[4-(phenylazo)phenylazo]-2,7-naphthalenedisulfonic acid

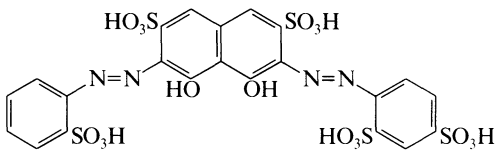


$C_{29}H_{20}N_6O_{13}S_3$ M 756.707

Used for photometric detn. of Ba, Pb, rare earth elements, Th, Zn. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

4,5-Dihydroxy-3-[(2,4-disulfophenyl)azo]-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00607



$C_{22}H_{16}N_4O_{17}S_5$ M 768.715

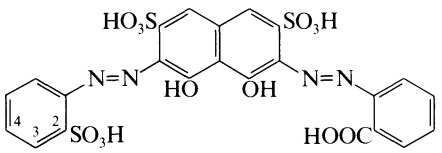
Used for photometric detn. of Ba, Cu, Sr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

2-[[1,8-Dihydroxy-3,6-disulfo-7-[(2-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, 9CI D-00608

Orthanil K. 2-(2-Carboxyphenylazo)-4,5-dihydroxy-6-(2-sulfophenylazo)-2,7-naphthalenedisulfonic acid

[4568-04-1]



$C_{23}H_{16}N_4O_{13}S_3$ M 652.596

Used as a 0.05% aq. soln. for photometric detn. of Al (λ_{max} 590 nm, ε 20000), Ba, Ga (λ_{max} 610 nm, ε 20000), In (λ_{max} 580 nm, ε 11000), Sr, Th; titrimetric detn. of $SO_4^{2\ominus}$. Dark red cryst. Mod. sol. H_2O. pK_{a1}11.6; pK_{a2}14.5.

[56732-35-5]

Savvin, S.V. *et al*, *Zh. Anal. Khim.*, 1962, **17**, 43; 1968, **23**, 653 (*pKa, detn, $SO_4^{2\ominus}$*)
Karalova, Z.K. *et al*, *Zh. Anal. Khim.*, 1964, **19**, 258 (*detn, $SO_4^{2\ominus}$*)
Savvin, S.B. *et al*, *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*detn, Al, Ga, In*)
Simonova, L.N. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 917 (*detn, $SO_4^{2\ominus}$*)
Dedkova, V.M. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1358 (*detn, $SO_4^{2\ominus}$*)

2-[[1,8-Dihydroxy-3,6-disulfo-7-[(3-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, 9CI D-00609

[20650-49-1]

$C_{23}H_{16}N_4O_{13}S_3$ M 652.596

Used as a 0.05% or 0.1% aq. soln. for photometric detn. of Ba, Ca, Mg (EtOH aq), La, Yb. Dark red cryst. powder. Mod. sol. H_2O. pK_{a2} 0.63; pK_{a5} 10.43; pK_{a6} 14.33.

Muk, A.A. *et al*, *Anal. Chim. Acta*, 1969, **44**, 59 (*pKa*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177, 1460; 1971, **26**, 297 (*detn, Ba, Ca, Mg, La, Yb*)
Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226 (*pKa*)

2-[[1,8-Dihydroxy-3,6-disulfo-7-[(4-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, 8CI D-00610

[26190-39-6]

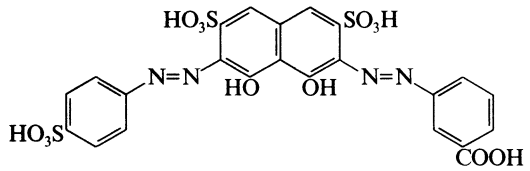
$C_{23}H_{16}N_4O_{13}S_3$ M 652.596

Used as a 0.1% aq. soln. for photometric detn. of La (λ_{max} 650 nm, 80% EtOH). Gives colour reactions with Ce, Cu, Dy, Lu, Nd, Ni, Sm, Th. Dark red cryst. powder. Sol. H_2O. pK_{a4} 10.55; pK_{a5} 14.36.

Petrova, T.V. *et al*, *Izv. Akad. Nauk Kaz. SSR, Ser. Khim.*, 1970, 259; *CA*, **73**, 31191z (*detn, Cu, La, Th*)
Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226; 1973, **28**, 1888 (*pKa, use*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 297 (*detn, La*)
Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 722 (*detn, Cu, Dy, Th, Y*)
Basargin, N.N. *et al*, *CA*, 1974, **81**, 180649x (*detn, Ce, La, Nd, Sm*)

3-[[1,8-Dihydroxy-3,6-disulfo-7-[(4-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid D-00611

3-(3-Carboxyphenylazo)-4,5-dihydroxy-6-(4-sulfophenylazo)-2,7-naphthalenedisulfonic acid. 2-(m-*Carboxyphenylazo)-7-*(p-*sulfophenylazo)chromotropic acid*



$C_{23}H_{16}N_4O_{13}S_3$ M 652.596

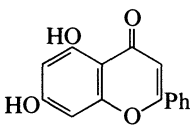
Gives colour reactions with Ce, La, Nd, Sm. Dark red cryst. powder. Mod. sol. H_2O.

Basargin, N.N. *et al*, *CA*, 1974, **81**, 180649x (*use*)

5,7-Dihydroxyflavone D-00612

*5,7-Dihydroxy-2-phenyl-4*H*-1-benzopyran-4-one, 9CI.* ***Chrysin.*** *Chrysinic acid*

[480-40-0]



$C_{15}H_{10}O_4$ M 254.242

Isol. from *Ulnus sieboldiana, Flourensia resinosa, Oroxylon indicum* (bark), *Pinus* and *Scutellaria* spp. and others. Used as EtOH soln. for photometric detn. of Th (λ_{max} 380 nm, pH 2.8); reactions with Al, Th. Used as complexing agent for Cu. Yellowish plates. Sol. EtOH. Mp 285-286°, Mp 290° (275°). pK_{a1} 9.05; pK_{a2} 7.42 (50% EtOH, 20°), pK_{a1} 12.37; pK_{a2} 8.37 (50% dioxan, 25°). λ_{max} 348 nm.

Di-Ac: [6665-78-7].
$C_{19}H_{14}O_6$ M 338.316
Needles (EtOH). Mp 198-200° (192°).

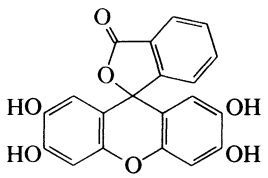
7-Me ether: [520-28-5]. *5-Hydroxy-7-methoxyflavone.* ***Tectochrysin***
$C_{16}H_{12}O_4$ M 268.268
Isol. from wood of *Pinus* spp. and *Alnus sieboldiana* and other plants. Used as 1m*M* soln. in EtOH for photometric detn. of U(*VI*) (λ_{max} 405 nm, pH 5.5-9.5). Yellow prisms (EtOH). Sol. MeOH, EtOH. Mp 163°.

Nadkarni, D.R. *et al*, *J. Chem. Soc.*, 1938, 1320 (*synth*)
Katyal, M. *et al*, *Proc. - Indian Acad. Sci., Sect. A*, 1962, **56**, 125; *CA*, **58**, 3884c (*detn, Th*)
Dev, B. *et al*, *Fresenius' Z. Anal. Chem.*, 1963, **196**, 178 (*synth, use, deriv*)
Batterham, T.J. *et al*, *Aust. J. Chem.*, 1964, **17**, 428 (*pmr*)
Katyal, M. *et al*, *Talanta*, 1968, **15**, 95 (*detn, U*)
Bowie, J.H. *et al*, *J. Chem. Soc. B*, 1969, 89 (*ms*)
Nevskaya, E.M. *et al*, *Usp. Khim.*, 1972, **27**, 1699 (*pKa*)
Thompson, M. *et al*, *Anal. Chim. Acta*, 1976, **85**, 375 (*detn, Cu*)
Davoust, D. *et al*, *Org. Magn. Reson.*, 1978, **11**, 547 (*pmr*)
Agrawal, P.K. *et al*, *Tetrahedron Lett.*, 1983, 177 (*cmr*)
Saxena, S. *et al*, *Synthesis*, 1985, 697 (*synth*)

2′,7′-Dihydroxyfluorescein D-00613

*2′,3′,6′,7′-Tetrahydroxyspiro[isobenzofuran-1(3*H*),9′-[9*H*]xanthene]-3-one, 9CI. Hydroxyhydroquinonephthalein*

[2320-44-7]



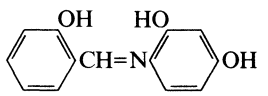
$C_{20}H_{12}O_7$ M 364.311

Used as 0.2% soln. in EtOH as metal indicator for titrimetric detn. of Bi, Cd, Hg, Mg, Pb, Sn, Th, Zn, Zr, rare earth elements, Cr, Mn. Orange cryst. (EtOH). Sol. EtOH, alkalis. pK_a 6.0 (μ = 0.1).

Palaty, V., *Chem. Ind. (London)*, 1961, 211.
Ackermann, G. *et al*, *Talanta*, 1974, **21**, 431 (*detn, Sn*)
Antonovich, V.P. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 2341, 2348 (*pKa*)
Fujita, Y. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1975, **25**, 253 (*detn, Fe(III)*, Al)
Mori, I. *et al*, *Bussei Kenkyu.*, 1979, **28**, 707; 1982, **31**, E239 (*detn, Cr, Mn*)

2,4-Dihydroxy-*N*-(2-hydroxybenzylidene) aniline D-00614

*2-[[(2,4-Dihydroxyphenyl)imino]methyl]phenol, 9CI. 2,4-Dihydroxy-*N*-salicylideneaniline. 2-Hydroxybenzaldehyde 2,4-dihydroxyanil*



$C_{13}H_{11}NO_3$ M 229.235

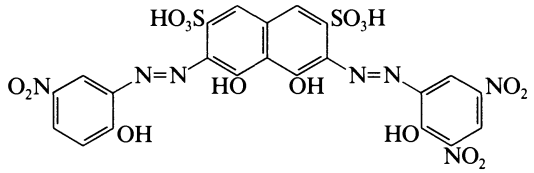
4-Me ether: [79319-41-8]. *2-Hydroxy-4-methoxy-*N*-salicylideneaniline*
$C_{14}H_{13}NO_3$ M 243.262
Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 505 nm, pH 5.0), Ga (λ_{max} 510 nm, pH 3.3). Cryst. (EtOH). Sol. DMF, EtOH.

*4-Et ether: 4-Ethoxy-2-hydroxy-*N*-salicylideneaniline*
$C_{15}H_{15}NO_3$ M 257.288
Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 495 nm, pH 5.5), Ga (λ_{max} 510 nm, pH 3.7). Cryst. (EtOH). Sol. DMF, EtOH.

Morishige, K., *Anal. Chim. Acta*, 1974, **72**, 295 (*synth, detn, Al, Ga*)

4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-6-[(2-hydroxy-5-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00615

[26069-59-0]



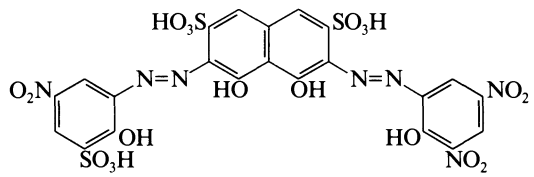
$C_{22}H_{13}N_7O_{16}S_2$ M 695.514

Used for photometric detn. of Nb, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-6-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00616

[26069-53-4]



$C_{22}H_{13}N_7O_{19}S_3$ M 775.578

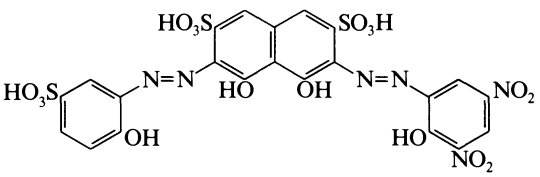
Used for photometric detn. of Ba, Ca, Nb, Sr, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Alimarin, I.P. *et al*, *Talanta*, 1968, **15**, 601 (*detn, Nb*)

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*detn, Ba, Ca, Sr, Zr*)

4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-6-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00617

[26069-52-3]



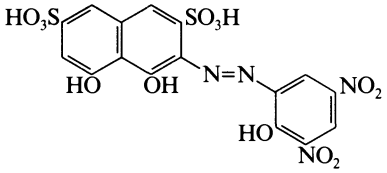
$C_{22}H_{14}N_6O_{17}S_3$ M 730.581

Used for photometric detn. of Nb, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI D-00618

[16606-34-1]



$C_{16}H_{10}N_4O_{13}S_2$ M 530.406

Di-Na salt: [21701-18-8].

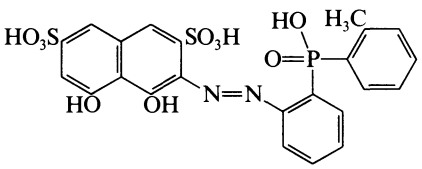
Used as 0.05-1m*M* aq. soln. as a metallochromic indicator for titrimetric detn. of Bi; photometric detn. of Cu (λ_{max} 560 nm). Brown cryst. powder. Sol. EtOH, H_2O. pK_{a1} 6.36.

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 568 (*detn, Bi*)

Muk, A.A. *et al*, *Anal. Chim. Acta*, 1969, **44**, 59 (*pKa*)

Goyal, S.S. *et al*, *Mikrochim. Acta*, 1969, 237 (*detn, Cu*)

4,5-Dihydroxy-3-[[2-[hydroxy(2-methylphenyl)phosphinyl]phenyl]azo]-2,7-naphthalenedisulfonic acid, 9CI D-00619



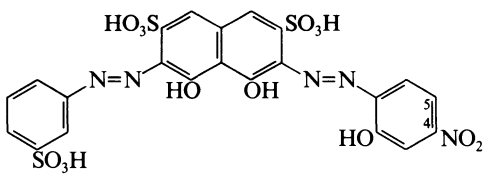
$C_{23}H_{19}N_2O_{10}PS_2$ M 578.516

Di-Na salt: [70566-23-3].

Used as 2m*M* aq. soln. for photometric detn. of Be (λ_{max} 580 nm, ε 21000, pH 6.8-7.5). Dark red cryst. powder. Sol. H_2O, EtOH, Me_2CO.

Lisenko, N.F. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 256 (*synth, detn, Be*)

4,5-Dihydroxy-3-[(2-hydroxy-4-nitrophenyl)azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid D-00620



$C_{22}H_{15}N_5O_{14}S_3$ M 669.584

Used for photometric detn. of Nb. Dark red cryst. powder. Mod. sol. H_2O.

Alimarin, I.P. *et al*, *Talanta*, 1966, **13**, 689 (*detn, Nb*)

4,5-Dihydroxy-3-[(2-hydroxy-5-nitrophenyl)azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00621

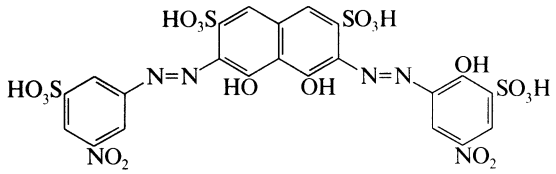
[29873-00-5]

$C_{22}H_{15}N_5O_{14}S_3$ M 669.584

Used for photometric detn. of Nb. Dark red cryst. powder. Mod. sol. H_2O.

Alimarin, I.P. *et al*, *Talanta*, 1966, **13**, 689 (*detn, Nb*)

4,5-Dihydroxy-3-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-6-[(3-nitro-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00622



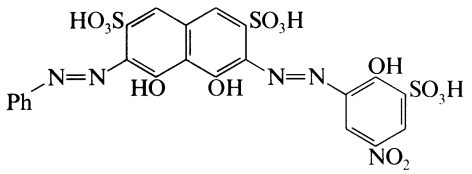
$C_{22}H_{14}N_6O_{19}S_4$ M 794.645

Used as a 0.1% aq. soln. for photometric detn. of V (λ_{max} 625 nm, ε 14000). Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2364 (*detn, V*)

4,5-Dihydroxy-3-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-6-(phenylazo)-2,7-naphthalenedisulfonic acid, 8CI D-00623

[26069-50-1]



$C_{22}H_{15}N_5O_{14}S_3$ M 669.584

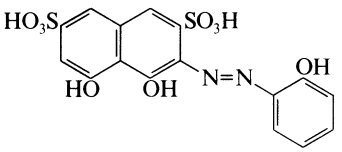
Used for photometric detn. of Nb, Zr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

4,5-Dihydroxy-3-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI D-00624

2-(2-Hydroxyphenylazo)chromotropic acid. Acid chrome blue T. Fast mordant blue R. C.I. 16670

[26197-92-2]



$C_{16}H_{12}N_2O_9S_2$ M 440.411

Di-Na salt: [5850-65-7].

Used as a 0.1% soln. in EtOH as metallochromic indicator for titrimetric detn. of Ca (pH 12; colour change: red → blue), Mg, Pb, Zn (pH 10; colour change: red → blue); for photometric detn. of Be; used as a 0.1% aq. soln. to give colour reactions with Al, Ga. Blue cryst. Sol. EtOH, H_2O; spar. sol. Me_2CO; insol; C_6H_6, CCl_4. pK_{a1} 7.56; pK_{a2} 9.30; pK_{a3} 12.4.

Styunkel, T.B. *et al*, *Zh. Anal. Khim.*, 1953, **8**, 163 (*detn, Ca, Mg, Zn*)

Lazarov, A.I. *et al*, *Zavod. Lab.*, 1959, **25**, 542 (*detn, Pb*)

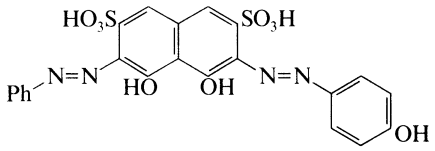
Korenman, I.M. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 36 (*use*)

Colour Index, 3rd Ed., 1971, **4**, 4099 (*synth*)

Anisimova, L.G. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 1302 (*detn, Be*)

4,5-Dihydroxy-3-[(4-hydroxyphenyl)azo]-6-(phenylazo)-2,7-naphthalenedisulfonic acid, 8CI D-00625

[27963-15-1]



$C_{22}H_{16}N_4O_9S_2$ M 544.522

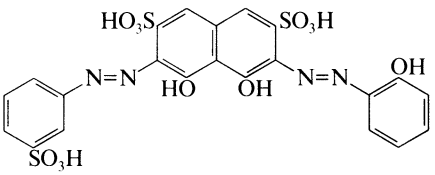
Used for photometric detn. of H_2O in organic solvents. Dark red cryst. powder. Mod. sol. H_2O. pK_{a1} 10.32.

Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226; 1973, **28**, 436 (*pKa, use*)

Perisic-Janic, N.V. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 208 (*spectra*)

4,5-Dihydroxy-3-[(2-hydroxyphenyl)azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid D-00626

[26069-62-5]



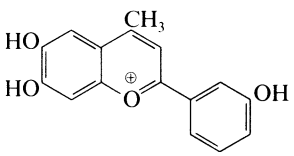
$C_{22}H_{16}N_4O_{12}S_3$ M 624.586

Used for photometric detn. of Nb. Dark red cryst. powder. Mod. sol. H_2O.

Alimarin, I.P. *et al*, *Talanta*, 1966, **13**, 689 (*detn, Nb*)

6,7-Dihydroxy-2-(3-hydroxyphenyl)-4-methyl-1-benzopyrylium(1+), 9CI D-00627

[96487-39-7]



$C_{16}H_{13}O_4^{\oplus}$ M 269.276 (ion)

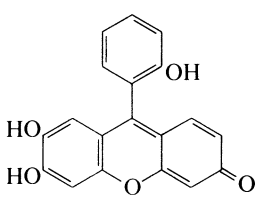
Chloride:

$C_{16}H_{13}ClO_4$ M 304.729

Used for photometric detn. of polyvalent metals. Yellow cryst. (40% EtOH acidified with HCl). Sol. EtOH. Mp 182-184°.

Tantsyura, G.F. *et al*, *Zh. Anal. Khim.*, 1985, **40**, 228 (*synth, use*)

6,7-Dihydroxy-9-(2-hydroxyphenyl)-3*H*-xanthen-3-one, 9CI D-00628

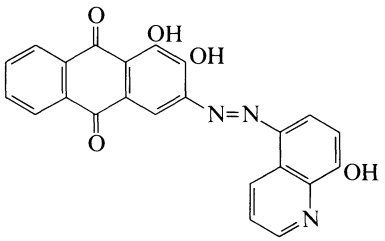


$C_{19}H_{12}O_5$ M 320.301

Used as a 0.05% soln. in EtOH for photometric detn. of W (λ_{max} 560 nm, ε 25500). Cryst. Spar. sol. H_2O.

Poluektova, E.N. *et al*, *Zh. Anal. Khim.*, 1964, **19**, 859 (*detn, W*)

1,2-Dihydroxy-3-[5-(8-hydroxyquinolinyl) azo]anthraquinone D-00629



$C_{23}H_{13}N_3O_5$ M 411.373

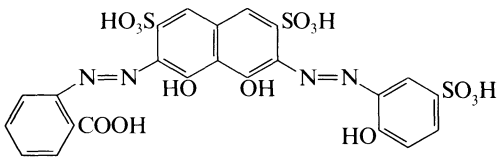
Used as a Hg complex for photometric detn. of $Cl^{\ominus}$. Cryst.

Mustafin, I.S. *et al*, *Khim. Khim. Tekhnol.* (*Minsk*), 1962, **5**, 875 (*synth, use*)

o-[[1,8-Dihydroxy-7-[(2-hydroxy-5-sulfophenyl)azo]-3,6-disulfo-2-naphthyl] azo]benzoic acid, 8CI D-00630

3-(2-Carboxyphenylazo)-4,5-dihydroxy-6-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid

[24921-23-1]

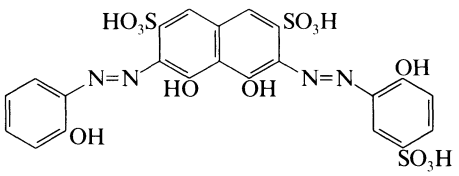


$C_{23}H_{16}N_4O_{14}S_3$ M 668.596

Used as a 0.05 or 0.1% aq. soln. for photometric detn. of Ba, Ca, Mg (EtOH aq.). Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177 (*detn, Ba, Ca, Mg*)

4,5-Dihydroxy-3-[(2-hydroxy-5-sulfophenyl)azo]-6-[(2-hydroxyphenyl) azo]-2,7-naphthalenedisulfonic acid D-00631



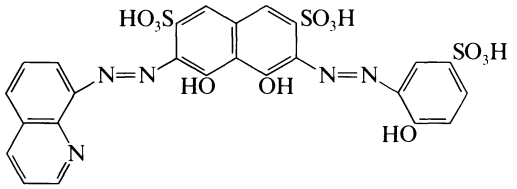
$C_{22}H_{16}N_4O_{13}S_3$ M 640.585

Used for photometric detn. of Nb. Dark red cryst. powder. Mod. sol. H_2O.

Alimarin, I.P. *et al*, *Talanta*, 1966, **13**, 689 (*detn, Nb*)

4,5-Dihydroxy-3-[(2-hydroxy-5-sulfophenyl)azo]-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, 8CI D-00632

[22106-82-7]



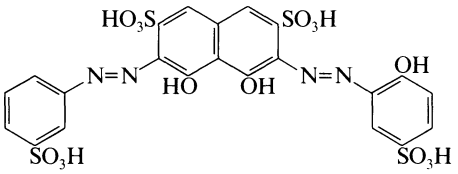
$C_{25}H_{17}N_5O_{12}S_3$ M 675.634

Used for extraction-photometric detn. of Cu (butanol). Dark red cryst. Sol. H_2O, EtOH.

Okhanova, L.A., *Zh. Anal. Khim.*, 1968, **23**, 1562 (*detn, Cu*)

4,5-Dihydroxy-3-[(2-hydroxy-5-sulfophenyl)azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid D-00633

[26069-61-4]



$C_{22}H_{16}N_4O_{15}S_4$ M 704.650

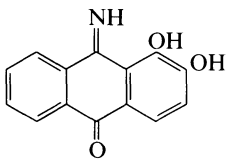
Used for photometric detn. of Nb. Dark red cryst. powder. Mod. sol. H_2O.

Alimarin, I.P. *et al*, *Talanta*, 1966, **13**, 689 (*detn, Nb*)

3,4-Dihydroxy-10-imino-9(10*H*)-anthracenone, 9CI D-00634

9-Iminoalizarine

[22516-80-9]



$C_{14}H_9NO_3$ M 239.230

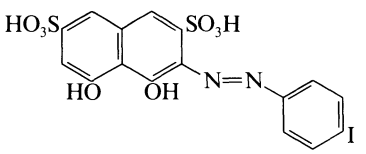
Used as acid-base indicator (pH 0.6 - yellow; pH 4.3 - red; pH 8.7 - violet); used as 0.1% soln. in Me_2CO for pptn. of Al, Ti, V(*V*), Cu, Mo. Cryst. (MeOH). Sol. MeOH, Me_2CO. pK_{a1} 1.72; pK_{a2} 6.85; pK_{a3} 12.76.

Barbosa, J. *et al*, *Quim. Anal.* (*Barcelona*), 1976, **30**, 203 (*use, indicator*)

Blanco, M. *et al*, *Talanta*, 1980, **27**, 371 (*use, pptn*)

4,5-Dihydroxy-3-[(4-iodophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI D-00635

[62869-77-6]



$C_{16}H_{11}IN_2O_8S_2$ M 550.308

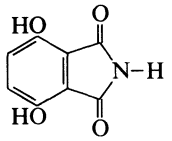
Used as a 0.01*M* aq. soln. for photometric detn. of Th (λ_{max} 590 nm, pH 4); metallochromic indicator in titrimetric detn. of Th, Zr; as an acid-base indicator. Dark red cryst. powder. Sol. H_2O, EtOH. pK_{a2} 3.34; pK_{a3} 7.61; pK_{a4} 9.77.

Khater, M.M. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **284**, 45 (*use*)
Khalifa, H., *Microchem. J.*, 1977, **22**, 288 (*synth, use*)
Khater, M.M. *et al*, *Microchem. J.*, 1977, **22**, 299 (*detn, Th*)

4,7-Dihydroxy-1*H*-isoindole-1,3 (2*H*)-dione, 9CI D-00636

4,7-Dihydroxyphthalimide

[51674-11-4]



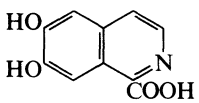
$C_8H_5NO_4$ M 179.132

Used as a 1% soln. in EtOH as acid-base indicator ($pH_{\frac{1}{2}}$ = 1.2; colour change: blue → green; $pH_{\frac{1}{2}}$ = 7.0; colour change: green → yellow). Yellow needles (H_2O). Sol. EtOH, Me_2CO, alkalis; spar. sol. H_2O. Mp 273-274°.

Dithiosemicarbazone: [66341-33-1].
$C_{10}H_{11}N_7O_2S_2$ M 325.375
Used as a 0.03-0.1% soln. in DMF for extraction-photometric detn. of Mo (*i*-PeOH); photometric detn. of Mn (λ_{max} 435 nm, ε 91400); indicator in catalytic detn. of Mn(*II*). Yellow cryst. (EtOH aq.). Sol. alkalis, DMF; spar. sol. EtOH, Me_2CO, $PhNO_2$; insol. H_2O. Mp 297°. pK_{a1} 7.5; pK_{a2} 11.5 (DMF aq.).

Thiele, J. *et al*, *Ber.*, 1900, **33**, 675 (*synth*)
Jensen, K.A., *Fresenius' Z. Anal. Chem.*, 1933, **94**, 177; 1939, **117**, 50 (*use*)
Perez-Bendito, D. *et al*, *Anal. Chim. Acta*, 1977, **94**, 405 (*synth, detn, Mn*)

6,7-Dihydroxy-1-isoquinolinecarboxylic acid D-00637



$C_{10}H_7NO_4$ M 205.170

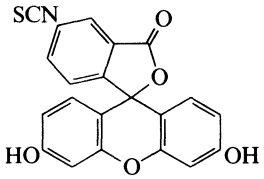
Di-Me ether: 6,7-Dimethoxy-1-isoquinolinecarboxylic acid
$C_{12}H_{11}NO_4$ M 233.223
Used as a 0.01% soln. in EtOH as fluorescent pH indicator (pH range: 9.5-11.0; colour change; yellow → blue). Needles (Et_2O). Sol. alkalis, EtOH. Mp 204-205° (dec.).

Szebelledy, L. *et al*, *Fresenius' Z. Anal. Chem.*, 1938, **113**, 326 (*use*)
Battersby, A.R. *et al*, *J. Chem. Soc.*, 1961, 3899 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

3′,6′-Dihydroxy-5-isothiocyanatospiro[isobenzofuran-1(3*H*),9′-[9*H*]xanthen]-3-one, 9CI D-00638

Fluorescein-5-isothiocyanate

[3326-32-7]



$C_{21}H_{11}NO_5S$ M 389.388

Fluorescent label for proteins and amino acids. Orange-yellow cryst. Mp >160° dec. Diacetate also available.

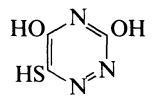
[118378-76-0]

Maeda, H. *et al*, *J. Biochem. (Tokyo)*, 1969, **65**, 777; **66**, 783 (*use*)
Steinbach, G., *Acta Histochem.*, 1974, **50**, 19 (*synth*)
Sinsheimer, J.E. *et al*, *Anal. Biochem.*, 1974, **57**, 227 (*synth, ir, nmr*)

3,5-Dihydroxy-6-mercapto-1,2,4-triazine D-00639

6-Mercapto-1,2,4-triazine-3,5(2H,4H)-dione

[4956-13-2]



$C_3H_3N_3O_2S$ M 145.142

Di-Na salt: [24168-35-2].
Used as a 0.2% aq. soln. for photometric detn. of Os.

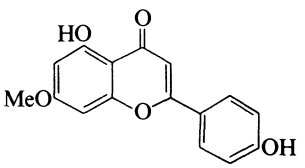
[20029-35-0]

Baiulescu, G., *Anal. Chim. Acta*, 1961, **24**, 463 (*detn, Os*)

4′,5-Dihydroxy-7-methoxyflavone D-00640

5-Hydroxy-2-(4-hydroxyphenyl)-7-methoxy-4H-1-benzopyran-4-one. ***Genkwanin.*** *Apigenin 7-methyl ether. Puddumetin*

[437-64-9]



$C_{16}H_{12}O_5$ M 284.268

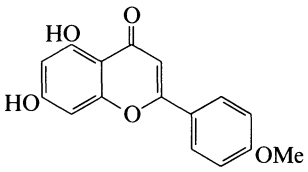
Widespread flavonoid isol. from the Asteraceae, Cistaceae, Eupomataceae, Lamiaceae, Pteridaceae and Saxifragaceae. Used as EtOH soln. for analytical reactions with some metals. Yellow needles (MeOH). Mp 286°.

Mahal, H.S. *et al*, *J. Chem. Soc.*, 1936, 569.
Narasimhachari, N. *et al*, *Proc. - Indian Acad. Sci., Sect. A*, 1950, **32**, 17 (*synth*)
Dawson, R.M. *et al*, *Aust. J. Chem.*, 1965, **18**, 1871 (*isol*)
Kawano, N. *et al*, *Chem. Pharm. Bull.*, 1966, **14**, 299 (*synth*)
Korkuć, A., *Wiad. Chem.*, 1969, **23**, 345; *CA*, **71**, 56224j (*use*)
Wagner, H. *et al*, *Tetrahedron Lett.*, 1976, 1799 (*nmr*)
Markham, K.R. *et al*, *Tetrahedron*, 1978, **34**, 1389 (*cmr*)
Hauteville, M. *et al*, *Tetrahedron*, 1981, **37**, 377 (*synth*)

5,7-Dihydroxy-4′-methoxyflavone, 8CI D-00641

*5,7-Dihydroxy-2-(4-methoxyphenyl)-4*H*-1-benzopyran-4-one, 9CI. Apigenin 4′-methyl ether.* ***Acacetin.*** *Linarigenin. Buddleoflavonol*

[480-44-4]



$C_{16}H_{12}O_5$ M 284.268

Constit. of *Robina pseudoacacia* (common acacia) and *Ammi visnaga*. Also isol. from many other plants incl. Asteraceae, Cistaceae, Clusiaceae, Fabaceae, Liliaceae etc. Used for photometric detn. of Zr. Antiinflammatory, capillary protective and spasmolytic agent. Pale-yellow needles (EtOH). Mp 263°.

▷ DJ3002000.

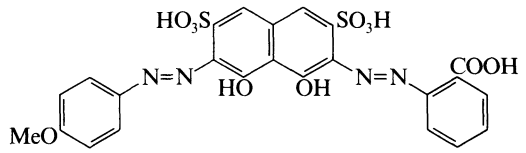
Di-Ac: [5892-39-7].
Needles (EtOH). Mp 203°.

Robinson, R. *et al*, *J. Chem. Soc.*, 1926, **128**, 2344 (*synth*)
Bowie, J.H. *et al*, *J. Chem. Soc. B*, 1969, **2**, 89 (*ms*)
Nevskaya, E.M. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 1699 (*use*)
Wagner, H. *et al*, *Tetrahedron Lett.*, 1976, 1799 (*nmr*)
Calvert, D.J. *et al*, *Org. Magn. Reson.*, 1979, **12**, 583 (*cmr*)
Saxena, S. *et al*, *Synthesis*, 1985, 597 (*synth*)

2-[[1,8-Dihydroxy-7-[(4-methoxyphenyl) azo]-3,6-disulfo-2-naphthyl]azo]benzoic acid, 8CI D-00642

3-(2-Carboxyphenylazo)-4,5-dihydroxy-6-(4-methoxyphenylazo)-2,7-naphthalenedicarboxylic acid

[28008-00-6]



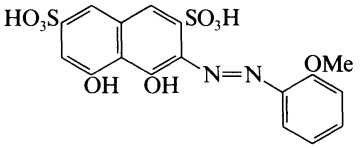
$C_{24}H_{18}N_4O_{11}S_2$ M 602.558

Used for photometric detn. of Ba, Ca, Sr, $SO_4^{2\ominus}$. Dark red cryst. powder. Mod. sol. H_2O. pK_{a1} 10.47; pK_{a2} 14.93.

Petrova, T.V. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1970, 259; *CA*, **73**, 31191z (*use*)
Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226 (*pKa*)
Perisic-Janic, N.V. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 208 (*spectra*)

4,5-Dihydroxy-3-[(2-methoxyphenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI D-00643

[34353-07-6]

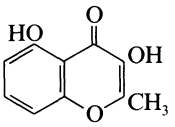


$C_{17}H_{14}N_2O_9S_2$ M 454.438

Gives colour reactions with Ba, Ca, Mg, Sr. Orange cryst. Sol. H_2O.

Katayama, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1971, **44**, 2712 (*use*)

3,5-Dihydroxy-2-methyl-4*H*-1-benzopyran-4-one, 9CI D-00644



$C_{10}H_8O_4$ M 192.171

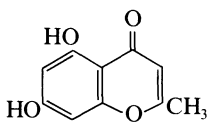
3-O-Ac: [26239-18-9]. *3-Acetyl-5-hydroxy-2-methyl-4*H*-1-benzopyran-4-one, 9CI. 2-Methyl-3-acetyl-5-hydroxychromone*
$C_{12}H_{10}O_5$ M 234.208
Used as 0.02*M* MeOH soln. for extraction-fluorimetric detn. of Ti (λ_{max} 526 nm, 40% MeOH medium, CCl_4). Yellow cryst. Sol. MeOH.

Murata, A. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1970, **19**, 1346 (*synth*)
Ito, T. *et al*, *Anal. Chim. Acta*, 1980, **113**, 343 (*detn, Ti*)

5,7-Dihydroxy-2-methyl-4*H*-1-benzopyran-4-one, 9CI D-00645

5,7-Dihydroxy-2-methylchromone. ***Noreugenin***

[1013-69-0]



$C_{10}H_8O_4$ M 192.171

Constit. of *Adina rubescens*, *A. racemosa* and *Amoora rohituka*. Needles (MeOH). Mp 275-280°.

5-O-β-D-Glucopyranoside: [128396-15-6]. ***Schumanniofioside A***
$C_{16}H_{18}O_9$ M 354.313
Constit. of *Schumanniophyton magnificum*. Granules (MeOH). Mp 162-163°.

7-O-β-D-Glucopyranoside:
$C_{16}H_{18}O_9$ M 354.313
Constit. of *Adina rubescens*. Needles (MeOH) or hygroscopic solid. Mp 245-248°. $[\alpha]_D^{25}$ −50° (Py).

7-O-[β-D-Glucopyranosyl-(1-2)-apiofuranoside]: [128396-16-7]. ***Schumanniofioside B***
$C_{21}H_{26}O_{13}$ M 486.429
Constit. of *S. magnificum*. Cryst. (MeOH). Mp 251-252°.

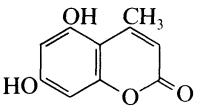
7-Me ether: [480-34-2]. *5-Hydroxy-7-methoxy-2-methyl-4*H*-1-benzopyran-4-one. 5-Hydroxy-7-methoxy-2-methylchromone.* ***Eugenin***
$C_{11}H_{10}O_4$ M 206.198
Constit. of *Eugenia aromatica* and *Seseli* spp. Used as 0.02*M* MeOH soln. for extraction-fluorimetric detn. of Ti (λ_{max} 486 nm, 40% MeOH medium, CCl_4). Cryst. (EtOH). Sol. MeOH. Mp 119-120°.

Meijer, T.M. *et al*, *Helv. Chim. Acta*, 1948, **31**, 1603 (*isol, struct, synth, eugenin*)
Dorofeenko, G.N. *et al*, *Khim. Geterotsikl. Soedin.*, 1971, **7**, 1703; *CA*, **76**, 153503k (*synth*)
Brown, R.T. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1975, 1776 (*isol, struct*)
Stoessl, A. *et al*, *Can. J. Bot.*, 1978, **56**, 2589 (*cmr, biosynth*)
Murata, A. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1979, **119**, 1346 (*Me ether, synth*)
Gujral, V.K. *et al*, *Phytochemistry*, 1979, **18**, 181 (*glucoside*)
Ito, T. *et al*, *Anal. Chim. Acta*, 1980, **113**, 343 (*Me ether, detn, Ti*)
Ghosal, S. *et al*, *Phytochemistry*, 1982, **21**, 2943 (*isol*)
Tane, P. *et al*, *Phytochemistry*, 1990, **29**, 1004 (*glycosides*)

5,7-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, 9CI D-00646

5,7-Dihydroxy-4-methylcoumarin

[2107-76-8]



$C_{10}H_8O_4$ M 192.171

Used for photometric detn. of Fe(*III*), Co, Th; fluorescent acid-base indicator. Mp 282°.

Zolotavin, V.L., *Zavod. Lab.*, 1951, **17**, 680 (*use, ind*)
Trivedi, K.N., *J. Indian Chem. Soc.*, 1965, **42**, 273 (*synth*)
Manku, G., *Mikrochim. Acta*, 1970, 1101; 1972, 811 (*detn, Fe*)
Manku, G., *Fresenius' Z. Anal. Chem.*, 1972, **258**, 365 (*detn, Fe, Co, Th*)
Mital, R. *et al*, *J. Chem. Eng. Data*, 1972, **17**, 383 (*nmr*)
Masrani, K.V. *et al*, *J. Appl. Chem. Biotechnol.*, 1974, **24**, 331 (*uv*)

6,7-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, 9CI D-00647

6,7-Dihydroxy-4-methylcoumarin. 4-Methylaesculetin

[529-84-0]

$C_{10}H_8O_4$ M 192.171

Used as 1% soln. in EtOH as a redox fluorescent indicator. Used as 1m*M* soln. in EtOH for photometric detn. of Mo(*VI*), Nb(*V*), Ti(*IV*). Yellow cryst. (EtOH aq.). Mp 272-274°. pK_{a1} 7.44; pK_{a2} 8.12.

Bis(hydrogen sulfate): [29334-07-4]. ***Sulmarin*, INN.** *4-Methyl-6,7-bis(sulfooxy)-2H-1-benzopyran-2-one, 9CI. MG-143. Idro* P_2

$C_{10}H_8O_{10}S_2$ M 352.299

Haemostatic drug, used as di-Na salt.

6-(Carboxymethyl) ether: [52814-39-8]. *[(7-Hydroxy-4-methyl-2-oxo-2H-1-benzopyran-6-yl)oxy]acetic acid, 9CI. Methylesculetylethanoic acid.* ***Metexuletol*, INN**

$C_{12}H_{10}O_6$ M 250.207

Antiinflammatory agent. Cryst. (EtOH). Mp 272-274°.

6-(Carboxymethyl) ether, Na salt: [53285-61-3]. *Permethol. Metesculetol sodium*

6-(Carboxymethyl)ether; compd. with 7-[2-(Diethylamino) ethyl]theophylline: [15518-82-8]. ***Metescufylline*, INN.** *Etamiphyllin. Methescutol. Veinartan. Venarterin*

$C_{25}H_{31}N_5O_8$ M 529.549

Capillary protectant. Mp 124°.

▷ PC9450000.

[1040-23-9]

v. Pechmann, H. *et al*, *Ber.*, 1901, **34**, 423 (*synth*)
Org. Synth., Coll. Vol., 1, 1932, 360.
Jenson, K.A. *et al*, *Fresenius' Z. Anal. Chem.*, 1933, **94**, 177 (*use, ind*)
Maggiorelli, E., *CA*, 1953, **47**, 6412d (*synth*)
Cortesi, R. *et al*, *Bull. Soc. Pharm. Bordeaux*, 1961, **100**, 133 (*Metexuletol*)
Jain, B.D. *et al*, *Indian J. Chem.*, 1963, **1**, 369 (*detn, Mo*)
Jain, B.D. *et al*, *J. Indian Chem. Soc.*, 1964, **41**, 29 (*detn, Ti*)
Jain, B.D. *et al*, *Anal. Chim. Acta*, 1967, **37**, 135 (*detn, Nb*)
Radouco-Thomas, S. *et al*, *Life Sci.*, 1967, **3**, 465 (*Sulmarin*)
Khan, M.A.S. *et al*, *Anal. Chim. Acta*, 1968, **43**, 153 (*pmr*)
Katyal, M. *et al*, *Talanta*, 1968, **15**, 1043 (*synth, pKa, use*)
Cussans, N.J. *et al*, *Tetrahedron*, 1975, **31**, 2719 (*cmr*)
Ahluwalia, V.K. *et al*, *Indian J. Chem., Sect. B*, 1977, **15**, 514 (*deriv*)
Fr. Pat., (1972), 2 377 201,, (1978) (*1978;CA*, **81**, 13389f, *CA*, (*Metexuletol*)
Sankar, S.S. *et al*, *Org. Magn. Reson.*, 1982, **19**, 222 (*cmr*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 12934, 13284 (*6,7-Dihydroxy-4-methyl-2H-1-benzopyran-2-one*)

7,8-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, 9CI D-00648

7,8-Dihydroxy-4-methylcoumarin. 4-Methyldaphnetin

[2107-77-9]

$C_{10}H_8O_4$ M 192.171

Used as a 0.1*M* soln. in EtOH for simultaneous photometric detn. of U (λ_{max} 450 nm, ε 2700) and V (λ_{max} 600 nm, ε 900); metallochromic indicator in titrimetric detn. of Nb. Cryst. Sol. common org. solvs. Mp 232°.

▷ GN6385000.

Trivedi, K.N., *J. Indian Chem. Soc.*, 1965, **42**, 273 (*synth*)
Kingo, M., *Bunseki Kagaku (Jpn. Anal.)*, 1971, **20**, 806 (*detn, Nb*)
Masrani, K.V. *et al*, *J. Appl. Chem. Biotechnol.*, 1974, **24**, 331.
Cussans, N.J. *et al*, *Tetrahedron*, 1975, **31**, 2719.
Chauhan, Y.S. *et al*, *Indian J. Chem., Sect. B*, 1978, **16**, 292 (*synth*)
Sane, R.T. *et al*, *J. Indian Chem. Soc.*, 1978, **55**, 290 (*detn, U, V*)

Dihydroxy(methyl)borane D-00649

Methylboronic acid, 10CI, 9CI. Methylboric acid. Methaneboric acid. Methyldihydroxyborane

[13061-96-6]

$MeB(OH)_2$

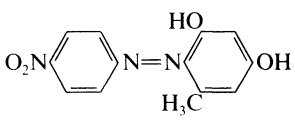
CH_5BO_2 M 59.860

Derivatisation reagent for anal. of bifunctional org. compds. Solid. Pale yellow needles (H_2O). Mp 95-100° dec. (freshly prepared). Readily dehydrates to trimethylboroxin.

Burg, A.B., *J. Am. Chem. Soc.*, 1940, **62**, 2228 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 1231.
de Moor, J.E. *et al*, *J. Organomet. Chem.*, 1967, **9**, 31 (*ir, raman*)
Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*pmr*)
McFarlane, W. *et al*, *Chem. Ber.*, 1975, **108**, 2112 (*nmr*)
Rensch, H. *et al*, *Chem. Ber.*, 1977, **110**, 2189 (*synth*)
Kossa, W.C., *Chem. Deriv. Anal. Chem.*, (Frei, R.W. *et al*, Ed.), Plenum, N.Y., 1981, 99 (*rev*)
Frei, R.W. *et al*, *Chem. Deriv. Anal. Chem.*, Plenum, New York, 1981, 99 (*use*)

2,4-Dihydroxy-6-methyl-4′-nitroazobenzene D-00650

5-Methyl-4-(4-nitrophenylazo)-1,3-benzenediol. 4-(p-Nitrophenylazo)resorcinol



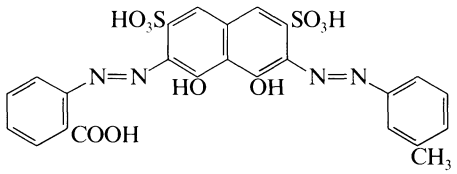
$C_{13}H_{11}N_3O_4$ M 273.248

Used as 0.025% soln. in 1*M* NaOH for photometric detn. of Be (alkaline medium). Reddish-brown cryst. powder. Sol. alkalis.

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1948, **4**, 383 (*synth*)
Vinci, F.A., *Anal. Chem.*, 1953, **25**, 1580 (*detn, Be*)
White, J.C. *et al*, *Anal. Chem.*, 1956, **28**, 956 (*detn, Be*)

2-[[1,8-Dihydroxy-7-[(3-methylphenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, 9CI D-00651

[26075-07-0]



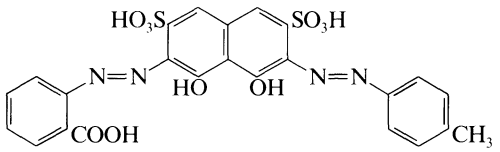
$C_{24}H_{18}N_4O_{10}S_2$ M 586.559

Used as a 0.1% aq. soln. for photometric detn. of Ba, Ca, La, Sr, $SO_4^{2\ominus}$. Dark red cryst. powder. Sol. H_2O. pK_{a3} 10.33; pK_{a4} 14.82.

Petrova, T.V. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1970, 259 (*detn, Ba, Ca, La, Sr, $SO_4^{2\ominus}$*)
Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226 (*pKa*)
Perisic-Janic, N.U. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 208 (*spectra*)

2-[[1,8-Dihydroxy-7-[(4-methylphenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid D-00652

[26190-37-4]



$C_{24}H_{18}N_4O_{10}S_2$ M 586.559

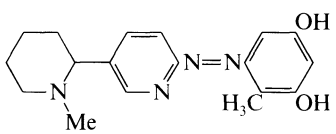
Used as a 0.1% aq. soln. for photometric detn. of Ba, Ca, Dy, La (λ_{max} 740 nm), Lu, Sr, Y, $SO_4^{2\ominus}$. Dark red cryst. powder. Sol. H_2O. pK_{a4} 10.34; pK_{a5} 14.67.

Petrova, T.V. *et al*, *Izv. Akad. Nauk Kaz. SSR, Ser. Khim.*, 1970, 259 (*detn, Ba, Ca, Sr, $SO_4^{2\ominus}$*)
Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226 (*pKa*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 297 (*detn, La*)
Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 722 (*detn, Dy, Lu, Y*)
Perisic-Janic, N.U. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 208 (*spectra*)

2-[(3,5-Dihydroxy-2-methylphenyl)azo]-5-(1-methyl-2-piperidinyl)pyridine D-00653

6′-[(4,6-Dihydroxy-o-tolyl)azo]-1-methylanabasine, 8CI

[23333-80-4]



$C_{18}H_{22}N_4O_2$ M 326.397

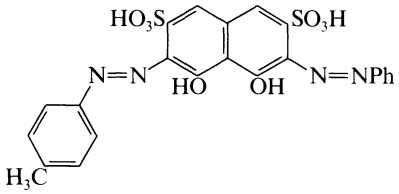
Gives colour reactions with Cd, Co, Cu, Ga, Ni, Pd, U, Zn. Yellow-orange cryst. Sol. EtOH, Me_2CO.

Dzhiyanbaeva, R.K. *et al*, *CA*, 1968, **69**, 60029a (*synth, use*)

4,5-Dihydroxy-3-(3-methylphenylazo)-6-phenylazo-2,7-naphthalenedisulfonic acid D-00654

4,5-Dihydroxy-3-(phenylazo)-6-(p-tolylazo)-2,7-naphthalenedisulfonic acid, 8CI

[32748-05-3]



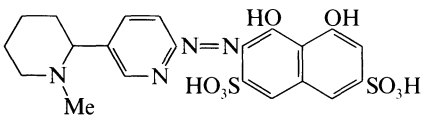
$C_{23}H_{18}N_4O_8S_2$ M 542.549

Gives colour reactions with Dy, Lu, Th, Y. Dark red cryst. powder. Mod. sol. H_2O.

Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 722 (*use*)

4,5-Dihydroxy-3-[(5-(1-methyl-2-piperidinyl)-2-pyridyl)azo]-2,7-napthalenedisulfonic acid D-00655

6′-[(1,8-Dihydroxy-3,6-disulfo-2-naphthyl)azo]-1-methylanabasine, 8CI



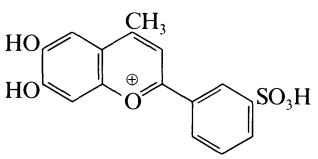
$C_{21}H_{22}N_4O_8S_2$ M 522.559

Di-Na salt: [23397-05-9].

Gives colour reactions with Cd, Co, Cu, Ga, Ni, Pd, U, Zn. Violet cryst. Sol. H_2O.

Dzhiyanbaeva, R.K. *et al*, *CA*, 1968, **69**, 60029a (*synth, use*)

6,7-Dihydroxy-4-methyl-2-(3-sulfophenyl)-1-benzopyrylium(1+), 9CI D-00656



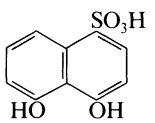
$C_{16}H_{13}O_6S^{\oplus}$ M 333.341 (ion)

Chloride: [96487-38-6].

Used for photometric detn. of polyvalent metals. Yellow cryst. (EtOH + HCl). Sol. EtOH, H_2O. Mp 186-188°.

Tantsyura, G.F. *et al*, *Zh. Anal. Khim.*, 1985, **40**, 228 (*synth, use*)

4,5-Dihydroxy-1-naphthalenesulfonic acid D-00657



$C_{10}H_8O_5S$ M 240.236

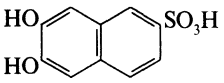
Na salt: [54179-01-0].

Used as a 0.01*M* aq. soln. for extraction-photometric detn. of B (λ_{max} 341 nm, ε 24500, 1,2-dichloroethane). Plates. Sol. H_2O; insol. C_6H_6.

Korenaga, T. *et al*, *Anal. Chim. Acta*, 1980, **120**, 321 (*detn, B*)
Korenaga, T. *et al*, *Analyst (London)*, 1980, **105**, 955 (*detn, B*)

6,7-Dihydroxy-2-naphthalenesulfonic acid D-00658

[92-27-3]



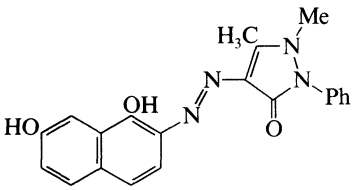
$C_{10}H_8O_5S$ M 240.236

Used a 1% aq. soln. for photometric detn. of Mo. Cryst. Sol. H_2O.

Buchwald, H., *Talanta*, 1962, **9**, 631 (*detn, Mo*)

4-[(1,7-Dihydroxy-2-naphthalenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00659

[59297-31-3]



$C_{21}H_{18}N_4O_3$ M 374.398

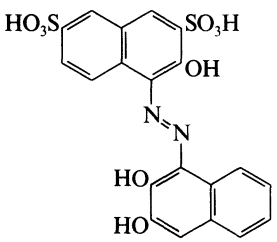
Used for photometric detn. of Ga (λ_{max} 510 nm, ε 41100), In (λ_{max} 510 nm, ε 30800). Orange-red cryst. Mp 193°. pK_{a1} 1.80; pK_{a2} 9.01; pK_{a3} 11.44.

Smaglyuk, N.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1680 (*detn, Ga, Tu*)

4-[(2,3-Dihydroxy-1-naphthalenyl)azo]-3-hydroxy-2,7-naphthalenedisulfonic acid, 9CI D-00660

2,2',3'-Trihydroxy-1,1'-azonaphthalene-3,6-disulfonic acid

[76877-42-4]



$C_{20}H_{14}N_2O_9S_2$ M 490.471

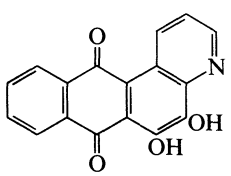
Used as 0.1m*M* soln. as an indicator for complexiметric (EDTA) titration of Ca (λ_{max} 560 nm, pH 12). Dark violet cryst. Sol. H_2O. pK_{a1} 5.99 (25°, μ = 1).

Wada, H. *et al*, *Anal. Chim. Acta*, 1980, **121**, 265 (*synth, detn, Ca*)

5,6-Dihydroxynaphtho[2,3-*f*]quinoline-7,12-dione, 9CI D-00661

Alizarine blue. Gallomide blue. C.I. 67410

[568-02-5]



$C_{17}H_9NO_4$ M 291.262

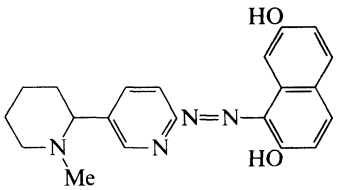
Used as sat. soln. in Py for gravimetric detn. of Cu (blue ppt.). Cryst. Spar. sol. Py; insol. H_2O, EtOH, Me_2CO.

Feigl, F. *et al*, *Anal. Chim. Acta*, 1953, **8**, 117, 339 (*synth, use*)
Colour Index, 3rd Ed., 1971, **4**, 4567 (*synth, rev*)

2-[(2,7-Dihydroxy-1-naphthyl)azo]-5-(1-methyl-2-piperidinyl)pyridine D-00662

6'-[(2,7-Dihydroxy-1-naphthyl)azo]-1-methylanabasine, 8CI

[25349-59-1]



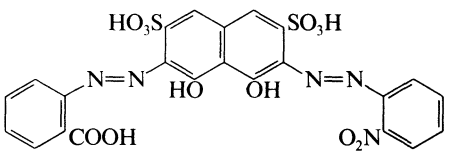
$C_{21}H_{22}N_4O_2$ M 362.430

Gives colour reactions with Cd, Co, Cu, Ga, Ni, Pd, U, Zn. Orange-red cryst. Sol. EtOH, Me_2CO. pK_{a1} 1.69; pK_{a2} 7.88; pK_{a3} 8.88 (2m*M* KCl, EtOH, 18°).

Kagramonova, N.G. *et al*, *CA*, 1969, **71**, 56314p (*use*)
Smaglyuk, N.G. *et al*, *Uzb. Khim. Zh.*, 1970, **14**, 24; *CA*, **73**, 39313m (*pKa*)

2-[[1,8-Dihydroxy-7-[(2-nitrophenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, 9CI D-00663

[23156-98-1]



$C_{23}H_{15}N_5O_{12}S_2$ M 617.530

Used as a 0.1% aq. soln. for photometric detn. of Ba, Ca. Dark red cryst. powder. Sol. H_2O. pK_{a4} 11.03; pK_{a5} 14.54.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1460; 1971, **26**, 297 (*detn, Ca*)
Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226 (*pKa*)

2-[[1,8-Dihydroxy-7-[(3-nitrophenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, 9CI ,8CI D-00664

[26075-08-1]

$C_{23}H_{15}N_5O_{12}S_2$ M 617.530

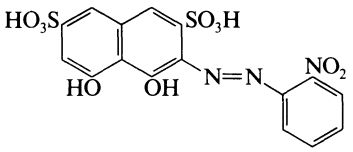
Used as a 0.1% aq. soln. for photometric detn. of Ba, Ca, La (λ_{max} 720 nm), $SO_4^{2\ominus}$. Dark red cryst. powder. Sol. H_2O. pK_{a4} 9.78; pK_{a5} 14.38.

Petrova, T.V. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1970, 259 (*synth, detn, Ba, Ca, $SO_4^{2\ominus}$*)
Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226 (*pKa*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 297 (*detn, La*)

4,5-Dihydroxy-3-[(2-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI D-00665

o-*Nitrophenylazochromotropic acid*

[18338-22-2]



$C_{16}H_{11}N_3O_{10}S_2$ M 469.409

Used for photometric detn. of Th. Dark red cryst. Sol. H_2O. Mp >300°. pK_{a1} 8.96 (μ = 0.1, 25°).

Toei, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1966, **39**, 638; 1967, **40**, 2085 (*detn, Th*)

4,5-Dihydroxy-3-[(3-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI D-00666

m-*Nitrophenylazochromotropic acid*

[18338-23-3]

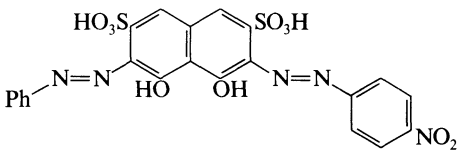
$C_{16}H_{11}N_3O_{10}S_2$ M 469.409

Used for photometric detn. of Th. Dark red cryst. Sol. H_2O. pK_{a1} 8.6 (μ = 0.1, 25°).

Toei, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1967, **40**, 2085 (*detn, Th, pK_a*)

4,5-Dihydroxy-3-[(*p*-nitrophenyl)azo]-6-(phenylazo-2,7-naphthalenedisulfonic acid), 8CI D-00667

[22514-54-1]



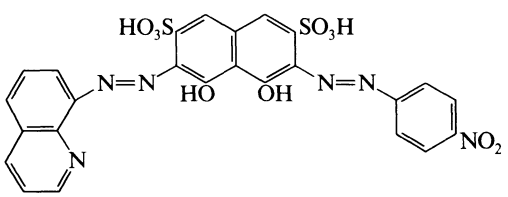
$C_{22}H_{15}N_5O_{10}S_2$ M 573.520

Used as a 0.05% or 0.1% aq. soln. for photometric detn. of Ba, Ca, Dy, La, Lu, Th (λ_{max} 620 nm, ε 21000), Y. Dark red cryst. powder. Mod. sol. H_2O. pK_{a1} 0.93; pK_{a3} 8.89; pK_{a4} 13.67.

Muk, A.A. *et al*, *Anal. Chim. Acta*, 1969, **44**, 59 (*pKa*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177, 490 (*detn, Ba, Ca, Th*)
Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226 (*pKa*)
Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 722 (*detn, Dy, Lu, Th, Y*)

4,5-Dihydroxy-3-[(*p*-nitrophenyl)azo]-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, 8CI D-00668

[22106-88-3]



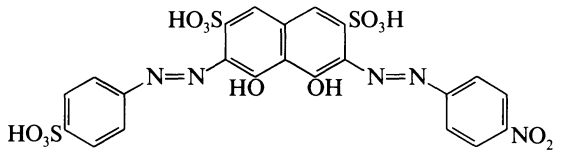
$C_{25}H_{16}N_6O_{10}S_2$ M 624.568

Used for extraction-photometric detn. of Cu (butanol). Dark red cryst. Sol. H_2O, EtOH.

Okhanova, L.A., *Zh. Anal. Khim.*, 1968, **23**, 1562 (*detn, Cu*)

4,5-Dihydroxy-3-[(*p*-nitrophenyl)azo]-6-[(*p*-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00669

[23156-96-9]



$C_{22}H_{15}N_5O_{13}S_3$ M 653.584

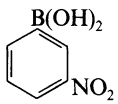
Used as a 0.05% or 0.1% aq. soln. for photometric detn. of Ba, Ca (λ_{max} 640 nm, ε 33000), La, Li (λ_{max} 610 nm, ε 35000), Sr, Th (λ_{max} 600 nm, ε 29000). Dark red cryst. powder. Mod. sol. H_2O. pK_{a4} 8.5.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177, 490 (*detn, Ba, Ca, Sr, La, Li, Th*)
Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226 (*pKa*)

Dihydroxy(3-nitrophenyl)borane D-00670

(*3-Nitrophenyl*)*boronic acid*, *10CI*. m-*Nitrobenzeneboronic acid*

[13331-27-6]



$C_6H_6BNO_4$ M 166.929

Used as derivatisation reagent in gc detn. of diols, hydroxyamines and hydroxyacids; enzyme inhibitor and chemosterilant for insects. Yellow cryst. (H_2O). Mod. sol. hot H_2O; sol. EtOH, Et_2O. Mp 275°, Mp 285°, 319°.

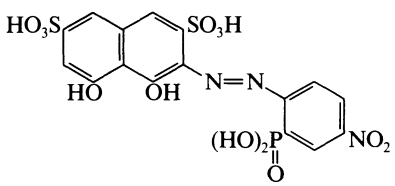
▷ CY8980000.

Torsell, K., *CA*, 1958, **52**, 1455f (*synth*)
Skowronska-Serafinowa, B. *et al*, *Pol. J. Chem.* (*Rocz. Chem.*), 1961, **35**, 937 (*ir*)
Ramsey, B.G., *J. Phys. Chem.*, 1970, **74**, 2464 (*props*)
Barker, S.A. *et al*, *Carbohydr. Res.*, 1973, **26**, 33 (*use, props*)
Brown, B.J. *et al*, *Aust. J. Chem.*, 1976, **29**, 941 (*props*)
Poole, C.F. *et al*, *J. Chromatogr.*, 1978, **158**, 33 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NEY500.

4,5-Dihydroxy-3-[(4-nitro-2-phosphonophenyl)-azo]-2,7-naphthalenedisulfonic acid, 9CI D-00671

Nitrophosphonazo I

[18029-36-2]



$C_{16}H_{12}N_3O_{13}PS_2$ M 549.389

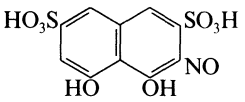
Used as 0.04% aq. soln. for photometric detn. of Mg (λ_{max} 584 nm, ε 12200). Cryst. Sol. H_2O.

Qui Xing-chu, *et al*, *Chem. Anal.* (*Warsaw*), 1987, **32**, 285; *CA*, **108**, 209866e (*detn, Mg*)

4,5-Dihydroxy-3-nitroso-2,7-naphthalenedisulfonic acid, 8CI D-00672

Nitrosochromotropic acid

[32446-22-3]



$C_{10}H_7NO_9S_2$ M 349.299

Used as a 0.04% aq. soln. as metallochromic indicator for titrimetric detn. of Cu; gives colour reactions with Ca, Cd, Co, Cu, Fe, Mg, Ni, Pb, Zn. Hygroscopic orange-brown amorph. powder. Mp 130°, Mp 140-180°. pK_{a1} 6.6; pK_{a2} 11.6.

Pande, C.S. *et al*, *Fresenius' Z. Anal. Chem.*, 1961, **184**, 248 (*detn, Cu*)

Sen, A.B. *et al*, *Fresenius' Z. Anal. Chem.*, 1962, **187**, 401 (*detn, Cu*)

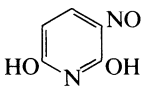
Sommer, L. *et al*, *Fresenius' Z. Anal. Chem.*, 1963, 260.

Toei, K. *et al*, *CA*, 1971, **74**, 150682r (*colour reactions*)

2,6-Dihydroxy-3-nitrosopyridine D-00673

3-Nitroso-2,6-pyridinediol, 9CI

[25954-90-9]



$C_5H_4N_2O_3$ M 140.098

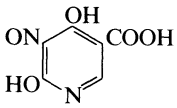
Used as 0.1% soln. in EtOH for photometric detn. of Os (λ_{max} 550 nm, ε 24000), Pd, Ru, Co. Cryst. Sol. EtOH.

McDonald, C.W. *et al*, *Anal. Chem.*, 1969, **41**, 1478 (*synth, detn, Os*)

McDonald, C.W. *et al*, *Mikrochim. Acta*, 1970, 474, 612; 1972, 208 (*detn, Pd, Ru, Co*)

4,6-Dihydroxy-5-nitroso-3-pyridinecarboxylic acid D-00674

4,6-Dihydroxy-5-nitrosonicotinic acid



$C_6H_4N_2O_5$ M 184.108

Et ester: [18288-40-9].

$C_8H_8N_2O_5$ M 212.162

Used as a 0.1% EtOH soln. for photometric detn. of Fe (λ_{max} 653 nm, ε 13000, pH 3.5). Cryst. Sol. EtOH, Et_2O, Me_2CO, C_6H_6.

Pentyl ester: [63347-25-1].

Used as 0.6% EtOH soln. for photometric detn. of Ru (λ_{max} 435 nm, ε 42000), Os (λ_{max} 560 nm, ε34000). Cryst. Sol. EtOH.

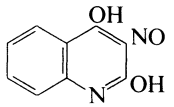
McDonald, C.W. *et al*, *Anal. Chem.*, 1967, **39**, 1476; 1969, **41**, 1478 (*synth, detn, Fe*)

McDonald, C.W., *Mikrochim. Acta*, 1970, 474, 612 (*use*)

Reeves, R.R. *et al*, *Mikrochim. Acta*, 1977, **1**, 489 (*synth, detn, Ru, Os*)

2,4-Dihydroxy-3-nitrosoquinoline D-00675

4-Hydroxy-3-nitroso-2(1H)-quinolinone



$C_9H_6N_2O_3$ M 190.158

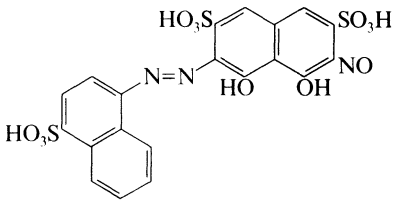
Used as 1.5m*M* soln. in 3% DMF for photometric detn. of Fe(*II*). Orange cryst. (AcOH). Sol. DMF; spar. sol. EtOH. Mp 209-210°.

Hardmann, R. *et al*, *J. Chem. Soc.*, 1954, 3881 (*synth*)

Ayres, G.H. *et al*, *Anal. Chim. Acta*, 1962, **26**, 332 (*detn, Fe*)

4,5-Dihydroxy-3-nitroso-6-[(4-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid D-00676

2-(4-Sulfo-1-naphthylazo)-7-nitrosochromotropic acid. 7-Nitroso-SNANDS

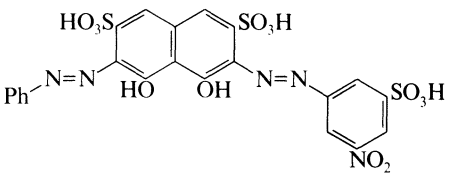


$C_{20}H_{13}N_3O_{12}S_3$ M 583.534

Used as a 0.05% aq. soln. as metallochromic indicator for titrimetric detn. of Th. Orange-red cryst. Sol. H_2O.

Datta, S.K., *Fresenius' Z. Anal. Chem.*, 1956, **149**, 270, 328.

4,5-Dihydroxy-3-[(5-nitro-3-sulfophenyl)azo]-6-(phenylazo)-2,7-naphthalenedisulfonic acid, 8CI D-00677

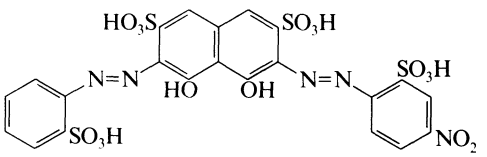


$C_{22}H_{15}N_5O_{13}S_3$ M 653.584

Used as a 0.1% aq. soln. for photometric detn. of V (λ_{max} 650 nm, ε 36000). Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2364 (*detn, V*)

4,5-Dihydroxy-3-[(4-nitro-2-sulfophenyl)azo]-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00678

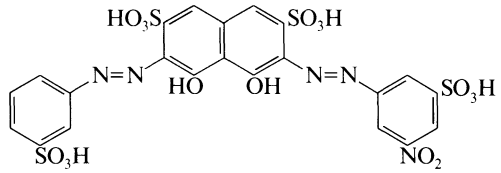


$C_{22}H_{15}N_5O_{16}S_4$ M 733.648

Used for photometric detn. of Ba, Sr. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

4,5-Dihydroxy-3-[(5-nitro-3-sulfophenyl)azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00679



$C_{22}H_{15}N_5O_{16}S_4$ M 733.648

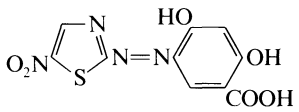
Used as a 0.1% aq. soln. for photometric detn. of V (λ_{max} 650 nm, ε 36000). Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2364 (*detn, V*)

2,4-Dihydroxy-5-[(5-nitro-2-thiazolyl)azo]benzoic acid, 9CI D-00680

4-(5-Nitrothiazolyl-2-azo)resorcinic acid

[60602-35-9]



$C_{10}H_6N_4O_6S$ M 310.247

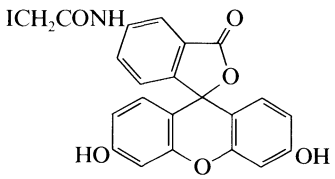
Used as 0.02m*M* soln. in dioxan for photometric detn. of Pd (λ_{max} 630 nm, ε 19300). Red cryst. (H_2O). Sol. H_2O, dioxan, EtOH.

Yusupov, M.Yu. *et al*, *Zh. Anal. Khim.*, 1985, **40**, 844 (*synth, detn, Pd*)

N-(3′,6′-Dihydroxy-3-oxospiro[isobenzofuran-1(3*H*),9′[9*H*]xanthen]-5-yl)-2-iodoacetamide, 9CI D-00681

Fluorescein-5-iodoacetamide. 5-(Iodoacetamido)fluorescein

[63368-54-7]



$C_{22}H_{14}INO_6$ M 515.260

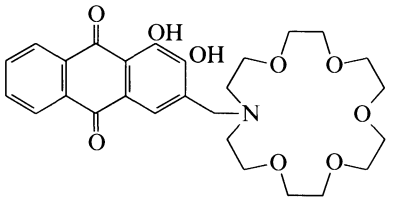
Fluorescent label for thiol groups. Used in DNA sequencing.

Hartig, P.R. *et al*, *Biochemistry*, 1977, **16**, 4275 (*use*)
Chen, R.F. *et al*, *Anal. Lett.*, 1985, **18**, 393 (*use*)
Ansorge, W. *et al*, *Nucleic Acids Res.*, 1987, **15**, 4593 (*use*)

1,2-Dihydroxy-3-(1,4,7,10,13-pentaoxa-16-azacyclooctadecylmethyl)-9,10-anthracenedione, 9CI D-00682

N-(*1,2-Dihydroxyanthraquinone-3-ylmethyl*)*monoaza-18-crown-6*

[100443-52-5]



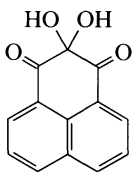
$C_{27}H_{33}NO_9$ M 515.559

Used as 1,2-dichloroethane soln. for extraction separation of Li and Rb from Na and K. Violet cryst. powder. Sol. $CHCl_3$, 1,2-dichloroethane, dioxan. Mp 90.2-91.1°. pK_{a1} 4.91; pK_{a2} 10.3 (aq. 10% dioxan, 25°).

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1985, **173**, 193 (*synth, sepn, Li, Rb*)

2,2-Dihydroxy-1*H*-phenalene-1,3(2*H*)-dione D-00683

[18931-20-9]



$C_{13}H_8O_4$ M 228.204

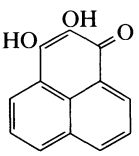
Used as a 0.01-0.1% aq. soln. for photometric detn. of N_2H_4 (λ_{max} 460 nm, ε 3600). Cryst. Sol. H_2O.

Errera, G., *Gazz. Chim. Ital.*, 1913, **43**, 593 (*synth*)
Hassan, S.S.M., *Anal. Chim. Acta*, 1972, **59**, 159 (*use, detn, N_2H_4*)
Hassan, S.S.M., *Mikrochim. Acta*, 1974, 51 (*use, detn, N_2H_4*)

2,3-Dihydroxy-1*H*-phenalen-1-one, 9CI D-00684

peri-*Dihydroxynaphthindenone*

[18931-22-1]



$C_{13}H_8O_3$ M 212.204

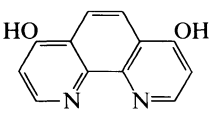
Used as 5m*M* EtOH soln. for potentiometric, gravimetric and photometric detn. of lanthanides. Red cryst. (AcOH aq.). Sol. EtOH, AcOH. Mp 258°.

Hassan, S.S. *et al*, *Anal. Chem.*, 1982, **54**, 228 (*synth, use*)

4,7-Dihydroxy-1,10-phenanthroline D-00685

1,10-Phenanthroline-4,7-diol, 9CI

[3922-40-5]



$C_{12}H_8N_2O_2$ M 212.207

Sol. alkalis, HCl aq.; insol. H_2O, EtOH, C_6H_6, $CHCl_3$. Free acid does not crystallize.

B,HCl: Pale yellow cryst. Used as 0.01 *M* soln. in aq. NH_3 for photometric detn. of Fe(*II*).

Di-Me ether: 4,7-Dimethoxy-1,10-phenanthroline
$C_{14}H_{12}N_2O_2$ M 240.261
Used for photometric detn. of Cu(*I*), Fe(*II*). Cryst. (C_6H_6). Sol. EtOH, C_6H_6; insol. H_2O. pK_{a1} 6.45 (dioxan, 25°).

Snyder, H.R. *et al, J. Am. Chem. Soc.*, 1946, **68**, 1320 (*di-Me ether, synth*)
Wilkins, D.H. *et al, Anal. Chem.*, 1955, **27**, 1574 (*detn, Cu, Fe*)
Schilt, A.A. *et al, Anal. Chem.*, 1956, **28**, 809 (*detn, Fe*)
Schilt, A.A. *et al, J. Phys. Chem.*, 1956, **60**, 1546 (*di-Me ether, pKa*)

5,6-Dihydroxy-1,10-phenanthroline D-00686

1,10-Phenanthroline-5,6-diol, 9CI

[54258-43-4]

$C_{12}H_8N_2O_2$ M 212.207
Yellow prisms (DMF). Mp 390° (dec. after sintering).

Di-Me ether: 5,6-Dimethoxy-1,10-phenanthroline
$C_{14}H_{12}N_2O_2$ M 240.261
Used for photometric detn. of Cu(*I*), Fe(*II*). Cryst. (C_6H_6). Sol. EtOH, C_6H_6; insol. H_2O. Mp 125-126°. pK_{a1} 4.42 (25°, dioxan).

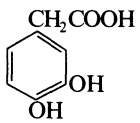
[85565-50-0]

Wilkins, D.H. *et al, Anal. Chem.*, 1955, **27**, 1574 (*detn, Cu, Fe*)
Schilt, A.A. *et al, J. Phys. Chem.*, 1956, **60**, 1546 (*pKa*)
Zacharias, D.E. *et al, J. Org. Chem.*, 1962, **27**, 3878 (*synth*)
Gillard, R.D. *et al, J. Chem. Soc., Dalton Trans.*, 1974, 1217 (*synth*)

(3,4-Dihydroxyphenyl)acetic acid, 8CI D-00687

3,4-Dihydroxybenzeneacetic acid, 9CI. Homoprotocatechuic acid

[102-32-9]



$C_8H_8O_4$ M 168.149
Metab. of *Polyporus tumulosus* and *Pseudomonas ovalis*. Cryst. (C_6H_6). Mp 127°.

▷ AH0590000.

3-Me ether: [306-08-1]. *4-Hydroxy-3-methoxyphenylacetic acid. Homovanillic acid*
$C_9H_{10}O_4$ M 182.176
Used for fluorimetric detn. of glucose oxidase and other oxidative enzymes. Prisms (H_2O or C_6H_6). Mp 142°. pK_{a1} 4.41; pK_{a2} 10.53 (25°).

3,4-Di-Me ether: [93-40-3]. *(3,4-Dimethoxyphenyl)acetic acid. Homoveratric acid. Homoveratrumic acid*
$C_{10}H_{12}O_4$ M 196.202
Needles + $1H_2O$ (H_2O), anhyd. cryst. (C_6H_6/pet. ether). Sol. H_2O. Mp 82° (hydrate), Mp 98-99° (anhyd.).

▷ AH0675000.

Di-Me ether, Me ester: [15964-79-1].
$C_{11}H_{14}O_4$ M 210.229
Bp_{15} 175°.

Di-Me ether, Et ester: [18066-68-7].
$C_{12}H_{16}O_4$ M 224.256
Bp_{25} 191°.

Di-Me ether, amide:
$C_{10}H_{13}NO_3$ M 195.218
Mp 145-147°.

Di-Me ether, nitrile: [93-17-4]. *3,4-Dimethoxyphenylacetonitrile*
$C_{10}H_{11}NO_2$ M 177.202
Mp 64-65°. Bp_{10} 171-178°.

▷ AL9325000.

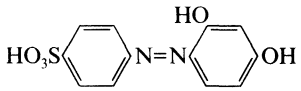
[25379-88-8, 26691-28-1]

Pictet, A. *et al, Ber.*, 1909, **42**, 2943.
Trave, R., *Gazz. Chim. Ital.*, 1950, **80**, 502 (*synth*)
Ralph, B.J. *et al, J. Chem. Soc.*, 1950, 3380 (*isol*)
Shaw, K.N.F. *et al, J. Org. Chem.*, 1958, **23**, 27 (*synth*)
Guilbault, G.G. *et al, Anal. Chem.*, 1968, **40**, 190 (*use, 3-Me ether*)
Scott, K.N., *J. Magn. Reson.*, 1972, **6**, 55 (*pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, VIK100.

4-[(2,4-Dihydroxyphenyl)azo] benzenesulfonic acid, 9CI D-00688

2',4'-Dihydroxyazobenzene-4-sulfonic acid. Resorcinol yellow. C.I. Acid orange 6. C.I. Food yellow 8. Tropaeolin O. C.I. 14270

[2050-34-2]



$C_{12}H_{10}N_2O_5S$ M 294.287
The name Resorcinol yellow strictly applies to the sodium salt.

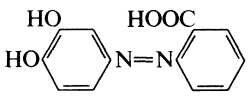
Na salt: [547-57-9].
Used as acid-base indicator (pH range: 11.1-12.7); complexing agent for Ni. Sol. H_2O, EtOH, 2-ethoxyethanol; insol. C_6H_6 Me_2CO, $CHCl_3$. λ_{max} 490 nm.

[57303-52-3]

Perlmutter-Hayman, B. *et al, Inorg. Chem.*, 1976, **15**, 2932 (*use*)

2-[(3,4-Dihydroxyphenyl)azo]benzoic acid, 9CI D-00689

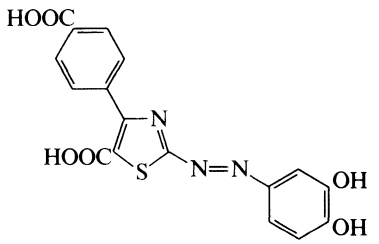
[18299-02-0]



$C_{13}H_{10}N_2O_4$ M 258.233
Used as Zr complex for photometric detn. of $C_2O_4^{2\ominus}$; for photometric detn. of Ga. Yellow cryst. (EtOH). Sol. alkalis, EtOH, Me_2CO.

Oskotskaya, E.R. *et al, Zh. Anal. Khim.*, 1968, **23**, 1307 (*detn, Ga*)
Oskotskaya, E.R., *CA*, 1969, **71**, 453344 (*detn, Ga*)
Cooke, D.T. *et al, J. Sci. Food Agric.*, 1976, **27**, 883; *CA*, **86**, 154046g (*detn, $C_2O_4^{2\ominus}$*)

2-[(3,4-Dihydroxyphenyl)azo]-4-(4-carboxyphenyl)-5-thiazolecarboxylic acid, 9CI D-00690



$C_{17}H_{11}N_3O_6S$ M 385.356

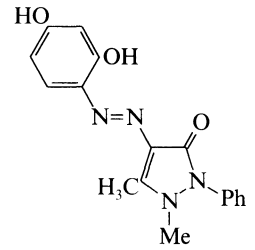
4'-Me ester, 5-Et ester: [60129-45-5].
$C_{20}H_{17}N_3O_6S$ M 427.437
Used as 1m*M* soln. in Me_2CO for photometric detn. of W (λ_{max} 540 nm, ε 46000). Cryst. pK_{a1} 6.1; pK_{a2} 10.5 (0.1*M* LiCl).

M'asoedova, A.S., *Zh. Anal. Khim.*, 1975, **30**, 2398 (*detn, W*)

4-[(2,4-Dihydroxyphenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00691

Antipyrylazoresorcine

[51359-20-7]

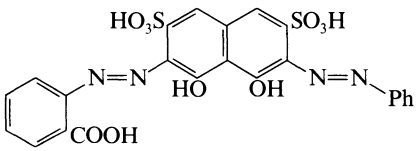


$C_{17}H_{16}N_4O_3$ M 324.338
Used as 1m*M* soln. in EtOH for extraction-photometric detn. of Fe(*III*), Co, Bi (λ_{max} 495 nm, ε 39800), Ga (λ_{max} 485 nm, ε 47400), In (λ_{max} 485 nm, ε 30200), Cu, Ni, Pd, Au; flotation sepn. of Fe, In, Mo, Pd, Pt. Orange-red cryst. Sol. alcohols. Mp 255°. pK_{a1} 2.73; pK_{a2} 8.00; pK_{a3} 11.01.

Pilipenko, A.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1973, **39**, 601 (*synth, detn, Au, Fe, In, Mo, Pd, Pt*)
Smaglyuk, N.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1680 (*detn, Bi, Ga, In*)

2-[[1,8-Dihydroxy-7-(phenylazo)-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, 8CI D-00692

[23156-97-0]



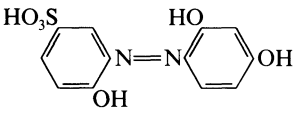
$C_{23}H_{16}N_4O_{10}S_2$ M 572.532
Used as a 0.05% or 0.1% aq. soln. for photometric detn. of Ba, Ca, Mg, $SO_4^{2\ominus}$ (EtOH aq.); gives colour reactions with Ce, Dy, La, Lu, Nd, Sm, Th, Y. Dark red cryst. powder. Sol. H_2O. pK_{a4} 10.19; pK_{a5} 15.15.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177 (*detn, Ba, Ca, Mg*)
Petrova, T.V. *et al*, *Izv. Akad. Nauk Kaz. SSR, Ser. Khim.*, 1970, 259; *CA*, **73**, 31991z (*Ba, Ca, Sr, $SO_4^{2\ominus}$*)
Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226 (*pKa*)
Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 722 (*detn, Dy, Lu, Th, Y*)
Perisic-Janic, N.U. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 208.
Basargin, N.N. *et al*, *CA*, 1974, **81**, 180649x (*detn, Ce, La, Nd, Sm*)

3-[(2,4-Dihydroxyphenyl)azo]-4-hydroxybenzenesulfonic acid, 9CI D-00693

2',4',6-Trihydroxyazobenzene-3-sulfonic acid. Superchrome garnet Y

[2918-80-1]

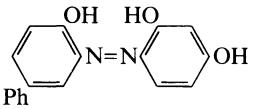


$C_{12}H_{10}N_2O_6S$ M 310.287
Used as a 0.01% aq. soln. for fluorimetric detn. of Al, Ga, Zr (λ_{max} 490 nm). Dark red cryst. Mp 292-295° dec. pK_{a2} 6.14; pK_{a3} 7.72.

Fletcher, M.H. *et al*, *Anal. Chem.*, 1960, **32**, 1822, 1827 (*props, detn, Zr*)
Hiraki, K., *Bull. Chem. Soc. Jpn.*, 1972, **45**, 1395 (*detn, Al, Ga*)

3-(2,4-Dihydroxyphenylazo)-4-hydroxybiphenyl D-00694

2,2',4-Trihydroxy-5-phenylazobenzene



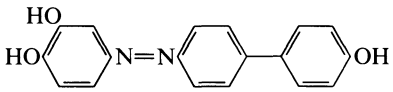
$C_{18}H_{14}N_2O_3$ M 306.320
Used as metallochromic indicator in titrimetric detn. of Ca, Mg; fluorimetric detn. of Mg. Orange-red cryst. (C_6H_6). Sol. alkalis, C_6H_6. Mp 123.5°. pK_{a1} 6.7; pK_{a2} 8.1 (μ = 0.1).

Diehl, N. *et al*, *Anal. Chem.*, 1960, **32**, 1120 (*detn, Ca, Mg*)
Olsen, R. *et al*, *Anal. Chem.*, 1963, **35**, 1142 (*detn, Mg*)

4-(3,4-Dihydroxyphenylazo)-4'-hydroxybiphenyl D-00695

4-[(4'-Hydroxy-(1,1'-biphenyl)-4-yl)azo]-1,2-benzenediol, 9CI. 4-Catecholylazo-4'-hydroxybiphenyl

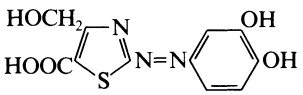
[80495-42-7]



$C_{18}H_{14}N_2O_3$ M 306.320
Used as 0.5m*M* EtOH soln. for photometric detn. of Zr (λ_{max} 570 nm, ε 58000, ~1*M* HCl). Yellow cryst. Sol. EtOH, Et_2O.

Savos'kina, L.N. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1483 (*synth, detn, Zr*)

2-[(3,4-Dihydroxyphenyl)azo]-4-(hydroxymethyl)-5-thiazolecarboxylic acid, 9CI D-00696



$C_{11}H_9N_3O_5S$ M 295.275
Me ester: [25039-82-1].
$C_{12}H_{11}N_3O_5S$ M 309.302
Used as a 1m*M* dioxan soln. for photometric detn. of W (λ_{max} 530 nm, ε 42000), Zr (λ_{max} 440 nm, ε 22000, pH 2-3). Orange-red cryst. Sol. EtOH, Me_2CO, alkalis, dioxan. Mp 220° dec. pK_{a1} 6.10; pK_{a2} 10.03.

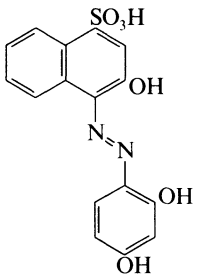
[40472-04-6]

Gudriniece, E. *et al*, *Latv. PSR Zinat. Akad. Vestis, Khim. Ser.*, 1969, 476; *CA*, **72**, 55312v (*synth*)
Purmele, V. *et al*, *Latv. PSR Zinat. Akad. Vestis, Khim. Ser.*, 1975, 373; *CA*, **83**, 198525e (*pKa*)
Myasoedova, A.S. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 2398 (*detn, W*)
Vilkova, O.M. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 716 (*synth, detn, Zr*)

4-[(2,4-Dihydroxyphenyl)azo]-3-hydroxy-1-naphthalenesulfonic acid, 9CI D-00697

1-(2,4-Dihydroxyphenylazo)-2-naphthol-4-sulfonic acid. Sulfonaphthylazoresorcin

[16623-47-5]



$C_{16}H_{12}N_2O_6S$ M 360.347

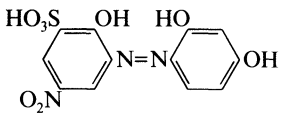
Used as 0.01*M* aq. soln. as metal indicator for titrimetric detn. of Zr. Used as a 0.1% soln. in EtOH for fluorimetric detn. of Ga, Nb, Ta; gives colour reactions with Al, Ga, Zn; extraction-photometric detn. of Sn(*IV*) (λ_{max} 560 nm, $CHCl_3$) and W (λ_{max} 540 nm, ε 17000, isobutanol). Red cryst. (H_2O). Sol. H_2O; insol. C_6H_6.

Poluektov, N.S. *et al*, *Zh. Anal. Khim.*, 1958, **13**, 555; 1977, **32**, 101 (*detn, Al, Ga, Zn, W*)
Kononenko, L.J. *et al*, *Zavod. Lab.*, 1962, **28**, 794.
Chang, T.L. *et al*, *Anal. Chim. Acta*, 1963, **29**, 344.
Kononenko, L.J. *et al*, *Fresenius' Z. Anal. Chem.*, 1964, **201**, 151.
Hung, S. *et al*, *CA*, 1965, **62**, 5891.
Matveets, M.A. *et al*, *CA*, 1972, **77**, 159840k (*detn, Ga*)
Pilipenko, A.T. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1972, **38**, 606; *CA*, **78**, 37468v (*detn, Ta*)
Pilipenko, A.T. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 84 (*detn, Nb*)
Olenovich, N.L. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1365 (*detn, Sn*)

3-[2,4-Dihydroxyphenylazo]-2-hydroxy-5-nitrobenzenesulfonic acid, 9CI D-00698

2,2',4'-Trihydroxy-5-nitroazobenzene-3-sulfonic acid

[49588-81-0]



$C_{12}H_9N_3O_8S$ M 355.284

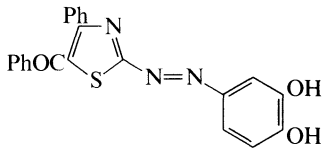
Used as 0.1% aq. soln. for photometric detn. of Al (λ_{max} 480 nm, ε 21600, pH 2.5-4). Yellow cryst. Sol. H_2O, EtOH.

Ermolenko, L.V. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 1030 (*synth, detn, Al*)

2-(3,4-Dihydroxyphenylazo)-4-phenyl-5-benzoylthiazole D-00699

2-[(3,4-Dihydroxyphenyl)azo]-4-phenyl-5-thiazolylphenyl ketone, 8CI. Dihydroxythiazo

[16082-55-6]



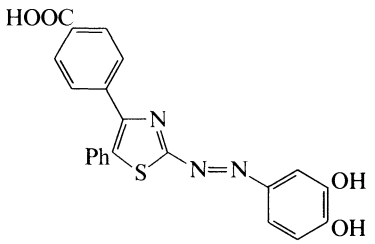
$C_{22}H_{15}N_3O_3S$ M 401.445

Used as a 0.5m*M* soln. in EtOH for photometric detn. of Al, Ga, Ge, W. Red-brown cryst. (MeOH/dioxan). Sol. alkalis, hot EtOH; insol. H_2O. pK_{a1} 6.24; pK_{a2} 10.26 (EtOH aq.).

Korolkova, V.S. *et al*, *CA*, 1967, **67**, 121948g (*synth, detn, Al, Ga, Ge, W*)

4-[2-[(3,4-Dihydroxyphenyl)azo]-5-phenyl-4-thiazolyl]benzoic acid, 9CI D-00700

4-(4-Carboxyphenyl)-2-(3,4-dihydroxyphenylazo)-5-phenylthiazole



$C_{22}H_{15}N_3O_4S$ M 417.444

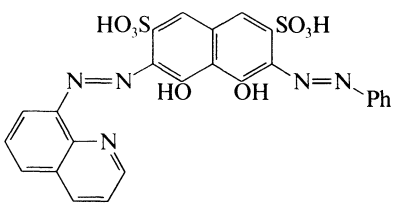
Me ester: [60129-46-6].
$C_{23}H_{17}N_3O_4S$ M 431.471
Used as 1m*M* soln. in Me_2CO for photometric detn. of W (λ_{max} 490 nm, ε 51000). Cryst. pK_{a1} 7.0; pK_{a2} 12.1 (0.1*M* LiCl).

M'asoedova, A.S., *Zh. Anal. Khim.*, 1975, **30**, 2398 (*detn, W*)

4,5-Dihydroxy-3-(phenylazo)-6-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, 9CI D-00701

2-(8-Quinolylazo)-7-phenylazochromotropic acid

[90895-52-6]



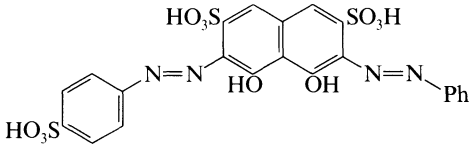
$C_{25}H_{17}N_5O_8S_2$ M 579.570

Used as aq. soln. for photometric detn. of Ca (λ_{max} 726 nm, ε 24600, pH 4.5), Sr, La, V, Cu, Pd. Dark purple powder. Sol. DMF, acids, alkalis; sl. sol. H_2O, EtOH.

Yu Ru-Qin, *et al*, *Talanta*, 1984, **31**, 1041 (*synth, use*)

4,5-Dihydroxy-3-(phenylazo)-6-[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00702

[24430-51-1]



$C_{22}H_{16}N_4O_{11}S_3$ M 608.587

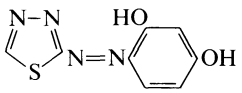
Used as a 0.05 or 0.1% aq. soln. for photometric detn. of Ca (λ_{max} 580 nm, ε 29000), Li (λ_{max} 590 nm, ε 29000), Th (λ_{max} 590 nm, ε 20000); gives colour reactions with Ce, Dy, La, Lu, Nd, Sm, Th, Y. Dark red cryst. powder. Mod. sol. H_2O. pK_{a1} 9.60 (8.61); pK_{a2} 14.17.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177, 490 (*detn, Th, Ba, Ca*)
Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226 (*pKa*)
Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 722 (*detn, Dy, Lu, Th, Y*)
Nikolic, V.N. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1677 (*pKa*)
Basargin, N.N. *et al*, *CA*, 1974, **81**, 180649x (*detn, Ce, La, Nd, Sm*)

2-(2,4-Dihydroxyphenylazo)-1,3,4-thiadiazole D-00703

4-(1,3,4-Thiadiazol-2-ylazo)-1,3-benzenediol, 9CI

[60593-01-3]

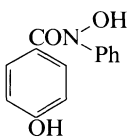


$C_8H_6N_4O_2S$ M 222.227

Used as a 0.1-0.3m*M* soln. in MeOH in acetate or borate buffers to give colour reactions with Co, Fe, Ru. Orange prisms (MeOH). Sol. EtOH. Mp 235-238° dec. pK_{a1} 6.28; pK_{a2} 10.54.

Pollard, F.H. *et al*, *Talanta*, 1967, **14**, 123 (*detn, Ru*)
Domagalina, E., *Chem. Anal. (Warsaw)*, 1976, **21**, 105, 411 (*synth, pKa, detn, Co, Fe*)

N,4-Dihydroxy-*N*-phenylbenzamide D-00704



$C_{13}H_{11}NO_3$ M 229.235

4-Me ether: [13664-49-8]. N-*Hydroxy-4-methoxy*-N-*phenylbenzamide, 9CI*. N-*Phenyl*-p-*anisohydroxamic acid, 8CI*

$C_{14}H_{13}NO_3$ M 243.262

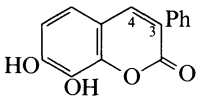
Used as 0.1*M* $CHCl_3$ soln. for extraction separation of Al, Fe(*III*), Cu, Mn, V. Cryst. (EtOH aq.). Sol. $CHCl_3$, EtOH. Mp 130°.

Priyadarshini, U. *et al*, *J. Chem. Eng. Data*, 1967, **12**, 143 (*synth, deriv*)
Hojjatie, M. *et al*, *Anal. Chem.*, 1987, **199**, 49 (*synth, use*)

7,8-Dihydroxy-3-phenyl-2*H*-1-benzopyran-2-one, 9CI D-00705

7,8-Dihydroxy-3-phenylcoumarin, 8CI. 3-Phenyldaphnetin

[14426-24-5]



$C_{15}H_{10}O_4$ M 254.242

Used for photometric detn. of Mo(*VI*), U(*VI*). Cryst. (EtOH). Mp 213-215°.

Katyal, M. *et al*, *Talanta*, 1968, **15**, 1043 (*synth, use, pKa*)

7,8-Dihydroxy-4-phenyl-2*H*-1-benzopyran-2-one, 9CI D-00706

7,8-Dihydroxy-4-phenylcoumarin. 4-Phenyldaphnetin

[842-01-3]

$C_{15}H_{10}O_4$ M 254.242

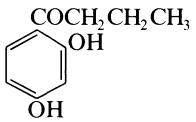
Used for gravimetric detn. of Nb, Ta, Ti, Zr; photometric detn. of Mo(*VI*). Needles (C_6H_6). Mp 190-192°. pK_{a1} 7.40; pK_{a2} 8.20.

Von Kostanecki, S. *et al*, *Ber.*, 1893, **26**, 2906 (*synth*)
Jain, B.D. *et al*, *Indian J. Chem.*, 1963, **1**, 317 (*use*)
Katyal, M. *et al*, *Talanta*, 1968, **15**, 1043 (*synth, use, pKa*)
Starkov, S.P. *et al*, *Khim. Khim. Tekhnol. (Minsk)*, 1974, **17**, 1665 (*synth*)

1-(2,4-Dihydroxyphenyl)-1-butanone, 9CI D-00707

2,4-Dihydroxybutyrophenone. 4-Butyrylresorcinol

[4390-92-5]



$C_{10}H_{12}O_3$ M 180.203

Preservative for food. Antiseptic. Used for spot test for Fe. Needles ($CHCl_3/C_6H_6$). Mp 73°.

Oxime: [22919-59-1].

$C_{10}H_{13}NO_3$ M 195.218

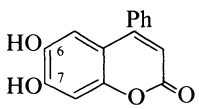
Used as a 1% soln. in EtOH as metallochromic indicator in titrimetric detn. of Fe(*III*); photometric detn. of Fe(*III*) (λ_{max} 510 nm). Pale-yellow needles. Mp 188-189°.

Brewster, C.M. *et al*, *J. Am. Chem. Soc.*, 1930, **52**, 4866 (*synth*)
Price, P. *et al*, *J. Org. Chem.*, 1964, **29**, 2800 (*synth*)
Desai, M.N. *et al*, *Microchem. J.*, 1968, **13**, 500 (*use*)
Gandhi, M.H. *et al*, *Indian J. Appl. Chem.*, 1969, **32**, 360 (*photometric detn*)
Gandhi, M.H. *et al*, *J. Prakt. Chem.*, 1969, **311**, 171 (*spot test*)
Desai, M.N. *et al*, *J. Indian Chem. Soc.*, 1973, **50**, 369 (*titrim*)
Gandhi, R.B. *et al*, *Talanta*, 1979, **26**, 425 (*use*)

6,7-Dihydroxy-4-phenylcoumarin D-00708

*6,7-Dihydroxy-4-phenyl-2*H*-1-benzopyran-2-one.* ***Nordalbergin***

[482-82-6]



$C_{15}H_{10}O_4$ M 254.242

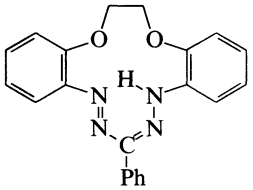
Isol. from *Dalbergia sissoo*. Used for photometric detn. of Mo(*VI*); gravimetric detn. of Ti, Zr. Cryst. (EtOAc). Mp 274-276°. pK_{a1} 7.27; pK_{a2} 8.01.

Jain, B.D. *et al*, *Indian J. Chem.*, 1963, **1**, 369; 1964, **2**, 246 (*detn, Mo, Ti, Zr*)
Ganguly, A.K. *et al*, *Tetrahedron*, 1967, **23**, 4777 (*synth*)
Katyal, M. *et al*, *Talanta*, 1968, **15**, 1043 (*synth, use, pKa*)
Chatterjee, A. *et al*, *Tetrahedron*, 1976, **32**, 2407 (*synth*)

15,16-Dihydroxy-7-phenyl-5*H*-dibenzo[*b,i*][1,11,4,5,7,8]dioxatetraazacyclotridecine, 9CI D-00709

Macrocyclic formazan IV

[90906-69-7]



$C_{21}H_{18}N_4O_2$ M 358.399

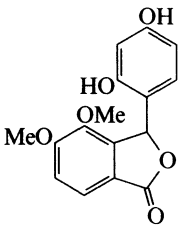
Used as 1m*M* soln. in $CHCl_3$ for selective extraction of Cu and Hg (in the presence of picrate). Cryst. Sol. $CHCl_3$, 4-methyl-2-butanone, EtOH.

Niz'eva, N.V. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Khim.*, 1984, **274**, 611 (*synth, sepn, Cu, Hg*)
Isakova, N.V. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 1045 (*detn, Cu, Hg*)

3-(2,4-Dihydroxyphenyl)-4,5-dimethoxy-1(3*H*)-isobenzofuranone, 9CI D-00710

3-(2′,4′-Dihydroxyphenyl)-4,5-dimethoxyphthalide

[52357-13-8]



$C_{16}H_{14}O_6$ M 302.283

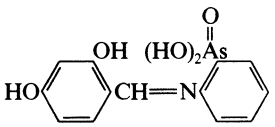
Used as a 0.1% soln. in EtOH as adsorption indicator for argentimetric titrimetric detn. of $Cl^{\ominus}$, $Br^{\ominus}$, $I^{\ominus}$, $SCN^{\ominus}$. Cryst.

Singh, E. *et al*, *J. Indian Chem. Soc.*, 1974, **51**, 822 (*use*)

[2-[[(2,4-Dihydroxyphenyl)methylene]amino]phenyl]arsonic acid, 9CI D-00711

N-*Resorcylidene-2-aminophenylarsonic acid*

[58732-06-2]



$C_{13}H_{12}AsNO_5$ M 337.163

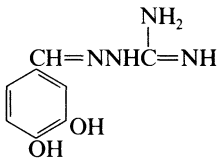
Used as 0.1% soln. in Me_2CO or DMF for luminescence analysis for Al, Ga, In, Zr, Hf. Cryst. (Me_2CO). Sol. Me_2CO, DMF.

Zel'tser, L.E. *et al*, *Talanta*, 1987, **34**, 873 (*synth, use*)

2-[(3,4-Dihydroxyphenyl)methylene]hydrazinecarboximidamide, 9CI D-00712

3,4-Dihydroxybenzaldehyde guanylhydrazone

[106694-40-0]



$C_8H_{10}N_4O_2$ M 194.193

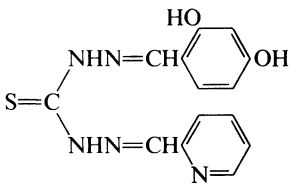
Used as 0.01*M* aq. soln. for photometric detn. of Co, Fe(*III*), Mo, W, V, $IO_4^{\ominus}$ (λ_{max} 420 nm). Cryst. (EtOH aq.). Sol. acids. Mp 279-281°.

Kavlentis, E., *Mikrochim. Acta*, 1986, **1**, 27 (*synth, use*)
Kavlentis, E., *Analusis*, 1988, **16**, 253 (*use*)

[(2,4-Dihydroxyphenyl)methylene](2-pyridinylmethylene)carbonothioic dihydrazide, 9CI D-00713

1-(2-Pyridylmethylideneamino)-3-(2,4-dihydroxybenzylideneamino)thiourea

[117345-80-9]



$C_{14}H_{13}N_5O_2S$ M 315.355

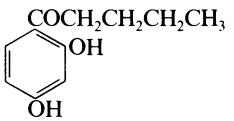
Used as DMF soln. for photometric detn. of In, Bi, Cd, Pd (40% DMF). Yellow cryst. (50% EtOH). Sol. DMF; sl. sol. H_2O, EtOH. Mp 209-210°. pK_{a1} 3.5; pK_{a2} 7.1; pK_{a3} 8.4.

Alvarez, F. *et al*, *Talanta*, 1988, **35**, 493 (*synth, use*)

1-(2,4-Dihydroxyphenyl)-1-pentanone, 9CI D-00714

2′,4′-Dihydroxyvalerophenone, 8CI

[15116-13-9]



$C_{11}H_{14}O_3$ M 194.230

Used for extraction-photometric detn. of Co (λ_{max} 400 nm, $CHCl_3$), photometric detn. of Fe(*III*) (λ_{max} 470 nm), U (λ_{max} 400 nm); metallochromic indicator in titrimetric detn. of Fe(*III*). Cryst. ($CHCl_3$/hexane). Sol. EtOH, Me_2CO. Mp 63°.

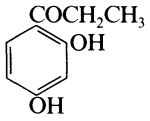
Oxime: [57991-55-6].
$C_{11}H_{15}NO_3$ M 209.244
Used as 0.5% soln. in EtOH for gravimetric detn. of Cu, Ni. Cryst.

Gupta, S.P. *et al*, *J. Indian Chem. Soc.*, 1975, **52**, 656 (*detn, Cu, Ni*)
Singh, J. *et al*, *S. Afr. J. Sci.*, 1976, **72**, 378 (*detn, Fe*)
Singh, J. *et al*, *Curr. Sci.*, 1976, **45**, 505 (*detn, U*)
Singh, J. *et al*, *Acta Cienc. Indica*, 1977, **3**, 112 (*detn, Co*)
Mizobuchi, S. *et al*, *Agric. Biol. Chem.*, 1985, **49**, 1327 (*synth*)

1-(2,4-Dihydroxyphenyl)-1-propanone, 9CI D-00715

2',4'-Dihydroxypropiophenone, 8CI. 4-Propionylresorcinol. Respropiophenone

[5792-36-9]



$C_9H_{10}O_3$ M 166.176

Used as 1% soln. in EtOH as metallochromic indicator in titrimetric detn. of Fe; spot test for Fe. Yellow needles (EtOH). Mp 98-100°.

4-Me ether: [6270-44-6].
$C_{10}H_{12}O_3$ M 180.203
Plates (EtOH). Mp 58°.

Di-Me ether: [831-00-5].
$C_{11}H_{14}O_3$ M 194.230
Cryst. (EtOH aq.). Mp 67°.

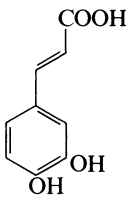
Oxime: [22919-58-0].
$C_9H_{11}NO_3$ M 181.191
Used as soln. in aq. EtOH for photometric detn. of Fe(*III*) (λ_{max} 510 nm, ε 2300); metallochromic indicator in titrimetric detn. of Fe(*III*). Yellow needles. Mp 186-187°.

Gandhi, M.H. *et al*, *Anal. Chem.*, 1967, **39**, 1643 (*detn, Fe*)
Széll, T., *J. Chem. Soc. C*, 1967, 2041 (*synth, pmr*)
Desai, M.N. *et al*, *Microchem. J.*, 1968, **18**, 500 (*spot test*)
Mezheritskii, V.V. *et al*, *Zh. Org. Khim.*, 1969, **5**, 515; *CA*, **71**, 12750 (*synth*)
Desai, M.N. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **258**, 127 (*detn, Fe*)
Desai, M.N. *et al*, *CA*, 1973, **79**, 13100p (*detn, Fe*)
Desai, M.N. *et al*, *J. Indian Chem. Soc.*, 1973, **50**, 369 (*detn, Fe*)

3-(3,4-Dihydroxyphenyl)-2-propenoic acid D-00716

3,4-Dihydroxycinnamic acid

[331-39-5]



(*E*)-*form*

$C_9H_8O_4$ M 180.160

Used for spot detn. of Fe.

▷ GD8950000.

(*E*)-*form* [501-16-6] ***Caffeic acid***

Widespread in plants. Yellow cryst. Mp 223-225° dec. pK_{a1} 4.62; pK_{a2} 9.07 (25°). Forms a monohydrate.

▷ Mod. allergen.

Di-Ac:
$C_{13}H_{12}O_6$ M 264.234
Cryst. Mp 198°.

Me ester:
$C_{10}H_{10}O_4$ M 194.187
Isol. from plants. Light yellow needles (EtOH aq.). Mp 158-160°.

Et ester:
$C_{11}H_{12}O_4$ M 208.213
Cryst. (MeOH aq.). Mp 149-150°.

4'-O-β-D-Glucopyranoside: ***Linocaffein.*** *Glucocaffeic acid*
$C_{15}H_{18}O_9$ M 342.302
Isol. from flax (*Linum usitatissimum*) and from *Polypodium vulgare*. Needles (MeOH). Mp 208°, Mp 133-135°. $[\alpha]_D^{25}$ −87.3° (MeOH). Some doubt about the identity of Linocaffein and Glucocaffeic acid in view of the widely differing Mp's reported.

4-Me ether: [537-73-5]. *3-(3-Hydroxy-4-methoxyphenyl)-2-propenoic acid, 9CI. 3-Hydroxy-4-methoxycinnamic acid.* ***Isoferulic acid.*** *Hesperetic acid. Hesperetinic acid*
$C_{10}H_{10}O_4$ M 194.187
Isol. from *Cimicifuga racemosa, Catalpa ovata* and other plants. Plates. Mp 233-234°.

Di-Me ether: 3-(3,4-Dimethoxyphenyl)-2-propenoic acid, 9CI. 3,4-Dimethoxycinnamic acid, 8CI. Dimethylcaffeic acid
Isol. from *Piper methysticum* and *Veronica virginica*. Cryst. (EtOH aq.). Mp 180-181.5°.

4-Me ether, octacosyl ester: [102607-46-5]. *Octacosyl* (E)-*isoferulate.* ***Erythrinasinate***
$C_{38}H_{66}O_4$ M 586.937
Isol. from the stem bark of *Erythrina glauca, E. mildbaedii* and *E. senegalensis*. Cryst. (CH_2Cl_2/hexane). Mp 75-76°.

(*Z*)-*form* [4361-87-9] ***Isocaffeic acid***

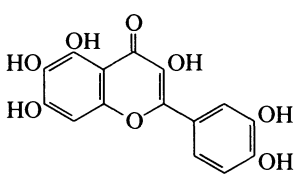
Found in olive oil, peanuts and other plant sources.

Hermann, F.X., *Pharmazie*, 1956, **11**, 433 (*rev*)
Klosterman, H.J. *et al*, *J. Am. Chem. Soc.*, 1959, **81**, 2188 (*Linocaffein*)
Jizba, J. *et al*, *Collect. Czech. Chem. Commun.*, 1967, **32**, 2867 (*Glucocaffeic acid*)
Dewick, P.M. *et al*, *J. Chem. Soc., Chem. Commun.*, 1968, 673 (*biosynth*)
Swain, T. *et al*, *Phytochemistry*, 1970, **9**, 2115 (*biosynth*)
Achenbach, H. *et al*, *Chem. Ber.*, 1971, **104**, 1468 (*isol, deriv*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, no. 957.
Desai, M.N. *et al*, *CA*, 1973, **79**, 111369c (*detn, Fe*)
Bowden, B.F. *et al*, *Aust. J. Chem.*, 1975, **28**, 91 (*derivs*)
Kelley, C.J. *et al*, *J. Org. Chem.*, 1976, **41**, 449 (*cmr*)
de Silva, S.O. *et al*, *Can. J. Chem.*, 1979, **57**, 1598 (*synth, deriv*)
Fomum, Z.T. *et al*, *Phytochemistry*, 1986, **25**, 757 (*Erythrinasinate*)
García-Granda, S. *et al*, *Acta Crystallogr., Sect. C*, 1987, **43**, 683 (*cryst struct*)
Stuart, J.G. *et al*, *J. Heterocycl. Chem.*, 1987, **24**, 1589 (*synth, ir, pmr, deriv*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CAK375.

2-(3,4-Dihydroxyphenyl)-3,5,6,7-tetrahydroxy-4*H*-1-benzopyran-4-one, 9CI D-00717

3,3',4',5,6,7-Hexahydroxyflavone. 3',4',5,6,7-Pentahydroxyflavonol. ***Quercetagetin.*** *6-Hydroxyquercetin*

[90-18-6]



$C_{15}H_{10}O_8$ M 318.239

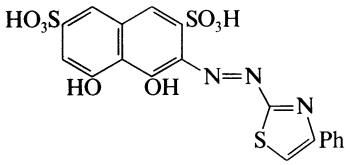
Isol. from *Tagetes, Artemisia, Achillea, Eupatorium* and other genera. Used as 2m*M* soln. in EtOH for photometric detn. of Zr (λ_{max} 415 nm). Pale-yellow cryst. + $2H_2O$ (EtOH aq.). Sol. EtOH, alkalis; sl. sol. H_2O. Mp 325°, Mp 318-320°.

[100363-98-2]

Baker, W. *et al*, *J. Chem. Soc.*, 1929, 74 (*struct, synth*)
Jain, A.C. *et al*, *J. Chem. Soc.*, 1955, 3908 (*synth*)
Katyal, M. *et al*, *Anal. Chim. Acta*, 1968, **42**, 173 (*detn, Zr*)
Nakayama, M. *et al*, *Nippon Kagaku Zasshi*, 1970, **91**, 739 (*uv*)
Bhardwaj, D.K. *et al*, *Indian J. Chem., Sect. B*, 1977, **15**, 860 (*synth*)

4,5-Dihydroxy-3-[(4-phenyl-2-thiazolyl) azo]-2,7-naphthalenedisulfonic acid, 8CI D-00718

[21468-89-3]



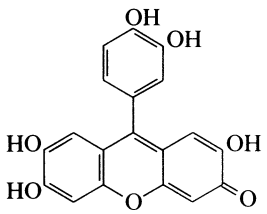
$C_{19}H_{13}N_3O_8S_3$ M 507.525

Used as a 0.1% aq. soln. for photometric detn. of Al (λ_{max} 630 nm, ε 45000), Th, Zr. Red cryst. Sol. H_2O, EtOH.

Savvin, S.B. *et al*, *CA*, 1969, **70**, 68239k (*synth, Th, Zr*)
Rozovskii, Y.T. *et al*, *CA*, 1969, **71**, 4491z (*synth*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 423 (*detn, Al*)

9-(3,4-Dihydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one D-00719

2,3′,4′,6,7-Pentahydroxy-9-phenylfluorone



$C_{19}H_{12}O_7$ M 352.300

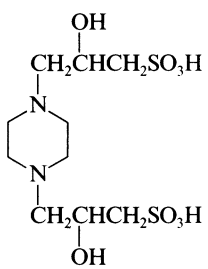
Gives colour reactions with some metals; used for photometric detn. of Ti. Dark red cryst. powder. Sol. EtOH.

Gillis, J., *Anal. Chim. Acta*, 1947, **1**, 421; 1953, **8**, 97 (*colour reaction*)
Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1963, **197**, 413; 1964, **199**, 249 (*synth, detn, Ti*)
Nazarenko, V.A. *et al*, *Trihydroxyfluorones*, Nauka, Moscow, 1973.

β,β′-Dihydroxy-1,4-piperazinedipropanesulfonic acid, 9CI D-00720

Piperazine-N,N′-bis(2-hydroxypropanesulfonic acid). POPSO

[68189-43-5]



$C_{10}H_{22}N_2O_8S_2$ M 362.424

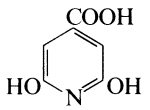
Good's buffer with pH range 7.2-8.5. Cryst. $+2H_2O$. Sl. sol. H_2O. Mp 320° dec. pK_a 7.85 (20°).

Ferguson, W.J. *et al*, *Anal. Biochem.*, 1980, **104**, 300 (*synth, use*)
Hutchens, T.W. *et al*, *J. Chromatogr.*, 1986, **359**, 157 (*use*)
Coetzee, J. *et al*, *J. Microsc. (Oxford)*, 1987, **146**, 143 (*use*)

2,6-Dihydroxy-4-pyridinecarboxylic acid D-00721

1,2-Dihydro-6-hydroxy-2-oxo-4-pyridinecarboxylic acid, 9CI. 2,6-Dihydroxyisonicotinic acid. Citrazinic acid

[99-11-6]



$C_6H_5NO_4$ M 155.110

Used as 0.1*M* aq. soln. for kinetic photometric detn. of Cu, Fe, V. Microscopic plates ($CHCl_3$) or cryst. (H_2O). Sol. H_2O. Does not melt but chars >300°.

▷ Mod. irritant. NS1400000.

Me ester: [56055-56-2].
$C_7H_7NO_4$ M 169.137
Mp 232°.

Hydrazide: [35584-25-9].
$C_6H_7N_3O_3$ M 169.140
Mp 202°.

Di-Ac:
$C_{10}H_9NO_6$ M 239.184
Mp 183-185° dec.

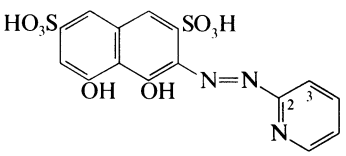
Di-Ac, Me ester:
$C_{11}H_{11}NO_6$ M 253.211
Mp 78-80°.

Baize, M.M. *et al*, *J. Am. Pharm. Assoc.*, 1956, **45**, 478 (*synth*)
Foo Pan, *et al*, *CA*, 1959, **53**, 2086 (*synth*)
Pitha, J., *Collect. Czech. Chem. Commun.*, 1963, **28**, 1408 (*synth, tautom*)
Kavlentis, E., *Analusis*, 1989, **17**, 217 (*detn, Cu, Fe, V*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DMV400.

4,5-Dihydroxy-3-[(2-pyridinyl)azo]-2,7-naphthalenedisulfonic acid, 9CI D-00722

2-(2-Pyridylazo)chromotropic acid

[34334-91-3]



$C_{15}H_{11}N_3O_8S_2$ M 425.399

Used as a 0.05 or 0.1% aq. soln. for photometric detn. of Fe(*III*), La, Th; as an indicator in titrimetric detn. of Cu. Orange-red cryst. Sol. H_2O.

Sommer, L. *et al*, *Naturwissenschaften*, 1958, **45**, 544 (*detn, Cu*)
Majumdar, A.K. *et al*, *Talanta*, 1971, **18**, 968 (*detn, Fe(III)*, La, Th)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

4,5-Dihydroxy-3-[(3-pyridinyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00723

2-(3-Pyridylazo)chromotropic acid

[34334-92-4]

$C_{15}H_{11}N_3O_8S_2$ M 425.399

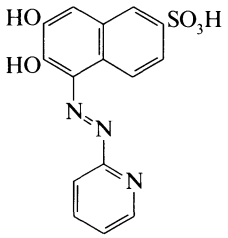
Used as 0.05% aq. soln. for photometric detn. of La, Th, Fe(*III*), Be, Ni, Co (λ_{max} 640 nm, ε 33600). Cryst. (H_2O). Sol. H_2O.

Majumdar, A.K. *et al*, *Fresenius' Z. Anal. Chem.*, 1964, **202**, 323 (*synth, detn, Be*)
Majumdar, A.K. *et al*, *Talanta*, 1966, **13**, 821; 1971, **18**, 968 (*detn, Ni, Co, La, Th, Fe*)

6,7-Dihydroxy-5-(2-pyridinylazo)-2-naphthalenesulfonic acid, 9CI D-00724

PADNS

[80079-70-5]

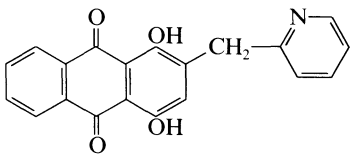


$C_{15}H_{11}N_3O_5S$ M 345.335

Na salt: Used as 0.1% aq. soln. as a metal indicator in EDTA titrations of Cu, Cd, Zn, Pb. Brown powder. Sol. H_2O, EtOH.

Hniličkova, M. *et al*, *Fresenius' Z. Anal. Chem.*, 1960, **177**, 425 (*synth, use*)
Handbook of Analytical Chemistry, (Ed. Meites, L.), McGraw and Hill, New York, 1963 (*use*)

1,4-Dihydroxy-2-(2-pyridylmethyl) anthraquinone D-00725



$C_{20}H_{13}NO_4$ M 331.327

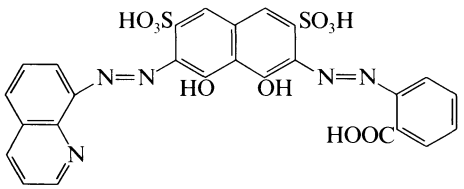
Used as 0.25m*M* soln. in EtOH for photometric detn. of V(*IV*) (λ_{max} 605 nm, ε 9000). Pale yellow cryst. Sol. EtOH, Me_2CO, C_6H_6.

Al-Ani, K. *et al*, *Proc. Soc. Anal. Chem.*, 1971, **8**, 190 (*detn, V*)

o-[[1,8-Dihydroxy-7-(8-quinolylazo)-3,6-disulfo-2-naphthyl]azo]benzoic acid, 9CI D-00726

3-(2-Carboxyphenylazo)-4,5-dihydroxy-7-(8-quinolylazo)-2,7-naphthalenedisulfonic acid

[21594-01-4]



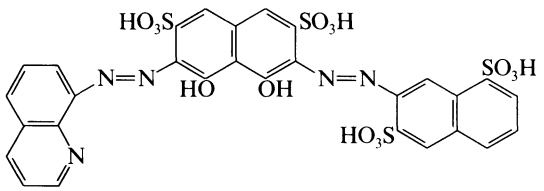
$C_{26}H_{17}N_5O_{10}S_2$ M 623.580

Used for extraction-photometric detn. of Cu (butanol). Dark red cryst. Sol. H_2O, EtOH.

Okhanova, L.A., *Zh. Anal. Khim.*, 1968, **23**, 1562 (*detn, Cu*)

8-[[1,8-Dihydroxy-7-(8-quinolylazo)-3,6-disulfo-2-naphthyl]azo]-1,6-naphthalenedisulfonic acid, 8CI D-00727

[22138-11-0]



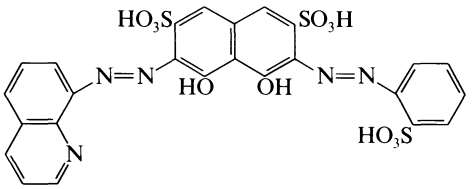
$C_{29}H_{19}N_5O_{14}S_4$ M 789.758

Used for extraction-photometric detn. of Cu (butanol). Dark red cryst. Sol. H_2O, EtOH.

Okhanova, L.A., *Zh. Anal. Khim.*, 1968, **23**, 1562 (*detn, Cu*)

4,5-Dihydroxy-3-(8-quinolylazo)-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00728

[22106-81-6]



$C_{25}H_{17}N_5O_{11}S_3$ M 659.634

Used for extraction-photometric detn. of Cu (butanol). Dark red cryst. Sol. H_2O, EtOH.

Okhanova, L.A., *Zh. Anal. Khim.*, 1968, **23**, 1562 (*detn, Cu*)

4,5-Dihydroxy-3-(8-quinolylazo)-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00729

[22106-86-1]

$C_{25}H_{17}N_5O_{11}S_3$ M 659.634

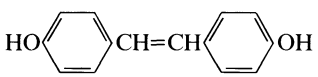
Used for extraction-photometric detn. of Cu (butanol). Dark red cryst. Sol. H_2O, EtOH.

Okhanova, L.A., *Zh. Anal. Khim.*, 1968, **23**, 1562 (*detn, Cu*)

4,4′-Dihydroxystilbene D-00730

4,4′-(1,2-Ethenediyl)bisphenol, 9CI. 4,4′-Stilbenediol, 8CI. 1,2-Bis(4-hydroxyphenyl)ethylene

[659-22-3]



$C_{14}H_{12}O_2$ M 212.248

Needles (AcOH). Mp 293-294° (284°).

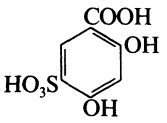
Di-Ac:
$C_{18}H_{16}O_4$ M 296.322
Mp 213°.

Di-Me ether: [4705-34-4]. *4,4′-Dimethoxystilbene, 8CI*
$C_{16}H_{16}O_2$ M 240.301
Used as 0.01% soln. in tetrachloroethane for photometric detn. of ozone (ε 35000). Cryst. Mp 214-215°. Sublimes.

Laarhoven, W.H., *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1961, **80**, 775 (*synth*)
Bravo, H.A. *et al*, *Anal. Chem.*, 1964, **36**, 671 (*detn, O_3*)
Sieber, R.W., *Justus Liebigs Ann. Chem.*, 1969, **730**, 31 (*synth*)

2,4-Dihydroxy-5-sulfobenzoic acid, 9CI D-00731

[36458-42-1]



$C_7H_6O_7S$ M 234.186

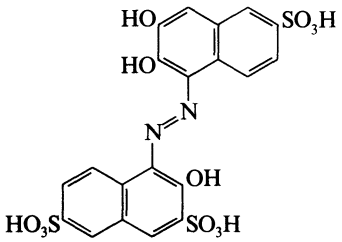
Di-Na salt: Used as a 1% aq. soln. for photometric detn. of Fe(*III*); acid-base indicator. Brown cryst. Sol. H_2O.

Shivahare, G. *et al*, *Anal. Chim. Acta*, 1971, **57**, 457 (*synth, indicator*)
Shivahare, G. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 126 (*detn, Fe*)

4-[(2,3-Dihydroxy-6-sulfo-1-naphthalenyl) azo]-3-hydroxy-2,7-naphthalenedisulfonic acid, 9CI D-00732

1-(2,3-Dihydroxy-6-sulfo-1-naphthylazo)-2-naphthol-3,6-disulfonic acid

[76877-43-5]



$C_{20}H_{14}N_2O_{12}S_3$ M 570.535

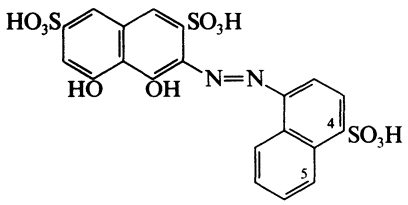
Used as 0.1m*M* aq. soln. as an indicator for complexometric (EDTA) titration of Ca (λ_{max} 540 nm, pH 13). Dark violet cryst. Sol. H_2O. pK_{a1} 5.80 (25°, μ = 1).

Wada, H. *et al*, *Anal. Chim. Acta*, 1980, **121**, 265 (*synth, detn, Ca*)

4,5-Dihydroxy-3-[(4-sulfo-1-naphthalenyl) azo]-2,7-naphthalenedisulfonic acid, 9CI D-00733

1',8'-Dihydroxy-1,2'-azonaphthalene-3',4,6'-trisulfonic acid. 2-(4-Sulfo-1-naphthylazo)chromotropic acid. C.I. Acid red 60. C.I. 16645. SNADNS-4

[611-39-2]



$C_{20}H_{14}N_2O_{11}S_3$ M 554.535

Used as 0.05% aq. soln. as metal indicator in chelatometric detn. of Th, Zr, Fe(*III*). Bluish red cryst. powder. Sol. H_2O; sl. sol. EtOH.

Datta, S.K., *Fresenius' Z. Anal. Chem.*, 1956, **149**, 270, 328; 1959, **167**, 105 (*synth, use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

4,5-Dihydroxy-3-[(5-sulfo-1-naphthalenyl) azo]-2,7-naphthalenedisulfonic acid, 9CI D-00734

1',8'-Dihydroxy-1,2'-azonaphthalene-3',5,6'-trisulfonic acid. 2-(5-Sulfo-1-naphthylazo)chromotropic acid. SNADNS-5

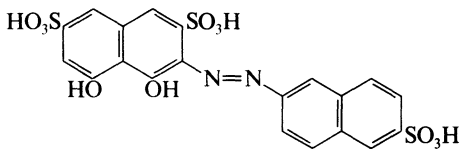
$C_{20}H_{14}N_2O_{11}S_3$ M 554.535

Used as 0.05% aq. soln. as metal indicator in chelatometry of Ti (pH 3); photometric detn. of Th. Brown cryst. powder. Sol. H_2O; sl. sol. EtOH.

Datta, S.K., *Fresenius' Z. Anal. Chem.*, 1960, **173**, 369 (*detn, Th*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

4,5-Dihydroxy-3-[(6-sulfo-2-naphthalenyl) azo]-2,7-naphthalenedisulfonic acid, 9CI D-00735

1,8-Dihydroxy-2,2'-azonaphthalene-3,6,6'-trisulfonic acid. 2-(6-Sulfo-2-naphthylazo)chromotropic acid. SNADNS-6



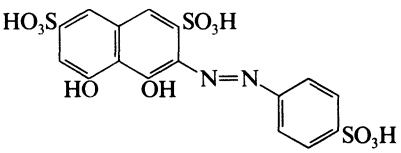
$C_{20}H_{14}N_2O_{11}S_3$ M 554.535

Used as 0.05% aq. soln. as metal indicator in chelatometry of Th (pH 2.5-3). Brown cryst. powder. Sol. H_2O; sl. sol. EtOH.

Datta, S.K. *et al*, *Chemist-Analyst*, 1962, **51**, 43 (*detn, Th*)
Datta, S.K. *et al*, *Fresenius' Z. Anal. Chem.*, 1963, **195**, 22 (*detn, Th*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

4,5-Dihydroxy-3-[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid D-00736

2-(4-Sulfophenylazo)chromotropic acid. SPADNS



$C_{16}H_{12}N_2O_{11}S_3$ M 504.476

Tri-Na salt: [23647-14-5].

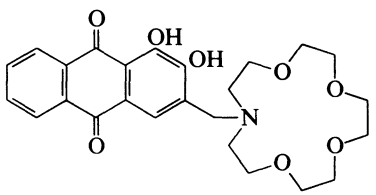
Used as 0.02% aq. soln. for photometric detn. of Al, B, Th, Zr, Sc, $F^{\ominus}$ (with Zr). Brown cryst. powder. Sol H_2O, EtOH.

Banerjee, G., *Fresenius' Z. Anal. Chem.*, 1955, **146**, 417; **147**, 105 (*synth, detn, Th, Zr*)
Cooper, J.A. *et al*, *Anal. Chim. Acta*, 1960, **23**, 351 (*detn, Th*)
Kelso, F.S. *et al*, *Anal. Chem.*, 1964, **36**, 577 (*detn, F*)
Truhaut, R. *et al*, *Bull. Soc. Chim. Fr.*, 1966, 2551 (*detn, B*)

1,2-Dihydroxy-3-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-ylmethyl)-9,10-anthracenedione, 9CI D-00737

N-(*1,2-Dihydroxyanthraquinon-3-ylmethyl*)*monoaza-15-crown-5*

[100443-51-4]



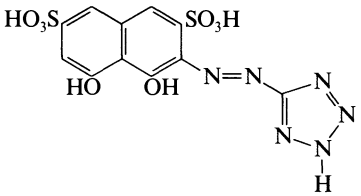
$C_{25}H_{29}NO_8$ M 471.506

Used as 1,2-dichloroethane soln. for extraction separation of Li and Na from K. Violet cryst. Sol. $CHCl_3$, 1,2-dichloroethane, dioxan. Mp 104.2-104.6°. pK_{a1} 4.80; pK_{a2} 9.86 (aq. 10% dioxan, 25°).

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1985, **173**, 193 (*synth, sepn, Li, Na*)

4,5-Dihydroxy-3-(1*H*-tetrazol-5-ylazo)-2,7-naphthalenedisulfonic acid, 9CI D-00738

[74385-48-1]



$C_{11}H_8N_6O_8S_2$ M 416.352

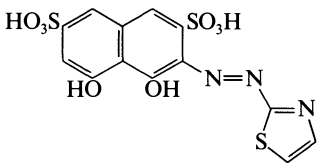
Used as 1m*M* aq. soln. for photometric detn. of Pd (λ_{max} 640 nm, ε 15000). Orange cryst. Sol. H_2O.

Pesavento, M. *et al*, *Ann. Chim. (Rome)*, 1979, **69**, 649 (*synth*)
Pesavento, M. *et al*, *Analyst (London)*, 1985, **110**, 801 (*detn, Pd*)

4,5-Dihydroxy-3-[(2-thiazolyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00739

2-(2-Thiazolylazo)chromotropic acid

[28467-51-8]



$C_{13}H_9N_3O_8S_3$ M 431.427

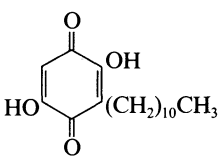
Used as a 0.1% aq. soln. for photometric detn. of Al (λ_{max} 630 nm, ε 45000) Th, Zr, Pd (λ_{max} 650 nm, ε 25000); used as metallochromic indicator in titrimetric detn. of Cu, Th, Zr. Red cryst. Sol. H_2O, EtOH, MeOH; sl. sol. Me_2CO. pK_{a2} 5.14; pK_{a3} 13.1 (μ = 0.1).

Savvin, S.B. *et al*, *CA*, 1969, **70**, 68239k (*synth, detn, Th, Zr*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 423 (*detn, Al*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.
Bertoglia Riolo, C. *et al*, *Gazz. Chim. Ital.*, 1975, **105**, 221 (*synth*)
Pesavento, M. *et al*, *Analyst (London)*, 1985, **110**, 801 (*detn, Pd*)

2,5-Dihydroxy-3-undecyl-1,4-benzoquinone D-00740

2,5-Dihydroxy-3-undecyl-2,5-cyclohexadiene-1,4-dione, 9CI. Embelin. Embelic acid. Embeliaquinone. Oxaloxanthin

[550-24-3]



$C_{17}H_{26}O_4$ M 294.390

Constit. of *Embelia ribes*, *E. tsjersium-cottam*, *Ardisia humilis*, *Rapanea umbellata* and *Connarus ritchiei*. Also from *E. robusta*, *E. kilimandscharica*, *Myrsine africana*, *M. semiserrata*, *M. capitellata*, *Rapanea neurophylla* and *E. barbeyana*. Anthelminthic, potent oral contraceptive. Used as a 1% soln. in EtOH for photometric detn. of Al, Be, Ba, Ca, Mg, Sr, Th, U. Orange cryst. (MeOH or hexane/EtOH). Insol. H_2O. Mp 145-146°.

▷ DK4230000.

Di-Ac:
$C_{21}H_{30}O_6$ M 378.464
Yellow cryst. (MeOH aq.). Mp 54°, Mp 59°.

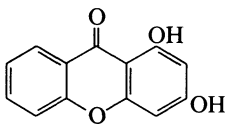
Di-Me ether:
$C_{19}H_{30}O_4$ M 322.444
Cryst. (MeOH aq.). Mp 58°.

Merian, M. *et al*, *Helv. Chim. Acta*, 1948, **31**, 2237 (*isol*)
Fieser, L.F. *et al*, *J. Am. Chem. Soc.*, 1948, **70**, 71 (*synth*)
Rao, C.B., *Fresenius' Z. Anal. Chem.*, 1960, **175**, 114; 1961, **178**, 277; 1963, **198**, 183 (*detn, Th, U, Al, Be, Ba, Ca, Mg, Sr*)
Natori, S. *et al*, *Chem. Pharm. Bull.*, 1964, **12**, 236 (*ir, uv*)
Dallacker, F. *et al*, *Chem. Ber.*, 1972, **105**, 614 (*synth*)
Desai, H.K. *et al*, *Indian J. Chem., Sect. B*, 1975, **13**, 97; 1977, **15**, 291 (*isol*)
Joshi, B.S. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1975, 327 (*isol, ms, pmr*)
Thappa, R.K. *et al*, *Indian J. Pharm.*, 1976, **38**, 17 (*synth, pharmacol*)
Gupta, O.P. *et al*, *Indian J. Physiol. Pharmacol.*, 1977, **21**, 31 (*pharmacol*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 777.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EAJ600.

1,3-Dihydroxyxanthone D-00741

1,3-Dihydroxy-9H-xanthen-9-one, 9CI

[3875-68-1]



$C_{13}H_8O_4$ M 228.204

Used for spot test for Ba. Needles (EtOH aq.). Mp 259°. Sublimes.

3-Ac:
$C_{15}H_{10}O_5$ M 270.241
Mp 145-146°.

Di-Ac: [5688-87-9].
$C_{17}H_{12}O_6$ M 312.278
Mp 149° (145°).

3-Me ether: [18799-43-4]. *1-Hydroxy-3-methoxyxanthone*
$C_{14}H_{10}O_4$ M 242.231
Needles (AcOH). Mp 245°.

Di-Me ether: [3722-53-0]. *1,3-Dimethoxyxanthone*
$C_{15}H_{12}O_4$ M 256.257
Mp 167-169°.

Grover, P.K. *et al*, *J. Chem. Soc.*, 1955, 3982 (*synth*)
Guyot, M. *et al*, *Bull. Soc. Chim. Fr.*, 1965, 2558 (*synth*)
Dhar, M.L. *et al*, *Curr. Sci.*, 1972, **41**, 563; *CA*, **77**, 121704f (*use*)
Davoust, D. *et al*, *Org. Magn. Reson.*, 1978, **11**, 547 (*nmr*)

3,6-Dihydroxyxanthone D-00742

3,6-Dihydroxy-9H-xanthen-9-one, 9CI

[1214-24-0]

$C_{13}H_8O_4$ M 228.204

Acid-base fluorescent indicator (pH 5.4-7.6), used as 1% soln. in EtOH. Fine needles (EtOH aq.). Sol. EtOH, $CHCl_3$. Mp >300°.

Di-Ac:
$C_{17}H_{12}O_6$ M 312.278
Pale-yellow needles (EtOH). Mp 204°.

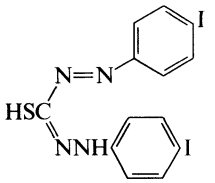
Di-Me ether: [15007-07-5]. *3,6-Dimethoxyxanthone*
$C_{15}H_{12}O_4$ M 256.257
Mp 182-183°.

Meyer, R. *et al*, *Ber.*, 1897, **30**, 969.
Jensen, K.A., *Fresenius' Z. Anal. Chem.*, 1933, **94**, 177 (*use, ind*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)
Carr, A.A. *et al*, *J. Med. Chem.*, 1976, **19**, 1142 (*synth*)

4,4′-Diiododithizone D-00743

[(p-*Iodophenyl*)*azo*]*thioformic acid 2*-(p-*iodophenyl*) *hydrazide*, *8CI. 4-Iodophenyldiazenecarbothioic acid 2-(4-iodophenyl)hydrazide*, *9CI*

[2059-71-4]



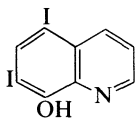
$C_{13}H_{10}I_2N_4S$ M 508.124
Used as a 0.01% soln. in $CHCl_3$ or CCl_4 for extraction-photometric detn. of Co, Cu, Hg, Ni, Zn. Greenish black cryst. powder. Sol. alkalis, Me_2CO, C_6H_6, $CHCl_3$, CCl_4; insol. H_2O. Mp 159-160°. pK_a 4.03 (50% dioxan aq., μ = 0.1, 25°).

Takei, S., *Bunseki Kagaku* (*Jpn. Anal.*), 1961, **10**, 715 (*detn, Cu, Hg*)
Joon, S.O. *et al*, *Anal. Chem.*, 1967, **39**, 295 (*detn, Zn*)
Al-Salihy, A.R. *et al*, *Talanta*, 1970, **17**, 182 (*detn, Co, Ni, Zn*)

5,7-Diiodo-8-quinolinol, 9CI, 8CI D-00744

8-Hydroxy-5,7-diiodoquinoline. ***Diiodohydroxyquinoline,*** **INN, BAN.** *Iodoquinol, USAN. Diodoquin. Embequin. Floraquin. Diiodooxine. Iodooxine. Numerous proprietary names*

[83-73-8]



$C_9H_5I_2NO$ M 396.954
Used as 0.2% soln. in heptanol in photometric detn. of V and Mg. Cryst. (xylene). Mp *ca.* 214° dec.

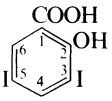
▷ Suspected carcinogen. LD_{50} 56mg/kg (mouse, i.v.). VC5775000.

Papesch, V. *et al*, *J. Am. Chem. Soc.*, 1936, **58**, 1314 (*synth*)
Goodwin, L.G. *et al*, *Br. J. Pharmacol.*, 1948, **3**, 44 (*pharmacol*)
Das, A. *et al*, *J. Org. Chem.*, 1957, **22**, 1111 (*synth*)
Urbanyi, T. *et al*, *J. Pharm. Sci.*, 1966, **55**, 730 (*ir*)
Heitner-Wirguin, C. *et al*, *Talanta*, 1967, **14**, 671 (*detn, V*)
Berggren, L. *et al*, *Clin. Pharmacol. Ther.* (*St. Louis*), 1968, **9**, 67 (*metab, tox*)
Barsode, C.D. *et al*, *J. Indian Chem. Soc.*, 1975, **52**, 942; 1976, **53**, 761 (*ms, pmr, ir*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 4777.
Röbisch, G. *et al*, *Anal. Chim. Acta*, 1983, **153**, 281 (*detn, Mg*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1075 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DNF600.

3,5-Diiodosalicylic acid, 8CI D-00745

2-Hydroxy-3,5-diiodobenzoic acid, 9CI

[133-91-5]



$C_7H_4I_2O_3$ M 389.916
Used for photometric detn. of rare earth elements. Needles (EtOH). Mp 228-230° dec., (326-327°). pK_{a1} 2.30 (25°).

▷ VO2800000.

Me ester: [18071-50-6].
$C_8H_6I_2O_3$ M 403.943
Needles. Mp 110°. Bp_{17} 221°.

Et ester:
$C_9H_8I_2O_3$ M 417.969
Leaflets (EtOH). Mp 133°.

Chloride: [42016-91-1].
$C_7H_3ClI_2O_2$ M 408.361
Yellow needles (pet. ether). Mp 97-98°.

Cofman, V., *Gazz. Chim. Ital.*, 1920, **50**, 296.
Brenan, P., *C. R. Hebd. Seances Acad. Sci.*, 1923, **176**, 1626.
Dezani, S., *CA*, 1927, **21**, 475.
Tselik, E.I. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1979, **45**, 1120; 1982, **48**, 303 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DNH000.

O,O-Diisopentyl phosphorodithioate D-00746

O,O-*Diisopentyl hydrogen phosphorodithioate. Phosphorodithioic acid* O,O-*diisopentyl ester*, *9CI*

[32650-55-8]

$[H_3CCH_2CH_2CH(CH_3)O]_2PSSH$

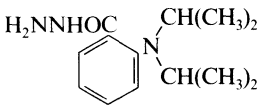
$C_{10}H_{23}O_2PS_2$ M 270.396
Used as a soln. in C_6H_6, CCl_4 or $CHCl_3$ for extraction of Cd, In, Ni, Pb, Tl, Zn. Oily liq. Sol. EtOH, Me_2CO, C_6H_6, CCl_4, $CHCl_3$.

Busev, A.I. *et al*, *Tr. Kom. Anal. Khim., Akad. Nauk SSSR*, 1960, **11**, 172 (*use*)
Toporova, V.F. *et al*, *Talanta*, 1987, **34**, 211 (*use*)

2-(Diisopropylamino)benzoic acid hydrazide D-00747

2-[Bis(1-methylethyl)amino]benzoic acid hydrazide, 9CI. Diayl hydrazide

[100343-96-2]



$C_{13}H_{21}N_3O$ M 235.328
Fluorescent reagent for hplc anal. of carbonyl compds.

Anderson, J.M., *Anal. Biochem.*, 1986, **152**, 146.

Diisopropyl ether D-00748

2,2′-Oxybispropane, 9CI. Isopropyl ether, 8CI

[108-20-3]

$(H_3C)_2CHOCH(CH_3)_2$

$C_6H_{14}O$ M 102.176

Used for extraction of $Cl^{\ominus}$ or $Br^{\ominus}$ complexes of As(*III*), Au(*III*), Fe(*III*), Ga, In, Tl(*III*), Sb(*V*) (from 6-8*M* HCl media); flotn. of Pt metals ion-associates. Liq. d_0^{21} 0.725. Mp −60°. Bp 69°.

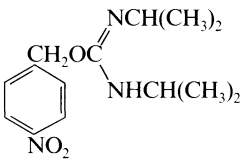
▷ Irritant, TLV 1050. Highly flammable, flash pt. −28°, readily forms explosive peroxides. TZ5425000.

Pohl, F.A. *et al*, *Fresenius' Z. Anal. Chem.*, 1958, **161**, 108.
Howard, W.L. *et al*, *J. Org. Chem.*, 1961, **26**, 1026 (*synth*)
Jackson, H. *et al*, *Analyst (London)*, 1962, **87**, 712, 718 (*use*)
Verzele, M. *et al*, *J. Chem. Soc.*, 1963, 5598 (*synth*)
Sugawara, T. *et al*, *Chem. Lett.*, 1978, 1371 (*nmr*)
Lewis, E.S. *et al*, *J. Chem. Soc., Chem. Commun.*, 1978, 424 (*synth*)
Sandell, E.B. *et al*, *Photometric Determination of Traces of Metals, General Aspects*, Wiley, New York, 1978.
Saloman, M.F. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 4290 (*synth*)
Marczenko, Z., *Pure Appl. Chem.*, 1985, **57**, 849 (*flotn*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 294.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IOZ750.

N,N'-Diisopropyl-*O-p*-nitrobenzylisourea D-00749

(4-Nitrophenyl)methyl N,N'-*bis(1-methylethyl) carbamimidate, 9CI*

[2978-11-2]



$C_{14}H_{21}N_3O_3$ M 279.338

Used as derivatisation chromogenic reagent for hplc analysis of carboxylic acids. Cryst. Mp 42°.

Schmidt, E. *et al*, *Anal. Chem.*, 1965, **685**, 161 (*synth*)
Knapp, D.R. *et al*, *Anal. Lett.*, 1975, **8**, 603 (*use*)
Zou, A. *et al*, *J. Chromatogr.*, 1987, **410**, 217 (*use*)

O,O-Diisopropyl phosphorodithioate, 8CI D-00750

O,O-*Bis(1-methylethyl) phosphorodithioate, 9CI.* O,O-*Diisopropyl dithiophosphate.* O,O-*Diisopropyl hydrogen dithiophosphate*

[107-56-2]

$[(H_3C)_2CHO]_2P(S)SH$

$C_6H_{15}O_2PS_2$ M 214.289

Used as a soln. of K salt in $CHCl_3$, C_6H_6 or CCl_4 for extraction of Ag, Cd, In, Ni, Pb, Tl, Zn. Liq. Sol. EtOH, C_6H_6, CCl_4, Me_2CO, $CHCl_3$. d_4^{20} 1.09. Bp_3 71-72°. pK_a 1.82 (7% EtOH aq.), pK_a 2.65 (80% EtOH aq.). n_D^{20} 1.4918.

K salt: [3419-34-9].
Solid. Mp 193°.

Dimethylammonium salt: [70723-42-1].
Solid.

Anilinium salt: [32997-75-4].
Solid. Mp 102-103.5°.

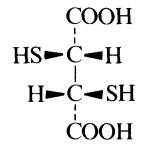
Cyclohexylammonium salt: [50329-34-5].
Solid. Mp 79-80°.

Kabachnik, M.I. *et al*, *Tetrahedron*, 1960, **9**, 10 (*synth*)
Busev, A.I. *et al*, *Tr. Kom. Anal. Khim., Akad. Nauk SSSR*, 1960, **11**, 172 (*use*)
Zemlyanski, N.I. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 811), 1961, **31**, 880 (*synth*)
Khaskin, B.A. *et al*, *Zh. Obshch. Khim.*, 1973, **43**, 1916; (*Engl. transl.* pp. 93, 1901), 1974, **44**, 95 (*synth*)
Olah, G.A. *et al*, *J. Org. Chem.*, 1975, **40**, 2582 (*props, pmr, P nmr*)
Glidewell, C., *Inorg. Chim. Acta*, 1977, **25**, 159 (*salts, P nmr, complexes*)
Zimin, M.G. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 930), 1978, **48**, 1020 (*P nmr*)
Kalinen, A.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 727), 1979, 783 (*cryst struct*)
Toropova, V.F. *et al*, *Talanta*, 1987, **34**, 211 (*use*)
Bol'shova, T.A. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 284 (*synth, detn, Ag*)

2,3-Dimercaptobutanedioic acid, 9CI D-00751

2,3-Dimercaptosuccinic acid, 8CI. Dithiotartaric acid

[2418-14-6]



(2*R**,3*R**)-*form*

$C_4H_6O_4S_2$ M 182.221

Poison antidote, complexing agent. Used as masking reagent for metals. Sol. alkalis.

▷ WM7640000.

(2R*,3R*)-form [10008-75-0]
(+)-threo-*form*
Prisms. Mp 124-125°. $[\alpha]_D^{22}$ +28° (c, 1 in Et_2O).

▷ WM7645000.

(2S*,3S*)-form
(−)-threo-*form*
Fine needles (EtOAc/pet. ether). Mp 124-125°. $[\alpha]_D^{22}$ −128° (c, 1 in Et_2O).

(2RS,3RS)-form
(±)-threo-*form*
Mp 127-128°. pK_{a1} 2.9; pK_{a2} 4.5.

Di-Me ester:
$C_6H_{10}O_4S_2$ M 210.275
Cryst. (isopropyl ether). Mp 71-72°.

Di-S-*Ac:*
$C_8H_{10}O_6S_2$ M 266.295
Mp 150-151°. Must be recryst. <50°.

(2RS,3SR)-form [304-55-2]
erythro-*form*. meso-*form*. ***Succimer, INN, USAN.*** *DIMSA. DMS. DMSA. DTS. MPI-DMSA. Ro 1-7977*
Antidote for heavy metal poisoning, diagnostic aid. Used as a selective masking agent for Cd in EDTA titration of Zn. Cryst. (EtOAc). Mp 210-211° (dec., dependent on rate of heating). pK_{a1} 3.0; pK_{a2} 3.3.

▷ WM7650000.

Di-Me ester: Platelets. Mp 91-92°.
Di-S-*Ac:* Mp 183-185°.
Di-Ac, di-Me ester:
$C_{10}H_{14}O_6S_2$ M 294.349
Mp 119-120°.
Di-S-*Me, di-Me ester:*
$C_8H_{14}O_4S_2$ M 238.328
Cryst. (MeOH). Mp 111-112°.

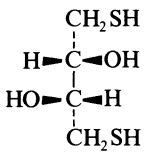
U.K. Pat., 908 986, (1960); *CA*, **58**, 5693f (*synth, pharmacol*)
Cannava, A. *et al*, *Arch. Int. Pharmacodyn. Ther.*, 1961, **131**, 283 (*pharmacol*)
Gerecke, M. *et al*, *Helv. Chim. Acta*, 1961, **44**, 955 (*synth, resoln, config*)
Martell, A.E., *Inorg. Chem.*, 1965, **4**, 378 (*use*)
Holzbecher, J. *et al*, *Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*use*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1058.

Aposhian, H.V., *Annu. Rev. Pharmacol. Toxicol.*, 1983, **23**, 193 (*activity*)
McGown, E.L. *et al*, *Proc. West. Pharmacol. Soc.*, 1984, **27**, 169 (*metab*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DNV800.

1,4-Dimercapto-2,3-butanediol, 9CI D-00752

2,3-Dihydroxy-1,4-butanedithiol

[7634-42-6]



(2*R*,3*R*)-*form*

$C_4H_{10}O_2S_2$ M 154.254

(2*R*,3*R*)-*form* [16096-97-2]
(−)-threo-*form.* L-*Dithiothreitol*
Needles (Et_2O) or by subl. Mp 48.2-49.8°. $[\alpha]_D^{22}$ −11.9° (c, 2.4 in $CHCl_3$).
▷ EK1612000.

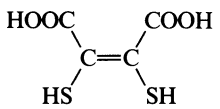
(2*RS*,3*RS*)-*form* [3483-12-3]
(±)-threo-*form.* DL-*Dithiothreitol. Cleland's reagent*
Protective reagent for -SH groups. Bp_1 115-116°.
▷ EK1610000.

(2*RS*,3*SR*)-*form* [6892-68-8]
erythro-*form.* meso-*form. Dithioerythritol*
Small plates (Et_2O/pet. ether). Mp 82-83°.
▷ KF2410000.

Tetra-Ac:
$C_{12}H_{18}O_6S_2$ M 322.403
Plates (C_6H_6 or MeOH). Mp 126°.

Cleland, W.W., *Biochemistry*, 1964, **3**, 480 (*synth, use*)
Carmack, M. *et al*, *J. Org. Chem.*, 1968, **33**, 2171 (*synth, abs config*)
Slepko, G.I. *et al*, *CA*, 1971, **74**, 61476 (*synth*)
Kelley, C.J., *Diss. Abstr. Int., B*, 1971, **31**, 7187.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DXO800.

2,3-Dimercapto-2-butenedioic acid D-00753



$C_4H_4O_4S_2$ M 180.205

(*Z*)-*form*

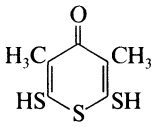
Dinitrile: [20654-67-5]. *2,3-Dimercapto-2-butenedinitrile. Maleonitrile dithiolate. 1,2-Dicyanoethylene dithiolate*
$C_4H_2N_2S_2$ M 142.205
Used as 0.2% aq. soln. for photometric detn. of Mo, W (λ_{max} 570 nm, ε 5500, MeCN aq.), V (λ_{max} 580 nm, ε 4900). Pale yellow cryst. (EtOH/Et_2O). Sol. MeCN aq., EtOH, H_2O.

[18820-77-4, 23953-37-9]

Bähr, G. *et al*, *Ber.*, 1957, **90**, 438 (*synth*)
Ciganek, E. *et al*, *J. Org. Chem.*, 1968, **33**, 541 (*synth, nitrile*)
Chakrabarti, A.K. *et al*, *Anal. Chim. Acta*, 1972, **59**, 225 (*synth, detn, W*)
Chakrabarti, A.K. *et al*, *Talanta*, 1972, **19**, 1187 (*detn, Mo*)
Chatterjee, A.B. *et al*, *Mikrochim. Acta*, 1974, 275 (*detn, V*)

2,6-Dimercapto-3,5-dimethyl-4*H*-thiopyran-4-one, 9CI D-00754

[1738-12-1]



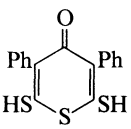
$C_7H_8OS_3$ M 204.338
Used as a 0.1m*M* aq. soln. for photometric detn. of Ag, Bi (λ_{max} 430 nm, ε 21000), Sn (λ_{max} 420 nm, ε 18500); titrimetric amperometric detn. of Ag, potentiometric detn. of Ag, Cu. Cryst.

Usatenko, Y.I. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 462; 1967, **22**, 1823 (*detn, Sn, Bi*)
Arishkevich, A.M. *et al*, *CA*, 1972, **76**, 94108k; *CA*, 1973, **78**, 11121b (*detn, Cu, Hg, amp, detn, Ag*)
Kroik, A.A. *et al*, *CA*, 1972, **77**, 121711f (*detn, Ag*)

2,6-Dimercapto-3,5-diphenyl-4*H*-thiopyran-4-one, 8CI D-00755

2,6-Dimercapto-3,5-diphenyl-4-pyrone

[1913-90-2]

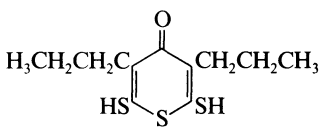


$C_{17}H_{12}OS_3$ M 328.479
Used as a 0.03% soln. in 0.5*M* NaOH for photometric detn. of Te (λ_{max} 360 nm, ε 17800), Bi (λ_{max} 410 nm, ε 30000) (colloid aq. medium), Sn (λ_{max} 440 nm, ε 28800). Yellow cryst. Sol. EtOH, Me_2CO, $CHCl_3$, alkalis; mod. sol. H_2O. Used as 0.5% surfactant OP-10 aq. medium.

Usatenko, Y.I. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 462; 1967, **22**, 1823 (*detn, Bi, Sn*);HRamanauskas, E. *et al*, *CA*, 1970, **72**, 128418w (*detn, Te*)

2,6-Dimercapto-3,5-dipropyl-4*H*-thiopyran-4-one, 9CI D-00756

[1913-88-8]

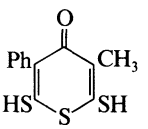


$C_{11}H_{16}OS_3$ M 260.445
Used as a 0.1m*M* aq. soln. for photometric detn. of Bi (λ_{max} 430 nm, ε 33700), Sn (λ_{max} 410 nm, ε 25800); amperometric titrimetric detn. of Ag. Cryst.

Usatenko, Y.I. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 462; 1967, **22**, 1823 (*detn, Bi, Sn*)
Arishkevich, A.M. *et al*, *CA*, 1972, **76**, 94108k (*detn, Ag*)

2,6-Dimercapto-3-methyl-5-phenyl-4*H*-thiopyran-4-one, 9CI D-00757

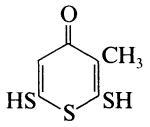
[27242-29-1]



$C_{12}H_{10}OS_3$ M 266.408
Used for photometric detn. of Ag. Cryst.
Arishkevich, A.M. *et al*, *CA*, 1973, **78**, 11121b (*detn, Ag*)

2,6-Dimercapto-3-methyl-4*H*-thiopyran-4-one, 9CI D-00758

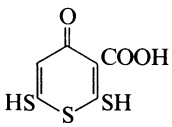
[1738-11-0]



$C_6H_6OS_3$ M 190.311
Used as 0.1m*M* aq. soln. for photometric detn. of Bi (λ_{max} 420 nm, ε 25900), Sn (λ_{max} 410 nm, ε 18500); used as a 0.01*M* soln. in 0.5*M* H_2SO_4 for potentiometric detn. of Pd, Pt; amperometric detn. of Ag, Ce, Pd. Cryst.
Usatenko, Y.I. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 462; 1967, **22**, 1823 (*detn, Bi, Sn*)
Arishkevich, A.M. *et al*, *CA*, 1972, **76**, 94108k; 1973, **78**, 11121b (*detn, Ag, amp detn, Pd*)
Pitsyk, O.I. *et al*, *CA*, 1972, **77**, 159733c (*pot detn, Pd, Pt*)
Usatenko, Y.I. *et al*, *Zavod. Lab.*, 1975, **41**, 645 (*detn, Ce*)

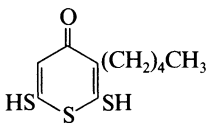
2,6-Dimercapto-4-oxo-4*H*-thiopyran-3-carboxylic acid, 9CI D-00759

[1738-10-9]



$C_6H_4O_3S_3$ M 220.294
Used as a 0.1m*M* aq. soln. for photometric detn. of Ag, Bi (λ_{max} 430 nm, ε 21900), titrimetric amperometric detn. of Ag. Cryst.
Usatenko, Y.I. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 462 (*detn, Bi*)
Arishkevich, A.M. *et al*, *CA*, 1972, **76**, 94108k (*amp, detn, Ag*)
Kroik, A.A. *et al*, *CA*, 1972, **77**, 121711f (*phot, detn, Ag*)

2,6-Dimercapto-3-pentyl-4*H*-thiopyran-4-one, 9CI D-00760



$C_{10}H_{14}OS_3$ M 246.418
Used as 0.1m*M* aq. soln. for photometric detn. of Bi (λ_{max} 420 nm, ε 31200), Sn (λ_{max} 430 nm, ε 25700). Cryst.
Usatenko, Y.I. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 462; 1967, **22**, 1823 (*detn, Bi, Sn*)

2,3-Dimercapto-1-propanesulfonic acid, 9CI, 8CI D-00761

Unithiol

[74-61-3]

$HSCH_2CH(SH)CH_2SO_3H$

$C_3H_8O_3S_3$ M 188.292
Efficient chelating agent for heavy metals (Hg, As, Sb, Au, Cd). Antidote to As poisoning. Used as 0.01*M* aq. soln. as a masking agent in complexometric titration of Ca, Mg; photometric detn. of Mo (λ_{max} 335 nm, ε 7200); extraction-photometric detn. of As.

(+)-*form*
Na salt: $[\alpha]_D^{20}$ +2.5° (c, 1 in H_2O).

(−)-*form*
Na salt: $[\alpha]_D^{20}$ −2.5° (c, 1 in H_2O).

(±)-*form* [88031-93-0]
Cryst. pK_{a2} 8.84; pK_{a3} 11.20 (25°).
Na salt: [4076-02-2].
Mp 229° dec.
▷ TZ6420000.

[85168-98-5, 85187-11-7]

Petrunkin, V.E., *CA*, 1957, **54**, 24378 (*synth*)
Vol'f, L.A. *et al*, *Zavod. Lab.*, 1959, **25**, 1438 (*use*)
Hsu, C.A. *et al*, *J. Pharmacol. Exp. Ther.*, 1983, **224**, 314 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DNU860.

2,3-Dimercaptopropanoic acid D-00762

[6220-25-3]

$HSCH_2CH(SH)COOH$

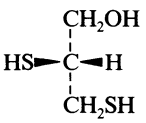
$C_3H_6O_2S_2$ M 138.211
Used in photometric detn. of Mo, Pd. pK_{a1} 3.45 (COOH); pK_{a2} 9.54; pK_{a3} 11.55.

(−)-*form*
Mp 68-69°. $[\alpha]_D^{23}$ −1.1° (c, 4 in MeOH). Largely racemic.
Busev, A.I., *Zh. Anal. Khim.*, 1961, **16**, 695; 1963, **18**, 50, 1233; 1964, **19**, 327, 475, 767 (*detn, Mo, Pd*)
Owen, L.N. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1974, 2413 (*synth*)

2,3-Dimercapto-1-propanol, 9CI D-00763

3-Hydroxy-1,2-propanedithiol. 1,2-Dithioglycerol. British anti-lewisite. ***Dimercaprol*, BAN, USAN, INN.** *Ametoxin. Antoxol. Balistab. Balonk. Dimersol. Panobal. Sulfactin. BAL*

[59-52-9]



(*R*)-*form*

$C_3H_8OS_2$ M 124.228
Used as a masking agent for heavy metals and for photometric detn. of Cu.
▷ Highly irritant. UB2625000.

(*R*)-*form* [16495-08-2]
Oil. $Bp_{0.1}$ 65°. $[\alpha]_D^{21}$ −9.6° (c, 7 in MeOH), $[\alpha]_D^{25}$ +3.0° (c, 9 in $CHCl_3$).
Benzyl ether: [16495-07-1].
$C_{10}H_{14}OS_2$ M 214.352
Oil. $Bp_{0.0005}$ 93-95°. $[\alpha]_D^{25}$ −7.6° (c, 1.5 in $CHCl_3$).

(*S*)-*form* [16495-16-2]
Oil. $Bp_{0.1}$ 65°. $[\alpha]_D^{25}$ +9.6° (c, 6 in MeOH).
Benzyl ether: [16495-15-1].
Oil. $Bp_{0.1}$ 93-96°. $[\alpha]_D^{26}$ +7.2° (c, 10 in $CHCl_3$).

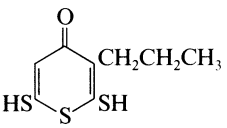
(±)-*form*
Antidote to heavy metal poisoning. Oil. d^{20} 1.246. $Bp_{0.8}$ 82-84°. pK_{a1} 8.62; pK_{a2} 10.57 (25°, 0.1*M* NaCl). n_D^{20} 1.5749.

2,3-Di-Ac:
$C_7H_{12}O_3S_2$ M 208.302
Oil. $Bp_{0.05}$ 120°.
1-Me ether: [58950-98-4]. *3-Methoxy-1,2-propanedithiol*
$C_4H_{10}OS_2$ M 138.254
Oil. Bp_1 68°.

Fraser, J.B. *et al*, *Biochem. J.*, 1947, **41**, 328 (*rev*)
Stocken, L.A., *J. Chem. Soc.*, 1947, 592 (*synth*)
Cassassas, E., *Chim. Anal.* (*Paris*), 1965, **47**, 419 (*detn, Cu*)
Anisuzzaman, A.K.M. *et al*, *J. Chem. Soc. C*, 1967, 1021 (*synth, abs config*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1036.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BAD750.

2,6-Dimercapto-3-propyl-4*H*-thiopyran-4-one, 9CI D-00764

[3044-64-2]

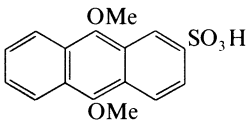


$C_8H_{10}OS_3$ M 218.364
Used as a 0.1m*M* aq. soln. for photometric detn. of Bi (λ_{max} 420 nm, ε 22900), Sn (λ_{max} 420 nm, ε 24500). Cryst.

Usatenko, Y.I. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 462; 1967, **22**, 1823 (*detn, Bi, Sn*)

9,10-Dimethoxy-2-anthracenesulfonic acid, 9CI D-00765

[52212-90-5]

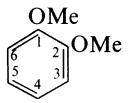


$C_{16}H_{14}O_5S$ M 318.350
Reagent for the fluorometric detn. of amines.
[67580-39-6]

Westerlund, D. *et al*, *Anal. Chim. Acta*, 1973, **67**, 89 (*synth*)
Gfeller, J.C. *et al*, *J. Chromatogr.*, 1979, **172**, 141 (*use*)
v. Buurem, C. *et al*, *Anal. Chem.*, 1980, **52**, 700 (*use*)

1,2-Dimethoxybenzene, 9CI D-00766

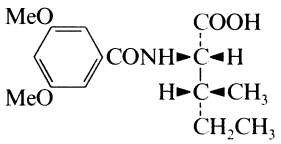
Veratrol. Veratrole. Catechol dimethyl ether
[91-16-7]



$C_8H_{10}O_2$ M 138.166
Used in photometric detn. of Ce(*IV*), V. Cryst. (pet. ether). Mp 22.5°. Bp_{759} 206°, Bp_{10} 88-90°.
▷ CZ6475000.
Picrate: Red plates. Mp 56-57°.

Perkin, W.H. *et al*, *J. Chem. Soc.*, 1906, **89**, 1649.
King, H. *et al*, *J. Chem. Soc.*, 1939, 1168 (*synth*)
Antoniades, H.N., *Chemist-Analyst*, 1955, **44**, 34 (*detn, Ce*)
Wright, G.E. *et al*, *Tetrahedron*, 1973, **29**, 3775 (*nmr*)
Starkov, S. *et al*, *CA*, 1974, **82**, 43030 (*synth*)
Lille, V. *et al*, *CA*, 1976, **85**, 46138 (*glc*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DOA200.

N-(3,5-Dimethoxybenzoyl)isoleucine, 9CI D-00767

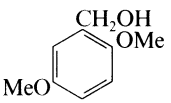


$C_{15}H_{21}NO_5$ M 295.335
L-form [114494-61-0]
Chiral stationary phase for the sepn. of enantiomers by hplc. Oil.

Vloon, W.J. *et al*, *Chromatographia*, 1987, **24**, 655.

2,5-Dimethoxybenzyl alcohol, 8CI D-00768

2,5-Dimethoxybenzenemethanol, 9CI. α-Hydroxy-2,5-dimethoxytoluene
[33524-31-1]

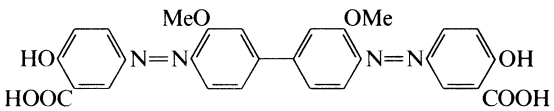


$C_9H_{12}O_3$ M 168.192
A self-indicating standard for the detn. of organolithium reagents. Bp 278-279°, Bp_1 122-125°.

Biellmann, J.F. *et al*, *Bull. Soc. Chim. Fr.*, 1971, 1676 (*synth*)
Winkle, M.R. *et al*, *J. Chem. Soc., Chem. Commun.*, 1980, 87 (*use*)

3,3′-[(3,3′-Dimethoxy-[1,1′-biphenyl]-4,4′-diyl)bis(azo)]bis[6-hydroxybenzoic acid], 9CI D-00769

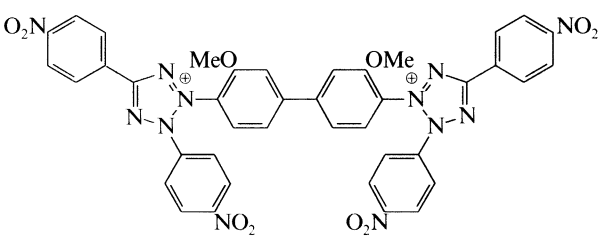
5,5′-Bis(3,3′-dimethoxy-4,4′-diphenylenediazo)disalicylic acid
[58608-00-7]



$C_{28}H_{22}N_4O_8$ M 542.504
Used as a 0.1% soln. in dil. alkalis for photometric detn. of Be. Cryst. Sol. EtOH, alkalis; insol. H_2O.

Baiulescu, G.E. *et al*, *Rev. Chim.* (*Bucharest*), 1975, **26**, 764.

3,3′-(3,3′-Dimethoxy[1,1′-biphenyl]-4,4′-diyl)bis[2,5-bis(4-nitrophenyl)-2*H*-tetrazolium](2+) 9CI D-00770

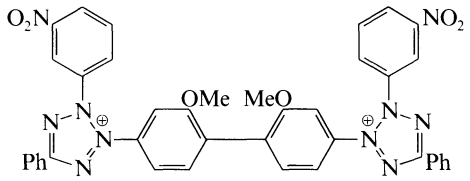


$C_{40}H_{28}N_{12}O_{10}^{2\oplus}$ M 836.736 (ion)
Dichloride: [1184-43-6].
$C_{40}H_{28}Cl_2N_{12}O_{10}$ M 907.641

Used as 1% aq. soln. for photometric detn. of various dehydrogenases; redox indicator. Pale yellow cryst. (MeOH). Mp 159°. E° −0.05V.

Wagner, H. *et al*, *Z. Med. Labortech.*, 1976, **16**, 94; *CA*, **85**, 118989n (*indicator*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1983.

3,3′-(3,3′-Dimethoxy[1,1′-biphenyl]-4,4′-diyl)bis[2-(3-nitrophenyl)-5-phenyl-2*H*-tetrazolium](2+), 9CI D-00771



$C_{40}H_{30}N_{10}O_6^{2\oplus}$ M 746.740 (ion)

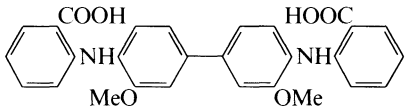
Dichloride: [38184-50-8].
$C_{40}H_{30}Cl_2N_{10}O_6$ M 817.646
Used as 1.2m*M* aq. soln. for photometric detn. of $S^{2\ominus}$ (λ_{max} 530 nm, ε 33000, 67% DMF, pH 8.3-11). Cryst. Sol. alkalis, DMF, Me_2CO; sl. sol. H_2O.

Kolesnikova, A.M. *et al*, *Zavod. Lab.*, 1985, **51**, 1 (*detn*, $S^{2\ominus}$)

2,2′-[(3,3′-Dimethoxy[1,1′-biphenyl]-4,4′-diyl)diimino]bisbenzoic acid, 9CI D-00772

Diphenylanisidine-2,2′-dicarboxylic acid. N,N′-*Bis*(2-*carboxyphenyl*)-3,3′-*dimethoxybenzidine*

[52962-95-5]

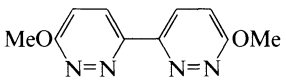


$C_{28}H_{24}N_2O_6$ M 484.507
Used as a 0.1 or 1% soln. in conc. H_2SO_4 for photometric detn. of V(*V*) (λ_{max} 624 nm, ε 63600); redox indicator (colour change: colourless → blue). Cryst. powder. Sol. alkalis, conc. acids.

Frumina, N.S. *et al*, *Talanta*, 1969, **16**, 138.

6,6′-Dimethoxy-3,3′-bipyridazine D-00773

[24049-46-5]



$C_{10}H_{10}N_4O_2$ M 218.215
Used as MeOH soln. for photometric detn. of Fe(*II*). Cryst. (MeOH). Sol. Et_2O, C_6H_6; insol. H_2O. Mp 237-238°.

Igeta, H. *et al*, *Tetrahedron Lett.*, 1969, 2359 (*synth*)
Maeda, M. *et al*, *Chem. Pharm. Bull.*, 1970, **18**, 1548 (*detn*, *Fe*)

1,1-Dimethoxy-*N*,*N*-dimethylmethylamine D-00774

1,1-Dimethoxy-N,N-*dimethylmethanamine*, *9CI*. *1,1-Dimethoxytrimethylamine*. N,N-*Dimethylformamide dimethyl acetal*

[4637-24-5]

$(MeO)_2CHNMe_2$

$C_5H_{13}NO_2$ M 119.163

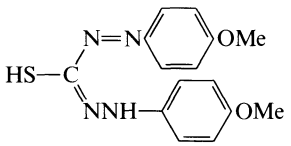
Widely used versatile reagent, which functions as a methylating agent, converts diols to alkenes or epoxides and also effects the rearrangement of allylic alcohols to β,γ-unsaturated amides. Derivatisation reagent for carboxylic acids, amino acids and amines for gc anal. Bp_{720} 102-103°.

Thenot, J.P. *et al*, *Anal. Lett.*, 1972, **5**, 217, 519 (*use*)
Horman, I. *et al*, *Biomed. Mass Spectrom.*, 1974, **1**, 115 (*use*)
Pelter, A. *et al*, *Synthesis*, 1978, 843 (*use*)
Ponticello, G.S. *et al*, *J. Org. Chem.*, 1979, **44**, 4003 (*use*)
Lin, Y.-i. *et al*, *J. Org. Chem.*, 1979, **44**, 4160 (*use*)
Gammill, R.B., *Synthesis*, 1979, 901 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 191 (*use*)
Abdulla, R.F. *et al*, *J. Org. Chem.*, 1980, **45**, 1724 (*use*)
Burchill, P. *et al*, *Chromatographia*, 1986, **21**, 67 (*use*)

4,4′-Dimethoxydithizone D-00775

4-Methoxyphenyldiazenecarbothioic acid 2-(4-methoxyphenyl)hydrazide, *9CI*. *Bis*-p-*methoxyphenylthiocarbazone*

[2502-94-5]



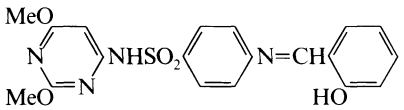
$C_{15}H_{16}N_4O_2S$ M 316.383
Used as a 0.01% soln. in CCl_4 or $CHCl_3$ for extraction-photometric detn. of Zn, Ni. Black greenish cryst. powder. Sol. $CHCl_3$, CCl_4, EtOH, Me_2CO, alkalis; insol. H_2O.

Joon, S.O. *et al*, *Anal. Chem.*, 1967, **39**, 295 (*detn*, *Zn*, *Ni*)

N-(2,6-Dimethoxy-4-pyrimidinyl)-4-[[(2-hydroxyphenyl)methylene]amino]benzenesulfonamide, 9CI D-00776

Sulfadimethoxin salicylaldimine

[59534-88-2]



$C_{19}H_{18}N_4O_5S$ M 414.441
Used as aq. soln. for gravimetric detn. of Ba (in the presence of Sr, Ca, pH 6). Cryst. Sol. H_2O, EtOH.

Jain, P. *et al*, *Microchem. J.*, 1977, **22**, 92 (*synth*, *detn*, *Ba*)

Dimethylamine D-00777

N-*Methylmethanamine*, *9CI*

[124-40-3]

Me_2NH

C_2H_7N M 45.084
Found in higher plants, fungi and bacteria. Rubber vulcanisation accelerator, tanning agent. Reagent used in the ms determination of the location of ethylenic bonds. Gas at r.t. V. sol. H_2O. d_4^0 0.680. Mp −96°. Bp 7°. pK_a 3.28 (25°).

▷ Irritant, TLV 18. Extremely flammable. IP8750000.

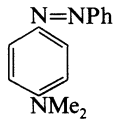
B,HCl: Dimethylammonium chloride
Volatile cryst. Sol. H_2O, EtOH, $CHCl_3$; insol. Et_2O. Mp 171°.

Werner, E.A., *J. Chem. Soc.*, 1917, **111**, 850 (*synth*)
Ger. Pat., 468 895, (1929); *CA*, **23**, 846 (*synth*)
U.S. Pat., 2 456 599, (1948); *CA*, **43**, 3440g (*manuf*)
Gohlke, R.S. *et al*, *Acta Chim. Hung.*, 1962, **34**, 1281 (*ms*)
Suhr, H., *Chem. Ber.*, 1963, **96**, 1720 (*pmr*)
Serban, S., *Rev. Chim. (Bucharest)*, 1963, **14**, 451; *CA*, **60**, 5097b (*synth*)
Audier, H. *et al*, *Bull. Soc. Chim. Fr.*, 1964, 3034 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 119.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 298.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DOQ800, DOR000.

4-Dimethylaminoazobenzene D-00778

N,N-*Dimethyl-4-(phenylazo)benzenamine*, *9CI*. N,N-*Dimethyl*-p-*(phenylazo)aniline*, *8CI*. *Butter yellow*. *Dimethyl yellow*. *Methyl yellow*. *C.I. Solvent yellow 2*. *C.I. 11020*. *Numerous proprietary names*

[60-11-7]



$C_{14}H_{15}N_3$ M 225.293

Used as a 0.04, 0.1 or 0.5% soln. in EtOH as an acid-base indicator (pH range: 2.9-4.0; colour change: red → yellow). Formerly used as a food dye, use discontinued. Yellow leaflets (EtOH). Sol. EtOH, Me_2CO, C_6H_6; insol. H_2O. Mp 115°, Mp 117°. pK_{a1} 3.34 (μ = 0.1, 20°), pK_{a1} 3.25.

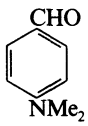
▷ Carcinogenic. LD_{50} 200 mg/kg (rat, oral). BX7350000.

Möhlau, G., *Ber.*, 1884, **17**, 1491 (*synth*)
Cray, I.M. *et al*, *Trans. Faraday Soc.*, 1925, **21**, 326.
Rosenhauer, E. *et al*, *Ber.*, 1928, **61**, 396 (*synth*)
Kotthoff, I.M. *et al*, *J. Am. Chem. Soc.*, 1938, **60**, 2516.
Guss, L.S. *et al*, *J. Am. Chem. Soc.*, 1940, **62**, 249.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DOT300.

4-(Dimethylamino)benzaldehyde, 9CI D-00779

Ehrlich's reagent

[100-10-7]



$C_9H_{11}NO$ M 149.192

Used as 5% EtOH soln. in photometric detn. of N_2H_4 (λ_{max} 455 nm). Reagent for conversion of alkyl halides to aldehydes. Used as 1% soln. in acidified MeOH for detn. of amines, indoles and ergot alcohols. Cryst. Sol. alcohols. Mp 74°. Bp_{17} 176-177°.

▷ Toxic orally. CU5775000.

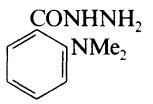
B,HCl: [5988-39-6].
Cryst. Mp 107-109°.
(E)-*Oxime:* [37961-71-0].
$C_9H_{12}N_2O$ M 164.207
Cryst. Mp 144°.
(Z)-*Oxime:* [77145-76-7].
Cryst. Mp 185° dec.
4-Nitrophenylhydrazone: Mp 182°.

Org. Synth., Coll. Vol., 1, 1932, 208 (*bibl*)
Pesez, M. *et al*, *Bull. Soc. Chim. Fr.*, 1947, 122.
Org. Synth., Coll. Vol., 4, 1963, 331 (*synth*)
Pilz, W. *et al*, *Fresenius' Z. Anal. Chem.*, 1966, **219**, 416.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 146.
Dattagupta, J.K. *et al*, *Acta Crystallogr., Sect. B*, 1973, **29**, 1228 (*struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DOT400.

2-(Dimethylamino)benzoic acid hydrazide, 9CI D-00780

Dmayl hydrazide

[86601-75-4]



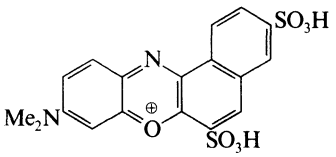
$C_9H_{13}N_3O$ M 179.221

Fluorescent reagent for hplc anal. of carbonyl compds.

Anderson, J.M., *Anal. Biochem.*, 1986, **152**, 146 (*synth, use*)

9-(Dimethylamino)benzo[*a*]phenoxazin-7-ium-2,5-disulfonic acid(1+) D-00781

R-*Acid phenonaphthoxazine*. *Phenonaphthoxazine* R-*acid*



$C_{18}H_{15}N_2O_7S_2^{\oplus}$ M 435.458 (ion)

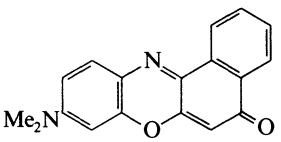
Sulfonic acid derivative of Meldola's Blue. Redox indicator. pK_{a1} 5.34. E° + 0.471 V.

Di-K salt, chloride: Dark blue cryst. powder. Sol. H_2O.

Eggers, H. *et al*, *Biochem. Z.*, 1942, **310**, 233.

9-(Dimethylamino)-5*H*-benzo[*a*]phenoxazin-5-one, 9CI D-00782

[16650-80-9]



$C_{18}H_{14}N_2O_2$ M 290.321

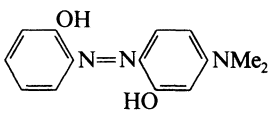
Acid-base indicator. Long, dark-coloured needles. Insol. H_2O. Mp 248-250° (xylene).

Thorpe, J.F., *J. Chem. Soc.*, 1907, **91**, 324 (*synth*)
Kehrmann, F. *et al*, *Ber.*, 1917, **50**, 873 (*synth*)
Kehrmann, F. *et al*, *Helv. Chim. Acta*, 1926, **9**, 866 (*synth*)
Stuzka, V. *et al*, *Spectrochim. Acta, Part A*, 1967, **23**, 2175 (*ir*)
Stuzka, V. *et al*, *Collect. Czech. Chem. Commun.*, 1969, **34**, 221; 1972, **37**, 1121 (*spectra, use*)

4-Dimethylamino-2,2′-dihydroxyazobenzene D-00783

5-(Dimethylamino)-2-[(2-hydroxyphenyl)azo]phenol, *9CI*

[50783-83-0]



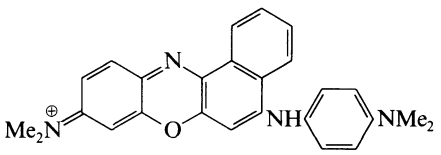
$C_{14}H_{15}N_3O_2$ M 257.291

Used as 1m*M* EtOH soln. for photometric detn. of Cd, Co, Cu, Mn, Ni, Pb, Zn. Dark red needles. Sol. EtOH; spar. sol. H_2O. Subl. 175°.

Shibata, S. *et al*, *Anal. Chim. Acta*, 1973, **66**, 397 (*synth, use*)

9-(Dimethylamino)-5-[[4-(dimethylamino) phenyl]amino]benzo[*a*]phenoxazin-7-ium(1+), 9CI D-00784

Fast cotton blue B. C.I. Basic blue 10. C.I. 51190



$C_{26}H_{25}N_4O^{\oplus}$ M 409.510 (ion)

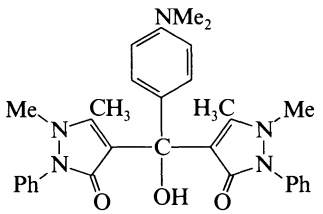
Strictly, the name Fast cotton blue B applies to the chloride.

Chloride: [4517-26-4].
$C_{26}H_{25}ClN_4O$ M 444.962
Used as a soln. in H_2O or EtOH as a redox indicator (pH range 3-8). Dark blue cryst. powder. Sol. EtOH, H_2O.

Curme, G.O., *J. Am. Chem. Soc.*, 1913, **35**, 1143 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

4,4′-[*p*-(Dimethylamino)-α-hydroxybenzylidene]diantipyrine D-00785

Diantipyryl-p-*dimethylaminophenylcarbinol*

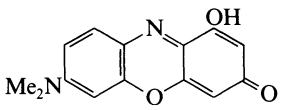


$C_{31}H_{33}N_5O_3$ M 523.633
Used for extraction-photometric detn. of Tl(*III*) (CCl_4/$PhNO_2$). Dark red cryst. (ligroin). Sol. EtOH, Me_2CO; sl. sol. H_2O. Mp 134-136°.

Porai-Koshits, A.E. *et al*, *Zh. Obshch. Khim.*, 1947, **17**, 1752 (*synth*)
Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 67 (*synth, use*)

7-(Dimethylamino)-1-hydroxy-3*H*-phenoxazin-3-one, 8CI D-00786

[13972-90-2]



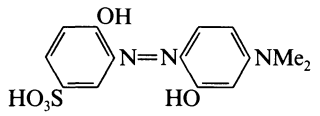
$C_{14}H_{12}N_2O_3$ M 256.260
Used as a 1m*M* soln. in EtOH as redox indicator for titanometric detn. of Fe(*III*), Au(*III*), Ce(*IV*), $Cr_2O_7^{2\ominus}$, $VO_4^{3\ominus}$ and some organic compds.; redox indicator for stannometry; acid-base indicator. Orange cryst. (EtOH). Sol. Me_2CO, EtOH, $CHCl_3$; spar. sol. C_6H_6. Mp >350°. E° +0.352 V (pH 1.62).

Kotouček, M. *et al*, *Monatsh. Chem.*, 1965, **95**, 1433 (*synth*)
Ruzička, E. *et al*, *Mikrochim. Acta*, 1967, 277 (*titanometry*)
Kotouček, M. *et al*, *Mikrochim. Acta*, 1967, 967 (*acid-base ind*)
Ruzička, E. *et al*, *CA*, 1968, **69**, 40930j (*stannometry*)

3-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-4-hydroxybenzenesulfonic acid, 9CI D-00787

4′-Dimethylamino-2,2′-dihydroxyazobenzene-3-sulfonic acid

[50783-84-1]

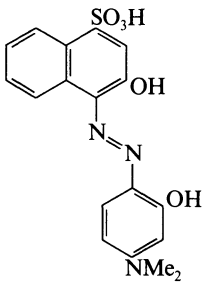


$C_{14}H_{15}N_3O_5S$ M 337.356
Used as 1m*M* aq. soln. for photometric detn. of Cd, Co, Cu, Mn, Ni, Pb, Zn. Red-purple needles. Sol. H_2O, EtOH.

Shibata, S. *et al*, *Anal. Chim. Acta*, 1973, **66**, 397 (*synth, use*)

4-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-3-hydroxy-1-naphthalenesulfonic acid, 9CI D-00788

[50783-91-0]



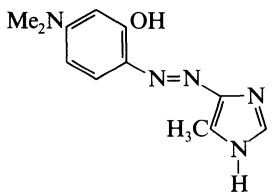
$C_{18}H_{17}N_3O_5S$ M 387.415
Used as a 1m*M* soln. in EtOH or H_2O for extraction-photometric detn. of Co, Cu, Fe(*III*), La, Mn, Ni, Zn. Dark brown amorph. powder.

Shibata, S. *et al*, *Anal. Chim. Acta*, 1973, **66**, 397 (*use*)

5-(Dimethylamino)-2-[(5-methylimidazol-4-yl)azo]phenol, 8CI D-00789

4-(4-Dimethylamino-2-hydroxyphenylazo)-5-methylimidazole

[13182-99-5]

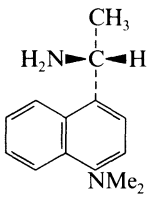


$C_{12}H_{15}N_5O$ M 245.283
Used as metallochromic indicator for titrimetric detn. of Cd, Co, Cu, Ni, Zn. Cryst. pK_{a1}4.9; pK_{a2}11.8 (50% dioxan 25°).

Yamauchi, O. *et al*, *Talanta*, 1968, **15**, 177, 459 (*use*)

4-(Dimethylamino)-α-methyl-1-naphthalenemethanamine, 9CI D-00790

1-[4-(Dimethylamino)-1-naphthyl]ethylamine



(*R*)-*form*

$C_{14}H_{18}N_2$ M 214.310

Derivatisation reagent for the resoln. of carboxylic acids by hplc.

(***R*)-*form*** [76281-06-6]

B,HCl: Needles. Mp 240-241° dec. $[\alpha]_D^{15}$ −17.7° (c, 0.37 in MeOH).

(***S*)-*form*** [76299-18-8]

$[\alpha]_D$ +19.75° (c, 2.0 in EtOH).

B,HCl: Needles. Mp 243-244° dec. $[\alpha]_D^{15}$ +17.3° (c, 1.4 in MeOH).

(±)-***form*** [76281-03-3]

Oil.

B, HCl: Needles (MeOH/Et_2O). Mp 239-240° dec.

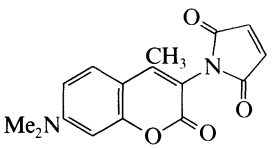
[89631-49-2]

Goto, J. *et al, Anal. Chem.*, 1980, **120**, 187 (*synth, use*)
Nagashima, H. *et al, Chem. Pharm. Bull.*, 1984, **32**, 251 (*synth, use*)

1-[7-(Dimethylamino)-4-methyl-2-oxo-2*H*-1-benzopyran-3-yl]-1*H*-pyrrole-2,5-dione, 9CI D-00791

(7-Dimethylamino-4-methyl-3-coumarinyl)maleimide. DACM

[55145-14-7]



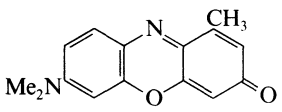
$C_{16}H_{14}N_2O_4$ M 298.298

Fluorescent reagent for thiols, e.g. in proteins. Yellow needles (EtOAc). Mp 218-219.5°.

Yamamoto, K. *et al, Anal. Biochem.*, 1977, **79**, 83; 1978, **90**, 300 (*use*)
Machida, M. *et al, Chem. Pharm. Bull.*, 1977, **25**, 1289, 1678 (*synth, pmr, ir, uv, use*)
Curtis, S.K. *et al, Histochemistry*, 1980, **68**, 23 (*use*)

7-(Dimethylamino)-1-methyl-3*H*-phenoxazin-3-one, 8CI D-00792

[17704-27-7]



$C_{15}H_{14}N_2O_2$ M 254.288

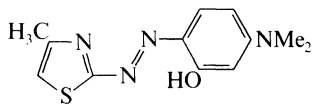
Used as a 1m*M* soln. in EtOH as redox indicator for titanometric detn. of Fe(*III*), Au(*III*), $Cr_2O_7^{2\ominus}$, $VO_4^{3\ominus}$ and some organic compds.; redox indicator for stannometry; acid-base indicator. Orange-red cryst. Sol. Me_2CO, EtOH, $CHCl_3$; spar. sol. C_6H_6. Mp >350°. E° +0.411 V (pH 1.78).

Ruzička, E. *et al, Mikrochim. Acta*, 1967, 277 (*titanometry*)
Kotouček, M. *et al, Mikrochim. Acta*, 1967, 967 (*acid-base ind*)
Ruzička, E. *et al, CA*, 1968, **69**, 40930j (*stannometry*)

5-Dimethylamino-2-[(4-methyl-2-thiazolyl)azo]phenol, 9CI D-00793

2-(4-Dimethylamino-2-hydroxyphenylazo)-4-methylthiazole

[95833-33-3]



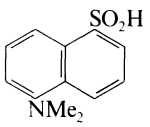
$C_{12}H_{14}N_4OS$ M 262.335

Used as 0.05% soln. in 0.5*M* NaOH in 50% EtOH for photometric detn. of Fe(*II*) (λ_{max} 765 nm, ε 27100, pH 5.5-9). Red cryst. Sol. EtOH, alkalis.

Ueda, K. *et al, Mikrochim. Acta*, 1984, **3**, 103 (*synth, detn, Fe*)

5-(Dimethylamino)-1-naphthalenesulfinic acid, 9CI D-00794

[71288-39-6]



$C_{12}H_{13}NO_2S$ M 235.306

Derivatisation reagent for hplc anal. of chloroamines. Mp 242-244° dec.

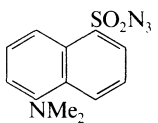
[86124-84-7]

Scully, F.E. *et al, Environ. Sci. Technol.*, 1984, **18**, 787 (*synth, use*)

5-(Dimethylamino)-1-naphthalenesulfonyl azide, 9CI D-00795

Dansyl azide

[106531-68-4]



$C_{12}H_{12}N_4O_2S$ M 276.318

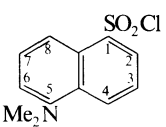
Fluorescent labelling reagent used in hplc for detn. of activated alkenes. Mp 47-48°.

Takadate, A. *et al, Yakugaku Zasshi*, 1986, **106**, 36; *CA*, **106**, 66862w (*synth, use*)

5-(Dimethylamino)-1-naphthalenesulfonyl chloride, 9CI D-00796

Dansyl chloride

[605-65-2]



$C_{12}H_{12}ClNO_2S$ M 269.751

Gives fluorescent derivs. with amino acids. Used in classical protein sequencing. Cryst. (Me_2CO aq.). Mp 69°. Several isomeric compds. have also been investigated as molecular probes.

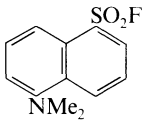
▷ QK3688000.

Fussganger, V., *Ber.*, 1902, **35**, 976.
Hartley, B.S. *et al*, *Biochim. Biophys. Acta*, 1956, **21**, 58.
Weber, G., *Biochem. J.*, 1957, **51**, 155.
Hartley, B.S. *et al*, *Biochem. J.*, 1963, **89**, 59P, 379.
Seiler, N. *et al*, *Experientia*, 1964, **20**, 559.
Gros, C., *Bull. Soc. Chim. Fr.*, 1967, 3952 (*use*)
Briel, G. *et al*, *Hoppe Seyler's Z. Physiol. Chem.*, 1972, **353**, 540 (*use*)
Neuhoff, V., *Mol. Biol. Biochem. Biophys.*, 1973, **14**, 85 (*use, rev*)
Chimiak, A. *et al*, *Org. Prep. Proced. Int.*, 1973, **5**, 117 (*synth, use*)
Wiechmann, M., *Hoppe Seyler's Z. Physiol. Chem.*, 1977, **358**, 967, 981 (*use*)
Davis, B.A., *J. Chromatogr.*, 1978, **151**, 252 (*use*)
Snejdarkova, M. *et al*, *Z. Chem.*, 1981, **21**, 229 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DPN200.

5-(Dimethylamino)-1-naphthalenesulfonyl fluoride, 9CI D-00797

Dansyl fluoride

[34523-28-9]



$C_{12}H_{12}FNO_2S$ M 253.297

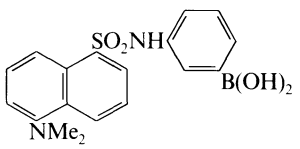
Fluorescent label for proteins; also used in the detn. of insecticides. Yellow cryst. (EtOH aq.). Mp 48-50°.

Himel, C.M. *et al*, *J. Agric. Food Chem.*, 1971, **19**, 1175 (*synth, use*)
Vaz, W.L.C. *et al*, *Biochim. Biophys. Acta*, 1976, **439**, 194 (*use*)
Bianchi, T.A. *et al*, *J. Org. Chem.*, 1977, **42**, 2031 (*synth*)

[3-[[[5-(Dimethylamino)-1-naphthalenyl] sulfonyl]amino]phenyl]boronic acid, 9CI D-00798

[3-(Dansylamino)phenyl]boronic acid

[75806-94-9]



$C_{18}H_{19}BN_2O_4S$ M 370.236

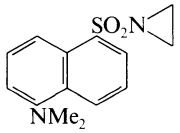
Used as fluorescent derivatisation reagent in chromatographic detn. of brassinosteroids. Amorph. solid.

Burnett, T.J. *et al*, *Biochem. Biophys. Res. Commun.*, 1980, **96**, 157 (*synth, use*)
Vainio, P., *Biochim. Biophys. Acta*, 1983, **746**, 217 (*use*)
Gamoh, K. *et al*, *Anal. Chim. Acta*, 1990, **228**, 101 (*synth, use*)

1-[[5-(Dimethylamino)-1-naphthalenyl] sulfonyl]aziridine, 9CI D-00799

N-*Dansylaziridine*

[51908-46-4]



$C_{14}H_{16}N_2O_2S$ M 276.359

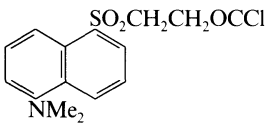
Fluorescence reagent used for labelling protein thiol groups. Yellow platelets (C_6H_6/cyclohexane). Mp 88-90°.

Scouten, W.H. *et al*, *Biochim. Biophys. Acta*, 1974, **336**, 421 (*synth*)
Bolognesi, M. *et al*, *Acta Crystallogr., Sect. B*, 1977, **33**, 122 (*cryst struct*)
Lin, T.-I., *Arch. Biochem. Biophys.*, 1978, **185**, 285 (*use*)
Lankmayr, E.P. *et al*, *Fresenius' Z. Anal. Chem.*, 1979, **295**, 371 (*use*)
Grossmann, S.H., *J. Clin. Immunoassay*, 1984, **7**, 96 (*use*)

2-[[5-(Dimethylamino)-1-naphthalenyl] sulfonyl]ethyl carbonochloridate, 9CI D-00800

2-Dansylethyl chloroformate

[88381-00-4]



$C_{15}H_{16}ClNO_4S$ M 341.814

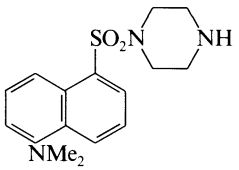
Fluorescent labelling reagent for alcohols. Mp 137-138°.

Takadate, A. *et al*, *Yakugaku Zasshi*, 1983, **103**, 962 (*synth, use*)

1-[[5-(Dimethylamino)-1-naphthalenyl] sulfonyl]piperazine, 9CI D-00801

Dansyl semipiperazide

[86516-36-1]



$C_{16}H_{21}N_3O_2S$ M 319.427

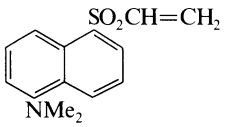
Fluorescent reagent for hplc anal. of carboxylic acids. Yellow cryst.

Yanagisawa, I. *et al*, *J. Chromatogr.*, 1985, **345**, 229 (*synth, use*)
Hansel, W. *et al*, *Dtsch. Lebensm.-Rundsch.*, 1987, **83**, 315 (*synth, use*)
Junker-Buchheit, A. *et al*, *Fresenius' Z. Anal. Chem.*, 1988, **331**, 387 (*use*)

(5-Dimethylamino-1-naphthyl) vinyl sulfone D-00802

5-(Ethenylsulfonyl)-N,N-dimethyl-1-naphthalenamine, 9CI

[81253-29-4]



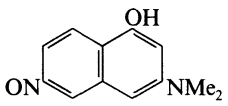
$C_{14}H_{15}NO_2S$ M 261.344

Fluorescent marker for estimation of SH groups in proteins. Light-yellow cryst. (C_6H_6/pet. ether). Mp 93-94°.

Horner, L. *et al*, *Phosphorus Sulfur Relat. Elem.*, 1983, **15**, 1 (*synth, ir, pmr*)
Horner, L. *et al*, *Justus Liebigs Ann. Chem.*, 1985, 34, 40, 430 (*use*)

3-Dimethylamino-6-nitroso-1-naphthol D-00803

N,N-*Dimethyl-4-hydroxy-7-nitroso-2-naphthalenamine*



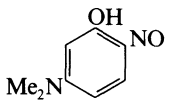
$C_{12}H_{12}N_2O_2$ M 216.239

Used for photometric detn. of Co (λ_{max} 465 nm, ε 60000). Yellow needles (aq. HCl). pK_{a1} 2.69; pK_{a2} 8.40 (μ = 0.2).

Möhlaw, R., *Ber.*, 1859, **25**, 1059 (*synth*)
Motomizu, S., *Anal. Chim. Acta*, 1971, **56**, 415 (*pKa, use*)
Motomizu, S., *Bunseki Kagaku* (*Jpn. Anal.*), 1971, **20**, 590 (*use*)

5-(Dimethylamino)-2-nitrosophenol, 9CI D-00804

[16761-04-9]



$C_8H_{10}N_2O_2$ M 166.179

B,HCl: [41317-10-6].

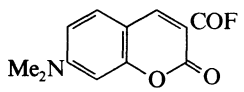
Used as a 2m*M* aq. soln. for photometric detn. of V(λ_{max} 410 nm, ε 14000); extraction-photometric detn. of Co (λ_{max} 456, ε 60000, 1,2-dichloroethane). Yellow needles (dil. HCl). Sol. H_2O, dil. acids.

Motomizu, S., *Anal. Chim. Acta*, 1971, **56**, 415 (*detn, Co*)
Motomizu, A., *Analyst* (*London*), 1972, **97**, 986 (*detn, Co*)
Motomizu, S., *Bunseki Kagaku* (*Jpn. Anal.*), 1973, **22**, 695; 1971, **20**, 590 (*detn, Co*)
Uchida, F., *Anal. Chim. Acta*, 1976, **83**, 427 (*detn, V*)

7-(Dimethylamino)-2-oxo-2*H*-1-benzopyran-3-carbonyl fluoride, 9CI D-00805

7-Dimethylaminocoumarin-3-carbonyl fluoride

[132181-77-2]



$C_{12}H_{10}FNO_3$ M 235.214

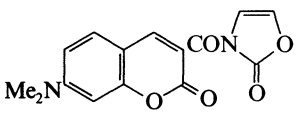
Fluorescent derivatisation reagent for amines. Mp 233-235°.

Fujino, H. *et al*, *Yakugaku Zasshi*, 1990, **110**, 693; *CA*, **114**, 94384a (*synth, deriv, use*)

3-[[7-(Dimethylamino)-2-oxo-2*H*-1-benzopyran-3-yl]carbonyl]-2(3*H*)-oxazolone, 9CI D-00806

3-(7-Dimethylaminocoumarin-3-carbonyl)-2-oxazolone

[122607-17-4]



$C_{15}H_{12}N_2O_5$ M 300.270

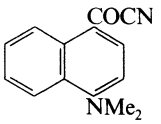
Fluorescent labelling reagent for hplc of amines. Yellow prisms (C_6H_6). Mp 223-225°.

Takadate, A. *et al*, *Chem. Pharm. Bull.*, 1989, **37**, 373 (*synth, use*)

4-(Dimethylamino)-α-oxo-1-naphthaleneacetonitrile, 9CI D-00807

4-Dimethylamino-1-naphthoyl nitrile

[78062-05-2]



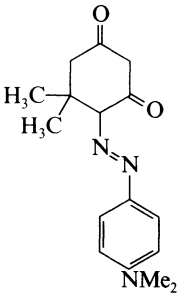
$C_{14}H_{12}N_2O$ M 224.262

Derivatisation reagent for hplc sepn. of hydroxy compds. Mp 130.5-132°.

Goto, J. *et al*, *Chem. Pharm. Bull.*, 1981, **29**, 899 (*synth, use*)

4-[[4-(Dimethylamino)phenyl]azo]-5,5-dimethyl-1,3-cyclohexanedione, 9CI D-00808

[36530-93-5]



$C_{16}H_{21}N_3O_2$ M 287.361

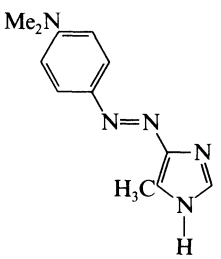
Used as an acid-base indicator (pH range: 3.5-5.5; colour change: yellow → red; pH range: 9.5-10.8; colour change: red → yellow). Dark red cryst. (EtOH). Sol. AcOH, EtOH, Me_2CO, Et_2O, $CHCl_3$, spar. sol. H_2O. Mp 165-166°. pK_{a1} 3.67; pK_{a2} 9.97.

Madajova, V. *et al*, *Chem. Zvesti*, 1971, **25**, 343 (*pKa, use*)

4-[[5-(*p*-Dimethylamino)phenyl]azo]-5-methylimidazole, 8CI D-00809

4-(4-Methyl-5-imidazolylazo)-1-dimethylaminobenzene

[3705-76-8]

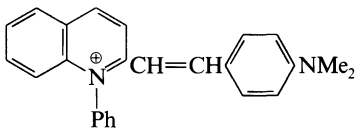


$C_{12}H_{15}N_5$ M 229.284

Used as 0.1% soln. in EtOH for titrimetric detn. of Cu. Orange cryst. Sol. Et_2O, EtOH.

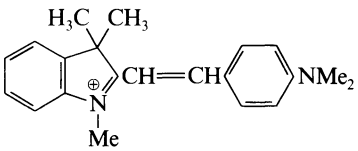
Tanaka, H. *et al*, *Chem. Pharm. Bull.*, 1964, **12**, 1268 (*detn, Cu*)

4-[2-[4-(Dimethylamino)phenyl]ethenyl]-1-phenylquinolinium(1+), 9CI D-00810



$C_{25}H_{23}N_2^{\oplus}$ M 351.470 (ion)
Basic cyanine dye.
Chloride: [33712-03-7].
$C_{25}H_{23}ClN_2$ M 386.923
Used as 1m*M* aq. soln. for photometric detn. of Pb (λ_{max} 570 nm, ε 45000). Cryst. Sol. H_2O, EtOH; insol. $CHCl_3$.
[125232-91-9]
Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 313 (*detn, Pb*)

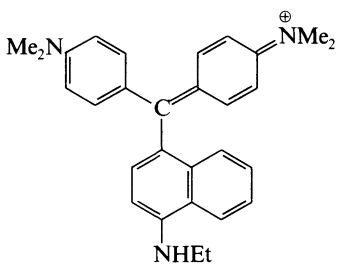
2-[2-[4-(Dimethylamino)phenyl]ethenyl]-1,3,3-trimethyl-3*H*-indolium(1+), 9CI D-00811



$C_{21}H_{25}N_2^{\oplus}$ M 305.442 (ion)
Chloride: [42279-61-8].
$C_{21}H_{25}ClN_2$ M 340.895
Used as 1m*M* aq. soln. for photometric detn. of Pb (λ_{max} 540 nm, ε 77000). Cryst. Sol. H_2O, EtOH; insol. $CHCl_3$.
[124521-92-2]
Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 313 (*detn, Pb*)

N-[4-[[4-(Dimethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-*N*-methylmethanaminium(1+), 9CI D-00812

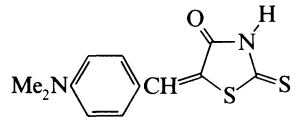
Basic blue K. Basic blue 11. Victoria blue R. C.I. 44040



$C_{29}H_{32}N_3^{\oplus}$ M 422.592 (ion)
Strictly, the name Basic blue K applies to the chloride.
Chloride: [2185-86-6].
$C_{29}H_{32}ClN_3$ M 458.045
Used as a 0.1m*M* soln. in 20% EtOH for extraction-photometric detn. of Au, Ga, Mo, Sb, Tl, $Br^{\ominus}$, $I^{\ominus}$, $NO_2^{\ominus}$. Dark bluish cryst. (EtOH). V. sol. EtOH; sol. hot H_2O.
▷ PA0780300.
Podberezskaya, N.K. *et al*, *Zavod. Lab.*, 1966, **32**, 918 (*detn, iodide*)
Narushkyavichyus, L.R. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 922 (*detn, Au, Ga, Mo, Sb, Tl, $Br^{\ominus}$, $NO_2^{\ominus}$*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, VKA600.

5-[[4-(Dimethylamino)phenyl]ethylene]-2-thioxo-4-thiazolidinone, 9CI D-00813

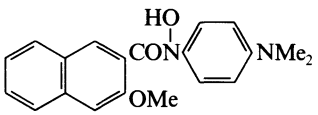
p-*Dimethylaminobenzylidenerhodanine*
[536-17-4]



$C_{12}H_{12}N_2OS_2$ M 264.372
Used as 0.03% Me_2CO soln. for photometric detn. of Ag (ε 2000), Au, Hg, Pd, Pt. Red cryst. powder. Sl. sol. Me_2CO, EtOH, $CHCl_3$; insol. H_2O. Mp 285-288° dec. Used as 0.03% Me_2CO soln.
▷ VI8090000.
Cave, G.C. *et al*, *Anal. Chem.*, 1952, **24**, 1503 (*detn, Ag*)
Ringbom, A. *et al*, *Anal. Chim. Acta*, 1953, **9**, 80 (*detn, Ag*)
Cotton, T.M. *et al*, *Anal. Chim. Acta*, 1960, **22**, 192 (*detn, Au*)
Ayres, G.H. *et al*, *Anal. Chim. Acta*, 1961, **24**, 241 (*detn, Pd*)
Jangg, G., *Fresenius' Z. Anal. Chem.*, 1961, **183**, 255 (*detn, Hg*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DOT800.

N-[4-(Dimethylamino)phenyl]-*N*-hydroxy-3-methoxy-2-naphthalenecarboxamide, 9CI D-00814

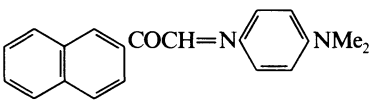
N-(p-N,N-*Dimethylanilino*)-*3-methoxy-2-naphthohydroxamic acid*
[58869-05-9]



$C_{20}H_{20}N_2O_3$ M 336.390
Used in extraction-photometric detn. of V (λ_{max} 570 nm, ε 12000). Cryst. Sol. $CHCl_3$, CCl_4, C_6H_6.
Abbasi, S.A., *Anal. Chem.*, 1976, **48**, 714.

2-[[*p*-(Dimethylamino)phenyl]imino]-2′-acetonaphthone, 8CI D-00815

β-Naphthylglyoxal p-*dimethylaminoanil*
[22220-22-0]

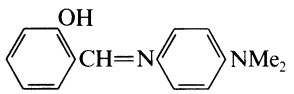


$C_{20}H_{18}N_2O$ M 302.375
Used as a soln. in Me_2CO for photometric detn. of Fe. Red-orange cryst. (EtOH). Sol. common org. solvents. Mp 112-113°.
Malik, W.U. *et al*, *J. Indian Chem. Soc.*, 1968, **45**, 307 (*synth, ir, spectra*)
Saxena, R.C. *et al*, *J. Indian Chem. Soc.*, 1969, **46**, 1071 (*detn, Fe*)

2-[[[4-(Dimethylamino)phenyl]imino]methyl]phenol, 9CI D-00816

4-(Dimethylamino)-N-salicylideneaniline

[959-74-0]



$C_{15}H_{16}N_2O$ M 240.304

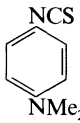
Used for spot tests for detn. of $UO_2^{2\oplus}$. Yellow cryst. Sol. EtOH, Me_2CO.

Jungreis, E. *et al*, *Anal. Chim. Acta*, 1964, **30**, 405 (*detn, $UO_2^{2\oplus}$*)

4-(Dimethylamino)phenyl isothiocyanate D-00817

4-Isothiocyanato-N,N-dimethylbenzenamine, 9CI

[2131-64-8]



$C_9H_{10}N_2S$ M 178.257

Electrochem. label for hplc detn. of amino acids. Cryst. (EtOH). Mp 69°.

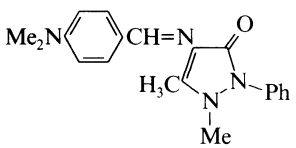
▷ NX8500000.

Dyson, G.M. *et al*, *J. Chem. Soc.*, 1927, 436 (*synth*)
Hodgkins, J.E. *et al*, *J. Org. Chem.*, 1964, **29**, 3098 (*synth*)
Katritzky, A.R. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 6855 (*ir*)
Jones, R.G. *et al*, *Org. Magn. Reson.*, 1982, **19**, 196 (*cmr*)
Mahachi, T.J. *et al*, *J. Chromatogr.*, 1984, **298**, 279 (*use*)

4-[[[4-(Dimethylamino)phenyl]methylene]amino]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, 9CI D-00818

4-(4-Dimethylaminobenzylideneamino)antipyrine

[61098-08-6]



$C_{20}H_{22}N_4O$ M 334.420

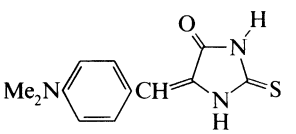
Used as a 0.05m*M* soln. in EtOH for fluorimetric detn. of Ga. Cryst. (EtOH). Sol. common org. solvs.

Pilipenko, A.T. *et al*, *Uzb. Khim. Zh.*, 1977, **43**, 536 (*detn, Ga*)

5-[[4-(Dimethylamino)phenyl]methylene]-2-thioxo-4-imidazolidinone, 9CI D-00819

p-*Dimethylaminobenzylidene-2-thiohydantoin*

[41250-31-1]



$C_{12}H_{13}N_3OS$ M 247.320

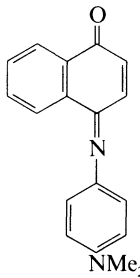
Used as 1m*M* EtOH soln. to give colour reactions with Ag, Pd, Hg(*II*), Cu(*II*). Cryst. (EtOH). Sol. EtOH, DMF. pK_{a1} 1.70; pK_{a2} 9.25 (72% EtOH).

Montana Gonzalez, M.T. *et al*, *Talanta*, 1980, **27**, 613 (*use*)
Montana Gonzalez, M.T. *et al*, *Microchem. J.*, 1982, **27**, 549 (*synth, use*)

N-(4′-Dimethylaminophenyl)-1,4-naphthoquinone imine D-00820

4-[[4-(Dimethylamino)phenyl]imino]-1(4H)-naphthalenone, 9CI

[132-31-0]



$C_{18}H_{16}N_2O$ M 276.337

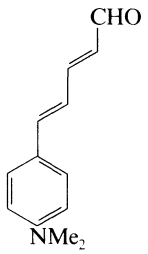
Used for fluorimetric detn. of $S_2O_4^{2\ominus}$. Cryst.

Nakamura, H. *et al*, *Chem. Pharm. Bull.*, 1974, **22**, 1950 (*use*)

5-[(4-Dimethylamino)phenyl]-2,4-pentadienal, 9CI D-00821

DAPDA

[83073-86-3]



$C_{13}H_{15}NO$ M 201.268

(*E,E*)-*form* [20432-36-4]

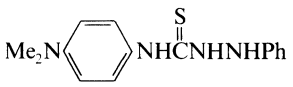
Colorimetric reagent for amines. Yellow plates (2-propanol) or light brown cryst. Mp 153-155°.

Peters, G.M. *et al*, *J. Org. Chem.*, 1975, **40**, 2243 (*synth*)
Nakatsuji, S. *et al*, *Chem. Pharm. Bull.*, 1982, **30**, 2467 (*synth, uv, pmr, use*)
Spangler, C.W. *et al*, *Synth. Commun.*, 1988, **18**, 51 (*synth*)

4-(4′-Dimethylaminophenyl)-1-phenylthiosemicarbazide D-00822

N-[*4-(Dimethylamino)phenyl*]-*2-phenylhydrazinecarbothioamide, 9CI*

[69519-52-4]



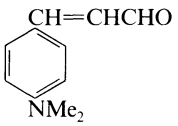
$C_{15}H_{18}N_4S$ M 286.400

Used as EtOH soln. for photometric detn. of Pd (ε 20600, alkaline medium). Cryst. (EtOH). Sol. DMF, EtOH.

Gyepes, E. *et al*, *CA*, 1984, **101**, 182944v (*synth, detn, Pd*)

3-[4-(Dimethylamino)phenyl]-2-propenal, 9CI D-00823

4-(Dimethylamino)cinnamaldehyde



$C_{11}H_{13}NO$ M 175.230

(E)-form [6203-18-5]

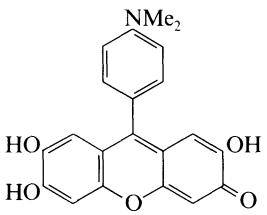
Used for photometric detn. of NH_3 (λ_{max} 630 nm, ε 45200). Used for detn. of apotryptophanase and tryptophanase. Used as 0.2% soln. in acidified MeOH for detn. of indoles. Yellow cryst. Sol. EtOH.

Turner, J.M., *Biochem. J.*, 1961, **78**, 790.
Guseinov, I.K. *et al*, *Azerb. Khim. Zh.*, 1978, 108; *CA*, **89**, 225540p (*detn*, NH_3)

9-[4-(Dimethylamino)phenyl]-2,6,7-trihydroxy-3*H*-xanthen-3-one, 9CI D-00824

p-*Dimethylaminophenylfluorone*

[6098-86-8]



$C_{21}H_{17}NO_5$ M 363.369

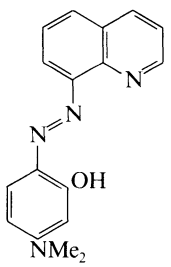
Used as 0.05% soln. in EtOH in photometric detn. of Ge (λ_{max} 513 nm, ε 140000). Cryst. Sol. EtOH.

Campe, A. *et al*, *Talanta*, 1961, **8**, 453 (*detn*, *Ge*)
Patrovsky, V., *Chem. Listy*, 1965, **59**, 1464 (*detn*, *Ta*)

5-(Dimethylamino)-2-(8-quinolinylazo) phenol, 9CI D-00825

8-(4-Dimethylamino-2-hydroxyphenylazo)quinoline

[15968-31-7]

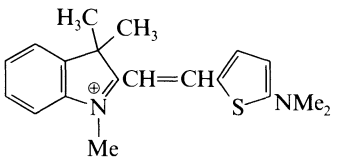


$C_{17}H_{16}N_4O$ M 292.340

Used as 1m*M* EtOH soln. for photometric detn. of Co (λ_{max} 547 nm, ε 72000, pH 5-11), Ni, Cu, Zn. Cryst. Sol. EtOH, MeOH; spar. sol. H_2O. Subl. 205°. pK_{a2} 3.1; pK_{a3} 13.1 (MeOH aq.).

Shibata, S. *et al*, *Anal. Chim. Acta*, 1973, **66**, 397 (*synth*, *use*)

2-[2-[(5-Dimethylamino)-2-thienyl]ethenyl]-1,3,3-trimethyl-3*H*-indolium(1+), 9CI D-00826



$C_{19}H_{23}N_2S^{\oplus}$ M 311.470 (ion)

Basic cyanine dye.

Perchlorate: [112096-42-1].
$C_{19}H_{23}ClN_2O_4S$ M 410.920
Used as 1m*M* aq. soln. for extraction-photometric detn. of Tl(*III*) (λ_{max} 560 nm, ε 120000, 0.25*M* H_2SO_4, pentyl acetate) and Pb. Cryst. Sol. H_2O.

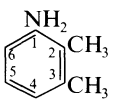
[124521-93-3]

Balog, I.S. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 2405 (*synth*)
Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1987, **42**, 1242; 1989, **44**, 113 (*detn*, *Tl*, *Pb*)

2,3-Dimethylaniline D-00827

2,3-Dimethylbenzenamine, 9CI. 2,3-Xylidine, 8CI. 3-Amino-o-xylene

[87-59-2]



$C_8H_{11}N$ M 121.182

Liq. d^{20} 0.993. Bp 221-222°, Bp_3 76-78°.

▷ Toxic by inhalation and skin absorption, TLV 25. ZE8750000.

B,HCl: [5417-45-8].
Cryst. Mp 254°.

N-*Formyl:*
$C_9H_{11}NO$ M 149.192
Cryst. Mp 102°.

N-*Ac:* [134-98-5].
$C_{10}H_{13}NO$ M 163.219
Used as 2% soln. in C_6H_6 for extraction-photometric detn. of W (with $SCN^{\ominus}$; λ_{max} 405 nm, ε 13100). Cryst. (EtOH aq.). Sol. C_6H_6. Mp 135°.
▷ AN7400000.

N-*Me:* [41456-51-3].
$C_9H_{13}N$ M 135.208
Oil. Bp 222-223°.

N-*Di-Me:* [24226-35-5].
$C_{10}H_{15}N$ M 149.235
Liq. Bp 199-200°, Bp_7 75°.

Smith, L.I. *et al*, *J. Org. Chem.*, 1941, **6**, 427 (*synth*)
Bergman, E.D. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 5803; *J. Org. Chem.*, 1961, **26**, 919 (*synth*)
Aaron, J.-J. *et al*, *Bull. Soc. Chim. Fr.*, 1971, 598 (*synth*)
Nasipuri, D. *et al*, *Indian J. Chem.*, 1972, **10**, 795 (*synth*)
Hallas, G. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1977, 450 (*synth*)
Behrmann, E.J. *et al*, *J. Org. Chem.*, 1978, **43**, 4551 (*synth*)
Mishra, N. *et al*, *Analyst (London)*, 1987, **112**, 1131 (*detn*, *W*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 928.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 534.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, XMJ000.

2,5-Dimethylaniline D-00828

2,5-Dimethylbenzenamine, 9CI. 2,5-Xylidine, 8CI. p-*Xylidine. 2-Amino*-p-*xylene*

[95-78-3]

$C_8H_{11}N$ M 121.182

Pale-yellow leaflets. Mod. sol. H_2O. Mp 15.5°. Bp 213-215°, Bp_4 83°.

▷ Toxic by inhalation and skin absorption, TLV 25. ZE9100000.

B,HCl: [51786-53-9].
Cryst. Mp 228°.
▷ ZF0350000.

N-*Formyl:* [10113-40-3].
$C_9H_{11}NO$ M 149.192
Cryst. (H_2O). Mp 116-117°.

N-*Ac:* [2050-44-4].
$C_{10}H_{13}NO$ M 163.219
Used as 0.15*M* soln. in C_6H_6 for extraction-photometric detn. of Au(*III*) (λ_{max} 400nm, ε 4800), W (λ_{max} 405 nm, ε 12400). Cryst. (H_2O or toluene). Sol. C_6H_6, $CHCl_3$. Mp 142°.
▷ AN7450000.

N-*Benzoyl:* [71114-52-8].
$C_{15}H_{15}NO$ M 225.290
Cryst. (EtOH). Mp 140°.

N-*Me:* [21354-48-3].
$C_9H_{13}N$ M 135.208
Yellow oil. Bp 225-227°, Bp_{10} 95-96°.

N-*Di-Me:* [17327-77-4].
$C_{10}H_{15}N$ M 149.235
Liq. Bp 204°, Bp_1 59°.

Shriner, R.L. *et al*, *Chem. Rev.*, 1944, **35**, 351 (*synth*)
Budzikiewicz, H. *et al*, *Monatsh. Chem.*, 1964, **95**, 1396 (*synth*)
Kovacic, P. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 100 (*synth*)
Brown, R.F.C. *et al*, *Can. J. Chem.*, 1968, **46**, 2577 (*nmr*)
Aaron, J.-J. *et al*, *Bull. Soc. Chim. Fr.*, 1971, 598 (*synth*)
Nara, K. *et al*, *CA*, 1974, **81**, 151678a (*synth*)
Kricka, L.J. *et al*, *Can. J. Chem.*, 1974, **52**, 299 (*synth*)
Lichter, R.L. *et al*, *Org. Magn. Reson.*, 1974, **6**, 636 (*nmr*)
Hallas, G. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1977, 559 (*synth*)
Weisburger, E.K. *et al*, *J. Environ. Pathol. Toxicol.*, 1978, **2**, 325 (*tox*)
Patel, K.S. *et al*, *Anal. Chem.*, 1986, **58**, 1547 (*detn, Au*)
Mishra, N. *et al*, *Analyst (London)*, 1987, **112**, 1131 (*detn, W*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 928.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 534.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, XNA000, XOS000.

2,6-Dimethylaniline D-00829

2,6-Dimethylbenzenamine, 9CI. 2,6-Xylidine, 8CI. 2-Amino-m-*xylene*

$C_8H_{11}N$ M 121.182

Liq. d^{20} 0.984. Mp 11°. Bp_{739} 214°. n_D^{20} 1.5610.

▷ Toxic by inhalation and skin absorption, TLV 25.

N-*Formyl:* [607-92-1].
$C_9H_{11}NO$ M 149.192
Cryst. (EtOH). Mp 176-177° (rapid heat).

N-*Ac:* [2198-53-0].
$C_{10}H_{13}NO$ M 163.219
Used as 2% soln. in C_6H_6 for extraction-photometric detn. of W (λ_{max} 405 nm, ε 13100). Cryst. Sol. C_6H_6. Mp 177°.
▷ AN7470000.

N-*Benzoyl:* [18109-39-2].
$C_{15}H_{15}NO$ M 225.290
Cryst. (EtOH aq.). Mp 168-168.5°.

N-*Me:* [767-71-5].
$C_9H_{13}N$ M 135.208
Oil. Bp 206-207°. Steam-volatile.

N-*Me*, N-*Ac:* [18835-47-7].
$C_{11}H_{15}NO$ M 177.246
Cryst. (Et_2O). Mp 94-95°.

N-*Di-Me:* [769-06-2].
$C_{10}H_{15}N$ M 149.235
Bp 195-196°, Bp_1 51°.

N-*Di-Me*, *1,3,5-trinitrobenzene complex:* Scarlet cryst. Mp 108°.

[21436-98-6]

Borkowski, W.C. *et al*, *J. Org. Chem.*, 1952, **17**, 1128 (*synth*)
Bock, H. *et al*, *Chem. Ber.*, 1966, **99**, 1347, 1361 (*synth*)
Miyajima, G. *et al*, *Chem. Pharm. Bull.*, 1971, **19**, 2301 (*synth*)
Gassmann, P.G. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 2448 (*synth*)
Watanabe, T. *et al*, *Chem. Lett.*, 1974, 7812 (*synth*)
Gribble, G.W. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 7812 (*synth*)
Bacaloglu, I. *et al*, *J. Prakt. Chem.*, 1974, **316**, 529 (*synth*)
Yoder, C.H. *et al*, *J. Org. Chem.*, 1976, **41**, 1511 (*nmr*)
Grimshaw, J. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1977, 2448 (*synth*)
Hallas, G. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1977, 559 (*synth*)
Mishra, N. *et al*, *Analyst (London)*, 1987, **112**, 1131 (*detn, W*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 928.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 534.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ABP250.

3,4-Dimethylaniline D-00830

3,4-Dimethylbenzenamine, 9CI. 3,4-Xylidine, 8CI. 4-Amino-o-*xylene*

[95-64-7]

$C_8H_{11}N$ M 121.182

Cryst. (pet. ether). Mp 51°. Bp_{22-25} 116-118°. pK_a 8.8.

▷ Toxic by inhalation and skin absorption, TLV 25. ZE9450000.

B,HCl: [7356-54-9].
Cryst. Mp 256°.

N-*Formyl:* [6639-60-7].
$C_9H_{11}NO$ M 149.192
Mp 52°.

N-*Di-Me:* [770-03-6].
$C_{10}H_{15}N$ M 149.235
Bp 232°, Bp_{11} 105°.

N-*Ac:* [2198-54-1].
$C_{10}H_{13}NO$ M 163.219
Used as 2% soln. in C_6H_6 for extraction-photometric detn. of W (λ_{max} 405 nm, ε 11700). Cryst. (EtOH aq.). Sol. C_6H_6. Mp 99°.
▷ AN7500000.

Ley, G., *Ber.*, 1921, **54**, 377 (*synth*)
Org. Synth., Coll. Vol., 3, 1955, 307 (*synth*)
Kovacic, P. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 100 (*synth*)
Dubois, J.E. *et al*, *Bull. Soc. Chim. Fr.*, 1968, 617 (*synth*)
Braeunigen, H. *et al*, *Pharmazie*, 1969, **24**, 24 (*synth*)
Hirashima, T. *et al*, *Chem. Lett.*, 1975, 259 (*synth*)
Netzel, D.A. *et al*, *Org. Magn. Reson.*, 1978, **11**, 58 (*nmr*)
Mishra, N. *et al*, *Analyst (London)*, 1987, **112**, 1131 (*detn, W*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 928.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 534.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ABP500, XNS000.

N,N-Dimethylaniline, 8CI D-00831

N,N-*Dimethylbenzenamine, 9CI*

[121-69-7]

$PhNMe_2$

$C_8H_{11}N$ M 121.182

Intermed. for dyestuffs. Base with various synthetic uses. Used for detn. of H_2O_2, H_2S, $NO_2^{\ominus}$. Yellowish-brown oily liq. d_4^{20} 0.9557. Mp 2.5°. Bp 193°, Bp_{13} 77°. Steam-volatile.

▷ Highly toxic by inhalation or skin absorption, TLV (skin) 25. Explosive mixt. with dibenzoyl peroxide. BX4725000.

B,HCl: [5882-44-0].
Cryst. Mp 85-95°. Hygroscopic.

B_2,H_2SO_4: Cryst. Mp 80°.

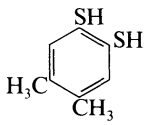
Picrate: Cryst. Mp 163-164°.

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, N.Y., 1947, **2** (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 147.
Ho, T.-L., *Synth. Commun.*, 1973, **3**, 99 (*synth*)
Watanabe, Y. *et al*, *Chem. Lett.*, 1974, 1265 (*synth*)
Gribble, G.W. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 7812 (*synth*)
Sutter, P. *et al*, *Phosphorus Sulfur Relat. Elem.*, 1978, **4**, 335 (*synth*)
Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1493 (*cmr*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 300.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DQF800.

4,5-Dimethyl-1,2-benzenedithiol, 9CI D-00832

4,5-Dimercapto-o-xylene

[37734-36-4]



$C_8H_{10}S_2$ M 170.299

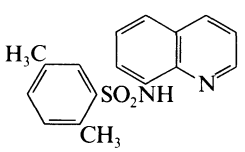
Complexing agent for transition metals. Used for extraction-photometric detn. of Mo, W (CCl_4). Cryst. (hexane). Mp 111°. pK_{a1} 707; pK_{a2} 11.29 (MeOH).

Di-Me ether: 1,2-Dimethyl-4,5-bis(methylthio)benzene. 4,5-Bis(methylthio)-o-xylene
$C_{10}H_{14}S_2$ M 198.353
Liq. Bp_{11} 175-178°.

Schroth, W. *et al*, *Z. Chem.*, 1964, **4**, 270; 1977, **77**, 411 (*synth*)
Billig, E. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 4870 (*synth, use*)
Hoyer, E. *et al*, *CA*, 1972, **77**, 83195f (*detn, Mo, V*)

(2,5-Dimethylbenzenesulfonylamino) quinoline D-00833

*2,5-Dimethyl-*N*-(8-quinolyl)benzenesulfonamide*



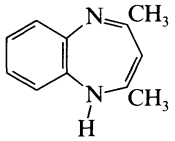
$C_{17}H_{16}N_2O_2S$ M 312.392

Used as a 0.1*M* soln. in EtOH or Me_2CO for pptn. of Ag, Co, Cu, Hg, Pb, Zn. Cryst. Mp 148-149°.

Billman, J.H. *et al*, *Anal. Chem.*, 1962, **34**, 408 (*use*)

2,4-Dimethyl-1*H*-1,5-benzodiazepine, 9CI D-00834

[68537-93-9]



$C_{11}H_{12}N_2$ M 172.229

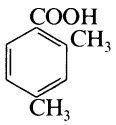
Used as 0.1% MeOH soln. as an acid-base indicator (colour change: pink → yellow). Cryst. Sol. MeOH; sl. sol. H_2O. pK_a 8.60 (H_2O).

Omar, N.M., *Indian J. Chem.*, 1974, **12**, 498 (*synth*)
El-Rabbat, N.A. *et al*, *Analyst (London)*, 1980, **105**, 165 (*use, ind*)

2,4-Dimethylbenzoic acid, 9CI, 8CI D-00835

unsym-m-*Xylylic acid*

[611-01-8]



$C_9H_{10}O_2$ M 150.177

Cryst. (EtOH aq.). Mp 126-127°. Bp_{727} 267°. pK_{a1} 4.22 (25°). Sublimes.

Me ester: [23617-71-2].
$C_{10}H_{12}O_2$ M 164.204
Cryst. Mp 232-233°.

Chloride: [21900-42-5].
C_9H_9ClO M 168.622
Cryst. Mp 25.5°. Bp 234-236°, Bp_{15} 113-115°.

Amide: [73258-94-3].
$C_9H_{11}NO$ M 149.192
Cryst. (EtOH). Mp 179-181°.

Amide, oxime: [52400-13-2]. N-*Hydroxy-2,4-dimethylbenzenecarboximidamide, 9CI. 2,4-Dimethylbenzamidoxime*
$C_9H_{12}N_2O$ M 164.207
Used as 0.01*M* soln. in EtOH for photometric detn. of Co. Cryst. Sol. hot H_2O, EtOH, $CHCl_3$. Mp 176-177°.

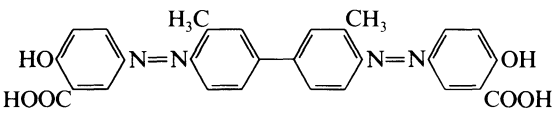
Nitrile: [21789-36-6]. *1-Cyano-2,4-dimethylbenzene*
C_9H_9N M 131.177
Mp 23-25°. Bp 223°.

Gattermann, L. *et al*, *Justus Liebigs Ann. Chem.*, 1888, **244**, 53 (*synth*)
Openheimer, E., *Ber.*, 1889, **22**, 2442 (*synth*)
Perkin, W.H. *et al*, *J. Chem. Soc.*, 1925, 2283 (*synth*)
Manolov, K. *et al*, *Mikrochim. Acta*, 1974, 231.
McAlees, A.J. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1977, 203 (*synth*)

3,3′-[(3,3′-Dimethyl-[1,1′-biphenyl]-4,4′-diyl)bis(azo)]bis[6-hydroxybenzoic acid], 9CI D-00836

5,5′-Bis(3,3′-dimethyl-4,4′-diphenylenediazo)disalicylic acid

[58607-99-1]



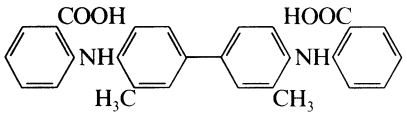
$C_{28}H_{22}N_4O_6$ M 510.505

Used as a 0.1% soln. in dil. alkalis for photometric detn. of Be. Orange cryst. (EtOH). Sol. alkalis, EtOH; insol. H_2O.

Bajulescu, G.E. *et al*, *Rev. Chim. (Bucharest)*, 1975, **26**, 764.

2,2′-[(3,3′-Dimethyl[1,1′-biphenyl]-4,4′-diyl)diimino]bisbenzoic acid D-00837

Diphenylditolidine-2,2′-dicarboxylic acid. N,N′-*Bis(2-carboxyphenyl)-3,3′-dimethylbenzidine*



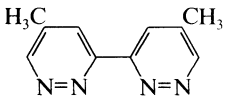
$C_{28}H_{24}N_2O_4$ M 452.509

Used as a 0.1 or 1% soln. in conc. H_2SO_4 for photometric detn. of V (λ_{max} 568 nm, ε 52000); redox indicator (colour change: colourless → blue). Cryst. powder. Sol. alkalis, conc. acids.

Frumina, N.S. *et al*, *Talanta*, 1969, **16**, 138.

5,5′-Dimethyl-3,3′-bipyridazine D-00838

[24049-48-7]



$C_{10}H_{10}N_4$ M 186.216

Used as a soln. in MeOH for photometric detn. of Fe(*II*). Cryst. (Et_2O). Sol. Et_2O, C_6H_6, EtOH; insol. H_2O. Mp 163-164°.

Igeta, H. *et al*, *Tetrahedron Lett.*, 1969, 2359 (*synth*)
Maeda, M. *et al*, *Chem. Pharm. Bull.*, 1970, **18**, 1548 (*detn, Fe*)

6,6′-Dimethyl-3,3′-bipyridazine D-00839

[24049-45-4]

$C_{10}H_{10}N_4$ M 186.216

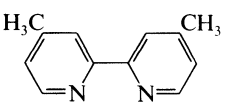
Used as MeOH soln. for photometric detn. of Fe(*II*). Cryst. (EtOAc). Sol. Et_2O, C_6H_6, EtOH; insol. H_2O. Mp 234-235°.

Igeta, H. *et al*, *Tetrahedron Lett.*, 1969, 2359 (*synth*)
Maeda, M. *et al*, *Chem. Pharm. Bull.*, 1970, **18**, 1548 (*detn, Fe*)

4,4′-Dimethyl-2,2′-bipyridine, 9CI D-00840

2,2′-Bi-4-picoline, 8CI

[1134-35-6]



$C_{12}H_{12}N_2$ M 184.240

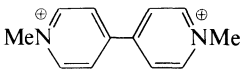
Used in photometric detn. of Fe(*II*), Cu(*I*), Co, Ni; pptn. of $Zn(SCN)_4^{2\ominus}$, $Cd(SCN)_4^{2\ominus}$. Mp 175-179°.

Schilt, A., *Analytical Applications of 1,10-Phenanthroline and Related Compounds*, Pergamon, Oxford, 1969 (*use*)
Haginiwa, J. *et al*, *Yakugaku Zasshi*, 1973, **93**, 144 (*synth*)
Sprintschnik, G. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 4947 (*synth, nmr*)

1,1′-Dimethyl-4,4′-bipyridinium(2+), 9CI, 8CI D-00841

N,N′-*Dimethyl-4,4′-bipyridyl (2+)*. N,N′-*Dimethylviologen. Paraquat, BSI*

[4685-14-7]



$C_{12}H_{14}N_2^{2\oplus}$ M 186.256 (ion)

Herbicide.

▷ V. highly toxic orally, freq. cause of fatal poisoning. Exp. teratogen. DW1960000.

Dichloride: [1910-42-5]. *Paraquat dichloride*

$C_{12}H_{14}Cl_2N_2$ M 257.161

Constit. of numerous proprietary herbicides e.g. Weedol. Used as dil. AcOH soln. as redox indicator (reduced form is blue). V. air-sensitive needles ($MeOH/Me_2CO$). V. sol. H_2O; sl. sol. MeOH, EtOH; insol. nonpolar solvs. Mp 300° approx. dec.

▷ LD_{50} 26 mg/kg (rat, i.p.). DW2275000.

Bismethylsulfate: [2074-50-2].

$C_{14}H_{20}N_2O_8S$ M 376.387

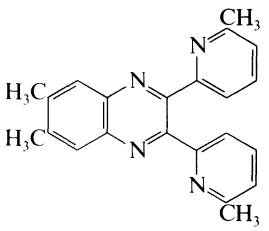
Formerly-used commercial form of Paraquat. Mp 300° approx. dec.

▷ DW2010000.

Michaelis, L. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 1481 (*synth*)
Brian, R.C., *Nature (London)*, 1958, **181**, 446 (*rev*)
Haque, R. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 3822 (*pmr*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 520 (*use*)
Calderbank, A. *et al*, *Herbic.: Chem., Degrad. Mode Action (2nd Ed.)*, Vol 2, 2nd Ed., Dekker, N.Y., 1976, 501 (*rev*)
Pesticide Manual, 9th Ed., 1991, 646.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PAI990, PAI995, PAJ000, PAJ250.

6,7-Dimethyl-2,3-bis(6-methyl-2-pyridinyl) quinoxaline, 9CI D-00842

[17401-61-5]



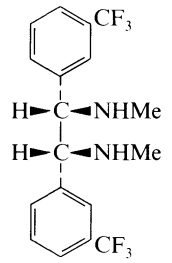
$C_{22}H_{20}N_4$ M 340.427

Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 515 nm, ε 5210, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 159°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)

N,N'-Dimethyl-1,2-bis[3-(trifluoromethyl) phenyl]-1,2-ethanediamine, 9CI D-00843

[120263-19-6]



$C_{18}H_{18}F_6N_2$ M 376.344

(R,R)-form

(+)-form

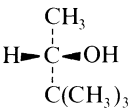
Reagent for detn. of the enantiomeric purity of aldehydes using ^{19}F nmr. Cryst. Mp 115°. $[\alpha]_D^{25}$ +17° (c, 0.5 in $CHCl_3$).

Cuvinot, D. *et al*, *J. Org. Chem.*, 1989, **54**, 2420 (*use*)

3,3-Dimethyl-2-butanol D-00844

Pinacolin alcohol. Pinacolyl alcohol. Methyl-tert-*butylcarbinol*

[464-07-3]



(S)-form Absolute configuration

$C_6H_{14}O$ M 102.176

(S)-form [1517-67-5]

Used in the resolution of amino acids. $[\alpha]_D^{20}$ +7.71°.

Ac:

$C_8H_{16}O_2$ M 144.213

Bp_{756} 141°. $[\alpha]_D^{25}$ +9.63°.

(±)-form [20281-91-8]

Spar. sol. H_2O. Mp 5.6°. Bp 121°.

Ac: Bp_{740} 141.2-141.4°.

Delacre, M., *Z. Phys. Chem.* (*Leipzig*), 1906, **1**, 1234 (*synth*)
Pickard, R.H. *et al*, *J. Chem. Soc.*, 1914, **105**, 1120 (*synth*)
Jacobus, J. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 1998 (*abs config*)
Ayers, G.S. *et al*, *J. Chromatogr.*, 1971, **63**, 259 (*use*)

3,3-Dimethyl-2-butanone, 9CI D-00845

1,1,1-Trimethylacetone. Pinacolone. tert-*Butyl methyl ketone*

[75-97-8]

$(H_3C)_3CCOCH_3$

$C_6H_{12}O$ M 100.160

Used as a 0.1*M* soln. in C_6H_6 extraction-photometric detn. of Fe (λ_{max} 435 nm, ε 4300). Liq. with camphoraceous odour. Bp 106.0-106.1°. Steam-volatile.

▷ EL7700000.

2,4-Dinitrophenylhydrazone: [964-53-4].

Yellow cryst. (EtOH). Mp 126-127°.

Oxime: [2475-93-6].

$C_6H_{13}NO$ M 115.175

Needles (EtOH aq.). Mp 78.5-79.5°. Bp_{748} 171.6°.

Org. Synth., Coll. Vol., 1, 1932, 462 (*synth, props*)
Emerson, W.S., *J. Am. Chem. Soc.*, 1947, **69**, 1212 (*synth*)
Koshimura, H., *Bunseki Kagaku* (*Jpn. Anal.*), 1972, **21**, 652 (*detn, Fe*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DQU000.

Dimethylcarbamodiselenoic acid, 9CI D-00846

Dimethyldiselenocarbamic acid

$Me_2NC(Se)SeH$

$C_3H_7NSe_2$ M 215.015

Orange cryst. Insol. H_2O. Mp 98-105°.

Na salt: [51895-44-4].

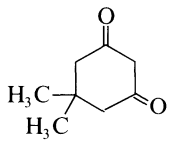
Used for extraction-photometric detn. of Bi (λ_{max} 410 nm, ε 9750, $CHCl_3$), Co (λ_{max} 405 nm, ε 13300, $CHCl_3$), Cu (λ_{max} 490 nm, ε 11000, $CHCl_3$), Ni (λ_{max} 423 nm, ε 8600, $CHCl_3$). Cryst. Sol. H_2O.

Barnard, D. *et al*, *J. Chem. Soc.*, 1961, 2922 (*synth*)
Kirspuu, K.K. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 354 (*use*)

5,5-Dimethyl-1,3-cyclohexanedione, 9CI D-00847

5,5-Dimethyldihydroresorcinol. Methone. Dimedone

[126-81-8]



$C_8H_{12}O_2$ M 140.182

Characterising reagent for carbonyl compds., protecting agent for NH_2 groups. Used in photometric detn. of $CN^{\ominus}$. Monoclinic needles or prisms. Sol. $CHCl_3$, C_6H_6; spar. sol. pet. ether, H_2O. pK_{a1} 5.27 (25°).

Monoxime:

$C_8H_{13}NO_2$ M 155.196

Cryst. Mp 115°. Also exists in an amorph. form.

Dioxime:

$C_8H_{14}N_2O_2$ M 170.211

Used as 0.5% soln. in EtOH for photometric detn. of Co (λ_{max} 400 nm, ε 23000). Prisms + $2H_2O$. Sol. alkaline aq. solns., alcohols, $CHCl_3$. Mp 176° (anhyd.), Mp 170°.

Bisthiosemicarbazone: [79811-20-4].

$C_{10}H_{18}N_6S_2$ M 286.424

Used as 0.01*M* soln. of hydrochloride in 0.1*M* $HClO_4$ for photometric detn. of $ClO_3^{\ominus}$ (λ_{max} 417 nm, ε 18600, 70% $HClO_4$ medium), $BrO_3^{\ominus}$ (λ_{max} 415 nm), $IO_3^{\ominus}$, $IO_4^{\ominus}$, $NO_2^{\ominus}$, Pb, Zn. Yellow cryst. (EtOH) (as hydrochloride). Sol. acids, EtOH, DMF. Mp 187-189° (as hydrochloride). Reg. no. refers to hydrochloride.

Bis(phenylthiosemicarbazone): [77783-19-8]. *2-[5,5-Dimethyl-3-[2-[(phenylamino)thioxomethylhydrazino]-2-cyclohexen-1-ylidene]]-N-phenylhydrazinecarbothioamide, 9CI*

$C_{22}H_{26}N_6S_2$ M 438.620

Used as 0.1% soln. in DMF to give colour reactions with Fe, Ni, Co, Cd, Bi; kinetic-photometric detn. of Cu (λ_{max} 430 nm). Yellow cryst. (EtOH). Sol. DMF; spar. sol. EtOH, pentanol, $CHCl_3$. Mp 189-191°. pK_{a1} 3.85; pK_{a2} 7.85.

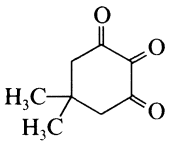
[82531-23-5]

Org. Synth., Coll. Vol., 2, 1943, 200 (*synth*)
Halpern, B. *et al*, *Aust. J. Chem.*, 1964, **17**, 1282 (*use*)
Goto, T. *et al*, *Tetrahedron Lett.*, 1965, 757 (*ms*)
Kratochvil, V., *Collect. Czech. Chem. Commun.*, 1969, **25**, 299 (*detn, $CN^{\ominus}$*)
Belcher, R. *et al*, *Talanta*, 1974, **21**, 191 (*detn, Co, synth*)
Singh, I. *et al*, *Can. J. Chem.*, 1975, **53**, 1046 (*cryst struct*)
Rodriquez, J. *et al*, *Talanta*, 1981, **28**, 131 (*synth, reactions*)

Munoz Leyra, J.A. *et al*, *An. Quim., Ser. B*, 1982, **78**, 132 (*use*)
Callejon Mochon, M. *et al*, *Anal. Chim. Acta*, 1982, **140**, 271 (*detn*, $IO_4^{\ominus}$)
Salinas, F. *et al*, *Anal. Lett.*, 1984, **17**, 993 (*detn*, *Zn*)
Munoz Leyra, J.A. *et al*, *Mikrochim. Acta*, 1984, **3**, 295 (*detn*, $ClO_3^{\ominus}$)
Jimenez Sanchez, J.C. *et al*, *Microchem. J.*, 1985, **32**, 69 (*synth*, *thiosemicarbazone*, *detn*, $NO_2^{\ominus}$)
Rodriguez, J. *et al*, *Mikrochim. Acta*, 1985, **1**, 69 (*detn*, *Cu*)
Salinas, C. *et al*, *Quim. Anal.* (*Madrid*), 1986, **5**, 197 (*detn*, *Pb*)

5,5-Dimethyl-1,2,3-cyclohexanetrione D-00848

[32999-99-8]



$C_8H_{10}O_3$ M 154.165
Red-violet cryst. ($CHCl_2/Et_2O$). Mp 70-72°.

2-Oxime: [2703-74-4]. *Isonitrosodimedone*
$C_8H_{11}NO_3$ M 169.180
Used as a 0.025% soln. in isopentanol for extraction-photometric and gravimetric detn. of Co (λ_{max} 374 nm, ε 20000). Cryst. Sol. isopentanol.

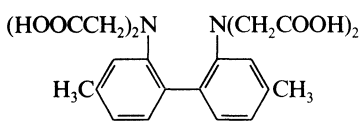
1,2-Dioxime, 3-thiosemicarbazone: [99688-02-5]. *2-[2,3-Bis(hydroxyimino)-5,5-dimethylcyclohexylidene] hydrazinecarbothioamide*, *9CI*
$C_9H_{15}N_5O_2S$ M 257.316
Used as a 0.5% soln. in DMF for extraction-photometric detn. of Fe (pentanol). Yellow cryst. (EtOH aq.). V. sol. DMF; sol. EtOH (1.45 g per 100 cm^3); spar. sol. H_2O (0.02 g per 100 cm^3). Mp 183-185°. pK_{a1} 4.41; pK_{a2} 6.26; pK_{a3} 13.9 (μ = 0.1, 20°).

2-Oxime, 3-thiosemicarbazone:
$C_9H_{14}N_4O_2S$ M 242.301
Used as DMF soln. for photometric detn. of Cu(*II*) (λ_{max} 465 nm, ε 5500), Fe(*II*). Yellow cryst. Sol. DMF, EtOH.

2-Oxime, 1,3-bisthiosemicarbazone: [98296-38-9].
$C_{10}H_{17}N_7OS_2$ M 315.423
Used as 0.085% soln. in DMF for photometric detn. of Fe(*II*) (λ_{max} 565 nm, ε 9800), Cr(*VI*) (λ_{max} 485 nm, ε 5600), Co; as EtOH soln. for photometric detn. of Ni (λ_{max} 440 nm, ε 7200), Co (λ_{max} 400 nm, ε 10000). Yellow cryst. (EtOH). Sol. DMF, EtOH. Mp 182-184°.

Guhra-Sircar, S.S. *et al*, *J. Indian Chem. Soc.*, 1941, **18**, 155 (*2-oxime*, *detn*, *Co*)
Gillis, J. *et al*, *Mikrochemie*, 1953, 244 (*2-oxime*, *detn*, *Co*)
van den Bossche, W. *et al*, *Anal. Chim. Acta*, 1958, **18**, 564 (*2-oxime*, *detn*, *Co*)
Schank, K. *et al*, *Synthesis*, 1983, 392 (*synth*)
Salinas, F. *et al*, *Mikrochim. Acta*, 1985, **1**, 245 (*detn*, *Cr*)
Salinas, F. *et al*, *Talanta*, 1985, **32**, 1074; 1987, **34**, 655 (*synth*, *use*)
Salinas, F. *et al*, *Anal. Chem.*, 1986, 824 (*synth*, *detn*, *Fe*)
Salinas, F. *et al*, *Ann. Chim.* (*Rome*), 1986, **76**, 301, 387 (*detn*, *Co*, *Cu*)
Salinas, F. *et al*, *Bull. Soc. Chim. Belg.*, 1987, **96**, 73 (*detn*, *Fe*, *Ni*)
Salinas, F. *et al*, *Microchem. J.*, 1987, **35**, 157 (*detn*, *Fe*)

4,4′-Dimethyl-2,2′-diaminobiphenyl-*N,N,N′,N′*-tetraacetic acid D-00849



$C_{22}H_{24}N_2O_8$ M 444.440

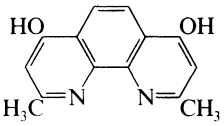
Tetra-Na salt: Used as metallofluorescent indicator in titrimetric detn. of Co, Cr, Cu, Mn, Zn, Ni. Cryst.

Kirkbright, G. *et al*, *Anal. Chim. Acta*, 1965, **32**, 544 (*synth*, *use*)

2,9-Dimethyl-4,7-dihydroxy-1,10-phenanthroline D-00850

2,9-Dimethyl-1,10-phenanthroline-4,7-diol, *9CI*

[27337-63-9]



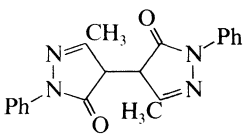
$C_{14}H_{12}N_2O_2$ M 240.261
Used as 0.01*M* soln. in 0.1*M* NaOH for photometric detn. of Cu (λ_{max} 400 nm, ε 11500).

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 647 (*synth*)
Dunbar, W.E. *et al*, *Talanta*, 1972, **19**, 1025.

3,3′-Dimethyl-1,1′-diphenyl-[4,4′-bi-2-pyrazoline]-5,5′-dione, 8CI D-00851

Bispyrazolone

[7477-67-0]



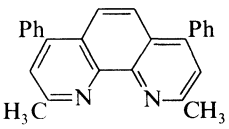
$C_{20}H_{18}N_4O_2$ M 346.388
Used as a 0.3% soln. in 0.5*M* Na_2CO_3 for photometric detn. of NH_3, $CN^{\ominus}$. Cryst. (EtOH). Sol. EtOH, Me_2CO; sl. sol. H_2O.

Epstein, J., *Anal. Chem.*, 1947, **19**, 272 (*detn*, $CN^{\ominus}$)
Procházková, L. *et al*, *Anal. Chem.*, 1964, **36**, 865.

2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline, 9CI D-00852

Bathocuproine

[4733-39-5]



$C_{26}H_{20}N_2$ M 360.457
Used as 2*mM* soln. in EtOH for photometric detn. of Cu (λ_{max} 479 nm, ε 14200). Cryst. (EtOH). Sol. EtOH, C_6H_6, Me_2CO; spar. sol. H_2O. Mp 282-283°.

Smith, G.F. *et al*, *Anal. Chem.*, 1953, **25**, 510 (*detn*, *Cu*)
Case, F.H. *et al*, *J. Org. Chem.*, 1954, **19**, 919 (*synth*)
Borchardt, L.G. *et al*, *Anal. Chem.*, 1957, **29**, 414 (*detn*, *Cu*)
Penner, E.M. *et al*, *Talanta*, 1963, **10**, 407 (*detn*, *Cu*)
Schilt, A.A., *Analytical Applications of 1,10-Phenanthroline and Related Compounds*, Pergamon, Oxford, 1969.
Jackwerth, E. *et al*, *Anal. Chem.*, 1971, **255**, 194 (*detn*, *Cu*)
Snell, F.D., *Photometric and Fluorimetric Methods of Analysis*, *Metals*, *Part 1*, John Wiley, New York, 1978, 148.

1,1-Dimethyl-*N*,*N*-diphenyl-1-(2-propenyl) silanamine, 9CI D-00853

Allyldimethylsilyl-N,N-*diphenylamine*. (*Diphenylamino*) *dimethyl-2-propenylsilane*. *ADMSDPA*

[126235-53-8]

$Ph_2NSiMe_2CH_2CH{=}CH_2$

$C_{17}H_{21}NSi$ M 267.445

Silylation reagent for prostaglandins and steroids. Oil. $Bp_{0.55}$ 100-108°.

Steffenrud, S. *et al*, *J. Chromatogr. Sci.*, 1989, **27**, 545 (*synth, use*)

Dimethyl(dipropoxymethyl)amine D-00854

N,N-*Dimethyl-1,1-dipropoxymethanamine*, *9CI*. *1,1-Dipropoxytrimethylamine*, *8CI*. *Dimethylformamide dipropyl acetal*

[6006-65-1]

$(H_3CCH_2CH_2O)_2CHNMe_2$

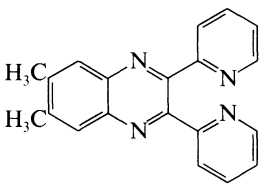
$C_9H_{21}NO_2$ M 175.270

Alkylating reagent used for derivatisation of fatty acids and amino acids for gc anal. Oil. Bp 173-175°, Bp_{12} 57-59°. n_D^{20} 1.4089.

Bredereck, H. *et al*, *Chem. Ber.*, 1968, **101**, 41 (*synth*)
Thenot, J.P. *et al*, *Anal. Lett.*, 1972, **5**, 217, 519 (*use*)
Kantlehner, W. *et al*, *Chem. Ber.*, 1972, **105**, 1340 (*synth*)

6,7-Dimethyl-2,3-di(2-pyridyl)quinoxaline, 8CI D-00855

[6627-38-9]



$C_{20}H_{16}N_4$ M 312.373

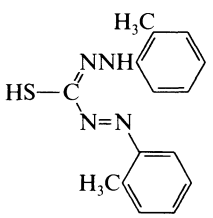
Used for extraction-photometric detn. of Cu (λ_{max} 418 nm, 514 nm, dichloroethane). Cryst. (EtOH). Spar. sol. EtOH; insol. H_2O; sol. dichloroethane. Mp 191-195°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)
Forster, D. *et al*, *Anal. Chim. Acta*, 1968, **40**, 350; 1969, **47**, 154 (*detn, Cu*)
Trusell, F.C. *et al*, *Anal. Chim. Acta*, 1968, **40**, 350.

2,2′-Dimethyldithizone D-00856

2-Methylphenyldiazenecarbothioic acid 2-(2-methylphenyl) hydrazide, *9CI*. *Di-2-tolylthiocarbazone*

[3982-97-6]



$C_{15}H_{16}N_4S$ M 284.384

Used as a 0.01% soln. in $CHCl_3$ or CCl_4 for extraction-photometric detn. of Cd, Cu, Hg, Ni, Zn (CCl_4). Greenish black cryst. powder. Sol. $CHCl_3$, CCl_4, EtOH, alkalis; insol. H_2O.

Takei, S. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1957, **6**, 630; 1961, **10**, 708.
Math, K.S. *et al*, *Anal. Chem.*, 1964, **36**, 1762 (*detn, Ni, Zn*)
McClellan, B.E. *et al*, *Anal. Chem.*, 1964, **36**, 2263.
Than, E. *et al*, *Z. Chem.*, 1968, **8**, 348; *CA*, **70**, 16794t (*detn, Cd*)
Juette, B.A. *et al*, *Talanta*, 1971, **18**, 965 (*detn, Hg*)

3,3′-Dimethyldithizone D-00857

3-Methylphenyldiazenecarbothioic acid 2-(3-methylphenyl) hydrazide, *9CI*. *Di*-m-*tolylthiocarbazone*

[6939-79-3]

$C_{15}H_{16}N_4S$ M 284.384

Used as a 0.01% soln. in $CHCl_3$ or CCl_4 for extraction-photometric detn. of Cd (λ_{max} 620 nm, ε 34000, $CHCl_3$). Greenish black cryst. powder. Sol. $CHCl_3$, CCl_4, EtOH, alkalis; insol. H_2O.

Than, E. *et al*, *Z. Chem.*, 1968, **8**, 348 (*use*)

4,4′-Dimethyldithizone D-00858

4-Methylphenyldiazenecarbothioic acid 2-(4-methylphenyl) hydrazide, *9CI*. *Di*-p-*tolylthiocarbazone*

[16026-13-4]

$C_{15}H_{16}N_4S$ M 284.384

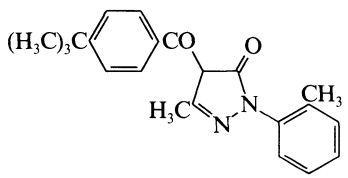
Used as a 0.01% soln. in $CHCl_3$ or CCl_4 for extraction-photometric detn. of Cd, Cu, Hg, Ni, Zn ($CHCl_3$). Greenish black cryst. powder. Sol. $CHCl_3$, CCl_4, EtOH, alkalis; insol. H_2O. pK_a 6.40 (μ = 0.1, 50% dioxan).

Hubbard, D.M. *et al*, *J. Am. Chem. Soc.*, 1943, **65**, 2390 (*synth*)
Takei, S. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1956, **5**, 695 (*detn, Cu, Hg*)
Busev, A.I. *et al*, *Zh. Neorg. Khim.*, 1961, **6**, 2805 (*detn, Cu, Hg*)
Math, K.S. *et al*, *Anal. Chem.*, 1964, **36**, 1762 (*detn, Ni, Zn*)
Than, E. *et al*, *Z. Chem.*, 1968, **8**, 348 (*use*)

4-[4-(1,1-Dimethylethyl)benzoyl]-2,4-dihydro-5-methyl-2-(2-methylphenyl)-3*H*-pyrazol-3-one, 9CI D-00859

4-(p-tert-*Butylbenzoyl*)-*3-methyl-1*-o-*tolyl-5-pyrazolone*

[123035-91-6]



$C_{22}H_{24}N_2O_2$ M 348.444

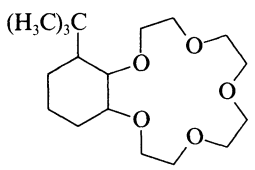
Used as a 0.01*M* C_6H_6 soln. for extraction separation of Li and Na. Cryst. (dioxan aq.). Sol. dioxan, cyclohexane, C_6H_6, $CHCl_3$. Mp 168°.

Mukai, H. *et al*, *Anal. Chim. Acta*, 1989, **220**, 111 (*synth, use*)

15-(1,1-Dimethylethyl)tetradecahydro-1,4,7,10,13-benzopentaoxacyclopentadecin, 9CI D-00860

4-tert-*Butylcyclohexyl-15-crown-5*

[17454-49-8]



$C_{18}H_{34}O_5$ M 330.464
Used for extraction of lanthanides. Cryst. Sol. toluene.

Ensor, D.D. *et al*, *Anal. Chem.*, 1986, **58**, 1814 (*use*)

Dimethylformamide, 9CI D-00861

Formyldimethylamine

[68-12-2]

$HCONMe_2$

C_3H_7NO M 73.094
Widely used solv. and reagent in org. synth. and chemical analysis. Liq. Misc. H_2O, EtOH, Et_2O, C_6H_6, $CHCl_3$. $d_4^{22.4}$ 0.945. Mp −61°. Bp 153°, Bp_{39} 76°. $n_D^{22.4}$ 1.4294.

▷ Highly toxic by inhalation, mod. toxic by skin absorption. Reacts violently with many materials. LQ2100000.

Diethyl acetal: see *(Diethoxymethyl)dimethylamine*, *D-00313*

Dipropyl acetal: see *Dimethyl(dipropoxymethyl)amine*, *D-00854*

Dibutyl acetal: see *1,1-Dibutoxytrimethylamine*, *D-00221*

*Di-*tert*-butyl acetal:* see *1,1-Di-*tert*-butoxytrimethylamine*, *D-00222*

Benneville, P.L. *et al*, *J. Org. Chem.*, 1956, **21**, 772 (*synth*)
McClelland, R.A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1974, 824 (*pmr*)
Pizey, J.S., *Synth. Reagents*, Ellis Horwood, 1974, **1**, 1 (*rev, bibl*)
Kudo, K. *et al*, *Chem. Lett.*, 1977, 1495 (*synth*)
Fritz, H. *et al*, *Org. Magn. Reson.*, 1977, **9**, 108 (*cmr*)
Sandell, E.B. *et al*, *Photometric Determination of Traces of Metals*, Wiley, New York, 1978 (*use*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **11**, 263 (*rev*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 189.
Gescher, A., *Chem. Br.*, 1990, 435 (*tox*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 303.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DSB000.

Dimethylglyoxime D-00862

2,3-Butanedione dioxime. Biacetyl dioxime. Diethyl dioxime. Chugaev's reagent. DMG. H_2Dm

[95-45-4]

$$\begin{matrix} H_3CC{=}NOH \\ | \\ H_3CC{=}NOH \end{matrix}$$

$C_4H_8N_2O_2$ M 116.119
Used in detn. of Ni, Pd; gravimetric detn. of Ni (red pptn.), Pd (yellow), photometric detn. of Ni (λ_{max} 445 nm, ε 15000), Pd, Co, Fe, Cu, Re; in separation of Ni, Pd by extraction ($CHCl_3$) or pptn. as $M(HDm)_2$. Triclinic cryst. (EtOH aq.). Sol. EtOH, Me_2CO, Et_2O, alk. soln.; v. spar. sol. H_2O, $CHCl_3$. Mp 238-240°.

▷ EK2975000.

Dibenzoyl: [18128-12-6].
$C_{18}H_{16}N_2O_4$ M 324.335
Needles. Mp 225°.

Chugaev, L.A., *Ber.*, 1905, **38**, 2520.
Org. Synth., Coll. Vol., 2, 1943, 204 (*synth*)
Christopherson, H. *et al*, *Anal. Chim. Acta*, 1954, **10**, 1 (*detn, Ni*)
Norwitz, G. *et al*, *Anal. Chem.*, 1965, **37**, 417 (*use, Ni*)
Davis, W.F., *Talanta*, 1969, **16**, 1330 (*use, Pd*)
Schienbaum, M.L., *J. Org. Chem.*, 1970, **35**, 2790 (*synth*)
Singh, R.B. *et al*, *Talanta*, 1979, **26**, 425 (*rev*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 393.
Onishi, H., *Photometric Determination of Traces of Metals, Part IIb: Individual Metals. Magnesium to Zinc*, John Wiley, New York, 1989, 125.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DBH000.

5,5-Dimethyl-2,4-hexanedione, 9CI D-00863

Pivalylacetone. Acetylpinacolin

[7307-04-2]

$(H_3C)_3CCOCH_2COCH_3$

$C_8H_{14}O_2$ M 142.197
Used as a 0.1*M* soln. in C_6H_6 for extraction-photometric detn. of Cu; extraction separation of transition metals. Fragrant oil. Sol. common org. solvs. Bp_{745} 170-171°.

Cu complex: Purple prisms. Mp 196-197° (190°).

Morgan, G.T. *et al*, *J. Chem. Soc.*, 1922, **121**, 922 (*synth*)
Koshimura, H. *et al*, *Anal. Chim. Acta*, 1970, **49**, 67 (*use*)
Koshimura, H. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1973, **22**, 97 (*detn, Cu*)
Cornforth, J. *et al*, *Aust. J. Chem.*, 1984, **37**, 1453 (*synth*)

1,1-Dimethylhydrazine, 9CI D-00864

Dimazine. UDMH

[57-14-7]

Me_2NNH_2

$C_2H_8N_2$ M 60.099
Rocket propellant. Protecting group for carbonyl compds., reagent for conversion of aldehydes to nitriles. Anal. reagent for carbonyl compds. Liq. with ammoniacal odour. Sol. H_2O, EtOH. d^{22} 0.791. Mp −58°. Bp 63°. n_D^{22} 1.4075. V. hygroscopic.

▷ Highly corrosive to eyes, skin and mucous membranes. Convulsant poison. TLV 1. Suspected carcinogen. Ignites violently with oxidants. MV2450000.

B,HCl: [593-82-8].
Hygroscopic cryst. (EtOH). Mp 83°.
▷ MV2900000.

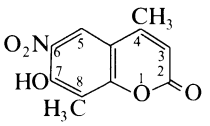
Oxalate: Mp 142-143°.
Picrate: Mp 145-146° dec.

Org. Synth., 1936, **16**, 22 (*synth*)
Rowe, R.A. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 563 (*synth*)
Vanden Heuval, W.J.A. *et al*, *Biochim. Biophys. Acta*, 1963, **74**, 560 (*use*)
Ohme, R. *et al*, *Justus Liebigs Ann. Chem.*, 1968, **713**, 74 (*synth*)
Zenkovich, I.G. *et al*, *J. Org. Chem. USSR (Engl. Transl.)*, 1978, **14**, 1047 (*ms*)
Schantl, J. *et al*, *Monatsh. Chem.*, 1978, **109**, 1481 (*pmr*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **2**, 279; **12**, 739, 766 (*rev*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 192.
Sisler, H.H. *et al*, *Inorg. Chem.*, 1980, **19**, 2846 (*synth*)
Mathis, R. *et al*, *Spectrochim. Acta, Part A*, 1981, **37**, 677; 1982, **38**, 133; 1986, **42**, 519 (*ir*)
McDaniel, C.A. *et al*, *J. Chem. Ecol.*, 1985, **11**, 303 (*use*)
Riggs, N.V. *et al*, *Aust. J. Chem.*, 1987, **40**, 1783 (*struct, conformn*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 304.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DSF400, DSG000.

4,8-Dimethyl-7-hydroxy-6-nitro-2*H*-1-benzopyran-2-one, 9CI D-00865

7-Hydroxy-4,8-dimethyl-6-nitrocoumarin, 8CI

[10080-43-0]



$C_{11}H_9NO_5$ M 235.196

Colorimetric reagent for $NO_3^{\ominus}$. Mp 226-227°.

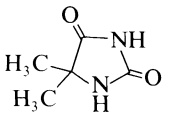
Moffett, R.B., *J. Med. Chem.*, 1962, **5**, 335.

Laby, R.H. *et al*, *Nature (London)*, 1966, **210**, 298 (*synth, uv*)

5,5-Dimethyl-2,4-imidazolidinedione, 9CI D-00866

5,5-Dimethylhydantoin

[77-71-4]



$C_5H_8N_2O_2$ M 128.130

Reagent for amine synth. Prisms (EtOH). Sol. H_2O. Mp 175°. Sublimes.

▷ MU0977000.

3-N-Ac:

$C_7H_{10}N_2O_3$ M 170.168

Mp 192°.

1,3-N-Di-Ac: [36452-35-4].

$C_9H_{12}N_2O_4$ M 212.205

Mp 186-187°.

1-N-Me, 3-N-Ac: [22820-92-4]. *3-Acetyl-1,5,5-trimethyl-2,4-imidazolidinedione*

$C_8H_{12}N_2O_3$ M 184.194

Selective acetylating agent for phenolic OH groups. Mp 126-127°.

1,3-N-Dichloro: [118-52-5]. *1,3-Dichloro-5,5-dimethyl-2,4-imidazolidinedione, 9CI. Dichlorohydantoin. Dactin. Halane*

$C_5H_6Cl_2N_2O_2$ M 197.020

Chlorinating agent, disinfectant, used esp. in laundry bleaches. Used as 0.25*M* soln. in glacial AcOH for potentiometric oxidimetric titration of As(*III*), Sb(*III*), Sn(*II*), Fe(*II*). Prisms ($CHCl_3$). Sol. H_2O; mod. sol. AcOH, EtOH. Mp 132°. Liberates HOCl in contact with water.

▷ Irritant, TLV 0.2. Violent explosion with xylene. MU0700000.

1,3-Di-N-iodo: [2232-12-4]. *1,3-Diiodo-5,5-dimethyl-2,4-imidazolidinedione. 1,3-Diiodo-5,5-dimethylhydantoin*

$C_5H_6I_2N_2O_2$ M 379.924

Iodinating agent for aromatic compds. and enol acetates.

▷ MU0970000.

Slotta, K.H. *et al*, *Ber.*, 1934, **67**, 1532 (*synth*)

Bucherer, H.T. *et al*, *J. Prakt. Chem.*, 1934, **140**, 291; *CA*, **29**, 127 (*synth*)

Okada, T. *et al*, *CA*, 1957, **51**, 13852 (*synth*)

Brederek, H. *et al*, *Justus Liebigs Ann. Chem.*, 1957, **604**, 178 (*synth*)

Kamennov, N.A. *et al*, *CA*, 1967, **67**, 90725 (*synth*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 259; **3**, 4; **7**, 126.

U.S. Pat., 3 752 821, (1973); *CA*, **79**, 92221 (*synth*)

Merck Index, 10th Ed., 1983, No. 3049 (*Dactin*)

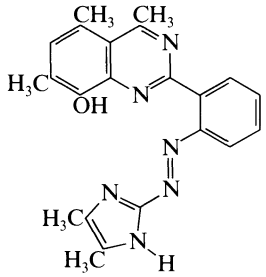
Radhamma, M.P. *et al*, *Talanta*, 1983, **30**, 49 (*use*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DFE200, DSF300.

2-[*o*-[(4,5-Dimethylimidazol-2-yl)azo]phenyl]-4,5,7-trimethyl-8-quinazolinol, 8CI D-00867

Quinazolinazo

[3818-89-1]



$C_{22}H_{22}N_6O$ M 386.455

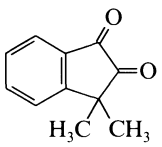
Used as 2m*M* $CHCl_3$ soln. for photometric detn. of Li (ε 12800). Dark red cryst. Sol. EtOH, $CHCl_3$, Me_2CO, DMF; insol. H_2O. Mp 175-177° dec.

Dziomko, V.M. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 937 (*synth, detn, Li*)

Dziomko, V.M. *et al*, *CA*, 1964, **67**, 90764n.

3,3-Dimethyl-1,2-indanedione, 8CI D-00868

[20651-88-1]



$C_{11}H_{10}O_2$ M 174.199

Orange cryst. (AcOH). Mp 106-107°.

Dioxime: [24273-35-6].

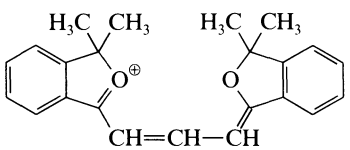
$C_{11}H_{12}N_2O_2$ M 204.228

Used for pptn. of Au, Cu, Ni, Os, Pd. Cryst. (EtOH aq.). Mp 191-193° dec.

Koelsch, C.F. *et al*, *J. Org. Chem.*, 1941, **6**, 516 (*synth*)

Bark, L.S. *et al*, *Talanta*, 1969, **16**, 497 (*use*)

3-[3-(3,3-Dimethyl-1(3*H*)-isobenzofuranylidene)-1-propenyl]-1,1-dimethyl-1*H*-isobenzofurylium(1+), 9CI D-00869



$C_{23}H_{23}O_2^{\oplus}$ M 331.433 (ion)

Perchlorate: [101231-86-1].

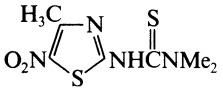
$C_{23}H_{23}ClO_6$ M 430.884

Used as 0.1m*M* soln. in aq. Me_2CO for extraction-photometric detn. of Sb(*V*) (λ_{max} 532 nm). Red cryst. (AcOH). Sol. AcOH, Me_2CO; sl. sol. H_2O. Mp 275-276°.

Shchemeleva, G.G. *et al*, *Zh. Anal. Khim.*, 1985, **40**, 2169 (*synth, detn, Sb*)

N,N-Dimethyl-*N'*-(4-methyl-5-nitro-2-thiazolyl)thiourea, 9CI D-00870

[83454-12-0]



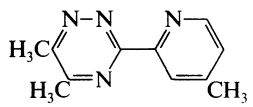
$C_7H_{10}N_4O_2S_2$ M 246.314

Used as 1m*M* MeOH soln. for extraction-photometric detn. of Pd (λ_{max} 413 nm, ε 40400, $CHCl_3$). Orange needles. Sol. acids, alkalis, $CHCl_3$, MeOH. Mp 241°. pK_{a1} 5.62 (24°).

Yoda, R., *Mikrochim. Acta*, 1982, **2**, 271 (*synth, detn, Pd*)

5,6-Dimethyl-3-(4-methyl-2-pyridinyl)-1,2,4-triazine, 9CI D-00871

[30091-56-6]



$C_{11}H_{12}N_4$ M 200.243

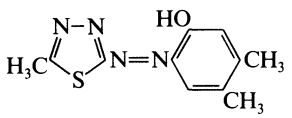
Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Cu(*I*) (λ_{max} 454 nm, ε 7400), Fe(*II*) (λ_{max} 527 nm, ε 15300). Cryst. (C_6H_6). Sol. common org. solvs. Mp 147-148°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Cu, Fe*)

4,5-Dimethyl-2-[(5-methyl-1,3,4-thiadiazol-2-yl)azo]phenol, 9CI D-00872

2-(2-Hydroxy-4,5-dimethylphenylazo)-5-methyl-1,3,4-thiadiazole

[85638-82-0]



$C_{11}H_{12}N_4OS$ M 248.308

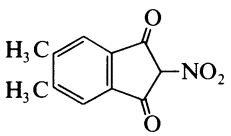
Used as 0.01% soln. in EtOH for photometric detn. of Ni (λ_{max} 625 nm, ε 19800). Red-orange needles (EtOH). V. sol. $CHCl_3$; mod. sol. MeOH, EtOH; spar. sol. H_2O. Mp 176-178°. pK_{a1} 7.88 (μ = 0.05, 25°).

Cacho, J. *et al*, *Collect. Czech. Chem. Commun.*, 1983, **48**, 471 (*synth, ir, nmr, detn, Ni*)

5,6-Dimethyl-2-nitro-1,3-indanedione D-00873

5,6-Dimethyl-2-nitro-1H-indene-1,3(2H)-dione, 9CI. ***Nivimedone*, BAN, INN**

[49561-92-4]



$C_{11}H_9NO_4$ M 219.196

Antiallergic drug. Mp 113-114°.

Na salt: [57441-90-4]. *Nivimedone sodium, USAN. BRL 10833*

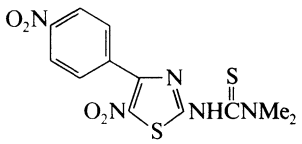
Bis(thiosemicarbazone): [111313-20-3].
$C_{13}H_{15}N_7O_2S_2$ M 365.439

Used as a 5m*M* soln. in aq. DMF for photometric detn. of Co (λ_{max} 420 nm, ε 15000), Os, Pd (λ_{max} 480 nm, ε 16000). Orange-red cryst. Sol. DMF. Mp 220-222°.

Buckle, D.R. *et al*, *J. Med. Chem.*, 1973, **16**, 1334 (*synth, pharmacol*)
Alexander, R.G. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1977, 1191 (*synth*)
Lingappa, Y. *et al*, *Talanta*, 1987, **34**, 789 (*synth, use*)

N,N-Dimethyl-*N'*-[5-nitro-4-(4-nitrophenyl)-2-thiazolyl]thiourea D-00874

[86107-99-5]



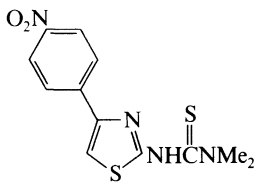
$C_{12}H_{11}N_5O_4S_2$ M 353.382

Used as a 2m*M* soln. in Me_2CO for extraction-photometric detn. of Pd (λ_{max} 430 nm, ε 27900, $CHCl_3$). Orange needles (DMSO aq., Me_2CO aq.). Sol. Me_2CO, EtOH; spar. sol H_2O. Mp 227° (234°).

Yoda, R. *et al*, *Mikrochim. Acta*, 1983, **2**, 75 (*synth, detn, Pd*)

N,N-Dimethyl-*N'*-[4-(4-nitrophenyl)-2-thiazolyl]thiourea, 9CI D-00875

[78833-30-4]



$C_{12}H_{12}N_4O_2S_2$ M 308.384

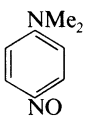
Used as 2m*M* Me_2CO soln. for extraction-photometric detn. of Pd (λ_{max} 334 nm, ε 27600, $CHCl_3$). Orange cryst. (Me_2CO aq.). Sol. Me_2CO; insol. MeOH.

Yoda, R. *et al*, *Mikrochim. Acta*, 1983, **2**, 75 (*synth, detn, Pd*)

N,N-Dimethyl-4-nitrosoaniline D-00876

N,N-*Dimethyl-4-nitrosobenzenamine, 9CI. 4-(Dimethylamino)nitrosobenzene. Accelerene*

[138-89-6]



$C_8H_{10}N_2O$ M 150.180

Dyestuff intermediate, vulcanising accelerator. Reagent used in Kröhnke synthesis of aldehydes from alkyl halides. Used as 0.025% soln. in EtOH for photometric detn. of Pd, Pt, Rh, Ru, Os, Ir. Green plates (Et_2O). Sol. EtOH, Et_2O; sl. sol. H_2O. Mp 92.5-93.5° (85-87°). pK_a 9.71 (25°). Steam-volatile.

▷ Mod. toxic, irritant. Delayed violent reacn. with Ac_2O. BX7175000.

Org. Synth., Coll. Vol., 1, 1932, 214 (*synth*)
Neber, P.W. *et al*, *Justus Liebigs Ann. Chem.*, 1942, **550**, 182 (*synth*)
Org. Synth., Coll. Vol., 2, 1943, 223 (*synth*)
Yoe, J.H. *et al*, *Anal. Chem.*, 1954, **26**, 1335, 1340 (*detn, Pd, Pt*)
Westland, A.D. *et al*, *Anal. Chem.*, 1955, **27**, 1776 (*detn, Ir*)

Wilson, R.B. *et al*, *Anal. Chem.*, 1961, **33**, 1652 (*detn, Rh*)
Faye, G.H., *Anal. Chem.*, 1965, **37**, 696 (*detn, Ru, Os*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 746 (*use*)
Penner, G.H. *et al*, *Can. J. Chem.*, 1989, **67**, 525 (*cmr*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 304.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DSY600.

2,8-Dimethyl-4,6-nonanedione, 9CI D-00877

Diisovalerylmethane

[7307-08-6]

$(H_3C)_2CHCH_2COCH_2COCH_2CH(CH_3)_2$

$C_{11}H_{20}O_2$ M 184.278

Used as a soln. in C_6H_6 for extraction separation of Cu(*II*), Fe(*III*). Sol. common org. solvs. Bp 115-116°.

Hauser, C.R. *et al*, *J. Am. Chem. Soc.*, 1944, **66**, 1220 (*synth*)
Org. Synth., 1948, **28**, 44 (*synth*)
Koshimura, H. *et al*, *Anal. Chim. Acta*, 1971, **55**, 163 (*sepn, Cu, Fe*)

1,1-Dimethyl-1-(pentafluorophenyl) silanamine, 9CI D-00878

Aminodimethyl(pentafluorophenyl)silane. Flophemesylamine

[55804-98-3]

$(C_6F_5)SiMe_2NH_2$

$C_8H_8F_5NSi$ M 241.235

Silylation reagent for gc-ms anal. of alcohols, acids, amines, etc. Oil. Bp_6 52°.

Morgan, E.D. *et al*, *J. Chromatogr.*, 1974, **89**, 225; 1975, **104**, 351 (*synth, use*)
Poole, C.F. *et al*, *Org. Mass Spectrom.*, 1975, **10**, 1164 (*ms*)
Francis, A.J. *et al*, *J. Chromatogr.*, 1978, **161**, 111 (*use*)
Francis, A.J. *et al*, *Org. Mass Spectrom.*, 1978, **13**, 67 (*use*)

2,4-Dimethyl-3-pentanone, 9CI D-00879

Diisopropyl ketone

[565-80-0]

$(H_3C)_2CHCOCH(CH_3)_2$

$C_7H_{14}O$ M 114.187

Isol. from lavender oil (*Lavendula officinalis* hybrid). Liq. d_4^{20} 0.811. Bp 124-125°. n_D^{20} 1.4001.

Oxime: [1113-74-2].
$C_7H_{15}NO$ M 129.202
Used for extraction-photometric detn. of Pd. Needles (EtOH). Sol. alcohols. Mp 34°. Bp 181-185°.

Semicarbazone: Mp 160°.

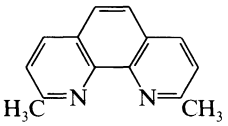
2,4-Dinitrophenylhydrazone: Mp 94-98°.

Pfeiffer, G.J. *et al*, *J. Am. Chem. Soc.*, 1931, **53**, 1047 (*synth*)
Bruzav, Mme., *Ann. Chim. (Paris)*, 1934, **1**, 266 (*synth*)
Hauser, C.R. *et al*, *J. Am. Chem. Soc.*, 1937, **59**, 1826 (*synth*)
Stadler, P.A., *Helv. Chim. Acta*, 1960, **43**, 1601 (*isol*)
Dunn, P.J. *et al*, *Mikrochim. Acta*, 1975, **2**, 129 (*oxime, detn, Pd*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DTI600.

2,9-Dimethyl-1,10-phenanthroline D-00880

Neocuproine

[484-11-7]



$C_{14}H_{12}N_2$ M 208.262

Used as a diagnostic aid in blood sugar determinations. Used as 0.02-0.1% soln. in EtOH for extraction-photometric detn. of Cu(*I*) (λ_{max} 545 nm, ε 7900, pH 5-10 isopentanol), indirect detn. of $S^{2\ominus}$, $I^{\ominus}$. Cryst. + $\frac{1}{2}H_2O$. Sol. EtOH. Mp 165° (158-160°). pK_a 6.17.

N-Oxide: [118896-77-8].
$C_{14}H_{12}N_2O$ M 224.262
Yellow cryst. + $2H_2O$. Mp 131-132° dec.

Smith, G.F. *et al*, *Anal. Chem.*, 1952, **24**, 371 (*synth, detn, Cu*)
Gahler, A.R., *Anal. Chem.*, 1954, **26**, 577 (*detn, Cu*)
O'Reilly, E.J. *et al*, *Aust. J. Chem.*, 1960, **13**, 145.
Madija, K., *J. Prakt. Chem.*, 1962, **17**, 97 (*synth*)
Lindsey, J.W. *et al*, *Talanta*, 1969, **16**, 414 (*detn, Cu*)
Yamamoto, Y. *et al*, *Anal. Chim. Acta*, 1974, **69**, 321 (*detn, $I^{\ominus}$*)
Bhat, S.R. *et al*, *Anal. Chim. Acta*, 1979, **108**, 293; 1981, **128**, 263 (*detn, $S^{2\ominus}$*)
Rollick, K.L. *et al*, *J. Org. Chem.*, 1982, **47**, 435 (*pmr, cmr*)
Newkome, G.R. *et al*, *J. Org. Chem.*, 1989, **54**, 1766 (*oxide*)
Britton, D. *et al*, *Acta Crystallogr., Sect. C*, 1991, **47**, 1100 (*cryst struct*)

3,8-Dimethyl-1,10-phenanthroline D-00881

[3002-80-0]

$C_{14}H_{12}N_2$ M 208.262

Used for photometric detn. of Fe(*II*), Cu(*I*), Co, Ni. Mp 212°. pK_a 5.23.

Case, F.H., *J. Am. Chem. Soc.*, 1948, **70**, 3994 (*synth*)
Carman, R.M. *et al*, *Aust. J. Chem.*, 1964, **17**, 1354 (*pmr*)
Schilt, A., *Analytical Applications of 1,10-Phenanthroline and Related Compounds*, Pergamon, Oxford, 1969 (*use*)

4,7-Dimethyl-1,10-phenanthroline, 9CI D-00882

[3248-05-3]

$C_{14}H_{12}N_2$ M 208.262

Used for photometric detn. of Fe(*II*), Cu(*I*), Co, Ni. Mp 194-195°.

Case, F.H., *J. Am. Chem. Soc.*, 1948, **70**, 3994 (*synth*)
Madija, K., *J. Prakt. Chem.*, 1962, **17**, 97 (*synth*)
Schilt, A., *Analytical Applications of 1,10-Phenanthroline and Related Compounds*, Pergamon, Oxford, 1969 (*detn, Co, Cu, Fe, Ni*)
Homada, Y., *Chem. Pharm. Bull.*, 1979, **27**, 1535 (*synth*)

5,6-Dimethyl-1,10-phenanthroline, 9CI D-00883

[3002-81-1]

$C_{14}H_{12}N_2$ M 208.262

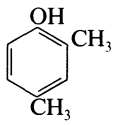
Used for photometric detn. of Fe(*II*), Cu(*I*), Co, Ni. Mp 265-266°.

Case, F.H., *J. Am. Chem. Soc.*, 1948, **70**, 3994 (*synth*)
Schilt, A., *Analytical Applications of 1,10-Phenanthroline and Related Compounds*, Pergamon, Oxford, 1969 (*detn, Fe, Cu, Co, Ni*)
Marker, A. *et al*, *Aust. J. Chem.*, 1978, **31**, 1255 (*cmr*)

2,4-Dimethylphenol D-00884

m-*4-Xylenol. 4-Hydroxy*-m-*xylene*

[105-67-9]



$C_8H_{10}O$ M 122.166

Used as 2.5% Me_2CO soln. for photometric detn. of $NO_3^{\ominus}$ (λ_{max} 455 nm). Needles (EtOH aq. or C_6H_6). Sol. Me_2CO, EtOH; mod. sol. H_2O. Mp 27-28°. Bp_{14} 97-98°. pK_{a1} 10.60 (25°).

▷ Exp. carcinogen. ZE5600000.

Ac: [877-53-2].
$C_{10}H_{12}O_2$ M 164.204
Oil. Bp_{13} 107.5-108.5°.

Benzoyl: [76048-43-6].
$C_{15}H_{14}O_2$ M 226.274
Cryst. (AcOH). Mp 37-38°. Bp_{15} 110.5-111°.

Me ether: [6738-23-4]. *1-Methoxy-2,4-dimethylbenzene. 2,4-Dimethylanisole*
$C_9H_{12}O$ M 136.193
Mp 192°.

Et ether: [35338-30-8]. *1-Ethoxy-2,4-dimethylbenzene. 2,4-Dimethylphenetole*
$C_{10}H_{14}O$ M 150.220
Oil. Bp 202-203°.

Lambooy, J.P. *et al, J. Am. Chem. Soc.*, 1950, **72**, 5327 (*synth*)
Wessely, F. *et al, Monatsh. Chem.*, 1963, **94**, 227 (*synth*)
Norwitz, G. *et al, Anal. Chim. Acta*, 1977, **89**, 177; 1978, **98**, 323; 1979, **105**, 335; **109**, 373 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, XKJ500.

2,6-Dimethylphenol, 9CI D-00885

2,6-Xylenol, 8CI. m-*2-Xylenol. 2-Hydroxy*-m-*xylene. 1,3,2-Xylenol*

[576-26-1]

$C_8H_{10}O$ M 122.166

Isol. from a Siberian conifer. Used as 0.1% soln. in glac. AcOH for extraction-photometric detn. of $NO_3^{\ominus}$ (λ_{max} 432 nm, ε 7900, toluene). Leaflets or flat needles. Sol. EtOH, AcOH; mod. sol. H_2O. Mp 49°. Bp 203°. pK_{a1} 10.62 (25°).

▷ Exp. carcinogen. ZE6125000.

4-Nitrobenzoyl: Cryst. Mp 99°.

Me ether: [1004-66-6]. *2-Methoxy-1,3-dimethylbenzene. 2,6-Dimethylanisole*
$C_9H_{12}O$ M 136.193
Liq. Bp 182-183°.

Et ether: [26620-08-6]. *2-Ethoxy-1,3-dimethylbenzene. 2,6-Dimethylphenetole*
$C_{10}H_{14}O$ M 150.220
Liq. Bp 195.5-196.5°.

Cox, R. *et al, J. Org. Chem.*, 1960, **25**, 1083 (*synth*)
Hartley, A.M. *et al, Anal. Chem.*, 1963, **35**, 1207 (*use*)
Andrews, D.W., *Analyst (London)*, 1964, **89**, 730 (*use*)
Antona, D. *et al, Acta Crystallogr., Sect. B*, 1973, **29**, 1372 (*cryst struct*)
Gornostaeva, L.I., *CA*, 1978, **88**, 117789 (*isol*)
Minami, N. *et al, Chem. Pharm. Bull.*, 1979, **27**, 816 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, XLA000.

3,4-Dimethylphenol, 9CI D-00886

3,4-Xylenol, 8CI. 4-Hydroxy-o-*xylene. 1,2,4-Xylenol.* asym-o-*Xylenol*

[95-65-8]

$C_8H_{10}O$ M 122.166

Used as 2 or 5% soln. in EtOH for photometric detn. of $NO_3^{\ominus}$. Cryst. (H_2O). Sol. EtOH; mod. sol. H_2O. Mp 62-64°. Bp 227°. pK_{a1} 10.36 (25°).

▷ Exp. carcinogen. ZE6300000.

Ac:
$C_{10}H_{12}O_2$ M 164.204
Bp_{80} 140°.

4-Nitrobenzoyl: Cryst. Mp 128°.

Me ether: [4685-47-6]. *4-Methoxy-1,2-dimethylbenzene. 3,4-Dimethylanisole*
$C_9H_{12}O$ M 136.193
Mp 204-205°.

Et ether: 4-Ethoxy-1,2-dimethylbenzene, 9CI. 3,4-Dimethylphenetole
$C_{10}H_{14}O$ M 150.220
Oil. Bp 218°.

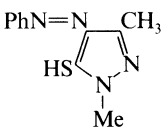
[22618-23-1]

Vitullo, V.P. *et al, J. Org. Chem.*, 1970, **35**, 3976 (*synth*)
Vandenborre, M.T. *et al, Acta Crystallogr., Sect. B*, 1973, **29**, 2488 (*cryst struct*)
Marx, J.N. *et al, J. Am. Chem. Soc.*, 1974, **96**, 2121 (*synth, nmr*)
Elton-Bott, R.R., *Anal. Chim. Acta*, 1977, **90**, 215 (*use*)
Osibanjo, O. *et al, Analyst (London)*, 1980, **105**, 908 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, XLJ000.

1,3-Dimethyl-4-(phenylazo)-1*H*-pyrazole-5-thiol D-00887

1,3-Dimethyl-5-mercapto-4-phenylazopyrazole. Methylazothiopyrine

[78431-23-9]



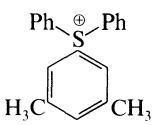
$C_{11}H_{12}N_4S$ M 232.309

Used as 0.1% soln. in MeOH for extraction-photometric detn. of Ni, Co, (alkaline media), Ag, Cu, Hg, Pd (acidic media). Reddish needles (pet. ether). Insol. H_2O; sol. C_6H_6, pet. ether, alkalis.

Tanaka, T. *et al, Chem. Pharm. Bull.*, 1981, **29**, 445 (*use*)

(3,5-Dimethylphenyl) diphenylsulfonium(1+) D-00888

m-*Xylyldiphenylsulfonium(1+)*



$C_{20}H_{19}S^{\oplus}$ M 291.436 (ion)

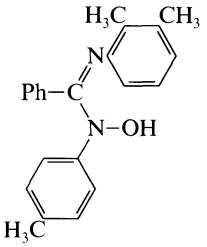
Chloride:
$C_{20}H_{19}ClS$ M 326.889
Used as a 5% aq. soln. for detn. of Bi, Co. Cryst.

Courtot, C. *et al, C. R. Hebd. Seances Acad. Sci.*, 1933, **197**, 1227 (*synth*)
Potratz, A.H. *et al, Anal. Chem.*, 1949, **21**, 1276 (*detn, Bi, Co*)

N'-(2,3-Dimethylphenyl)-*N*-hydroxy-*N*-(4-methylphenyl)benzamidine D-00889

N'-(*2,3-Dimethylphenyl*)-N-*hydroxy*-N-(*4-methylphenyl*) *benzenecarboximidamide*, *9CI*. N'-(*2,3-Dimethylphenyl*)-N-*hydroxy*-N-p-*tolylbenzamidine*

[85224-08-4]



$C_{22}H_{22}N_2O$ M 330.429

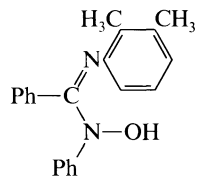
Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 595 nm, ε 5150, in the presence of azide), Fe(*III*). Cryst. (C_6H_6/pet. ether). Sol. $CHCl_3$, C_6H_6, CCl_4.

Deb, K.K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 178 (*synth*)
Jha, A.R. *et al*, *Analyst* (*London*), 1981, **106**, 1150; 1983, **108**, 1135 (*detn, Fe, V*)
Jha, A.R. *et al*, *J. Indian Chem. Soc.*, 1982, **59**, 1177 (*synth, detn, V*)

N'-(2,3-Dimethylphenyl)-*N*-hydroxy-*N*-phenylbenzamidine D-00890

N'-(*2,3-Dimethylphenyl*)-N-*hydroxy*-N-*phenylbenzenecarboximidamide*, *9CI*

[85224-07-3]



$C_{21}H_{20}N_2O$ M 316.402

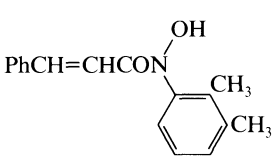
Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 590 nm ε 5050, in the presence of azide), Fe(*III*). Cryst. (C_6H_6/pet. ether). Sol. $CHCl_3$, C_6H_6, CCl_4.

Deb, K.K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 178 (*synth*)
Jha, A.R. *et al*, *Analyst* (*London*), 1981, **106**, 1150; 1983, **108**, 1135 (*detn, Fe, V*)
Jha, A.R. *et al*, *J. Indian Chem. Soc.*, 1982, **59**, 1179 (*synth, detn, V*)

N-(2,3-Dimethylphenyl)-*N*-hydroxy-3-phenylpropenamide, 9CI D-00891

N-*Cinnamoyl*-N-(*2,3-xylyl*)*hydroxylamine*

[69891-38-9]



$C_{17}H_{17}NO_2$ M 267.327

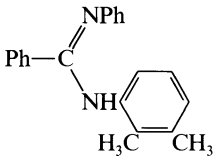
Used in extraction-photometric detn. of V (λ_{max} 535 nm, ε 6600) (from 4-9*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Ishizaki, M. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1980, **29**, 135 (*detn, V*)
Yamashige, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1980, **29**, 537 (*detn, V*)

N-(2,3-Dimethylphenyl)-*N'*-phenylbenzenecarboximidamide, 9CI D-00892

N-(*2,3-Dimethylphenyl*)-N'-*phenylbenzamidine*

[116489-14-6]



$C_{21}H_{20}N_2$ M 300.402

Used as 0.3% C_6H_6 soln. (10% 1-pentanol) for extraction-photometric detn. of W(*V*) (λ_{max} 405 nm, ε 12100, presence of $SCN^{\ominus}$). Cryst. Sol. C_6H_6, toluene.

Shukla, A. *et al*, *Anal. Chim. Acta*, 1988, **208**, 91 (*synth, detn, W*)

N-(2,6-Dimethylphenyl)-*N'*-phenylbenzenecarboximidamide, 9CI D-00893

N-(*2,6-Dimethylphenyl*)-N'-*phenylbenzamidine*

[79458-84-7]

$C_{21}H_{20}N_2$ M 300.402

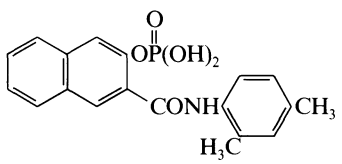
Used as 0.1% soln. in C_6H_6 for extraction-photometric detn. of Mo (λ_{max} 470 nm, ε 18500; 2.5-5*M* HCl, in the presence of $SCN^{\ominus}$). Cryst. (EtOH acidified with HCl). Sol. EtOH, C_6H_6, $CHCl_3$.

Patel, K.S. *et al*, *Anal. Chem.*, 1982, **54**, 52 (*synth, detn, Mo*)

N-(2,4-Dimethylphenyl)-3-(phosphonooxy)-2-naphthalenecarboxamide, 9CI D-00894

Naphthol AS-MX phosphoric acid. 3-Hydroxy-2-naphtho-2',4'-xylidide dihydrogen phosphate, *8CI*

[1596-56-1]



$C_{19}H_{18}NO_5P$ M 371.329

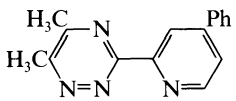
Substrate for the histochemical demonstration of acid and alkaline phosphatase. Cryst. V. sol. EtOH, hot H_2O.

[36889-52-8]

Burstone, M.S., *J. Natl. Cancer Inst.*, 1958, **20**, 601 (*synth*)
Guibault, G.G. *et al*, *Anal. Chem.*, 1971, **43**, 721 (*use*)
Inglis, N.R. *et al*, *Clin. Chim. Acta*, 1971, **33**, 287 (*use*)
Fritsche, H.A. *et al*, *Clin. Chem.* (*Winston-Salem, N.C.*), 1972, **18**, 417 (*use*)

5,6-Dimethyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazine, 9CI D-00895

[30091-57-7]



$C_{16}H_{14}N_4$ M 262.313

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 460 nm, ε 6400), Fe(*II*) (λ_{max} 533 nm, ε 19900). Cryst. (C_6H_6/pet. ether). Sol. common org. solvs. Mp 112-113°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Cu, Fe*)

O,O-Dimethyl phosphorodithioate, 9CI, 8CI D-00896

O,O-*Dimethyl dithiophosphate.* O,O-*Dimethyl dithiophosphoric acid*

[756-80-9]

$(MeO)_2P(S)SH$

$C_2H_7O_2PS_2$ M 158.182

Used as soln. in nonpolar solvs. for extraction separation of Ni, Zn, Cd, Pb, In, Tl(*I*). Liq. d_4^{20} 1.29. Bp_4 56-57°, $Bp_{0.15}$ 34-35°. pK_a 2.64 (80% EtOH). n_D^{25} 1.5328.

▷ TE0525000.

NH_4 salt: [1066-97-3].
Cryst. Mp 145-146° dec.
K salt: Cryst. Mp 171-172° dec.

Pishchimuka, P.S., *Zh. Russ. Fiz. Khim. Ova., Chast Khim.*, 1912, **44**, 1406 (*synth*)
McIvor, R.A. *et al*, *Can. J. Chem.*, 1956, **34**, 1819 (*synth*)
Kabachnik, M.I. *et al*, *Tetrahedron*, 1960, **9**, 10 (*synth*)
Zemlyanskii, N.I. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 4018), 1961, **30**, 4056 (*raman*)
Nyquist, R.A. *et al*, *Spectrochim. Acta, Part A*, 1969, **25**, 47 (*ir*)
Wolfe, N.L. *et al*, *J. Agric. Food Chem.*, 1975, **23**, 1212 (*cmr*)
Olah, G.A. *et al*, *J. Org. Chem.*, 1975, **40**, 2582 (*props, pmr, P nmr*)
Paasivirta, J. *et al*, *Org. Magn. Reson.*, 1977, **9**, 708 (*pmr, cmr, P nmr*)
Lefferts, J.L. *et al*, *Inorg. Chem.*, 1980, **19**, 1662 (*synth, complexes*)
Toropova, V.F. *et al*, *Talanta*, 1987, **34**, 211 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PHH500.

2,2-Dimethylpropanal D-00897

Pivalic aldehyde. Trimethylacetaldehyde

[630-19-3]

$(H_3C)_3CCHO$

$C_5H_{10}O$ M 86.133

Constit. of wood spirit. Reagent for derivatisation of amino compds. for gc anal. Liq. d^{17} 0.792. Mp 6°. Bp 77-78°. n_D^{20} 1.3791.

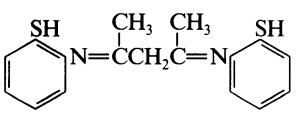
Oxime: [637-91-2].
$C_5H_{11}NO$ M 101.148
Mp 41°. Bp_{20} 65°.
Semicarbazone: Mp 191°.
2,4-Dinitrophenylhydrazone: Cryst. (EtOH). Mp 210°.

Dunbar, R.E. *et al*, *J. Am. Chem. Soc.*, 1934, **56**, 444 (*synth*)
Angyal, S.T. *et al*, *J. Chem. Soc.*, 1955, 1737 (*synth*)
Jellum, E. *et al*, *Anal. Biochem.*, 1969, **31**, 227, 339 (*use*)
Org. Synth., 1971, **51**, 11, 31 (*synth*)

2,2′-[(1,3-Dimethyl-1,3-propanediylidene) dinitrilo]bisbenzenethiol, 9CI D-00898

2,4-Pentanedione bis(2-mercaptophenyl)anil. Acetylacetone bis(2-mercaptophenyl)anil

[59862-11-2]



$C_{17}H_{18}N_2S_2$ M 314.475

Used as a 0.1% soln. in EtOH for photometric detn. of Os (λ_{max} 480 nm, ε 7300); Pd (λ_{max} 510 nm, ε 5900, pH 1-3). Orange cryst. (C_6H_6). Sol. EtOH, Me_2CO, C_6H_6, alkalis, Py. Mp 184°.

Bag, S.P. *et al*, *J. Indian Chem. Soc.*, 1978, **55**, 615.
Chatterjee, A.B. *et al*, *Mikrochim. Acta*, 1983, **1**, 115 (*synth, detn, Pd*)

2,2-Dimethylpropanoic acid, 9CI D-00899

Pivalic acid, 8CI. Trimethylacetic acid

[75-98-9]

$(H_3C)_3CCOOH$

$C_5H_{10}O_2$ M 102.133

Mp 35.3-35.5°. Bp 163.7-163.8°, Bp_{20} 75-78°. pK_{a1} 5.04 (25°).

▷ TO7700000.

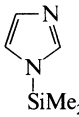
Me ester: [598-98-1].
$C_6H_{12}O_2$ M 116.160
Bp 100-102°.
Chloride: [3282-30-2]. *Pivaloyl chloride*
C_5H_9ClO M 120.578
Reagent for mixed anhydride peptide synth. Reagent for peptide *N*-terminal amino acid anal. Bp 105-106°.
▷ AO7200000.
Amide: [754-10-9].
$C_5H_{11}NO$ M 101.148
Needles or plates. Mp 178°. Bp 212°.
Nitrile: [630-18-2]. *2-Cyano-2-methylpropane. Pivalonitrile. Trimethylacetonitrile*
C_5H_9N M 83.133
Cryst. Mp 15-16°. Bp 105-106°.
Anhydride: [1538-75-6]. *Pivalic anhydride*
$C_{10}H_{18}O_3$ M 186.250
Derivatisation reagent used in gc anal. of thyroid hormones. Bp_{93} 124°, Bp_{12} 78°. n_D^{20} 1.4089.

Org. Synth., 1928, **8**, 104, 108 (*synth*)
Hardy, D.V.N., *J. Chem. Soc.*, 1936, 364 (*synth*)
Ansell, M.F. *et al*, *J. Chem. Soc.*, 1955, 2705 (*synth, anhydride*)
Lohaus, G., *Chem. Ber.*, 1967, **100**, 2719 (*deriv*)
Jaakonmaeki, P.I. *et al*, *J. Gas Chromatogr.*, 1967, **5**, 303 (*use, anhydride*)
Stouffer, J.E. *et al*, *J. Chromatogr. Sci.*, 1969, **7**, 124 (*use, anhydride*)
Volpert, E.M. *et al*, *J. Chromatogr.*, 1970, **50**, 507 (*use, anhydride*)
Prota, G. *et al*, *Biochimie*, 1971, **53**, 51 (*use, chloride*)
Cavadore, J.C. *et al*, *Anal. Biochem.*, 1974, **60**, 608 (*use, chloride*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 404.
Screttas, C.G. *et al*, *J. Org. Chem.*, 1989, **54**, 1013 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DTS400, PJA500, PJA750.

1-(Dimethyl-2-propenylsilyl)-1*H*-imidazole, 9CI D-00900

N-(*Allyldimethylsilyl*)*imidazole. Allyl-1-imidazolyldimethylsilane*

[65535-30-0]



$SiMe_2CH{=}CHCH_3$

$C_8H_{14}N_2Si$ M 166.297

Silylation reagent for gc-ms anal. of steroids. $Bp_{0.7}$ 88-92°.

Phillipou, G., *J. Chromatogr.*, 1976, **129**, 384 (*use*)
Blair, I.A. *et al*, *J. Chromatogr. Sci.*, 1977, **15**, 478 (*synth, pmr*)

N-(Dimethyl-2-propenylsilyl)-2,2,2-trifluoro-*N*-methylacetamide, 9CI D-00901

N-*Methylallyldimethylsilyltrifluoroacetamide*

[126264-67-3]

$F_3CCONMeSiMe_2CH_2CH{=}CH_2$

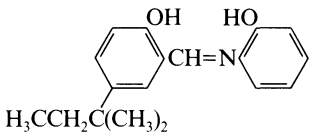
$C_8H_{14}F_3NOSi$ M 225.285

Silylation reagent for prostaglandins and steroids. Liq. Bp_{32} 73-78°.

Steffenrud, S. *et al*, *J. Chromatogr. Sci.*, 1989, **27**, 545 (*synth, pmr, use*)

N-[5-(1,1-Dimethylpropyl)-2-hydroxyphenyl]-2-hydroxyaniline D-00902

5-(1,1-Dimethylpropyl)-2-hydroxybenzaldehyde 2-hydroxyanil. 2-[N-(*2-Hydroxyphenyl*)*formimidoyl*]-*4*-tert-*pentylphenol*



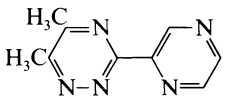
$C_{18}H_{21}NO_2$ M 283.369

Used as 1m*M* soln. in EtOH for fluorimetric detn. of Al. Cryst. (EtOH). Sol. EtOH; sl. sol. H_2O. Mp 144.0-144.5°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, use*)

5,6-Dimethyl-3-pyrazinyl-1,2,4-triazine, 9CI D-00903

[31696-88-5]



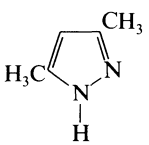
$C_9H_9N_5$ M 187.204

Used as 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 521 nm, ε 14100). Cryst. (C_6H_6/pet. ether). Sol. common org. solvs. Mp 110-111°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 173 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*use*)

3,5-Dimethyl-1*H*-pyrazole, 9CI D-00904

[67-51-6]



$C_5H_8N_2$ M 96.132

Used in photometric detn. of Cu (with use of $SCN^{\ominus}$). Forms CrO_3 complex used for oxidn. of alcohols. Cryst. (pet. ether). Sol. H_2O. Mp 106-107°. Bp 218°. Steam-volatile.

Picrate: Mp 166-167°.

N-*Ac:*

$C_7H_{10}N_2O$ M 138.169

Cryst. (EtOH aq.). Mp 38°. Bp_{40} 88-90°.

N-*Benzoyl:*

$C_{12}H_{12}N_2O$ M 200.240

Needles (EtOH). Mp 48-49°.

1-Chloromethyl: 1-Chloromethyl-3,5-dimethylpyrazole

$C_6H_9ClN_2$ M 144.603

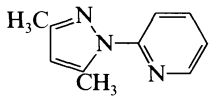
Useful intermed. for *N*-subst. pyrazoles. Hygroscopic solid (as hydrochloride).

Org. Synth., Coll. Vol., 4, 1963, 351.
Rossi, S. *et al*, *Gazz. Chim. Ital.*, 1964, **94**, 210 (*synth*)
Janik, B. *et al*, *Mikrochim. Acta*, 1965, 1142 (*detn, Cu*)
Elguero, J. *et al*, *Bull. Soc. Chim. Fr.*, 1966, 3727 (*nmr*)
Zecchina, A. *et al*, *J. Chem. Soc.*, 1967, 1363 (*ir*)
Nishiwaki, T., *J. Chem. Soc. B*, 1967, 885 (*ms*)
Elguero, J. *et al*, *J. Org. Chem.*, 1974, **39**, 357 (*cmr*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 142.
Faure, R. *et al*, *Can. J. Chem.*, 1988, **66**, 1141 (*cmr*)
Katritzky, A.R. *et al*, *Can. J. Chem.*, 1989, **67**, 1144 (*N*-chloromethyl)

2-(3,5-Dimethyl-1*H*-pyrazol-1-yl)pyridine D-00905

N-(*2-Pyridinyl*)-*3,5-dimethylpyrazole*

[21018-71-3]



$C_{10}H_{11}N_3$ M 173.217

Bidentate ligand; extraction agent for Cd(II), Hg(II) and Pb(II). Light yellow oil. $Bp_{0.4}$ 74°.

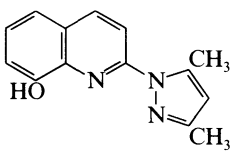
B,HCl: Mp 140-144°.

Saha, N. *et al*, *J. Inorg. Nucl. Chem.*, 1977, **39**, 1236 (*synth*)
Baker, A.T. *et al*, *Aust. J. Chem.*, 1989, **42**, 623 (*bibl*)

2-(3,5-Dimethyl-1-pyrazolyl)-8-quinolinol, 9CI D-00906

1-(8-Hydroxy-2-quinolyl)-3,5-dimethylpyrazole

[18239-59-3]



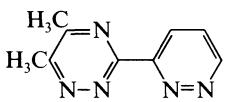
$C_{14}H_{13}N_3O$ M 239.276

Used as 0.01% soln. in Me_2CO for fluorimetric detn. of Cd in the presence of Zn (in alkaline medium); as 0.01% EtOH soln. for luminescent detn. of Cu. Needles (EtOH). Sol. alkalis, EtOH, Me_2CO, $CHCl_3$; insol. H_2O. Mp 133-134°.

Bozhevolnov, E.A. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 1722 (*synth, detn, Cd*)

5,6-Dimethyl-3-(3-pyridazinyl)-1,2,4-triazine, 9CI D-00907

[31696-89-6]



$C_9H_9N_5$ M 187.204

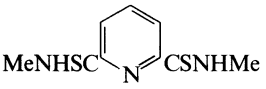
Used as 5m*M* soln. in aq. EtOH for photometric detn. of Co(*I*) (λ_{max} 455 nm, ε 9300), Fe(*II*) (λ_{max} 512 nm, ε 15300). Cryst. (C_6H_6). Sol. common org. solvs. Mp 150°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 173 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*use*)

N,N'-Dimethyl-2,6-pyridinedicarbothioamide, 9CI D-00908

N,N'-*Dimethylthiolutidinamide. Thiolutidinic acid* N,N'-*dimethylamide*

[39237-53-1]



$C_9H_{11}N_3S_2$ M 225.338

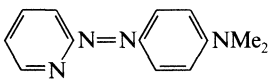
Used as a 0.1% soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 588 nm, ε 17200); complexing agent for Cu, Fe, Ni. Yellowish needles (EtOH aq.). Sol. EtOH, Me_2CO; spar. sol. H_2O. Mp 168-169°.

Gagliardi, E. *et al*, *Monatsh. Chem.*, 1972, **103**, 1337; 1981, **112**, 537 (*synth, cryst struct, ir, raman*)
Gagliardi, E. *et al*, *Mikrochim. Acta*, 1973, 763 (*synth, detn, Fe*)

N,N-Dimethyl-4-(2-pyridinylazo)benzenamine, 9CI D-00909

2-[p-(*Dimethylamino*)*phenylazo*]*pyridine, 8CI. PAMA. PADA*

[13103-75-8]



$C_{13}H_{14}N_4$ M 226.280

Used for the qualitative and quantitative detn. of —SH groups; for titrimetric detn. of Cu (pH $\frac{1}{2}$ 5.8, colour change: pink → orange); as a metallochromic indicator in titrimetric detn. of Co, Cu, Hg, Ni. Red needles (pet. ether). Sol. dil. acids, C_6H_6. Mp 108-109°, Mp 111-112°. pK_{a7} 2.0; pK_{a2} 4.5.

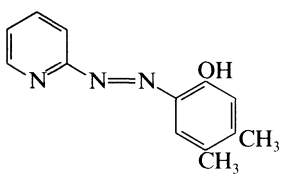
[77038-70-1]

Faessinger, R.W. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 4606 (*synth*)
Klotz, J.M. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 4159 (*detn, Co, Cu, Hg, Ni*)
Klotz, I.M. *et al*, *Arch. Biochem. Biophys.*, 1961, **95**, 540 (*use*)
Anderson, R.G. *et al*, *Analyst* (*London*), 1967, **92**, 207 (*rev*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 291.
Grant, M.W. *et al*, *J. Chem. Soc., Faraday Trans. 1*, 1976, **72**, 1362 (*detn, Ni*)
Holloway, C.E. *et al*, *Inorg. Chim. Acta*, 1985, **98**, 131 (*pmr*)

4,5-Dimethyl-2-(2-pyridinylazo)phenol, 9CI D-00910

2-(2-Hydroxy-4,5-dimethylphenylazo)pyridine

[31867-73-9]



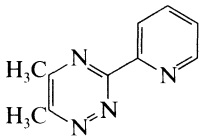
$C_{13}H_{13}N_3O$ M 227.265

Used as a 3m*M* soln. in EtOH for extraction-photometric detn. of Co (λ_{max} 640 nm, ε 13000, $CHCl_3$), Ga, Sb, Sn (λ_{max} 590 nm, ε 10000), V(*V*) (λ_{max} 630 nm, ε 7000, $CHCl_3$). Orange-red cryst. Sol. alkalis; mod. sol. EtOH, Me_2CO.

Rakhmatullaev, K. *et al*, *Uzb. Khim. Zh.*, 1970, **14**, 25 (*detn, Co, Ga, Sb*)
Rakhmatullaev, K. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 2402 (*detn, Sb, Sn*)
Rakhmatullaev, K. *et al*, *CA*, 1976, **84**, 38261h (*detn, Co, Sb*)

5,6-Dimethyl-3-(2-pyridinyl)-1,2,4-triazine, 9CI D-00911

[30091-54-4]



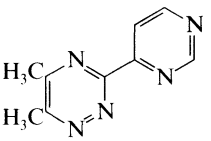
$C_{10}H_{10}N_4$ M 186.216

Used as 5m*M* soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 450 nm, ε 7400), Fe(*II*) (λ_{max} 525 nm, ε 14500). Cryst. (C_6H_6). Sol. common org. solvs. Mp 92-93°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Cu, Fe*)

5,6-Dimethyl-3-(4-pyrimidinyl)-1,2,4-triazine, 9CI D-00912

[31696-90-9]



$C_9H_9N_5$ M 187.204

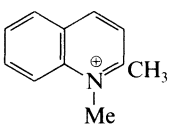
Used as 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 530 nm, ε 9900). Cryst. (C_6H_6/pet. ether). Sol. common org. solvs. Mp 116-117°.

Case, F.H., *J. Heterocycl. Chem.*, 1971, **8**, 173 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

1,2-Dimethylquinolinium(1+), 9CI D-00913

1-Methylquinaldinium(*1+*), *8CI*

[18241-36-6]



$C_{11}H_{12}N^{\oplus}$ M 158.222 (ion)

Chloride:
$C_{11}H_{12}ClN$ M 193.675
Needles ($CHCl_3/Et_2O$). Mp 148-149°.

Iodide: [876-87-9].
$C_{11}H_{12}IN$ M 285.127
Yellow needles (EtOH). Sol. H_2O, insol. EtOH. Mp 195°.
▷ VC3651000.

4-Methylbenzenesulfonate: [42952-26-1].
Reagent for the detn. of formic acid. Cryst. (EtOH/EtOAc). Mp 161°.

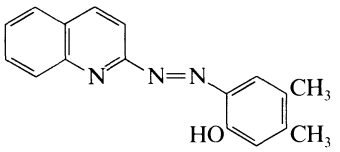
Perchlorate: Prisms. Mp 152-154°.

Marvel, C.S. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 3638 (*synth, tosylate*)
Adams, J.B. *et al*, *Aust. J. Chem.*, 1955, **8**, 392 (*synth, chloride, iodide*)
Bonthrone, W. *et al*, *J. Chem. Soc.*, 1959, 2773 (*synth, perchlorate*)
Sawicki, E. *et al*, *CA*, 1963, **59**, 10767c (*use*)
Salsmans, R. *et al*, *Org. Mass Spectrom.*, 1974, **8**, 357 (*ms*)
Jaroszewska, J. *et al*, *Org. Magn. Reson.*, 1984, **22**, 323 (*pmr, cmr*)

4,5-Dimethyl-2-(2-quinolinylazo)phenol, 9CI D-00914

2-(2-Hydroxy-4,5-dimethylphenylazo)quinoline

[29284-60-4]



$C_{17}H_{15}N_3O$ M 277.325

Used as 0.024% $CHCl_3$ soln. for extraction-photometric detn. of Sb(*V*), λ_{max} 630 nm ($CHCl_3$), Sn(*IV*), Tl(*III*) (λ_{max} 615 nm, $CHCl_3$, pH 3.5). Brown-orange cryst. Sol. EtOH, MeOH, $CHCl_3$, Me_2CO; insol. H_2O. Mp 110°.

Rakhmatullaev, K. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 914, 1132; 1974, **29**, 1020, 2402 (*synth, detn, Sb, Tl, Sn*)

N-(Dimethylsilyl)-1,1-dimethylsilanamine, 9CI D-00915

1,1,3,3-Tetramethyldisilazane, 8CI. Bis(dimethylsilyl)amine

[15933-59-2]

$(Me_2SiH)_2NH$

$C_4H_{15}NSi_2$ M 133.340

Silylation reagent for use in gc anal. of alcohols, steroids and cannabinoids. Bp 99-100°.

Kriegsmann, H. *et al*, *Z. Anorg. Allg. Chem.*, 1961, **310**, 100, 320 (*synth, spectra*)
Supina, W. *et al*, *J. Am. Oil Chem. Soc.*, 1967, **44**, 74 (*use*)
Vanden Heuval, W.J.A., *J. Chromatogr.*, 1967, **27**, 85 (*use*)
Andrianov, K.A. *et al*, *Zh. Obshch. Khim.*, 1969, **39**, 2513; *CA*, **72**, 87436 (*nmr*)
Williams, E.A. *et al*, *J. Organomet. Chem.*, 1976, **108**, 153 (*nmr*)
Harvey, D.J., *J. Chromatogr.*, 1978, **147**, 291 (*use*)

Dimethyl sulfate D-00916

Methyl sulfate

[77-78-1]

$MeOSO_2OMe$

$C_2H_6O_4S$ M 126.133

Methylating agent. Used as a soln. in 20% MeOH aq. for gravimetric separation of Ba, Ca, Sr. Liq. Spar. sol. H_2O, hexane, EtOH, C_6H_6; sol. Et_2O, Me_2CO. d^{15} 1.332. Fp −27°, Mp −31.7°. Bp 188° dec., Bp_{15} 76°. n_D^{20} 1.3874. Hydrol. by hot H_2O.

▷ V. highly toxic by inhalation and skin absorption, suspected carcinogen, TLV (skin) 0.5. WS8225000.

Guyot, J. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1919, **169**, 795 (*synth*)
U.S. Pat., 1 317 648, (1920); *CA*, **14**, 70 (*synth*)
Elving, P., *Anal. Chem.*, 1950, **22**, 1375 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 188.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 306.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DUD100.

Dimethyl sulfite D-00917

Methyl sulfite

[616-42-2]

$MeOSOOMe$

$C_2H_6O_3S$ M 110.134

Used to methylate amino acids in gc anal. Liq. with acetone odour. d_4^{24} 1.207. Bp 126°, Bp_{45} 52°. n_D^{20} 1.4093.

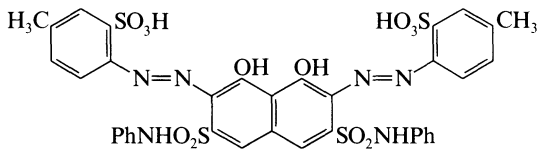
▷ Probably toxic. Reacts with H_2O and acids to give toxic and corrosive fumes.

Voss, W. *et al*, *Justus Liebigs Ann. Chem.*, 1931, **485**, 258 (*synth*)
Kyrides, L.P., *J. Am. Chem. Soc.*, 1944, **66**, 1006 (*synth*)
Cruickshank, P.A. *et al*, *Anal. Chem.*, 1964, **36**, 1191 (*use*)
Pavlov, V.M., *Zh. Obshch. Khim.*, 1971, **41**, 2530 (*synth*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 397.
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 833.

Dimethylsulfonazo DAL D-00918

*6,6'-[[1,8-Dihydroxy-3,6-bis(phenylsulfamoyl)-2,7-naphthylene]bis(azo)]di-*m*-toluenesulfonic acid, 8CI*

[13277-21-9]



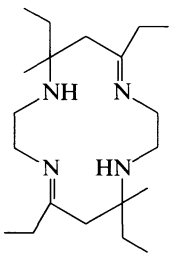
$C_{36}H_{30}N_6O_{12}S_4$ M 866.930

Used in extraction-photometric detn. of Ba and Sr. Dark cryst. powder. Sol. H_2O, butanol.

Budešinsky, B. *et al*, *Talanta*, 1966, **13**, 1217.

7,14-Dimethyl-5,7,12,14-tetraethyl-1,4,8,11-tetraazacyclotetradeca-4,11-diene, 9CI D-00919

[52443-88-6]



$C_{20}H_{40}N_4$ M 336.563

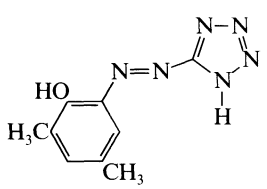
Used as 0.01*M* aq. soln. of perchlorate salt for extraction-photometric detn. of Cu, Co, Ni (as ion-pairs with anionic azo dyes; $\varepsilon \sim 50000$, $CHCl_3$). Cryst. Sol. acid solns.

Nazarenko, A.Y. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 1946 (*detn, Co, Cu, Ni*)

2,4-Dimethyl-6-(1*H*-tetrazol-5-ylazo) phenol, 9CI D-00920

5-(2-Hydroxy-3,5-dimethylphenylazo)-1H-tetrazole

[81526-35-4]



$C_9H_{10}N_6O$ M 218.218

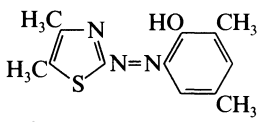
Used for photometric detn. of Cu (λ_{max} 565 nm), Ni (λ_{max} 545 nm); gives colour reactions with Bi, Cd, Hg, Pb, V(*VI*), Zn. Orange cryst. (EtOH aq.).

Nerin, C. *et al*, *CA*, 1984, **100**, 44530k (*synth, use*)

2-[(4,5-Dimethyl-2-thiazolyl)azo]-4,6-dimethylphenol, 9CI D-00921

2-(2-Hydroxy-3,5-dimethylphenylazo)-4,5-dimethylthiazole

[76877-50-4]



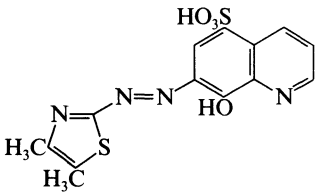
$C_{13}H_{15}N_3OS$ M 261.347

Used as 1m*M* EtOH soln. for extraction-photometric detn. of U(*VI*) (toluene). Violet cryst. Sol. EtOH, MeOH, DMF, alkalis. Mp 91-93°. pK_a 9.76.

Santana, B. *et al*, *Collect. Czech. Chem. Commun.*, 1988, **53**, 258 (*synth, detn, U*)

7-(4,5-Dimethyl-2-thiazolyl)azo-8-hydroxy-5-quinolinesulfonic acid, 9CI D-00922

[91097-77-7]



$C_{14}H_{12}N_4O_4S_2$ M 364.405

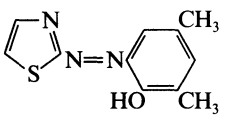
Used as 0.02% soln. in EtOH for photometric detn. of Tl(*III*) (λ_{max} 560 nm, ε 130000). Dark purple cryst. powder. Sol. EtOH. Mp 170-172°.

Jialong, G. *et al*, *Talanta*, 1985, **32**, 1072 (*synth, detn, Tl*)

2,4-Dimethyl-6-(2-thiazolylazo)phenol, 9CI D-00923

2-(2-Hydroxy-3,5-dimethylphenylazo)thiazole

[3012-56-4]



$C_{11}H_{11}N_3OS$ M 233.293

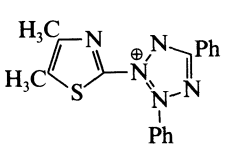
Used as 1m*M* EtOH soln. for extraction-photometric detn. of U(*VI*) (λ_{max} 580 nm, ε 16000, pH 6.5, toluene). Violet cryst. Sol. EtOH, MeOH, DMF, alkalis. Mp 82-84°. pK_{a1} 8.58.

Santana, B. *et al*, *Collect. Czech. Chem. Commun.*, 1988, **53**, 258 (*synth, detn, U*)

2-(4,5-Dimethyl-2-thiazolyl)-3,5-diphenyl-2*H*-tetrazolium(1+), 9CI D-00924

Thiazolyl blue

[298-93-1]



$C_{18}H_{16}N_5S^{\oplus}$ M 334.424 (ion)

Strictly, the name Thiazolyl blue applies to the bromide.

Bromide:

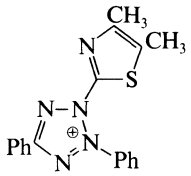
$C_{18}H_{16}BrN_5S$ M 414.328

Used as 4m*M* aq. soln. for extraction-photometric detn. of Re(*VI*) (λ_{max} 280 nm, forms ion associate with $ReO_4^{\ominus}$, $CHCl_3$). Cryst. Sol. H_2O.

Alexandrov, A. *et al*, *Mikrochim. Acta*, 1985, **1**, 447 (*detn, Re*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DUG400.

3-(4,5-Dimethyl-2-thiazolyl)-2,5-diphenyl-2*H*-tetrazolium(1+) D-00925



$C_{18}H_{16}N_5S^{\oplus}$ M 334.424 (ion)

Chloride: [6193-35-7].

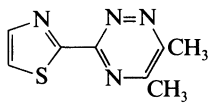
$C_{18}H_{16}ClN_5S$ M 369.877

Used as 1% aq. soln. for photometric detn. of various dehydrogenases. Cryst. (MeOH). Sol. EtOH, H_2O.

Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1983.

5,6-Dimethyl-3-(2-thiazolyl)-1,2,4-triazine, 9CI D-00926

[30091-59-9]



$C_8H_8N_4S$ M 192.244

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 530 nm, ε 10000). Cryst. (EtOH). Sol. common org. solvs. Mp 140-141°.

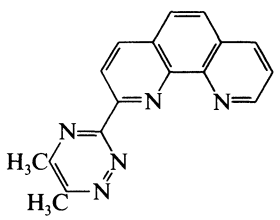
Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)

Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

2-(5,6-Dimethyl-1,2,4-triazin-3-yl)-1,10-phenanthroline, 9CI D-00927

3-(1,10-Phenanthrolin-2-yl)-5,6-dimethyl-1,2,4-triazine

[55671-80-2]



$C_{17}H_{13}N_5$ M 287.323

Used as 5m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*) (λ_{max} 588 nm, ε 10400, EtOH aq.). Cryst. (EtOH). Sol. common org. solvs. Mp 210-211° (as monohydrate).

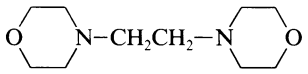
Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)

Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

1,2-Di-4-morpholinylethane D-00928

4,4′-(1,2-Ethanediyl)bismorpholine

[1723-94-0]



$C_{10}H_{20}N_2O_2$ M 200.280

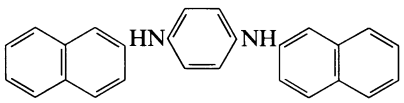
Used as a 0.1*M* soln. in 1*M* HNO_3 for gravimetric detn. of As, Bi, Si, Zn; potentiometric detn. of Hg. Cryst. (Et_2O). Sol. H_2O. Mp 74-75°.

Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1963, **195**, 86; **196**, 161; 1964, **203**, 409; 1967, **226**, 171 (*detn, Hg, Bi, Zn, As, Si*)

N,N′-Di-2-naphthalenyl-1,4-benzenediamine, 9CI D-00929

N,N′-*Di-(2-naphthyl)*-p-*phenylenediamine*

[1323-70-2]



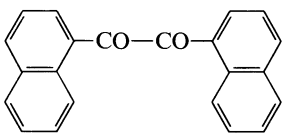
$C_{26}H_{20}N_2$ M 360.457

Used for extraction-photometric detn. of Ir(*IV*) (λ_{max} 488 nm). Cryst. Sol. EtOH, Me_2CO, C_6H_6, conc. acids; insol. H_2O.

Nasouri, F.G. *et al*, *Anal. Chim. Acta*, 1970, **50**, 163.

1,2-Di(1-naphthalenyl)-1,2-ethanedione D-00930

Di-α-naphthyl diketone



$C_{22}H_{14}O_2$ M 310.351

Monooxime:

$C_{22}H_{15}NO_2$ M 325.366

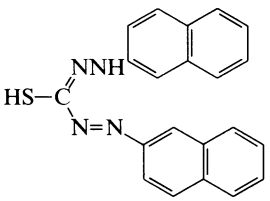
Used for extraction-photometric detn. of Co (λ_{max} 436 nm). Cryst.

Singh, R.B. *et al*, *Talanta*, 1979, **26**, 425.

Dinaphthizone D-00931

2-Naphthalenyldiazenecarbothioic acid 2-(2-naphthalenyl) hydrazide, 9CI. Di-(2-naphthyl)thiocarbazone

[6939-80-6]



$C_{21}H_{16}N_4S$ M 356.450

Gives colour reactions with heavy metals; photometric detn. of Hg, Ag, Zn (λ_{max} 560 nm, ε 120000). Dark cryst. ($CHCl_3$). Sl. sol. $CHCl_3$, CCl_4, C_6H_6.

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **3**, 550 (*use*)

Martin, A.E., *Anal. Chem.*, 1953, **25**, 1853 (*synth, detn, Zn*)

Grzhegorzhevskii, A.S., *Zh. Anal. Khim.*, 1956, **11**, 689 (*synth*)

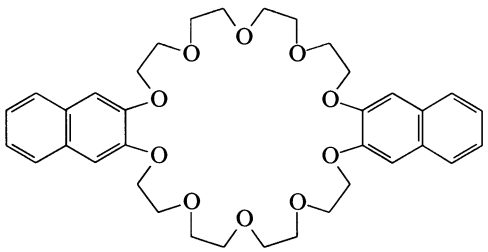
Dubois, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 1313, 1316 (*props*)

Tiptsova, V.G., *Zh. Anal. Khim.*, 1965, **20**, 1200; 1966, **21**, 1179 (*detn, Hg, Ag*)

Dinaphtho-30-crown-10 D-00932

7,8,10,11,13,14,16,17,26,27,29,30,32,33,35,36-Hexadecahydrodinaphtho[2,3-b:2′,3′-q][1,4,7,10,13,16,19,22,25,28]decaoxacyclotriacontin, 9CI

[98793-05-6]



$C_{36}H_{44}O_{10}$ M 636.738

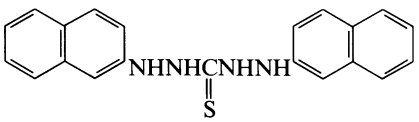
Used as an ionophore in ion-selective electrodes (shows high selectivity for K over Na). Cryst.

Blair, T.L. *et al*, *Anal. Chim. Acta*, 1989, **222**, 252 (*synth, use*)

1,5-Di-(β-naphthyl)thiocarbazone D-00933

1,5-Di-2-naphthyl-3-thiocarbohydrazide, 9CI

[33833-43-1]



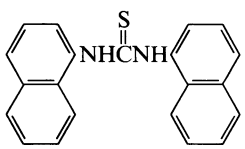
$C_{21}H_{18}N_4S$ M 358.466

Used as soln. in $CHCl_3$ for extraction-photometric detn. of Ag (λ_{max} 505 nm, ε 47300, $CHCl_3$). Yellow cryst. Sol. common org. solvs.

Tiptsova, V.G. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 1179 (*detn, Ag*)

1,3-Di-1-naphthyl-2-thiourea, 8CI D-00934

[1240-37-5]



$C_{21}H_{16}N_2S$ M 328.437

Defoliant. Used in photometric detn. of Te (H_2SO_4/KBr medium). Cryst. ($PhNO_2$). Spar. sol. hot EtOH, insol. CS_2, Et_2O, C_6H_6. Mp 207-208°, Mp 197.5°.

▷ YS2770000.

Brass, K. *et al*, *J. Prakt. Chem.*, 1937, **148**, 44 (*synth*)

Tsukervanik, I.P. *et al*, *Dokl. Akad. Nauk SSSR*, 1956, **6**, 11 (*use*)

Aravindakshan, P.A. *et al*, *Indian J. Chem.*, 1963, **1**, 395 (*synth*)

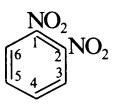
Murashova, V.I. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1205 (*detn, Te*)

Novikov, E.G. *et al*, *Zh. Prikl. Spektrosk.*, 1971, **14**, 833 (*uv*)

1,2-Dinitrobenzene, 9CI D-00935

o-*Dinitrobenzene, 8CI*

[528-29-0]



$C_6H_4N_2O_4$ M 168.109
Gives colour reaction with $S_2O_4^{2\ominus}$. Plates (EtOH). Sol. EtOH, $CHCl_3$; sl. sol. H_2O. Mp 118°. Bp_{773} 319°, Bp_{18} 182°. Steam-volatile.

▷ Highly toxic, TLV 1. Explosive. CZ7450000.

v. Wyler, O., *Helv. Chim. Acta*, 1932, **15**, 23 (*synth*)
Ogata, Y. *et al*, *J. Org. Chem.*, 1956, **21**, 1065 (*synth*)
Heertjes, P.M. *et al*, *Chem. Weekbl.*, 1958, **54**, 314 (*synth*)
Feigl, F., *Spot Tests in Inorganic Analysis*, Elsevier, Amsterdam, 1970 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 308.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DUQ400.

1,3-Dinitrobenzene, 9CI D-00936

m-*Dinitrobenzene*, *8CI*

[99-65-0]

$C_6H_4N_2O_4$ M 168.109
Reference material used in elemental microanalysis. Cryst. (EtOH). Mp 89.57°. Bp 291°, Bp 302.8°, Bp_{14} 167°. Triboluminescent. Steam-volatile.

▷ Highly toxic by inhalation and skin absorption, TLV (skin) 1. Mixts. with conc. nitric acid possess high explosive props.. CZ7350000.

Analyst (*London*), 1972, **97**, 740 (*microanal*)
Vogel, A.I., *Practical Organic Chemistry*, Longman, London, 1978, 626 (*synth*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 566.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 308.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DUQ200.

1,4-Dinitrobenzene, 9CI D-00937

p-*Dinitrobenzene*, *8CI*

[100-25-4]

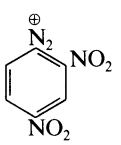
$C_6H_4N_2O_4$ M 168.109
Gives colour reaction with $S_2O_4^{2\ominus}$. Needles or prisms (EtOH). Mp 173-174°. Bp 299°, Bp_{34} 183°.

▷ Highly toxic, TLV (skin) 1. Mixtures with conc. nitric acid possess high explosive props.. CZ7525000.

v. Wyler, O., *Helv. Chim. Acta*, 1932, **15**, 23 (*synth*)
Org. Synth., Coll. Vol., 2, 1943, 225 (*synth*)
Sasaki, Y. *et al*, *Chem. Pharm. Bull.*, 1967, **15**, 599 (*pmr*)
Feigl, F., *Spot Tests in Inorganic Analysis*, Elsevier, Amsterdam, 1970.
Exner, O. *et al*, *Collect. Czech. Chem. Commun.*, 1972, **37**, 2156 (*ir*)
Bromilow, J. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 2020 (*cmr*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 308.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DUQ600.

2,4-Dinitrobenzenediazonium(1+), 9CI D-00938

[18300-85-1]



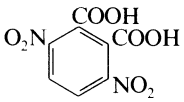
$C_6H_3N_4O_4^{\oplus}$ M 195.114 (ion)
Tetrafluoroborate(1−): [345-12-0].
$C_6H_3BF_4N_4O_4$ M 281.919
Derivatisation reagent used in tlc of active methylene compds. Cryst. Mp 158° dec.

Messmer, A. *et al*, *Acta Chim. Acad. Sci. Hung.*, 1961, **28**, 399 (*synth*)
Yakobson, G.G. *et al*, *Zh. Obshch. Khim.*, 1962, **32**, 849; *CA*, **58**, 2389g (*synth*)
Jurvik, P. *et al*, *J. Chromatogr.*, 1973, **84**, 414 (*use*)

3,6-Dinitro-1,2-benzenedicarboxylic acid, 9CI D-00939

3,6-Dinitrophthalic acid, *8CI*

[2300-16-5]



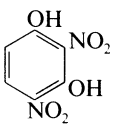
$C_8H_4N_2O_8$ M 256.128
Cryst. (Et_2O/ligroin). Mp 201-202°.
Anhydride:
$C_{16}H_6N_4O_{15}$ M 494.241
Mp 145°.
Monopyridinium salt: [87550-19-4].
Used in micro detn. of reducing sugars.

Will, W., *Ber.*, 1895, **28**, 369.
Momose, T. *et al*, *Yakugaku Zasshi*, 1951, **71**, 977; *CA*, 1921, **46**.
Momose, T. *et al*, *Chem. Pharm. Bull.*, 1960, **8**, 514; 1961, **9**, 263 (*use*)
Momose, T. *et al*, *Talanta*, 1963, **10**, 115.

2,4-Dinitro-1,3-benzenediol, 9CI D-00940

2,4-Dinitroresorcinol, *8CI*

[519-44-8]



$C_6H_4N_2O_6$ M 200.107
Used in photometric detn. of U. Yellow cryst. Mp 147-148°. pK_a 3.16.

▷ Explosive when shocked or heated.

1-Me ether: 3-Methoxy-2,6-dinitrophenol
$C_7H_6N_2O_6$ M 214.134
Mp 108°.
Di-Me ether: [18523-14-3]. *1,3-Dimethoxy-2,4-dinitrobenzene*, *9CI*, *8CI*
$C_8H_8N_2O_6$ M 228.161
Mp 73°.
Di-Et ether:
$C_{10}H_{12}N_2O_6$ M 256.215
Mp 57°.

Vermuelen, H., *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1919, **38**, 107 (*deriv*)
Borsche, W. *et al*, *Ber.*, 1928, **61**, 698.
Gay-Lussac, A. *et al*, *Meml. Poudres*, 1958, **40**, 7; *CA*, **55**, 3489.
Ruchkin, V.E. *et al*, *J. Gen. Chem. USSR* (*Engl. Transl.*), 1972, **42**, 2717 (*ir*)
Rajamoorthi, K. *et al*, *Analyst* (*London*), 1981, **106**, 641 (*detn, U*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 619.

3,4-Dinitro-1,2-benzenediol, 9CI D-00941

3,4-Dinitropyrocatechol, *8CI*. *3,4-Dinitrocatechol*

[20184-66-1]

$C_6H_4N_2O_6$ M 200.107

Used in photometric detn. of V. Cryst. + $2H_2O$. Sol. EtOH, Me_2CO; spar. sol. H_2O. Mp 82°, Mp 147° (anhyd.). pK_{a1} 4.02; pK_{a2} 8.24 (30°, 0.1*M* $NaClO_4$).

Dibenzoyl:
$C_{20}H_{12}N_2O_8$ M 408.323
Cryst. (C_6H_6/pet. ether). Mp 111.5°.

1-Me ether: 6-Methoxy-2,3-dinitrophenol. 5,6-Dinitroguaiacol
$C_7H_6N_2O_6$ M 214.134
Pale-yellow prisms (toluene). Mp 205-208° dec.

1-Me ether, Ac:
$C_9H_8N_2O_7$ M 256.171
Mp 124-125°.

2-Me ether: 2-Methoxy-3,4-dinitrophenol. 3,4-Dinitroguaiacol
$C_7H_6N_2O_6$ M 214.134
Plates (CCl_4). Mp 109.5-110°.

2-Me ether, Ac:
$C_9H_8N_2O_7$ M 256.171
Mp 124-125°.

Di-Me ether: [71089-33-3]. *1,2-Dimethoxy-3,4-dinitrobenzene. 3,4-Dinitroveratrole*
$C_8H_8N_2O_6$ M 228.161
Cryst. (MeOH). Mp 91°, Mp 129°.

Pollecoff, F. *et al*, *J. Chem. Soc.*, 1918, **113**, 651.
Rosenblatt, D.H. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 3277 (*synth*)
Kopko, J., *Pol. J. Chem.* (*Rocz. Chem.*), 1954, **28**, 525; *CA*, **49**, 8849.
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1506 (*detn, V*)
Proctor, G.R. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1979, 103.

3,5-Dinitro-1,2-benzenediol, 9CI D-00942

3,5-Dinitropyrocatechol, 8CI. 3,5-Dinitrocatechol

[7659-29-2]

$C_6H_4N_2O_6$ M 200.107

Used for photometric detn. of Nb, Ti, V, W, rare earth metals. Yellow needles (EtOH). Sol. alkalis, EtOH, Me_2CO; spar. sol. H_2O; insol. C_6H_6, $CHCl_3$. Mp 164°. pK_{a1} 3.39; pK_{a2} 10.03 (25°, 0.1*M* $NaClO_4$, 4% EtOH).

Di-Ac:
$C_{10}H_8N_2O_8$ M 284.182
Mp 112°.

1-Me ether: [63975-57-5]. *2-Methoxy-4,6-dinitrophenol. 3,5-Dinitroguaiacol*
$C_7H_6N_2O_6$ M 214.134
Yellow cryst. (C_6H_6). Mp 80°, Mp 123-124°.

2-Me ether: 2-Methoxy-3,5-dinitrophenol. 4,6-Dinitroguaiacol
$C_7H_6N_2O_6$ M 214.134
Yellow cryst. Mp 123°.

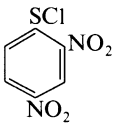
2-Me ether, Ac: [36383-37-6].
$C_9H_8N_2O_7$ M 256.171
Mp 114°.

Di-Me ether: [13661-34-2]. *1,2-Dimethoxy-3,5-dinitrobenzene. 3,5-Dinitroveratrole*
$C_8H_8N_2O_6$ M 228.161
Cryst. (EtOH). Mp 102°.

Polecoff, F. *et al*, *J. Chem. Soc.*, 1918, **113**, 650 (*deriv*)
Heertjes, P.M. *et al*, *J. Chem. Soc.*, 1954, 1868 (*synth*)
Iorio, M.A., *Ann. Chim.* (*Rome*), 1959, **49**, 379 (*synth*)
Lobiński, R. *et al*, *Anal. Sci.*, 1988, **4**, 629 (*detn, V*)
Marczenko, Z. *et al*, *Talanta*, 1988, **34**, 1001 (*detn, V*)
Lobiński, R. *et al*, *Anal. Chim. Acta*, 1989, **226**, 281 (*detn, Nb*)

2,4-Dinitrobenzenesulfenyl chloride D-00943

[528-76-7]



$C_6H_3ClN_2O_4S$ M 234.619

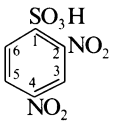
Synth. reagent. Selective blocking reagent for nucleosides. Anal. reagent for amines, alcohols, thiols, etc. Mp 95-96°.

▷ Explosive if shocked or heated.

Kharasch, N., *J. Am. Chem. Soc.*, 1947, **69**, 1612; 1950, **72**, 1796 (*synth*)
Kharasch, N., *J. Chem. Educ.*, 1956, **33**, 585.
Org. Synth., Coll. Vol., 5, 1973, 474 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 231 (*use*)
Ito, H. *et al*, *Chem. Pharm. Bull.*, 1978, **26**, 296 (*synth*)
Khanna, N. *et al*, *J. Indian Chem. Soc.*, 1978, **55**, 1312 (*use*)
Obtemperanskaya, S. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 2421; *CA*, **92**, 190797k (*use*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 552.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 308.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DUR200.

2,4-Dinitrobenzenesulfonic acid, 9CI, 8CI D-00944

[89-02-1]



$C_6H_4N_2O_7S$ M 248.173

Used in photography and steel-coating treatments. Anal. reagent for amines. Cryst. + $3H_2O$. Mp 106-108° (hydrate), Mp 130° (anhyd.).

▷ DB6500000.

Chloride: [1656-44-6].
$C_6H_3ClN_2O_6S$ M 266.618
Mp 102°.

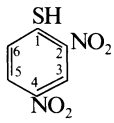
Amide: [73901-01-6].
$C_6H_5N_3O_6S$ M 247.188
Mp 154°.

Willgerodt, C. *et al*, *J. Prakt. Chem.*, 1886, **34**, 116 (*synth*)
Blanksma, M.J.J., *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1905, **24**, 322 (*synth*)
Elgersma, J.N., *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1929, **48**, 757 (*synth*)
Crawhall, J.C. *et al*, *Biochem. J.*, 1955, **61**, 264 (*use*)
Smith, A.D. *et al*, *Anal. Biochem.*, 1967, **18**, 36 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DUR400.

2,4-Dinitrobenzenethiol, 9CI, 8CI D-00945

1-Mercapto-2,4-dinitrobenzene. 2,4-Dinitrothiophenol

[2218-96-4]



$C_6H_4N_2O_4S$ M 200.175

Reagent for the characterisation of organic halogen compds. Needles (C_6H_6/ligroin). Mp 131°.

▷ DC1750000.

Me ether: [2363-23-7]. *2,4-Dinitrothioanisole*
$C_7H_6N_2O_4S$ M 214.201
Mp 126°.

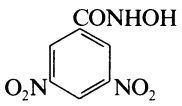
Et ether: [7343-55-7]. *2,4-Dinitrothiophenetole*
$C_8H_8N_2O_4S$ M 228.228
Mp 113°.

Zincke, Th. *et al*, *J. Prakt. Chem.*, 1912, **85**, 216 (*synth*)
Bost, R.W. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 1968 (*use*)
Kharasch, N. *et al*, *J. Org. Chem.*, 1959, **24**, 1020 (*synth*)
Parker, A.J. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 3071 (*synth*)

3,5-Dinitrobenzohydroxamic acid D-00946

N-*Hydroxy-3,5-dinitrobenzamide*, *9CI*

[29882-36-8]



$C_7H_5N_3O_6$ M 227.133

N-*Ph:* [29556-22-7]. N-*Hydroxy-3,5-dinitro*-N-*phenylbenzamide*, *9CI*
$C_{13}H_9N_3O_6$ M 303.231
Used for photometric detn. of U; pptn. of Al, Cu, Fe(*III*), Hf, Mn, Pb, Sn(*II*), Sn(*IV*), Ti, Zr. Yellow cryst. Sol. common org. solvs.; spar. sol. H_2O (7 mg per 100 cm^3 at 25°). Mp 133°.

N-(*4-Chlorophenyl*): [67494-60-4]. N-(*4-Chlorophenyl*)-N-*hydroxy-3,5-dinitrobenzamide*, *9CI*
$C_{13}H_8ClN_3O_6$ M 337.675
Used as 2m*M* $CHCl_3$ soln. for extraction-photometric detn. of Co, Cu(*II*), Fe(*II,III*), Ti, V(*V*) (pH ~ 5). Cryst. Sol. $CHCl_3$, EtOH.

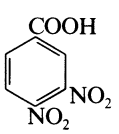
N-(*4-Methylbenzoyl*), *Me ester:* [67467-54-3]. *4-[(3,5-Dinitrobenzoyl)hydroxyamino]benzoic acid methyl ester*, *9CI*
$C_{15}H_{11}N_3O_8$ M 361.267
Used as 2m*M* $CHCl_3$ soln. for extraction-photometric detn. of Co, Cu(*II*), Fe(*II,III*), Ti, V(*V*) (pH ~ 5). Cryst. Sol. $CHCl_3$, EtOH. pK_a 7.68.

N-(*4-Methylphenyl*): [32919-57-6]. N-*Hydroxy*-N-(*4-methylphenyl*)-*3,5-dinitrobenzamide*, *9CI*
$C_{14}H_{11}N_3O_6$ M 317.257
Used as 2m*M* $CHCl_3$ soln. for extraction-photometric detn. of Co, Cu(*II*), Fe(*II,III*), Ti, V(*V*) (pH ~ 5). Cryst. Sol. $CHCl_3$, EtOH.

Lutwick, G.D. *et al*, *Can. J. Chem.*, 1954, **32**, 949 (*use*)
Shendrikar, A.D., *Talanta*, 1969, **16**, 51 (*use*)
Gaikwad, M.D. *et al*, *Indian J. Chem.*, 1973, **11**, 1188 (*detn, U*)
Vernon, F. *et al*, *Anal. Chim. Acta*, 1978, **98**, 349 (*synth, use*)

3,4-Dinitrobenzoic acid, 9CI, 8CI D-00947

[528-45-0]



$C_7H_4N_2O_6$ M 212.118
Reagent for microdetn. of sugar components in polysaccharide hydrolysates. Mp 165°. pK_a 2.818 (25°, H_2O).

Me ester: [22907-68-2].
$C_8H_6N_2O_6$ M 226.145
Mp 87°.

Et ester: [35998-99-3].
$C_9H_8N_2O_6$ M 240.172
Mp 71°.

Chloride: [24376-18-9].
$C_7H_3ClN_2O_5$ M 230.564
Mp 50-51°. Bp_{17} 188°.
▷ Explodes above 225°.

Amide:
$C_7H_5N_3O_5$ M 211.134
Mp 165-166°.

Goldstein, H. *et al*, *Helv. Chim. Acta*, 1943, **26**, 475 (*synth*)
Org. Synth., Coll. Vol., 3, 1955, 336 (*synth*)
Dippy, J.F.S. *et al*, *J. Chem. Soc.*, 1964, 154 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 320.
Wood, T. *et al*, *Anal. Biochem.*, 1968, **22**, 1117 (*use*)

3,5-Dinitrobenzoic acid, 9CI, 8CI D-00948

[99-34-3]

$C_7H_4N_2O_6$ M 212.118
Corrosion inhibitor, also used in photography. Can be used to identify the alcohol components in esters. Yellow or colourless cryst. (dimorph.). Mp 212-213°. pK_a 2.824 (25°, H_2O).

Me ester: [2702-58-1].
$C_8H_6N_2O_6$ M 226.145
Mp 112°.

Et ester: [618-71-3].
$C_9H_8N_2O_6$ M 240.172
Mp 93°.

Chloride: [99-33-2].
$C_7H_3ClN_2O_5$ M 230.564
Reagent for isol. and characterisation of alcohols and amines. Needles. Mp 74°. Bp_{11} 196°.
▷ Highly toxic, irritant. DM6637000.

Amide: [121-81-3]. *3,5-Dinitrobenzamide*. ***Nitromide*, USAN.** *NSC 60719*
$C_7H_5N_3O_5$ M 211.134
Coccidiostat for poultry. Leaflets. Mp 183°.

Anhydride: [40993-10-0].
$C_{14}H_6N_4O_{11}$ M 406.222
Reagent for the identification of ethers, alcohols and phenols. Mp 109°.

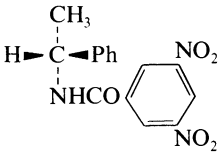
Nitrile: [4110-35-4]. *1-Cyano-3,5-dinitrobenzene*
$C_7H_3N_3O_4$ M 193.118
Cryst. (diisopropyl ether). Mp 130-131°.
▷ DI4365000.

Phillips, M. *et al*, *J. Am. Chem. Soc.*, 1931, **53**, 1924 (*use*)
Org. Synth., Coll. Vol., 3, 1955, 337.
Bachman, G.B. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 5871 (*synth*)
Belg. Pat., 612 706, (1962); *CA*, **58**, 2786g (*use, amide*)
Finan, P.A. *et al*, *J. Chem. Soc.*, 1962, 2824 (*synth, amide*)
Dippy, J.F.S. *et al*, *J. Chem. Soc.*, 1964, 154 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 320.
Mai, K. *et al*, *Tetrahedron Lett.*, 1986, **27**, 2203 (*nitrile*)
Prince, P. *et al*, *Acta Crystallogr., Sect. C*, 1991, **47**, 895 (*cryst struct*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 617.

N-(3,5-Dinitrobenzoyl)-α-phenylethylamine D-00949

*3,5-Dinitro-*N*-(1-phenylethyl)benzamide, 9CI.* N-(α-*Methylbenzyl)-3,5-dinitrobenzamide*

[14401-99-1]



$C_{15}H_{13}N_3O_5$ M 315.285

(*R*)-*form* [69632-32-2]
Chiral shift reagent. Cryst. Mp 158-160°. $[\alpha]_D^{20}$ −17.5° (c, 0.9 in Me_2CO).

(±)-*form* [14402-00-7]
Mp 147°.

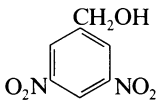
[69632-31-1]

Berger, J. *et al*, *Acta Chem. Scand.*, 1966, **20**, 2002 (*synth*)
Debhmukh, M. *et al*, *Tetrahedron Lett.*, 1984, **25**, 3467 (*synth, use*)
Dunach, E., *Tetrahedron Lett.*, 1985, **26**, 2649 (*synth, use*)

3,5-Dinitrobenzyl alcohol D-00950

3,5-Dinitrobenzenemethanol. α-Hydroxy-3,5-dinitrotoluene

[71022-43-0]



$C_7H_6N_2O_5$ M 198.135
Mp 98°.

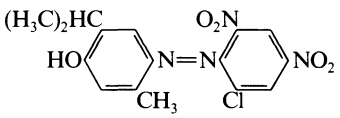
4-Methylbenzenesulfonyl: [126673-11-8].
$C_{14}H_{12}N_2O_7S$ M 352.324
Uv labelling agent for carboxylic acids. Yellow needles (pet. ether).

Subba Rao, B.C. *et al*, *Curr. Sci.*, 1960, **29**, 389 (*synth*)
Laurence, C. *et al*, *Spectrochim. Acta, Part A*, 1978, **34**, 1127 (*ir*)
Yates, K. *et al*, *J. Org. Chem.*, 1980, **45**, 1401 (*synth, pmr, ir*)
Funzao, K. *et al*, *J. Chromatogr.*, 1989, **481**, 211 (*p-tosylate, synth, use*)

2,4-Dinitro-6-chlorophenylazothymol D-00951

6-[(2-Chloro-4,6-dinitrophenyl)azo]thymol, 8CI. 4-[(2-Chloro-4,6-dinitrophenyl)azo]-2-isopropyl-5-methylphenol

[18265-73-1]



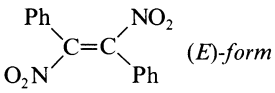
$C_{16}H_{15}ClN_4O_5$ M 378.771
Used as acid-base indicator (pH range: 7-9; colour change: yellow → blue); spot reagent for Mg. Red amorphous powder. Sol. EtOH; spar. sol. H_2O. Mp 183°. pK_{a1} 8.33 (27°).

Mukeji, S.K. *et al*, *Talanta*, 1967, **14**, 1123 (*synth, use*)

1,2-Dinitro-1,2-diphenylethylene D-00952

1,1'-(1,2-Dinitro-1,2-ethenediyl)bisbenzene, 9CI. α,β-Dinitrostilbene

[28925-38-4]



(*E*)-*form*

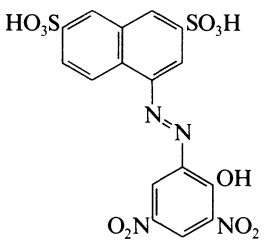
$C_{14}H_{10}N_2O_4$ M 270.244
Reagent for the colorimetric detn. of amines, amino acids and thiols.

(*E*)-*form* [16906-54-0]
Light-yellow needles or prisms (EtOH). Mp 187-188°.

(*Z*)-*form* [1796-05-0]
Yellow pyramids (EtOH). Mp 108-109°.

Campbell, K.N. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 2400 (*synth, uv*)
Freeman, J.P. *et al*, *J. Org. Chem.*, 1958, **23**, 136 (*uv*)
Dubois, P. *et al*, *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1979, **288**, 311; 1980, **290**, 21 (*use*)
Dubois, P. *et al*, *Talanta*, 1981, **28**, 843 (*use*)

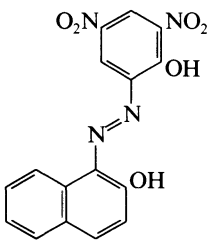
4-[(3,5-Dinitro-2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI D-00953



$C_{16}H_{10}N_4O_{11}S_2$ M 498.407
Used as a 0.1% soln. in EtOH to give colour reactions with Al, Ga, Zn. Cryst.

Poluektov, N.S. *et al*, *Zh. Anal. Khim.*, 1958, **13**, 555 (*use*)

1-[(3,5-Dinitro-2-hydroxyphenyl)azo]-2-naphthol D-00954

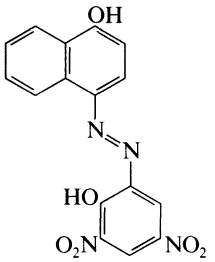


$C_{16}H_{10}N_4O_6$ M 354.278
Used as a 0.1% soln. in EtOH to give colour reaction with Al, Ga, Zn. Cryst.

Poluektov, N.S. *et al*, *Zh. Anal. Khim.*, 1958, **13**, 555 (*use*)

4-(3,5-Dinitro-2-hydroxyphenylazo)-1-naphthol D-00955

Picraminazo



$C_{16}H_{10}N_4O_6$ M 354.278

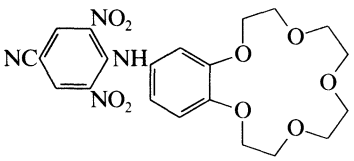
Used as 5 m*M* EtOH soln. for photometric detn. of Mg. Brown cryst. Sol. EtOH, Me_2CO, alkalis; sl. sol. H_2O.

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1961, **16**, 674 (*synth, detn, Mg*)

3,5-Dinitro-4-[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentanedecin-15-yl) amino]benzonitrile, 9CI D-00956

4″-Cyano-2″,6″-dinitrophenyl-4′-aminobenzo-15-crown-5

[76652-67-0]



$C_{21}H_{22}N_4O_9$ M 474.426

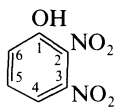
Used as $CHCl_3$ soln. for extraction separation of K (from Na). Dark orange powder. Sol. $CHCl_3$, dioxan.

Bubnis, B.P. *et al*, *Anal. Chim. Acta*, 1982, **139**, 307 (*synth, use*)

2,3-Dinitrophenol, 9CI, 8CI D-00957

ε-Dinitrophenol

[66-56-8]



$C_6H_4N_2O_5$ M 184.108

Used in gravimetric detn. of Zr; acid-base indicator. Yellow cryst. Sol. EtOH, Et_2O; sl. sol. H_2O. Mp 144-145°. pK_a 4.96 (25°).

▷ SL2700000.

Me ether: [16315-07-4]. *1-Methoxy-2,3-dinitrobenzene, 9CI. 2,3-Dinitroanisole, 8CI*

$C_7H_6N_2O_5$ M 198.135

Cryst. (EtOH or toluene). Mp 119°.

Et ether: [4280-24-4]. *1-Ethoxy-2,3-dinitrobenzene. 2,3-Dinitrophenetole*

$C_8H_8N_2O_5$ M 212.162

Yellowish cryst. Mp 101°.

▷ Highly toxic, can cause dermatitis. Potentially explosive.

Vermeulen, P., *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1906, **25**, 14 (*deriv*)
Meldola, R. *et al*, *J. Chem. Soc.*, 1913, **103**, 1484 (*synth*)
Mikhailov, G.I., *Zh. Anal. Khim.*, 1955, **10**, 382.
Hrivnak, J. *et al*, *J. Chromatogr.*, 1969, **44**, 437 (*glc*)
Granzhan, V.A. *et al*, *CA*, 1972, **77**, 19290 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 310.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DUY800.

2,4-Dinitrophenol D-00958

[51-28-5]

$C_6H_4N_2O_5$ M 184.108

Used for gravimetric detn. of Zr; indirect photometric detn. of $SO_4^{2\ominus}$; as acid-base indicator. Yellow plates (H_2O). Sol. EtOH, Me_2CO, C_6H_6; sl. sol. H_2O. Mp 113°, Mp 106-108°. pK_a 4.00 (25°). Sublimes. Steam-volatile.

▷ Highly toxic, explosive. SL2800000.

Ac: [4232-27-3].

$C_8H_6N_2O_6$ M 226.145

Mp 72°.

4-Methylbenzenesulfonyl: Mp 122°.

Me ether: [119-27-7]. *1-Methoxy-2,4-dinitrobenzene. 2,4-Dinitroanisole*

$C_7H_6N_2O_5$ M 198.135

Cryst. (EtOH). Mp 83°.

▷ Toxic, potentially explosive. DA5250000.

Et ether: [610-54-8]. *1-Ethoxy-2,4-dinitrobenzene. 2,4-Dinitrophenetole*

$C_8H_8N_2O_5$ M 212.162

Mp 87°. Steam-volatile.

▷ SI7875000.

Blanksma, M.J.J. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1940, **59**, 629 (*synth, deriv*)
Mikhailov, G.I., *Zh. Anal. Khim.*, 1955, **10**, 382 (*detn, Zr*)
Pailer, M., *Monatsh. Chem.*, 1968, **99**, 103 (*synth, deriv*)
Stephens, M.D. *et al*, *Can. J. Chem.*, 1971, **49**, 3759 (*pmr*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)
Kagawa, T. *et al*, *Acta Crystallogr., Sect. B*, 1976, **32**, 3171 (*cryst struct*)
Burns, D.T. *et al*, *Anal. Chim. Acta*, 1984, **162**, 443 (*detn, $SO_4^{2\ominus}$*)
Nyburg, S.C. *et al*, *Acta Crystallogr., Sect. C*, 1987, **43**, 686 (*cryst struct, deriv*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 310.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DUP800, DUY400, DUZ000.

2,5-Dinitrophenol D-00959

γ-Dinitrophenol

[329-71-5]

$C_6H_4N_2O_5$ M 184.108

Used for gravimetric detn. of Zr; acid-base indicator; pH range 4.0→5.8; colour change, colourless → yellow. Yellowish needles. Sol. EtOH; spar. sol. H_2O. Mp 108°. pK_a 5.21 (25°). Steam-volatile.

▷ SL2900000.

Me ether: [3962-77-4]. *2-Methoxy-1,4-dinitrobenzene, 9CI. 2,5-Dinitroanisole, 8CI*

$C_7H_6N_2O_5$ M 198.135

Needles (C_6H_6/pet. ether). Mp 96°. Spar. steam-volatile.

▷ Highly toxic, potentially explosive.

Et ether: 2-Ethoxy-1,4-dinitrobenzene. 2,5-Dinitrophenetole

$C_8H_8N_2O_5$ M 212.162

Mp 85°.

Datta, R.L. *et al*, *J. Indian Chem. Soc.*, 1927, **4**, 321.
Mikhailov, G.I., *Zh. Anal. Khim.*, 1955, **10**, 382 (*detn, Zr*)
Granzhan, V.A. *et al*, *CA*, 1972, **77**, 19290.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 93 (*use*)
Janu, I. *et al*, *CA*, 1975, **82**, 111198 (*ir*)

Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 310.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DVA000.

2,6-Dinitrophenol D-00960

β-Dinitrophenol

[573-56-8]

$C_6H_4N_2O_5$ M 184.108

Used for gravimetric detn. of Zr; as 0.1% EtOH soln. as acid-base indicator (pH range 1.7-4.4; colour change, colourless → yellow). Pale-yellow cryst. (H_2O). Sol. H_2O, EtOH, C_6H_6, Et_2O, $CHCl_3$. Mp 63-64°. pK_a 4.77. Steam-volatile.

▷ Highly toxic, potentially explosive. SL2975000.

4-Methylbenzenesulfonyl: Mp 135°.

Me ether: [3535-67-9]. *2-Methoxy-1,3-dinitrobenzene, 9CI. 2,6-Dinitroanisole, 8CI*
$C_7H_6N_2O_5$ M 198.135
Cryst. (EtOH). Mp 117-118°.

Et ether: [13027-43-5]. *2-Ethoxy-1,3-dinitrobenzene. 2,6-Dinitrophenetole*
$C_8H_8N_2O_5$ M 212.162
Mp 58°.

Phillips, M.A., *Chem. Ind. (London)*, 1952, 714 (*synth*)
Mikhailov, G.I., *Zh. Anal. Khim.*, 1955, **10**, 382 (*detn, Zr*)
Yuan, C.-S., *CA*, 1960, **54**, 22443.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 93 (*use*)
Iwasaki, F. *et al, Acta Crystallogr., Sect. B*, 1976, **32**, 102.
Nudelmann, N.S. *et al, J. Chem. Soc., Perkin Trans. 2*, 1976, 1256 (*deriv*)
Nyburg, S.C. *et al, Acta Crystallogr., Sect. C*, 1987, **43**, 686 (*cryst struct, deriv*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 310.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DVA200.

3,4-Dinitrophenol D-00961

δ-Dinitrophenol

[577-71-9]

$C_6H_4N_2O_5$ M 184.108

Used as EtOH soln. in gravimetric detn. of Zr; acid base indicator. Yellowish needles (H_2O). Sol. EtOH, Et_2O; sl. sol. H_2O. Mp 134°. pK_a 5.42 (25°).

▷ Highly toxic, potentially explosive. SL3000000.

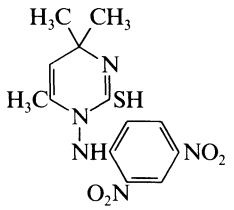
Me ether: [4280-28-8]. *4-Methoxy-1,2-dinitrobenzene, 9CI. 3,4-Dinitroanisole, 8CI*
$C_7H_6N_2O_5$ M 198.135
Yellow needles. Mp 70°.

Et ether: 4-Ethoxy-1,2-dinitrobenzene. 3,4-Dinitrophenetole
$C_8H_8N_2O_5$ M 212.162
Mp 87°.

Hollemann, A.F., *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1903, **22**, 263 (*deriv*)
Vermeulen, H., *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1906, **25**, 12.
Mikhailov, G.I., *Zh. Anal. Khim.*, 1955, **10**, 382 (*detn, Zr*)
Granzhan, V.A. *et al, CA*, 1972, **77**, 19290.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*indicator*)
Di Nunno, L. *et al, J. Chem. Soc., Perkin Trans. 1*, 1973, 1954 (*deriv*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 310.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DVA400.

1-[(2,4-Dinitrophenyl)amino]-3,4-dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, 9CI D-00962

[41388-01-6]



$C_{13}H_{15}N_5O_4S$ M 337.359

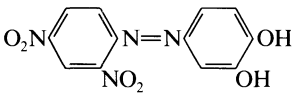
Used as 0.01*M* $CHCl_3$ soln. for extraction-photometric detn. of Pd(*II*) and Os (λ_{max} 495 nm, ε 5600, 0.5-1.5*M* HCl). Cryst. (AcOH). Sol. $CHCl_3$, AcOH. Mp 223-224°.

Singh, A.K. *et al, Talanta*, 1976, **23**, 851 (*synth, detn, Pd, Os*)

4-[(2,4-Dinitrophenyl)azo]-1,2-benzenediol, 9CI D-00963

1-(3',4'-Dihydroxyphenyl)azo-2,4-dinitrobenzene

[60129-44-4]



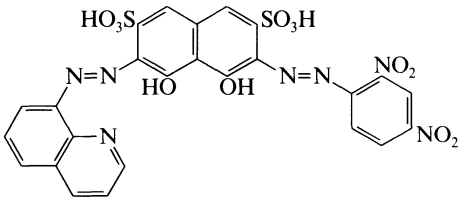
$C_{12}H_8N_4O_6$ M 304.218

Used as 1m*M* dioxan soln. for photometric detn. of Zr (λ_{max} 460 nm, ε 27000, pH 2-3, 40% dioxan). Cryst. (Me_2CO). Sol. dioxan, Me_2CO, DMF.

Vilkova, O.M. *et al, Zh. Anal. Khim.*, 1978, **33**, 716 (*synth, detn, Zr*)

3-[(2,4-Dinitrophenyl)azo]-4,5-dihydroxy-6-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, 9CI D-00964

[22106-84-9]



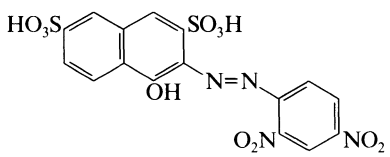
$C_{25}H_{15}N_7O_{12}S_2$ M 669.565

Used for photometric detn. of Cu; extraction-photometric detn. of Cu (butanol). Dark red cryst. Sol. H_2O, EtOH.

Okhanova, L.A., *Zh. Anal. Khim.*, 1968, **23**, 1562.

3-[(2,4-Dinitrophenyl)azo]-4-hydroxy-2,7-naphthalenedisulfonic acid, 9CI D-00965

Nitrazine yellow. Nitrazol yellow. C.I. 14890



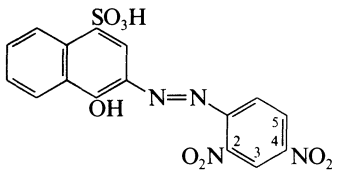
$C_{16}H_{10}N_4O_{11}S_2$ M 498.407

Acid dye. Strictly, the name Nitrazine yellow refers to the disodium salt.

Di-Na salt: [5423-07-4].
Acid-base indicator (pH range: 6.4-6.8; colour change: yellow → blue). Used for indicator papers (Delta paper). Commercially available. Red cryst. Sol. H_2O, EtOH. λ_{max} 586 nm.

Colour Index, 3rd Edn., 1971, **4**, 4073 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 88.
Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 2546A.

3-[(2,4-Dinitrophenyl)azo]-4-hydroxy-1-naphthalenesulfonic acid, 9CI D-00966



$C_{16}H_{10}N_4O_8S$ M 418.343
Na salt: [27961-01-9].
Used as a 0.05% soln. in EtOH as acid-base indicator (pH range: 8.4 - 9.2; colour change: red → violet). Red cryst. (AcOH). Sol. H_2O, EtOH.

Barakat, M.Z. *et al*, *Analyst* (*London*), 1958, **83**, 695.
Legradi, L., *CA*, 1970, **72**, 125348n.

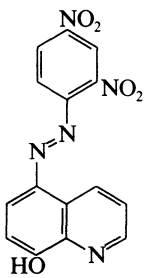
3-[(3,5-Dinitrophenyl)azo]-4-hydroxy-1-naphthalenesulfonic acid, 9CI D-00967

$C_{16}H_{10}N_4O_8S$ M 418.343
Na salt: [27961-02-0].
Used as a 0.05% soln. in 50% EtOH as adsorption indicator in argentometry. Red cryst. (AcOH). Sol. H_2O, EtOH.

Legradi, L., *CA*, 1970, **72**, 125348n (*use*)

5-(2,4-Dinitrophenylazo)-8-hydroxyquinoline D-00968

5-(2,4-Dinitrophenylazo)-8-quinolinol
[103600-03-9]

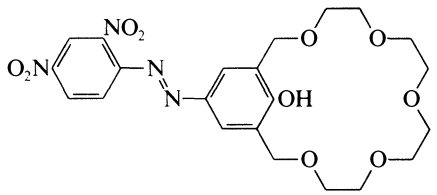


$C_{15}H_9N_5O_5$ M 339.267
Used as EtOH soln. for extraction-photometric detn. of Co (λ_{max} 538 nm, ε 125000, 4-methyl-2-pentanone). Orange cryst. (EtOH). Sol. EtOH; insol. H_2O.

Yamamoto, D. *et al*, *CA*, 1986, **105**, 71689x (*detn, Co*)

19-[(2,4-Dinitrophenyl)azo]-3,6,9,12,15-pentaoxabicyclo[15.3.1]heneicosa-1(21),17,19-trien-21-ol, 9CI D-00969

[81238-58-6]

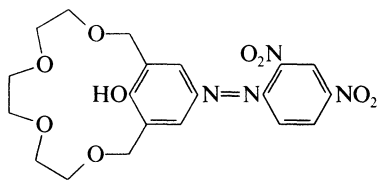


$C_{22}H_{26}N_4O_{10}$ M 506.468
Used as 0.1% MeOH soln. for photometric detn. of K (optical sensor for K). Orange cryst. (EtOH). Sol. EtOH, MeOH.

Al-Amir, S.M. *et al*, *Talanta*, 1989, **36**, 645 (*detn, K*)

16-[(2,4-Dinitrophenyl)azo]-3,6,9,12-tetraoxabicyclo[12.3.1]octadeca-1(18),14,16-trien-18-ol, 9CI D-00970

m-*Dinitrophenylazohydroxybenzene-7-crown-4*
[81238-57-5]

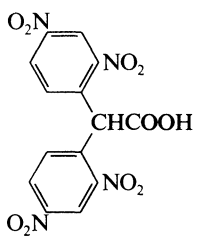


$C_{20}H_{22}N_4O_9$ M 462.415
Used as a 0.25m*M* soln. in $CHCl_3$ for extraction-photometric detn. of Cs, Li, Rb. Reddish orange cryst. (EtOH). Sol. EtOH, Me_2CO, $CHCl_3$; insol. H_2O. Mp 167.5-168.5°. pK_{a1} 7.05 (μ = 0.1, 25°C). λ_{max} 400 nm ($CHCl_3$).

Kaneda, Y. *et al*, *Tetrahedron Lett.*, 1981, **22**, 4407 (*synth*)
Nakashima, K. *et al*, *Chem. Lett.*, 1982, 1781; 1983, 1415 (*detn, Li, Cs, Rb*)

α-(2,4-Dinitrophenyl)-2,4-dinitrobenzeneacetic acid, 9CI D-00971

Bis(2,4-dinitrophenyl)acetic acid



$C_{14}H_8N_4O_{10}$ M 392.238
Me ester:
$C_{15}H_{10}N_4O_{10}$ M 406.265
Cryst. (C_6H_6/MeOH). Mp 162-163°.
Et ester: [5833-18-1]. *Ethylbis(2,4-dinitrophenyl) acetate*
$C_{16}H_{12}N_4O_{10}$ M 420.292
Acid-base indicator (pH range: 7.5-9.1; colour change: colourless → deep blue). Used as satd. soln. in Me_2CO/EtOH (1:1). Pale yellow cryst. (C_6H_6 or EtOH). Sol. MeOH, EtOH, Me_2CO. Mp 155-156°.

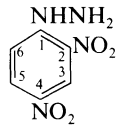
Werner, A., *Ber.*, 1906, **39**, 1278 (*synth*)

Fehnel, E.A. *et al*, *Ind. Eng. Chem., Anal. Ed.*, 1944, **16**, 53.
Bluhm, A.L. *et al*, *J. Org. Chem.*, 1964, **29**, 636 (*synth*)
Bishop, E., *Indicators*, Oxford, Pergamon, 1972.

(2,4-Dinitrophenyl)hydrazine, 9CI, 8CI D-00972

DNPH. Brady's reagent

[119-26-6]



$C_6H_6N_4O_4$ M 198.138

Reagent for characterisation of carbonyl compds.; also effects dehydrohalogenation of α-halogeno ketones etc. Acid-base indicator (pH range: 7.6-9.6; colour change: red → yellow). Blue-red cryst. with violet fluor. Mp 198° dec. (194°). pK_a 9.1 (25°).

▷ Mod. toxic. MV3325000.

N-*Ac:*

$C_8H_8N_4O_5$ M 240.175

Yellow needles (EtOH aq.). Mp 197-198°.

N-*Benzoyl:*

$C_{13}H_{10}N_4O_5$ M 302.246

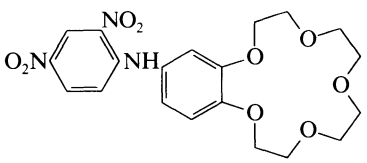
Orange-red leaflets (EtOH). Mp 206-207°.

Org. Synth., Coll. Vol., 2, 1943, 228 (*synth*)
Murashova, V.I. *et al*, *Zh. Anal. Khim.*, 1964, **19**, 1503 (*use*)
Ault, A., *J. Chem. Educ.*, 1965, **42**, 267 (*synth*)
Legradi, L., *Magy. Kem. Foly.*, 1965, **71**, 302 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 176.
Buckingham, J., *Q. Rev., Chem. Soc.*, 1969, **23**, 37 (*rev*)
Pearson, D.E., *Org. Prep. Proced. Int.*, 1972, **4**, 49 (*synth*)
Keiser, J.K., *J. Chem. Educ.*, 1974, **51**, 599 (*pmr*)
Allen, C.F.H., *Can. J. Chem.*, 1975, **53**, 865 (*ms*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 311.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DVC400.

N-(2,4-Dinitrophenyl)-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, 9CI D-00973

(2,4-Dinitrophenylamino)benzo-15-crown-5

[83003-95-6]



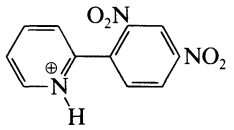
$C_{20}H_{23}N_3O_9$ M 449.416

Used as $CHCl_3$ soln. for extraction separation of K (from Na). Dark orange powder. Sol. $CHCl_3$, dioxan.

Bubnis, B.P. *et al*, *Anal. Chim. Acta*, 1982, **139**, 307 (*use*)

2-(2,4-Dinitrophenyl)pyridinium(1+) D-00974

[2669-98-9]



$C_{11}H_8N_3O_4^{\oplus}$ M 246.202 (ion)

Chloride:

$C_{11}H_8ClN_3O_4$ M 281.655

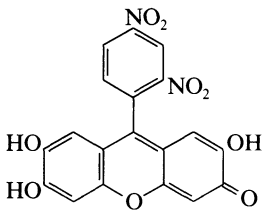
Acid-base indicator (pH range: 11.3 - 12.8; colour change: yellow → violet) used as a 0.25% soln. in EtOH. Red cryst. powder. Sol. EtOH, C_6H_6; insol. H_2O.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

9-(2,4-Dinitrophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, 9CI D-00975

2',4'-Dinitro-2,3,7-trihydroxy-9-phenylfluorone. Dinitrophenylfluorone

[6098-83-5]



$C_{19}H_{10}N_2O_9$ M 410.296

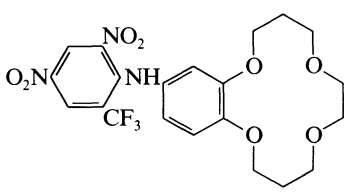
Used for photometric detn. of Ge (ε 62000), Al, Ga, In, Sn, Nb, Mo, W. Dark powder.

Nazarenko, V.A. *et al*, *Trihydroxyfluorones*, Nauka, Moscow, 1973.
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1478; 1978, **33**, 903.

N-[2,4-Dinitro-6-(trifluoromethyl)phenyl]-3,4,6,7,10,11-hexahydro-2*H*,9*H*-1,5,8,12-benzotetraoxacylotetradecin-14-amine, 9CI D-00976

2'',4''-Dinitro-6''-trifluoromethylphenyl-4'-amino-14-benzene-4-crown

[95088-66-7]



$C_{21}H_{22}F_3N_3O_8$ M 501.415

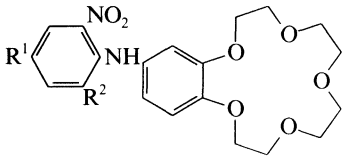
Used as 0.7m*M* CH_2Cl_2 soln. for extraction-photometric detn. of Li (λ_{max} 464 nm, ε 200000, CH_2Cl_2). Reddish orange cryst. (EtOH). Sol. EtOH, Me_2CO, CH_2Cl_2, $CHCl_3$; insol. H_2O. pKa_1 9.99; pK_{a2} 9.6.

Wu, Y.P. *et al*, *Anal. Chim. Acta*, 1984, **162**, 102, 285 (*detn, Li*)

N-[2,4-Dinitro-6-(trifluoromethyl)phenyl]-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, 9CI D-00977

6″-Trifluoromethyl-2″,4″-dinitrophenyl-4′-aminobenzo-15-crown-5

[78857-86-0]



$R^1 = NO_2$, $R^2 = CF_3$

$C_{21}H_{22}F_3N_3O_9$ M 517.415

Used as 2m*M* $CHCl_3$ soln. for extraction-photometric detn. of K (in the presence of Na). Dark orange powder. Sol. $CHCl_3$, dioxan. Mp 165°.

Pacey, G.E. *et al*, *Analyst* (*London*), 1981, **106**, 636 (*synth*, *detn*, *K*)
Bubnis, B.P. *et al*, *Anal. Chim. Acta*, 1982, **139**, 307 (*use*)

N-[2,6-Dinitro-4-(trifluoromethyl)phenyl]-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, 9CI D-00978

4″-Trifluoromethyl-2″,6″-dinitrophenyl-4′-aminobenzo-15-crown-5

[78857-85-9]

As *N*-[2,4-Dinitro-6-(trifluoromethyl)phenyl]-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, D-00977 with

$R^1 = CF_3$, $R^2 = NO_2$

$C_{21}H_{22}F_3N_3O_9$ M 517.415

Used as $CHCl_3$ soln. for extraction-photometric detn. of K (in the presence of Na). Dark orange powder. Sol. $CHCl_3$, dioxan. Mp 171°.

Pacey, G.E. *et al*, *Analyst* (*London*), 1981, **106**, 636 (*synth*, *detn*, *K*)
Bubnis, B.P. *et al*, *Anal. Chim. Acta*, 1982, **139**, 307 (*detn*, *K*)

Dinonylamine D-00979

N-*Nonyl-1-nonanamine*, *9CI*

[2044-21-5]

$[H_3C(CH_2)_8]_2NH$

$C_{18}H_{39}N$ M 269.513

Used as soln. in $CHCl_3$ or 1,2-dichloroethane for extraction of molybdophosphoric acid. Needles. Sol. C_6H_6, $CHCl_3$, EtOH, Me_2CO; insol. H_2O.

Ivanov, N., *Zh. Anal. Khim.*, 1977, **32**, 1688.

Dinonyltin dinitrate D-00980

Bis(nitrooxyl)dinonylstannane, *9CI*

[58760-92-2]

$[H_3C(CH_2)_8]_2Sn(NO_3)_2$

$C_{18}H_{38}N_2O_6Sn$ M 497.218

Used as 0.1*M* $CHCl_3$ soln. for extraction-sepn. of As from P(*V*) and of Se(*IV*) from Se(*VI*) (Et_2O). Cryst. Sol. $CHCl_3$, octanol; insol. H_2O.

Spivakov, B.Y. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 2182 (*sepn. Se*)
Shkinev, V.M. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 922 (*sepn. As*)

Dioctylamine D-00981

N-*Octyl-1-octanamine*, *9CI*

[1120-48-5]

$H_3C(CH_2)_7NH(CH_2)_7CH_3$

$C_{16}H_{35}N$ M 241.459

Used for extraction; forms ion-pairs with anionic complexes (e.g. P-Mo-blue). Mp 14-15°. Bp 297-298°.

▷ Irritant. JF9300000.

Picrate: Mp 110-110.5°.

N-*Methyl:* [4455-26-9].

$C_{17}H_{37}N$ M 255.486

Used as 5% soln. in xylene for extraction-photometric detn. of Zn (from HCl). Cryst. Sol. xylene, toluene.

Schneider, H.J. *et al*, *J. Am. Chem. Soc.*, 1952, **74**, 4287 (*synth*)
Paul, J., *Anal. Chim. Acta*, 1960, **23**, 178.
Andrew, T.R. *et al*, *Analyst* (*London*), 1965, **90**, 161.
Paul, J., *Mikrochim. Acta*, 1965, 860, 836.
U.S. Pat., 3 739 028, (1973); *CA*, **79**, 52778k (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DVJ600.

Di(*n*-octyl)arsinic acid D-00982

[5274-32-8]

$[H_3C(CH_2)_7]_2AsOOH$

$C_{16}H_{35}AsO_2$ M 334.373

Used as 0.1*M* soln. in $CHCl_3$ for extraction separation of Nb and Ta, Sc, Ce(*III*), Eu, Ho, Yb. Cryst. Sol. $CHCl_3$, C_6H_6.

Irgolic, K.J. *et al*, *J. Organomet. Chem.*, 1966, **6**, 17 (*synth*)
Irgolic, K.J. *et al*, *Mikrochim. Acta*, 1974, 369 (*extn*, *Sc*, *Ce*, *Eu*, *Ho*, *Yb*)
Irgolic, K.J. *et al*, *Anal. Chim. Acta*, 1976, **84**, 119 (*extn*, *Nb*, *Ta*)

Dioctyl sulfide D-00983

Octyl sulfide

[2690-08-6]

$H_3C(CH_2)_7S(CH_2)_7CH_3$

$C_{16}H_{34}S$ M 258.511

Used in extraction-separation of Pd. Liq. with strong odour. Bp_{10} 180°.

Vogel, A.I. *et al*, *J. Chem. Soc.*, 1943, 16 (*purifn*, *props*)
U.S. Pat., 2 551 813, (1951); *CA*, **45**, 9559 (*synth*)
Mojski, M., *Talanta*, 1978, **25**, 163 (*use*)

Dioctyl sulfoxide D-00984

1,1′-Sulfinylbisoctane, *9CI*

[1986-89-6]

$[H_3C(CH_2)_7]_2SO$

$C_{16}H_{34}OS$ M 274.510

Used as C_6H_6 soln. for extraction-sepn. of Te(*IV*) from Se(*IV*) (from 9*M* HCl). Cryst. (EtOH aq.). Sol. EtOH, $CHCl_3$, C_6H_6.

Laurence, G., *C. R. Hebd. Seances Acad. Sci.*, 1969, **269**, 352 (*synth*)
Markl, P. *et al*, *Mikrochim. Acta*, 1978, **2**, 285 (*sepn*, *Te*)

1,4-Dioxane, 9CI D-00985

Diethylene dioxide. Diethylene oxide. Ethylene glycol ethylene ether. Dioxan

[123-91-1]

$C_4H_8O_2$ M 88.106

Solv. freq. used in chemical anal. Liq. with pleasant odour. Sol. EtOH, C_6H_6. d_4^{20} 1.033. Fp 11°. Bp_{750} 101°. Crit. point 312°/50.7 atm. n_D^{20} 1.4175. Forms azeotrope with H_2O contg. 18.4% H_2O, Bp 87.8°.

▷ Mod. toxic by inhalation and skin absorption, TLV 180. Highly flammable, may form explosive peroxide. JG8225000.

Picrate: Cryst. Mp 66°.

Stumpf, W., *Chemie and Anwendungen des 1,4-Dioxans*, Verlag Chemie, Weinheim, 1956 (*bibl*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 333.

Ratier, M. *et al*, *Bull. Soc. Chim. Fr.*, 1972, 1593 (*synth*)

Schaur, R.C. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 464 (*synth*)

Dorman, D.E. *et al*, *J. Org. Chem.*, 1975, **40**, 3729 (*cmr*)

Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 494.

Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 312.

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DVQ000.

2,3-Dioxobutanoic acid, 9CI D-00986

Acetylglyoxylic acid. Pyruvylformic acid. Acetyloxoacetic acid

[4374-46-3]

$H_3CCOCOCOOH$

$C_4H_4O_4$ M 116.073

Me ester:
$C_5H_6O_4$ M 130.100
Dark-yellow liq. Bp_{12} 65-68°. Forms hydrate Mp 80°.

2-(4-Nitrophenylhydrazone): Cryst. Mp 175-176°.

Bis-4-nitrophenylhydrazone: Cryst. Mp 297-299°.

2-Oxime, Et ester: [5408-04-8]. *Ethyl-α-isonitrosoacetoacetate. Ethyloximinoacetoacetate*
$C_6H_9NO_4$ M 159.141
Used as 5% aq. soln. for extraction-photometric detn. of Pd(*II*) (λ_{max} 400 nm, $CHCl_3$), Ru (ε 10500). Cryst. (toluene). Mp 56°, Mp 58-58.5°.

2-(2-Hydroxyphenyl)hydrazone, Et ester: [21103-84-4].
$C_{12}H_{14}N_2O_4$ M 250.254
Used as a 0.4m*M* aq. soln. for extraction-photometric detn. of Co.

Denis, W., *Am. Chem. J.*, 1907, **38**, 561.

Adkins, H. *et al*, *J. Am. Chem. Soc.*, 1938, **60**, 1328 (*synth*)

Jagi, J., *Bull. Chem. Soc. Jpn.*, 1963, **36**, 506, 512 (*synth*)

Patil, M.R. *et al*, *J. Indian Chem. Soc.*, 1973, **50**, 569 (*detn, Pd*)

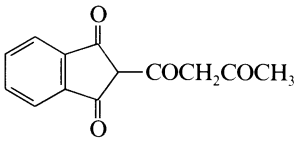
Mittsel, Y.A. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 596 (*deriv, detn, Co*)

Patil, M.R. *et al*, *Talanta*, 1976, **23**, 550 (*detn, Ru*)

2-(1,3-Dioxobutyl)-1*H*-indene-1,3-(2*H*)-dione, 9CI D-00987

2-Acetoacetyl-1,3-indanedione

[10437-96-4]



$C_{13}H_{10}O_4$ M 230.220

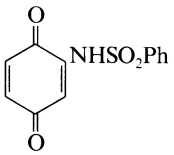
Used for extraction-photometric detn. of Fe ($CHCl_3$/isopentanol). Yellow cryst. Sol. EtOH, C_6H_6, H_2O, $CHCl_3$. Mp 127-129°.

von Schriltz, D.M. *et al*, *J. Org. Chem.*, 1967, **32**, 1774 (*synth*)

Apsitis, A. *et al*, *CA*, 1980, **92**, 103750 (*detn, Fe*)

N-(3,6-Dioxo-1,4-cyclohexadien-1-yl) benzenesulfonamide, 8CI D-00988

[34238-55-6]



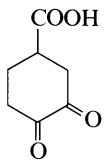
$C_{12}H_9NO_4S$ M 263.273

Used for photometric detn. of NH_3 (λ_{max} 480 nm), antihistamine. Yellow cryst. (CCl_4). Sol. EtOH, Me_2CO, $CHCl_3$, CCl_4.

Tulus, R. *et al*, *CA*, 1977, **87**, 58562x (*detn, antihistamine*)

Alferov, E.A. *et al*, *Khim. Khim. Tekhnol.* (*Minsk*), 1977, **20**, 1732; *CA*, **88**, 144782d (*detn, NH_3*)

3,4-Dioxocyclohexanecarboxylic acid D-00989



$C_7H_8O_4$ M 156.138

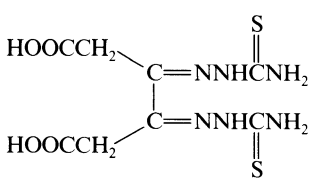
Dioxime: 4-Carboxynioxime
$C_7H_{10}N_2O_4$ M 186.167
Used as a 5m*M*-0.2*M* aq. soln. for extraction-photometric detn. of Ni. Cryst. (H_2O). Sol. H_2O. Mp 218-220° dec. pK_{a1} 4.85 (μ = 0.1); pK_{a2} 10.45 (μ = 0.01); pK_{a3} 12.37 (μ = 0.06).

Banks, C.V. *et al*, *J. Org. Chem.*, 1958, **23**, 1210 (*synth*)

Banks, C.V. *et al*, *Anal. Chim. Acta*, 1962, **27**, 101 (*use*)

3,4-Dioxohexanedioic acid bis(thiosemicarbazide) D-00990

3,4-Bis[(aminothioxomethyl)hydrazono]hexanedioic acid, 9CI. 2,3-Dioxobutane-1,4-dicarboxylic acid dithiosemicarbazone



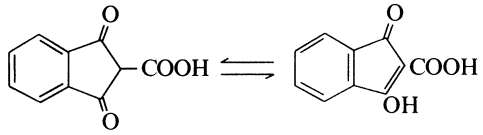
$C_8H_{12}N_6O_4S_2$ M 320.353

Di-Et ester: [13509-65-4].
$C_{12}H_{20}N_6O_4S_2$ M 376.460
Used as a soln. in 0.4*M* NaOH for photometric detn. of Co (λ_{max} 386 nm), Cu (λ_{max} 490 nm). Yellowish cryst. powder (dioxan). Sol. alkalis; spar. sol. $CHCl_3$. Mp 210° dec.

Górski, W. *et al*, *Chem. Anal.* (*Warsaw*), 1958, **3**, 647; 1966, **11**, 759 (*synth, detn, Cu, use*)
Górski, W. *et al*, *CA*, 1972, **77**, 56048d (*detn, Co*)

1,3-Dioxo-2-indanecarboxylic acid, 8CI D-00991

2,3-Dihydro-1,3-dioxo-(1H)-indene-2-carboxylic acid, 9CI. 1,3-Indanedione-2-carboxylic acid. Phthaloylacetic acid
[7033-76-3]



$C_{10}H_6O_4$ M 190.155
Mp 270° dec. Unstable, readily losing CO_2.

Me ester: [1785-84-8].
$C_{11}H_8O_4$ M 204.182
Used for extraction-photometric detn. of Fe (λ_{max} 490 nm, ε 5300, ($CHCl_3$)). Cryst. Sol. Et_2O, Me_2CO, EtOH. Mp 82-84°.

Et ester: [3457-77-0].
$C_{12}H_{10}O_4$ M 218.209
Mp 75-78°.

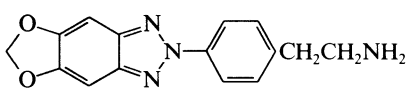
Amide:
$C_{10}H_7NO_3$ M 189.170
Orange powder (C_6H_6 or DMF aq.). Mp 180-220° (sinters).

Nitrile: [42382-92-3]. *2-Cyano-1,3-indanedione*
$C_{10}H_5NO_2$ M 171.155
Mp 205-206° (195°).

Yale, H.L., *J. Am. Chem. Soc.*, 1947, **69**, 1547.
Horton, R.L. *et al*, *J. Org. Chem.*, 1960, **25**, 938.
Vanags, G. *et al*, *CA*, 1963, **58**, 483d.
Simonenko, V.I. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1982, **48**, 1291 (*use*)

4-[2*H*-[1,3]Dioxolo[4,5-*f*]benzotriazol-2-yl] benzeneethanamine, 9CI D-00992

2-[4-(5,6-Methylenedioxy)-2H-benzotriazol-2-yl] phenethylamine
[123490-74-4]

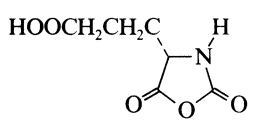


$C_{15}H_{14}N_4O_2$ M 282.301
Fluorescence derivatisation reagent for carboxylic acids. Needles (MeOH). Mp 145-147°.

Narita, S. *et al*, *Anal. Sci.*, 1989, **5**, 31 (*synth, use*)

2,5-Dioxo-4-oxazolidinepropanoic acid, 9CI D-00993

Glutamic acid N-*carboxyanhydride*



$C_6H_7NO_5$ M 173.125
The acid and its salts polymerise to polyglutamates.

(*S*)-*form* [33043-68-4]
L-form
Used in peptide synthesis, and in the detn. of the optical purity of amino acids by hplc. Cryst. (EtOH/hexane). Mp 83° dec. $[\alpha]_D^{26}$ −29.52° (c, 1.05 in dioxan).

Me ester: [1663-47-4].
$C_7H_9NO_5$ M 187.152
Cryst. ($CHCl_3$/pet. ether). Mp 99°.

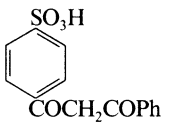
Et ester: [19363-27-0].
$C_8H_{11}NO_5$ M 201.179
Cryst. ($CHCl_3$/pet. ether). Mp 66°.

Benzyl ester: [3190-71-4].
$C_{13}H_{13}NO_5$ M 263.249
Cryst. Mp 93-94°. $[\alpha]_D^{25}$ −17.6° (c, 3.78 in EtOAc).

Coleman, D., *J. Chem. Soc.*, 1950, 3222; 1951, 2294 (*synth, esters*)
Blout, E.R. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 941 (*synth, benzyl ester*)
Manning, J.M. *et al*, *J. Biol. Chem.*, 1968, **243**, 5591 (*use*)
Hirschmann, R. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 2746 (*synth, use*)
Fuller, W.D. *et al*, *Biopolymers*, 1976, **15**, 1869 (*synth, esters*)
Kricheldorf, H.R. *et al*, *Org. Magn. Reson.*, 1980, **14**, 198 (*nmr, esters*)
Daly, W.H. *et al*, *Tetrahedron Lett.*, 1988, **29**, 5859 (*synth*)

4-(1,3-Dioxo-3-phenylpropyl) benzenesulfonic acid, 9CI D-00994

1-Phenyl-3-(p-sulfophenyl)-1,3-propanedione
[49539-07-3]

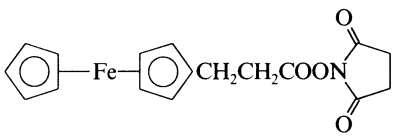


$C_{15}H_{12}O_5S$ M 304.323
Used for photometric detn. of U (λ_{max} 398 nm, ε 19300). Pale yellow plates (H_2O). Sol. H_2O.

Tröltzsch, C., *J. Prakt. Chem.*, 1963, **22**, 192 (*synth*)
Tröltzsch, C., *Z. Chem.*, 1973, **13**, 228 (*detn, U*)

[3-[(2,5-Dioxo-1-pyrrolidinyl)oxy]-3-oxopropyl]ferrocene, 9CI D-00995

[91630-54-5]



$C_{17}H_{17}FeNO_4$ M 355.173
Derivatisation reagent for amines for hplc with electrochem. detn. Mp 141-142°.

Tanaka, M. *et al*, *J. Chromatogr.*, 1984, **292**, 410; 1989, **487**, 247 (*synth, use*)

O,O-Dipentyl phosphorodithioate, 9CI, 8CI D-00996

O,O-*Dipentyl hydrogen dithiophosphate.* O,O-*Diamyl dithiophosphoric acid.* O,O-*Diamyl phosphorodithioate*
[2253-54-5]

$[H_3C(CH_2)_4O]_2P(S)SH$

$C_{10}H_{23}O_2PS_2$ M 270.396
Zn complex used as lubricant additive. Used as soln. of K salt in $CHCl_3$, C_6H_6 or CCl_4 for extraction of Cd, In, Ni, Pb, Tl, Zn. Oil. Sol. EtOH, C_6H_6, CCl_4, Me_2CO. d^{20} 1.04. $Bp_{0.015}$ 89°. n_D^{20} 1.4920.

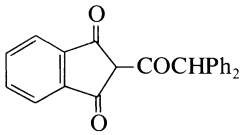
K salt: [3287-86-3].
Flotation agent. Solid. Mp 144-145°.

Busev, A.I. *et al*, *Tr. Kom. Anal. Khim., Akad. Nauk SSSR*, 1960, **11**, 172.
Almasi, L. *et al*, *CA*, 1965, **62**, 2729 (*synth*)
Bolotova, G.L. *et al*, *CA*, 1965, **63**, 6897 (*synth*)
Mazitova, F.N. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1393), 1980, **50**, 1718 (*synth, P nmr*)
Toropova, V.F. *et al*, *Talanta*, 1987, **34**, 211 (*use*)

Diphenadione, BAN, INN D-00997

2-(Diphenylacetyl)-1H-indene-1,3(2H)-dione, 9CI. 2-(Diphenylacetyl)-1,3-indandione, 8CI. Didandin. Didion. Difexan. Dipaxin. Diphacinone. Diphenacin. Oragulant. Solvan. U 1363. URI 788

[82-66-6]



$C_{23}H_{16}O_3$ M 340.378
Anticoagulant, rodenticide. Pale-yellow cryst. (EtOH). Sol. Me_2CO, AcOH, sl. sol. C_6H_6. Mp 146-147°.

▷ Highly toxic orally. NK5600000.

1-Hydrazone: [5102-79-4].
$C_{23}H_{18}N_2O_2$ M 354.407
Reagent for detn. of carbonyl compds. Yellow cryst. (EtOH/DMF). Mp 305° dec.

U.S. Pat., 2 672 483, (1954); *CA*, **49**, 3264a (*synth*)
Braun, R.A. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 2749 (*synth, deriv*)
Ozols, J. *et al*, *Zh. Obshch. Khim.*, 1958, **28**, 3038 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 335.
Mosher, W.A. *et al*, *Talanta*, 1968, **15**, 482 (*use, deriv*)
Pietrzyk, D.J. *et al*, *Anal. Chem.*, 1970, **42**, 37 (*synth, use, deriv*)
Tckhvinska, T.I. *et al*, *CA*, 1976, **85**, 32670q.
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 4812.
Kurth, M.J. *et al*, *Tetrahedron Lett.*, 1985, **26**, 4883 (*cmr, struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DVV600.

Diphenhydramine, BAN, INN D-00998

2-(Diphenylmethoxy)-N,N-dimethylethanamine, 9CI. 2-(Diphenylmethoxy)-N,N-dimethylethylamine, 8CI. Benzhydryl 2-dimethylaminoethyl ether. 2-Dimethylaminoethyl α-phenylbenzyl ether. Numerous proprietary names

[58-73-1]

$Ph_2CHOCH_2CH_2NMe_2$

$C_{17}H_{21}NO$ M 255.359
Antihistamine and virucide. Oil. Bp_3 163-167°, Bp_2 150-165°. Component of Mandrax.

▷ Poisonous. LD_{50} 29mg/kg (mouse, i.v.). KR6825000.

B,HCl: [147-24-0]. *Diphenhydramine hydrochloride, USAN. Histex. Bendylate. Eldadryl. Benadryl. Dimedrol*
Component of numerous proprietary preparations. Used as 2% aq. soln. in photometric detn. of Ti (ε 82000). Cryst. (EtOH/Et_2O). Sol. H_2O. Mp 161-162°, Mp 166-170°.

▷ KR7000000.

Citrate: [88637-37-0]. *Diphenhydramine citrate, USAN*
8-Chlorotheophylline salt(1:1): [523-87-5]. *Diphenhydramine teoclate.* ***Dimenhydrinate,*** **BAN, INN.** *Dramamine. Eldodram. Gravol. Numerous proprietary names*
$C_{24}H_{28}ClN_5O_3$ M 469.970
Antinauseant. Mp 102-107°.

▷ XH5082000.

N-Oxide: [3922-74-5]. ***Amoxydramine,*** **INN**
$C_{17}H_{21}NO_2$ M 271.358
Antihistamine. Mp 20°. Normally used as salts.

N-oxide, 2-oxo-10-bornanesulfonate: [15350-99-9]. *Amoxydramine camsilate, INN*
[13168-00-8, 15350-99-9]

U.S. Pat., 2 427 878, (1947).
U.S. Pat., 2 421 714, (1947); *CA*, **41**, 5550 (*synth*)
Cusic, J.W., *Science* (*Washington, D.C.*), 1949, **109**, 574 (*synth, Dimenhydrinate*)
Kubo, H. *et al*, *CA*, 1955, **49**, 218 (*synth*)
U.K. Pat., 752 707, (1956); *CA*, **51**, 5846 (*synth, Dimenhydrinate*)
Thompson, W.E. *et al*, *J. Pharm. Sci.*, 1965, **54**, 1819 (*ir*)
Ostrovkhaya, Y.A., *Med. Promst. SSSR*, 1966, **20**, 23 (*synth*)
Rekker, R.F. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1968, **87**, 1099 (*uv*)
Rekker, R.F. *et al*, *Arzneim.-Forsch.*, 1970, **20**, 1572 (*ir, nmr*)
Jaju, B.P. *et al*, *J. Pharmacol. Exp. Ther.*, 1971, **176**, 718 (*Dimenhydrinate*)
Holcomb, I.J. *et al*, *Anal. Profiles Drug Subst.*, 1974, **3**, 173 (*rev, synth, anal, props*)
Talipov, S.T. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 724 (*use, deriv*)
Eckhardt, G., *Org. Mass Spectrom.*, 1979, **14**, 31 (*ms*)
Julian, E.A. *et al*, *J. Pharm. Sci.*, 1981, **70**, 704 (*struct*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 6128, 6131, 12669.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 4439 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BAU750, BBV500, DYE600.

Diphenylacetic acid, 8CI D-00999

α-Phenylbenzeneacetic acid, 9CI. Diphenylmethane-α-carboxylic acid

[117-34-0]

$Ph_2CHCOOH$

$C_{14}H_{12}O_2$ M 212.248
Used in extraction-separation of U. Leaflets (EtOH). Mp 149°.

▷ AH2515000.

Me ester: [3469-00-9].
$C_{15}H_{14}O_2$ M 226.274
Cryst. (MeOH aq.). Mp 60°.

Et ester: [3468-99-3].
$C_{16}H_{16}O_2$ M 240.301
Cryst. (EtOH). Mp 58°. Bp_{15} 178°.

Anhydride: [1760-46-9].
$C_{28}H_{22}O_3$ M 406.480
Mp 98°. Bp_{15} 220°.

Chloride: [1871-76-7].
$C_{14}H_{11}ClO$ M 230.693
Cryst. (ligroin). Mp 56-57°. Bp_{15} 178°.

▷ AO6750000.

Amide: [4695-13-0].
$C_{14}H_{13}NO$ M 211.263
Mp 167-168°.

▷ AB8135000.

Nitrile: [86-29-3]. *Diphenylacetonitrile. Cyanodiphenylmethane*
$C_{14}H_{11}N$ M 193.248
Mp 75-76° (72-73°). Bp_{12} 181°.

▷ Exp. neoplastic agent. AL9800000.

3-(Diethylamino)propyl ester: [3578-28-7].
$C_{21}H_{27}NO_2$ M 325.450

Anticholinergic, antiasthmatic agent.

3-(Diethylamino)propyl ester; B,HCl: [3098-65-5]. *Arpenal*

Staudinger, H., *Ber.*, 1911, **44**, 1619.
Org. Synth., Coll. Vol., 1, 1932, 219.
Hurd, C.D. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 2589.
Hsu, M.-L. *et al*, *CA*, 1961, **56**, 7201.
Org. Synth., Coll. Vol., 4, 1963, 777.
U.S.S.R. Pat., 231 716, (1968); *CA*, **70**, 67947 (*synth, props, Arpenal*)
Prozorovskii, V.B. *et al*, *Farmakol. Toksikol. (Moscow)*, 1969, **32**, 475 (*Arpenal*)
Arakelova, R.L. *et al*, *Arm. Khim. Zh.*, 1973, **26**, 76 (*cryst struct, Arpenal*)
Adam, J. *et al*, *Collect. Czech. Chem. Commun.*, 1974, **39**, 2576 (*use*)
Strazzolini, P. *et al*, *Synth. Commun.*, 1987, **17**, 1919 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DVW800, DVX200.

Diphenylamine, 8CI D-01000

N-*Phenylbenzenamine*, *9CI*

[122-39-4]

PhNHPh

$C_{12}H_{11}N$ M 169.226

Used for photometric detn. of $NO_3^{\ominus}$, $NO_2^{\ominus}$. Cryst. Sol. EtOH, Et_2O, C_6H_6; insol. H_2O. Mp 52-54°. Bp 302°. pK_a 22.73 (25°, DMSO aq.).

▷ Toxic, TLV 10. Exp. carcinogen. JJ7800000.

N-*Ac:* [519-87-9]. N-*Diphenylacetamide*
$C_{14}H_{13}NO$ M 211.263
Cryst. (pet. ether). Mp 103°.
▷ AB8133000.

N-*Benzoyl:* [4051-56-3]. N-*Diphenylbenzamide*
$C_{19}H_{15}NO$ M 273.334
Prisms (EtOH). Mp 179-180°.

N-*Nitroso:* [86-30-6]. *Diphenylnitrosamine*
$C_{12}H_{10}N_2O$ M 198.224
Rubber vulcanisation inhibitor, lubricant additive, antioxidant, fungicide, insecticide, stabiliser. Yellow plates. Mp 66.5°.
▷ Carcinogen. JJ9800000.

Goldberg, I. *et al*, *Ber.*, 1907, **40**, 4541.
Chapman, A.W., *J. Chem. Soc.*, 1929, 2133.
Welcher, F.J., *Organic Analytical Reagents*, Van Rostrand, New York, 1947, **II**.
Szekely, E., *Talanta*, 1967, **14**, 941 (*use*)
Brownlee, R.C. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 1757.
Itier, J.C. *et al*, *Bull. Soc. Chim. Fr.*, 1970, 168.
Cox, R.A. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 488.
Mornon, J.-P. *et al*, *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1977, **284**, 779 (*cryst struct*)
Dhaneshwar, N.N. *et al*, *Acta Crystallogr., Sect. C*, 1991, **47**, 217 (*cryst struct, N*-nitroso)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 313.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DVX800, DWI000, PDX500.

N,N'-Diphenylbenzamidine, 8CI D-01001

N,N'-*Diphenylbenzenecarboximidamide*, *9CI*

[2556-46-9]

PhN=CPhNHPh

$C_{19}H_{16}N_2$ M 272.349

Used as a 7m*M* soln. in $CHCl_3$ for extraction-photometric detn. of Au(*III*) (λ_{max} 395 nm, ε 12000) and Mo (λ_{max} 465 nm, ε 17000). Leaflets (EtOH). Sol. $CHCl_3$, C_6H_6, EtOAc, EtOH, Et_2O. Mp 148-149° (144-145°).

B,HCl: [5014-74-4].
Mp 297-299°.

Picrate: Mp 215-216°.

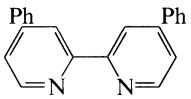
N-*Hydroxy:* [53170-30-2]. N-*Hydroxy*-N,N'-*diphenylbenzenecarboximidamide*, *9CI*
$C_{19}H_{16}N_2O$ M 288.348
Used as a 3m*M* soln. in Me_2CO for photometric detn. of Fe(*III*) (λ_{max} 560 nm), V(*V*) (λ_{max} 560 nm, ε 4210); as a 0.1% soln. in EtOH or $CHCl_3$ for extraction-photometric detn. of Ni, gravimetric detn. of Ni. Pale yellow cryst. (pet. ether/C_6H_6). Sol. $CHCl_3$; mod. sol. C_6H_6, CCl_4, EtOAc. Mp 163° (170°).

[59387-41-6]

Warren, W.H. *et al*, *Ber.*, 1935, **68**, 957.
Shriner, R.L. *et al*, *Chem. Rev.*, 1944, **35**, 351 (*synth, deriv*)
Munoz, G.G. *et al*, *CA*, 1962, **57**, 8496h.
Org. Synth., Coll. Vol., 4, 1963, 383.
Zimmer, H. *et al*, *Tetrahedron Lett.*, 1968, 176.
Satyanarayana, K. *et al*, *Anal. Chem.*, 1974, **46**, 1609 (*synth, deriv*)
Satyanarayana, K. *et al*, *Indian J. Chem.*, 1975, **13**, 295 (*use*)
Briggs, L.H. *et al*, *Aust. J. Chem.*, 1976, **29**, 357 (*synth, deriv*)
Satyanarayana, K., *J. Indian Chem. Soc.*, 1976, **53**, 63, 928; 1978, **55**, 787 (*detn, Fe, V*)
Patel, K.S. *et al*, *Bull. Chem. Soc. Jpn.*, 1979, **52**, 595.
Patel, K.S. *et al*, *Anal. Chem.*, 1982, **54**, 52; 1986, **58**, 1547 (*use*)
Savariar, C.P., *Talanta*, 1989, **36**, 1047 (*detn, Ti*)

4,4'-Diphenyl-2,2'-bipyridine, 9CI D-01002

[6153-92-0]



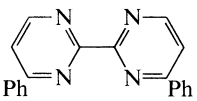
$C_{22}H_{16}N_2$ M 308.382

Used as redox indicator. Needles (pet. ether). Sol. EtOH, C_6H_6, pet. ether; insol. H_2O.

Schilt, A.A., *Analytical Applications of 1,10-Phenanthroline and Related Compounds*, Pergamon , Oxford, 1969 (*use, ind*)

4,4'-Diphenyl-2,2'-bipyrimidine, 8CI D-01003

[10198-99-9]



$C_{20}H_{14}N_4$ M 310.357

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 403 nm, ε 5200). Cryst. (Et_2O). Sol. C_6H_6, dil. HCl. Mp 155-156°.

Lafferty, J.J. *et al*, *J. Org. Chem.*, 1967, **32**, 1591 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn, Cu*)

Diphenylcarbazide D-01004

sym-*Diphenylcarbazide. 1,5-Diphenylcarbazide. 1,5-Diphenylcarbohydrazide*

[140-22-7]

PhNHNHCONHNHPh

$C_{13}H_{14}N_4O$ M 242.280

Used chiefly for photometric detn. of Os, Cr(*VI*) (λ_{max} 545 nm, ε 43000; 0.05-0.1*M* H_2SO_4); detn. of Cu, Re, Ir, Rh, Au, Zn, Mn; indicator in chelatometric titrn. with standard Hg(*II*) soln. Cryst. (EtOH). Sl. sol; H_2O, sol. Me_2CO, EtOH; insol. Et_2O, C_6H_6, $CHCl_3$. Mp 175-175.5°.

B,HCl: Cryst. Mp 125° dec.

Ac:

$C_{15}H_{16}N_4O_2$ M 284.317

Cryst. Mp 98°.

Slotta, K.H. *et al*, *Fresenius' Z. Anal. Chem.*, 1929, **77**, 344 (*bibl*)
Noller, C.R., *J. Am. Chem. Soc.*, 1930, **52**, 1134 (*synth*)
Urone, P.F., *Anal. Chem.*, 1955, **27**, 1355 (*solns, stability*)
Balt, S. *et al*, *Anal. Chim. Acta*, 1961, **25**, 507; 1962, **27**, 188; 1963, **29**, 466; 1964, **30**, 434 (*detn, Cr*)
Marchart, H. *et al*, *Anal. Chim. Acta*, 1964, **30**, 11 (*reaction, Cr*)
Friese, B. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **286**, 107 (*detn, Cr*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, **277**, use.
Andrade, J.C. *et al*, *Analyst (London)*, 1984, **109**, 645 (*detn, Cr*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, New York, 4th Ed., 1986, 412.
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 428.
West, T.S. *et al*, *The Determination of Trace Metals in Natural Waters*, Blackwell, Oxford, 1988, 12.

Diphenylcarbazone D-01005

Phenyldiazenecarboxylic acid 2-phenylhydrazide, 9CI

[538-62-5]

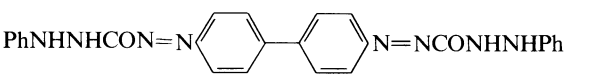
PhN=NCONHNHPh

$C_{13}H_{12}N_4O$ M 240.264

Used for photometric detn. of $Br^{\ominus}$, $Cl^{\ominus}$, $I^{\ominus}$, $CN^{\ominus}$, Zn, Cd, Ga, In, Ir, Rh, Ru, Hg, Cu. Orange-red needles. Mp 157° dec.

Balt, D. *et al*, *Anal. Chim. Acta*, 1962, **27**, 416 (*detn, Hg*)
Okutani, T., *Bull. Chem. Soc. Jpn.*, 1968, **41**, 1728 (*detn, Hg*)
Einaga, H. *et al*, *Analyst (London)*, 1973, **98**, 82 (*detn, Cu*)
Manku, G.S., *Mikrochim. Acta*, 1973, 341.
Friese, B., *Justus Liebigs Ann. Chem.*, 1977, **286**, 107 (*synth*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 277 (*use*)

sym-Diphenylcarbazone D-01006



$C_{26}H_{22}N_8O_2$ M 478.512

Used as a 0.025*M* soln. in Me_2CO for photometric detn. of Rh (λ_{max} 565 nm). Cryst.

Ayres, G. *et al*, *Anal. Chim. Acta*, 1960, **23**, 448 (*detn, Rh*)

2,2′-Diphenylcarbonothioic dihydrazide, 9CI D-01007

1,5-Diphenyl-3-thiocarbohydrazide, 8CI. Diphenylthiocarbazide

[622-03-7]

PhNHNHCSNHNHPh

$C_{13}H_{14}N_4S$ M 258.346

Used in photometric detn. of Cu, Te (HCl medium). Cryst. (EtOH). Spar. sol. EtOH, C_6H_6. Mp 156-158° dec. Sol. alkalis with dec. Turns green on melting or in hot soln.

▷ FF2800000.

Maw, C.E. *et al*, *CA*, 1938, **32**, 2912 (*synth*)
Org. Synth., Coll. Vol., 3, 1955, 360 (*synth*)
Murashova, V.I. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1205 (*Te*)
Hainberger, L. *et al*, *Mikrochim. Acta*, 1974, 885 (*Cu*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DWN400.

Diphenyldisulfimide D-01008

N-(Phenylsulfonyl)benzenesulfonamide, 9CI

[2618-96-4]

$PhSO_2NHSO_2Ph$

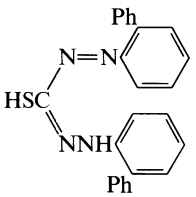
$C_{12}H_{11}NO_4S_2$ M 297.355

Used as an acidimetric standard. Cryst. Sol. H_2O.

Runge, F. *et al*, *Fresenius' Z. Anal. Chem.*, 1957, **158**, 266 (*use*)

2,2′-Diphenyldithizone D-01009

Di-(o-diphenyl)thiocarbazone



$C_{25}H_{20}N_4S$ M 408.526

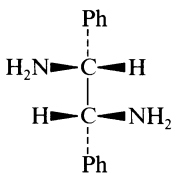
Used as a 0.01% soln. in CCl_4 or $CHCl_3$ for extraction-photometric detn. of Ag, Hg, Cd, Cu. Greenish-black cryst. powder. Sol. alkalis, Me_2CO, CCl_4, $CHCl_3$, EtOH; insol. H_2O.

Takei, S., *Bunseki Kagaku (Jpn. Anal.)*, 1960, **9**, 409 (*use*)

1,2-Diphenyl-1,2-ethanediamine, 9CI D-01010

1,2-Diphenylethylenediamine, 8CI. 1,2-Diamino-1,2-diphenylethane. Stilbenediamine. α,β-Diaminostilbene

[5700-60-7]



(1*R*,2*R*)-*form*

$C_{14}H_{16}N_2$ M 212.294

(1R,2R)-form [29841-69-8]

Cryst. Mp 85-86.5° (80°). $[\alpha]_D^{22}$ +106.9° (c, 1.07 in MeOH), $[\alpha]_D^{18}$ +82.6° (c, 0.97 in Et_2O) (opt. pure). Has been assigned the opposite (incorrect) abs. config.

N,N′-*Di-Me: 1,2-Bis(methylamino)-1,2-diphenylethane*

Cryst. (pentane). Mp 51°. $[\alpha]_D^{25}$ +20° (c, 0.15 in $CHCl_3$) (e.e. >95%).

(1S,2S)-form [35132-20-8]

Mp 85.5-86°. $[\alpha]_D^{22}$ −83° (c, 0.1 in Et_2O).

(1RS,2RS)-form [16635-95-3]

(±)-*form*

Fluorogenic reagent for hplc anal. of catecholamines. Cryst. (ligroin). Mp 90-92° (76-77°).

B,2HCl: Cryst. Mp 251° dec.

Picrate: Cryst. Mp 220°.

N,N′-*Di-Me:* [60508-97-6].

$C_{16}H_{20}N_2$ M 240.347

Oil.

N-*Tetra-Me:* [94533-52-5].

$C_{18}H_{24}N_2$ M 268.401

Cryst. (hexane). Mp 104.5-106.5°.
N-*Tetra-Et:* [94533-54-7].
$C_{22}H_{32}N_2$ M 324.508
Cryst. (MeOH aq.). Mp 74.5-77°.
(*1RS,2SR*)-*form* [951-87-1]
meso-*form*
Fluorogenic reagent for hplc anal. of catecholamines. Leaflets (Et_2O). Mp 121°.
B,2HCl: Cryst. Mp 256° dec.
Picrate: Cryst. Mp 225°.
N,N'-*Di-Me:* [60509-62-8].
Cryst. (hexane). Mp 132-133.5°.
N-*Tetra-Me:* [94533-51-4].
Cryst. (hexane). Mp 195-197°.
N-*Tetra-Et:* [94533-53-6].
Cryst. (MeOH aq.). Mp 85-86°.

Feist, F. *et al*, *Ber.*, 1895, **28**, 3169 (*synth*)
Biltz, H. *et al*, *Justus Liebigs Ann. Chem.*, 1912, **391**, 208 (*synth*)
Okaku, N., *Bull. Chem. Soc. Jpn.*, 1967, **40**, 2326 (*synth*)
Meric, R. *et al*, *Tetrahedron Lett.*, 1974, 2059 (*abs config*)
Chang, C.A. *et al*, *Inorg. Chem.*, 1979, **18**, 1266 (*synth, resoln*)
Mitsui, A. *et al*, *J. Chromatogr.*, 1985, **344**, 61; 1986, **380**, 229 (*use*)
Saigo, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1986, **59**, 931 (*resoln, props*)
Betschart, C. *et al*, *Helv. Chim. Acta*, 1987, **70**, 2215 (*synth, ir, pmr, derivs*)
Umegae, Y. *et al*, *Anal. Chim. Acta*, 1988, **208**, 59 (*use*)
Manganey, P. *et al*, *Tetrahedron Lett.*, 1988, **29**, 2675 (*N,N'-Di-Me, resoln*)
Corey, E.J. *et al*, *J. Am. Chem. Soc.*, 1989, **111**, 5493 (*synth*)
Pini, D. *et al*, *Synthesis*, 1990, 1023 (*synth, pmr*)
Kanemasa, S. *et al*, *J. Org. Chem.*, 1991, **56**, 4473 (*N,N'-Di-Me, synth*)

N,N'-Diphenyl-1,2-ethanediamine, 9CI D-01011

N,N'-*Diphenylethylenediamine. 1,2-Dianilinoethane. Wanzlick's reagent*

[150-61-8]

$PhNHCH_2CH_2NHPh$

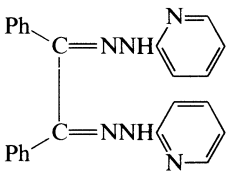
$C_{14}H_{16}N_2$ M 212.294
Antioxidant for siloxane rubber. Reagent for imidazolidine synth. Anal. reagent for aldehydes. Cryst. (EtOH). Mp 65°, Mp 68° , 74°. Bp_2 178-182°.
▷ KV4800000.
B,HCl: Cryst. (EtOH). Mp 214-215°.
N,N'-*Di-Ac:*
$C_{18}H_{20}N_2O_2$ M 296.368
Cryst. (Et_2O/pet. ether or Et_2O/EtOH). Mp 156.5-157°.
N,N'-*Dibenzoyl:*
$C_{28}H_{24}N_2O_2$ M 420.510
Cryst. (Et_2O/pet. ether or Et_2O/EtOH). Mp 193-194°.
N,N'-*Dinitroso:*
$C_{14}H_{14}N_4O_2$ M 270.290
Mp 157°.
N,N'-*Bis*(p-*toluenesulphonyl*): Cryst. (Et_2O/pet. ether or Et_2O/EtOH). Mp 223-223.5°.

Bennett, G.M., *J. Chem. Soc.*, 1919, **115**, 577.
Billman, J.H. *et al*, *J. Org. Chem.*, 1951, **16**, 1041 (*synth*)
Wanzlick, H.W. *et al*, *Chem. Ber.*, 1953, **86**, 1463 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 98.
Chalmers, R.A. *et al*, *Analyst* (*London*), 1972, **97**, 951 (*use*)
Gomez Aranda, V. *et al*, *Synthesis*, 1974, **7**, 504 (*synth*)

Diphenylethanedione bis(2-pyridinylhydrazone), 9CI D-01012

Benzil bis(2-pyridylhydrazone)

[58495-39-9]

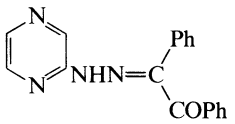


$C_{24}H_{20}N_6$ M 392.462
Used as a soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 635 nm, ε 5800), Cu(*I*), Co, Ni, Zn. Cryst. (MeOH aq.). Sol. EtOH, Me_2CO, C_6H_6; insol. H_2O. Mp 180°.

Schilt, A.A. *et al*, *Talanta*, 1975, **22**, 915 (*synth, use*)

Diphenylethanedione mono(pyrazinylhydrazone), 9CI D-01013

[58495-46-8]



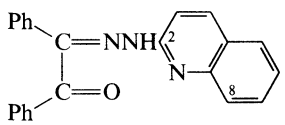
$C_{18}H_{14}N_4O$ M 302.335
Used as a soln. in aq. EtOH for photometric detn. of Co, Ni, Fe(*II*). Cryst. Sol. common org. solvs.

Case, F.H., *J. Chem. Eng. Data*, 1976, **21**, 124 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 373 (*use*)

Diphenylethanedione mono(2-quinolinylhydrazone), 9CI D-01014

Benzil mono-2-quinolylhydrazone

[70253-43-9]



$C_{23}H_{17}N_3O$ M 351.407
Used as a soln. in C_6H_6 for extraction-photometric detn. of Cu(C_6H_6) (λ_{max} 520 nm, ε 40000). Orange cryst. (EtOH). Sol. C_6H_6, EtOH, Me_2CO; insol. H_2O. Mp 165-167°.

Berger, S.A. *et al*, *Mikrochim. Acta*, 1979, **I**, 311.

Diphenylethanedione mono(8-quinolinylhydrazone), 9CI D-01015

Benzoylphenyl-N-*8-quinolylhydrazone*

[82633-13-4]

$C_{23}H_{17}N_3O$ M 351.407
Used as a 0.01*M* soln. in 0.05*M* HCl/EtOH to give colour reaction with Cu(*I*); used as 0.01*M* EtOH soln. for photometric detn. of Fe(*III*) (λ_{max} 643 nm, ε 9700), Co, Ni, Zn. Cryst. (EtOH). Sol. common org. solvs. Mp 128° (as monohydrate).

Schilt, A.A. *et al*, *Talanta*, 1982, **29**, 338 (*synth, use*)

1,1-Diphenylethylene, 8CI D-01016

1,1'-Ethenylidenebisbenzene, 9CI. α-Methylenediphenylmethane

[530-48-3]

$Ph_2C{=}CH_2$

$C_{14}H_{12}$ M 180.249

Used in photometric detn. of O_3. Liq. d_4^{14} 1.038. Mp 8°. Bp 277°, Bp_{16} 147°.

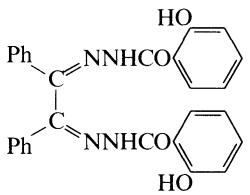
▷ Forms an explosive peroxide.

Org. Synth., Coll. Vol., 1, 1932, 221 (*synth*)
McKinley, S.V. *et al, J. Chem. Soc., Chem. Commun.*, 1972, 134 (*synth*)
Jeffrey, A. *et al, Aust. J. Chem.*, 1974, **27**, 2659 (*synth*)
Collard, R.S. *et al, Anal. Chim. Acta*, 1979, **108**, 255 (*detn, ozone*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 314.

Diphenylglyoxal bis(2-hydroxybenzoylhydrazone) D-01017

2-Hydroxybenzoic acid 2,2'-(1,2-diphenyl-1,2-ethanediylidene)dihydrazide, 9CI

[73319-79-6]



$C_{28}H_{22}N_4O_4$ M 478.506

Used as 0.1% soln. in DMF/EtOH for photometric detn. of Ca, Ti. Cryst. Sol. DMF; spar. sol. C_6H_6, EtOH, $CHCl_3$. Mp >300°. pK_{a1} 8.20.

Silva, M. *et al, Analyst (London)*, 1980, **105**, 193 (*detn, Ca*)
Silva, M. *et al, Microchem. J.*, 1980, **25**, 117 (*detn, Ti*)

1,3-Diphenylguanidine, 8CI D-01018

N,N'-Diphenylguanidine, 9CI. Accelerator D

[102-06-7]

$HN{=}C(NHPh)_2$

$C_{13}H_{13}N_3$ M 211.266

Vulcanisation accelerator, complexing agent in detection of metals, organic base. Used as protonated form (diphenylguanidinium ion); forms extractable ion-pairs with anionic complexes of metals, e.g. Co, Ga, In, Mo, Rh, Sn, Ti, V, W, for extraction separation and photometric detn. Needles (EtOH). Sol. Et_2O, $CHCl_3$, dil. acids; spar. sol. H_2O. Mp 150°. Strongly alkaline soln.

▷ Irritant. Highly toxic orally. LD_{50} 290 mg/kg (mouse, oral). MF0875000.

B,HNO₃: Cryst. Mp 195-196° dec.
Picrate: Cryst. Mp 171°.

Macholdt-Erdniss, J., *Chem. Ber.*, 1958, **91**, 1992 (*synth*)
Ferris, A.F. *et al, J. Org. Chem.*, 1963, **28**, 71 (*synth*)
Tananaiko, M.M. *et al, Ukr. Khim. Zh. (Russ. Ed.)*, 1972, **38**, 610 (*use, Co*)
Wakamatsu, Y. *et al, Bull. Chem. Soc. Jpn.*, 1974, **46**, 761 (*use, V*)
Nazarenko, V.A. *et al, Ukr. Khim. Zh. (Russ. Ed.)*, 1979, **45**, 878 (*use, W*)
Legocki, J. *et al, CA*, 1981, **95**, 80430 (*synth*)
Cheng, K.L. *et al, Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 499 (*use*)
Clement, B. *et al, Chem. Ber.*, 1986, **119**, 1101 (*N-15 nmr, tautom*)
Maryanoff, C.A. *et al, J. Org. Chem.*, 1986, **51**, 1882 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DWC600.

1,6-Diphenyl-1,3,5-hexatriene, 8CI D-01019

1,1'-(1,3,5-Hexatriene-1,6-diyl)bisbenzene, 9CI. DPH

[1720-32-7]

$PhCH{=}CHCH{=}CHCH{=}CHPh$

$C_{18}H_{16}$ M 232.324

Fluorescence probe for membrane fluidity studies. Used as 0.03% soln. in $CHCl_3$ for detn. of lipids. Used in liquid scintillation spectrometry.

(E,E,E)-form [17329-15-6]
all-trans-*form*
Cryst. (EtOH) or pale yellow leaflets (EtOH/dioxan). Mp 203-204° (192°).

(E,E,Z)-form [38557-35-6]
cis,trans,trans-*form*
Oil.

(E,Z,E)-form [38557-34-5]
trans,cis,trans-*form*
Cryst. (hexane). Mp 109-110°.

Braude, E.A., *J. Chem. Soc.*, 1950, 379 (*uv*)
Drenth, W. *et al, Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1953, **72**, 39 (*cryst struct*)
Gobov, G.B. *et al, Zh. Fiz. Khim.*, 1964, **35**, 1142 (*ir*)
Johnstone, R.A.W. *et al, J. Chem. Soc. C*, 1968, 2540 (*ms*)
Hashimoto, I. *et al, J. Org. Chem.*, 1968, **33**, 3955 (*synth*)
Lednicer, D., *J. Org. Chem.*, 1971, **36**, 3473 (*synth*)
van Rossum, A.J.G. *et al, J. Chem. Soc., Perkin Trans. 2*, 1975, 1042 (*synth*)
Dickens, B.F. *et al, Biochemistry*, 1980, **19**, 5029 (*use*)
Clement, N.R. *et al, Biochemistry*, 1981, **20**, 1544 (*use*)
Pottel, H. *et al, Biochim. Biophys. Acta*, 1983, **730**, 181 (*use*)

1,1-Diphenylhydrazine, 9CI D-01020

[530-50-7]

Ph_2NNH_2

$C_{12}H_{12}N_2$ M 184.240

Reagent for characterisation of carbonyl compds.; extraction-photometric detn. of Se (λ_{max} 530 nm, ε 25700). Plates (ligroin). Mp 34.5°, Mp 44°. $Bp_{40\text{-}50}$ 220°.

B,HCl: Mp 165-170°.

Ac: 1-Acetyl-2,2-diphenylhydrazine. unsym-*Diphenylacetylhydrazide*
$C_{14}H_{14}N_2O$ M 226.277
Needles. Mp 188.5°.

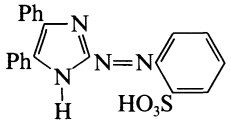
[38622-18-3]

Murashova, V.I. *et al, Zh. Anal. Khim.*, 1964, **19**, 1503 (*use*)
Kalamur, J. *et al, CA*, 1967, **69**, 86668h (*synth*)
Koga, N. *et al, J. Org. Chem.*, 1968, **33**, 3963 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 178.
Brindle, J.R. *et al, Can. J. Chem.*, 1976, **54**, 871 (*synth*)
Shantl, J. *et al, Monatsh. Chem.*, 1978, **109**, 1481 (*nmr*)

2-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo] benzenesulfonic acid, 9CI D-01021

2-(2-Sulfophenylazo)-4,5-diphenylimidazole

[19668-07-6]

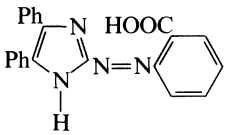


$C_{21}H_{16}N_4O_3S$ M 404.448
Used as EtOH soln. to give colour reactions with Cu, Cd, Co, Ni, Zn. Pale red cryst. (alkaline aq. soln.). Sol. EtOH, $CHCl_3$; sl. sol. H_2O. Mp >300°.

Shibata, S. *et al*, *Anal. Chim. Acta*, 1976, **81**, 131 (*synth, use*)

2-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo] benzoic acid, 9CI D-01022

2-[(2-Carboxyphenyl)azo]-4,5-diphenylimidazole
[5264-48-2]

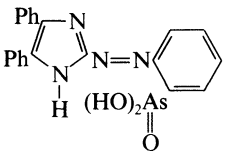


$C_{22}H_{16}N_4O_2$ M 368.394
Used as a 1m*M* soln. in EtOH for photometric detn. of Cd, Cu, Hg, Ni. Red needles (EtOH aq.). Sol. acids, alkalis, EtOH, $CHCl_3$; insol. H_2O. Mp 235°. pK_{a1} 3.8; pK_{a2} 10.8 (35% EtOH, 0.1*M* KCl, 25°).

Shibata, S. *et al*, *Anal. Chim. Acta*, 1976, **81**, 131 (*synth, use*)

[2-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo] phenyl]arsonic acid, 9CI D-01023

2-[(2-Arsonophenyl)azo]-4,5-diphenylimidazole
[60037-64-1]

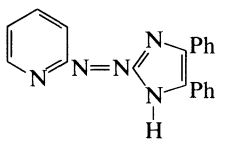


$C_{21}H_{17}AsN_4O_3$ M 448.312
Used as EtOH soln. for colour reactions with Cu, Ti, Ni, Pd. Yellow-orange needles. Sol. EtOH, $CHCl_3$, alkalis; sl. sol. H_2O. Mp >300°. pK_{a2} 4.4; pK_{a3} 11.2 (35% EtOH).

Shibata, S. *et al*, *Anal. Chim. Acta*, 1976, **81**, 131 (*synth, use*)

2-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo] pyridine, 9CI D-01024

2-(2-Pyridylazo)-4,5-diphenylimidazole
[60037-66-3]

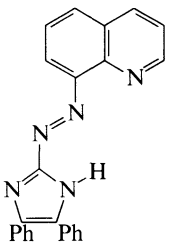


$C_{20}H_{15}N_5$ M 325.372
Used as EtOH soln. to give colour reactions with Ag, Bi, Co, Cu, Hg, Ni, Pd. Orange needles (EtOH aq.). Sol. EtOH, $CHCl_3$; insol. H_2O. Mp 249°. pK_{a2} 2.7; pK_{a3} 9.7 (35% EtOH).

Shibata, S. *et al*, *Anal. Chim. Acta*, 1976, **81**, 131 (*synth, use*)

8-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo] quinoline, 9CI D-01025

2-(8-Quinolylazo)-4,5-diphenylimidazole
[4948-87-2]

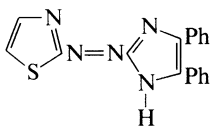


$C_{24}H_{17}N_5$ M 375.432
Used as 0.1m*M* $CHCl_3$ soln. or 0.05% EtOH soln. for extraction-photometric detn. of Hg (λ_{max} 580 nm, ε 73000), Cu. Reddish brown cryst. powder. Sol. $CHCl_3$, EtOH; insol. H_2O. Mp 202°. pK_{a2} 3.7; pK_{a3} 10.7 (35% EtOH aq.).

Shibata, S. *et al*, *Anal. Chim. Acta*, 1976, **81**, 131; 1980, **120**, 405 (*synth, detn, Hg*)

2-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo] thiazole, 9CI D-01026

4,5-Diphenyl-2-(2-thiazolylazo)imidazole
[60037-65-2]

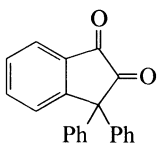


$C_{18}H_{13}N_5S$ M 331.400
Used as EtOH soln. to give colour reactions with Co, Cu, Mn, Ni, Zn. Reddish brown powder. Sol. EtOH, $CHCl_3$; insol. H_2O. Mp 240°. pK_{a3} 8.9 (35% EtOH).

Shibata, S. *et al*, *Anal. Chim. Acta*, 1976, **81**, 131 (*synth, use*)

3,3-Diphenyl-1,2-indanedione D-01027

[7312-39-2]



$C_{21}H_{14}O_2$ M 298.340
Cryst. (pet. ether). Mp 152-153°.

Dioxime: [1738-08-5].
$C_{21}H_{16}N_2O_2$ M 328.370
Used as a soln. in EtOH for pptn. of Pd. Pale yellow cryst. (EtOH). Sol. EtOH, Me_2CO, Et_2O.

Schoenberg, A. *et al*, *J. Chem. Soc.*, 1937, 627 (*synth*)
Koelsch, C.F. *et al*, *J. Org. Chem.*, 1941, **6**, 516 (*synth*)
Bark, L.S. *et al*, *Talanta*, 1965, **12**, 781 (*pptn, Pd*)

Diphenyliodonium(1+) D-01028

[10182-84-0]

$[Ph_2I]^{\oplus}$

$C_{12}H_{10}I^{\oplus}$ M 281.115 (ion)
Bactericide, phenylating agent.

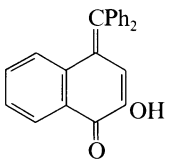
Fluoride: [322-23-6].
$C_{12}H_{10}FI$ M 300.114

Solid. Mp 79-102° (85° dec. and 110° dec.).
Chloride: [1483-72-3].
$C_{12}H_{10}ClI$ M 316.568
Mp 227°.
Bromide: [1483-73-4].
$C_{12}H_{10}BrI$ M 361.019
Mp 208°.
Iodide: [2217-79-0].
$C_{12}H_{10}I_2$ M 408.020
Used as a satd. aq. soln. for detn. of Bi, Co. Needles (MeOH). Mp 172-175° dec., Mp 163-165°.
Trifluoromethanesulfonate: [66003-76-7].
$C_{13}H_{10}F_3IO_3S$ M 430.186
Solid. Mp 178-180°.
Nitrate:
$C_{12}H_{10}INO_3$ M 343.120
Mp 149-150°.
I-*Oxide, acetate: Diphenyliodonium* I-*oxide acetate*
$C_{14}H_{13}IO_3$ M 356.159
Cryst. + $1\frac{1}{2}$ H_2O. Dimeric in cryst. state.

Org. Synth., Coll. Vol., 1, 1932, 355 (*iodide*)
Masson, I. *et al, J. Chem. Soc.*, 1937, 1718 (*synth, iodide*)
Potratz, A.H. *et al, Anal. Chem.*, 1949, **21**, 1276 (*use, iodide*)
Beringer, F.M. *et al, J. Am. Chem. Soc.*, 1953, **75**, 2705 (*chloride*)
Epshtein, L.M. *et al, Dokl. Akad. Nauk SSSR*, 1963, **149**, 865; *CA*, **59**, 4676 (*ir*)
Petrosyan, V.S. *et al, Dokl. Akad. Nauk SSSR*, 1967, **175**, 613 (*pmr*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 178.
Fogg, A.G. *et al, Mikrochim. Acta*, 1969, 546.
Alcock, N.W. *et al, J. Chem. Soc., Dalton Trans.*, 1977, 217 (*cryst struct*)
Cadogan, J.I.G. *et al, Synth. Commun.*, 1977, 365 (*use*)
Bozopoulos, A.P. *et al, Acta Crystallogr., Sect. C*, 1987, **43**, 142 (*cryst struct, oxide*)
Dektar, J.L. *et al, J. Org. Chem.*, 1990, **55**, 639 (*synth, uv, ir, pmr, cmr, photochem*)
Chen, K. *et al, J. Org. Chem.*, 1991, **56**, 5734 (*fluoride*)

4-(Diphenylmethylene)-2-hydroxy-1(4*H*)-naphthalenone, 9CI D-01029

[69019-54-1]

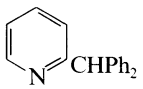


$C_{23}H_{16}O_2$ M 324.378
Used for photometric detn. of Ge. Orange cryst. (EtOH). Sol. Me_2CO, EtOH, C_6H_6. Mp 195°.

Bevillard, P. *et al, Bull. Soc. Chim. Fr.*, 1954, 307 (*synth*)
Nazarenko, V.A. *et al, J. Anal. Chem. USSR* (*Engl. Transl.*), 1963, **18**, 156 (*use*)

2-(Diphenylmethyl)pyridine, 9CI D-01030

[3678-70-4]



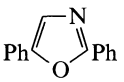
$C_{18}H_{15}N$ M 245.323
Used as soln. in $CHCl_3$ or C_6H_6 for extraction separation of Au(*III*), As(*III*). Cryst. Sol. $CHCl_3$, C_6H_6. Mp 59-61°.

Ejaz, M. *et al, J. Radioanal. Chem.*, 1978, **42**, 335 (*detn, Au*)
Ejaz, M. *et al, Talanta*, 1985, **32**, 1055 (*detn, As*)

2,5-Diphenyloxazole, 9CI D-01031

PPO

[92-71-7]

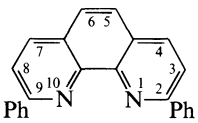


$C_{15}H_{11}NO$ M 221.258
Used as scintillating material, also as antioxidant; has antirheumatic activity. Needles (pet. ether). Sol. EtOH, Et_2O, prac. insol. H_2O. Mp 74°.
▷ RP6825000.
B,HCl: Mp 165°.

Fischer, E., *Ber.*, 1869, **29**, 207 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DWI200.

2,9-Diphenyl-1,10-phenanthroline, 9CI D-01032

[25677-69-4]



$C_{24}H_{16}N_2$ M 332.404
Used for photometric detn. of Cu(*I*), Fe(*II*). Cryst. (C_6H_6). Sol. EtOH, C_6H_6; insol. H_2O. pK_{a1} 6.17 (dioxan, 25°).

Wilkins, D.H. *et al, Acta Chim. Hung.*, 1955, **27**, 1574 (*detn, Cu, Fe*)
Case, F.H. *et al, J. Org. Chem.*, 1955, **20**, 1330 (*synth*)

3,8-Diphenyl-1,10-phenanthroline D-01033

$C_{24}H_{16}N_2$ M 332.404
Used as redox indicator. Cryst. (C_6H_6/pet. ether). Sol. EtOH, C_6H_6; insol. H_2O. Mp 190-191°. pK_{a1} 5.23 (dioxan, 25°).

Case, F.H. *et al, J. Org. Chem.*, 1955, **20**, 1330 (*synth*)
Schilt, A.A. *et al, J. Phys. Chem.*, 1956, **60**, 1546 (*pK*a, use, ind)

4,7-Diphenyl-1,10-phenanthroline D-01034

Bathophenanthroline

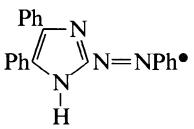
[1662-01-7]

$C_{24}H_{16}N_2$ M 332.404
Used for extraction-photometric detn. of Fe(*II*) (λ_{max} 533 nm, ε 22400, $CHCl_3$). Cryst. (C_6H_6). Sol. EtOH, Me_2CO, C_6H_6; spar. sol. H_2O. Mp 215-216°. Sulfonated derivs. with greater soly. are often substituted.

Case, F.H., *J. Org. Chem.*, 1951, **16**, 1541 (*synth*)
Smith, G.F. *et al, Analyst* (*London*), 1952, **77**, 418 (*use*)
Clark, L.J. *et al, Anal. Chem.*, 1962, **34**, 348 (*detn, Fe*)
Penner, E.M. *et al, Talanta*, 1962, **9**, 1027 (*detn, Fe*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 333.

4,5-Diphenyl-2-(phenylazo)-1*H*-imidazole, 9CI D-01035

[34938-51-7]



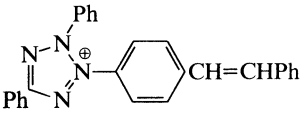
$C_{21}H_{16}N_4$ M 324.384

Used as a 1m*M* soln. in EtOH for photometric detn. of Cd, Cu, Hg, Zn. Reddish yellow needles (EtOH aq.). Sol. acids, alkalis, EtOH, $CHCl_3$; insol. H_2O. Mp 222°. pK_{a3} 10.5 (25°, 0.1*M* KCl, 35% EtOH).

Shibata, S. *et al*, *Anal. Chim. Acta*, 1976, **81**, 131 (*synth, use*)

2,5-Diphenyl-3-[4-(2-phenylethenyl) phenyl]-2*H*-tetrazolium(1+), 9CI D-01036

2,5-Diphenyl-3-(p-*styrylphenyl*)-2H-*tetrazolium*(*1+*), *8CI. DSTC*



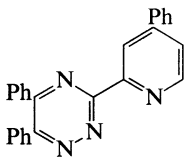
$C_{27}H_{21}N_4^{\oplus}$ M 401.490 (ion)

Chloride: [24387-36-8].
$C_{27}H_{21}ClN_4$ M 436.942
Reagent for the detn. of sugars and thiol steroids on chromatograms. Yellow needles (H_2O). Mp 228° (monohydrate).

Nineham, A.W. *et al*, *J. Chem. Soc.*, 1954, 1568 (*synth*)
Avigad, G. *et al*, *Biochem. J.*, 1961, **80**, 57 (*use*)
Stevens, P.J. *et al*, *J. Chromatogr.*, 1964, **14**, 269 (*use*)
Leone, R.M. *et al*, *J. Chromatogr.*, 1977, **135**, 527 (*use*)

5,6-Diphenyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazine, 9CI D-01037

[1058-71-5]

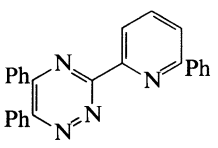


$C_{26}H_{18}N_4$ M 386.455
Used as 5m*M* soln. in EtOH acidified with HCl for photometric detn. of Fe(*II*) (λ_{max} 561 nm, ε 28700), Cu(*I*). Cryst. (EtOH). Sol. alkalis, EtOH. Mp 192-193°.

Case, F.H., *J. Org. Chem.*, 1965, **30**, 931 (*synth*)
Schilt, A.A. *et al*, *Anal. Chem.*, 1967, **39**, 114 (*detn, Fe*)
Nagahiro, T. *et al*, *Mikrochim. Acta*, 1984, **1**, 85 (*detn, Fe*)
Nagahiro, T. *et al*, *Talanta*, 1984, **31**, 1112 (*detn, Fe*)

5,6-Diphenyl-3-(6-phenyl-2-pyridinyl)-1,2,4-triazine, 9CI D-01038

[18895-97-1]



$C_{26}H_{18}N_4$ M 386.455
Used as a 5m*M* soln. in aq. EtOH to give colour reaction with Cu(*I*). Cryst. (EtOH). Sol. common org. solvs. Mp 163-164°.

Case, F.H. *et al*, *J. Heterocycl. Chem.*, 1968, **5**, 413 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

Diphenylphosphinodithioic acid, 9CI D-01039

[1015-38-9]

$Ph_2P(S)SH$

$C_{12}H_{11}PS_2$ M 250.325
Reacts with nitriles with the formation of thioamides. Forms many metal- and organometal-complexes, and is hence used in flotation technology. Pale-yellow cryst. (Et_2O). Sol. alkalis, CCl_4. Mp 55-57°. pK_{a1} 1.77 (7% EtOH aq.), pK_{a1} 2.69 (80% EtOH aq.), pK_{a1} 3.48 (EtOH).

Na salt: [5827-17-8].
Used as a soln. in CCl_4 for the detn. of Ru, Rh, Pt, Pd, Au, Ag, Ir and Os. Cryst. (Me_2CO/pet. ether). Mp 254-255°.

Me ester: [15288-70-7]. *Methyl diphenylphosphinodithioate*
$C_{13}H_{13}PS_2$ M 264.351
Cryst. (EtOH or naphtha). Mp 82-83°.

Et ester: [33329-02-1]. *Ethyl diphenylphosphinodithioate*
$C_{14}H_{15}PS_2$ M 278.378
Liq. d_4^{20} 1.19. $Bp_{0.3}$ 166-167°. n_D^{20} 1.6611.

Isopropyl ester: [59568-76-2]. *Isopropyl diphenylphosphinodithioate*
$C_{15}H_{17}PS_2$ M 292.405
Mp 78-87.5°.

tert-*Butyl ester:* tert-*Butyl diphenylphosphinodithioate*
$C_{16}H_{19}PS_2$ M 306.432
Needles (pet. ether). Mp 91-92°.

2-Propenyl ester: 2-Propenyl diphenylphosphinodithioate. Allyl diphenylphosphinodithioate
$C_{15}H_{15}PS_2$ M 290.389
Liq. $Bp_{0.04}$ 160°.

Ph ester: [57644-86-7]. *Phenyl diphenylphosphinodithioate*
$C_{18}H_{15}PS_2$ M 326.422
Cryst. (EtOH or pet. ether). Mp 57-59°, Mp 123-125°.

Benzyl ester: [57644-87-8]. *Benzyl diphenylphosphinodithioate*
$C_{19}H_{17}PS_2$ M 340.449
Undist. oil.

Trimethylsilyl ester: Trimethylsilyl diphenylphosphinodithioate
$C_{15}H_{19}PS_2Si$ M 322.506
Liq. $Bp_{0.02}$ 151-153°.

Anhydrosulfide: [6079-78-3].
$C_{24}H_{20}P_2S_3$ M 466.567
Cryst. (2-propanol). Mp 118-121°.

Anhydride with acetic acid: S-*Acetyl diphenylphosphinodithioate*
$C_{14}H_{13}OPS_2$ M 292.362
Solid. Mp 86-90°.

Anhydride with benzoic acid: S-*Benzoyl diphenylphosphinodithioate*
$C_{19}H_{15}OPS_2$ M 354.433
Solid. Mp 120-121°.

Hopkins, T.R. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 4447 (*anhydrosulfide, esters*)
Küchen, W. *et al*, *Chem. Ber.*, 1968, **101**, 3454 (*synth, P nmr*)
Spence, R.A. *et al*, *Aust. J. Chem.*, 1969, **22**, 2359 (*synth, ir, ms, props*)
Almasi, L. *et al*, *Chem. Ber.*, 1969, **102**, 1489 (*anhydrosulfide*)
Kabanova, L.L. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 2248 (*use*)
Küchen, W. *et al*, *Z. Anorg. Allg. Chem.*, 1975, **413**, 266 (*silyl ester, ir, ms, pmr, P nmr*)
Murav'ev, I.V. *et al*, *Zh. Obshch. Khim.*, 1976, **46**, 789; *J. Gen. Chem. USSR* (*Engl. Transl.*), 787 (*esters*)
Goda, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1978, **51**, 260, 818 (*esters, use*)

Harris, R.K. *et al*, *J. Chem. Soc., Dalton Trans.*, 1978, 9 (*anhydrosulfide, pmr, P nmr, cmr*)
Küchen, W. *et al*, *Chem. Ber.*, 1981, **114**, 3485 (*props, use*)
Keek, H. *et al*, *Phosphorus Sulfur Relat. Elem.*, 1983, **14**, 225 (*ms*)

O,O-Diphenyl phosphorodithioate, 9CI, 8CI D-01040

O,O-*Diphenyl hydrogen phosphorodithioate.* O,O-*Diphenyl dithiophosphate.* O,O-*Diphenyl dithiophosphoric acid*

[2253-60-3]

$(PhO)_2P(S)SH$

$C_{12}H_{11}O_2PS_2$ M 282.323

K salt used as 1m*M* soln. in dichloroethane in extraction-photometric detn. of Pd (λ_{max} 295 nm, ε 30000). Cryst. (hexane). Sol. $CHCl_3$, CCl_4, C_6H_6, dichloroethane, EtOH, Me_2CO. Mp 61°. pK_{a1} 1.81 (7% EtOH aq.), pK_{a1} 2.66 (80% EtOH aq.).

K salt: [3514-82-7].
Cryst. (Me_2CO/C_6H_6). Mp 191.5-192°.

Diethylammonium salt: [51576-73-9].
Solid. Mp 177-178°.

Triethylammonium salt: Solid. Mp 99-99.5°.

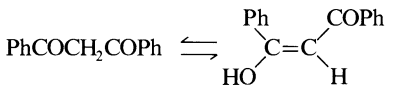
4-Methylanilinium salt: Cryst. (H_2O). Mp 110-112°.

Kabachnik, M.I. *et al*, *Tetrahedron*, 1960, **9**, 10 (*synth*)
Zemlyanski, N.I. *et al*, *Zh. Obshch. Khim.*, 1962, **32**, 1962; *J. Gen. Chem. USSR* (*Engl. Transl.*), 1942 (*synth*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 1675 (*synth, use*)
Khaskin, B.A. *et al*, *Zh. Obshch. Khim.*, 1974, **44**, 95; *J. Gen. Chem. USSR* (*Engl. Transl.*), 93 (*synth*)
Mazitova, F.N. *et al*, *Zh. Obshch. Khim.*, 1980, **50**, 815; *J. Gen. Chem. USSR* (*Engl. Transl.*), 652 (*synth*)
Rozen, A.M. *et al*, *Zh. Obshch. Khim.*, 1982, **52**, 1235; *J. Gen. Chem. USSR* (*Engl. Transl.*), 1086 (*props, use*)

1,3-Diphenyl-1,3-propanedione D-01041

ω-Benzoylacetophenone. Phenyl phenacyl ketone. γ-Hydroxychalcone. Dibenzoylmethane

[120-46-7]



monoenol, (E)-form

$C_{15}H_{12}O_2$ M 224.259

Dioxo-, (*E*)-enol and (*Z*)-enol forms all known. Used in photometric detn. of U (λ_{max} 395 nm, ε 20000) and in extraction and separation of Cd.

Dioxo-form

Plates. Mp 81°.

Monoxime:
$C_{15}H_{13}NO_2$ M 239.273
Mp 165°.

Monosemicarbazone: Mp 205°.

Dioxime: [66917-88-2]. *Isonitrosodibenzoylmethane*
$C_{15}H_{14}N_2O_2$ M 254.288
Used as a 0.5-0.15% soln. in EtOH for extraction-photometric detn. of Pd(*II*) (λ_{max} 420 nm, ε 14900), Ru(*III*). Cryst. Sol. EtOH, Et_2O, $CHCl_3$.

(E)-Enol-form

Cryst. (Et_2O). Mp 77.5-79°. Bp_{18} 210-221°, Bp_3 165-170°.

(Z)-Enol-form

Needles (EtOH or Et_2O). Mp 72-73°.

Me ether: 3-Methoxy-1,3-diphenyl-1-butanone
$C_{16}H_{14}O_2$ M 238.285
Pale yellow prisms (hexane). Mp 83-84°.

Org. Synth., Coll. Vol., 1, 1932, 199 (*synth*)
Levine, R. *et al*, *J. Am. Chem. Soc.*, 1945, **67**, 1510.
Eistert, B. *et al*, *Chem. Ber.*, 1951, **81**, 745 (*config*)
Yoe, J.H. *et al*, *Anal. Chem.*, 1953, **25**, 1200 (*detn, U*)
Horton, C.A. *et al*, *Anal. Chem.*, 1958, **30**, 1779 (*detn, U*)
Schweitzer, G.K. *et al*, *Anal. Chim. Acta*, 1962, **26**, 120; 567 (*detn, U, Cd, use*)
Hollander, F.J. *et al*, *Acta Crystallogr., Sect. B*, 1973, **29**, 1552 (*cryst struct*)
Aldrich Library of NMR Spectra, 1974, **6**, 10B (*nmr*)
Battesti, P. *et al*, *Bull. Soc. Chim. Fr.*, 1974, 2214.
Aldrich Library of IR Spectra, 2nd Ed., 1975, 749B (*ir*)
Ishikara, H. *et al*, *Chem. Lett.*, 1978, 1007 (*synth*)
Desai, B.J. *et al*, *Fresenius' Z. Anal. Chem.*, 1979, **298**, 158 (*dioxime, detn, Pd, Ru*)
Kikuchi, F. *et al*, *Chem. Pharm. Bull.*, 1990, **38**, 1862 (*pmr, cmr, ms*)

1,3-Diphenyl-2-propanone, 9CI D-01042

1,3-Diphenylacetone. Dibenzyl ketone

[102-04-5]

$PhCH_2COCH_2Ph$

$C_{15}H_{14}O$ M 210.275

Cryst. (EtOH aq., Et_2O or pet. ether). Mp 35-36°. Bp 331°, $Bp_{0.1}$ 112-125°.

Oxime: [1788-31-4].
$C_{15}H_{15}NO$ M 225.290
Mp 125°.

Semicarbazone: Mp 123-124°, Mp 146°.

2,4-Dinitrophenylhydrazone: [1555-81-3].
Orange cryst. (EtOH). Mp 110°.

Phenylhydrazone: Needles or leaflets. Mp 128-129°.

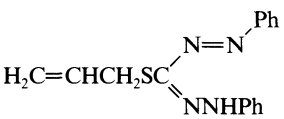
Tosylhydrazone: [19816-88-7].
$C_{22}H_{22}N_2O_2S$ M 378.494
Reagent for the titrimetric detn. of organolithium compounds. Mp 185-186° dec.

Hurd, C.D. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 2589; 1936, **58**, 1240.
Ashley, J.N. *et al*, *J. Chem. Soc.*, 1942, 103.
Rabjohn, N. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 2259.
Shapiro, E.L. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 4769.
MacKenzie, S. *et al*, *J. Org. Chem.*, 1963, **28**, 717 (*uv*)
Mislow, K. *et al*, *J. Am. Chem. Soc.*, 1964, **86**, 1710 (*pmr*)
Tagaki, W. *et al*, *Bull. Chem. Soc. Jpn.*, 1965, **38**, 414.
Keana, J.F.W. *et al*, *J. Org. Chem.*, 1973, **38**, 3815 (*synth, tosylhydrazone*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 123 (*use*)
Casanova, J. *et al*, *Tetrahedron Lett.*, 1977, 1773 (*cmr, config, tosylhydrazone*)
Lipton, M.F. *et al*, *J. Organomet. Chem.*, 1980, **186**, 155 (*synth, pmr, ms, use, tosylhydrazone*)

1,5-Diphenyl-3-(2-propenylthio)formazan, 9CI D-01043

Allyldithizone

[82526-40-7]



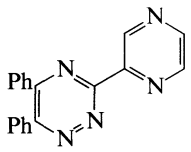
$C_{16}H_{16}N_4S$ M 296.395

Used as 0.1% soln. in EtOH for photometric detn. of Ir, Rh. Red cryst. (EtOH). Sol. H_2O, EtOH, Me_2CO.

Kotov, A. *et al*, *CA*, 1983, **98**, 117226t (*detn, Ir, Rh*)

5,6-Diphenyl-3-(pyrazinyl)-1,2,4-triazine D-01044

[18091-47-9]



$C_{19}H_{13}N_5$ M 311.345

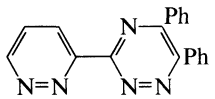
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 507 nm, ε 2730), Fe(*II*) (λ_{max} 536 nm, ε 19600). Cryst. (EtOH). Sol. C_6H_6, dil. HCl. Mp 179-180°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **5**, 223 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn, Cu, Fe*)

5,6-Diphenyl-3-(3-pyridazyl)-1,2,4-triazine D-01045

5,6-Diphenyl-3-(3-pyridazyl)-as-*triazine*, *8CI*

[18091-48-0]



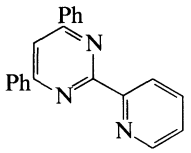
$C_{19}H_{13}N_5$ M 311.345

Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Cu(*I*) (λ_{max} 558 nm, ε 6900), Fe(*II*) (λ_{max} 542 nm, ε 19000). Sol. C_6H_6, EtOH, dil. HCl. Mp 215-216°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **5**, 223 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn, Cu, Fe*)

4,6-Diphenyl-2-(2-pyridinyl)pyrimidine, 9CI D-01046

[61097-54-9]



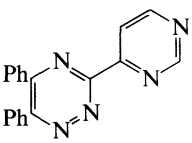
$C_{21}H_{15}N_3$ M 309.370

Used for photometric detn. of Cu(*I*) (λ_{max} 425 nm, ε 5200, pH ~7, aq. EtOH). Cryst. (MeOH). Sol. MeOH, EtOH. Mp 158°.

Schilt, A.A. *et al*, *Talanta*, 1976, **23**, 543 (*synth, detn, Cu*)

5,6-Diphenyl-3-(4-pyrimidinyl)-1,2,4-triazine D-01047

[18091-49-1]

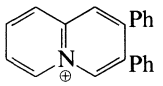


$C_{19}H_{13}N_5$ M 311.345

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co, Cu(*I*) (λ_{max} 475 nm, ε 2400), Fe(*II*) (λ_{max} 550 nm, ε 10400). Cryst. (EtOH). Sol. C_6H_6, dil. HCl. Mp 180-181°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **5**, 223 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*use*)

2,3-Diphenylquinolizinium(1+), 9CI D-01048



$C_{21}H_{16}N^{\oplus}$ M 282.364 (ion)

Bromide: [16171-40-7].
$C_{21}H_{16}BrN$ M 362.268
Fluorescent derivatisation reagent for amines. Cryst. (EtOH). Mp 286°.

Westphal, O. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1963, **2**, 96 (*synth*)
Alvarez-Builla, J. *et al*, *J. Heterocycl. Chem.*, 1985, **22**, 681 (*synth*)
Galvaz, E. *et al*, *An. Quim.*, 1987, **83**, 115 (*cmr, pmr*)
Martin, M.A. *et al*, *Anal. Chim. Acta*, 1991, **245**, 217 (*use*)

Diphenyl selenoxide D-01049

1,1'-Seleninylbisbenzene, *9CI*. *Phenyl selenoxide*, *8CI*

[7304-91-8]

Ph_2SeO

$C_{12}H_{10}OSe$ M 249.170

Oxidizing agent. Used as a 20% soln. in CH_2Cl_2 for extraction-photometric detn. of Rh. Cryst. (C_6H_6). Sol. EtOH, C_6H_6, $CHCl_3$. Mp 112.8°, Mp 108-109°.

Rheinboldt, H. *et al*, *J. Am. Chem. Soc.*, 1946, **68**, 2671 (*synth*)
Ziegler, M. *et al*, *Mikrochim. Acta*, 1967, 782 (*synth, detn, Rh*)
Cinquini, M. *et al*, *Chem. Ind. (London)*, 1969, 1737 (*synth*)
Balenovic, K. *et al*, *Synthesis*, 1973, 172 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 280 (*synth, use*)
Nagao, Y. *et al*, *Tetrahedron Lett.*, 1977, 1345 (*synth, use*)
Fujita, E., *J. Indian Chem. Soc.*, 1978, **55**, 1226 (*synth*)

2,4-Diphenylsemicarbazide, 8CI D-01050

N,*2-Diphenylhydrazinecarboxamide*, *9CI*

$PhNHCONPhNH_2$

$C_{13}H_{13}N_3O$ M 227.265

Used as satd. MeOH soln. for photometric detn. of Ru. Leaflets (EtOH). Sol. EtOH, C_6H_6, Et_2O, $CHCl_3$; sol. MeOH; spar. sol. H_2O. Mp 165-166°, Mp 186°.

Geilman, W. *et al*, *Fresenius' Z. Anal. Chem.*, 1956, **152**, 96.
Wannagat, U. *et al*, *Monatsh. Chem.*, 1963, **94**, 63 (*synth*)
Scharner, P. *et al*, *Mikrochim. Acta*, 1969, 304.

Diphenyl sulfide D-01051

1,1'-Thiobisbenzene, *9CI*. *Phenyl sulfide*, *8CI*. *Thiophenol phenyl ether*. *Diphenyl thioether*

[139-66-2]

PhSPh

$C_{12}H_{10}S$ M 186.277

Used as a 3% soln. in C_6H_6 for detn. of Pd. Cryst. Sol. common org. solvs. d_4^{20} 1.113. Bp_{18} 162-163°.

▷ Emits highly toxic fumes when heated to dec.. SX2275000.

Org. Synth., Coll. Vol., 2, 1943, 242.
Cumper, C.W.N., *J. Chem. Soc.*, 1965, 5860.
Cumper, C.W.N., *J. Chem. Soc. A*, 1966, 239.
Pitombo, L., *Anal. Chim. Acta*, 1969, **46**, 158 (*detn, Pd*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 241.
Cristau, H.J. *et al*, *Synthesis*, 1981, 892 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PGI500.

Diphenyl sulfone D-01052

1,1-Sulfonylbisbenzene, 9CI. Benzenesulfone. Sulfobenzide

[127-63-9]

$PhSO_2Ph$

$C_{12}H_{10}O_2S$ M 218.276

Reference material used in elemental microanalysis. Spar. sol. hot H_2O. Mp 128-129° (123°). Bp_{18} 232°.

▷ SX2400000.

Graybill, B.M., *J. Org. Chem.*, 1967, **32**, 2931 (*synth*)
Smith, B.C. *et al*, *J. Chem. Soc., Chem. Commun.*, 1968, 1474 (*synth*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Sime, J.G. *et al*, *J. Cryst. Mol. Struct.*, 1974, **4**, 269 (*struct*)
Baarschers, W.H., *Can. J. Chem.*, 1976, **54**, 3056 (*synth*)
Gregory, D.C. *et al*, *J. Mol. Struct.*, 1979, **51**, 69 (*struct*)
Horyna, J. *et al*, *Collect. Czech. Chem. Commun.*, 1980, **45**, 1575 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PGI750.

1,4-Diphenylthiosemicarbazide D-01053

N,*2-Diphenylhydrazinecarbothioamide, 9CI*

[1768-59-8]

$PhNHCSNHNHPh$

$C_{13}H_{13}N_3S$ M 243.332

Used as 0.2% soln. in EtOH for photometric detn. of Ru (ε 10000), Re, Se, Pd (λ_{max} 555 nm, ε 10000), Pt (λ_{max} 430 nm, ε 7400). Prisms (EtOH). Mp 176-177°.

1-Benzoyl:
$C_{20}H_{17}N_3OS$ M 347.440
Mp 310°.

4-Ac:
$C_{15}H_{15}N_3OS$ M 285.369
Mp 161-162°.

Marckwald, W., *Ber.*, 1892, **25**, 3098 (*synth*)
Grammaticakis, P., *Bull. Soc. Chim. Fr.*, 1953, 86 (*uv*)
Hara, T. *et al*, *Anal. Chim. Acta*, 1960, **23**, 65 (*detn, Ru*)
Sushkova, S.G. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 1475 (*detn, Se*)
Kemula, W. *et al*, *Bull. Acad. Pol. Sci., Ser. Sci. Chim.*, 1971, **19**, 325; *CA*, **75**, 117661 (*ir*)
Radushchev, A.V. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 2360 (*detn, Pd, Pt*)
Borisova, L.V. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 743 (*detn, Re*)
Sharbatyan, P.A. *et al*, *Zh. Org. Khim.*, 1978, **14**, 116 (*ms*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 493.

2,4-Diphenylthiosemicarbazide D-01054

N,*1-Diphenylhydrazinecarbothioamide, 9CI*

[13207-47-1]

$PhNHCSNPhNH_2$

$C_{13}H_{13}N_3S$ M 243.332

Used for photometric detn. of Re, Ru. Cryst. Sl. sol. EtOH, Me_2CO, C_6H_6; insol. H_2O. Mp 139°.

1-Ac:
$C_{15}H_{15}N_3OS$ M 285.369
Yellowish needles (EtOH). Mp 133°.

Marckwald, W., *Ber.*, 1892, **25**, 3098 (*synth*)
Geilmann, W. *et al*, *Fresenius' Z. Anal. Chem.*, 1956, **151**, 401 (*detn, Re*)
Scharner, P. *et al*, *Mikrochim. Acta*, 1969, 304 (*detn, Ru*)

N,N'-Diphenylthiourea, 9CI D-01055

Thiocarbanilide, 8CI. sym-*Diphenylthiourea*

[102-08-9]

$PhNHCSNHPh$

$C_{13}H_{12}N_2S$ M 228.317

Used in extraction separation and photometric detn. of Te (ε 150000), Ag, Pt, Rh, Ru. Leaflets (EtOH). Mp 154-155°. pK_a <2.

▷ FE1225000.

S-*Decyl:* [62554-27-2]. N,N'-*Diphenylcarbamimidothioic acid decyl ester, 9CI.* S-(*1-Decyl*)-N,N'-*diphenylisothiouronium*
$C_{23}H_{32}N_2S$ M 368.585
Used as 5% soln. of hydrobromide salt in 2,6-dimethyl-4-heptanone for group extraction separation of noble metals. Viscous liq. (as hydrobromide). Sol. $CHCl_3$, 4-methyl-2-pentanone, 2,6-dimethyl-4-heptanone, EtOH, dioxan.

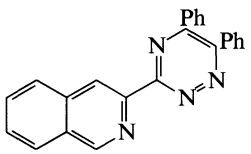
N-*Hydroxy:* [20577-12-2]. N-*Hydroxy*-N,N'-*diphenylthiourea, 9CI. 1-Hydroxy-1,3-diphenyl-2-thiourea, 8CI.* N-*Hydroxythiocarbanilide.* N,N'-*Diphenylthiocarbamoylhydroxamic acid*
Used as a 0.01*M* soln. in $CHCl_3$ for extraction-photometric detn. of Cu, Mo; photometric detn. of Ni (λ_{max} 470 nm, ε 16000). Cryst. (C_6H_6) or leaflets (EtOH). Sol. EtOH, C_6H_6, $CHCl_3$, Me_2CO, AcOH, dioxan. Mp 108-110° dec.

Aldrich Library of IR Spectra, 811H (*ir*)
Aldrich Library of NMR Spectra, 7, 104A (*pmr*)
Sadtler Standard C-13 NMR Spectra, 2968 (*cmr*)
Sadtler Standard Ultraviolet Spectra, 2170 (*uv*)
Snedker, S.J.C., *J. Soc. Chem. Ind., London*, 1925, **44**, 74T, 486 (*synth*)
Geilmann, W. *et al*, *Fresenius' Z. Anal. Chem.*, 1957, **156**, 420 (*detn, Ru*)
Russel, B.G. *et al*, *Talanta*, 1967, **14**, 957 (*detn, Te*)
Maklakova, V.P. *et al*, *Zavod. Lab.*, 1968, **34**, 1049 (*detn, Mo*)
Maklakova, V.P. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 257 (*detn, Cu*)
Seryakova, I.V. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 1840 (*detn, Ag*)
Diamantatos, A. *et al*, *Anal. Chim. Acta*, 1977, **91**, 287; **94**, 49 (*detn, Pt, Rh, Te*)
Jones, E.A. *et al*, *Anal. Chim. Acta*, 1977, **94**, 257 (*synth, use*)
Hasan, M. *et al*, *Indian J. Technol.*, 1978, **16**, 123; *CA*, **89**, 208603u (*detn, Ni*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DWN800.

3-(5,6-Diphenyl-1,2,4-triazin-3-yl) isoquinoline, 8CI D-01056

3-(3-Isoquinolyl)-5,6-diphenyl-1,2,4-triazine

[17583-54-9]



$C_{24}H_{16}N_4$ M 360.417

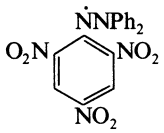
Used as 5m*M* soln. in EtOH aq. to give colour reactions with Co, Cu(*I*); photometric detn. of Fe(*II*) (λ_{max} 556 nm, ε 2320). Cryst. (DMF aq.). Sol. common org. solvs. Mp 198-199°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 483 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

2,2-Diphenyl-1-(2,4,6-trinitrophenyl) hydrazyl, 9CI D-01057

2,2-Diphenylpicrylhydrazyl, 8CI. DPPH

[1898-66-4]



$C_{18}H_{12}N_5O_6$ M 394.323

Dehydrogenating agent, chain-terminating agent for polymerisations. Reagent for the spectrophotometric anal. of amines and thiols. Violet cryst. Mp 137-138°.

▷ MW3250000.

Goldschmidt, S. *et al*, *Ber.*, 1922, **55**, 628 (*synth*)
Lyons, J.A. *et al*, *J. Polym. Sci.*, 1955, **18**, 141 (*purifn*)
Papariello, G.J. *et al*, *Anal. Chem.*, 1965, **37**, 899 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 347 (*use*)
Williams, D.E., *J. Am. Chem. Soc.*, 1967, **89**, 4280 (*cryst struct*)
Garnett, J.L. *et al*, *J. Catal.*, 1967, **7**, 305 (*synth*)
O'Connor, S.E. *et al*, *J. Org. Chem.*, 1977, **42**, 577 (*synth, purifn*)
Hunsaker, D.B. *et al*, *Talanta*, 1983, **30**, 475 (*use*)

O,O-Di-2-propenyl phosphorodithioate, 9CI D-01058

O,O-Diallyl phosphorodithioate, 8CI. O,O-*Diallyl hydrogen dithiophosphate.* O,O-*Diallyl dithiophosphoric acid*

[5851-14-9]

$(H_2C{=}CHCH_2O)_2P(S)SH$

$C_6H_{11}O_2PS_2$ M 210.257

Used for extraction of Cu, Fe(*III*), Mo, Ni, Os, Ru, Pt; flotation of In, Sn, Ti. Liq. d_4^{20} 1.17. $Bp_{0.001}$ 64-66°. n_D^{20} 1.5326.

K salt: [20442-45-9].
Cryst. (Me_2CO/Et_2O). Sol. common org. solvents. Mp 126°.

Pilipenko, A.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1970, **36**, 1151 (*use*)
Mel'nik, Ya.I. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 768), 1970, **40**, 791 (*synth*)
Zemlyanski, N.I. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 50), 1972, **42**, 54 (*synth*)

N-[(Dipropylamino)thioxomethyl] benzamide, 9CI D-01059

1,1-Dipropyl-3-benzoylthiourea. N,N-*Di*-n-*propyl*-N′-*benzoylthiourea*

[58682-52-3]

$PhCONHCSN[CH_2CH_2CH_3]_2$

$C_{14}H_{20}N_2OS$ M 264.391

Used as 0.1*M* soln. in toluene for extraction separation of platinum group metals. Cryst. (EtOH). Sol. toluene, $CHCl_3$, decane. Mp 71°.

Koenig, K.H. *et al*, *Fresenius' Z. Anal. Chem.*, 1985, **321**, 457 (*synth, use*)

O,O-Dipropyl phosphorodithioate, 9CI, 8CI D-01060

Dipropyl phosphorodithioic acid. O,O-*Dipropyl dithiophosphate.* O,O-*Dipropyl hydrogen dithiophosphate*

[2253-43-2]

$(H_3CCH_2CH_2O)_2P(S)SH$

$C_6H_{15}O_2PS_2$ M 214.289

Used as soln. in nonpolar solvs. for extraction separation of Ni, Zn, In, Cd, Pb, Tl(*I*). Liq. d_4^{20} 1.10. Bp_2 80-82°. pK_{a1} 1.75 (20°, 7% EtOH aq.), pK_{a1} 2.57 (20° 80% EtOH aq.). n_D^{20} 1.4990.

K salt: [3287-84-1].
Solid. Mp 165°.

Anilinium salt: [67333-92-0].
Solid. Mp 80-81°.

Pishchimuka, V.F. *et al*, *Zh. Russ. Khim. Ova.*, 1912, **44**, 1406 (*synth*)
McIvor, R.A. *et al*, *Can. J. Chem.*, 1958, **36**, 820 (*ir*)
Kabachnik, M.I. *et al*, *Tetrahedron*, 1960, **9**, 10 (*synth, props*)
Zemlyanskii, N.I. *et al*, *Zh. Obshch. Khim.*, 1972, **42**, 54 (*Engl. transl.* p. 50)
Zimin, M.G. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 930), 1978, **48**, 1020 (*P nmr*)
Lefferts, J.L. *et al*, *Inorg. Chem.*, 1980, **19**, 1662 (*synth, complexes*)
Toropova, V.F. *et al*, *Talanta*, 1987, **34**, 211 (*use*)

O,O-Di-2-propynyl phosphorodithioate, 9CI D-01061

O,O-*Di-2-propynyl hydrogen dithiophosphate.* O,O-*Di-2-propynyl dithiophosphoric acid*

[26819-90-9]

$(HC{\equiv}CCH_2O)_2P(S)SH$

$C_6H_7O_2PS_2$ M 206.226

Used for extraction of Cu, Mo, Pt; flotation of In, Mo, Sn, Tl(*I*), Tl(*III*), Zr. Unstable liq. d_4^{20} 1.27. $Bp_{0.001}$ 76°. n_D^{20} 1.5618.

▷ Reaction mixtures may explode if overheated. Ag salt explodes when heated.

K salt: [26842-96-6].
Cryst. Sol. common org. solvents. Mp 138°.

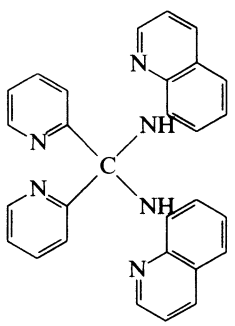
Pb complex: Solid. Mp 80°.

Zemlyanskii, N.I. *et al*, *Zh. Obshch. Khim.*, 1969, **39**, 2461; (*Engl. transl.* pp. 50, 2401), 1972, **42**, 54 (*synth*)
Pilipenko, A.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1970, **36**, 1151 (*use*)
Mel'nik, Ya.I. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 768), 1970, **40**, 791 (*synth*)

1,1-Di-2-pyridinyl-*N*,*N*′-di-8-quinolinylmethanediamine D-01062

Di-2-pyridyl-N,N′-*bis*[(*8-quinolyl*)*amino*]*methane. DPQAM*

[82358-78-9]



$C_{29}H_{22}N_6$ M 454.533

Used as 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of Fe (λ_{max} 693 nm, ε 170000, $CHCl_3$), Ni, Co. Yellow cryst. (DMF). Sol. EtOH, DMF, $CHCl_3$; insol. H_2O. Mp 225-227°. pK_{a1} 2.48; pK_{a2} 3.83; pK_{a3} 13.6.

Escobar, R. *et al*, *Talanta*, 1982, **29**, 135 (*synth, pKa*)
Escobar, R. *et al*, *Analyst* (*London*), 1983, **108**, 821 (*detn, Fe*)

Di-2-pyridinylethanedione, 9CI D-01063

α-Pyridil. Di-2-pyridylglyoxal. Di-2-pyridyl diketone. Bipyridylglyoxal

[492-73-9]

$C_{12}H_8N_2O_2$ M 212.207

Cryst. (EtOH). Mp 156-157°.

Monoxime: [27956-01-0]. *Di-2-pyridylmonoxime*

$C_{12}H_9N_3O_2$ M 227.222

Used for photometric detn. of Co (λ_{max} 408 nm, ε 17000). Cryst.

Dioxime, (E,E): [30805-88-0]. *2,2'-Dipyridyl-α-glyoxime*

$C_{12}H_{10}N_4O_2$ M 242.237

Used as 1% soln. in EtOH/0.25*M* HCl in extraction-photometric detn. of Au(*III*) and Fe. Cryst. Sol. EtOH.

Dihydrazone: [35431-84-6].

$C_{12}H_{12}N_6$ M 240.267

Used for fluorimetric detn. of Tc(*VII*), Pd, Ni. Cryst. (EtOH).

2-Quinolylhydrazone: [71384-12-8].

$C_{21}H_{15}N_5O$ M 353.382

Used as EtOH soln. for photometric detn. of Hg (λ_{max} 485 nm, ε 39000). Sol. EtOH, Me_2CO, Et_2O.

Bisthiosemicarbazone: [36772-41-5]. *Di-2-pyridylglyoxal - dithiosemicarbazone*

$C_{14}H_{14}N_8S_2$ M 358.450

Used as a 0.1% soln. in EtOH for extraction-photometric detn. of Co, Fe, Ni. Cryst. (EtOH). Sol. $CHCl_3$, C_6H_6, EtOH; insol. H_2O.

Bis(phenylthiosemicarbazone): [70424-51-0]. *Di-2-pyridinylethanedione bis(phenylthiosemicarbazone)*

$C_{26}H_{22}N_8S_2$ M 510.645

Used as a 0.1% EtOH soln. for photometric detn. of Co, Ni, Fe(*II*), Cu, Zn, Cd. Yellow cryst. (50% EtOH). Sol. EtOH, DMF; sl. sol. H_2O, $CHCl_3$. pK_{a1} 3.24; pK_{a2} 11.6.

Monophenylhydrazone oxime: [71337-00-3].

$C_{18}H_{15}N_5O$ M 317.349

Used for photometric detn. of Fe(*II*). Cryst. (EtOH). Mp 213°.

Mono(pyrazinylhydrazone): [58495-35-5].

$C_{16}H_{12}N_6O$ M 304.310

Used as a soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 504 nm, ε 18000), Co (λ_{max} 507 nm, ε 27200), Ni (λ_{max} 483 nm, ε 43000), Fe(*II*). Cryst.

Bis(pyrazinylhydrazone): [58495-50-4].

$C_{20}H_{16}N_{10}$ M 396.413

Used as a soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 484 nm, ε 20000), Co (λ_{max} 508 nm, ε 29700), Ni (λ_{max} 479 nm, ε 46000), Fe(*II*) (λ_{max} 601 nm, ε 10500).

Mono(2-thiazolylhydrazone): [73568-94-2].

$C_{15}H_{11}N_5OS$ M 309.351

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 525 nm, ε 16300), Cu(*I*) (λ_{max} 425 nm, ε 11100), Fe(*II*) (λ_{max} 629 nm, ε 10500), Ni (λ_{max} 525 nm). Cryst. (MeOH). Mp 154°.

Bis(4,4-diphenylsemicarbazone): see *Di-2-pyridinylethanedione bis(diphenylsemicarbazone)*, *D-01064*

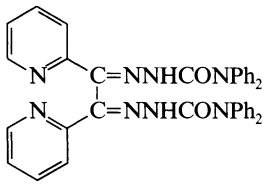
Bis(2-hydroxybenzoylhydrazone): see *Di-2-pyridinylethanedione bis(2-hydroxybenzoylhydrazone)*, *D-01065*

Matthes, W. *et al*, *Chem. Ber.*, 1951, **84**, 452 (*synth*)
Holland, W., *Anal. Lett.*, 1969, **2**, 71, 167 (*oxime*)
Ashida, T. *et al*, *Acta Crystallogr., Sect. B*, 1970, **26**, 454 (*cryst struct*)
Stuparsky, S. *et al*, *Mikrochim. Acta*, 1970, 115 (*oxime*)
Soules, D. *et al*, *Mikrochim. Acta*, 1971, 565; 1972, 247 (*detn, Au, Fe*)
Barnes, C.S. *et al*, *Tetrahedron Lett.*, 1972, 705 (*ms*)
Bahamonde, J.L. *et al*, *Talanta*, 1973, **20**, 694 (*dithiosemicarbazone, detn, Fe*)
Bahamonde, J.L. *et al*, *Analyst* (*London*), 1974, **99**, 355 (*dithiosemicarbazone, detn, Co, Cr*)
Newkome, G.R. *et al*, *Tetrahedron Lett.*, 1974, 691 (*synth, ir, pmr*)
Case, F.H. *et al*, *J. Chem. Eng. Data*, 1976, **21**, 124 (*synth*)
Gonzalez Balairon, M. *et al*, *Talanta*, 1979, **26**, 71 (*phenylthiosemicarbazone, use*)
Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 85, 373; 1980, **27**, 55.
Kulshrestha, H. *et al*, *Chem. Anal.* (*Warsaw*), 1980, **25**, 647 (*hydrazone*)
Grases, F. *et al*, *Anal. Chim. Acta*, 1984, **161**, 359; **166**, 71 (*dihydrazone, detn, Tc, Ni, Pd*)

Di-2-pyridinylethanedione bis(diphenylsemicarbazone) D-01064

2,2'-(1,2-Di-2-pyridinyl-1,2-ethanediylidene)bis[N,N-*diphenylhydrazinecarboxamide*], *9CI*

[96848-50-9]



$C_{38}H_{30}N_8O_2$ M 630.707

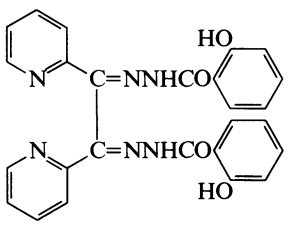
Used as EtOH soln. for extraction-photometric detn. of Ni (λ_{max} 420 nm, ε 54000, $CHCl_3$). Cryst. (EtOH). Sol. DMF, EtOH.

Kato, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1985, **34**, 124 (*synth, detn, Ni*)

Di-2-pyridinylethanedione bis(2-hydroxybenzoylhydrazone) D-01065

2-Hydroxybenzoic acid (1,2-di-2-pyridinyl-1,2-ethanediylidene)dihydrazide, *9CI*

[74403-62-6]



$C_{26}H_{20}N_6O_4$ M 480.482

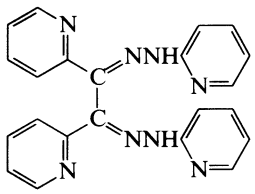
Used as a 0.01% soln. in DMF/EtOH for photometric detn. of Ca. Cryst. Sol. DMF; spar. sol. EtOH, C_6H_6, $CHCl_3$. Mp 281-282°. pK_{a1} 3.27; pK_{a2} 7.85.

Silva, M. *et al*, *Analyst* (*London*), 1980, **105**, 193 (*detn, Ca*)

Di-2-pyridinylethanedione bis(2-pyridinylhydrazone), 9CI D-01066

2,2'-Pyridyl diketone di-2-pyridylhydrazone

[59158-23-5]



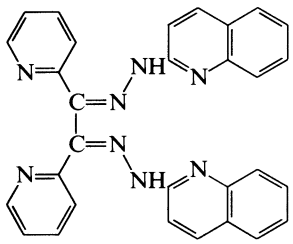
$C_{22}H_{18}N_8$ M 394.438

Used as 1m*M* EtOH soln. for photometric detn. of Fe(*II*) (λ_{max} 595 nm, ε 8300), Cu(*I*), Co, Ni, Zn. Cryst. (EtOH aq.). Sol. EtOH; sl. sol. H_2O. Mp 222-223°.

Schilt, A.A. *et al*, *Talanta*, 1975, **22**, 915 (*synth, use*)

Di-2-pyridinylethanedione bis(2-quinolinylhydrazone) D-01067

[107140-28-3]



$C_{30}H_{22}N_8$ M 494.557

Used as 0.5m*M* soln. in EtOH for photometric and fluorimetric detn. of Zn, Cd (λ_{max} 482 nm, ε 51000, pH 8, 80% EtOH); as 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 530 nm, ε 33000, 3*M* $HClO_4$). Yellow cryst. (EtOH). Sol. EtOH. Mp 149-152°.

[71954-21-7]

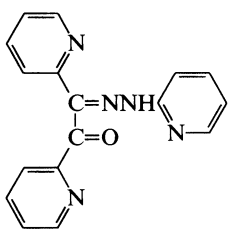
Kulshreshtha, H. *et al*, *Analyst (London)*, 1979, **104**, 572 (*synth, detn, Co*)

West, K.J. *et al*, *Talanta*, 1986, **33**, 807 (*synth, use*)

Di-2-pyridinylethanedione mono(2-pyridinylhydrazone), 9CI D-01068

Di-2-pyridylglyoxal mono-2-pyridylhydrazone

[59158-22-4]



$C_{17}H_{13}N_5O$ M 303.323

Used as 0.1% soln. in EtOH for photometric detn. of Co (λ_{max} 490 nm, ε 27000, pH 3-7), Cu(*I*), Ni, Zn, Fe(*II*). Cryst. (MeOH). Sol. EtOH, MeOH. Mp 108-109°.

Oxime: [71336-99-7].

$C_{17}H_{14}N_6O$ M 318.337

Used for photometric detn. of Co (λ_{max} 482 nm, ε 27400), Cu(*I*) (λ_{max} 470 nm, ε 21400), Fe(*II*), Ni (λ_{max} 460 nm, ε 18000). Cryst. (EtOH). Mp 237°.

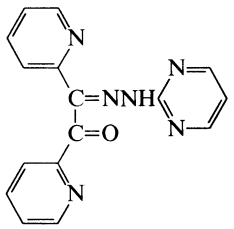
Chiswell, B. *et al*, *Inorg. Chem.*, 1964, **3**, 492.

Schilt, A.A. *et al*, *Talanta*, 1975, **22**, 915; 1979, **26**, 85 (*synth, use*)

Asuero, A.G. *et al*, *Microchem. J.*, 1987, **36**, 216 (*detn, Co*)

Di-2-pyridinylethanedione mono(2-pyrimidinylhydrazone), 9CI D-01069

[73569-04-7]



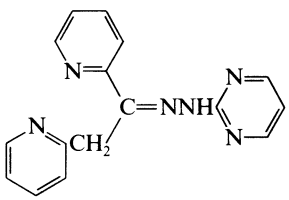
$C_{16}H_{12}N_6O$ M 304.310

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 462 nm, ε 24000), Cu(*I*) (λ_{max} 438 nm, ε 21200), Fe(*II*) (λ_{max} 613 nm, ε 8100), Ni (λ_{max} 445 nm, ε 35900). Cryst. (C_6H_6). Sol. common org. solvs. Mp 165°.

Schilt, A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, use*)

1,2-Di-2-pyridinylethanone 2-pyrimidinylhydrazone, 9CI D-01070

[73569-07-0]



$C_{16}H_{14}N_6$ M 290.327

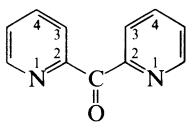
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 454 nm, ε 24700), Cu(*I*) (λ_{max} 442 nm, ε 17500), Fe(*II*) (λ_{max} 556 nm, ε 760), Ni (λ_{max} 429 nm, ε 37600). Cryst. (MeOH aq.). Sol. common org. solvs. Mp 126°.

Schilt, A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, use*)

Di-2-pyridinylmethanone, 9CI D-01071

Di-2-pyridyl ketone. 2-Pyridyl ketone, 8CI

[19437-26-4]



$C_{11}H_8N_2O$ M 184.197

Prisms (pet. ether). Mp 54-55°. $Bp_{0.4}$ 132-135°.

Picrate: Yellow cryst. (EtOAc). Mp 181-182°.

Oxime: [1562-95-4].

$C_{11}H_9N_3O$ M 199.212

Reagent for detn. of metal ions (Pd(*II*), Fe(*II*), Co(*III*) etc.). Needles (MeOH aq. or EtOAc). Mp 141-142.5°.

Ethylene ketal: [42772-86-1].

$C_{13}H_{12}N_2O_2$ M 228.250

Needles (pet. ether). Mp 164-166°.

Semicarbazone: Plates or needles (EtOH). Mp 220-221° (217-218°).

Hydrazone: [74804-05-0].

$C_{11}H_{10}N_4$ M 198.227

Used for fluorimetric detn. of Tc(*VII*), Cu (λ_{max} 435 nm), Hg, Pd, Ni. Cryst. (C_6H_6/pet. ether).

Phenylhydrazone: [75775-57-4].
$C_{17}H_{14}N_4$ M 274.324
Used for fluorimetric detn. of Tc(*VII*). Cryst. (EtOH). Sol. EtOH.

Guanylhydrazone: see *Di-2-pyridinylmethanone guanylhydrazone, D-01078*

2-Quinolylhydrazone: see *Di-2-pyridinylmethanone 2-quinolinylhydrazone, D-01082*

2-Pyrimidylhydrazone: see *Di-2-pyridinylmethanone 2-pyrimidinylhydrazone, D-01081*

2-Pyridylhydrazone: see *Di-2-pyridinylmethanone 2-pyridinylhydrazone, D-01080*

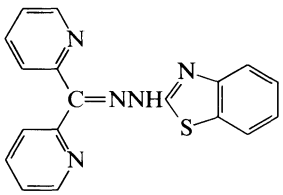
Benzoylhydrazone: see *Di-2-pyridinylmethanone benzoylhydrazone, D-01073*

Wibaut, J.P. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1951, **70**, 989, 1054 (*synth, derivs*)
Leete, E. *et al*, *Can. J. Chem.*, 1952, **30**, 563 (*synth, derivs*)
Holland, W.J. *et al*, *J. Anal. Chem. USSR* (*Engl. Transl.*), 1968, **40**, 433 (*oxime, use*)
Newkome, G.R. *et al*, *Tetrahedron Lett.*, 1973, 1599 (*acetal*)
Grases, F. *et al*, *Anal. Chim. Acta*, 1980, **119**, 359; 1981, **125**, 21; 1984, **161**, 359; **166**, 71 (*detn, Hg, Cu, Ni, Pd, Tc*)

Di-2-pyridinylmethanone 2-benzothiazolylhydrazone D-01072

2(3H)-Benzothiazolone (di-2-pyridinylmethylene)hydrazone, 9CI

[87468-62-0]



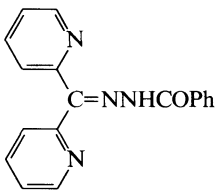
$C_{18}H_{13}N_5S$ M 331.400
Used as 2.5m*M* EtOH soln. for photometric detn. of Fe(*II*) (λ_{max} 427 nm, ε 34100, pH 4.9). Yellow needles (EtOH). Sol. EtOH. Mp 106-107°.

Singh, R.B. *et al*, *Analyst* (*London*), 1983, **108**, 1120 (*synth, detn, Fe*)

Di-2-pyridinylmethanone benzoylhydrazone D-01073

Benzoic acid (di-2-pyridinylmethylene)hydrazide, 9CI. Di-2-pyridyl ketone benzoylhydrazone

[101342-95-4]



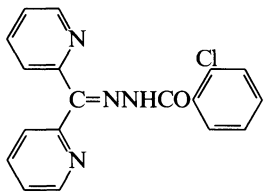
$C_{18}H_{14}N_4O$ M 302.335
Used as 1m*M* C_6H_6 soln. for extraction-photometric detn. of Pd(*II*), Fe(*II*) (λ_{max} 696 nm, ε 15900, pH 4.6-6). Cryst. (EtOH). Sol. EtOH, C_6H_6. Mp 136-137°. pK_a 1.18, pK_{a2} 10.9 (25°).

Nakanishi, T. *et al*, *Anal. Sci.*, 1985, **1**, 161 (*detn, Pd*)
Nakanishi, T. *et al*, *Microchem. J.*, 1986, **33**, 172 (*synth, detn, Fe*)

Di-2-pyridinylmethanone 2-chlorobenzoylhydrazone D-01074

2-Chlorobenzoic acid (di-2-pyridinylmethylene)hydrazide, 9CI. Di-2-pyridyl ketone 2-chlorobenzoylhydrazone

[93418-34-9]



$C_{18}H_{13}ClN_4O$ M 336.780
Used as 0.01*M* soln. in 4-methyl-2-pentanone or xylene for extraction separation of Cd, Co, Cu, Ni, Zn (pH 5-9). Cryst. Sol. 4-methyl-2-pentanone, xylene.

Tossidis, I.A. *et al*, *Chem. Chron.*, 1983, **12**, 181 (*synth*)
Arpadjan, S. *et al*, *Analyst* (*London*), 1988, **113**, 1699 (*use*)

Di-2-pyridinylmethanone 3-chlorobenzoylhydrazone D-01075

3-Chlorobenzoic acid (di-2-pyridinylmethylene)hydrazide, 9CI. Di-2-pyridyl ketone 3-chlorobenzoylhydrazone

[93418-35-0]

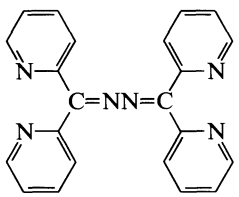
$C_{18}H_{13}ClN_4O$ M 336.780
Used as 0.01*M* soln. in 4-methyl-2-pentanone or xylene for extraction separation of Cd, Co, Cu, Ni, Zn (pH 5-9). Cryst. Sol. 4-methyl-2-pentanone, xylene.

Tossidis, I.A. *et al*, *Chem. Chron.*, 1983, **12**, 181 (*synth*)
Arpadjan, S. *et al*, *Analyst* (*London*), 1988, **113**, 1699 (*use*)

Di-2-pyridinylmethanone di-2-pyridinylmethylenehydrazone D-01076

Di-2-pyridylketone azine

[55671-79-9]



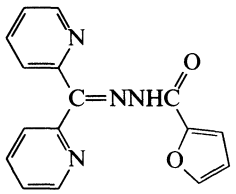
$C_{22}H_{16}N_6$ M 364.409
Used as soln. in EtOH for photometric detn. of Pd, Fe(*II*); as 0.1% soln. in EtOH for fluorimetric detn. of Cu(*II*) (λ_{max} 430 nm, 0.2-0.5 ppm, pH 4); Au(*III*). Yellow cryst. (C_6H_6). Sol. EtOH, C_6H_6; insol. H_2O. Mp 192°.

Valcarcel, M. *et al*, *Analyst* (*London*), 1975, **100**, 33 (*synth, detn, Fe*)
Garcia Vargas, M. *et al*, *An. Quim.*, 1978, **74**, 901 (*detn, Pd*)
Grases, F. *et al*, *Anal. Chim. Acta*, 1981, **125**, 21 (*synth, detn, Cu*)
Grases, F. *et al*, *Analusis*, 1981, **9**, 66 (*detn, Au*)

Di-2-pyridinylmethanone 2-furoylhydrazone D-01077

2-Furancarboxylic acid (di-2-pyridinylmethylene)hydrazide, 9CI

[97541-63-4]



$C_{16}H_{12}N_4O_2$ M 292.296

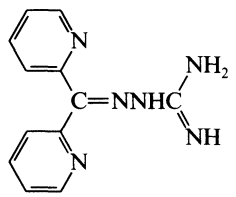
Used as 0.025*M* EtOH soln. for fluorimetric detn. of Al (λ_{max} 465 nm, 10-100 ng/ml, pH 6.1-6.5), Ga; as 0.1% EtOH soln. for photometric detn. of Fe(*II*) (λ_{max} 620 nm, ε 8400, pH 6-11). Yellow cryst. (EtOH). Sol. EtOH, DMF, $CHCl_3$. Mp 132-134°.

Garcia de Torres, A. *et al*, *Mikrochim. Acta*, 1984, **3**, 375 (*synth, detn, Fe*)
Salgado Ordonez, M. *et al*, *Talanta*, 1985, **32**, 887 (*synth, detn, Al*)
Salgado Ordonez, M. *et al*, *Analyst (London)*, 1988, **113**, 1283 (*detn, Ga*)

Di-2-pyridinylmethanone guanylhydrazone D-01078

Di-2-pyridylketone guanylhydrazone

[109173-47-9]



$C_{12}H_{12}N_6$ M 240.267

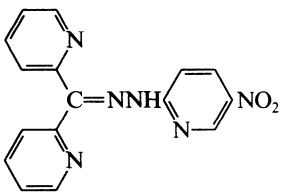
Used as 0.01*M* aq. soln. for photometric detn. of Co, Pd(*II*), Fe(*II*), Ni, Cu(*II*). Cryst. (EtOH aq.). Sol. H_2O, EtOH. Mp 143-147°.

Kavlentis, E., *Mikrochim. Acta*, 1986, **3**, 251 (*synth, use*)

Di-2-pyridinylmethanone 5-nitro-2-pyridylhydrazone D-01079

5-Nitro-2(1H)-pyridinone (di-2-pyridinylmethylene) hydrazone, 9CI

[117609-65-1]



$C_{16}H_{12}N_6O_2$ M 320.310

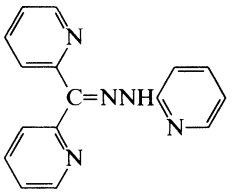
Used as 1m*M* soln. in 1,2-dichloroethane for extraction-photometric detn. of Pd (λ_{max} 560 nm, ε 38000). Yellow needles (EtOH). Sol. EtOH, 1,2-dichloroethane. Mp 172-173°.

Kanetake, T. *et al*, *Anal. Sci.*, 1988, **4**, 411 (*synth, detn, Pd*)

Di-2-pyridinylmethanone 2-pyridinylhydrazone, 9CI D-01080

2,2′-Bipyridyl ketone 2-pyridylhydrazone

[42838-37-9]



$C_{16}H_{13}N_5$ M 275.312

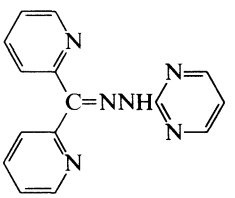
Used as a 0.01*M* soln. in EtOH for extraction-photometric detn. of Co (λ_{max} 480 nm, ε 32000), Cd, Fe(*II*), Zn, Pd. Cryst. (EtOH). Sol. EtOH, Me_2CO, C_6H_6; spar. sol. H_2O. Mp 138°.

Vasilikiotis, G.S. *et al*, *Anal. Chim. Acta*, 1974, **70**, 319 (*detn, Co*)
Alexaki-Tzivanidou, H. *et al*, *Anal. Chim. Acta*, 1975, **75**, 231 (*detn, Fe*)
Alexaki-Tzivanidou, H. *et al*, *Microchem. J.*, 1978, **23**, 329.
Kouimtzis, T.A. *et al*, *Anal. Chim. Acta*, 1980, **113**, 185.
Stratis, J.A. *et al*, *Analyst (London)*, 1984, **109**, 373 (*detn, Pd*)

Di-2-pyridinylmethanone 2-pyrimidinylhydrazone D-01081

2(1H)-Pyrimidinone di-(2-pyridinylmethylene)hydrazone, 9CI

[69557-87-5]



$C_{15}H_{12}N_6$ M 276.300

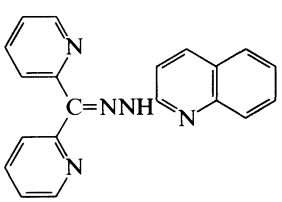
Used as a 0.01*M* or 5m*M* soln. in EtOH for photometric detn. of Co (λ_{max} 440, 460 nm, ε 29800), Fe(*II*), V, Zn; Ni (λ_{max} 437 nm, ε 45200), Cu(*I*) (λ_{max} 451 nm, ε 19900). Pale yellow cryst. (C_6H_6). Sol. EtOH, C_6H_6. Mp 160°.

Singh, R.B. *et al*, *Ann. Chim. (Rome)*, 1978, **68**, 1017 (*detn, V*)
Singh, R.B. *et al*, *Anal. Chim. Acta*, 1979, **104**, 191 (*detn, Co*)
Singh, R.B. *et al*, *Bull. Chem. Soc. Jpn.*, 1979, **52**, 3131 (*detn, Zn*)
Singh, R.B. *et al*, *Indian J. Chem., Sect. A*, 1979, **17**, 318 (*detn, Fe(II)*)
Schlit, A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, use*)

Di-2-pyridinylmethanone 2-quinolinylhydrazone D-01082

2(1H)-Quinolinone (di-2-pyridinylmethylene)hydrazone, 9CI

[69633-16-5]



$C_{20}H_{15}N_5$ M 325.372

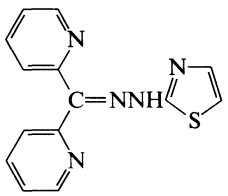
Used for extraction (1m*M* soln. in C_6H_6) photometric (1m*M* soln. in EtOH) detn. of Cd, Co (λ_{max} 513 nm, ε 35200), Cu, Fe (λ_{max} 465 nm, ε 19100), Hg, Pd, Zn (λ_{max} 480 nm, C_6H_6), Ni. Light yellow cryst. (ligroin). Sol. EtOH, C_6H_6. Mp 155-156°. pKa_1 12.19; pK_{a2} 5.57; pK_{a3} 2.48 (20% EtOH aq.).

Singh, R.B. *et al*, *Talanta*, 1978, **26**, 898 (*synth, detn, Co*)
Singh, R.B. *et al*, *Analyst (London)*, 1979, **104**, 1188 (*detn, Zn*)
Otomo, M., *Anal. Chim. Acta*, 1980, **116**, 161.
Otomo, M. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1982, **31**, E21.
Schilt, A.A. *et al*, *Talanta*, 1982, **29**, 338 (*synth, use*)

Di-2-pyridinylmethanone 2-thiazolylhydrazone D-01083

Di-2-pyridyl ketone 2-thiazolylhydrazone

[73568-91-9]



$C_{14}H_{11}N_5S$ M 281.340

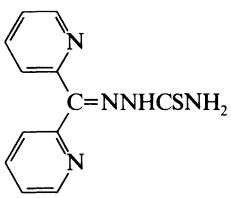
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 493 nm, ε 26000), Cu(*I*) (λ_{max} 478 nm, ε 18000), Fe(*II*) (λ_{max} 600 nm, ε 12300), Ni (λ_{max} 460 nm, ε 41000). Cryst. (MeOH). Sol. common org. solvs. Mp 135°.

Schilt, A.A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, use*)

Di-2-pyridinylmethanone thiosemicarbazone D-01084

Di-2-pyridyl ketone thiosemicarbazone

[6839-91-4]



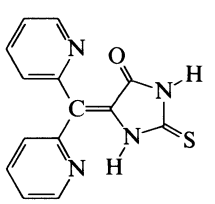
$C_{12}H_{11}N_5S$ M 257.318

Used as a 0.1% soln. in EtOH for photometric detn. of Cu (λ_{max} 395 nm, ε 11300), Fe(*II*) (λ_{max} 620 nm, ε 9300), Ni (λ_{max} 395 nm, ε 19600), Hg(*II*)(λ_{max} 380 nm, ε 20800). Cryst. (EtOH aq.). Sol. EtOH, Me_2CO, C_6H_6; sl. sol. H_2O. Mp 200-202°. pKa_1 3.40; pK_{a2} 11.25.

Martinez, M.P. *et al*, *Anal. Chim. Acta*, 1976, **81**, 157.
Gallardo Cespedes, A. *et al*, *Microchem. J.*, 1984, **30**, 105 (*detn, Hg*)

5-(Di-2-pyridinylmethylene)-2-thioxo-4-imidazolidinone, 9CI D-01085

[69580-23-0]



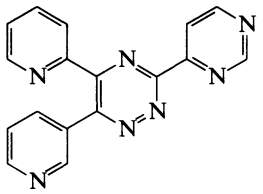
$C_{14}H_{10}N_4OS$ M 282.325

Used as 7m*M* DMF soln. for photometric detn. of Ag, Au(*III*) (λ_{max} 295 nm, ε 24000). Yellow cryst. (EtOH). Sol. EtOH, DMF. Mp 205° dec.

Montana Gonzalez, M.T. *et al*, *Talanta*, 1978, **25**, 331 (*synth, detn, Ag, Au*)

5,6-Di-2-pyridinyl-3-(4-pyrimidinyl)-1,2,4-triazine D-01086

[18091-52-6]



$C_{17}H_{11}N_7$ M 313.321

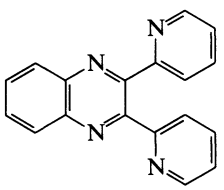
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 450 nm), Cu(*I*) (λ_{max} 512 nm), Fe(*II*) (λ_{max} 593 nm, ε 7000). Cryst. (DMF aq.). Sol. C_6H_6, dil. HCl. Mp 198-199°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **5**, 223 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*use*)

2,3-Di-2-pyridinylquinoxaline, 9CI D-01087

2,3-Bis(2-pyridyl)quinoxaline

[23309-74-2]



$C_{18}H_{12}N_4$ M 284.320

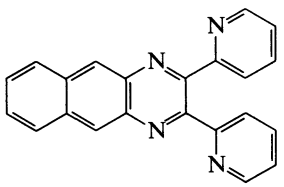
Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 515 nm, ε 3250, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 184°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)

2,3-Di-2-pyridylbenzo[g]quinoxaline, 8CI D-01088

2,3-Bis(2-pyridyl)-6,7-benzquinoxaline

[857-48-7]



$C_{22}H_{14}N_4$ M 334.379

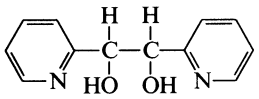
Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 544 nm, ε 3180, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 172°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)

1,2-Di-2-pyridyl-1,2-ethanediol, 9CI D-01089

1,2-Bis(2-pyridyl)ethyleneglycol. 1,2-Di-2-pyridylglycol

[1141-05-5]



$C_{12}H_{12}N_2O_2$ M 216.239

Used for photometric detn. of Cu, Fe(*III*). Sol. Me_2CO, EtOH.

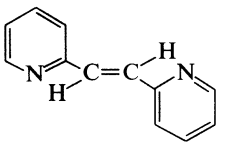
[5486-06-6]

Bhat, A.N. *et al*, *Indian J. Appl. Chem.*, 1966, **29**, 64 (*detn, Fe*)
Bhat, A.N. *et al*, *Proc. - Indian Acad. Sci., Sect. A*, 1968, **67**, 208; *CA*, **69**, 83164e (*detn, Cu*)

1,2-Di(2-pyridyl)ethylene D-01090

2,2'-(1,2-Ethenediyl)bispyridine, 9CI. 2,2'-Vinylenedipyridine, 8CI. 1,2-Bis(2-pyridyl)ethylene. 2,2'-Diazastilbene

[1437-15-6]



(*E*)-*form*

$C_{12}H_{10}N_2$ M 182.224

Used as 5% AcOH soln. in photometric detn. of H_2O_2 (λ_{max} 442 nm, ε 34000); as a 10% soln. in EtOH for gravimetric detn. of Cd. Sol. EtOH, Me_2CO.

(*E*)-*form* [13341-40-7]

Prisms. Mp 118-119°.

B,HCl: Mp 240°.

N,N'-*Dioxide:*

$C_{12}H_{10}N_2O_2$ M 214.223

Cryst. (Me_2CO aq.). Mp 235-236°.

(*Z*)-*form* [14802-37-0]

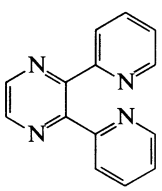
Needles. Mp 48-48.5°.

Katsumoto, T., *Bull. Chem. Soc. Jpn.*, 1959, **32**, 1019 (*synth, isom, ir, uv*)
Maruszewska-Wieczorkowska, E. *et al*, *Pol. J. Chem.* (*Rocz. Chem.*), 1964, **38**, 625 (*synth*)
Perkampus, H.H. *et al*, *Spectrochim. Acta*, 1964, **20**, 359 (*ir*)
Michalski, J. *et al*, *Bull. Acad. Pol. Sci., Ser. Sci. Chim.*, 1966, **14**, 505; *CA*, **66**, 37742g (*dioxide*)
Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1967, **228**, 334 (*detn, Cd*)
Favini, G. *et al*, *Gazz. Chim. Ital.*, 1967, **97**, 1434 (*isom, uv*)
Hauser, T.R. *et al*, *Anal. Chem.*, 1968, **40**, 231 (*detn, H_2O_2*)
Coletta, F. *et al*, *Spectrosc. Lett.*, 1976, **9**, 469 (*cmr*)
Vansant, J. *et al*, *J. Org. Chem.*, 1980, **45**, 1557 (*cryst struct*)

2,3-Di-2-pyridylpyrazine, 8CI D-01091

2,3-Bis(2-pyridyl)pyrazine

[25005-96-3]



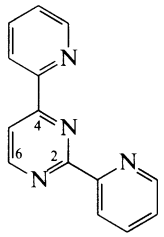
$C_{14}H_{10}N_4$ M 234.260

Used as a 5m*M* soln. in aq. HCl gives colour reaction with Cu(*I*). Yellow-orange cryst. (hexane). Sol. EtOH, C_6H_6; sl. sol. dil. acids. Mp 168°.

Stephen, W., *Talanta*, 1969, **16**, 939 (*use*)

2,4-Di-2-pyridylpyrimidine, 8CI D-01092

[10198-71-7]



$C_{14}H_{10}N_4$ M 234.260

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co, Cu(*I*), Fe(*II*) (λ_{max} 550 nm, ε 9700). Cryst. (Et_2O). Sol. Et_2O, Me_2CO, C_6H_6; mod. sol. EtOH.

Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn, CO, Cu, Fe*)

4,6-Di-2-pyridylpyrimidine, 8CI D-01093

[10198-91-1]

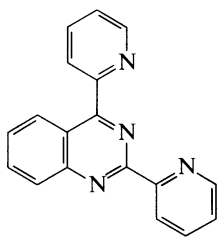
$C_{14}H_{10}N_4$ M 234.260

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 488 nm, ε 6400), Fe(*II*) (λ_{max} 571 nm, ε 7800). Cryst. (Et_2O). Sol. common org. solvents. Mp 113-114°.

Lafferty, J.J. *et al*, *J. Org. Chem.*, 1967, **32**, 1591 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn, Cu, Fe*)

Di-2-pyridylquinazoline, 8CI D-01094

[10198-95-5]



$C_{18}H_{12}N_4$ M 284.320

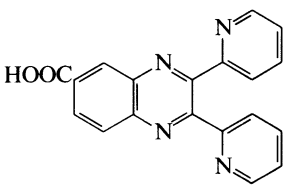
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 658 nm, ε 10900), Cu(*I*) (λ_{max} 481 nm, ε 4600). Cryst. (cyclohexane). Sol. C_6H_6, dil. HCl. Mp 139-140°.

Lafferty, J.J. *et al*, *J. Org. Chem.*, 1967, **32**, 1591 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn, Cu, Fe*)

2,3-Di-2-pyridyl-6-quinoxalinecarboxylic acid, 8CI D-01095

2,3-Bis(2-pyridyl)-6-carboxyquinoxaline

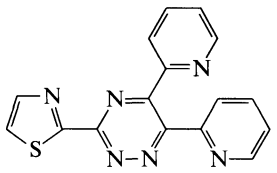
[17401-74-0]



$C_{19}H_{12}N_4O_2$ M 328.329
Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 535 nm, ε 3750, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 241°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)

5,6-Di-2-pyridyl-3-(2-thiazolyl)-1,2,4-triazine D-01096

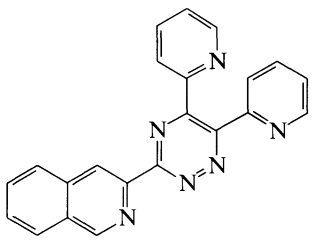


$C_{16}H_{10}N_6S$ M 318.361
Used as 0.01*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 584 nm, ε 10000). Cryst. (DMF). Sol. EtOH, DMF. Mp 233-234°.

Case, F.H., *J. Org. Chem.*, 1965, **30**, 931 (*synth*)
Schilt, A.A., *Talanta*, 1966, **13**, 895 (*detn, Fe*)

3-(5,6-Di-2-pyridyl-1,2,4-triazin-3-yl) isoquinoline, 8CI D-01097

3-(3-Isoquinolyl)-5,6-di-2-pyridyl-1,2,4-triazine
[17583-55-0]

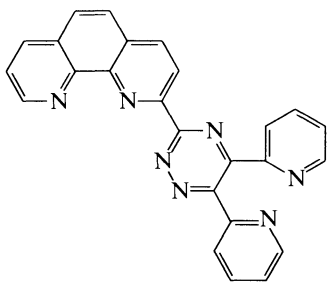


$C_{22}H_{14}N_6$ M 362.393
Used as 5m*M* soln. in aq. EtOH to give colour reactions with Co, Cu(*I*); photometric detn. of Fe(*II*) (λ_{max} 569 nm, ε 1950). Cryst. (EtOH). Sol. common org. solvs. Mp 221-222°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 483 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

2-[5,6-Di-(2-pyridyl)-1,2,4-triazin-3-yl]-1,10-phenanthroline D-01098

3-[2-(1,10-Phenanthrolyl)]-5,6-di-2-pyridyl-1,2,4-triazine

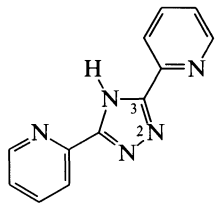


$C_{25}H_{15}N_7$ M 413.440
Used as 0.01*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 614 nm, ε 10600), Cu(*I*) (λ_{max} 475 nm, ε 2500). Cryst. (EtOH). Sol. EtOH. Mp 215-216°.

Case, F.H., *J. Org. Chem.*, 1965, **30**, 931 (*synth*)
Schilt, A.A., *Talanta*, 1966, **13**, 895 (*detn, Fe, Cu*)

3,5-Di-2-pyridyl-1,2,4-triazole D-01099

2,2'-(1H-1,2,4-Triazole-3,5-diyl)bispyridine, 9CI
[1671-85-8]



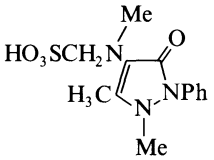
$C_{12}H_9N_5$ M 223.237
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 455 nm, ε 3600, EtOH aq.). Cryst. (H_2O). Sol. common org. solvs. Mp 208-209°.

2,3-Dihydro: 3,5-Di-2-pyridyl-1,2,4-triazoline
$C_{12}H_{11}N_5$ M 225.252
Used as a 5m*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 520 nm, ε 9400). Cryst. (EtOH). Sol. common org. solvs. Mp 139°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

Dipyrone, BAN, USAN D-01100

[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1H-pyrazol-4-yl) methylamino]methanonesulfonic acid, 9CI.
(Antipyrinylmethylamino)methanesulfonic acid, 8CI.
Diprofarn. Analgin. Methampyrone. Noramidopyrine methanesulfonate. Sulpyrin. Numerous proprietary names
[50567-35-6]



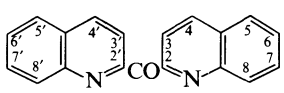
$C_{13}H_{17}N_3O_4S$ M 311.361
Analgesic, antipyretic, usually as the Na salt. Insol. Et_2O, Me_2CO, C_6H_6, $CHCl_3$.

Na salt: [68-89-3]. *Metamizole sodium, INN*
Used as a 20% aq. soln. for photometric detn. of Fe (λ_{max} 440 nm). Minute cryst. + $1H_2O$ (EtOH). Sol. H_2O.
▷ PB1300000.

Hungarian Pat., 151 986, (1965); *CA*, **63**, 8370h (*synth*)
Fayez, K. *et al*, *Analyst* (*London*), 1970, **95**, 614 (*detn, Fe*)
Murthy, H.M.K. *et al*, *Curr. Sci.*, 1977, **46**, 221 (*cryst struct*)
Ovcharov, R. *et al*, *Symp. Proc. Moscow*, (Eds.), Schattauer, Stuttgart, 1978, 1980 (*book*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2638.
Jiang, J. *et al*, *CA*, 1983, **99**, 105170 (*synth*)
Marciniec, B. *et al*, *Pharmazie*, 1985, **40**, 110 (*ms*)
Roth, H.J. *et al*, *Agents Actions Suppl.*, 1986, **19**, 205 (*rev, metab*)
Negwer, M.. *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 2830 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AMK500.

Di-2-quinolinylmethanone, 9CI D-01101

Di-2-quinolyl ketone. 2-Quinolyl ketone
[58346-55-7]

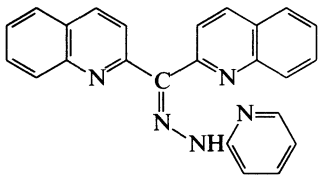


$C_{19}H_{12}N_2O$ M 284.317
Light-brown prisms (C_6H_6), prisms (EtOH). Mp 166-167°.
Oxime: [33240-99-2]. *2,2'-Diquinolylketoxime*
$C_{19}H_{13}N_3O$ M 299.331
Used as a 0.1% soln. in EtOH for extraction-photometric detn. of Co (λ_{max} 365 nm, ε 53000, C_6H_6). Prisms. Mp 205-206°.
Phenylhydrazone: Mp 199°.
Anil:
$C_{25}H_{17}N_3$ M 359.429
Yellow cryst. Mp 161°.

Scheibe, G. *et al*, *Ber.*, 1922, **55**, 3157 (*synth*)
Gilman, H. *et al*, *J. Org. Chem.*, 1957, **22**, 565 (*synth*)
Hamana, M. *et al*, *Chem. Pharm. Bull.*, 1963, **11**, 415 (*synth, ir*)
Stupavsky, S. *et al*, *Mikrochim. Acta*, 1971, 559 (*oxime, detn, Co*)

Di-2-quinolinylmethanone 2-pyridinylhydrazone D-01102

2(1H)-Pyridinone di-(2-quinolinylmethylene)hydrazone, 9CI
[73233-14-4]

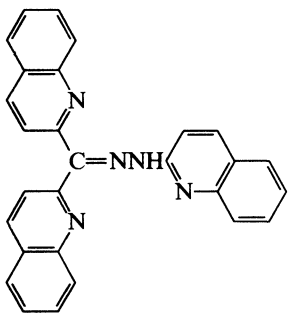


$C_{24}H_{17}N_5$ M 375.432
Used as 0.1% soln. in EtOH for extraction-photometric detn. of Pd (λ_{max} 624 nm, ε 19500, $CHCl_3$). Yellow needles (EtOH). Sol. alcohols. Mp 197-198.5°.

Beaupré, P.W. *et al*, *Mikrochim. Acta*, 1979, **II**, 479 (*synth, use*)

Di-2-quinolinylmethanone 2-quinolinylhydrazone D-01103

2(1H)-Quinolinone di-2-quinolinylmethylenehydrazone, 9CI
[101342-96-5]

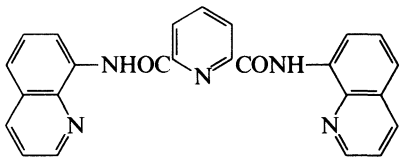


$C_{28}H_{19}N_5$ M 425.492
Used as 4 m*M* soln. in C_6H_6 for extraction-photometric detn. of Cd (λ_{max} 552 nm, ε 91500). Yellow needles (EtOH). Sol. C_6H_6, EtOH. Mp 221°.

Otomo, M. *et al*, *Anal. Sci.*, 1985, **1**, 165 (*synth, detn, Cd*)

N,N'-Di-(8-quinolinyl)-2,6-pyridinedicarboxamide, 9CI D-01104

2,6-Bis[N-(*8-quinolyl*)*carbamoyl*]*pyridine*
[132734-56-6]

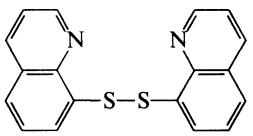


$C_{25}H_{17}N_5O_2$ M 419.442
Used as 1m*M* $CHCl_3$ soln. for highly selective extraction sepn. of Cu (*II*) (pH 6.2). Cryst. ($C_6H_6/CHCl_3$). Sol. $CHCl_3$, C_6H_6. Mp 290-292.5°.

Hiratani, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1990, **63**, 3331 (*synth, detn, Cu*)

Di-8-quinolyl disulfide D-01105

8,8'-Dithiobisquinoline, 9CI
[1160-28-7]



$C_{18}H_{12}N_2S_2$ M 320.438
Used as a collector in preconcentration of microamounts of heavy metals; used as a 0.2% soln. in $CHCl_3$ for extraction-photometric detn. of Cu(*I*). Cryst. (toluene). Sol. C_6H_6, toluene $CHCl_3$; insol. weak acids, alkalis, H_2O. Mp 206°.

Shevchuk, I.A. *et al*, *CA*, 1961, **55**, 24752d (*synth, detn, Cu*)
Bankovsky, Yu.A. *et al*, *Talanta*, 1987, **34**, 179.

1,3-Di-2-selenophenyl-1,3-propanedione D-01106

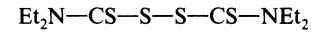
Diselenoylmethane

$C_{11}H_8O_2Se_2$ M 330.103
Used as a satd. soln. in EtOH for extraction-photometric detn. of Cu (λ_{max} 385 nm, ε 29500, $CHCl_3$). Yellow cryst. (MeOH). Sol. common org. solvs. Mp 107-108°.

Yurev, Y.K. *et al*, *Zh. Obshch. Khim.*, 1961, **31**, 1449 (*synth, detn, Cu*)

Disulfiram, BAN, INN, USAN D-01107

Tetraethyl thioperoxydicarbonic diamide, 9CI. Bis(diethylthiocarbamyl) disulfide, 8CI. Tetraethylthiuram disulfide. Antabuse. Ethyldithiourame. Dicupral. Mercupral. Numerous proprietary names
[97-77-8]



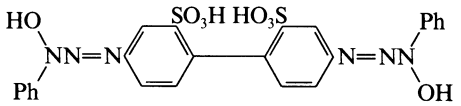
$C_{10}H_{20}N_2S_4$ M 296.545
Fungicide, insecticide, bactericide, rubber vulcanisation accelerator, used in treating alcoholism (alcohol deterrent). Used as 0.01*M* EtOH soln. in photometric detn. of Cu (ε 23000), gravimetric detn. of Se. Yellow-white cryst. Sol. CS_2, $CHCl_3$, C_6H_6, EtOH. Mp 70°.
▷ Toxic, exp. carcinogen. TLV 2. JO1225000.

Michal, J. *et al*, *Collect. Czech. Chem. Commun.*, 1955, **20**, 305 (*use, Cu, Se*)

Michal, J. *et al*, *Zh. Anal. Khim.*, 1959, **14**, 422 (*detn, Cu*)
Bilikova, A. *et al*, *Chem. Listy*, 1965, **59**, 91 (*detn, Cu*)
Yoshida, H. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1967, **16**, 605 (*use*)
Liegeois, R.L. *et al*, *Ind. Chim. Belg.*, 1967, **32**, 189; *CA*, **70**, 120786c.
Madsen, J.O. *et al*, *J. Org. Chem.*, 1967, **32**, 2054 (*ms*)
Drost, R.H. *et al*, *Pharm. Weekbl.*, 1970, **105**, 1129 (*uv*)
Brinkhoff, H.C. *et al*, *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1970, **89**, 11 (*nmr*)
Nash, N.G. *et al*, *Anal. Profiles Drug Subst.*, 1975, **4**, 168 (*rev, synth*)
Kellner, R., *Mikrochim. Acta*, 1975, **II**, 369 (*ir*)
de Saint-Blanquat, G. *et al*, *J. Pharmacol.*, 1976, **7**, 393 (*rev, pharmacol*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 569.
Van Gaal, H.L.M. *et al*, *Inorg. Chem.*, 1979, **18**, 3251 (*cmr*)
Eneanya, D.I. *et al*, *Annu. Rev. Pharmacol. Toxicol.*, 1981, **21**, 575 (*rev, pharmacol, tox*)
Peachey, J.E. *et al*, *Pharmacol. Ther.*, 1981, **15**, 89 (*rev, pharmacol*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2731.
Brien, J.F. *et al*, *Drug Metab. Rev.*, 1983, **14**, 113 (*rev, metab*)
Wang, Y. *et al*, *Acta Crystallogr., Sect. C*, 1986, **42**, 1420 (*cryst struct*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1767 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DXH250.

1,1′-(2,2′-Disulfo-4,4′-biphenylene)bis(3-hydroxy-3-phenyltriazene) D-01108

4,4′-Bis(3-hydroxy-3-phenyl-1-triazeno)-2,2′-biphenyldisulfonic acid, 9CI



$C_{24}H_{20}N_6O_8S_2$ M 584.589

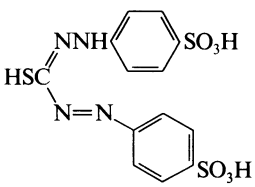
Di-Na salt: [27956-02-1].
Used as a 0.5% aq. soln. for photometric detn. of Mo (λ_{max} 420 nm), Pd (λ_{max} 430 nm). Creamy yellow cryst. Sol. H_2O; sl. sol. EtOH.

Krishnaswamy, N. *et al*, *Fresenius' Z. Anal. Chem.*, 1970, **249**, 241 (*detn, Mo, Pd*)

4,4′-Disulfodithizone D-01109

Di-(p-*sulfophenyl*)*thiocarbazone. (4-Sulfophenyl) diazenecarbothioic acid 1-[2-(4-sulfophenyl)hydrazide], 9CI*

[32476-08-7]



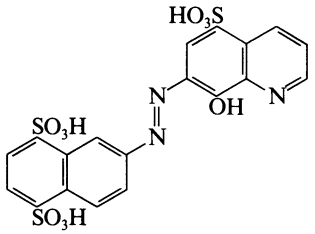
$C_{13}H_{12}N_4O_6S_3$ M 416.459
Dark green cryst. powder. Sol. H_2O. pK_{a1} 3.6; pK_{a2} 8.9 (μ = 0.1).

Di-Na salt: [61161-43-1].
Used as aq. soln. for extraction-photometric detn. of Ag, Bi, Cd, Hg, Pb, Sb, Sn.

Pilipenko, A.T. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1971, **37**, 50 (*use*)
Arendaryuk, E.N. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1978, **44**, 1096 (*use*)

7-(5,8-Disulfo-2-naphthylazo)-8-hydroxy-5-quinolinesulfonic acid D-01110

Naphthylazoxine 5,8S



$C_{19}H_{13}N_3O_{10}S_3$ M 539.524
Used as a 0.16% aq. soln. for photometric detn. of Sc (λ_{max} 420 nm, ε 14500). Dark red cryst. Sol. H_2O.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 1069 (*detn, Sc*)

1,4-Dithiane, 9CI D-01111

p-*Dithiane, 8CI*

[505-29-3]

$C_4H_8S_2$ M 120.239
Gives colour reaction with $HgCl_2$. Monoclinic prisms. Sol. EtOH, Et_2O, Me_2CO, AcOH; spar. sol. H_2O. Mp 112-113°. Bp 199-200°. Subl. at r.t., volatile in steam and EtOH.

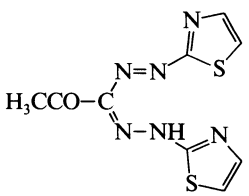
1,1-Dioxide:
$C_4H_8O_2S_2$ M 152.238
Mp 200°.

Org. Synth., Coll. Vol., 4, 1963, 396 (*synth*)
Hunter, G. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1978, **use**, 712 (*pmr*)
Sandell, E.A. *et al*, *Photometric Determination of Traces of Metals*, Wiley, New York, 1978 (*use*)

1-(1,5-Di-2-thiazolylformazanyl)ethanone, 9CI D-01112

1-(2-Thiazolylazo)-1-(2-thiazolylhydrazino)-2-propanone

[109328-98-5]



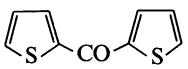
$C_9H_8N_6OS_2$ M 280.334
Used as soln. in 50% dioxan to give colour reactions with Cu, Ni, Zn, Co, Cd (suitable for photometric detns.). Red cryst. Sol. dioxan; spar. sol. H_2O. Mp 155° dec. pK_{a1} 1.91; pK_{a2} 6.05 (1% dioxan).

Ishizuki, T. *et al*, *Anal. Chim. Acta*, 1988, **212**, 253 (*synth, use*)

Di-2-thienyl ketone, 8CI D-01113

Di-2-thienylmethanone, 9CI. 2,2′-Dithienone

[704-38-1]



$C_9H_6OS_2$ M 194.278

Needles (EtOH). Mp 90-90.5°. Bp 326°.

▷ XJ9800000.

Phenylhydrazone: Mp 137°.

Oxime: [10558-44-8]. *Di(2-thenoyl)ketoxime*

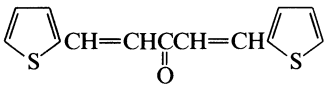
$C_9H_7NOS_2$ M 209.292

Used as a 2% sol. in EtOH for gravimetric detn. of Au, Pd; nephelometric detn. of Pd. Needles (EtOH aq.). Sol. Et_2O, Me_2CO. Mp 134-136°.

Thomas, P. *et al*, *Bull. Soc. Chim. Fr.*, 1918, **23**, 290.
Steinkopf, W. *et al*, *Justus Liebigs Ann. Chem.*, 1932, **495**, 162.
Holland, W.J. *et al*, *Can. J. Chem.*, 1963, **41**, 1657; 1964, **42**, 1016 (*synth, neph detn, Pd*)
Holland, W.J. *et al*, *Anal. Chem.*, 1966, **38**, 919 (*grav detn, Pd*)
Holland, W.J. *et al*, *Anal. Chim. Acta*, 1968, **41**, 327 (*detn, Au*)
Benassi, R. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1989, 1741 (*cryst struct, cmr, conformn*)

1,5-Di-2-thienyl-1,4-pentadien-3-one, 9CI D-01114

[886-78-2]



$C_{13}H_{10}OS_2$ M 246.353

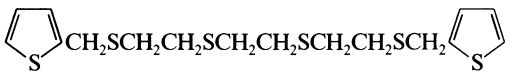
Used as 1m*M* soln. in AcOH as an acid-base indicator for photometric titration of bases. Cryst. Sol. AcOH. pK_a 2.09.

Sarbar, M. *et al*, *Talanta*, 1986, **33**, 907 (*synth, use*)

1,12-Di-2-thienyl-2,5,8,11-tetrathiadodecane D-01115

2,2′-(2,5,8,11-Tetrathiadodecane-1,12-diyl)bisthiophene, 9CI

[107396-38-3]



$C_{16}H_{22}S_6$ M 406.746

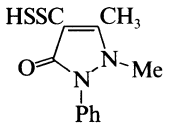
Used as 1m*M* soln. in 1,2-dichloroethane for selective extraction separation of Ag, Cu(*I*), Hg(*II*). Cryst. (CCl_4/hexane). Sol. 1,2-dichloroethane, toluene, hexane, 4-methyl-2-pentanone. Mp 50.8-51.6°.

Lachowicz, E. *et al*, *Anal. Chim. Acta*, 1986, **188**, 239 (*synth, use*)
Lachowicz, E. *et al*, *Analyst (London)*, 1987, **112**, 1623 (*detn, Ag*)

Dithioantipyric acid, 8CI D-01116

Antipyrine-4-dithiocarboxylic acid

[3777-74-0]



$C_{12}H_{12}N_2OS_2$ M 264.372

Used as 1% soln. in aq. NH_3 for indirect extraction-photometric detn. of Bi, Pb, Tl. Cryst. Sl. sol. H_2O; sol. alkalis.

Janik, B. *et al*, *Mikrochim. Acta*, 1970, 1050 (*use*)

Dithiobenzoic acid D-01117

Benzenecarbodithioic acid, 9CI. Thiolthionobenzoic acid

[121-68-6]

PhCSSH

$C_7H_6S_2$ M 154.256

Used in photometric detn. of Ir. Heavy dark-red-violet oil. Resinifies on standing in air.

Me ester: [2168-78-7].
$C_8H_8S_2$ M 168.283
Red oil. Bp 275-280°.

Et ester: [936-63-0].
$C_9H_{10}S_2$ M 182.310
Bp_{15} 155-160°.

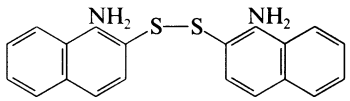
Ph ester: [949-00-8].
$C_{13}H_{10}S_2$ M 230.354
Red cryst. (EtOH). Mp 61-62°.

Houben, J., *Ber.*, 1906, **39**, 3219.
Gilman, H., *J. Am. Chem. Soc.*, 1926, **48**, 2718.
Kjaer, A., *Acta Chem. Scand.*, 1950, **4**, 1347.
Ger. Pat., 1 274 121, (1968); *CA*, **70**, 3573.
Golubev, V.N. *et al*, *Zavod. Lab.*, 1975, **41**, 1063 (*use*)
Gotthardt, H., *Chem. Ber.*, 1976, **109**, 740.
Yokoyama, M. *et al*, *Synthesis*, 1984, 827 (*synth*)

2,2′-Dithiobis[1-naphthaleneamine], 9CI D-01118

2,2′-Dithiobis(1-aminonaphthalene). Bis(1-amino-2-naphthyl) disulfide. DTAN

[38262-57-6]



$C_{20}H_{16}N_2S_2$ M 348.492

Reagent for fluorimetric anal. of aromatic aldehydes. Mp 132-133°.

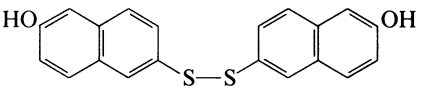
N,N′-*Di-Ac:* [38262-58-7].
$C_{24}H_{20}N_2O_2S_2$ M 432.566
Mp 202°.

Jacobson, P., *Ber.*, 1887, **20**, 1899 (*synth*)
Cockerill, A.F. *et al*, *Tetrahedron Lett.*, 1972, 3059 (*synth*)
Ohkura, Y. *et al*, *Anal. Chim. Acta*, 1978, **99**, 317; 1979, **110**, 335 (*use*)

6,6′-Dithiobis[2-naphthalenol], 9CI D-01119

2,2′-Dihydroxy-6,6′-dinaphthyl disulfide. DDD

[6088-51-3]



$C_{20}H_{14}O_2S_2$ M 350.461

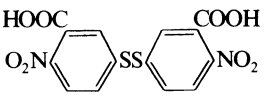
Reacts with thiol groups in biomaterials to give strong fluorescence. Useful in the detn. of active SH and SS groups in amino acids, peptides and proteins. Needles (AcOH). Prac. insol. H_2O; sol. EtOH, AcOH; v. sol. C_6H_6. Mp 220-221°.

Zincke, T. *et al*, *Ber.*, 1918, **51**, 352 (*synth*)
Barnett, R.J. *et al*, *Science (Washington, D.C.)*, 1952, **116**, 323 (*use*)
Pomeranz, Y. *et al*, *Anal. Chim. Acta*, 1962, **26**, 301 (*use*)
Esterbauer, H. *et al*, *Acta Histochem.*, 1972, **42**, 351; 1973, **47**, 94 (*use*)
Noehammer, G., *Histochemistry*, 1982, **75**, 219 (*use*)

3,3′-Dithiobis[6-nitrobenzoic acid], 9CI, 8CI D-01120

4,4′-Dinitrodiphenyl disulfide 3,3′-dicarboxylic acid. 5,5′-Dithiobis[2-nitrobenzoic acid]. Ellman's reagent. DTNB

[69-78-3]



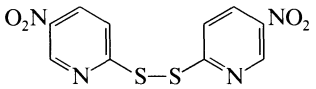
$C_{14}H_8N_2O_8S_2$ M 396.358
Colorimetric reagent for detn. of SH groups. Used in photometric detn. of $SO_3^{2\ominus}$. Mp 238°.

Ellman, G.L., *Arch. Biochem. Biophys.*, 1959, **82**, 70 (*synth*)
Deakin, H. *et al*, *Biochem. J.*, 1963, **89**, 296 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 351 (*use*)
Humphrey, R.E. *et al*, *Anal. Chem.*, 1970, **42**, 698 (*detn*, $SO_3^{2\ominus}$)
Higashi, L.S. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 8101 (*struct*)

2,2′-Dithiobis[5-nitropyridine], 9CI D-01121

DTNP. 5,5′-Dinitro-2,2′-pyridinedisulfide. Bis(3-nitropyridyl) disulfide

[2127-10-8]



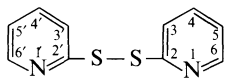
$C_{10}H_6N_4O_4S_2$ M 310.314
Selective reagent for the detn. of thiols. Commercially available. Needles (MeOH). Mp 155-157°.

Rath, C., *Justus Liebigs Ann. Chem.*, 1931, **487**, 105 (*synth*)
Grassetti, D.R. *et al*, *J. Med. Chem.*, 1965, **8**, 753 (*synth*)
Grassetti, D.R. *et al*, *J. Chromatogr.*, 1969, **41**, 121 (*use*)
Swatditat, A. *et al*, *Anal. Biochem.*, 1972, **45**, 349 (*use*)
Laurell, C.B., *J. Chromatogr.*, 1978, **159**, 25 (*use*)
Anisimov, A.V. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 2248 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DXL200.

2,2′-Dithiobispyridine, 9CI D-01122

2,2′-Dipyridyl disulfide. Aldrithiol 2

[2127-03-9]



$C_{10}H_8N_2S_2$ M 220.319
Reagent for peptide coupling and macrocyclic lactonisation of ω-hydroxy acids and selective reagent for detecting thiols. Used as a 1m*M* soln. in EtOH for photometric detn. of $S^{2\ominus}$. Cryst. Sol. H_2O, EtOH, Me_2CO, C_6H_6. Mp 57-58°.

N,N′-*Dioxide:* [3696-28-4]. ***Dipyrithione*, USAN, INN.** *Omadine disulfide. OMDS*
$C_{10}H_8N_2O_2S_2$ M 252.317
Antibacterial, antifungal agent. Mp 200-201° dec.

N,N′-*Dioxide, $MgSO_4$ complex:* [67182-81-4]. *Bispyrithione magsulfex, USAN.* [*2,2′-Dithiobis*[*pyridine*] *1,1′-dioxide-O,O′,S*][*sulfato*(*2−*)-O]*magnesium, 9CI. Omadine MDS*
$C_{10}H_8MgN_2O_6S_3$ M 372.686
Antibacterial, antidandruff and antifungal agent.

Räth, C., *Justus Liebigs Ann. Chem.*, 1931, **487**, 105 (*synth*)
Canadian Pat., 501 851, (1954); *CA*, **50**, 6740 (*deriv*)
U.S. Pat., 2 742 476, (1956); *CA*, **50**, 16877c (*deriv*)
Grassetti, D.R. *et al*, *J. Chromatogr.*, 1969, **41**, 121 (*use*)
Humphrey, R.E. *et al*, *Anal. Chem.*, 1971, **43**, 140 (*detn*, $S^{2\ominus}$)
Corey, E.J. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 5614 (*use*)
Keats, N.G. *et al*, *J. Heterocycl. Chem.*, 1977, **14**, 232 (*ms*)
Grimshaw, C.E. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 1521 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 214 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DXN300.

4,4′-Dithiobispyridine, 9CI D-01123

4,4′-Dipyridyl disulfide. Aldrithiol 4

[2645-22-9]

$C_{10}H_8N_2S_2$ M 220.319
Thiol reagent. Used as a 1m*M* soln. in EtOH for photometric detn. of $S^{2\ominus}$. Cryst. Sol. H_2O, EtOH. Me_2CO, C_6H_6. Mp 74-76°.

Humphrey, R.E. *et al*, *Anal. Chem.*, 1970, **42**, 698; 1971, **43**, 140 (*detn*, $S^{2\in}$)
Ferraro, J.R. *et al*, *J. Inorg. Nucl. Chem.*, 1972, **34**, 231 (*ir*)
Cheng, C.L. *et al*, *Aust. J. Chem.*, 1973, **26**, 1785 (*conformn*)
Forchioni, A. *et al*, *Spectrochim. Acta, Part A*, 1975, **31**, 1367 (*pmr*)
Grimshaw, C.E. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 152 (*use*)
Nagao, Y. *et al*, *Tetrahedron Lett.*, 1979, 4403 (*use*)

Dithiocarbamic acid, 8CI D-01124

Carbamodithioic acid, 9CI. Aminodithioformic acid. Dithiocarbonic amide

[594-07-0]

H_2NCSSH

CH_3NS_2 M 93.173
Needles, unstable above 20°→ CS_2 + H_2S + NH_4SCN. Sol. EtOH, Et_2O. Mp 35.7°. pK_a 2.95 (25°). Dec. by H_2O.

NH_4 salt: Ammonium dithiocarbamate
$CH_7N_2S_2$ M 111.212
Synth. from CS_2 and NH_3. Lustrous yellow cryst. Sol. H_2O. Mp 99° dec. Dec. in air.

Me ester: [16696-83-6].
$C_2H_5NS_2$ M 107.200
Insol. H_2O. Mp 42°.

Me ester, N-*Ac:* [16696-88-1].
$C_4H_7NOS_2$ M 149.237
Yellow prisms. Mp 119°.

N,N-*Dibenzyl:* [99-22-9]. *Dibenzyldithiocarbamic acid. Bis(phenylmethyl)carbamodithioic acid, 9CI*
$C_{15}H_{15}NS_2$ M 273.422
Used as Na salt for extraction, separation and photometric detn. of heavy metals e.g. Bi, Cu, Pb. Also use as Zn salt.

N,N-*Dibutyl:* see N-*Dibutyldithiocarbamic acid, D-00232*
[136-30-1, 55310-46-8]

Mulder, E., *Justus Liebigs Ann. Chem.*, 1873, **168**, 232 (*synth*)
U.K. Pat., 307 728, (1927); *CA*, **24**, 129 (*synth*)
Inorg. Synth., 1950, **3**, 48 (*deriv, synth*)
Martens, R.I. *et al*, *Analyst* (*London*), 1952, **24**, 991 (*N,N-dibenzyl, detn, Zn salt*)
Andrus, S., *Analyst* (*London*), 1955, **80**, 514 (*N,N-dibenzyl, detn, Cu*)
Org. Synth., Coll. Vol., 3, 1955, 763 (*synth*)
Stobart, J.A., *Analyst* (*London*), 1965, **90**, 278 (*N,N-dibenzyl, synth, detn, Pb*)
Capacchi, L. *et al*, *J. Chem. Soc., Chem. Commun.*, 1966, 441 (*deriv, cryst struct*)
Gattow, G. *et al*, *Z. Anorg. Allg. Chem.*, 1969, **364**, 161 (*synth, ir*)
Yamane, T. *et al*, *Anal. Chim. Acta*, 1972, **62**, 137; 1974, **69**, 347 (*N,N-dibenzyl, detn, Bi*)
Gmelin Handbook Inorg. Chem., Syst.No. 14, 1978, **D6**, 133 (*bibl*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **4**, 744.
Merck Index, 11th Ed., 1989, 533 (*deriv, props*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SGF500.

Dithiocarbonic acid D-01125

Carbonodithioic acid, 11CI, 9CI

[4741-30-4]

$$S{=}C(OH)SH \rightleftharpoons O{=}C(SH)_2$$

CH_2OS_2 M 94.158
Acid unknown in free state.

S,S-*Di-Me ester:* [868-84-8].
$C_3H_6OS_2$ M 122.212
Liq. Bp 168°.

S-*Me*, S-*Et ester:* [10596-55-1].
$C_4H_8OS_2$ M 136.239
Liq. Bp_{30} 83-85°.

S,S-*Di-Et ester:* [623-80-3].
$C_5H_{10}OS_2$ M 150.265
Liq. Bp 196-197°, Bp_{14} 83-86°.

O-*Butyl ester:* [871-58-9].
$C_5H_{10}OS_2$ M 150.265
Used as 2*M* aq. soln. of K salt for extraction-photometric detn. of Mn (λ_{max} 457 nm, ε 5500). Yellow cryst. (H_2O). Sol. H_2O. CA number refers to K salt.

O,S-*Dibutyl ester:* [10226-07-0]. O,S-*Dibutyldithiocarbonate*
$C_9H_{18}OS_2$ M 206.373
Used for photometric detn. of Pd (λ_{max} 400 nm). Sol. Et_2O, EtOH, Me_2CO.

Schmidt, R. *et al*, *Ber.*, 1868, **1**, 166 (*synth*)
Delépine, M., *Bull. Soc. Chim. Fr.*, 1903, **29**, 56 (*synth*)
Kralovsky, J. *et al*, *Mikrochim. Acta*, 1966, 34 (*dibutyl ester, use*)
Holsber, D.H. *et al*, *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1972, **391**, 1371 (*synth*)
Komati, K. *et al*, *Chem. Pharm. Bull.*, 1978, **26**, 3807 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PKY850.

N-(Dithiocarboxy)sarcosine D-01126

N-(*Dithiocarboxy*)-N-*methylglycine*, *9CI*

[40520-03-4]

$$HOOCCH_2NMeC(S)SH$$

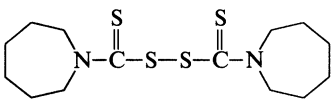
$C_4H_7NO_2S_2$ M 165.237
Used as 0.01*M* aq. soln. for separation and photometric detn. of Cu(*II*) (λ_{max} 432 nm, ε 14500); also used as a masking agent. Cryst. Sol. H_2O.

Watanabe, H. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1979, **28**, 154, 366 (*use*)
Sakai, Y. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1979, **28**, 429 (*synth, use, detn, Cu*)
Sakai, Y. *et al*, *Talanta*, 1980, **27**, 1073 (*synth, use, detn, Cu*)

1,1′-(Dithiodicarbonothioyl)bis[hexahydro-1*H*-azepine], 9CI D-01127

Bis[(hexahydro-1H-azepin-1-yl)thiocarbonyl]disulfide.
Bis(hexamethylene)thiocarbamoyl disulfide

[13821-89-1]



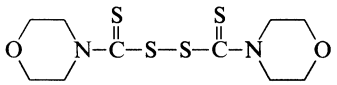
$C_{14}H_{24}N_2S_4$ M 348.621
Used as a 2m*M* soln. in MeOH for photometric detn. of Cu (λ_{max} 425 nm, ε 32700). Cryst. Sol. MeOH, Et_2O. Mp 110°.

Wawshinek, O. *et al*, *Anal. Chim. Acta*, 1966, **35**, 109.
Lofberg, R.T. *et al*, *Anal. Lett.*, 1969, **2**, 439.

4,4′-(Dithiodicarbonothioyl)bismorpholine, 9CI D-01128

Bis(morpholino)thiocarbamoyl disulfide

[729-46-4]



$C_{10}H_{16}N_2O_2S_4$ M 324.513
Used as a 2m*M* soln. in MeOH for photometric detn. of Cu (λ_{max} 425 nm, ε 3000). Cryst. Sol. MeOH, Et_2O. Mp 145°.

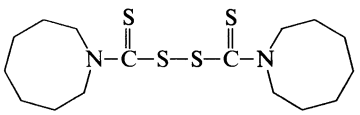
▷ JO1530000.

Wawshinek, O. *et al*, *Anal. Chim. Acta*, 1966, **35**, 109 (*detn, Cu*)
Lofberg, R.T. *et al*, *Anal. Lett.*, 1969, **2**, 439 (*detn, Cu*)

1,1′-(Dithiodicarbonothioyl) bis[octahydroazocine], 9CI D-01129

Bis(heptamethylene)thiocarbamoyl disulfide

[18805-40-8]



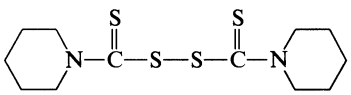
$C_{16}H_{28}N_2S_4$ M 376.675
Used as a 2m*M* soln. in MeOH for photometric detn. of Cu (λ_{max} 425 nm, ε 35600). Cryst. Sol. MeOH, Et_2O. Mp 133-134°.

Wawshinek, O. *et al*, *Anal. Chim. Acta*, 1966, **35**, 109.
Lofberg, R.T. *et al*, *Anal. Lett.*, 1969, **2**, 439.

1,1′-(Dithiodicarbonothioyl)bispiperidine, 9CI D-01130

Bis(piperidinothiocarbonyl) disulfide, 8CI.
Bis(pentamethylene)thiocarbamoyl disulfide.
Dicyclopentamethylenethiuram disulfide

[94-37-1]



$C_{12}H_{20}N_2S_4$ M 320.567
Fungicide. Used as a 2m*M* soln. in MeOH for photometric detn. of Cu (λ_{max} 425 nm, ε 32200). Solid (CS_2/hexane). Sol. MeOH, Et_2O. Mp 130-131°.

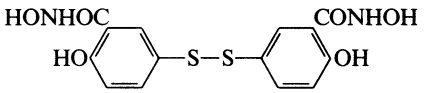
▷ JO1585000.

Blake, E.S., *J. Am. Chem. Soc.*, 1943, **65**, 1267 (*synth*)
Hoffmeister, E.H. *et al*, *Tetrahedron*, 1965, **21**, 35 (*synth, bibl, ir*)
Lofberg, R.T. *et al*, *Anal. Lett.*, 1969, **2**, 439.

5,5′-Dithiodisalicylhydroxamic acid D-01131

3,3′-Dithiobis[N,6-dihydroxybenzamide], 9CI

[96684-97-8]



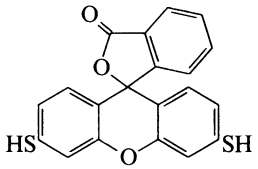
$C_{14}H_{12}N_2O_6S_2$ M 368.391
Used as 0.01*M* aq. soln. for extraction-photometric detn. of Mn (λ_{max} 495 nm, ε 1960), V. Cryst.

Martinez-Vidal, J.L. *et al*, *Microchem. J.*, 1988, **37**, 241, 246 (*synth, detn, Mn, V*)

Dithiofluorescein, 8CI D-01132

Thiofluorescein

[28024-03-5]



$C_{20}H_{12}O_3S_2$ M 364.445

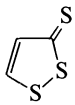
Used as aq. soln. with triethanolamine and EDTA for indirect photometric detn. of $SCN^{\ominus}$ (as bromocyanide). Cryst. Sol. alkalis.

Wroński, M., *Chem. Anal. (Warsaw)*, 1969, **14**, 1183 (*detn, $SCN^{\ominus}$*)

3*H*-1,2-Dithiole-3-thione, 9CI, 8CI D-01133

1,2-Dithia-4-cyclopentene-3-thione

[534-25-8]



$C_3H_2S_3$ M 134.247

Poss. isol. from *Brassica oleracea* var. *capitata*. Used as 1m*M* EtOH soln. in extraction-photometric detn. of Pd. Cryst. (C_6H_6 or MeOH). Sol. EtOH, $CHCl_3$; insol. H_2O. Mp 81-82°.

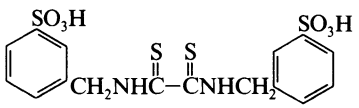
B,MeI: Mp 175°.

Jirousek, L. *et al*, *Naturwissenschaften*, 1958, **45**, 386.
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 953 (*detn, Pd*)
Meinetsberger, E. *et al*, *Synthesis*, 1977, 802 (*synth, pmr, ir*)
Pedersen, C.T., *Adv. Heterocycl. Chem.*, 1982, **31**, 63 (*rev*)
Wei, C.H., *Acta Crystallogr., Sect. C*, 1985, **41**, 1768 (*cryst struct*)
Poleschner, H. *et al*, *Phosphorus Sulfur Relat. Elem.*, 1985, **25**, 193; 1987, **29**, 187 (*synth, cmr*)

α,α-[(Dithiooxalyl)diimino]di-*m*-toluenesulfonic acid, 8CI D-01134

N,N′-*Bis*(m-*sulfobenzyl*)*dithiooxamide*

[3929-44-0]



$C_{16}H_{16}N_2O_6S_4$ M 460.576

Used for photometric detn. of Co, Pd. Cryst. Sol. H_2O; insol. Et_2O, C_6H_6.

Janssens, A.A. *et al*, *Bull. Soc. Chim. Belg.*, 1970, **79**, 161.

Dithizone D-01135

(*Phenylazo*)*thioformic acid 2-phenylhydrazide, 8CI. Phenyldiazinecarbothioic acid 2-phenylhydrazide, 9CI. Diphenylthiocarbazone.* H_2D_2

[60-10-6]

PhN=NCSNHNHPh

$C_{13}H_{12}N_4S$ M 256.331

Used in preconcentration and extraction separation of heavy metal ions; gives colour reactions with many metals; in extraction-photometric detn. of Ag (λ_{max} 462 nm, ε 31000), Bi, Pb, Zn (λ_{max} 538 nm, ε 93000), Cd, Cu, Pd, Hg (λ_{max} 485 nm, ε 71000), Tl and other elements. Bluish-black cryst. (EtOH aq.). Sol. aq. alkaline solns; spar. sol. EtOH, CCl_4, $CHCl_3$, C_6H_6; insol. H_2O. Mp 165-169° dec. Ethereal solutions are dark red in colour. Used mainly as 0.001-0.003% soln. in CCl_4.

▷ Causes eye injury experimentally. LQ9450000.

Org. Synth., Coll. Vol., 3, 1955, 360 (*synth*)
Sandell, E.B., *Colorimetric Determination of Traces of Metals*, 3rd. ed., Interscience, New York, 1959.
Iwantscheff, G., *Das Dithizon und Seine Anwendung in der Mikro und Spurenanalyse*, Verlag Chemie, Weinheim, 1972.
Irving, H.M.N.H., *Dithizone*, Royal Society of Chemistry Analytical Monographs no. 5, 1977 (*rev*)
Laing, M., *J. Chem. Soc., Perkin Trans. 2*, 1977, 1248 (*cryst struct*)
Hutton, A.T. *et al*, *J. Chem. Soc., Chem. Commun.*, 1981, 735 (*struct*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 363 (*use*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, New York, 4th Ed., 1986, 262, 315, 529, 672, 824; *Part IIb: Individual Metals. Magnesium to Zinc*, John Wiley, New York, 4th Ed., 1989, 66, 227, 253, 379, 426, 708.
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 258, 373, 440, 524, 637.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DWN200.

1,1,1,2,2,6,6,7,7,8,8,8-Dodecafluoro-3,5-octanedione, 9CI D-01136

[32357-73-6]

$F_3CCF_2COCH_2COCF_2CF_2CF_3$

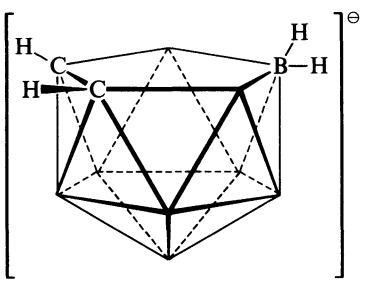
$C_8H_2F_{12}O_2$ M 358.083

Used for extraction and gc sepn. of lanthanides. Liq. Sol. EtOH, Me_2CO.

Sieck, R.F. *et al*, *Anal. Chem.*, 1972, **44**, 2307 (*synth, gc*)
Mitchell, J.W. *et al*, *Talanta*, 1972, **19**, 1157 (*extrn*)

Dodecahydro-7,8-dicarbaundecaborate(1−), 11CI, 10CI, 9CI, 8CI D-01137

[11130-95-3]



$C_2H_{12}B_9^{\ominus}$ M 133.416 (ion)

nido-. Known as the (3)-1,2-isomer in early lit.

K salt: [12304-72-2]. *Cuproselect*

$C_2H_{12}B_9K$ M 172.514

Often used as a source of $C_2B_9H_{12}^{\ominus}$ for metal complex formation. Used for photometric detn. of Cu. Colourless solid. Sol. H_2O, alcohols; insol. Et_2O. Quite hygroscopic.

Me_4N salt: [12304-89-1].

Colourless solid. Sol. alcohols, ketones, nitriles; insol. H_2O.

[12385-59-0]

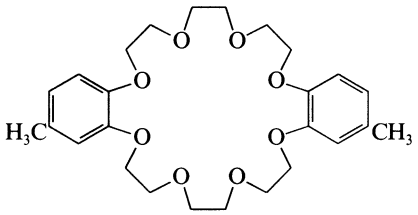
Garrett, P.M. *et al*, *J. Am. Chem. Soc.*, 1964, **86**, 5016 (*synth*)
Hawthorne, M.F. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 862 (*synth, ir, pmr, B-11 nmr*)

Nabivanets, B.I. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 897 (*use*)
Inorg. Synth., 1983, **22**, 231 (*synth, pmr, B-11 nmr, rev, bibl*)
Buchanan, J. *et al*, *J. Chem. Soc., Dalton Trans.*, 1990, 677 (*cryst struct*)

6,7,9,10,12,13,20,21,23,24,26,27-Dodecahydro-2,16-dimethyldibenzo[*b*,*n*][1,4,7,10,13,16,19,-22]octaoxacyclotetracosin, 9CI D-01138

Dimethyldibenzo-24-crown-8

[54326-75-9]



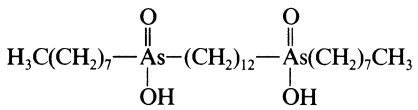
$C_{26}H_{36}O_8$ M 476.566

Obt. as an undefined isomer or regioisomeric mixture with the 2,17 isomer. CAS registry no. applies to this prepn. of undefined composition. Used as 1% soln. in dipentyl phthalate in K-selective electrode (PVC membrane). Cryst. (C_6H_6/Et_2O). Sol. C_6H_6, Et_2O. Mp 68-70°.

Pedersen, C.J., *J. Am. Chem. Soc.*, 1967, **89**, 7017 (*synth*)
Petranek, J. *et al*, *Collect. Czech. Chem. Commun.*, 1973, **38**, 497 (*use*)
Petranek, J. *et al*, *Anal. Chim. Acta*, 1974, **72**, 375 (*use*)

1,12-Dodecanediylbis[octylarsinic acid], 9CI D-01139

[63586-97-0]



$C_{28}H_{60}As_2O_4$ M 610.623

Used as 1m*M* soln. in octanol for extraction separation of Ce(*III*) and Eu(*III*) (pH 6.9-7.8, 50°). Cryst. Mod. sol. octanol; insol. $CHCl_3$, CCl_4.

Olivares, A.M. *et al*, *Mikrochim. Acta*, 1984, **2**, 141 (*synth, use*)

1-Dodecanethiol, 9CI D-01140

1-Mercaptododecane. Lauryl mercaptan. Dodecyl mercaptan. Thiododecyl alcohol

[112-55-0]

$H_3C(CH_2)_{10}CH_2SH$

$C_{12}H_{26}S$ M 202.403

Reagent used to determine unsaturation in alkenic compds. Liq. Bp_{39} 165-169°, Bp_{15} 142-145°.

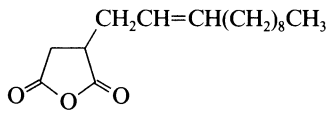
▷ JR3155000.

Org. Synth., 1941, **21**, 36 (*synth*)
Frank, R.L. *et al*, *J. Am. Chem. Soc.*, 1946, **48**, 2103 (*synth*)
Itabashi, K., *CA*, 1961, **55**, 23412f (*synth*)
Muller, K., *Fresenius' Z. Anal. Chem.*, 1961, **181**, 126 (*use*)
Fr. Pat., 148 193, (1967); *CA*, **67**, 108212 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, LBX000.

3-(2-Dodecenyl)dihydro-2,5-furandione, 9CI D-01141

2-Dodecenylsuccinic anhydride, 8CI

[19780-11-1]



$C_{16}H_{26}O_3$ M 266.380

Derivatisation reagent for ms anal. of amines. Mp 41-43°. Bp_5 180-182°.

Ligon, W.V. *et al*, *Anal. Chem.*, 1986, **58**, 1889 (*use*)

Dodecylamine D-01142

1-Dodecanamine, 9CI. Laurylamine. 1-Aminododecane

[124-22-1]

$H_3C(CH_2)_{10}CH_2NH_2$

$C_{12}H_{27}N$ M 185.352

Used as an anal. reagent for aldehydes, and as a 2% soln. in BuOH for extraction-photometric detn. of Nb; extraction of Mn(*III*) and Fe(*III*) pyrophosphate complexes. Cryst. (C_6H_6). Sol. EtOH, Et_2O, C_6H_6, $CHCl_3$. Mp 27-28°. Bp 247-249°, Bp_{10} 126°. n_D^{20} 1.4421.

▷ JR6475000.

N-*Me:* [7311-30-0].
$C_{13}H_{29}N$ M 199.379
Oil. $Bp_{1.2\text{-}1.5}$ 110-115°.

N-*Di-Me*, N-*oxide:* [1643-20-5].
$C_{14}H_{31}NO$ M 229.405
Used in detergents. V. hygroscopic needles (dry toluene). Mp 130-131°.

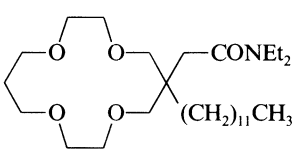
▷ JR6650000.

Krafft, F., *Ber.*, 1890, **23**, 2364.
Adkins, H. *et al*, *J. Am. Chem. Soc.*, 1934, **56**, 2419.
v. Braun, J. *et al*, *Ber.*, 1937, **70**, 979.
Heierman, F. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1938, **57**, 456.
Siggia, S. *et al*, *Anal. Chem.*, 1953, **25**, 830 (*use*)
Org. Synth., Coll. Vol., 4, 1963, 564 (*deriv*)
Shevchuk, I.A. *et al*, *Zavod. Lab.*, 1967, **33**, 288 (*use, Fe*)
Shevchuk, I.A. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 1386 (*use, Mn*)
Bedenbaugh, A.O. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 5774 (*deriv*)
Org. Synth., 1970, **50**, 56 (*deriv*)
Gilson, D.F.R., *Can. J. Chem.*, 1974, **52**, 2421 (*nmr*)
Ivanov, N. *et al*, *Fresenius' Z. Anal. Chem.*, 1976, **280**, 223 (*use, Nb*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DRS200, DXW000.

6-Dodecyl-*N*,*N*-diethyl-1,4,8,11-tetraoxacyclotetradecane-6-acetamide, 9CI D-01143

(Diethylcarbamoylmethyl)dodecyl-14-crown-4

[106868-32-0]



$C_{28}H_{55}NO_5$ M 485.746

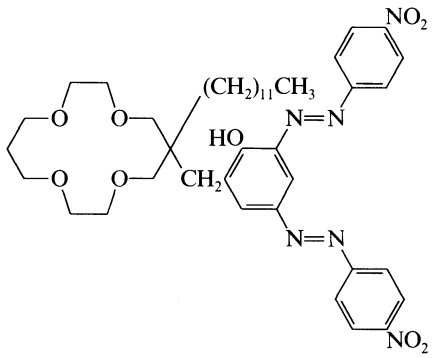
Used as ionophore in the polymeric ion-selective electrode for Li. Oil.

Kimura, K. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1986, 1945 (*synth*)
Kimura, K. *et al*, *Anal. Chem.*, 1987, **59**, 2331 (*detn, Li*)

6-Dodecyl-6-[2-hydroxy-3,5-bis(4-nitrophenylazo)benzyl]-1,4,8,11-tetraoxacyclotetradecane D-01144

2-[(Dodecyl-1,4,8,11-tetraoxacyclotetradec-6-yl)-methyl]-4,6-bis[(4-nitrophenyl)azo]phenol, 9CI

[106419-31-2]



$C_{41}H_{56}N_6O_9$ M 776.928

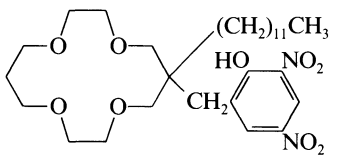
Used as soln. in 1,2-dichloroethane for extraction separation of Li (λ_{max} 582 nm, ε 34000) from other alkali metals (selectivity ratio Li/Na 91). Reddish orange solid (MeOH/$CHCl_3$). Sol. MeOH, $CHCl_3$, 1,2-dichloroethane. Mp 105.5°.

Kimura, K. *et al*, *J. Org. Chem.*, 1987, **52**, 836 (*synth, use*)

6-Dodecyl-6-(2-hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane D-01145

4-[(6-Dodecyl-1,4,8,11-tetraoxacyclotetradec-6-yl)methyl]-2,6-dinitrophenol, 9CI

[106419-28-7]



$C_{29}H_{48}N_2O_9$ M 568.706

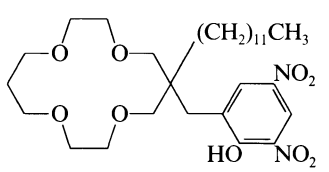
Used as soln. in 1,2-dichloroethane for extraction separation of Li (λ_{max} 374 nm, ε 14000) from other alkali metals (selectivity ratio Li/Na 87). Yellow solid (MeOH). Sol. MeOH, 1,2-dichloroethane. Mp 60.5°.

Sakamoto, H. *et al*, *Anal. Chem.*, 1987, **59**, 1513 (*use*)
Kimura, K. *et al*, *J. Org. Chem.*, 1987, **52**, 836 (*synth, use*)

6-Dodecyl-6-(2-hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane D-01146

2-[(6-Dodecyl-1,4,8,11-tetraoxacyclotetradec-6-yl)methyl]-4,6-dinitrophenol, 9CI. Dodecyl-14-crown-4-dinitrophenol

[98506-70-8]



$C_{29}H_{48}N_2O_9$ M 568.706

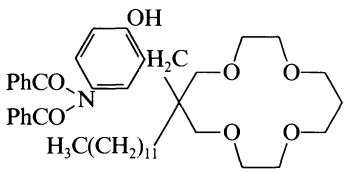
Used as 0.3m*M* $CHCl_3$ soln. for selective extraction-photometric detn. of Li. Yellowish orange cryst. (MeOH). Sol. $CHCl_3$, MeOH. Mp 64.5°.

Kimura, K. *et al*, *Chem. Lett.*, 1985, 1239 (*use*)
Kimura, K. *et al*, *J. Org. Chem.*, 1987, **52**, 836 (*synth*)
Kimura, K. *et al*, *Anal. Sci.*, 1988, **4**, 221 (*use*)

6-Dodecyl-6-[2-hydroxy-5-(1,8-naphthalenedicarboximido)benzyl]-1,4,8,11-tetraoxacyclotetradecane D-01147

2-[4-[(6-Dodecyl-1,4,8,11-tetraoxacyclotetradec-6-yl)methyl]-3-hydroxyphenyl]-1H-benz[de]-isoquinoline-1,3(2H)-dione, 9CI

[114482-52-9]



$C_{43}H_{59}NO_7$ M 701.942

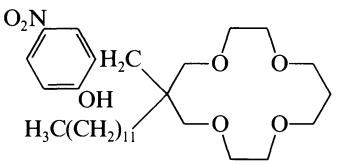
Used as 0.07m*M* soln. in 1,2-dichloroethane for selective extraction-sepn. of Li (1,2-dichloroethane) and photometric detn. of Li (λ_{max} 420 nm, ε 5300). Cryst. Sol. $CHCl_3$, 1,2-dichloroethane. Mp 91-92°. pK_a 10.79 (dioxan aq.).

Kimura, K. *et al*, *Anal. Chim. Acta*, 1987, **203**, 85 (*synth, detn, Li*)

6-Dodecyl-6-(2-hydroxy-5-nitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane D-01148

2-[(6-Dodecyl-1,4,8,11-tetraoxacyclotetradec-6-yl)methyl]-4-nitrophenol, 9CI

[98506-68-4]



$C_{29}H_{49}NO_7$ M 523.709

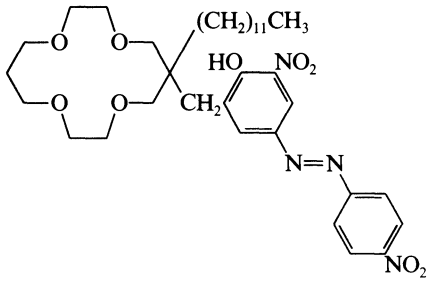
Used as soln. in 1,2-dichloroethane for extraction detn. of Li (λ_{max} 413 nm, ε 19000) from Na and other alkali metals (selectivity ratio Li/Na 240). Reddish brown solid (MeOH/H_2O, 10:1). Sol. MeOH, 1,2-dichloroethane. Mp 53.5°.

Sakamoto, H. *et al*, *Anal. Chem.*, 1987, **59**, 1513 (*detn, Li*)
Kimura, K. *et al*, *J. Org. Chem.*, 1987, **52**, 836 (*synth, detn, Li*)

6-Dodecyl-6-[2-hydroxy-3-nitro-5-(4-nitrophenylazo)benzyl]-1,4,8,11-tetraoxacyclotetradecane D-01149

2-[(6-Dodecyl-1,4,8,11-tetraoxacyclotetradec-6-yl)methyl]-6-nitro-4-[(4-nitrophenyl)azo]phenol,9CI

[106419-32-3]



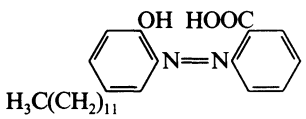
$C_{35}H_{52}N_4O_9$ M 672.817

Used as soln. in 1,2-dichloroethane for extraction separation of Li (λ_{max} 488 nm, ε 28000) from other alkali metals (selectivity ratio Li/Na 68). Red solid (MeOH/$CHCl_3$). Sol. MeOH, $CHCl_3$, 1,2-dichloroethane. Mp 87.5°.

Kimura, K. *et al*, *J. Org. Chem.*, 1987, **52**, 836 (*synth, use*)

2-[(5-Dodecyl-2-hydroxyphenyl)azo]benzoic acid, 9CI D-01150

[28948-81-4]



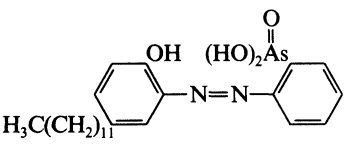
$C_{25}H_{34}N_2O_3$ M 410.555

Used as solns. in C_6H_6 or $CHCl_3$ for extraction sepn. of Be from Al. Dark red cryst. powder. Sol. $CHCl_3$, C_6H_6.

Blasius, E. *et al*, *Talanta*, 1973, **20**, 639 (*synth, sepn, Be*)

[2-[(5-Dodecyl-2-hydroxyphenyl)azo]phenyl]arsonic acid, 9CI D-01151

[50313-85-4]



$C_{24}H_{35}AsN_2O_4$ M 490.473

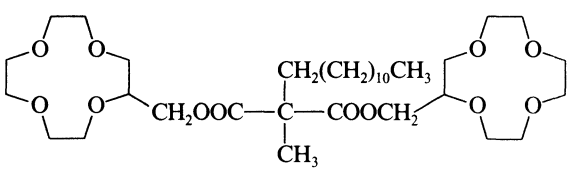
Used as soln. in C_6H_6 or $CHCl_3$ for extraction sepn. of Zr from Hf. Brown cryst. powder. Sol. $CHCl_3$, C_6H_6.

Blasius, E. *et al*, *Talanta*, 1973, **20**, 639 (*synth, use*)

Dodecylmethylpropanedioate bis(1,4,7,10-tetraoxacyclododec-2-ylmethyl)ester, 9CI D-01152

Bis[(12-crown-4)-2-ylmethyl] 2-dodecyl-2-methylmalonate

[80403-59-4]



$C_{34}H_{62}O_{12}$ M 662.857

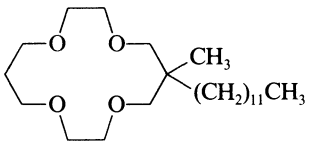
Used as sensor for Na and K in ion-selective electrodes. Cryst. (THF/MeOH).

Ikeda, I. *et al*, *Tetrahedron Lett.*, 1981, **22**, 3615 (*synth*)
Shono, T. *et al*, *J. Electroanal. Chem.*, 1982, **132**, 99 (*synth*)
Tamura, H. *et al*, *Mikrochim. Acta*, 1983, **2**, 287 (*use*)
Moody, G.J. *et al*, *Analyst (London)*, 1989, **114**, 15 (*use*)

6-Dodecyl-6-methyl-1,4,8,11-tetraoxacyclotetradecane, 9CI D-01153

Dodecylmethyl-14-crown-4

[91539-72-9]



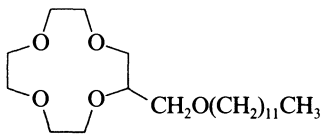
$C_{23}H_{46}O_4$ M 386.614

Used as an ionophore in polymeric ion-selective electrode for Li. Oil.

Kitazawa, S. *et al*, *J. Am. Chem. Soc.*, 1984, **106**, 6978 (*synth*)
Kimura, K. *et al*, *Anal. Chem.*, 1987, **59**, 2331 (*detn, Li*)

2-[(Dodecyloxy)methyl]-1,4,7,10-tetraoxacyclododecane, 9CI D-01154

[83492-36-8]



$C_{21}H_{42}O_5$ M 374.560

Used as 0.01*M* soln. in CH_2Cl_2 for extraction separation of Na (in the presence of picrate). Cryst. Sol. CH_2Cl_2, $CHCl_3$, toluene.

Pacey, G.E. *et al*, *Synth. Commun.*, 1981, **11**, 323 (*synth*)
Pacey, G.E. *et al*, *Talanta*, 1984, **31**, 165 (*use*)

1-Dodecyl sulfate D-01155

Sulfuric acid monododecyl ester, 9CI. Lauryl sulfate

[151-41-7]

$H_3C(CH_2)_{11}OSO_2OH$

$C_{12}H_{26}O_4S$ M 266.401

Detergent, surface-active agent. Used as 1% aq. soln. in photometric detns. of metals (with some azo reagents). Cryst. Sol. H_2O.

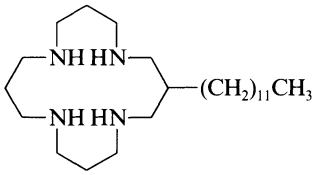
▷ WT0700000.

Glycine salt: Mp 110°.
Urea salt: Mp 110°.

Jaeger, D.A. *et al*, *J. Org. Chem.*, 1977, **42**, 3298 (*synth*)
Hung, S.C. *et al*, *Talanta*, 1982, **29**, 85 (*detn, Ag*)
Tan Zhe, *et al*, *Talanta*, 1984, **31**, 624 (*detn, Zn*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MRH250.

3-Dodecyl-1,5,9,13-tetraazacyclohexadecane, 9CI D-01156

[83459-10-3]



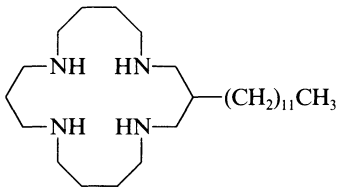
$C_{24}H_{52}N_4$ M 396.702

Used as 1m*M* soln. in $CHCl_3$ for extraction sepn. of Cu(*II*) (in the presence of perchlorate); extraction of Co, Ni, Zn, Cd, Pd, Ag. Oil. Sol. many org. solvs.; insol. H_2O.

Muller, F.R. *et al*, *Tetrahedron Lett.*, 1982, **23**, 2769 (*synth, use*)
Handel, H. *et al*, *Helv. Chim. Acta*, 1983, **66**, 514 (*use*)

3-Dodecyl-1,5,10,14-tetraazacyclooctadecane, 9CI D-01157

[83459-11-4]



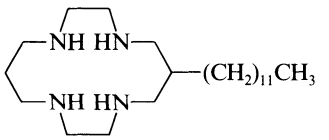
$C_{26}H_{56}N_4$ M 424.755

Used as 1m*M* soln. in $CHCl_3$ for extraction sepn. of Cu(*II*), Co, Ni, Zn, Cd, Pd, Ag. Cryst. (Me_2CO). Mp 86°.

Muller, F.R. *et al*, *Tetrahedron Lett.*, 1982, **23**, 2769 (*synth, use*)
Handel, H. *et al*, *Helv. Chim. Acta*, 1983, **66**, 514 (*use*)

6-Dodecyl-1,4,8,11-tetraazacyclotetradecane, 9CI D-01158

[71366-38-6]



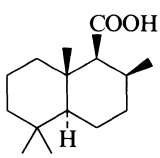
$C_{22}H_{48}N_4$ M 368.648

Used as 1m*M* soln. in $CHCl_3$ or 1,2-dichloroethane for extraction separation of Cu(*II*) (in the presence of perchlorate), Co, Ni, Zn, Cd, Pd, Ag. Cryst. (Me_2CO). Sol. common org. solvs.; insol. H_2O. Mp 118°.

Muller, F.R. *et al*, *Tetrahedron Lett.*, 1982, **23**, 2769 (*synth, use*)
Handel, H. *et al*, *Helv. Chim. Acta*, 1983, **66**, 514 (*use*)

11-Drimanoic acid D-01159

Decahydro-2,5,5,8a-tetrahydro-1-naphthalenecarboxylic acid, 9CI



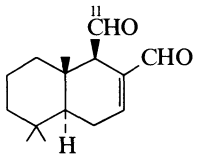
$C_{15}H_{26}O_2$ M 238.369

Obt. by oxidation of 11-drimanol. Cryst. (MeOH aq.). Mp 135-136°. $[\alpha]_D$ +14° (c, 1.70 in $CHCl_3$).

Chloride: [42290-37-9]. *Drimanoyl chloride*
$C_{15}H_{25}ClO$ M 256.815
Used as derivatising reagent for gc analysis of enantiomeric alcohols and amines.

Appel, H.H. *et al*, *J. Chem. Soc.*, 1959, 3322 (*struct*)
Brooks, C.J.W. *et al*, *Anal. Chem.*, 1973, **45**, 896 (*chloride, use*)

7-Drimene-11,12-dial D-01160



$C_{15}H_{22}O_2$ M 234.338

(5α,9β,10β)-form [6754-20-7] ***Polygodial.*** *Tadeonal*
Isol. from *Polygonum hydropiper* and *Drimys lanceolata*. Insect growth regulator. Shows antibacterial and antifungal activity. Plant growth regulator (inhibits rice husk germination, promotes root elongation in rice). Used as reagent for separation of enantiomeric primary amines. Needles (pet. ether). Mp 57°, Mp 50°. $Bp_{0.8}$ 138-140°. $[\alpha]_D$ −210° (90% EtOH).

▷ Skin irritant.

11-Carboxylic acid: [98204-84-3]. *12-Oxo-7-drimen-11-oic acid.* ***Polygonic acid***
$C_{15}H_{22}O_3$ M 250.337
Constit. of *P. hydropiper*. Cryst. Mp 96-97°. $[\alpha]_D^{23}$ −31° (c, 1.06 in $CHCl_3$).

3β-Acetoxy: ***3β-Acetoxypolygodial***
$C_{17}H_{24}O_4$ M 292.374
Constit. of *Canella winterana*. Cryst. Mp 131-132°. $[\alpha]_D^{25}$ −58° (c, 0.05 in $CHCl_3$).

Loder, J.W. *et al*, *Aust. J. Chem.*, 1962, **15**, 322, 389 (*isol, uv, ir, pmr*)
Kubo, I. *et al*, *J. Chem. Soc., Chem. Commun.*, 1976, 1013 (*isol, struct*)
Jalali-Naini, M. *et al*, *Tetrahedron*, 1983, **39**, 749 (*synth*)
Cortés, M.J. *et al*, *Chem. Ind. (London)*, 1985, 735 (*synth*)
Fukuyama, Y. *et al*, *Phytochemistry*, 1985, **24**, 1521 (*Polygonic acid*)
Mori, K. *et al*, *Tetrahedron*, 1986, **42**, 273 (*synth*)
Caprioli, V. *et al*, *J. Nat. Prod. (Lloydia)*, 1987, **50**, 146 (*synth*)
Brooks, C.J. *et al*, *J. Chromatogr.*, 1988, **438**, 108 (*use*)
Jansen, B.J.M. *et al*, *J. Org. Chem.*, 1988, **53**, 855 (*synth*)
Banthorpe, D.V. *et al*, *Phytochemistry*, 1989, **28**, 1631 (*biosynth*)
Al-Said, M.S. *et al*, *Phytochemistry*, 1990, **29**, 975 (*isol, pmr, cmr*)

E

Edetol, USAN, INN E-00001

1,1′,1″,1‴-(1,2-Ethanediyldinitrilo)tetrakis-2-propanol, 9CI. N,N,N′,N′-*Tetrakis(2-hydroxypropyl)ethylenediamine. Quadrol. THEDP. Entprol*

[102-60-3]

$[HOCH(CH_3)CH_2]_2N(CH_2)_2N[CH_2CH(CH_3)OH]_2$

$C_{14}H_{32}N_2O_4$ M 292.418

Pharmaceutical aid (alkalizing agent). Used as a 0.3*M* soln. in 2*M* KOH for photometric detn. of Mn (λ_{max} 506 nm); gravimetric detn. of P. Viscous liq./solid. Misc. H_2O. Mp 31-32°. $Bp_{0.8}$ 175-181°, $Bp_{1.0}$ 190°. pK_{a1} 8.07; pK_{a2} 5.95.

▷ UB5604000.

Tetra-Ac ester: $Bp_{0.3}$ 178-179°.

U.S. Pat., 2 697 118, (1954); *CA*, **49**, 15951b (*synth*)
Ishidate, M. *et al*, *Chem. Pharm. Bull.*, 1960, **8**, 807 (*synth*)
Pike, L. *et al*, *Anal. Chim. Acta*, 1964, **31**, 318 (*detn, Mn*)
Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1968, **233**, 252; 1972, **258**, 353 (*detn, P*)
Bhide, M.V. *et al*, *J. Immunopharmacol.*, 1985, **7**, 303 (*pharmacol*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, QAT000.

2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-Eicosafluoroundecanoic acid, 9CI E-00002

[1765-48-6]

$F_2HC(CF_2)_9COOH$

$C_{11}H_2F_{20}O_2$ M 546.104

Cryst. (toluene). Mp 100-101°.

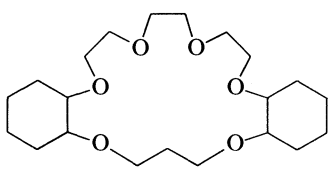
Chloride: [2248-93-3].
$C_{11}HClF_{20}O$ M 564.549
Derivatisation reagent for gc analysis of hydroxy steroids.

U.S. Pat., 2 559 629, (1951); *CA*, **46**, P3063h (*synth*)
Kirschner, M.A. *et al*, *Anal. Biochem.*, 1969, **30**, 346 (*use, deriv*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EAE875.

Eicosahydro-20*H*-dibenzo[*b,n*][1,4,7,10,13,16]hexaoxacyclononadecin, 9CI E-00003

Dicyclohexyl-19-crown-6

[54160-00-8]



$C_{21}H_{38}O_6$ M 386.528

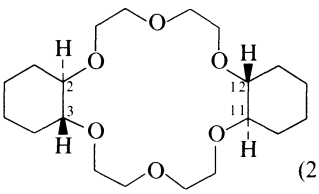
Used as 1% soln. in dipentyl phthalate as ionophore in K-selective electrode (PVC membrane). Oil. Sol. hexane, Et_2O.

Ryba, O. *et al*, *J. Electroanal. Chem.*, 1973, **44**, 425 (*synth*)
Petranek, J. *et al*, *Anal. Chim. Acta*, 1974, **72**, 375 (*use*)

Eicosahydrodibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecine, 9CI, 8CI E-00004

Dicyclohexyl-18-crown-6. 2,3,11,12-Dicyclohexano-1,4,7,10,13,16-hexaoxacyclooctadecane. Dicyclohexano-18-crown-6

[16069-36-6]



(2*RS*,3*RS*,11*RS*,12*RS*)-*form*

$C_{20}H_{36}O_6$ M 372.501

Complexing agent for metal salts. Complexes with $KMnO_4$ to form a benzene-soluble oxidant and with other polar reagents to increase solubility in nonpolar solvs. Used in extraction-separation of Hg, Ag; as 1% soln. in dipentyl phthalate as ionophore in K-selective electrode. Colourless or pale yellow wax. Mp 38-54°. Bp 344°.

▷ Toxic. Rapidly absorbed through skin. Severe skin irritant, may cause permanent eye damage.

(***2RS,3RS,11RS,12RS*)-*form*** [54383-26-5]
trans-transoid-trans-*form*. trans-anti-trans-*form*
Needles (Et_2O). Mp 77-80°. This isomer also known in opt. active form.

(***2RS,3RS,11SR,12SR*)-*form*** [54383-27-6]
trans-cisoid-trans-*form*. trans-syn-trans-*form*
Prisms (Et_2O). Mp 120-121°.

(***2RS,3SR,11SR,12RS*)-*form*** [15128-66-2]
cis-transoid-cis-*form*. cis-anti-cis-*form*. *Isomer B*
Cryst. (hexane). Mp 69-70°.

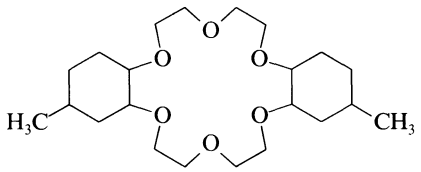
(***2RS,3SR,11RS,12SR*)-*form*** [15128-65-1]
cis-cisoid-cis-*form*. cis-syn-cis-*form*. *Isomer A*
Cryst. (hexane). Mp 61-62.5°.

Pedersen, C.J., *J. Am. Chem. Soc.*, 1967, **89**, 2495, 7017 (*synth, purifin, uv, ir, pmr, use, tox*)
Org. Synth., 1972, **52**, 66 (*synth, pmr*)
Petranek, J. *et al*, *Collect. Czech. Chem. Commun.*, 1973, **38**, 497 (*use*)
Petranek, J. *et al*, *Anal. Chim. Acta*, 1974, **72**, 375 (*use*)
Christensen, J.J. *et al*, *Chem. Rev.*, 1974, **74**, 351 (*rev*)
Stoddart, J.F. *et al*, *J. Chem. Soc., Chem. Commun.*, 1974, 390 (*synth, bibl*)
Hayward, R.C. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1976, 2413 (*synth, bibl*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 174.
Burden, I.J. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1977, 220 (*synth, bibl*)
Yakshin, V.V. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 938 (*detn, Hg*)
Abashkin, V.M. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 1713 (*detn, Ag*)
Fraser, M.E. *et al*, *Can. J. Chem.*, 1986, **64**, 816 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DGV100.

Eicosahydro-2,13-dimethyldibenzo[*b*,*k*][1,4,7,10,13,16]hexaoxacyclooctadecin, 9CI E-00005

Dimethyldicyclohexyl-18-crown-6

[41376-28-7]



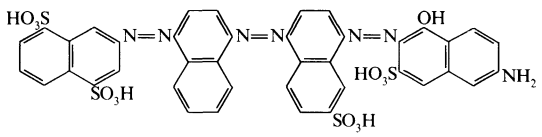
$C_{22}H_{40}O_6$ M 400.554

Obt. as an undefined isomer or regioisomeric mixture with the 2,14-isomer. CAS registry no. applies to this prepn. of undefined composition. Used as 1% soln. in dipentyl phthalate in K-selective electrode (PVC membrane). Cryst. (hexane/Et_2O). Sol. hexane, Et_2O. Mp 35-60°.

Pedersen, C.J., *J. Am. Chem. Soc.*, 1967, **89**, 7017 (*synth*)
Petranek, J. *et al*, *Collect. Czech. Chem. Commun.*, 1973, **38**, 497.
Petranek, J. *et al*, *Anal. Chim. Acta*, 1974, **72**, 375 (*use*)

Eliamina blue FFL E-00006

3-[[4-[[6-Amino-1-hydroxy-3-sulfo-2-naphthalenyl]azo]-6-sulfo-1-naphthalenyl]azo]-1-naphthalenyl]azo]-1,5-naphthalenedisulfonic acid, 9CI. C.I. Direct blue. Direct light blue MFL. Chlorantine fast blue. Helion blue BRRL. Pyrazol fast blue BS. Solar blue G. Triantine light blue FRL. Viosol blue BRR. C.I. 34140. Numerous other proprietary names



$C_{40}H_{27}N_7O_{13}S_4$ M 941.956

Strictly the name Eliamina blue FFL refers to the tetrasodium salt.

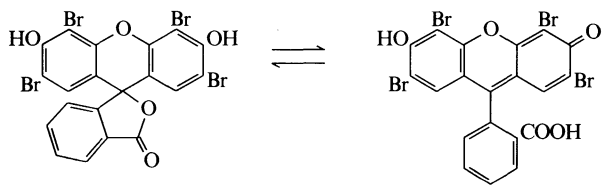
Tetra-Na salt: [4399-55-7].
Indicator used as a 0.2% soln. in 5% EtOH for titrimetric detn. of Th. Dark red cryst. powder. Sl. sol. H_2O; v. spar. sol. EtOH. λ_{max} 594 nm (H_2O).

Zaki, M.R. *et al*, *Fresenius' Z. Anal. Chem.*, 1960, **174**, 274 (*detn, Th*)
Colour Index, 3rd Edn., 1971, **4**, 4318 (*synth*)

Eosine E-00007

2',4',5',7'-Tetrabromo-3',6'-dihydroxyspiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 9CI. 2',4',5',7'-Tetrabromofluorescein, 8CI. C.I. Solvent red 43. C.I. Acid red 87. C.I. 45380

[15086-94-9]



Lactone form *Quinonoid form*

$C_{20}H_8Br_4O_5$ M 647.896

Strictly, the name Eosine applies to the disodium salt. Insol. H_2O; sl. sol. EtOH; sol. alkalis.

▷ LM5800000.

Di-Na salt: [17372-87-1].
Fluorescent dye used in biochemistry etc. Used for extraction-photometric and fluorimetric detn. of many metals, e.g. Co, Pb, Hg, Ag, Zn; titrimetric detn. of $Br^{\ominus}$, $I^{\ominus}$. Red cryst. with bluish tinge, or brownish-red powder. Sol. H_2O; sl. sol. EtOH; insol. Et_2O.

▷ LM5850000.

Quinonoid-form

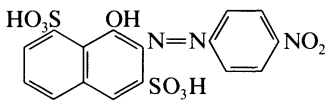
Et ester: [26799-78-0]. *2-(2,4,5,7-Tetrabromo-6-hydroxy-3-oxo-3H-xanthen-9-yl)benzoic acid ethyl ester, 9CI. C.I. Solvent red 45. C.I. 45386*
$C_{22}H_{12}Br_4O_5$ M 675.950
Used as 0.5m*M* soln. of K salt in 80% EtOH for photometric detn. of Pt(*IV*) (λ_{max} 555 nm, ε 80000). Violet cryst. powder (as K salt). Sl. sol. EtOH, hot water.

[6359-05-3]

Baeyer, A., *Ber.*, 1871, **4**, 555 (*synth*)
El-Ghamry, M.T. *et al*, *Anal. Chem.*, 1968, **40**, 1986 (*detn, Ag*)
El-Ghamry, M.T. *et al*, *Talanta*, 1969, **16**, 235 (*deriv, detn, Pt*)
Haddad, P.R. *et al*, *Talanta*, 1976, **23**, 275 (*detn, Co*)
Tananaiko, M.M. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 336.
Snell, F.D., *Photometric and Fluorimetric Methods of Analysis, Metals, Part 1*, John Wiley, New York, 1978, 93.
Szczepaniak, W. *et al*, *Anal. Chim. Acta*, 1982, **140**, 261 (*detn, Pb*)
Fompeydie, D. *et al*, *Bull. Soc. Chim. Fr.*, Part II, 1982, 5 (*synth*)
Mukadavi, J.R., *Analyst (London)*, 1984, **109**, 1577 (*detn, Hg*)
Konopski, L. *et al*, *J. Chromatogr.*, 1986, **363**, 394 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BMO250, BNH500.

Epsilon blue E-00008

7-(4-Nitrophenylazo)-8-hydroxy-1,6-naphthalenedisulfonic acid



$C_{16}H_{11}N_3O_9S_2$ M 453.410

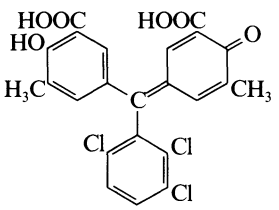
Strictly the name Epsilon blue applies to the disodium salt.

Di-Na salt: [73904-21-9].
Acid-base indicator (pH range 11-13; colour change: pink → purple). Used as a 0.1% aq. soln. Dark red cryst. powder. Sol. H_2O.

Ferber, K.H., *Ind. Eng. Chem., Anal. Ed.*, 1946, **18**, 631 (*synth*)
Bishop, E., *Indicators*, Oxford, Pergamon, 1972 (*use*)

Eriochrome azurol G E-00009

5-[(3-Carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,3,6-trichlorophenyl)methyl]-2-hydroxy-3-methylbenzoic acid, 9CI. 2'',5'',6''-Trichloro-4-hydroxy-3,3'-dimethylfuchsone-5,5'-dicarboxylic acid. C.I. Mordant blue 47. C.I. 43855. Radiochrome blue B. Diamond blue FBG. Sunchromine blue FBG. Mitsui chrome brilliant blue GX



$C_{23}H_{15}Cl_3O_6$ M 493.726

Strictly, the name Eriochrome azurol G applies to the disodium salt.

Di-Na salt: [3267-40-1].

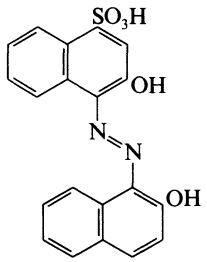
Used as 0.1% soln. in EtOH for photometric detn. of Sc (λ_{max} 610 nm, ε 30000). Blue cryst. (EtOH). Sol. H_2O, EtOH.

Uesugi, K., *Bull. Chem. Soc. Jpn.*, 1969, **42**, 2398 (*detn, Sc*)
Colour Index, 3rd Edn., 1971, **4**, 4409 (*synth*)

Eriochrome blue black E-00010

3-Hydroxy-4-[(2-hydroxy-1-naphthalenyl)azo]-1-naphthalenesulfonic acid, 9CI. 2,2'-Dihydroxy-1,1'-azonaphthalene-4-sulfonic acid. Calcon. Palatine chrome black 6BN. Solochrome dark blue B. Diamond blue black EB. C.I. Mordant blue 17. C.I. 15705

[2538-79-6]



$C_{20}H_{14}N_2O_5S$ M 394.407

Strictly the name Eriochrome blue black applies to the sodium salt.

Na salt: [2538-85-4].

Used as aq. soln. for extraction-photometric detn. of $UO_2^{2\oplus}$, Al, Mo (λ_{max} 540 nm, ε 18700); indicator for titrimetric detn. of Ca, Cd, Mg, Zn; acid-base indicator. Brown-orange powder. Sol. H_2O, 2-ethoxyethanol; sl. sol. EtOH, Me_2CO; insol. C_6H_6, $CHCl_3$, Et_2O.

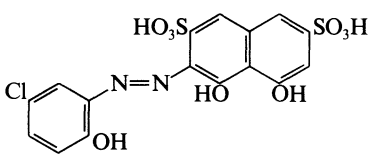
▷ QK2200000.

Schwarzenbach, G. *et al*, *Helv. Chim. Acta*, 1948, **31**, 678 (*use, indicator*)
Liddell, H., *Analusis*, 1958, **83**, 111 (*detn, Be, Zn, Cd*)
Poluektov, N.S. *et al*, *Zh. Anal. Khim.*, 1958, **13**, 555 (*detn, Al, Ga, Zn*)
Korkisch, J. *et al*, *Mikrochim. Acta*, 1961, 537, 564 (*Mo, Zr*)
Abd El Raheem, A.A. *et al*, *Fresenius' Z. Anal. Chem.*, 1971, **256**, 356 (*detn, Ca, Mg*)
Jean, M., *Analusis*, 1972, **1**, 358 (*detn, Mo*)
Von Juergensonn, H.B., *CA*, 1972, **76**, 22735q (*detn, Ca*)
Puech, A. *et al*, *CA*, 1972, **77**, 31107j (*detn, Al*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 310 (*use, indicator*)
Mavrodin, M., *Rev. Roum. Chim.*, 1972, **17**, 1972 (*detn, $UO_2^{2\oplus}$*)
Croitoru, V. *et al*, *CA*, 1973, **79**, 87095u (*detn, Cd, Zn*)

Eriochrome blue SE E-00011

2-(5-Chloro-2-hydroxyphenylazo)chromotropic acid. 3-[(5-Chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI. C.I. Mordant blue 13. C.I. 16680. Acid chrome navy blue B. Chrome fast blue 2B. Corinth CA. Plasmocorinth B

[7361-97-9]



$C_{16}H_{11}ClN_2O_9S_2$ M 474.856

Strictly, the name Eriochrome blue SE applies to the disodium salt.

Di-Na salt: [1058-92-0].

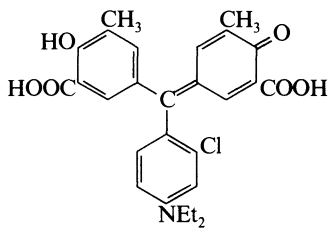
Used as 0.1% soln. in 25% MeOH or as solid (mixt. with KCl 1:200) as metallochromic indicator in titrimetric detn. of Ca, Cd, Mg, Ni, Mn, Pb, Zn and in photometric detn. of Be, Zr, U(*VI*) (λ_{max} 550 nm, ε 19000); as 0.1% aq. soln. to give colour reactions with Al, Ga. Dark reddish cryst. powder. Sol. MeOH, EtOH, 2-ethoxyethanol; sl. sol. H_2O. Mp >300°. pK_{a1} 8.0; pK_{a2} 10.5;pK_{a3} 11.9.

Abd El Raheem, A.A. *et al*, *Fresenius' Z. Anal. Chem.*, 1958, **163**, 340; 1971, **256**, 356 (*detn, Cd, Mg, Mn, Ni, Pb, Zn*)
Flaschka, H. *et al*, *Z. Physiol. Chem.*, 1958, **310**, 97 (*synth, use*)
Kovacs, G.S. *et al*, *Anal. Chim. Acta*, 1959, **21**, 297 (*detn, Ca, Mg*)
Korenman, I.M. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 36 (*detn, Ga, In, Sc, Th*)
Brush, J.S., *Anal. Chem.*, 1961, **33**, 798 (pK_a)
Uesugi, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1966, **39**, 194 (*detn, Be*)
Navratil, O., *Chem. Listy*, 1966, **60**, 451 (*detn, Zr*)
Bishop, E., *Indicators*, Oxford, Pergamon, 1972 (*use*)
Mavrodin, M., *Rev. Roum. Chim.*, 1972, **17**, 1199; *CA*, **77**, 159764p (*detn, U*)
Scarpa, A., *Biochemistry*, 1974, **13**, 2789 (*detn, Mg*)

Eriochrome brilliant violet B E-00012

5-[(3-Carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)[2-chloro-4-(diethylamino)phenyl]methyl]-2-hydroxymethylbenzoic acid, 9CI. 2"-Chloro-4"-diethylamino-4'-hydroxy-3,3'-dimethylfuchsone-5,5'-dicarboxylic acid. C.I. Mordant violet 28. C.I. 43570. Brilliant monochrome violet. Omega chrome brilliant violet B

[7452-52-0]



$C_{27}H_{26}ClNO_6$ M 495.958

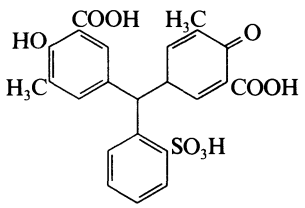
Used as 0.1% soln. in aq. EtOH for photometric detn. of Be (λ_{max} 560 nm, ε 59500), Sc (λ_{max} 562 nm, ε 64000). Violet cryst. (MeOH). Sol. H_2O, MeOH, EtOH.

Uesugi, K., *Anal. Chim. Acta*, 1970, **49**, 89, 597 (*detn, Be, Sc*)
Colour Index, 3rd Edn., 1971, **4**, 4407 (*synth*)

Eriochrome cyanine R E-00013

5-[(3-Carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2-sulfophenyl)methyl]-2-hydroxy-3-methylbenzoic acid, 9CI. Mordant blue 3. Solochrome cyanine R. Chromoxane cyanine R. C.I. 43820

[2588-24-1]



$C_{23}H_{18}O_9S$ M 470.456

Tri-Na salt: [3564-18-9].

Used for photometric detn. of Al, Be, Cr, Cu, Ga, In; indirect detn. of $F^{\ominus}$ (with Zr). Brick red cryst. powder. Sol. H_2O, EtOH, alkalis, conc. H_2SO_4.

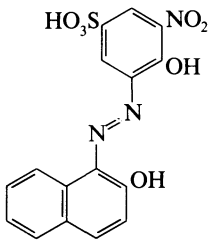
Megregian, S., *Anal. Chem.*, 1954, **26**, 1161 (*detn, F*)
Hill, U.T., *Anal. Chem.*, 1956, **28**, 1419; 1966, **38**, 654 (*detn, Al*)

Sommer, L. *et al*, *Collect. Czech. Chem. Commun.*, 1967, **32**, 4355 (*detn, B*)
Joshi, A.P. *et al*, *Microchem. J.*, 1967, **12**, 447 (*detn, Ga*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, New York, 4th Ed., 1986, 25.
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986.

Eriochrome fast grey RAS E-00014

4-Hydroxy-3-[(2-hydroxy-1-naphthalenyl)azo]-5-nitrobenzenesulfonic acid, 9CI. 1-(2-Hydroxy-3-nitro-5-sulfophenylazo)-2-naphthol. C.I. Mordant black 15. Fast grey RA. Solochrome fast grey RAS. Wool grey N. C.I. 15690. Alizarine Chrome black 4R. Numerous other proprietary names

[25747-09-5]



$C_{16}H_{11}N_3O_7S$ M 389.345

Strictly, the name Eriochrome fast grey RAS applies to the sodium salt. pK_{a1} 3.83; pK_{a2} 10.53; pK_{a3} 10.7.

Na salt: [3179-84-8].

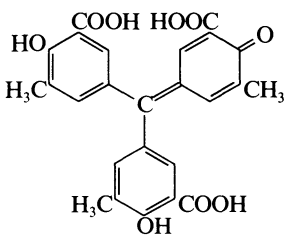
Used as metallochromic indicator for titrimetric detn. of Bi, Fe(*III*), Th, Zn. Dark red cryst. powder.

Khalifa, H. *et al*, *Anal. Chim. Acta*, 1957, **17**, 194 (*use*)
Khalifa, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1960, **172**, 167 (*props*)
Colour Index, 3rd Edn., 1971, **4**, 4082 (*synth*)

Eriochrome geranol E-00015

5-[(3-Carboxy-4-hydroxy-5-methylphenyl)(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)methyl]-2-hydroxy-3-methylbenzoic acid, 9CI. 3,3',3''-Trimethyl-4',4''-dihydroxyfuchsone-5,5',5''-tricarboxylic acid. C.I. Mordant violet 16. C.I. 43865

[2947-64-0]



$C_{25}H_{20}O_9$ M 464.428

Di-Na salt: Used as a 0.5% soln. in aq. EtOH as metallochromic indicator for titrimetric detn. of Fe(*III*) (colour change: red-violet → orange); photometric detn. of Al (λ_{max} 500 nm, ε 50000), Ga (λ_{max} 505 nm, ε 35600). Cryst. Sol. EtOH, spar. sol. H_2O.

Tri-NH_4 salt: [55343-76-5]. *Chromoxane violet R*

Used as 0.1% aq. or EtOH soln. in photometric detn. of Al (λ_{max} 500 nm, ε 53000) and Ga. Red cryst. (EtOH). Sol. EtOH, H_2O; insol. $CHCl_3$. pK_{a1} 2.88; pK_{a2} 4.20, pK_{a2} 4.20.

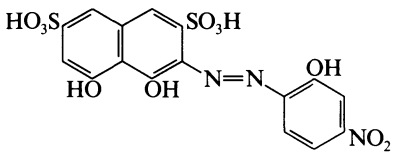
[55343-76-5]

Kulberg, L.M. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1955, **21**, 256 (*synth*)
Sommer, L. *et al*, *Collect. Czech. Chem. Commun.*, 1956, **22**, 203 (*detn, Fe*)
Lisenko, N.F. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 25; 1974, **29**, 1729 (*detn, Ga*)
Romantseva, T.I. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 2342 (*detn, Al*)

Eriochrome green B E-00016

4,5-Dihydroxy-3-[(2-hydroxy-4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI

[35733-86-9]



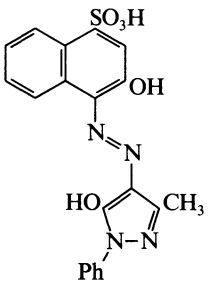
$C_{16}H_{11}N_3O_{11}S_2$ M 485.408

Used as 0.1% aq. soln. for photometric detn. of V(*V*) (λ_{max} 595 nm, ε 22000). Red cryst. Sol. H_2O.

Tikhonov, V.N., *Zh. Anal. Khim.*, 1971, **26**, 2142 (*detn, V*)

Eriochrome red B E-00017

4-[(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1H-pyrazol-4-yl)azo]-3-hydroxy-1-naphthalenesulfonic acid, 9CI. C.I. Mordant red 7. Chrome fast red B. Chrome red B. Omega chrome red B. Solochrome red ER. C.I. 18760. Alizarine brilliant red 3R. Hispacrom red 2B. Numerous other proprietary names



$C_{20}H_{16}N_4O_5S$ M 424.436

Strictly, the name Eriochrome red B applies to the sodium salt.

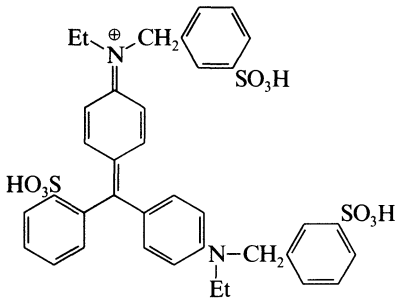
Na salt: [3618-63-1].

Used as 0.1% soln. in H_2O or EtOH as metallochromic indicator in titrimetric detn. of Ca, Cu, Mn, Ni, Pb, Zn. Dark red cryst. powder. Sol. H_2O, EtOH. λ_{max} 483 nm (H_2O).

Morgan, G.T. *et al*, *J. Chem. Soc.*, 1924, **125**, 1732 (*detn, Cr, Co*)
Drew, H.D.K. *et al*, *J. Chem. Soc.*, 1939, 823 (*synth, detn, Cr*)
Belcher, R. *et al*, *Chem. Anal.* (*Warsaw*), 1957, **46**, 86 (*detn, Cu, Mn, Ni, Pb, Zn*)
Wehber, P., *Fresenius' Z. Anal. Chem.*, 1957, **158**, 10 (*detn, Ca*)
Bishop, E., *Indicators*, Oxford, Pergamon, 1972, 317 (*use*)

Erioglaucine A E-00018

N-Ethyl-N-[4-[[4-[ethyl[(3-sulfophenyl)methyl]amino]phenyl](2-sulfophenyl)methylene]-2,5-cyclohexadien-1-ylidene]-3-sulfobenzenemethanaminium(1+) hydroxide inner salt. C.I. Acid blue 9. Brilliant blue 9. C.I. 42090. C.I. Food blue 2. Food blue 1. Alphazurine. Disulphine lake blue EG. Eriosky blue. Numerous other proprietary names



$C_{37}H_{37}N_2O_9S_3^{\oplus}$ M 749.905 (ion)

Strictly, the name Erioglaucine A applies to the diammonium salt.

Di-NH_4 salt: [2650-18-2].

Used as 0.1% aq. soln. as a redox indicator (colour change: pink → yellow). Dark blue cryst. powder. Sol. H_2O. E° +1.13 V (1*M* H_2SO_4).

▷ BQ4550000.

Di-Na salt: [3844-45-9].

Biological stain; textile dye; wood stain; indicator. Reddish-violet powder with metallic lustre. Sol. H_2O, EtOH.

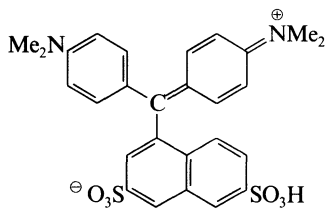
▷ Carcinogen.

Hansen, W.H. *et al*, *Toxicol. Appl. Pharmacol.*, 1966, **8**, 29 (*tox*)
Bishop, E., *Indicators*, Oxford, Pergamon, 1972, 634.
Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 1530C.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FAE000, FMU059.

Erio green B E-00019

C.I. Acid green 16. C.I. 44025. Amido green V. Derma green P. Intracid green V. Mercantine green V extra. Naphthalene green V. Solar brilliant green J. Sulfacid brilliant green ZJ. Numerous other proprietary names

[12768-78-4]



$C_{27}H_{26}N_2O_6S_2$ M 538.644

Strictly, the name Erio green B applies to the sodium salt. Prob. a mixt. of the *N,N*-Di-Me and *N,N*-Di-Et compds.

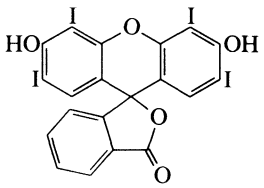
Na salt: Redox indicator used as a soln. in H_2O or EtOH. Also used for detn. of Ce and Pd. Dark greenish blue cryst. powder. Sol. EtOH, H_2O. E° 1.13 V (1*M* H_2SO_4).

Frisch, F., *Helv. Chim. Acta*, 1931, **14**, 669.
Ramsley, A.O., *Color Eng.*, 1967, **5**, 20 (*ir*)
Rao, N. *et al*, *Mikrochim. Acta*, 1970, 292, 512 (*detn, Ce, Pd*)
Rao, N. *et al*, *Fresenius' Z. Anal. Chem.*, 1971, **254**, 110, 605 (*use, indicator*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

Erythrosine E-00020

3',6'-Dihydroxy-2',4',5',7'-tetraiodospiro[isobenzofuran-1(3H),9'(9H)xanthen]-3-one, 9CI. Tetraiodofluorescein. C.I. Acid red 51. C.I. Food red 14. Aizen erythrosine. Cogilor orange 211.10. Cogilor orange 312.42. Dianthine B. Iodeosine B. Pyrosine B. Red 1427. FDC red No. 3. C.I. 45430. Numerous proprietary names

[15905-32-5]



$C_{20}H_8I_4O_5$ M 835.898

Tautomeric (?) between spiro and open-chain forms. CA data refers to spiro-form. Strictly the name Erythrosine refers to the disodium salt. Iodination prod. of Fluorescein.

▷ LM5940000.

Di-Na salt: [16423-68-0]. *Ceplac. Felumin. Trace*

Used as 5m*M* aq. soln. for extraction-photometric detn. of K, Cd (ε 96000), Pb, Mn, Zn, Ag; used as adsorption and fluorescent indicator. Diagnostic aid (dental disclosing agent). Radiopaque medium. Biological stain. Dye used in food, feed additives, flavours and printing inks. Brown powder. Sol. H_2O giving cherry-red soln.

▷ LD_{50} 200 mg/kg (rat, iv). LM5950000.

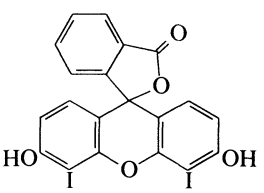
[49746-10-3]

Dolinksy, M. *et al*, *J. Assoc. Off. Agric. Chem.*, 1951, **34**, 114 (*synth*)
Machwe, H.K. *et al*, *Curr. Sci.*, 1967, **36**, 261; 1973, **42**, 786 (*spectra*)
Seybold, P.G. *et al*, *CA*, 1969, **71**, 8201c (*props*)
Iwachido, T., *Bull. Chem. Soc. Jpn.*, 1971, **44**, 1835 (*use*)
Canadian Pat., 953 624, (1974); *CA*, **83**, 15670f (*use*)
Marmino, D.M., *J. Assoc. Off. Anal. Chem.*, 1974, **57**, 495 (*nmr*)
Collins, T.F.X. *et al*, *Food Cosmet. Toxicol.*, 1976, **14**, 233 (*tox*)
Matveets, M.A. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 1049 (*props*)
Tananaiko, M.M. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 1899 (*detn, Cd, Pb*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2392.
Hoshi, S. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1983, **32**, 287.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FAG040.

Erythrosine Y E-00021

3',6'-Dihydroxy-4',5'-diiodospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 9CI

[38577-97-8]



$C_{20}H_{10}I_2O_5$ M 584.105

Strictly, the name Erythrosine Y refers to the disodium salt.

Di-Na salt: [33239-19-9].

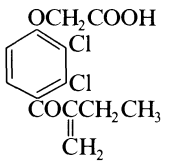
Used as adsorption indicator for detn. of $I^{\ominus}$. Cryst.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*detn, $I^{\ominus}$*)

Ethacrynic acid, BAN, USAN E-00022

[2,3-Dichloro-4-(2-methylene-1-oxobutyl)phenoxy]acetic acid, 9CI. [2,3-Dichloro-4-(2-methylenebutyryl)phenoxy]acetic acid, 8CI. ***Etacrynic acid,*** **INN, JAN.** *Acetacrin. Edecrin. NSC 85791. Other proprietary names*

[58-54-8]



$C_{13}H_{12}Cl_2O_4$ M 303.141

Diuretic. Reagent for the hplc anal. of thio drugs. Mp 122°. Also used as Na salt.

▷ AG6600000.

Schultz, E.M. *et al, J. Med. Chem.*, 1962, **5**, 660 (*synth*)
Beyer, K.H. *et al, J. Pharmacol. Exp. Ther.*, 1965, **147**, 1 (*pharmacol*)
Peters, G. *et al, Handb. Exp. Pharmacol.*, 1969, **24**, 405 (*rev*)
Kim, K.E. *et al, Am. J. Cardiol.*, 1971, **27**, 407 (*rev, pharmacol*)
Williamson, H.E. *et al, J. Clin. Pharmacol.*, 1977, **17**, 663 (*pharmacol*)
Lamotte, J. *et al, Acta Crystallogr., Sect. B*, 1978, **34**, 2636 (*cryst struct*)
Koechel, D.A., *Annu. Rev. Pharmacol. Toxicol.*, 1981, **21**, 265 (*rev*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2328, 2363.
Cavrini, V. *et al, Chromatographia*, 1987, **23**, 680 (*use*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 2693 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DFP600.

Ethanebis(thioic) acid, 9CI E-00023

1,2-Dithiooxalic acid, 8CI

[17148-96-8]

$$HSOCCOSH \rightleftharpoons HOSCCOSH \rightleftharpoons HOSCCSOH$$

$C_2H_2O_2S_2$ M 122.169

pK_{a1} 0.91; pK_{a2} 2.71. Free acid known only in aq. soln.

Di-K salt: [20267-56-5].
Used as 0.25% aq. soln. in extraction-photometric detn. of Ni. Cryst. Sol. H_2O.

Di-Me ester: [54129-78-1].
$C_4H_6O_2S_2$ M 150.222
Mp 80°. Bp 218°.

Diamide: see *Ethanedithioamide, E-00027*

Jones, H.O. *et al, J. Chem. Soc.*, 1909, **95**, 1904.
Arndt, F. *et al, Ber.*, 1923, **56**, 1976.
Cameron, A.J. *et al, Anal. Chim. Acta*, 1961, **24**, 360 (*detn, Ni*)
Pilipenko, A.T. *et al, Zh. Anal. Khim.*, 1968, **23**, 227 (*detn, Ni*)

Ethanediamine, 9CI E-00024

Ethylenediamine, 8CI. 1,2-Diaminoethane

[107-15-3]

$$H_2NCH_2CH_2NH_2$$

$C_2H_8N_2$ M 60.099

Solvent, emulsifier, rubber latex stabiliser, antifreeze component. Base with synthetic applications. Used in manuf. of chelating agents and fungicides. Li deriv. is alkene isomerisation and dehydrogenating agent. Pharmaceutic aid. Chelating agent; reagent for Cu(*I*).

Clear, thick, strongly alkaline liq. with ammoniacal odour. Sol. EtOH, H_2O (with hydration); insol. C_6H_6; sl. sol. Et_2O. pK_a 6.85. Steam-volatile. Forms compds. with metallic salts.

▷ Toxic, irritant, allergen. TLV 25. Flammable, reacts violently with many materials. KH8575000.

Monohydrate: [6780-13-8].
Oil. Mp 10°. Bp 118°.

B,2HCl: [333-18-6].
Monoclinic prisms. Insol. EtOH; sol. H_2O. Subl. without melting.

▷ KV3850000.

Dipicrate: Mp 233-235° dec.

N,N′-*Bis(4-methylbenzenesulfonyl):* Cryst. (EtOH). Mp 163-164°.

N-*Ac:* [1001-53-2]. N-*(2-Aminoethyl)acetamide, 9CI. 2-Acetamidoethylamine*
$C_4H_{10}N_2O$ M 102.136
Needles. V. sol. H_2O, EtOH; spar. sol. Et_2O. Mp 172°.

N,N′-*Di-Ac:* [871-78-3]. N,N-*1,2-Ethanediylbisacetamide, 9CI*
$C_6H_{12}N_2O_2$ M 144.173
Mp 51°. Bp_3 128°.

N,N′-*Dioctadecanoyl:* [110-30-5]. N,N′-*Dioctadecanoylethanediamine.* N,N′-*1,2-Ethanediylbis(octadecanamide), 9CI.* N,N′-*Ethylenebis(octadecanamide).* N,N′-*Distearoylethylenediamine. Acrawax C. Acrawax CT*
$C_{38}H_{76}N_2O_2$ M 593.031
Antifoaming agent in polymer industry. Cryst. (EtOH aq.). Mp 149-149.5° (140-141°).

N-*Me:* [109-81-9]. N-*Methyl-1,2-ethanediamine. 2-Methylaminoethylamine*
$C_3H_{10}N_2$ M 74.125
Bp 115-116°.

▷ KV5250500.

N-*Me; B,HCl:* Cryst. + H_2O (EtOH). Mp 130-132° dec.

N-*Et:* [110-72-5]. N-*Ethyl-1,2-ethanediamine. 2-Ethylaminoethylamine*
$C_4H_{12}N_2$ M 88.152
Refractive oil. V. sol. H_2O. Bp 130°.

N,N′-*Di-Et:* [100-36-7].
$C_6H_{16}N_2$ M 116.206
Bp 149-150°.

▷ KV3500000.

N,N′-*Di-Et; B,2HCl:* [52198-62-6].
Mp 259-260°.

N-*Nitro:* [58130-90-8].
$C_2H_7N_3O_2$ M 105.096
Isol. from *Agaricus silvaticus.*

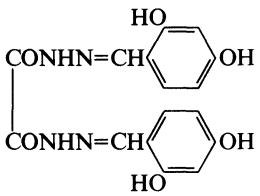
Johnson, T.B. *et al, J. Am. Chem. Soc.*, 1916, **38**, 2135 (*deriv*)
Ing, H.R. *et al, J. Chem. Soc.*, 1926, 2348 (*synth, deriv*)
Bailar, J.C. Jr., *J. Am. Chem. Soc.*, 1934, **56**, 955 (*synth*)
Bloom, M.S. *et al, J. Am. Chem. Soc.*, 1945, **67**, 539 (*deriv*)
Takase, S. *et al, Nippon Kagaku Kaishi*, 1948, **69**, 154 (*Acrawax C*)
Hall, R.H. *et al, J. Am. Chem. Soc.*, 1951, **73**, 2213 (*synth*)
Stetter, H. *et al, Chem. Ber.*, 1954, **87**, 566.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 239; **4**, 237.
Jamet-Deleroix, S. *et al, C. R. Hebd. Seances Acad. Sci.*, 1972, **274**, 771; *Acta Crystallogr., Sect. B*, 1973, **29**, 977 (*cryst struct*)
Austin, G.R., *Chem. Eng. (N.Y.)*, 1974, **81**, 143, 148, 150 (*rev, manuf*)
Chilton, W.S. *et al, Phytochemistry*, 1975, **14**, 2291 (*isol, deriv, ir, uv*)
Butler, R.N. *et al, J. Chem. Soc., Perkin Trans. 1*, 1976, 386 (*Acrawax C*)
Ivin, K.J. *et al, Makromol. Chem.*, 1978, **179**, 591 (*synth, pmr*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 208.

Nilsson, L. *et al*, *Acta Chem. Scand., Ser. B*, 1983, **37**, 929 (*synth*)
Newkome, G.R. *et al*, *J. Org. Chem.*, 1983, **48**, 4848 (*pmr, ms*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 402.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 267.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DJI400, EEA500, EIW000.

Ethanedioic acid bis[[(2,4-dihydroxyphenyl)methylene]hydrazide], 9CI E-00025

4,4'-Oxalylbis(hydrazonomethyl)diresorcinol. 2,4-Dihydroxybenzaldehyde oxaloylhydrazone

[6963-28-6]



$C_{16}H_{14}N_4O_6$ M 358.310

Used as 0.1% soln. in DMF for fluorimetric detn. of Al (λ_{max} 470 nm), In (λ_{max} 475 nm). Cryst. Sol. DMF.

Pastor, E. *et al*, *J. Mol. Struct.*, 1986, **143**, 513 (*synth*)
Pastor, E. *et al*, *Analyst (London)*, 1987, **112**, 1041 (*detn, Al, In*)

1,2-Ethanediphosphonic acid E-00026

1,2-Ethanediylbisphosphonic acid, 9CI. 1,2-Ethylenediphosphonic acid, 8CI. 1,2-Diphosphonoethane

[6145-31-9]

$(HO)_2P(O)CH_2CH_2P(O)(OH)_2$

$C_2H_8O_6P_2$ M 190.029

Plant growth regulator; flotation agent. Cryst. or needles ($EtOH/Et_2O$). Mp 223-224°. pK_{a1} 1.50; pK_{a2} 2.96; pK_{a3} 7.50; pK_{a4} 9.08 (H_2O, 25°).

Tetra-Me ester: [5927-50-4]. *Tetramethyl 1,2-ethanediylbisphosphonate. 1,2-Bis(dimethoxyphosphinyl) ethane*
$C_6H_{16}O_6P_2$ M 246.136
Liq. $Bp_{1.5}$ 166-168°. n_D^{15} 1.4428.

Tetra-Et ester: [995-32-4]. *Tetraethyl 1,2-ethanediylbisphosphonate. 1,2-Bis(diethoxyphosphinyl) ethane*
$C_{10}H_{24}O_6P_2$ M 302.243
Deodorant. Used as a 0.025*M* soln. in $CHCl_3$ for extraction separation of Am, Bk, Cm, Eu. Liq. Bp_{14} 200-202°, Bp_1 167°. $n_D^{16.5}$ 1.4425.

P,P'-Dibutyl ester: [33454-77-2].
$C_{10}H_{24}O_6P_2$ M 302.243
Used for extraction of Eu into C_6H_6, $CHCl_3$. Sol. C_6H_6, $CHCl_3$.

Tetrabutyl ester: [919-48-2]. *Tetrabutyl 1,2-ethanediylbisphosphonate. 1,2-Bis(dibutoxyphosphinyl) ethane*
$C_{18}H_{40}O_6P_2$ M 414.458
Used in purification of Ga.

Tetra-Ph ester: [42451-26-3]. *Tetraphenyl 1,2-ethanediylbisphosphonate. 1,2-Bis(diphenoxyphosphinyl) ethane*
$C_{26}H_{24}O_6P_2$ M 494.419
Solid. Mp 155-155.5°.

Tetrachloride: [1499-30-5]. *1,2-Ethanediylbis[phosphonic dichloride]. 1,2-Bis(dichlorophosphinyl)ethane*
$C_2H_4Cl_4O_2P_2$ M 263.811
Solid. Mp 167-170°.

[1779-28-8]

Ford-Moore, A.H. *et al*, *J. Chem. Soc.*, 1947, 1465 (*tetra-Et ester*)
Moedritzer, K. *et al*, *J. Inorg. Nucl. Chem.*, 1961, **22**, 297 (*ester, synth, ir, P nmr*)
Maier, L., *Helv. Chim. Acta*, 1965, **48**, 133 (*tetrachloride*)
Kosolapoff, G.M. *et al*, *J. Chem. Soc.*, 1966, 757 (*tetrachloride, ir*)
Brophy, J.J. *et al*, *Aust. J. Chem.*, 1967, **20**, 503 (*esters, pmr*)
Kamin, G.J. *et al*, *J. Chromatogr.*, 1967, **31**, 292 (*tetra-Et ester, use*)
Shner, S.M. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 390), 1967, **37**, 418 (*synth, tetrakis(2-chloroethyl) ether*)
Sommer, K., *Z. Anorg. Allg. Chem.*, 1970, **376**, 37 (*tetrachloride, synth, P nmr*)
Jamil, M. *et al*, *Anal. Chim. Acta*, 1971, **55**, 145 (*dibutyl ester, sepn, Eu*)
Nesterova, N.P. *et al*, *Izv. Akad. Nauk SSSR*, 1974, **10**, 2295 (*synth*)
Khmutova, M.K. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1110 (*tetra-Et ester, use*)
Peterson, S.W. *et al*, *J. Phys. Chem.*, 1977, **81**, 466 (*cryst struct*)
Yatmirski, K.B. *et al*, *Zh. Neorg. Khim.*, (*Engl. transl.* p. 236), 1977, **22**, 435 (*props, complexes*)

Ethanedithioamide, 9CI E-00027

Dithiooxamide, 8CI. Rubeanic acid

[79-40-3]

$H_2N—CS—CS—NH_2$

$C_2H_4N_2S_2$ M 120.199

Used as a stabilizer for ascorbic acid solns. Used as 0.1% soln. in EtOH for photometric detn. of Mo (λ_{max} 600 nm, ε 2200), Cu(*I*), Ni, Co, Re, Ru, Os. Red cryst. Dec. at *ca.* 200°.

▷ RP1575000.

Jacobs, W.D. *et al*, *Anal. Chim. Acta*, 1959, **20**, 332 (*detn, Cu, Co, Ni*)
Scott, T.A. *et al*, *J. Phys. Chem.*, 1959, **30**, 465 (*spectra, struct*)
Ray, P. *et al*, *J. Indian Chem. Soc.*, 1961, **38**, 535 (*rev*)
Paul, A., *Anal. Chem.*, 1963, **35**, 2119 (*detn, Cu*)
Wheatley, P.J., *J. Chem. Soc.*, 1965, 396 (*cryst struct*)
Lingane, P.J., *Anal. Chim. Acta*, 1969, **47**, 529 (*detn, Ru*)
Burakevich, J.V. *et al*, *J. Org. Chem.*, 1970, **35**, 2102 (*synth*)
Bhoval, S.K., *Anal. Chim. Acta*, 1974, **69**, 465 (*detn, Os*)
Williams, D.A. *et al*, *Anal. Chem.*, 1975, **47**, 2025 (*detn, Mo*)
Hoppe, H. *et al*, *Arch. Pharm. (Weinheim, Ger.)*, 1975, **308**, 526 (*synth*)
Desseyn, H.O. *et al*, *Appl. Spectrosc.*, 1978, **32**, 101 (*ir, raman*)
Domnisse, R.A. *et al*, *Bull. Soc. Chim. Belg.*, 1979, **88**, 261 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DXO200.

1,2-Ethanedithiol E-00028

1,2-Dimercaptoethane. Dithioethylene glycol

[540-63-6]

$HSCH_2CH_2SH$

$C_2H_6S_2$ M 94.201

Converts ketones to ethylene thioketals. Derivatisation reagent for carbonyl compds. giving thioketals suitable for gc. Liq. d 1.124. Bp 146°, Bp_{150} 76-81°. pK_{a1} 9.05; pK_{a2} 10.56 (25°).

▷ KI3325000.

Bis-2,4-dinitrophenyl: Cryst. (butanone/MeOH). Mp 249-250°.

Bis-2,4-dinitrophenylthio: Cryst. (butanone/MeOH). Mp 202.5-203°.

Bis-4-methylbenzenesulphonyl: [2225-23-2]. *Ethylene dithiotosylate.* S,S'-*1,2-Ethanediyl-4-methylbenzenesulfonothioate*
Cryst. (EtOH/EtOAc).
Di-Me ether: [6628-18-8]. *1,2-Bis(methylthio)ethane, 9CI*
Oil. Bp 183°.
Mono-Et ether: [26750-44-7]. *2-(Ethylthio)ethanethiol, 9CI*
Oil. Bp 188°.

Hall, W.P. *et al, J. Am. Chem. Soc.*, 1943, **65**, 1466 (*synth*)
Grogan, C.H. *et al, J. Org. Chem.*, 1955, **20**, 50 (*synth, deriv*)
Org. Synth., Coll. Vol., 4, 1963, 401 (*synth*)
Zmigrod, A. *et al, Steroids*, 1966, **8**, 119 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 189; **5**, 290.
Hargittai, I. *et al, J. Chem. Soc., Chem. Commun.*, 1972, 323 (*struct*)
Org. Synth., Coll. Vol., 5, 1973, **54**, 33.
Bittell, J.E. *et al, J. Org. Chem.*, 1978, **43**, 1687 (*synth, ir*)
Harvey, T.G. *et al, J. Chromatogr.*, 1984, **298**, 273 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EEB000.

N,N'-1,2-Ethanediylbisalanine, 9CI E-00029

EDDPA

[36517-11-0]

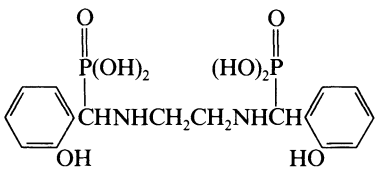
$HOOC(CH_3)CHNHCH_2CH_2NHCH(CH_3)COOH$

$C_8H_{16}N_2O_4$ M 204.225
Used as 0.01-0.1*M* aq. soln. of Na salt for photometric detn. of Cu (λ_{max} 670 nm, ε 140). Cryst. Sol. alkali aq. solns. Mp 278-280° dec.

Irving, H. *et al, J. Chem. Soc.*, 1958, 3540 (*synth*)
Frausto Da Silva, J.J. *et al, Talanta*, 1965, **12**, 465 (*detn, Cu*)

[1,2-Ethanediylbis[imino[(2-hydroxyphenyl)methylene]]] bisphosphonic acid, 9CI E-00030

[20708-36-5]



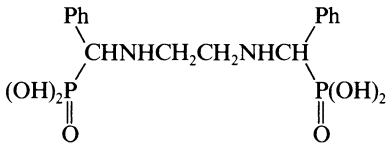
$C_{16}H_{22}N_2O_8P_2$ M 432.306
Used as complexing agent for Cu, Ni. Pink cryst. Mp >300°. pK_{a1} 4.16; pK_{a2} 6.57; pK_{a3} 7.38; pK_{a4} 9.61; pK_{a5} 11.99; pK_{a6} 12.3 (0.5*M* $NaClO_4$, 25°).

Giron-Forest, D. *et al, Bull. Soc. Chim. Fr.*, 1968, 3441; 1972, 296, 390 (*props, synth, pKa*)

[1,2-Ethanediylbis[imino(phenylmethylene)]]bisphosphonic acid, 9CI E-00031

[*Ethylenebis(iminobenzylidene)*]*diphosphonic acid, 8CI*

[20536-09-8]



$C_{16}H_{22}N_2O_6P_2$ M 400.307
Used as complexing agent for Cu, Fe(*III*), Ni, Zn. Pink cryst. Mp 229°. pK_{a1} 4.31; pK_{a2} 5.46; pK_{a3} 7.25; pK_{a4} 10.0 (0.5*M* $NaClO_4$, 25°).

Medved, T.Y. *et al, CA*, 1968, **69**, 73551q (*synth, use*)
Giron-Forest, D. *et al, Bull. Soc. Chim. Fr.*, 1972, 296, 390 (*synth, pKa, use*)

[1,2-Ethanediylbis[nitrilobis[methylene]]] tetrakisphosphonic acid, 9CI E-00032

N,N,N',N'-*Tetrakis(phosphonomethyl)-1,2-ethanediamine. Dequest 2040. Dequest 2041*

[1429-50-1]

$[(HO)_2P(O)CH_2]_2NCH_2CH_2N[CH_2P(O)(OH)_2]_2$

$C_6H_{20}N_2O_{12}P_4$ M 436.125
Behaves as a hexabasic acid, existing in a zwitterionic form. Sequestering agent, used as a corrosion inhibitor, in electroplating, in the extraction of Am and Eu, and as an antidote to Be poisoning. Used for photometric detn. of Ce(*IV*), Fe(*II*), Fe(*III*), Hg(*II*), Pb (λ_{max} 242 nm, ε 6600), Th. Sol. H_2O. Mp 214° dec. pK_{a1} 12.99; pK_{a2} 9.78; pK_{a3} 7.94; pK_{a4} 6.42; pK_{a5} 5.17; pK_{a6} 3.02; pK_{a7} 1.33 (25°). The tetraammonium salt marketed as Dequest 2042. The (tetra?)-K salt marketed as Dequest 2044. The Ca-Na salt marketed as Dequest 2047.
Monohydrate: Mp 250° dec.

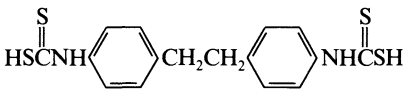
[15142-96-8, 34274-30-1, 40588-70-3, 71334-91-3]

Moedritzer, K. *et al, J. Org. Chem.*, 1966, **31**, 1603 (*synth, P nmr, props*)
Motekaitis, R.J. *et al, Inorg. Chem.*, 1976, **15**, 2303 (*synth, complexes*)
Kurochkina, L.V. *et al, Zh. Neorg. Khim.*, 1978, **23**, 2676; *Russ. J. Inorg. Chem.* (*Engl. Transl.*), 1481 (*complexes*)
Bermejo Barrera, A. *et al, CA*, 1979, **94**, 113767q (*use*)
Levin, V.I. *et al, Zh. Neorg. Khim.*, 1981, **26**, 1180; *Russ. J. Inorg. Chem.* (*Engl. Transl.*), 1981, **26**, 637 (*complexes, props*)
Rizkalla, E.N. *et al, Inorg. Chem.*, 1983, **22**, 1478 (*synth, pmr, P nmr, complexes*)
Bermejo Barrera, A. *et al, Microchem. J.*, 1986, **33**, 162 (*detn, Pb*)

1,2-Ethanediylbis[phenylcarbamodithioic acid], 9CI E-00033

1,2-Ethylenebis[phenyldithiocarbamic acid]

[79948-23-5]



$C_{16}H_{16}N_2S_4$ M 364.580
Di-NH_4 salt: [79948-22-4].
Used as a 0.06% soln. in MeOH for extraction-photometric detn. of Cu (λ_{max} 442 nm, ε 15600, $CHCl_3$). Cryst. Sol. EtOH.

Yamamoto, D. *et al, Bunseki Kagaku* (*Jpn. Anal.*), 1981, **30**, 626 (*detn, Cu*)

1,2-Ethanediylbis[triphenylphosphonium] (2+), 9CI E-00034

1,2-Ethylenebis[triphenylphosphonium](2+). 1,2-Bis(triphenylphosphonio)ethane

[13275-02-0]

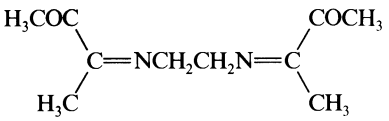
$Ph_3P^{\oplus}CH_2CH_2P^{\oplus}Ph_3$

$C_{38}H_{34}P_2^{2\oplus}$ M 552.634 (ion)
Dibromide: [1519-45-5].
$C_{38}H_{34}Br_2P_2$ M 712.442
Used as 0.5% aq. soln. for extraction-photometric detn. of Co, Nb, Mn (as $MnO_4^{\ominus}$). Cryst. ($CHCl_3$/EtOAc). Sol. H_2O. Mp 297-300°, Mp 313-314°.

▷ Exhibits anticholinesterase activity towards vertebrates and schistosomes. Can explode at 80-90°.

Pattenden, G. *et al*, *J. Chem. Soc. C*, 1969, 531 (*synth, ir, nmr*)
Schweizer, E.E. *et al*, *J. Org. Chem.*, 1973, **38**, 3069 (*synth, use*)
Swartz, W.E. *et al*, *Spectrochim. Acta, Part A*, 1974, **30**, 1561 (*pe*)
Wood, G.W. *et al*, *J. Org. Chem.*, 1975, **40**, 636 (*ms*)
Leddy, B.P. *et al*, *Tetrahedron Lett.*, 1980, **21**, 2261 (*props*)
Willcockson, W.S. *et al*, *Comp. Biochem. Physiol., C: Comp. Pharmacol.*, 1982, **72**, 101 (*tox*)
Burns, D.T. *et al*, *Anal. Chim. Acta*, 1987, **199**, 241; 1988, **204**, 365; 1989, **225**, 123 (*detn, Mn, Nb, Co*)

3,3′-(1,2-Ethanediyldinitrilo)bis-2-butanone E-00035



$C_{10}H_{16}N_2O_2$ M 196.249

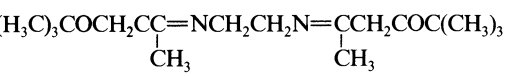
Dioxime, 9CI: [36658-91-0].
$C_{10}H_{18}N_4O_2$ M 226.278
Used as a 1% soln. in aq. EtOH for gravimetric detn. of Ni, Pd. Cryst. (EtOH). Sol. Me_2CO, EtOH. Mp 242° dec.

Mathur, N.K. *et al*, *Talanta*, 1964, **11**, 647 (*synth, detn, Ni, Pd*)

5,5′-(1,2-Ethanediyldinitrilo)bis[2,2-dimethyl-3-hexanone], 9CI E-00036

Bis(acetylpivalylmethane)ethylenediimine

[62796-05-8]



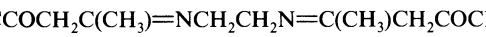
$C_{18}H_{32}N_2O_2$ M 308.463
Used as 0.02*M* soln. in hexane or aq. EtOH for gc sepn. of Cu—Pd, Ni—Pd and Cu—Ni (cyclohexane). Cryst. (pet. ether). Sol. EtOH, hexane. Mp 110-111°.

Belcher, R. *et al*, *Anal. Chim. Acta*, 1978, **100**, 503 (*synth, use*)

4,4′-(1,2-Ethanediyldinitrilo)bis[(2-pentanone)], 9CI E-00037

Bis(acetylacetone)ethylenediimine

[6310-76-5]



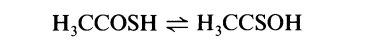
$C_{12}H_{20}N_2O_2$ M 224.302
Used as a 2% aq. soln. as a complexing agent for Co, Cu, Ni, Pd, Pt; photometric detn. of Co (λ_{max} 345 nm), Fe(*III*) (λ_{max} 490 nm, pH 1-2). Cryst. (H_2O). Sol. hot H_2O, common org. solvs.; insol. Et_2O, pet. ether. Mp 111-111.5°.

McCarty, P.J. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 5820 (*synth, use*)
Gambarov, D.G. *et al*, *Zh. Anal. Khim.*, 1975, **31**, 1731 (*detn, Co*)
Gambarov, D.G. *et al*, *Zavod. Lab.*, 1983, **49**, 10 (*synth, detn, Fe*)

Ethanethioic acid, 9CI E-00038

Thioacetic acid. Thiolacetic acid

[507-09-5]



C_2H_4OS M 76.119
Forms 2 series of esters. Radical addition reagent for alkenes and alkynes, *S*-acetylating agent. Liq. d^{20} 1.068. Bp 93°. pK_a 3.33 (25°).

▷ Mod. irritant, flammable. AJ5600000.

S-*Me ester:* [1534-08-3].
C_3H_6OS M 90.146
Bp 95-96°.

O-*Me ester:* [21119-13-1].
C_3H_6OS M 90.146
Pale-yellow liq. Insol. H_2O. Bp 88-91°.

S-*Et ester:* [625-60-5]. *Ethyl thiolacetate*
C_4H_8OS M 104.173
Bp 116-117°.

O-*Et ester:* [926-67-0].
C_4H_8OS M 104.173
Bp 105-107°.

S-*Propyl ester:* [2307-10-0].
$C_5H_{10}OS$ M 118.199
Bp 135-137°.

O-*Propyl ester:* [73741-55-6].
$C_5H_{10}OS$ M 118.199
Bp 125-130°.

S-*Ph ester:* [934-87-2].
C_8H_8OS M 152.217
Mp 16-17°. Bp 228-230°.
▷ AJ7559000.

O-*Ph ester:* [30623-40-6].
C_8H_8OS M 152.217
Bp_{34} 90-94°.

O-*Benzyl ester:*
$C_9H_{10}OS$ M 166.243
Bp_{28} 115-120°.

Amide: [62-55-5]. *Thioacetamide*
C_2H_5NS M 75.134
Converts nitriles to thioamides. Used as aq. soln. for pptn. of metals as sulfides from homogeneous aq. media (qualitative analysis). Prisms (Et_2O). V. sol. EtOH; sol. H_2O; mod. sol. Et_2O, C_6H_6. Mp 115°, Mp 107.5-108.5°. pK_a 13.4 (25°).
▷ Highly toxic orally. AC8925000.

Hydrazide: [62543-18-4].
$C_2H_6N_2S$ M 90.149
Mp 59°.

Dimethylamide: N,N-*Dimethylthioacetamide*
C_4H_9NS M 103.188
Long spiny needles (hexane). Mp 72-73°.

Clarke, H.T. *et al*, *J. Am. Chem. Soc.*, 1924, **46**, 1731 (*synth*)
Baker, R.B. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 1568 (*synth*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1948, **4**, 155 (*synth, use, thioacetamide*)
Washizuka, S., *Bull. Chem. Soc. Jpn.*, 1954, **27**, 76 (*use, thioacetamide*)
Org. Synth., Coll. Vol., 4, 1963, 928 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 955, 1154.
Wladislaw, B. *et al*, *J. Chem. Soc. B*, 1971, 565 (*ir, uv*)
Harris, S.J. *et al*, *J. Chem. Soc., Chem. Commun.*, 1976, 1008 (*synth*)
Juaristi, E. *et al*, *J. Org. Chem.*, 1988, **53**, 3334 (*synth*)
Bordwell, F.G. *et al*, *J. Org. Chem.*, 1991, **56**, 4218 (*synth, pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TFA000, TFA500.

Ethanethiol, 8CI, 9CI E-00039

Ethyl mercaptan. Mercaptoethane

[75-08-1]

C_2H_6S M 62.135
Formed in vinous fermentations. Occurs in natural gases, petroleum and sewers. Found in the Jovian atmosphere. Odorant for natural gas, intermediate in the manuf. of

plastics, insecticides, antioxidants. Reagent for the characterisation of sugars by ms. With phthalaldehyde, forms derivs. with amines suitable for chromatog. Volatile liq. with powerful leek-like odour. Sol. EtOH, Et_2O, alkalis; v. spar. sol. H_2O. Fp −148° (−144.4°), Mp −121°. Bp 36.1°. pK_a 10.61 (25°). Crit. point 225.5°/54.2 atm.

▷ Toxic, TLV 1. Highly flammable, flash p. <21°. KI9625000.

Ac: see *Ethanethioic acid, E-00038*

Klason, P., *Ber.*, 1887, **20**, 3407 (*synth*)
Sabatier, P. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1910, **150**, 1217 (*synth*)
Reid, E., *Organic Chemistry of Bivalent Sulphur*, Chemical Publishing Co., N.Y., 1958, **1**, 15 (*rev*)
De Jongh, D.C., *J. Am. Chem. Soc.*, 1964, **86**, 3149 (*use*)
Hayashi, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1974, **47**, 2382 (*spectra*)
Wolfe, S. *et al*, *Can. J. Chem.*, 1976, **54**, 2847 (*synth*)
Almond, V. *et al*, *J. Chem. Soc., Chem. Commun.*, 1977, 483 (*spectra*)
Cronin, J.R. *et al*, *Anal. Biochem.*, 1979, **93**, 174 (*use*)
Simpson, R.C. *et al*, *J. Chromatogr.*, 1983, **261**, 407 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 319.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EMB100.

Ethanol, 9CI E-00040

Ethyl alcohol. Hydroxyethane. Alcohol

[64-17-5]

H_3CCH_2OH

C_2H_6O M 46.069

Produced by fermentation of sugars, carbohydrates, starch. Manuf. from synthesis gas, ethylene, ethyne, sulphite waste liquors, etc. Intoxicating constit. of all alcoholic beverages. Also used as a solvent, antiseptic, sedative, in manuf. of perfumes, drugs etc. Gasoline additive/substitute. Used as a derivatisation reagent for acids. Very mobile liq., with pleasant odour and burning taste. Misc. H_2O, most org. solvs. d_4^{20} 0.7893. Fp −117.3° (−112.3°). Bp 78.5°, Bp_{130} 39.8°, Bp_{16} 4°. pK_a 15.93 (25°). $n_D^{20.5}$ 1.3610. Hygroscopic, forming an azeotrope contg. 4.43% wt H_2O, Bp 78.15°. Crit. point 243° (62.7 atm.). Mol. Bp elevation 11.7°. Is obt. anhyd. by azeotropic distillation with C_6H_6 or by dehydration with K_2CO_3, CaO, $CaSO_4$, etc.

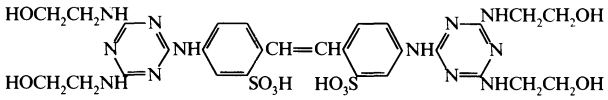
▷ TLV 1900. Highly flammable, flash p. 12°. Reacts violently with a wide range of oxidants. KQ6300000.

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 928.
Jönsson, P.-G., *Acta Crystallogr., Sect. B*, 1976, **32**, 232 (*cryst struct*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **9**, 338 (*rev, bibl*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 551.
Goldstein, D.B., *Pharmacology of Alcohol*, Oxford Univ. Press, 1983 (*book*)
Holford, N.H.G., *Clin. Pharmacokinet.*, 1987, **13**, 273 (*rev*)
Pohorecky, L.A. *et al*, *Pharmacol. Ther.*, 1988, **36**, 335 (*rev, pharmacol*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 320.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EFU000.

2,2′-(1,2-Ethenediyl)bis[4-[[4-amino-6-[bis(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]benzenesulfonic acid], 8CI E-00041

White K

[15208-15-8]



$C_{28}H_{36}N_{12}O_{10}S_2$ M 764.799

Di-Na salt: [20182-55-2].

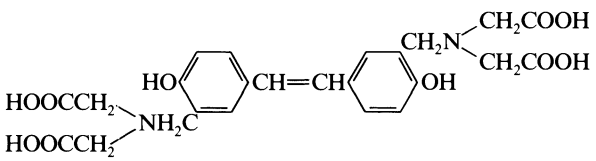
Commercially available. Used as a 0.08m*M* aq. soln. for luminescent detn. of Cr; fluorescent acid-base indicator. Cryst.

[15208-17-0]

U.S. Pat., 2 875 058, (1959); *CA*, **53**, 9867g (*synth*)
Temkina, V.Y. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 632, 1830 (*use, indicator*)

4,4′-[1,2-Ethenediylbis[2-(aminomethyl)phenol]]-*N*,*N*,*N*′,*N*′-tetraacetic acid E-00042

3,5′-Bis(dicarboxymethylaminomethyl)-4,4′-dihydroxystilbene



$C_{24}H_{26}N_2O_{10}$ M 502.477

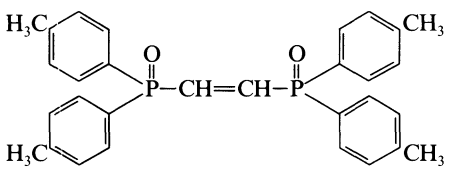
(E)-form [29769-63-9]

Used as a 0.1m*M* aq. soln. for fluorimetric detn. of Cd, Ga, La, Lu. Cryst. (H_2O). Sol. EtOH, hot H_2O, alkalis.

Budesinsky, B. *et al*, *Analyst (London)*, 1969, **94**, 182.

1,2-Ethenediylbis[bis(4-methylphenyl)phosphineoxide], 9CI E-00043

Bis[bis(4-methylphenyl)phosphinyl]ethylene



$C_{30}H_{30}O_2P_2$ M 484.513

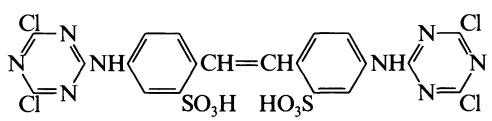
Used as a 0.025*M* soln. in $CHCl_3$ for extraction-separation of Am, Bk, Cf, Cm, Eu. Cryst. Sol. common org. solvs.

[55743-58-3, 55743-59-4]

Kamin, G.J. *et al*, *J. Chromatogr.*, 1967, **31**, 292 (*use*)
Nesterova, N.P. *et al*, *Izv. Akad. Nauk SSSR*, 1974, **10**, 2295 (*synth*)
Khmutova, M.K. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1110 (*use*)

2,2′-(1,2-Ethenediyl)bis[5-[(4,6-dichloro-1,3,5-triazin-2-yl)amino]benzenesulfonic acid], 9CI E-00044

[16013-46-0]



$C_{20}H_{12}Cl_4N_8O_6S_2$ M 666.308

Used as a 0.1% aq. soln. as a fluorescent pH indicator. Cryst.

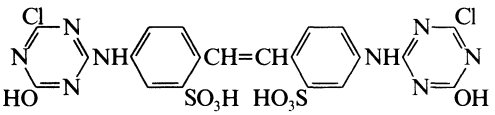
[26464-76-6]

Temkina, V.Y. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 632 (*use*)

2,2′-(1,2-Ethenediyl)bis[5-[(4-hydroxy-6-chloro-1,3,5-triazin-2-yl)amino] benzenesulfonic acid], 9CI E-00045

4,4′-Bis[(4-chloro-6-hydroxy-s-triazin-2-yl)amino]-2,2′-stilbenedisulfonic acid, 8CI

[18299-10-0]



$C_{20}H_{14}Cl_2N_8O_8S_2$ M 629.417

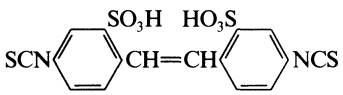
Used as a 0.1% aq. soln. as fluorescent acid-base indicator. Cryst.

Tiemkina, V.Y. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 632 (*use*)

2,2′-(1,2-Ethenediyl)bis[5-isothiocyanatobenzenesulfonic acid], 9CI E-00046

4,4′-Diisothiocyanatostilbene-2,2′-disulfonic acid. DIDS

[53005-05-3]



$C_{16}H_{10}N_2O_6S_4$ M 454.529

Fluorescent labelling reagent. Fine red brown cryst. powder.

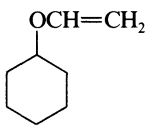
[67483-13-0]

Cabantchik, Z.I. *et al*, *J. Membr. Biol.*, 1972, **10**, 311; 1974, **15**, 207, 227 (*synth*)
Ship, S. *et al*, *J. Membr. Biol.*, 1977, **33**, 311 (*synth*)
Tsukamoto, T. *et al*, *Biochemistry*, 1980, **19**, 918 (*use*)
Niggli, V. *et al*, *FEBS Lett.*, 1982, **138**, 164 (*use*)
Ramjeesingh, M. *et al*, *Membr. Biochem.*, 1982, **4**, 259 (*use*)
Simons, T.J.B., *J. Physiol. (London)*, 1986, **378**, 287 (*use*)

(Ethenyloxy)cyclohexane, 9CI E-00047

Cyclohexyl vinyl ether

[2182-55-0]



$C_8H_{14}O$ M 126.198

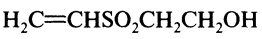
Derivatisation reagent for sugars. Liq. d_4^{20} 0.8883. Bp 147-148°. n_D^{20} 1.4546.

Reppe, W. *et al*, *Justus Liebigs Ann. Chem.*, 1956, **601**, 81 (*synth*)
Wolfram, M.L. *et al*, *J. Org. Chem.*, 1968, **33**, 1067 (*use*)

2-(Ethenylsulfonyl)ethanol, 9CI E-00048

2-(Vinylsulfonyl)ethanol, 8CI. 2-Hydroxyethyl vinyl sulfone

[4271-48-1]



$C_4H_8O_3S$ M 136.171

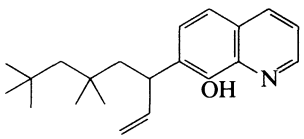
Creaseproofing agent for textiles. Anal. reagent for thiols. d_4^{20} 1.3047. Bp_{304} 150°. n_D^{20} 1.4916.

Schoberl, A. *et al*, *Justus Liebigs Ann. Chem.*, 1968, **716**, 37 (*synth*)
U.S. Pat., 3509217, (1970); *CA*, **73**, 76660t (*synth, use*)
Obtemperanskaya, S. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 175; *CA*, **80**, 115808p use.

7-(1-Ethenyl-3,3,5,5-tetramethylhexyl)-8-quinolinol, 9CI E-00049

Kelex 100

[29171-27-5]



$C_{21}H_{29}NO$ M 311.466

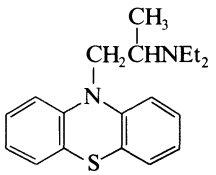
Used as a soln. in $CHCl_3$ or kerosene for extraction-separation of rare earth elements, Co. Cryst.

Lakshmanan, V.I. *et al*, *J. Inorg. Nucl. Chem.*, 1973, **35**, 4285 (*detn, Co*)
Flett, D.S. *et al*, *J. Inorg. Nucl. Chem.*, 1975, **37**, 2197 (*detn, Co*)
Yamada, E. *et al*, *Anal. Chem.*, 1981, **53**, 2115 (*detn, rare earths*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 263 (*use*)

Ethopropazine, BAN E-00050

N,N-*Diethyl-α-methyl-10H-phenothiazine-10-ethanamine*, *9CI. 10-(2-Diethylaminopropyl)phenothiazine.* ***Profenamine*, INN.** *Isothazone. Isothiazine. Other proprietary names*

[522-00-9]



$C_{19}H_{24}N_2S$ M 312.478

Parasympatholytic agent used against parkinsonism. Anticholinergic. Cryst. Mp 53-55°.

▷ SO4900000.

B,HCl: [1094-08-2]. *Ethopropazine hydrochloride, USAN. Pardisol. Lysivane*

Used as a 0.2% aq. soln. for photometric detn. of Pt (λ_{max} 400 nm, ε 13000), V(*V*) (λ_{max} 510 nm, ε 7090). Cryst. (CH_2Cl_2). Mp 223-225° dec.

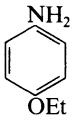
o-(*4-Hydroxybenzoyl*)*benzoate: Profenamine hibenzate, JAN*

Reuse, J., *C. R. Seances Soc. Biol. Ses Fil.*, 1950, **144**, 1563 (*pharmacol*)
Charpentier, P. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1951, **232**, 415 (*synth*)
U.S. Pat., 2 607 773, (1952); *CA*, **47**, 6989i (*synth*)
Genzer, J.D. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 2506 (*resoln*)
Marsau, P. *et al*, *Acta Crystallogr., Sect. B*, 1971, **27**, 2058 (*cryst struct*)
Gowda, H.S. *et al*, *Indian J. Chem., Sect. A*, 1978, **16**, 633 (*detn, V*)
Gowda, H.S. *et al*, *Curr. Sci.*, 1979, **48**, 520 (*detn, Pt*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DIR000.

4-Ethoxyaniline E-00051

4-Ethoxybenzenamine, 9CI. p-*Phenetidine, 8CI.* p-*Aminophenetole.* p-*Aminophenol ethyl ether*

[156-43-4]



$C_8H_{11}NO$ M 137.181

Used as 0.1% aq. soln. for catalytic of detn. Mn(*II*) (with use of periodate). Mp 4°. Bp 253°, Bp_{10} 103-104°.

▷ Highly toxic and irritant. SI6465500.

N-*Ac:* [62-44-2]. N-(*4-Ethoxyphenyl*)*acetamide, 9CI.* p-*Acetophenetidide, 8CI.* ***Phenacetin,*** **INN.** *Other proprietary names*

$C_{10}H_{13}NO_2$ M 179.218

Antipyretic and antineuralgic. Reference material used in elemental microanalysis. Mp 137-138°. Bp 242-245°.

▷ AM4375000.

N-*Me,* N-*Ac:* [7298-73-9]. N-*Methylphenacetin*

$C_{11}H_{15}NO_2$ M 193.245

Bp 251°, Bp_4 102-104°.

▷ AM4450000.

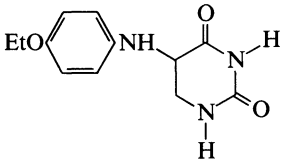
N-(*Hydroxyacetyl*)*:* [22521-79-5]. N-(*4-Ethoxyphenyl*)*-2-hydroxyacetamide, 9CI.* ***Fenacetinol,*** **INN.** p-(*Glycolophenetidide*), *8CI. PM 1952*

$C_{10}H_{13}NO_3$ M 195.218

Analgesic. Mp 154°.

Hinsberg, O., *Justus Liebigs Ann. Chem.*, 1899, **305**, 276.
Wedekind, E. *et al, Ber.*, 1907, **40**, 1001.
Braun, T., *Fresenius' Z. Anal. Chem.*, 1957, **159**, 135 (*detn, Mn*)
Braun, T., *Rev. Chim. (Bucharest)*, 1957, **8**, 43 (*detn, Mn*)
Shapiro, S.L. *et al, J. Am. Chem. Soc.*, 1959, **81**, 6322 (*Fenacetinol*)
Mikhant'ev, B.I. *et al, Zh. Obshch. Khim.*, 1961, **31**, 3050.
Shostakovskii, M.F. *et al, Zh. Obshch. Khim.*, 1961, **31**, 3226.
Stroh, H.H. *et al, Chem. Ber.*, 1963, **96**, 184.
Fr. Pat., CAM115, (1966); *CA*, **70**, 106231m (*synth, pharmacol, Fenacetinol*)
Shelley, J.H. *et al, Clin. Pharmacol. Ther. (St. Louis)*, 1967, **8**, 427 (*rev, Phenacetin*)
Kiese, M. *et al, Biochem. Pharmacol.*, 1969, **18**, 1325 (*uv, ir, nmr*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Gillette, J.R. *et al, Adv. Exp. Med. Biol.*, 1982, **136B**, 931 (*rev, Phenacetin*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2681.
Patel, U. *et al, Acta Crystallogr., Sect. C*, 1983, **39**, 1445 (*Phenacetin*)
O'Connor, C.J. *et al, Aust. J. Chem.*, 1984, **37**, 497 (*Phenacetin, cmr*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1590 (*synonyms*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 321.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ABG750, PDD500.

5-(*p*-Ethoxyanilino)-5,6-dihydrouracil E-00052



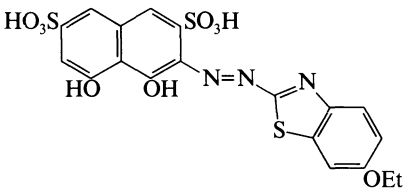
$C_{12}H_{15}N_3O_3$ M 249.269

Used as 0.01*M* soln. in aq. NaOH for extraction-photometric detn. of Au (λ_{max} 520 nm, ε 1300). Cryst. Sol. H_2O, EtOH. pK_a 4.32.

Marshall, D.A. *et al, Anal. Lett.*, 1969, **2**, 595 (*detn, Au*)

3-[(6-Ethoxy-2-benzothiazolyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 8CI E-00053

[21468-91-7]



$C_{19}H_{15}N_3O_9S_3$ M 525.540

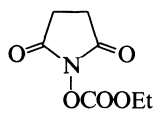
Used as a 0.1% aq. soln. for photometric detn. of Al (λ_{max} 620 nm, ε 26000), Th, Zr. Orange-red cryst. Sol. H_2O, EtOH.

Savvin, S.B. *et al, CA*, 1969, **70**, 68239k (*synth, detn, Th, Zr*)
Savvin, S.B. *et al, Zh. Anal. Khim.*, 1970, **25**, 423 (*detn, Al*)

1-[(Ethoxycarbonyl)oxy]-2,5-pyrrolidinedione, 9CI E-00054

N-(*Carboxyoxy*)*succinimide ethyl ester, 8CI.* N-(*Ethoxycarbonyloxy*)*succinimide*

[23583-01-9]



$C_7H_9NO_5$ M 187.152

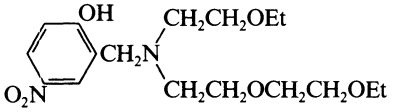
Reagent for peptide sequence detn. by ms. Cryst. (EtOAc/pet. ether). Mp 50-51°.

Kiryushkin, A.A., *Tetrahedron Lett.*, 1966, 33 (*use*)
Gross, H. *et al, Justus Liebigs Ann. Chem.*, 1969, **725**, 212 (*synth*)
Paquet, A., *Can. J. Chem.*, 1979, **57**, 2775 (*synth*)

2-[[2-(2-Ethoxyethoxy)ethyl](2-ethoxyethyl)aminomethyl]-4-nitrophenol, 9CI E-00055

N-(*2-Hydroxy-5-nitrobenzyl*)*-3,6,12-trioxa-9-azatetradecane*

[100443-49-0]

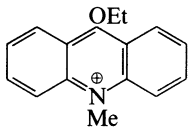


$C_{17}H_{28}N_2O_6$ M 356.418

Used as 1,2-dichloroethane soln. for extraction sepn. of Li. Yellowish oil. Sol. $CHCl_3$, 1,2-dichloroethane, dioxan. pK_{a1} 5.11; pK_{a2} 9.11 (25°, aq. 10% dioxan).

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1985, **173**, 193 (*synth, sepn, Li*)

9-Ethoxy-10-methylacridinium(1+), 9CI E-00056



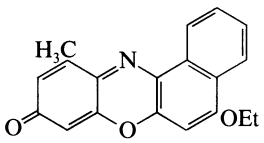
$C_{16}H_{16}NO^{\oplus}$ M 238.308 (ion)

Trifluoromethanesulfonate: [135834-37-6].
$C_{17}H_{16}F_3NO_4S$ M 387.379
Spectrophotometric derivatisation reagent for primary amines. Yellow cryst. Mp 125-127°.

Dunning, J.W. *et al*, *Talanta*, 1991, **38**, 631 (*synth, use, uv, ir, pmr*)

5-Ethoxy-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, 8CI E-00057

[17799-98-3]



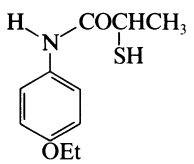
$C_{19}H_{15}NO_3$ M 305.332
Used as a 0.1m*M* soln. in EtOH as redox indicator for titanometric detn. of Fe(*III*), Au(*III*), $Cr_2O_7^{2\ominus}$, $VO_4^{3\ominus}$ and some oxidizing organic compds. Orange cryst. Sol. Et_2O; sl. sol. EtOH, C_6H_6. Mp 232°. E° +0.260 V (1*N* HCl, 50% EtOH, μ = 0.07).

Ruzička, E. *et al*, *Monatsh. Chem.*, 1968, **99**, 838 (*synth*)
Ruzička, E. *et al*, *Mikrochim. Acta*, 1969, 698 (*use*)

1-[(4-Ethoxyphenyl)amino]-2-mercapto-1-propanone E-00058

*2-Mercapto-*p*-propionophenetidide, 8CI. α-Mercaptopropionic acid* p*-phenetidide. α-Merprofen*

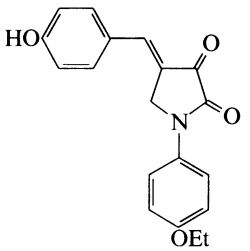
[16537-36-3]



$C_{11}H_{15}NO_2S$ M 225.311
Used as a 1% aq. soln. for extraction-photometric detn. of Co (λ_{max} 485 nm, ε 19000, $CHCl_3$), Mo(*V*) (λ_{max} 360 nm, ε 2700, C_6H_6/isopentanol), Mo(*VI*) (λ_{max} 360 nm, ε 2700, C_6H_6/isopentanol). Cryst. Sol. H_2O, EtOH. Mp 122°.

Nacu, A. *et al*, *CA*, 1969, **70**, 83943d; 1971, **74**, 119708e (*synth, detn, Co, Mo*)

1-(4-Ethoxyphenyl)-4-(4-hydroxybenzylidene)-2,3-pyrrolidinedione E-00059

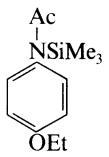


$C_{19}H_{17}NO_4$ M 323.348
Used as acid-base indicator ($pH_{\frac{1}{2}}$ 5.8, colour change: yellow → brown; $pH_{\frac{1}{2}}$ 8.4, colour change: brown → red). Cryst.

Singh, M. *et al*, *Chem. Ind. (London)*, 1967, **31**, 1322 (*use*)

N-(4-Ethoxyphenyl)-*N*-(trimethylsilyl)acetamide, 9CI E-00060

[59079-36-6]



$C_{13}H_{21}NO_2Si$ M 251.400
Silylation derivatising reagent for use in glc. d_4^{20} 1.024. Bp_4 130°. n_D^{20} 1.5032.

Piekos, R. *et al*, *J. Chromatogr.*, 1976, **117**, 431 (*synth, use*)

1-Ethoxy-*N*,*N*,*N*-trimethyl-1-oxo-2-hexadecanaminium (1+), 9CI E-00061

(1-Carboxypentadecyl)trimethyl ammonium(1+) ethyl ester, 8CI

[14565-92-5]

$$EtOOC(CH_2)_{15}N^{\oplus}Me_3$$

$C_{21}H_{44}NO_2^{\oplus}$ M 342.584 (ion)

Bromide: [10567-02-9]. *Septonex. Desident. Mucoseptonex*
$C_{21}H_{44}BrNO_2$ M 422.488
Used as 5m*M* EtOH or 5mM aq. soln. for photometric detn. of Be, Pd, U (λ_{max} 612nm, ε 111000). Cryst. (HBr aq.). Sol. H_2O, EtOH.

Fantova, I. *et al*, *Chem. Listy*, 1980, **74**, 291; *CA*, **93**, 18502v (*detn, Pd*)
Kanicky, V. *et al*, *Collect. Czech. Chem. Commun.*, 1980, **45**, 1525 (*detn, U*)
Burešova, I. *et al*, *Collect. Czech. Chem. Commun.*, 1982, **47**, 1321 (*detn, Be*)
Egermaierova, J. *et al*, *Microchem. J.*, 1983, **28**, 10 (*detn, Pd*)

Ethyl acetate, 9CI E-00062

Ethyl ethanoate. Acetic ester

[141-78-6]

$$H_3CCOOEt$$

$C_4H_8O_2$ M 88.106
Found in cereal crops, radishes, fruit juices, beer, wine etc. and produced by *Anthemis nobilis* and *Rubus* spp. Used in artificial fruit essences; as a solvent; in the manuf. of plastics, perfumes etc. Used in printing inks, adhesives and lacquers. Used as a solvent in extraction sepn. of

$UO_2(NO_3)_2$. A volatile flammable liq. with characteristic, fruity odour. Misc. most org. solvs., sol. 13 parts H_2O at 15°, less sol. at higher temps. Slowly hydrol. by H_2O. Forms azeotrope with H_2O, 6.1% w/w, Bp 70.4°.

▷ Mod. irritant, TLV 1400. Highly flammable, flash p. −4.4°. May ignite or explode with $LiAlH_4$. AH5425000.

Wade, J., *J. Chem. Soc.*, 1905, **87**, 1656 (*synth*)
Guest, R.J. *et al*, *Anal. Chem.*, 1955, **27**, 931 (*use*)
Iacobescu, S. *et al*, *CA*, 1977, **86**, 170639 (*synth*)
Minato, H. *et al*, *Chem. Lett.*, 1977, 1095 (*synth, pmr*)
Nefedov, B.K. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 614; *CA*, **87**, 38814 (*manuf*)
Sandell, E.B. *et al*, *Photometric Determination of Traces of Metals, General Aspects*, Wiley, New York, 1977 (*use*)
Anon., *CA*, 1978, **88**, 36649 (*purifn*)
Ger. Pat., 2 731 962, (1979); *CA*, **90**, 151615 (*manuf*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 224.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 322.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EFR000.

Ethyl acetoacetate, 8CI E-00063

Ethyl 3-oxobutanoate, 9CI. Acetoacetic ester

$$H_3CCOCH_2COOEt \rightleftharpoons H_3CC(OH)=CHCOOEt$$

$C_6H_{10}O_3$ M 130.143

Equilibrium mixt. consists of approx. 92.3% keto and 7.7% enol forms. Both forms have been obt. at low temps. Obt. by condensation of ethyl acetate with sodium. Synthetic reagent of great utility and historical importance. Acetals with ethylene and propylene glycols are used in perfumery. Used as EtOH soln. as a metal indicator in titrimetry with EDTA of Fe(*III*) (pH range 1-2; colour change red-violet → pale yellow). Liq. with characteristic agreeable/irritant odour. pK_a 11.8 (50% dioxan), pK_a 10.68 (25°).

Keto-form [141-97-9]

Misc. most org. solvents, sol. dil. alkalis, pptd. with CO_2, spar. sol. H_2O. d^{20} 1.0282. Bp_{14} 74°, Bp_1 28.5°.

▷ Mod. toxic. AK5250000.

Semicarbazone: [5982-65-0]. *Ethyl 3-[(aminocarbonyl) hydrazono]butanoate, 9CI*

Needles (Et_2O). Sol. hot H_2O. Mp 129° dec.

Phenylhydrazone: Ethyl 3-(phenylhydrazono)butanoate

Needles. Sol. EtOH. Mp 50°. Oxidised by air.

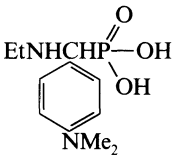
Enol-form

n_D^{20} 1.4480.

Knorr, L. *et al*, *Ber.*, 1911, **44**, 1138 (*tautomers*)
Snell, J.M. *et al*, *J. Am. Chem. Soc.*, 1931, **53**, 2310 (*synth*)
Org. Synth., Coll. Vol., 1, 1932, 235 (*synth*)
Kundu, P.C., *Fresenius' Z. Anal. Chem.*, 1961, **184**, 255 (*use*)
Carlson, R.M. *et al*, *Tetrahedron Lett.*, 1973, 4819 (*synth*)
Kato, T. *et al*, *Yakugaku Zasshi*, 1974, **94**, 884 (*synth*)
Kurgane, B. *et al*, *Zh. Org. Khim.*, 1974, **10**, 2306 (*tautom*)
Schimelpfenig, C.W., *J. Chem. Educ.*, 1977, **54**, 446 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EFS000.

α-(Ethylamino)-*p*-(dimethylamino) benzylphosphonic acid E-00064

[[*4-(Dimethylamino)phenyl*](*ethylamino*)*methyl*]*phosphonic acid*



$C_{11}H_{19}N_2O_3P$ M 258.256

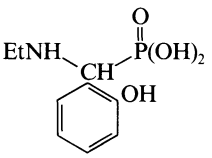
Et ester: [59488-09-4].

$C_{13}H_{23}N_2O_3P$ M 286.310

Used as aq. soln. for photometric detn. of Cu. Sol. H_2O.

Zuchi, G. *et al*, *Rev. Chim.* (*Bucharest*), 1975, **26**, 986; 1977, **28**, 290, 472, 571; 1978, **29**, 574 (*synth, ir, pmr, detn, Cu*)

[(Ethylamino)(2-hydroxyphenyl)methyl] phosphonic acid, 9CI E-00065



$C_9H_{14}NO_4P$ M 231.188

Et ester: [59488-05-0].

$C_{11}H_{18}NO_4P$ M 259.241

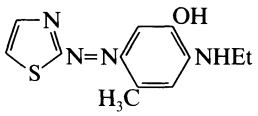
Used as a 1% aq. soln. for photometric detn. of Cu. Cryst.

Morait, G. *et al*, *Rev. Roum. Chim.*, 1976, **27**, 233.

2-(Ethylamino)-4-methyl-2-(2-thiazolylazo) phenol, 9CI E-00066

*2-(4-Ethylamino-3-hydroxy-6-methylphenylazo)thiazole. 5-(2-Thiazolylazo)-2-monoethylamino-*p*-cresol*

[39765-31-6]



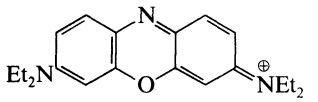
$C_{12}H_{14}N_4OS$ M 262.335

Used for extraction-photometric detn. of Hg (λ_{max} 570 nm), In (λ_{max} 545 nm, ε 37000), Ga (λ_{max} 550 nm, ε 65000), Sb (λ_{max} 590 nm, ε 38500), Nb, V (λ_{max} 570 nm, ε 28000); complexometric detn. of In; as a 0.4-4m*M* soln. in propanol for photometric detn. of Ir (λ_{max} 510 nm, ε 40000), Nb, Rh (λ_{max} 590 nm, ε 34000). Orange-red cryst. pK_{a1} 5.4; pK_{a2} 9.20.

Kolosova, I.V., *CA*, 1973, **78**, 37630s (*detn, Hg*)
Shalamov, G.G., *CA*, 1973, **79**, 61149h (*detn, V*)
Nikolaeva, E.M., *CA*, 1973, **79**, 73205m (*detn, In*)
Gusev, S.I., *CA*, 1973, **79**, 73206n (*detn, Ga, Sb*)
Mal'tseva, L.S. *et al*, *Zavod. Lab.*, 1973, **39**, 385 (*detn, Nb*)
Goroshko, G.G. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 1114 (*detn, Ir, Rh*)
Shurupova, T.I. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 926 (*detn, Ir*)

Ethyl capri blue E-00067

3,7-Bis(diethylamino)phenoxazin-5-ium(1+), 9CI



$C_{20}H_{26}N_3O^{\oplus}$ M 324.445 (ion)

Strictly, the name Ethyl capri blue applies to the chloride.

Chloride: [6703-67-9].

$C_{20}H_{26}ClN_3O$ M 359.898

Used as redox indicator (pH range: 1-10). Dark blue cryst. powder. Sol. H_2O. pK_{a1} 6.70; pK_{a2} 7.14. E° + 0.540 V.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

Ethyl chloroformate, 8CI E-00068

Ethyl carbonochloridate, 9CI. Chloroformic ester. Ethyl chlorocarbonate

[541-41-3]

ClCOOEt

$C_3H_5ClO_2$ M 108.524

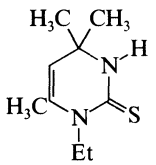
Used extensively in synthesis. Used as an anal. reagent for phenolic amines and tertiary amines. Liq. Misc. EtOH, C_6H_6, $CHCl_3$, Et_2O, prac. insol. H_2O. d_4^{15} 1.1442. Mp −80.6°. Bp 93.1°. Slowly hydrol. by H_2O.

▷ Highly toxic vapour, irritant. Highly flammable, flash p. 16°. LQ6125000.

Cappelli, G., *Gazz. Chim. Ital.*, 1920, **50**, 8 (*synth*)
Saunders, J.H. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 3797 (*synth*)
Kalis, V. *et al*, *CA*, 1967, **67**, 64002 (*purifn*)
Vessman, J. *et al*, *Anal. Lett.*, 1973, **6**, 699 (*use*)
Liotta, D. *et al*, *Can. J. Chem.*, 1975, **53**, 907 (*synth*)
U.K. Pat., 1 379 977, (1975); *CA*, **83**, 9226 (*manuf*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 147.
Yamamoto, S. *et al*, *J. Chromatogr.*, 1980, **194**, 399 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 327.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EHK500.

1-Ethyl-3,4-dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, 9CI E-00069

[18957-52-3]



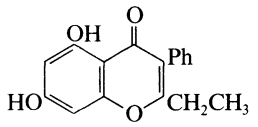
$C_9H_{16}N_2S$ M 184.305

Used as 0.01*M* $CHCl_3$ soln. for extraction-photometric detn. of Pd(*II*) (λ_{max} 430 nm, ε 4200, 1-10*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6, dioxan.

Mathes, R.A., *J. Am. Chem. Soc.*, 1953, **75**, 1747 (*synth*)
Singh, A.K. *et al*, *Talanta*, 1976, **23**, 337 (*detn, Pd*)

2-Ethyl-5,7-dihydroxy-3-phenyl-4*H*-1-benzopyran-4-one E-00070

2-Ethyl-5,7-dihydroxyisoflavone



$C_{17}H_{14}O_4$ M 282.295

7-Me ether: [55927-40-7]. *2-Ethyl-5-hydroxy-7-methoxyisoflavone. 2-Ethyl-5-hydroxy-7-methoxy-3-phenyl-4H-1-benzopyran-4-one, 9CI*

$C_{18}H_{16}O_4$ M 296.322

Used as MeOH soln. for extraction-fluorimetric detn. of Be (λ_{max} 430 nm, CCl_4). Cryst. Sol. EtOH, MeOH.

Murata, A. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1974, **23**, 1349 (*detn, Be*)

N-Ethyl-*N*,*N*-dimethyl-1-hexadecanaminium(1+), 9CI E-00071

Cetylethyldimethylammonium. Ethylhexadecyldimethylammonium

[10328-33-3]

$H_3C(CH_2)_{14}CH_2N^{\oplus}(Et)Me_2$

$C_{20}H_{44}N^{\oplus}$ M 298.574 (ion)

Antiseptic.

Bromide: [124-03-8]. *Cetylcide. Radiol*

$C_{20}H_{44}BrN$ M 378.478

Used as 0.1*M* aq. soln. for ion-flotation of Cd, Zn, Cu, Ni from aq. soln. Cryst. Sol. H_2O.

▷ BQ5425000.

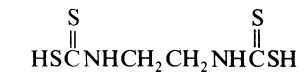
B,EtSO$_3$H: [3006-10-8]. *Mecetronium ethylsulfate, USAN. Mecetronium etilsulfate, INN. Querton 16 ES. Sterilium*

Lewison, E.F., *Arch. Surg.* (*Chicago*), 1950, **60**, 865.
U.S. Pat., 2 541 248, (1951); *CA*, **45**, 4894.
U.S. Pat., 3 113 956, (1963); *CA*, **60**, 5335.
McDonald, C.W. *et al*, *Microchem. J.*, 1979, **24**, 553; 1981, **26**, 80; 1982, **27**, 240 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EKN500.

Ethylenebisdithiocarbamic acid, 8CI E-00072

1,2-Ethanediylbiscarbamodithioic acid, 9CI

[111-54-6]



$C_4H_8N_2S_4$ M 212.385

Parent acid very unstable, not characterised. Derivs. are used as marine pesticides and as fungicides. Decomposes to CS_2 and ethylenethiourea.

▷ Salts are highly toxic.

Di-Na salt: [142-59-6]. *Nabam, BSI. Parzate*

Agricultural fungicide. Cryst. + $6H_2O$.

▷ FA6825000.

Di-NH$_4$ salt: [3566-10-7].

Used for extraction-photometric detn. of Ni (λ_{max} 385 nm, ε 36500).

Di-Me ester: [20721-48-6].

$C_6H_{12}N_2S_4$ M 240.438

Mp 105-107°.

▷ Forms an explosive dust.

Dibenzyl ester: [28249-26-5].

$C_{18}H_{20}N_2S_4$ M 392.633

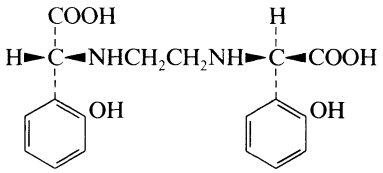
Possesses herbicidal activity. Cryst. (EtOH). Mp 114-116° (128-129°).

Collins, A.P. *et al*, *J. Am. Pharm. Assoc.*, 1955, **44**, 310 (*synth, pharmacol*)
Kennard, K.C. *et al*, *J. Org. Chem.*, 1959, **24**, 464 (*derivs*)
Dorsett, H.G. Jr. *et al*, *Bur. Mines Rep. Invest.*, No. 7132, 1968 (*haz*)
Wakamori, S. *et al*, *Agric. Biol. Chem.*, 1969, **33**, 1367 (*synth, use, ester*)
Engst, R., *Nahrung*, 1971, **15**, 815 (*rev, bibl, metab*)
Pesticide Manual, 6th Ed., 1979, 370.
Yamamoto, D. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1980, **29**, 396 (*detn, Ni*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ANZ000, DXD200.

N,N'-Ethylenebis[2-(*o*-hydroxyphenyl) glycine] E-00073

Ethylenediamine-N,N'-*bis*[α-(*2-hydroxyphenylacetic acid*)]. α,α'-(*1,2-Ethanediyldiimino*)*bis*[*2-hydroxybenzeneacetic acid*], *9CI*

[1170-02-1]



(*RS,RS*)-*form*

$C_{18}H_{20}N_2O_6$ M 360.366

Multidentate ligand. Complexing agent used for titrimetric detn. of Fe. Sol. alkalis. pK_{a1} 6.39; pK_{a2} 8.78; pK_{a3} 10.56; pK_{a4} 11.85 (0.1*M* KNO_3).

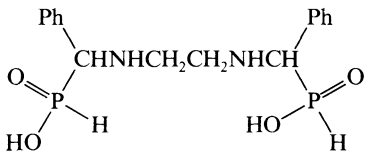
(*RS,RS*)-*form* [81944-54-9]
(±)-*form*
Microcryst. Mp 234-236° dec. Known in opt. active forms.

(*RS,SR*)-*form* [81944-53-8]
meso-*form*
Mp 249° dec.

Ryskiewich, D.P. *et al*, *Nature* (*London*), 1962, **193**, 472 (*resoln*)
Anderegg, G. *et al*, *Helv. Chim. Acta*, 1964, **47**, 1067.
Sugura, K. *et al*, *Nippon Kagaku Zasshi*, 1968, **89**, 853 (*use, ir, uv*)
Bailey, N.A. *et al*, *Inorg. Chim. Acta*, 1981, **50**, 111 (*use, synth, cryst struct, resoln, ir*)
Patch, H.G. *et al*, *Inorg. Chem.*, 1982, **21**, 2972 (*use, resoln, tlc, uv, pmr, esr*)
Wilson, J.G., *Aust. J. Chem.*, 1987, **40**, 1695 (*synth, pmr*)
Bannochie, C.J. *et al*, *J. Am. Chem. Soc.*, 1989, **111**, 4735 (*resoln, use*)

[Ethylenebis(iminobenzylidene)] diphosphinic acid, 8CI E-00074

[17316-86-8]



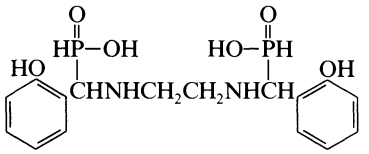
$C_{16}H_{22}N_2O_4P_2$ M 368.308

Used as complexing agent for Cu, Ni, Fe(*III*), Zn. Pink cryst. Mp 246-248°.

Medved, T.Y. *et al*, *CA*, 1968, **69**, 73551q (*synth, use*)

[Ethylenebis(iminosalicylidene)] diphosphinic acid, 8CI E-00075

[23480-37-7]

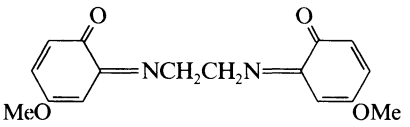


$C_{16}H_{22}N_2O_6P_2$ M 400.307

Used for photometric detn. of Fe(*II*), Fe(*III*). Mp 219.5-220°.

Neish, W.J.P. *et al*, *Experientia*, 1969, **25**, 788 (*use*)

N,N'-Ethylenebis(4-methoxy-1,2-benzoquinone 2-imine) E-00076



$C_{16}H_{16}N_2O_4$ M 300.313

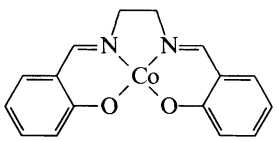
Dioxime:
$C_{16}H_{18}N_4O_4$ M 330.343
Used for extraction-photometric detn. of Pd (λ_{max} 420 nm, $CHCl_3$). Cryst.

Singh, R.B. *et al*, *Talanta*, 1975, **26**, 425.

[*N,N'*-Ethylenebis(salicylideneiminato)] cobalt E-00077

[[*2,2'*-[*1,2-Ethanediylbis*[*nitrilomethylidyne*]]*bis*[*phenolato*]](*2*−)-N,N',O,O']*cobalt*, *10CI*, *9CI*. [[α,α'-(*Ethylenedinitrilo*) *di*-o-*cresolato*](*2*−)]*cobalt*, *8CI*. *Salcomine*

[14167-18-1]



$C_{16}H_{14}CoN_2O_2$ M 325.232

Autoxidn. catalyst. Binds $\frac{1}{2}O_2$ reversibly, turning black. Oxygen desorbed at 100° *in vacuo*. Used as a 0.3% soln. in 1,2-dichlorobenzene as collector for NO and NO_2. Red cryst. (DMF); maroon cryst. + C_6H_6 (C_6H_6). Sol. C_6H_6, $CHCl_3$, Py. Needs to be desolvated before oxygen taken up. Also obt. as inactive red form.

▷ GG0590000.

Tsumaki, J., *Bull. Chem. Soc. Jpn.*, 1938, **13**, 252 (*synth, use*)
Inorg. Synth., 1950, **3**, 196 (*synth*)
Busetto, C. *et al*, *J. Chem. Soc., Dalton Trans.*, 1973, 1712 (*esr, ir, uv*)
West, B.O. *et al*, *J. Organomet. Chem.*, 1974, **64**, 125 (*synth*)
McAllister, R.M. *et al*, *J. Organomet. Chem.*, 1974, **77**, 91 (*synth*)
Nishinaga, A., *Chem. Lett.*, 1975, 273 (*use*)
Aymes, D. *et al*, *Bull. Soc. Chim. Fr.*, 1976, 1717 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 316 (*use*)
Ishii, K. *et al*, *Anal. Chem.*, 1983, **55**, 604 (*collector, NO, NO_2*)
Aymes, D.J. *et al*, *J. Chem. Educ.*, 1989, **66**, 854 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BLH250.

Ethylenediaminetetraacetic acid E-00078

N,N′-*1,2-Ethanediylbis*[N-(*carboxymethyl*)]*glycine*, *9CI. Ethylenedinitrilotetraacetic acid*, *8CI. EDTA.* ***Edetic acid*, BAN, INN.** *Versene acid. Sequestrene. Tetracemin. Complexone III. Many other synonyms*

[60-00-4]

$(HOOCCH_2)_2NCH_2CH_2N(CH_2COOH)_2$

$C_{10}H_{16}N_2O_8$ M 292.245

Acid and salts are powerful chelating agents for metal ions. Used as pharmaceutical aids in cases of poisoning etc. Used as titrant in complexometric titrations of many metal ions; photometric detn. of Cr(*III*), Ni, Co; masking agent. Volumetric standard for detn. of Mg, Ca. Cryst. (H_2O). Dimorphic. Prac. insol. H_2O. Mp 220° dec. pK_{a1} 2.02; pK_{a2} 2.66; pK_{a3} 6.21; pK_{a4} 10.31 (20°). Starts to decarboxylate above 150°. Stable in boiling H_2O.

▷ Mod. toxic, exp. teratogen. AH4025000.

Di-Na salt: ***Edetate disodium*, USAN.** *Other proprietary names*

Metal chelating agent and veterinary anticoagulant. Cryst. + $2H_2O$. Mp 252° dec.

Tri-Na salt: [150-38-9]. ***Edetate trisodium*, USAN.** *Trisodium edetate. Limclair. Sequestrene NA 3. Versene 9*

Chelating agent. Cryst. + $1H_2O$ (H_2O). Mp >300°.

▷ AH5275000.

Tetra-Na salt: [64-02-8]. ***Edetate sodium*, USAN.** *Complexone II. Trilon B*

Chelating agent. Used widely in electroplating process. Commercially available as dihydrate. Amorph. powder. Mp >300° (as hydrate).

▷ Mod. toxic.

Di-Na mono-Ca salt: [62-33-9]. ***Sodium calcium edetate*, BAN, INN.** *Edetate calcium disodium, USAN. Edathamil calcium disodium. Calcium disodium versenate. Mosatil. Antallin. Ledclair. Other proprietary names*

Powerful chelating agent used for treatment of lead poisoning. Powder. Forms a tetrahydrate.

▷ Mod. toxic orally. EV7700000.

Tetra-Me ester: [19376-45-5].

$C_{14}H_{24}N_2O_8$ M 348.352

Liq. Bp_5 195-197°.

Tetra-Et ester: [3626-00-4].

$C_{18}H_{32}N_2O_8$ M 404.459

Liq. Bp_3 195-196°.

Tetranitrile: [5766-67-6]. *Ethylenediamine tetraacetonitrile. Tetrakis(cyanomethyl)ethylenediamine. EDTN*

$C_{10}H_{12}N_6$ M 216.245

Powder. Mp 132°.

▷ Highly toxic. AM0100000.

Di-K salt: [2001-94-7]. ***Edetate dipotassium*, USAN**

Na salt, Fe(III) *chelate:* ***Sodium ironedetate*, BAN.** *Sodium feredetate, INN. Sytron*

Used in treatment of iron-deficiency anaemia. Cryst. (EtOH aq.).

[139-33-3, 6381-92-6, 10378-23-1, 23411-34-9, 25102-12-9, 58167-76-3]

Smith, R. *et al*, *J. Org. Chem.*, 1949, **14**, 355 (*synth*)

Astakhov, K.V. *et al*, *Zh. Obshch. Khim.*, 1950, **20**, 1780; *CA*, **45**, 2409 (*synth*)

Biermans, J. *et al*, *Ind. Chim.* (*Rome*), 1952, **39**, 6 (*rev, bibl*)

Nielsch, W. *et al*, *Anal. Chim. Acta*, 1954, **11**, 376 (*detn, Ni*)

Sawyer, D.T. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 4191 (*synth, ir, Fe chelate*)

Schwarzenbach, G. *et al*, *Die Komplexometrische Titration*, Enke, Stuttgart, 1965 (*use*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 373; 1975, **5**, 296.

Alner, D.J. *et al*, *Chem. Ind.* (*London*), 1968, 1565 (*esters*)

Fuji, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1969, **42**, 1569 (*detn, Cr*)

Perrin, D.D., *Masking and Demasking of Chemical Reactions*, Interscience, New York, 1970 (*use*)

Přibil, R., *Analytical Applications of EDTA and Related Compounds*, Pergamon Press, Oxford, 1972 (*use*)

Ladd, M.F.C. *et al*, *Acta Crystallogr., Sect. B*, 1973, **29**, 2973 (*cryst struct*)

Nagai, T. *et al*, *CA*, 1973, **78**, 45406 (*pmr*)

Tancheva, S., *CA*, 1973, **79**, 52735 (*synth*)

Baisden, P.A. *et al*, *Inorg. Chem.*, 1977, **16**, 1367 (*pmr*)

Nuttall, R.H. *et al*, *J. Chem. Soc., Dalton Trans.*, 1977, 1884 (*raman*)

Barnett, B.L. *et al*, *Inorg. Chem.*, 1979, **18**, 2674 (*cryst struct*)

Polyakova, I.A. *et al*, *Izv. Timiryazevsk. S'kh. Akad.*, 1979, 167; *CA*, **91**, 174326 (*ir*)

Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 213 (*use*)

Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1038, 1039, 1052.

Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986 (*use*)

Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1717 (*synonyms*)

Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 1607D (*haz*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EIV000, EIX000, EJB000, TNL250.

Ethylenediaminetriacetic acid E-00079

$HOOCCH_2NHCH_2CH_2N(CH_2COOH)_2$

$C_8H_{14}N_2O_6$ M 234.208

N-*Butyl:* N-*Butylethylenediaminetriacetric acid*

$C_{12}H_{22}N_2O_6$ M 290.316

Used as chelating agent for Cu. Cryst. (EtOH). Mp 154-156° dec. pK_{a1} 1.8; pK_{a2} 6.64; pK_{a3} 10.04 (24°).

N-*Octyl:* N-*Octylethylenediaminetriacetic acid*

$C_{16}H_{30}N_2O_6$ M 346.423

Used as chelating agent for Cu. Cryst. (EtOH). Mp 147-148° dec. pK_{a1} 1.9; pK_{a2} 6.53; pK_{a3} 9.76 (24°).

N-*Cyclohexyl:* N-(*Cyclohexyl*)*ethylenediaminetriacetic acid*

$C_{14}H_{24}N_2O_6$ M 316.353

Used as chelating agent for Cu. Cryst. (EtOH). Mp 206-209° dec. pK_{a1} 1.6; pK_{a2} 6.47; pK_{a3} 10.15 (24°).

N-*Benzyl:* N-*Benzylethylenediaminetriacetic acid*

$C_{15}H_{20}N_2O_6$ M 324.333

Used as chelating agent for Cu. Cryst. (EtOH). Mp 130-131° dec. pK_{a1} 1.9; pK_{a2} 5.10; pK_{a3} 9.84 (24°).

Bruno, A.J. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 2723 (*synth, use*)

Ethylenedithiodiacetic acid E-00080

2,2′-[*1,2-Ethanediylbis*(*thio*)]*bisacetic acid*, *9CI. Ethylenebisthioglycolic acid. 1,2-Bis*(*carboxymethylthio*) *ethane*

[7244-02-2]

$HOOCCH_2SCH_2CH_2SCH_2COOH$

$C_6H_{10}O_4S_2$ M 210.275

Cryst. Mp 107-108°.

Di-Na salt: [31188-63-3].

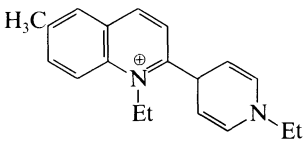
Used as 0.01*M* aq. soln. for photometric detn. of Pd (λ_{max} 290 nm, ε 21000). Cryst. Sol. H_2O.

Pitombo, L.R.M. *et al*, *Anal. Chim. Acta*, 1975, **75**, 391; 1978, **101**, 77 (*synth, ir*)
Pitombo, L.R.M. *et al*, *Mikrochim. Acta*, 1976, **2**, 121 (*detn, Pd*)
Naboli, A., *Ann. Chim. (Rome)*, 1979, **69**, 399 (*detn, Pd*)

1-Ethyl-2-(1-ethyl-1,4-dihydro-4-pyridinyl)-6-methylquinolinium(1+), 9CI E-00081

Pinaverdol

[125202-62-2]



$C_{19}H_{23}N_2^{\oplus}$ M 279.404 (ion)

Basic cyanine dye. The name Pinaverdol is also used for the *N*-Me compd.

Iodide:

$C_{19}H_{23}IN_2$ M 406.309

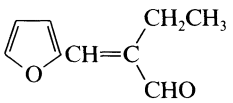
Used as 1m*M* aq. soln. for photometric detn. of Pb (λ_{max} 565 nm, ε 160000). Cryst. (MeOH). Sol. H_2O, EtOH; insol. $CHCl_3$.

[124521-96-6]

Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 313 (*detn, Pb*)

2-Ethyl-4-(2-furanyl)propenal E-00082

α-Ethyl-β-2-furylacrolein



$C_9H_{10}O_2$ M 150.177

Thiosemicarbazone:

$C_{10}H_{13}N_3OS$ M 223.298

Used as a 0.4m*M* soln. in EtOH for photometric detn. of Pd (λ_{max} 382 nm, ε 27500), Pt (λ_{max} 385 nm, ε 18500). Cryst. (EtOH). Mp 206-207°. pK_{a1} 0.92; pK_{a2} 11.85.

Kerentseva, V.P. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1144; 1972, **27**, 719 (*synth, pKa, detn, Pd, Pt*)

2-Ethyl-1-hexanol, 9CI E-00083

[104-76-7]

$H_3C(CH_2)_3CH(CH_2OH)CH_2CH_3$

$C_8H_{18}O$ M 130.230

(+)-***form***

Liq. Bp_{22} 92-94°. $[\alpha]_D^{20}$ +2.57° (C_6H_6).

(−)-***form*** [50373-29-0]

Liq. Bp_{55} 110°. $[\alpha]_D^{24}$ −0.22° (neat).

Ac: [50373-28-9].

$C_{10}H_{20}O_2$ M 172.267

$[\alpha]_D^{24}$ +0.26° (neat).

(±)-***form***

Occurs in corn, olive oil, tobacco, tea, rice, tamarind, grapes, blueberries etc., also in *Plantago asiatica*. Used as a solv. in antifoaming agents and in mercerising textiles. Used for extraction of many elements. Liq. V. spar. sol. H_2O; misc. EtOH, Me_2CO, Et_2O. Bp_{15} 84-86°, 182-185°.

▷ Mod. toxic. MP0350000.

Ac: [103-09-3].

Used in perfumery. Liq. Bp_{25} 95°.

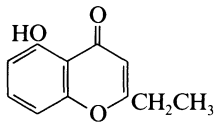
▷ AH5600000.

Weizmann, C. *et al*, *J. Chem. Soc.*, 1920, **117**, 324 (*synth*)
Levene, P.A. *et al*, *J. Biol. Chem.*, 1922, **54**, 351 (*synth*)
Orlandini, K.A. *et al*, *Anal. Chem.*, 1965, **37**, 1149 (*use*)
Oritani, T. *et al*, *Agric. Biol. Chem.*, 1973, **37**, 1923 (*resoln*)
Austin, G.T., *Chem. Eng. (N.Y.)*, 1974, **81**, 143, 148, 150 (*rev manuf*)
Kito, T. *et al*, *CA*, 1978, **89**, 107947 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EKQ000, OEE000.

2-Ethyl-5-hydroxy-4*H*-1-benzopyran-4-one, 9CI E-00084

2-Ethyl-5-hydroxychromone

[22598-98-7]



$C_{11}H_{10}O_3$ M 190.198

Used as 0.02*M* MeOH soln. for extraction-fluorimetric detn. of Ti (λ_{max} 509 nm, 40% MeOH, CCl_4). Yellow cryst. Sol. MeOH.

Murata, A. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1968, **17**, 1284 (*synth*)
Ito, T. *et al*, *Anal. Chim. Acta*, 1980, **113**, 343 (*detn, Ti*)

3-Ethyl-5-hydroxy-4*H*-1-benzopyran-4-one, 9CI E-00085

3-Ethyl-5-hydroxychromone

[22599-00-4]

$C_{11}H_{10}O_3$ M 190.198

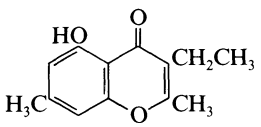
Used as 0.02*M* MeOH soln. for extraction-fluorimetric detn. of Ti (λ_{max} 529 nm, 40% MeOH, CCl_4). Yellow cryst. Sol. MeOH.

Murata, A. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1968, **17**, 1284 (*synth*)
Ito, T. *et al*, *Anal. Chim. Acta*, 1980, **113**, 343 (*detn, Ti*)

3-Ethyl-5-hydroxy-2,7-dimethyl-4*H*-1-benzopyran-4-one, 9CI E-00086

3-Ethyl-5-hydroxy-2,7-dimethylchromone

[31867-68-2]



$C_{13}H_{14}O_3$ M 218.252

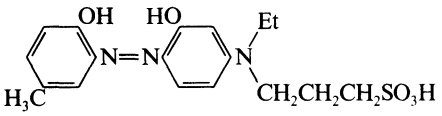
Used as 0.02*M* MeOH soln. for extraction-fluorimetric detn. of Ti (λ_{max} 509 nm, 40% MeOH, CCl_4). Yellow cryst. Sol. MeOH.

Murata, A. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1970, **19**, 1346 (*synth*)
Ito, T. *et al*, *Anal. Chim. Acta*, 1980, **113**, 343 (*detn, Ti*)

3-[Ethyl[3-hydroxy-4-[(2-hydroxy-5-methylphenyl)azo]phenyl]amino]-1-propanesulfonic acid, 9CI E-00087

2-(2-Hydroxy-5-methyl-1-phenylazo)-5-[N-ethyl-N-(3-sulfopropyl)amino]phenol

[91999-89-2]



$C_{18}H_{23}N_3O_5S$ M 393.463

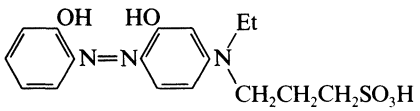
Used as 0.05m*M* aq. soln. for photometric detn. of Mg, Ca (λ_{max} 505 nm, pH ~10, FIA). Cryst. (EtOH/aq. HCl). Sol. H_2O, EtOH. pK_{a1} 3.05; pK_{a2} 8.75; pK_{a3} 12.7 (μ = 0.1, 25°).

Wada, H. *et al*, *Anal. Chim. Acta*, 1984, **159**, 289 (*synth, detn, Ca, Mg*)

3-[Ethyl[3-hydroxy-4-[(2-hydroxyphenyl)azo]phenyl]amino]-1-propanesulfonic acid, 9CI E-00088

2-(2-Hydroxyphenylazo)-5-[N-ethyl-N-(3-sulfopropyl)amino]phenol

[91999-88-1]



$C_{17}H_{21}N_3O_5S$ M 379.436

Used as 0.05m*M* aq. soln. for photometric detn. of Mg, Ca (λ_{max} 496 nm, pH ~10). Cryst. (EtOH/aq. HCl). Sol. H_2O, EtOH. pK_{a1} 2.90; pK_{a2} 8.65; pK_{a3} 12.8 (μ = 0.1, 25°).

Wada, H. *et al*, *Anal. Chim. Acta*, 1984, **159**, 289 (*synth, use*)

***O*-Ethylhydroxylamine, 9CI, 8CI** E-00089

α-Ethylhydroxylamine. Ethoxyamine

[624-86-2]

H_2NOEt

C_2H_7NO M 61.083

Used as a derivatisation reagent for oxo acids.

Inflammable liq. with strong odour. Misc. H_2O, EtOH, Et_2O. Bp 64-65° (68°).

B,HCl: [3332-29-4].

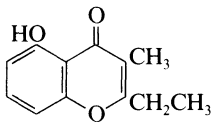
Scales (EtOH/Et_2O). Mp 128° (133-134°).

Gürke, *Justus Liebigs Ann. Chem.*, 1880, **205**, 274 (*synth*)
Jones, L.W. *et al*, *J. Am. Chem. Soc.*, 1914, **36**, 730 (*synth*)
Fujii, T. *et al*, *Chem. Pharm. Bull.*, 1967, **15**, 345 (*synth, pmr*)
Heinemann, B., *Appl. Microbiol.*, 1971, **21**, 726 (*pharmacol*)
Chalmers, R.A. *et al*, *Analyst (London)*, 1972, **97**, 951, 958 (*use*)
Lawson, A.M. *et al*, *Biomed. Mass Spectrom.*, 1974, **1**, 199 (*use*)
Chimiak, A. *et al*, *Bull. Acad. Pol. Sci., Ser. Sci. Chim.*, 1974, **22**, 195, 479 (*synth, ms*)

2-Ethyl-5-hydroxy-3-methyl-4*H*-1-benzopyran-4-one, 9CI E-00090

2-Ethyl-5-hydroxy-3-methylchromone

[22599-02-6]



$C_{12}H_{12}O_3$ M 204.225

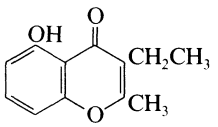
Used as 0.02*M* MeOH soln. for extraction-fluorimetric detn. of Ti (λ_{max} 518 nm, 40% MeOH, CCl_4). Yellow cryst. Sol. MeOH.

Murata, A. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1968, **17**, 1284 (*synth*)
Ito, T. *et al*, *Anal. Chim. Acta*, 1980, **113**, 343 (*detn, Ti*)

3-Ethyl-5-hydroxy-2-methyl-4*H*-1-benzopyran-4-one, 9CI E-00091

3-Ethyl-5-hydroxy-2-methylchromone

[22599-01-5]



$C_{12}H_{12}O_3$ M 204.225

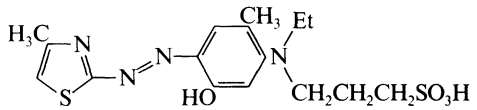
Used as 0.02*M* MeOH soln. for extraction-fluorimetric detn. of Ti (λ_{max} 513 nm, 40% MeOH, pH 6.5-8.5, CCl_4). Yellow cryst. Sol. MeOH.

Murata, A. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1968, **17**, 1284 (*synth*)
Ito, T. *et al*, *Anal. Chim. Acta*, 1980, **113**, 343 (*detn, Ti*)

3-[Ethyl[5-hydroxy-2-methyl-4-[(4-methyl-2-thiazolyl)azo]]]-1-propanesulfonic acid, 9CI E-00092

5-[N-Ethyl-N-(sulfopropyl)amino]2-(4-methyl-2-thiazolylazo) cresol

[104932-72-1]



$C_{16}H_{22}N_4O_4S_2$ M 398.506

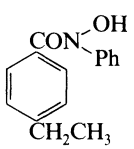
Used as 0.1% aq. soln. for photometric detn. of Fe(*II*) (λ_{max} 754 nm, ε 23500, pH 8.0), Co, Ni, Cu, Zn. Dark red powder. Sol. H_2O. Mp 280° dec. pK_{a2} 3.48; pK_{a3} 9.15 (25°, μ = 0.1).

Ueda, K. *et al*, *Analyst (London)*, 1986, **111**, 733 (*synth, use*)

4-Ethyl-*N*-hydroxy-*N*-phenylbenzamide, 9CI E-00093

N-p-*Ethylbenzoyl*-N-*phenylhydroxylamine*

[113389-01-8]



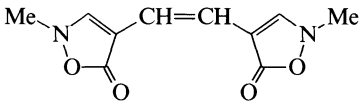
$C_{15}H_{15}NO_2$ M 241.289

Used as 0.1*M* $CHCl_3$ soln. for extraction separation of Al, Cd, Cu, Fe(*III*), U, V. Cryst. (EtOH aq.). Sol. $CHCl_3$, EtOH. Mp 108-110°.

Hojjatie, M. *et al*, *Anal. Chim. Acta*, 1987, **199**, 49 (*synth*, *use*)

4,4′-Ethylidenebis[3-methyl-2-isoxazolin-5-one], 8CI E-00094

[20783-73-7]



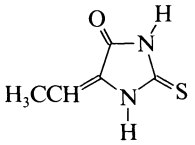
$C_{10}H_{10}N_2O_4$ M 222.200

Used as a 0.5% aq. soln. for photometric detn. of Cu, Pd, U. Cryst. Sol. H_2O. Mp 156-158°.

Hashmi, M.H. *et al*, *Mikrochim. Acta*, 1968, 608 (*use*)

5-Ethylidene-2-thioxo-4-imidazolidinone, 9CI E-00095

[64419-93-8]



$C_5H_6N_2OS$ M 142.181

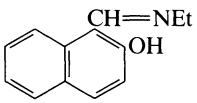
Used as 0.5m*M* EtOH soln. to give colour reaction with Cu(*I*) (pH 4.5). Cryst. (EtOH). Sol. EtOH, DMF. Mp 248-250°. pK_{a1} 8.5; pK_{a2} 11.4.

Montana Gonzalez, M.T. *et al*, *Mikrochim. Acta*, 1982, **2**, 363 (*synth*, *use*)

1-[(Ethylimino)methyl]-2-naphthalenol, 9CI E-00096

β-Hydroxynaphthylideneethylamine

[715-56-0]



$C_{13}H_{13}NO$ M 199.252

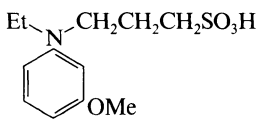
Used as a 2% soln. in EtOH for gravimetric detn. of V(*IV*); complexing agent for Al, Sn(*IV*). Yellow-green needles (EtOH). Mp 123°.

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 180 (*synth*, *detn*, *V*)
Prasad, R. *et al*, *CA*, 1974, **80**, 9922m (*detn*, *Al*)
Singh, O.P. *et al*, *CA*, 1976, **84**, 83504a (*detn*,, *Sn*)

3-[Ethyl(3-methoxyphenyl)amino]-1-propanesulfonic acid, 9CI E-00097

N-*Ethyl*-N-*sulfopropyl*-m-*anisidine*

[88795-34-0]



$C_{12}H_{19}NO_4S$ M 273.352

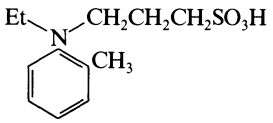
Na salt: [82611-88-9].

Used as a 0.01*M* aq. soln. for photometric detn. of H_2O_2 (λ_{max} 540 nm, ε 27900). Cryst. (EtOH/Me_2CO). Sol. H_2O. Mp 210° dec.

Tamaoku, K. *et al*, *Anal. Chim. Acta*, 1982, **136**, 121 (*synth*, *ir*, *use*)

3-[Ethyl-(2-methylphenyl)amino]-1-propanesulfonic acid, 9CI E-00098

N-*Ethyl*-N-*sulfopropyl*-o-*toluidine*



$C_{12}H_{19}NO_3S$ M 257.353

Na salt: [82611-87-8].

Used as a 0.01*M* aq. soln. for photometric detn. of H_2O_2. Cryst. (EtOH/Me_2CO). Sol. H_2O. Mp 188-190° dec.

Tamaoku, K. *et al*, *Anal. Chim. Acta*, 1982, **136**, 121 (*synth*, *ir*, *use*)

3-[Ethyl-(3-methylphenyl)amino]-1-propanesulfonic acid E-00099

N-*Ethyl*-N-*sulfopropyl*-m-*toluidine*

[36783-03-6]

$C_{12}H_{19}NO_3S$ M 257.353

Na salt: [40567-80-4].

Used as 0.01*M* aq. soln. for photometric detn. of H_2O_2. Cryst. (EtOH/Me_2CO). Sol. H_2O. Mp 170° dec.

Tamaoku, K. *et al*, *Anal. Chim. Acta*, 1982, **136**, 121 (*synth*, *ir*, *use*)

3-[Ethyl-(4-methylphenyl)amino]-1-propanesulfonic acid, 9CI E-00100

N-*Ethyl*-N-*sulfopropyl*-p-*toluidine*

$C_{12}H_{19}NO_3S$ M 257.353

Na salt: [79211-64-6].

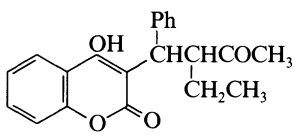
Used as a 0.01*M* aq. soln. for photometric detn. of H_2O_2. Cryst. (EtOH/Me_2CO). Sol. H_2O. Mp 197-200° dec.

Tamaoku, K. *et al*, *Anal. Chim. Acta*, 1982, **136**, 121 (*synth*, *ir*, *use*)

3-(2-Ethyl-3-oxo-1-phenylbutyl)-4-hydroxy-4*H*-1-benzopyran-4-one E-00101

3-[α-(1-Ethylacetonyl)benzyl]-4-hydroxycoumarin, *8CI*

[19343-43-2]



$C_{21}H_{20}O_4$ M 336.387

Used as a 0.25-0.5% soln. in EtOH as turbidimetric acid-base indicator (pH range: 4.0-5.0). Cryst. Sol. Me_2CO, EtOH.

Korenmann, I.M. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1305.

3-(Ethylphenylamino)-1-propanesulfonic acid E-00102

N-*Ethyl*-N-*sulfopropylaniline*

[102636-89-5]

$PhNEtCH_2CH_2CH_2SO_3H$

$C_{11}H_{17}NO_3S$ M 243.326

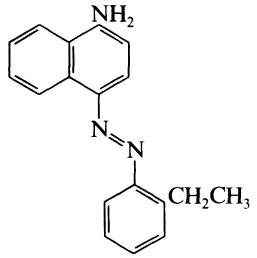
Na salt: [82611-85-6].

Used as a 0.01*M* aq. soln. for photometric detn. of H_2O_2. Cryst. ($EtOH/Me_2CO$). Sol. H_2O. Mp 145°.

Tamaoku, K. *et al*, *Anal. Chim. Acta*, 1982, **136**, 121 (*detn*, H_2O_2)

4-[(2-Ethylphenyl)azo]-1-naphthalenamine, 9CI E-00103

[23330-82-7]



$C_{18}H_{17}N_3$ M 275.352

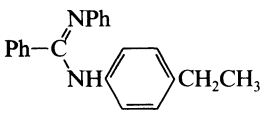
Used as 0.1% soln. in EtOH as an adsorption acid-base indicator and for titrimetric detn. of $SCN^{\ominus}$. Orange cryst. (EtOH). Sol. EtOH, Me_2CO.

Bishop, E., *Indicators*, Oxford, Pergamon, 1972 (*use*)

N-(4-Ethylphenyl)-*N'*-phenylbenzenecarboximidamide, 9CI E-00104

N-p-*Ethylphenyl*-N'-*phenylbenzamidine*

[79458-82-5]



$C_{21}H_{20}N_2$ M 300.402

Used as 0.1% soln. in C_6H_6 for extraction-photometric detn. of Mo (λ_{max} 470 nm, ε 16500; 1.2-5*M* HCl). Cryst. (EtOH + HCl). Sol. EtOH, C_6H_6, $CHCl_3$.

Patel, K.S. *et al*, *Anal. Chem.*, 1982, **54**, 52 (*synth*, *detn*, *Mo*)

Ethylphosphonothioic dichloride, 9CI E-00105

Ethylthiophosphonic dichloride

[993-43-1]

$EtP(S)Cl_2$

$C_2H_5Cl_2PS$ M 163.007

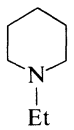
Reagent for the anal. of bifunctional compds. by gc. with phosphorus-specific detection. Intermediate in insecticide synth. Liq. with pungent odour. d_4^{20} 1.35. Bp_{740} 177-181°, Bp_{50} 80-82°. n_D^{20} 1.5428.

Hoffmann, F.W. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 3945 (*synth*)
Martin, G. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1961, **253**, 2523 (*pmr*)
Maier, L., *Helv. Chim. Acta*, 1964, **47**, 27 (*synth*, *nmr*)
Christol, C. *et al*, *J. Chim. Phys. Phys.-Chim. Biol.*, 1965, **62**, 246 (*ir*, *raman*)
Kavavanov, K.V. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 76), 1965, **35**, 78 (*synth*)
Shagidullin, R.R. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 564), 1975, **222**, 897 (*uv*)
Poole, C.F. *et al*, *J. Chromatogr.*, 1979, **178**, 495 (*use*)
Kavshik, M.P. *et al*, *J. Org. Chem.*, 1980, **45**, 2270 (*synth*)
Durig, J.R. *et al*, *J. Raman Spectrosc.*, 1987, **18**, 415 (*ir*, *raman*)

1-Ethylpiperidine, 9CI E-00106

Ethylpiperidylamine

[766-09-6]



$C_7H_{15}N$ M 113.202

Used as a titrant for the determination of weak acids in the presence of their anhydrides. Liq. d_4^{20} 0.824. Bp 128°. n_D^{20} 1.4415.

▷ Eye irritant. Highly flammable, flash p. 19°. TN0250000.

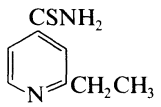
Picrate: Yellow needles (EtOH). Mp 167.5°.

Winans, C.F. *et al*, *J. Am. Chem. Soc.*, 1932, **54**, 310 (*synth*)
Adkins, H. *et al*, *J. Am. Chem. Soc.*, 1934, **56**, 2425 (*synth*)
Yur'ev, K.Y. *et al*, *J. Gen. Chem. USSR* (*Engl. Transl.*), 1939, **9**, 590; *CA*, **33**, 7779 (*synth*)
Siggia, S. *et al*, *Anal. Chem.*, 1953, **25**, 797 (*use*)
Ferles, M. *et al*, *Collect. Czech. Chem. Commun.*, 1971, **36**, 2057 (*synth*)
Duthaler, R.O. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 8406 (*nmr*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 334.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EOS500.

2-Ethyl-4-pyridinecarbothioamide, 9CI E-00107

***Ethionamide*, BAN, USAN, INN.** *2-Ethylisothionicotinamide. 2-Ethyl-4-thiocarbamoylpyridine. α-Ethylisonicotinoylthioamide. Trescatyl. Trecator. Numerous proprietary names*

[536-33-4]



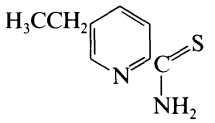
$C_8H_{10}N_2S$ M 166.246

Antitubercular drug. Used as a 0.01% soln. in EtOH for photometric detn. of Pd (λ_{max} 400 nm). Yellow cryst. (EtOH). V. spar. sol. Et_2O, spar. sol. MeOH, EtOH, sol. Py. Mp 164-166° dec.

▷ NS0350000.

Libermann, D. *et al*, *Bull. Soc. Chim. Fr.*, 1958, 687 (*synth*)
U.K. Pat., 800 250, (1958); *CA*, **53**, 4309b (*synth*)
Popper, E. *et al*, *Rev. Roum. Chim.*, 1970, **15**, 115.
Alleaume, M. *et al*, *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1971, **273**, 1747 (*cryst struct*)
Bernheim, F., *Drill's Pharmacol. Med., 4th Ed.*, 1971, 1713 (*pharmacol*)
Wang, C.-H. *et al*, *Heterocycles*, 1979, **12**, 1191 (*synth*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7557.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 919 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EPQ000.

5-Ethyl-2-pyridinecarbothioamide E-00108

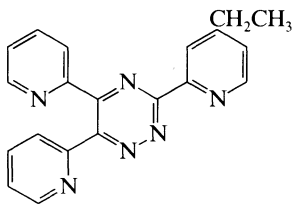


$C_8H_{10}N_2S$ M 166.246
Cryst. Mp 106°.

N-*Ph:* [785-29-5]. *5-Ethyl-*N*-phenyl-2-pyridinecarbothioamide, 9CI. 5-Ethylthiopicolinanilide, 8CI*
$C_{14}H_{14}N_2S$ M 242.344
Used as a 0.025*M* soln. in $CHCl_3$ for extraction-photometric detn. of Au; as 1m*M* $CHCl_3$ soln. for extraction-separation of Au(*III*), Pd(*II*) (from HCl), Ag, Pt. Yellow cryst. Sol. $CHCl_3$, CCl_4, 1,2-dichloroethane, EtOH.

Libermann, D. *et al, C. R. Hebd. Seances Acad. Sci.*, 1956, **242**, 2409 (*synth*)
Kost, A.N. *et al, CA*, 1965, **62**, 9100a (*synth, deriv*)
Gibalo, I.M. *et al, Zh. Anal. Khim.*, 1982, **37**, 92 (*detn, Au*)
Gibalo, I.M. *et al, Zh. Neorg. Khim.*, 1982, **27**, 1005 (*detn, Pd, Ag*)
Shkil', A.N. *et al, Zh. Anal. Khim.*, 1989, **44**, 1204 (*synth, use*)
Rukhadze, E.G. *et al, Zh. Anal. Khim.*, 1989, **44**, 1257 (*detn, Ag, Pt*)

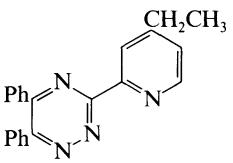
3-(4-Ethyl-2-pyridyl)-5,6-bis(2-pyridyl)-1,2,4-triazine E-00109



$C_{20}H_{16}N_6$ M 340.387
Used as 0.01*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 571 nm, ε 22700), Cu(*I*) (λ_{max} 504 nm, ε 5200). Cryst. (EtOH aq.). Sol. EtOH; sl. sol H_2O. Mp 169-170°.

Case, F.H., *J. Org. Chem.*, 1965, **30**, 931 (*synth*)
Schilt, A.A., *Talanta*, 1966, **13**, 895 (*detn, Cu, Fe*)

3-(4-Ethyl-2-pyridyl)-5,6-diphenyl-1,2,4-triazine E-00110

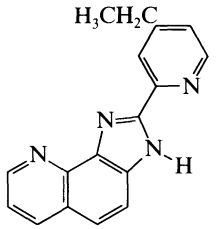


$C_{22}H_{18}N_4$ M 338.411
Used as 0.01*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 561 nm, ε 35300), Cu(*I*) (λ_{max} 479 nm, ε 6200). Cryst. (2-methoxyethanol). Sol. 2-methoxyethanol, EtOH. Mp 150-151°.

Case, F.H., *J. Org. Chem.*, 1965, **30**, 931 (*synth*)
Schilt, A.A., *Talanta*, 1966, **13**, 895 (*detn, Cu, Fe*)

2-(4-Ethyl-2-pyridyl)-3*H*-imidazo[4,5-*h*]quinoline, 8CI E-00111

[14060-61-8]



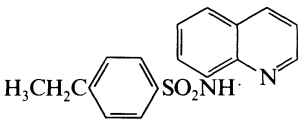
$C_{17}H_{14}N_4$ M 274.324
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*). Cryst. (C_6H_6/pet. ether). Sol. common org. solvs. Mp 103-104°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al, Talanta*, 1968, **15**, 1055 (*use*)

4-Ethyl-*N*-(8-quinolinyl)benzenesulfonamide, 9CI E-00112

8-(p-*Ethylbenzenesulfonamido)quinoline*

[35799-19-0]



$C_{17}H_{16}N_2O_2S$ M 312.392
Used for extraction-photometric detn. of Cu (λ_{max} 380 nm, ε 15800, $CHCl_3$). Cryst. Sol. EtOH, Et_2O.

Werner, A. *et al, Ber.*, 1906, **39**, 1278 (*synth*)
Bluhm, A.L. *et al, J. Org. Chem.*, 1964, **29**, 636 (*synth*)
Lee, H.L. *et al, CA*, 1972, **76**, 148496f (*detn, Cu*)

N-(Ethylsulfonyl)benzamide, 8CI E-00113

$PhCONHSO_2Et$

$C_9H_{11}NO_3S$ M 213.257
Oxime: [33967-87-2].
$C_9H_{12}N_2O_3S$ M 228.271
Used as 0.1*M* aq. soln. for extraction-photometric detn. of Ru(*VI*) (λ_{max} 530 nm, ε 2400), BuOH/$CHCl_3$. Cryst. Sol. EtOH, Me_2CO, Et_2O. pK_{a1} 6.28; pK_{a2} 12.21.

Klimkovich, E.A. *et al, Khim. Khim. Tekhnol. (Minsk)*, 1971, **14**, 346; *CA*, **75**, 29560s (*detn, Ru*)
Fedorova, N.G., *Zh. Anal. Khim.*, 1971, **26**, 664 (*pKa*)

(Ethylsulfonyl)ethene, 9CI E-00114

Ethyl vinyl sulfone

[1889-59-4]

$EtSO_2CH{=}CH_2$

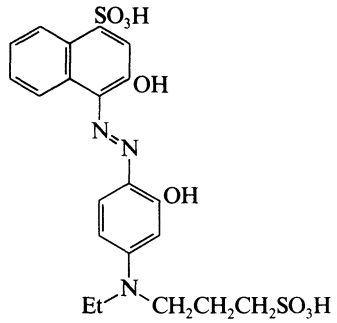
$C_4H_8O_2S$ M 120.172
Anal. reagent for thiols. Oil. d^{20} 1.1457. Bp_8 110-112°, Bp_3 89-93°. n_D^{20} 1.4640.

Fehnel, E.A. *et al, J. Am. Chem. Soc.*, 1949, **71**, 231 (*synth, ir*)
Ford-Moore, A.H., *J. Chem. Soc.*, 1949, 2433 (*synth*)
Scharf, V.Z. *et al, Izv. Akad. Nauk SSSR, Ser. Khim.*, 1967, 1843; *CA*, **68**, 59042x (*synth*)
Obtemperanskaya, S.I. *et al, Zh. Anal. Khim.*, 1974, **29**, 175 (*use*)

4-[[4-[Ethyl(3-sulfopropyl)amino]-2-hydroxyphenyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, 9CI E-00115

2-(2-Hydroxy-4-sulfo-1-naphthylazo)-5-[N-ethyl-N-(3-sulfopropyl)amino]phenol

[91999-92-7]



$C_{21}H_{23}N_3O_8S_2$ M 509.560

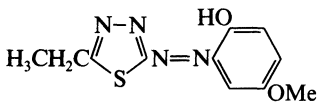
Used as 0.05m*M* aq. soln. for photometric detn. of Mg, Ca (λ_{max} 556, pH ~10). Cryst. (propanol/EtOAc aq.). Sol. H_2O, EtOH, propanol, EtOAc. pK_{a1} 2.60; pK_{a2} 8.60; pK_{a3} 12.6 (μ = 0.1, 25°).

Wada, H. *et al*, *Anal. Chim. Acta*, 1984, **159**, 289 (*synth, detn, Ca, Mg*)

2-[(5-Ethyl-1,3,4-thiadiazol-2-yl)azo]-4-methoxyphenol, 9CI E-00116

2-Ethyl-5-(2-hydroxy-5-methoxyphenylazo)-1,3,4-thiadiazole

[96031-14-0]



$C_{11}H_{12}N_4O_2S$ M 264.307

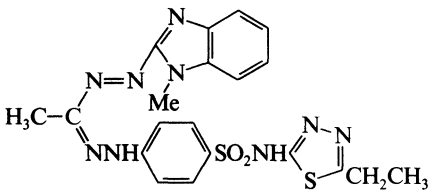
Used for photometric detn. of Co. Orange-red cryst. Sol. EtOH.

Arias, J.J. *et al*, *Quim. Anal.* (*Barcelona*), 1984, **3**, 211; *CA*, **102**, 178299s (*detn, Co*)

N-(5-Ethyl-1,3,4-thiadiazol-2-yl)-4-[3-methyl-5-(1-methyl-1*H*-benzimidazol-2-yl)-1-formazanyl]benzenesulfonamide, 9CI E-00117

Sulfamoylformazan

[21108-84-9]



$C_{20}H_{21}N_9O_2S_2$ M 483.577

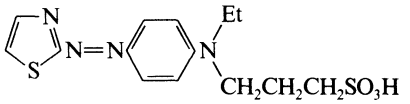
Used as 5% aq. soln. for extraction-photometric detn. of Cu (ε 45000) and Ni (λ_{max} 630nm, ε 51000, $CHCl_3$). Cryst. (EtOH). Sol. H_2O, EtOH, DMF.

Sedov, Yu.A. *et al*, *Khim.-Farm. Zh.*, 1968, **7**, 16 (*synth*)
Dubinina, L.F. *et al*, *Zavod. Lab.*, 1972, **33**, 1322 (*detn, Cu, Ni*)
Podchainova, V.N. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 242 (*detn, Cu*)

3-[Ethyl[4-(2-thiazolylazo)phenyl]amino]-1-propanesulfonic acid, 9CI E-00118

TAESA

[100743-67-7]



$C_{14}H_{18}N_4O_3S_2$ M 354.453

Used as aq. soln. for photometric detn. of Ag (λ_{max} 526 nm, pH 4-6). Cryst. Sol. H_2O, alkalis, EtOH.

Oshita, K. *et al*, *Anal. Chim. Acta*, 1985, **176**, 41 (*synth, reactions*)

[[2-(Ethylthio)ethyl]thio]acetic acid, 9CI E-00119

β-Ethylthioethylthioglycollic acid

[56566-65-5]

$EtSCH_2CH_2SCH_2COOH$

$C_6H_{12}O_2S_2$ M 180.292

Used as 1m*M* aq. soln. of Na salt for photometric detn. of Pd (λ_{max} 290 nm, ε 19000). Liq. Bp_2 112-113°.

Pitombo, L.R.M. *et al*, *Anal. Chim. Acta*, 1975, **75**, 391; 1978, **101**, 177 (*synth, epr, ir*)
Pitombo, L.R.M. *et al*, *Mikrochim. Acta*, 1976, 121 (*detn, Pd*)

Ethyltridodecylammonium(1+) E-00120

N,N-*Didodecyl*-N-*ethyl-1-dodecanaminium*(1+), *9CI*

[45314-73-6]

$[H_3C(CH_2)_{11}]_3N^{\oplus}Et$

$C_{38}H_{80}N^{\oplus}$ M 551.057 (ion)

Surfactant.

Bromide: [53290-56-5].
$C_{38}H_{80}BrN$ M 630.961
Used as a 0.8m*M* soln. in xylene for extraction-photometric detn. of Al (λ_{max} 597 nm, ε 84000), Fe(*III*) (λ_{max} 613 nm, ε 173000), Sc (λ_{max} 520 nm, ε 27000), Y (λ_{max} 604 nm, ε 76000). Cryst. Sol. H_2O, C_6H_6.

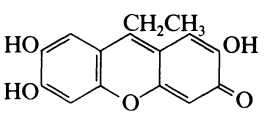
Tetrahydroborate: [57292-15-6].
White solid.

[56120-31-1]

Scott, A.B. *et al*, *J. Am. Chem. Soc.*, 1943, **65**, 692 (*synth*)
Shijo, Y., *Bull. Chem. Soc. Jpn.*, 1974, **47**, 1642; 1975, **48**, 1647, 2793 (*detn, Cu, Fe*)
Shijo, Y., *Bunseki Kagaku* (*Jpn. Anal.*), 1974, **23**, 884 (*detn, Y*)
Shijo, Y., *CA*, 1974, **81**, 85516t, 180697m (*detn, Al, Sc*)
Shijo, Y., *Nippon Kagaku Kaishi*, 1974, 1658, 1912; **81**, 180697m; *CA*, **82**, 35407h (*detn, Al, Sn*)
Semenenko, K.N. *et al*, *Zh. Neorg. Khim.*, 1975, **20**, 2334 (*synth, tetrahydroborate*)

9-Ethyl-2,6,7-trihydroxy-3*H*-xanthen-3-one E-00121

Ethylfluorone



$C_{15}H_{12}O_5$ M 272.257

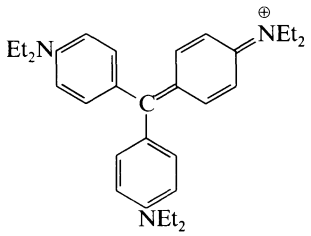
Used as 1m*M* EtOH soln. for photometric detn. of Sb, Mo. Red cryst. Sol. EtOH, Me_2CO.

Nazarenko, V.A. *et al*, *Trihydroxyfluorones*, Izd. Nauka, Moscow, 1973 (*synth, use, detn, Sb, Mo*)

Ethyl violet E-00122

N-[*4*-[*Bis*[*4*-(*diethylamino*)*phenyl*]*methylene*]-*2,5-cyclohexadien-1-ylidene*]-N-*ethylethanaminium*(*1+*), *9CI. C.I. Basic violet. C.I. 42600*

[2390-59-2]



$C_{31}H_{42}N_3^{\oplus}$ M 456.693 (ion)

Strictly, the name Ethyl violet applies to the chloride.

Chloride:

$C_{31}H_{42}ClN_3$ M 492.146

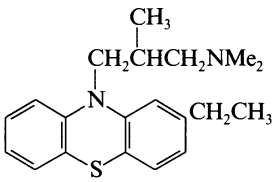
Used as 0.5m*M* aq. soln. for extraction-photometric detn. of B (as $BF_4^{\ominus}$) (λ_{max} 610 nm, ε 105000, toluene), Cu (as $CuCl_2^{\ominus}$) (λ_{max} 612 nm, ε 97000, toluene), Pb (as PbI), As(*V*). Grey-violet cryst. powder. Sol. H_2O, EtOH.

Motomizu, S. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1982, **31**, 717 (*detn, As*)
Motomizu, S. *et al*, *Analyst* (*London*), 1983, **108**, 944 (*detn, As*)
Oshima, M. *et al*, *Anal. Chem.*, 1984, **56**, 948 (*detn, B*)
Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 820, 1226 (*detn, Pb*)
Yamamoto, K. *et al*, *Analyst* (*London*), 1987, **112**, 1011 (*detn, Cu*)

Etymemazine, INN E-00123

10-[*3*-(*Dimethylamino*)-*2-methylpropyl*]-*2*-*ethylphenothiazine*, *8CI. Ethotrimeprazine. Ethylisobutrazine. Diquel. Nuital*

[523-54-6]



$C_{20}H_{26}N_2S$ M 326.505

(±)-***form***

Used as a 0.02*M* soln. in $CHCl_3$ for extraction-photometric detn. of Mo (λ_{max} 460 nm, ε 39000, $CHCl_3$). Antihistamine, tranquilliser.

B,HCl: [3737-33-5]. *Sergetyl. RP 6484*

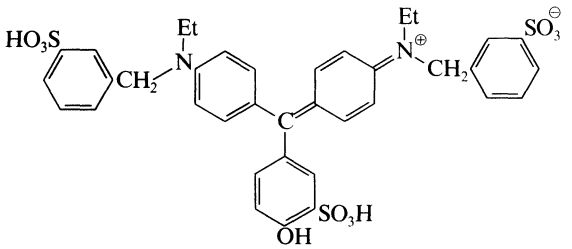
Mp 173-175°.

U.K. Pat., 789 703, (1958); *CA*, **53**, 4312h (*synth, pharmacol*)
Adjarian, R. *et al*, *Arch. Int. Pharmacodyn. Ther.*, 1963, **141**, 443 (*pharmacol*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 12723.
Gowda, A.T. *et al*, *Analyst* (*London*), 1985, **110**, 743 (*use*)

F

Fast green FCF F-00001

N-Ethyl-N-[4-[[4-[ethyl[(3-sulfophenyl)methyl]amino]phenyl](4-hydroxy-2-sulfophenyl)methylene]-2,5-cyclohexadien-1-ylidene]-3-sulfobenzeneethanaminium hydroxide inner salt, 9CI. C.I. Food green 3. C.I. 42053



$C_{37}H_{34}N_2O_{10}S_3$ M 762.881

Strictly, the name Fast green FCF refers to the disodium salt.

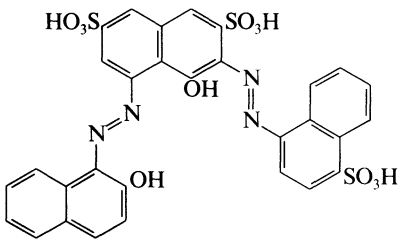
Di-Na salt: [2353-45-9].

Used as redox indicator, biological stain. Dark green cryst. Sol. H_2O, EtOH, acids. Mp 290° dec. λ_{max} 622 nm.

Johnson, H. *et al*, *Ind. Eng. Chem.*, 1927, **19**, 497 (*synth*)
Dutt, V.V.S.E. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **258**, 32 (*use*)
Dutt, V.V.S.E. *et al*, *Indian J. Chem.*, 1972, **10**, 560 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FAG000.

Fast sulphon black F F-00002

4-Hydroxy-5-[(2-hydroxy-1-naphthalenyl)azo]-3-[(4-sulfo-1-naphthalenyl)azo]-1,7-naphthalenedisulfonic acid, 9CI. C.I. Acid black 32. C.I. 26990. Java fast black F. Phenazo black A



$C_{30}H_{20}N_4O_{11}S_3$ M 708.706

Strictly, the name Fast sulphon F applies to the sodium salt.

Na salt: [3682-47-1].

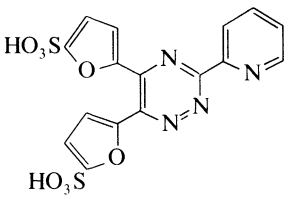
Used as a 0.5% aq. soln. for photometric detn. of Be (λ_{max} 620 nm, ε 13700); metallochromic indicator for titrimetric detn. of Cu. Dark greenish red cryst. powder. Sol. H_2O, EtOH; sl. sol. 2-ethoxyethanol.

Belcher, R. *et al*, *Chem. Ind. (London)*, 1957, 1647 (*detn, Cu*)
Belcher, R. *et al*, *Chemist-Analyst*, 1958, **47**, 2 (*detn, Cu*)
West, T.S., *Anal. Chim. Acta*, 1961, **25**, 301 (*detn, Cu*)
Cabrera, A.M. *et al*, *Anal. Chem.*, 1963, **35**, 311 (*detn, Be*)

Ferene F-00003

5,5'-[3-(2-Pyridinyl)-1,2,4-triazine-5,6-diyl]bis-2-furansulfonic acid, 9CI

[90691-98-8]



$C_{16}H_{10}N_4O_8S_2$ M 450.409

Di-Na salt: [79551-14-7]. *Ferene S*

Used as 0.18m*M* aq. soln. for photometric detn. of Fe(*II*) (λ_{max} 593 nm, ε 34500). Yellow cryst. + $1H_2O$ (EtOH).

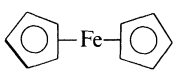
[90358-66-0]

Higgins, T., *CA*, 1981, **95**, 183278.
Hennessy, D.J. *et al*, *Can. J. Chem.*, 1984, **62**, 721 (*synth, detn, Fe*)

Ferrocene, 9CI, 8CI F-00004

Di-π-cyclopentadienyliron(II). *Bis(cyclopentadienyl)iron*

[102-54-5]



$C_{10}H_{10}Fe$ M 186.036

Commercially available. Used in anal. of transition metals, as iron fertiliser, electron beam sensitiser, fuel additive. Used as a 0.1% soln. in dioxan as reducing agent for molybdophosphate in photometric detn. of P; as a primary standard for redox titrations in MeCN. Orange cryst. (EtOH aq.). Sol. EtOH, C_6H_6, insol. H_2O. Mp 120-123°, Mp 172.5-173°. Bp 249°. Sublimes above 100°, steam-volatile. Exists in ordered and disordered phases. Undergoes aromatic-type subn. reacns.

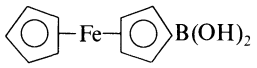
▷ Toxic, TLV 10. LK0700000.

Woodward, R.B. *et al*, *J. Am. Chem. Soc.*, 1952, **74**, 2125 (*deriv*)
Nesmejanov, A.N., *Usp. Khim.*, 1958, **28**, 8 (*synth*)
Org. Synth., Coll. Vol., 1963, **4**, 473, 476 (*synth*)
Rosenblum, M., *Chemistry of the Iron Group Metallocenes*, Wiley, N.Y., 1965 (*rev*)
Kratochvil, B. *et al*, *Anal. Chem.*, 1970, **42**, 492 (*standard*)
Surikov, F.P. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 573 (*reducing agent*)
Gmelin Handbook Inorg. Chem., Syst. No. 59, *Organoiron compounds*, 1974, **A1** (*rev, bibl*)
Brauer, G., *Handbuch Präp. Anorg. Chem.*, 3rd Ed., Ferdinand Enke Verlag, 1975-1981, **3**, 1842 (*synth*)
Barkatin, A.A., *CA*, 1978, **88**, 61869 (*props*)
Seiler, P. *et al*, *Acta Crystallogr., Sect. B*, 1979, **35**, 1068 (*struct*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 284.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FBC000.

Ferrocenyldihydroxyborane F-00005

Ferroceneboronic acid. Boronoferrocene, 9CI. Ferrocenylboronic acid

[12152-94-2]



$C_{10}H_{11}BFeO_2$ M 229.854

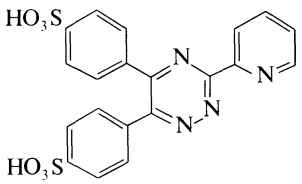
Derivatisation reagent for gc anal. of diols and related compds. Yellow cryst. Mp 143-148° (sealed tube). Rapidly hydrol. by hot H_2O giving ferrocene.

Nesmeyanov, A.N. *et al, Dokl. Akad. Nauk SSSR*, 1959, **126**, 1004 (*synth*)
Shechter, H. *et al, J. Org. Chem.*, 1961, **26**, 1034 (*synth*)
Nesmeyanov, A.N. *et al, Izv. Akad. Nauk SSSR, Ser. Khim.*, 1968, 2371 (*synth*)
Org. React. (N.Y.), 1969, **17**, 1 (*synth*)
Epton, R. *et al, J. Organomet. Chem.*, 1978, **150**, 93, 101 (*synth, ir, pmr, ms*)
Brooks, C.J.W. *et al, J. Chromatogr.*, 1986, **362**, 113; 1987, **399**, 207 (*use*)

Ferrozine F-00006

3-(2-Pyridyl)-5,6-bis(4-sulfophenyl)-1,2,4-triazine

[32796-55-7]



$C_{20}H_{14}N_4O_6S_2$ M 470.486

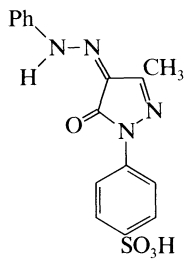
Used for photometric detn. of Fe(*II*) (λ_{max} 560 nm, ε 28000), Co, Cr and indirectly As, Mo, SO_2.

Di-Na salt: [28048-33-1].
Cryst. (H_2O). Mp >350°.

Stookey, L.L., *Anal. Chem.*, 1970, **42**, 779 (*synth, detn, Fe*)
Attari, A. *et al, Anal. Chem.*, 1972, **44**, 151 (*detn, SO_2*)
Kundra, S.K. *et al, Anal. Chem.*, 1974, **46**, 1605 (*detn, Co*)
Kellen, G.J. *et al, Anal. Chem.*, 1976, **48**, 1538 (*detn, As*)
Simonzadeh, N. *et al, Talanta*, 1979, **26**, 935 (*detn, Mo*)
Thompsen, J.C. *et al, Anal. Chem.*, 1984, **56**, 755 (*detn, Fe*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, New York, 4th Ed., 1986, 730.

Flavazine L F-00007

4-[4,5-Dihydro-3-methyl-5-oxo-4-(phenylazo)-1H-pyrazol-1-yl]benzenesulfonic acid



$C_{16}H_{14}N_4O_4S$ M 358.377

Strictly, the name Flavazine applies to the Na salt.

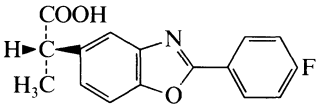
Na salt: [6359-82-6].
Used as a 0.5% aq. soln. for gravimetric detn. of Zr. Orange-red cryst. Sol. H_2O.

Popa, G. *et al, Anal. Chim. Acta*, 1962, **26**, 434.

Flunoxaprofen, INN F-00008

2-(4-Fluorophenyl)-α-methyl-5-benzoxazoleacetic acid, 9CI. Priaxim

[51234-27-6]



(*S*)-*form*

$C_{16}H_{12}FNO_3$ M 285.274

▷ DM4472000.

(S)-form [66934-18-7]
Analgesic, antiinflammatory agent. Cryst. (trichloroethylene). Mp 164-166°. $[\alpha]_D^{20}$ +50° (c, 0.7 in DMF).

(±)-form [73952-77-9]
Cryst. (trichloroethylene). Mp 162-164°.

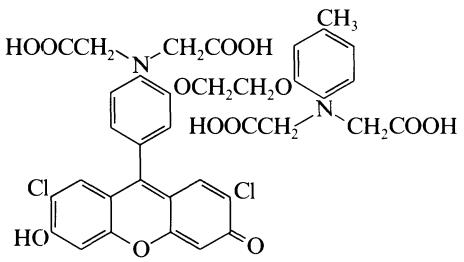
Chloride:
$C_{16}H_{11}ClFNO_2$ M 303.719
Fluorescent derivatisation reagent for resolution of amines. Cryst. (CH_2Cl_2). Mp 73°.

Martindale. The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 16812.
Ger. Pat., 3 325 672, (1984); *CA*, **100**, 209792 (*synth*)
Lampa, E. *et al, Drugs Exp. Clin. Res.*, 1985, **11**, 501 (*pharmacol*)
Pedrazzini, S. *et al, J. Chromatogr.*, 1987, **413**, 338 (*hplc*)
Bareggi, S.R. *et al, Arzneim.-Forsch.*, 1988, **38**, 574 (*pharmacol*)
Spahn, H., *J. Chromatogr.*, 1988, **427**, 131 (*chloride, synth, use*)
Martin, F. *et al, Chirality*, 1989, **1**, 223 (*chloride, use*)

Fluo 3 F-00009

N-[2-[2-[2-[*Bis*(carboxymethyl)amino]-5-(2,7-dichloro-6-hydroxy-3-oxo-3H-xanthen-9-yl)phenoxy]ethoxy]-4-methylphenyl]-N-(carboxymethyl)glycine, *9CI*

[123632-39-3]



$C_{36}H_{30}Cl_2N_2O_{13}$ M 769.544

Red-brown solid.

NH_4 salt: [134907-84-9].
Fluorescent indicator for intracellular Ca.

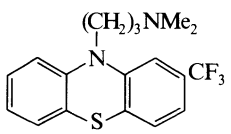
Tetrakis(acetoxymethyl) ester: [121714-22-5]. *Fluo 3AM*
Fluorescent indicator for intracellular Ca.

Minta, A. *et al, J. Biol. Chem.*, 1989, **264**, 8171 (*synth*)
Kao, J.P.Y. *et al, J. Biol. Chem.*, 1989, **264**, 8179 (*use*)

Fluopromazine, BAN F-00010

N,N-*Dimethyl*-2-(*trifluoromethyl*)-10H-*phenothiazine*-10-*propanamine*, *9CI. 10*-[3-(Dimethylamino)propyl]-2-(trifluoromethyl)phenothiazine, *8CI.* ***Triflupromazine*, INN, USAN.** *Trifluoropromazine. Numerous proprietary names*

[146-54-3]



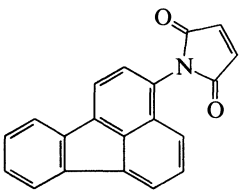
$C_{18}H_{19}F_3N_2S$ M 352.423
Tranquilliser. Neuroleptic. Antiemetic. Visc. oil. $Bp_{0.7}$ 176°.
▷ SO8850000.

B,HCl: [1098-60-8]. *Triflupromazine hydrochloride, USAN. Vespral. Vesprin*
Used as a 0.2% aq. soln. for photometric detn. of Au (λ_{max} 503 nm, ε 13000). Cryst. Mp 173-174°.
▷ SO8925000.

Yale, H.L. *et al, J. Am. Chem. Soc.*, 1957, **79**, 4375.
Craig, P.N. *et al, J. Org. Chem.*, 1957, **22**, 709.
Florey, K., *Anal. Profiles Drug Subst.*, 1973, **2**, 523 (*rev, synth, anal*)
Phelps, D.W. *et al, Acta Crystallogr., Sect. B*, 1974, **30**, 2812 (*cryst struct*)
Gowda, H.S. *et al, Indian J. Chem., Sect. A*, 1976, **14**, 632 (*detn, Au*)
Patra, A. *et al, J. Indian Chem. Soc.*, 1982, **59**, 660 (*cmr*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7041.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 4775.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TKL000.

1-(3-Fluoranthenyl)-1*H*-pyrrole-2,5-dione, 9CI F-00011

3-Fluoranthenylmaleimide
[60354-76-9]

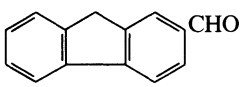


$C_{20}H_{11}NO_2$ M 297.312
Fluorescent probe for thiols. Pale yellow needles (C_6H_6). Mp 185-186°.

Kanaoka, Y. *et al, Chem. Pharm. Bull.*, 1976, **24**, 1417 (*synth, use*)

9*H*-Fluorene-2-carboxaldehyde, 9CI F-00012

2-Formylfluorene
[30084-90-3]



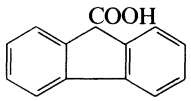
$C_{14}H_{10}O$ M 194.232
Fluorogenic reagent for primary aliphatic amines. Cryst. (EtOH aq.). Mp 85.6-86°.
▷ LL5917000.

Oxime: Plates (pet. ether). Mp 156-157°.
Semicarbazone: Plates (EtOH). Mp 278°.
Phenylhydrazone: Pale yellow leaflets (EtOH). Mp 202-203°.
2,4-Dinitrophenylhydrazone: Cryst. (xylene). Mp 259-260°.
2-Pyridylhydrazone: [82810-35-3].
$C_{19}H_{15}N_3$ M 285.348
Used as 5m*M* EtOH soln. for kinetic-fluorimetric detn. of Mg (λ_{max} 520 nm, pH ~ 13). Cryst. Sol. EtOH.

Hinkel, L.E. *et al, J. Chem. Soc.*, 1936, 339 (*synth*)
Angyal, S.J. *et al, J. Chem. Soc.*, 1951, 3512 (*synth*)
Kreutzberger, A., *Z. Chem.*, 1970, **10**, 383 (*synth*)
Hwang, T.K. *et al, Anal. Chim. Acta*, 1978, **99**, 305 (*use*)
Laserna, J.J. *et al, Microchem. J.*, 1982, **27**, 312 (*synth, detn, Mg*)

9*H*-Fluorene-9-carboxylic acid, 9CI F-00013

Diphenyleneacetic acid
[1989-33-9]



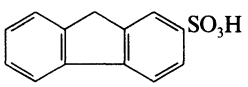
$C_{14}H_{10}O_2$ M 210.232
Protecting reagent for phenols. Needles (AcOH). Mp 230-232°.

Me ester: [3002-30-0].
$C_{15}H_{12}O_2$ M 224.259
Characterising agent for alkyl halides. Mp 63°.
Chloride: [16331-50-3].
$C_{14}H_9ClO$ M 228.677
Mp 77°.
Amide: [7471-95-6].
$C_{14}H_{11}NO$ M 209.247
Mp 251°.
Anhydride:
$C_{28}H_{18}O_3$ M 402.448
Mp 164-165°.
Nitrile: [1529-40-4]. *9-Cyanofluorene*
$C_{14}H_9N$ M 191.232
Mp 151-152°.

Arnold, R.T. *et al, J. Am. Chem. Soc.*, 1949, **71**, 2439 (*synth*)
Bavin, P.M.G., *Anal. Chem.*, 1960, **32**, 554 (*synth, use*)
Org. Synth., Coll. Vol., 4, 1963, 482.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 394, 679.
Jones, D.W. *et al, J. Chem. Soc. B*, 1971, 388 (*pmr*)
Joullié, M.M. *et al, J. Org. Chem.*, 1979, **44**, 2961 (*cmr*)

9*H*-Fluorene-2-sulfonic acid F-00014

[52525-94-7]



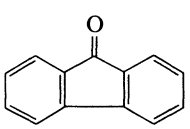
$C_{13}H_{10}O_3S$ M 246.286
Cryst. (EtOAc). Mp 154°.
Chloride: [13354-17-1]. *9H-Fluorene-2-sulfonyl chloride*
$C_{13}H_9ClO_2S$ M 264.732
Fluorogenic reagent for anal. of phenols. Cryst. ($AcOH/Ac_2O$). Mp 162°.

[13354-14-8, 53091-77-3]

Courtot, C., *Ann. Chim.*, 1930, **14**, 5 (*synth*)
Merrifield, R.B., *J. Org. Chem.*, 1978, **43**, 4808 (*synth, pmr*)
Carlson, R.M. *et al, J. Chromatogr. Sci.*, 1984, **22**, 272 (*use, chloride*)

9*H*-Fluoren-9-one, 9CI F-00015

Fluorenone. Fluorene ketone. Diphenylene ketone
[486-25-9]



$C_{13}H_8O$ M 180.206
Yellow, rhombic cryst. V. sol. EtOH, Et_2O; insol. H_2O. Mp 83-83.5°. Bp 341.5°.
▷ LL8925000.

Hydrazone: [13629-22-6].
$C_{13}H_{10}N_2$ M 194.235

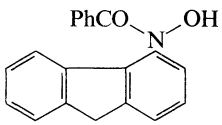
Used for photometric detn. of ketosteroids. Cryst. (MeOH). Mp 152°.

Kuhn, R. *et al*, *Ber.*, 1925, **58**, 2230.
Courtot, C. *et al*, *Bull. Soc. Chim. Fr.*, 1929, **65**, 290.
Huntress, E.H. *et al*, *J. Am. Chem. Soc.*, 1931, **53**, 2720.
U.S. Pat., 1 868 531, (1932); *CA*, **26**, 5315.
Baltzly, R. *et al*, *J. Org. Chem.*, 1961, **26**, 3669 (*synth, hydrazone*)
Luss, H.R. *et al*, *Acta Crystallogr., Sect. B*, 1972, **28**, 884 (*cryst struct*)
Wade, L.G. Jr. *et al*, *J. Org. Chem.*, 1979, **44**, 3724 (*synth*)
Dochinets, D.I. *et al*, *Farm. Zh. (Kiev)*, 1989, 51 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FDO000.

N-Fluoren-1-ylbenzohydroxamic acid, 9CI F-00016

Benzoyl-1-fluorenylhydroxylamine

[29968-64-7]



$C_{20}H_{15}NO_2$ M 301.344

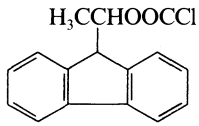
Used as a 0.5% soln. in $CHCl_3$ for colorimetric detn. of V ($CHCl_3$, λ_{max} 548 nm, ε 5100). Red-orange flakes (EtOH aq.). Mp 147° dec.

Cassidy, R.M. *et al*, *Can. J. Chem.*, 1968, **46**, 327 (*detn, V*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FDY000.

1-(9*H*-Fluoren-9-yl)ethyl carbonochloridate, 9CI F-00017

1-(9-Fluorenyl)ethyl chloroformate. FLEC

[118609-65-7]



$C_{16}H_{13}ClO_2$ M 272.730

(+)-***form*** [107474-79-3]

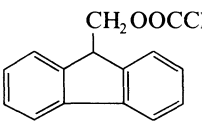
Reagent for hplc sepn. of amino acid enantiomers and chiral amines. Oil. $[\alpha]_D^{25}$ +67.9° (c, 1 in CH_2Cl_2).

Einarsson, S. *et al*, *Anal. Chem.*, 1987, **59**, 1191 (*synth, use*)
Veuthy, J.L. *et al*, *Chromatographia*, 1989, **27**, 105 (*use*)

9-Fluorenyl methyl chloroformate F-00018

9H-Fluoren-9-ylmethyl carbonochloridate, 9CI. FMOC. Amino tag

[28920-43-6]



$C_{15}H_{11}ClO_2$ M 258.703

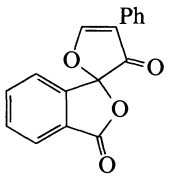
Amino acid protecting group, cleaved under basis conditions. Especially used in solid-phase peptide synth. Used in the hplc detn. of amino acids. Cryst. (Et_2O). Mp 61.5-63°.

Carpino, L.A. *et al*, *J. Org. Chem.*, 1972, **37**, 3404 (*synth, rev, ir*)
Erickson, B.W. *et al*, *The Proteins*, Academic Press, New York, 1976, 257 (*use*)
Martinez, J. *et al*, *J. Org. Chem.*, 1977, **44**, 3596 (*use*)
Moye, H.A. *et al*, *Anal. Lett.*, 1979, **12**, 25 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 230 (*use*)
Chang, C.-D. *et al*, *Int. J. Pept. Protein Res.*, 1980, **15**, 59 (*use*)
Einarsson, S. *et al*, *J. Chromatogr.*, 1983, **282**, 609; 1985, **348**, 213 (*use*)

Fluorescamine F-00019

4-Phenylspiro[furan-2(3H),1'(3'H)-isobenzofuran]-3,3'-dione, 9CI. 4-Phenylspiro[furan-2(3H),1'-phthalan]-3,3'-dione. Fluram

[38183-12-9]



$C_{17}H_{10}O_4$ M 278.264

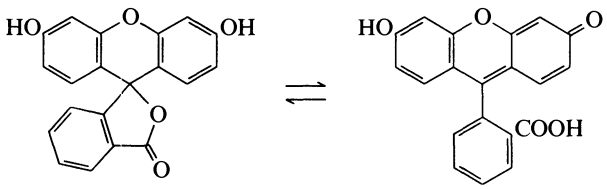
Fluorimetric reagent for amino acids, primary amines, peptides, proteins and proteolytic enzymes. Cryst. (CH_2Cl_2/Et_2O). Mp 154-155°.

Weigele, M. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 5927 (*synth*)
Undenfriend, S. *et al*, *Science (Washington, D.C.)*, 1972, **178**, 871 (*use*)
Weigele, M. *et al*, *Biochem. Biophys. Res. Commun.*, 1973, **50**, 352.
Weigele, M. *et al*, *J. Org. Chem.*, 1976, **41**, 388 (*synth, ir, uv*)
Sogowa, K. *et al*, *J. Biochem. (Tokyo)*, 1978, **83**, 1783 (*use*)
Undenfriend, S., *Pharmacology*, 1979, **19**, 223 (*rev, use*)
Doetsch, P.W. *et al*, *J. Chromatogr.*, 1980, **189**, 79 (*use, bibl*)
Mendez, E., *Anal. Biochem.*, 1982, **127**, 55 (*use*)
Jimenez, M.H. *et al*, *Carbohydr. Res.*, 1982, **101**, 133 (*use*)
Evans, C.H. *et al*, *Anal. Biochem.*, 1984, **142**, 411 (*use*)
Gritzner, G. *et al*, *Pure Appl. Chem.*, 1984, **56**, 461 (*use*)
Pure Appl. Chem., IUPAC, Analytical Chemistry Division (U.K.), 1984, **56**, 467 (*use*)

Fluorescein, 8CI F-00020

3',6'-Dihydroxyspiro[isobenzofuran-1(3H),9'-[9H]-xanthen]-3-one, 9CI. 9-(o-Carboxyphenyl)-6-hydroxy-3H-xanthen-3-one. Uranin. Resorcinolphthalein. C.I. Solvent yellow 94

[2321-07-5]



$C_{20}H_{12}O_5$ M 332.312

Fluorescent dye with numerous applications, e.g. as water-flow tracer and in cosmetics. Used as an adsorption indicator in the titration of $Cl^{\ominus}$, $Br^{\ominus}$, $I^{\ominus}$, $SCN^{\ominus}$ and as a fluorescence acid-base indicator (pH range 4.0-4.5 → 6.0; colour change pink/green → green). Used for photometric detn. of I_2. Exists in at least two forms, yellow amorph. and red cryst., possibly also in third, orange, modification. Structure assignments may not be certain.

▷ LM5075000.

Lactone-form

Yellow amorph. solid. Sol. Me_2CO, MeOH; spar. sol. H_2O, EtOH, Et_2O; insol. pet. ether. Becomes cryst. on heating.

Me ether:

$C_{21}H_{14}O_5$ M 346.339

Mp 272°.

Et ether:
$C_{22}H_{16}O_5$ M 360.365
Mp 253-254°.
Di-Ac: [596-09-8].
$C_{24}H_{16}O_7$ M 416.386
Substrate for esterases. Cryst.
Mono-β-D-galactopyranoside: [102286-67-9].
$C_{26}H_{22}O_{10}$ M 494.454
Fluorogenic substrate for β-D-galactosidase.
Di-(β-D-galactopyranoside): [17817-20-8].
$C_{32}H_{32}O_{15}$ M 656.596
Fluorogenic substrate for β-galactosidase.

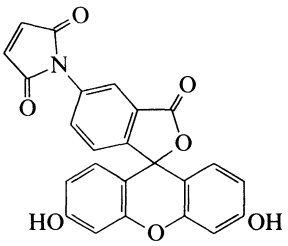
Quinonoid-form
Red cryst. with green iridescence. Sol. hot formic acid, hot $PhNH_2$, hot Me_2CO, spar. sol. H_2O, EtOH, Et_2O, insol. pet. ether.

Di-Na salt: [518-47-8]. *Fluorescein sodium, BAN, USAN. Fundusein. C.I. Acid yellow 73. C.I. 45350. Numerous proprietary names*
Diagnostic aid (corneal trauma indicator). Used as a fluorescent labelling reagent for proteins. Hygroscopic orange powder. Component of Fluress. Also used as didodecanoyl ester (Fluorescein dilaurate, BAN).
▷ LD_{50} 1800 mg/kg (mouse, i.p.). LM5425000.
Me ester:
$C_{21}H_{14}O_5$ M 346.339
Red cryst. with green iridescence (MeOH). Spar. sol. org. solvs. Mp 282°.
Me ether, Me ester:
$C_{22}H_{16}O_5$ M 360.365
Orange-yellow needles or deep-red cryst. with metallic lustre (C_6H_6/MeOH). Mp 208°.
Et ester:
$C_{22}H_{16}O_5$ M 360.365
Green leaflets (EtOH). Spar. sol. EtOH, Me_2CO, AcOH; insol. H_2O. Mp 247°.
Et ester, Ac:
$C_{24}H_{18}O_6$ M 402.403
Mp 191°.
Et ester, Et ether:
$C_{24}H_{20}O_5$ M 388.419
Yellow needles (EtOH aq.). Mp 159°.

Orndorff, W.R. *et al, J. Am. Chem. Soc.*, 1927, **49**, 1272 (*bibl*)
Déribéré, M., *Fresenius' Z. Anal. Chem.*, 1939, **116**, 341 (*use*)
Nagase, S. *et al, Yakugaku Zasshi*, 1953, **73**, 1033.
Zanker, V. *et al, Chem. Ber.*, 1958, **91**, 572 (*tautom*)
Steiner, R.F. *et al, Chem. Rev.*, 1962, **62**, 457 (*rev*)
Rotman, B. *et al, Proc. Natl. Acad. Sci. U.S.A.*, 1963, **50**, 1 (*use*)
Kirk-Othmer Encycl. Chem. Technol., 2nd Ed., Wiley, N.Y., 1963-1971, **22**, 432 (*rev*)
Guilbault, G.G. *et al, Anal. Chem.*, 1964, **36**, 409 (*use*)
Braun, D.E. *et al, Anal. Chem.*, 1967, **39**, 840 (*use*)
Colour Index, 3rd Ed., 1971, **4**, 4424 (*bibl*)
Ullman, E.F. *et al, J. Biol. Chem.*, 1976, **251**, 4172 (*use*)
Suzuki, Y. *et al, Jpn. J. Exp. Med.*, 1979, **49**, 179 (*use*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1956.
Hoffmann, J. *et al, Anal. Biochem.*, 1983, **131**, 180.
Nolan, G. *et al, Proc. Natl. Acad. Sci. U.S.A.*, 1988, **85**, 2603 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FEV000, FEW000.

Fluorescein-5-maleimide F-00021

[75350-46-8]

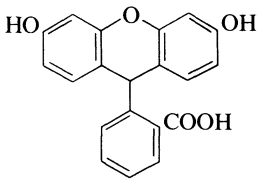


$C_{24}H_{13}NO_7$ M 427.369
Fluorescent label for thiol and disulfide groups.

Curtis, S.K. *et al, Histochemistry*, 1980, **68**, 23 (*use*)

Fluorescin F-00022

2-(3,6-Dihydroxy-9H-xanthen-9-yl)benzoic acid, 9CI
[518-44-5]

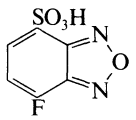


$C_{20}H_{14}O_5$ M 334.328
Formed by *Pseudomonas aeruginosa*. Needles (AcOH). Sol. Et_2O, alkalis. Mp 125-127°. Turns yellow in air. Oxidn. → Fluorescein. Derivs. of this compd. are often wrongly described as derivs. of Fluorescein. The literature of Fluorescin and Fluorescein is somewhat confused.
Di-Ac: [35340-49-9].
$C_{24}H_{18}O_7$ M 418.402
Reagent for the detn. of alcohols and amines. Mp 200-202°.
Et ester:
$C_{22}H_{18}O_5$ M 362.381
Needles (AcOH). Mp 195-196°. Turns yellow in air.
Di-Me ether:
$C_{22}H_{18}O_5$ M 362.381
Needles (EtOH). Mp 204-205°.
Di-Me ether, Me ester:
$C_{23}H_{20}O_5$ M 376.408
Cryst. (EtOH). Mp 136°.

Liebigs, H.V., *J. Prakt. Chem.*, 1913, **88**, 42.
Totter, J.R. *et al, J. Bacteriol.*, 1953, **65**, 45.
Sharma, P.N. *et al, Helv. Chim. Acta*, 1984, **67**, 301 (*synth, use*)

7-Fluoro-4-benzofurazansulfonic acid, 9CI F-00023

7-Fluoro-2,1,3-benzoxadiazole-4-sulfonic acid
[91575-54-1]

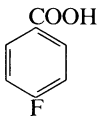


$C_6H_3FN_2O_4S$ M 218.165
NH_4 salt: [84806-27-9].
Fluorogenic reagent for thiols. Needles (MeCN/EtOH). Mp >280° dec.
Amide: [91366-65-3]. *7-Fluoro-4-benzofurazansulfonamide, 9CI. 4-Aminosulfonyl-7-fluoro-2,1,3-benzoxadiazole*
$C_6H_4FN_3O_3S$ M 217.180
Fluorogenic reagent for thiols. Mp 145-146°.

Imai, K. *et al*, *Anal. Biochem.*, 1983, **128**, 471 (*synth*, *use*)
Toyooka, T. *et al*, *J. Chromatogr.*, 1983, **282**, 495 (*use*)
Toyooka, T. *et al*, *Anal. Chem.*, 1984, **56**, 2461 (*deriv*, *synth*, *use*)
Sueyoshi, T. *et al*, *J. Biochem. (Tokyo)*, 1985, **97**, 1811 (*use*)
Imai, K. *et al*, *Methods Enzymol.*, 1987, **143**, 67 (*use*, *rev*)

4-Fluorobenzoic acid F-00024

[456-22-4]



$C_7H_5FO_2$ M 140.114

Used in etching. Reference material used in elemental microanalysis. Prisms (H_2O). Mp 185°. pK_a 4.15 (25°).

Me ester: [403-33-8].
$C_8H_7FO_2$ M 154.140
Mp 4.5°. Bp 198°.

Et ester: [451-46-7].
$C_9H_9FO_2$ M 168.167
Mp 26°. Bp 211°. $n_D^{25.7}$ 1.4707.

Chloride: [403-43-0].
C_7H_4ClFO M 158.559
Reagent for characterisation of alcohols, phenols, carboxylic acids, amines and thiols by F-19 nmr. Mp 9°. Bp 193°.

▷ Lachrymator.

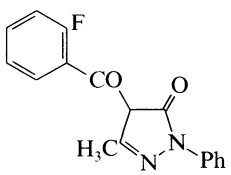
Amide: [824-75-9].
C_7H_6FNO M 139.129
Mp 154-155°. Bp_{38} 104°.

Nitrile: [1194-02-1]. p-*Fluorobenzonitrile*. *1-Cyano-4-fluorobenzene*
C_7H_4FN M 121.114
Mp 35-36°. Bp_{750} 188.2°.

Dippy, J. *et al*, *J. Chem. Soc.*, 1934, 1466.
Taft, R.W. *et al*, *J. Am. Chem. Soc.*, 1963, **85**, 3146 (*nmr*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Spratt, M.P. *et al*, *Anal. Chem.*, 1984, **56**, 2038 (*use*, *chloride*)

4-(2-Fluorobenzoyl)-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, 9CI F-00025

[129228-92-8]



$C_{17}H_{13}FN_2O_2$ M 296.300

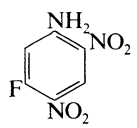
Used as 0.01*M* C_6H_6 soln. for extraction separation of Lu(*III*) (pH 1-2). Cryst. (dioxan aq.). Sol. C_6H_6, 1,2-dichloroethane, dioxan. Mp 119°.

Mukai, H. *et al*. *Anal. Chim. Acta*, 1990, **239**, 277 (*synth*, *use*)

5-Fluoro-2,4-dinitroaniline, 8CI F-00026

5-Fluoro-2,4-dinitrobenzenamine, 9CI

[367-81-7]



$C_6H_4FN_3O_4$ M 201.114

Reagent for amino acid detn. Cryst. (EtOH). Mp 186-187°.

N-*Ac:*
$C_8H_6FN_3O_5$ M 243.151
Cryst. (EtOH). Mp 119°.

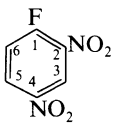
N,N-*Diethyl:* [6917-48-2]. *FDNDEA*
$C_{10}H_{12}FN_3O_4$ M 257.221
Fluorogenic reagent for amino acids. Cryst. (Me_2CO aq.). Mp 112°.

Bergmann, E.D. *et al*, *J. Org. Chem.*, 1961, **26**, 1480 (*synth*, *use*)
Matsui, K. *et al*, *CA*, 1966, **65**, 10699f (*synth*)
Koji, M. *et al*, *CA*, 1966, **65**, 10699f (*synth*)
Munier, R.L. *et al*, *Chromatographia*, 1981, **14**, 289 (*synth*, *use*, *N,N-diethyl*)
Fermo, T. *et al*, *J. Chromatogr.*, 1988, **433**, 53 (*use*, *N,N-diethyl*)

1-Fluoro-2,4-dinitrobenzene F-00027

Sanger's reagent. Dnp-F

[70-34-8]



$C_6H_3FN_2O_4$ M 186.099

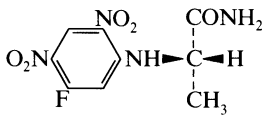
Used for labelling terminal amino groups of polypeptides and for characterising amines, amino acids and phenols. Oil. Mp 12°, Mp 27.5-30°. Bp_{25} 178°, Bp_2 133°. n_D^{20} 1.5690.

▷ Highly toxic, causes allergic reactions and dermatitis by inhalation and skin contact. CZ7800000.

Sanger, F.. *Biochem. J.*, 1945, **39**, 507.
Finger, G.C. *et al*, *Biochem. Prep.*, 1953, **3**, 120.
Walle, T., *Acta Pharm. Suec.*, 1968, **5**, 367 (*use*)
Loemker, J.E. *et al*, *Can. J. Chem.*, 1969, **47**, 209 (*nmr*, *ir*)
Cohen, I.C. *et al*, *J. Chromatogr.*, 1969, **44**, 251 (*use*)
Vinson, J.A. *et al*, *Anal. Chim. Acta*, 1972, **58**, 245 (*use*)
Hudlicky, M. *et al*, *J. Fluorine Chem.*, 1974, **4**, 19 (*nmr*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 233 (*use*)
Bartos, J. *et al*, *Pure Appl. Chem.*, 1984, **56**, 467 (*use*)
Wilkins, A. *et al*, *Acta Crystallogr., Sect. C*, 1991, **47**, 220 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DUW400.

2-[(5-Fluoro-2,4-dinitrophenyl)amino] propanamide, 9CI F-00028

1-Fluoro-2,4-dinitrophenyl-5-alaninamide



$C_9H_9FN_4O_5$ M 272.192

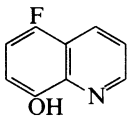
(*S*)-*form* [95713-52-3]
L-*form*. *Marfey's reagent*
Derivatisation reagent for sepn. of amino acid enantiomers. Golden yellow cryst. Mp 224-226°.

Marfey, P., *Carlsberg Res. Commun.*, 1984, **49**, 591 (*synth*, *use*)
Aberhart, D.J. *et al*, *Anal. Biochem.*, 1985, **151**, 88 (*use*)
Szokan, G. *et al*, *J. Chromatogr.*, 1988, **444**, 115 (*use*)
Aberhart, D.J. *et al*, *Methods Enzymol.*, 1988, **166**, 14 (*use*)

5-Fluoro-8-hydroxyquinoline F-00029

5-Fluoro-8-quinolinol, 9CI

[387-97-3]



C_9H_6FNO M 163.151

Cryst. (EtOH). Sol. EtOH, Et_2O, Me_2CO. Fe(*III*) complex used as redox indicator.

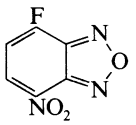
[57434-95-4]

Tomkinson, J.C. *et al*, *J. Chem. Soc.*, 1958, 2010 (*use, indicator*)

4-Fluoro-7-nitrobenzofurazan, 9CI F-00030

4-Fluoro-7-nitro-2,1,3-benzoxadiazole. NBD-F

[29270-56-2]



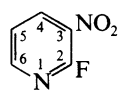
$C_6H_2FN_3O_3$ M 183.098

Reagent for fluorimetric detn. of amines, amino acids and proteins. Yellow cryst. (pet. ether). Mp 52.5-53.5°.

Di Numo, L. *et al*, *J. Chem. Soc. C*, 1970, 1433 (*synth*)
Watanabe, Y. *et al*, *Anal. Biochem.*, 1981, **116**, 471.
Imai, K. *et al*, *Anal. Chim. Acta*, 1981, **130**, 377; 1985, **170**, 81 (*use*)
Watanabe, Y. *et al*, *J. Chromatogr.*, 1982, **239**, 723; 1984, **309**, 279 (*use*)
Watanabe, Y. *et al*, *Anal. Chem.*, 1983, **55**, 1786 (*use*)
Kotaniguchu, H. *et al*, *J. Chromatogr.*, 1987, **420**, 141 (*use*)

2-Fluoro-3-nitropyridine, 9CI F-00031

[1480-87-1]



$C_5H_3FN_2O_2$ M 142.089

Reagent for the detn. of cysteinyl residues and for *N*-terminal amino acids in proteins. Liq. Bp_{10} 109-109.5°. n_D^{25} 1.5278.

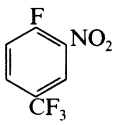
▷ Lachrymator, skin irritant.

Finger, G.C. *et al*, *J. Am. Chem. Soc.*, 1959, **81**, 2674 (*synth*)
Signor, A. *et al*, *Eur. J. Biochem.*, 1969, **7**, 328 (*use*)
Toniolo, C. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1972, 1182 (*use*)
Perjessy, A. *et al*, *Collect. Czech. Chem. Commun.*, 1985, **50**, 2443 (*ir*)
Peet, N.P. *et al*, *Heterocycles*, 1986, **24**, 3213 (*synth, pmr*)
Fukuhara, T. *et al*, *J. Fluorine Chem.*, 1988, **38**, 435 (*synth*)

1-Fluoro-2-nitro-4-(trifluoromethyl) benzene, 9CI F-00032

α,α,α,4-Tetrafluoro-3-nitrotoluene, 8CI. 4-Fluoro-3-nitrobenzotrifluoride

[367-86-2]



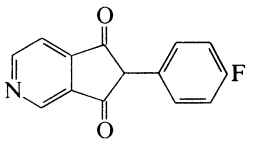
$C_7H_3F_4NO_2$ M 209.100

Reagent for chromatog. anal. of amines. Liq. Bp_{15} 92°. n_D^{20} 1.4618.

Finger, G.C. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 6034 (*synth*)
Crosby, D.G. *et al*, *J. Agric. Food Chem.*, 1968, **16**, 839 (*use*)
Spragg, B.P. *et al*, *J. Chromatogr.*, 1983, **258**, 289 (*use*)
Clark, J.H. *et al*, *Tetrahedron Lett.*, 1987, **28**, 111 (*synth*)

6-(4-Fluorophenyl)-5*H*-2-pyrindine-5,7(6*H*)-dione F-00033

2-(4-Fluorophenyl)-5-azaindandione



$C_{14}H_8FNO_2$ M 241.221

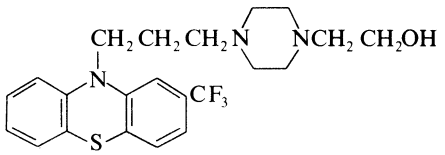
Used as a 20% soln. in Me_2CO as acid-base indicator (pH range: 4.7-5.8). Cryst.

Hrnčiar, P. *et al*, *Chem. Zvesti*, 1966, **20**, 261 (*use*)

Fluphenazine, BAN, INN F-00034

4-[3-[2-(Trifluoromethyl)-10H-phenothiazin-10-yl]propyl]-1-piperazineethanol, 9CI. 10-[3-[4-(2-Hydroxyethyl)-1-piperazinyl]propyl]-2-trifluoromethylphenothiazine. Flufenazine. NSC 62323. Numerous proprietary names

[69-23-8]



$C_{22}H_{26}F_3N_3OS$ M 437.528

Tranquilliser. Used as a 0.2% aq. soln. for photometric detn. of As(*III*), Ce(*IV*), $NO_2^{\ominus}$, Pd(*II*) (λ_{max} 480nm, ε 3990). Dark brown viscous oil. Sol. H_2O. $Bp_{0.5}$ 268-274°.

▷ TL9730000.

B,2HCl: [146-56-5]. *Fluphenazine hydrochloride, USAN. Prolixin. Moditen*
Cryst. (EtOH). Mp 235-237°.
▷ TL9800000.

Hexanoyl: [2376-43-4]. ***Fluphenazine caproate.*** *Mirenil prolongatum*
$C_{28}H_{36}F_3N_3O_2S$ M 535.672
Neuroleptic.

Heptanoyl: [2746-81-8]. ***Fluphenazine enanthate,*** **BAN, JAN, USAN.** *Other synonyms*
$C_{29}H_{38}F_3N_3O_2S$ M 549.699
Neuroleptic. Yellow viscous liq. Cryst. $+2H_2O$ (as hydrochloride). Mp 184-185° (hydrochloride).
▷ MJ2450000.

Decanoyl: [5002-47-1]. ***Fluphenazine decanoate,*** **BAN.** *Dapotum D. Modecate. Moditen*
$C_{32}H_{44}F_3N_3O_2S$ M 591.780
Neuroleptic. Pale yellow-orange visc. liq. Mp 30-32°.
▷ HE0525000.

Yale, H.L. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 2039 (*synth*)
U.K. Pat., 829 246, (1960); *CA*, **54**, 17428.
U.K. Pat., 833 473, (1960); *CA*, **54**, 21143.
Ger. Pat., 1 165 602, (1964); *CA*, **60**, 15886 (*deriv*)
U.S. Pat., 3 194 733, (1965); *CA*, **64**, 5114 (*derivs*)
Florey, K., *Anal. Profiles Drug Subst.*, 1973, **2**, 245, 263 (*rev, enanthate*)
Gowda, H.S. *et al*, *Rev. Roum. Chim.*, 1977, **22**, 745; *CA*, **87**, 126635a (*use*)
Curry, S.H. *et al*, *Br. J. Clin. Pharmacol.*, 1979, **7**, 325 (*metab*)

Kreyenbuehl, B. *et al*, *Pharm. Acta Helv.*, 1979, **54**, 197 (*uv, ir*)
Clarke, G., *Anal. Profiles Drug Subst.*, 1980, **9**, 275 (*rev, decanoate*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7046-7048.
Shetty, H.U. *et al*, *Biomed. Mass Spectrom.*, 1983, **10**, 601 (*ms*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 6546, 7787, 7963 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FMP000, PMI250, TJW500.

Formaldehyde, 9CI, 8CI, BAN, USAN F-00035

Methanal. Formitrol. Formol. Veracur

[50-00-0]

HCHO

CH_2O M 30.026

Found in traces in essential oils and other vegetable sources. Intermed. in the production of resins. The 40% aq. soln. known as formalin which contains 10-15% of MeOH to prevent polymerization, is a disinfectant, antiseptic and preservative. Used in manuf. of Pentaerythritol, Hexamethylenetetramine and 1,4-Butanediol. Used in detn. of NH_3, $NO_3^{\ominus}$, detn. of Au, Ag; prep. of formaldoxime (reagent for Mn). Important industrial chemical, 23rd in order of volume for USA in 1990 (production 3.20 million tons/year). Gas with pungent, suffocating odour. Sol. H_2O. V. sol. H_2O; sol. most org. solvs. except pet. ether. d 1.083. Mp −92°. Bp −21°, Bp_{400} −33°. pK_a 13.27 (hydrate 25°). Stable at temps. below −30°. With conc. H_2SO_4 → polyoxymethylene. With phenol→ phenol-formaldehyde resins.

▷ Highly toxic and irritant. LP8925000.

Anhyd. polymer: [9002-81-7]. *Polyoxymethylene*
Obtd. by polymerisation of formaldehyde soln. with H_2SO_4. Mp 170-172°. Polyoxymethylene is also an old name for Paraformaldehyde.

Polymer: [30525-89-4]. *Paraformaldehyde. Paraform*
Obtd. by evaporation of aq. formaldehyde solns. Used as disinfectant, fumigant, fungicide, waterproofing glues and resins, including artificial horn and ivory. White solid with sl. odour of formaldehyde. Spar. sol. H_2O; sol. strong alkalis; insol. EtOH, Et_2O. Mp 163-165° dec.
▷ Irritant, mod. toxic orally. RV0540000.

Oxime: [75-17-2]. *Formaldoxime*
CH_3NO M 45.041
Reagent for synth. of aldehydes from diazonium salts. Used for photometric detn. of Mn (λ_{max} 455 nm, ε 11200), Ni, Fe, Ce and V. Sol. H_2O. Bp 84°. Slowly turns to amorph. trimer insol. in H_2O.

Oxime; B,HCl: [3473-11-8].
Prisms. Mp 136°.

Semicarbazone: [14066-69-4].
Mp 169° dec.

2,4-Dinitrophenylhydrazone: [1081-15-8].
Prisms (ligroin). Mp 167°.

Di-Et acetal: [462-95-3]. *Diethoxymethane. Diethyl formal. Ethylal. Methylene diethyl ether*
$C_5H_{12}O_2$ M 104.149
Sol. H_2O. Bp 89°.
▷ PA8500000.

Ammonia compd: see *Hexamethylenetetramine, H-00057*

Bisulfite compd.: [870-72-4].
Redn. products used in calico printing. Cryst. + $1H_2O$ (H_2O). Sol. MeOH, spar. sol. EtOH. Mp 200° dec.
▷ PB2200000.

Walker, F., *Ind. Eng. Chem.*, 1931, **23**, 1220; *J. Am. Chem. Soc.*, 1933, **55**, 2821 (*rev*)
Patry, M. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1945, **221**, 259 (*synth*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **1**, 375 (*use*)
Marczenko, Z., *Acta Chim. Hung.*, 1961, **26**, 347 (*detn, Ce*)
Marczenko, Z., *Anal. Chim. Acta*, 1964, **31**, 224 (*use*)
Marczenko, Z., *Bull. Soc. Chim. Fr.*, 1964, 939 (*use*)
Walker, J.F., *Formaldehyde*, 3rd Ed., Reinhold, N.Y., 1964 (*rev, bibl*)
Fujmaki, M. *et al*, *Agric. Biol. Chem.*, 1965, **29**, 855 (*isol*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 402; **8**, 231.
Okač, A. *et al*, *Fresenius' Z. Anal. Chem.*, 1969, **178**, 198 (*use*)
Absar, I. *et al*, *Can. J. Chem.*, 1972, **50**, 646 (*struct*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **11**, 231 (*rev*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2246.
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 364 (*oxime, detn, Mn*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 697, 885.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 339, 425.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EFT500, FMV000, PAI000, SHI500.

Formamidinesulfinic acid F-00036

Aminoiminomethanesulfinic acid, 9CI, 8CI. Thiourea dioxide

[1758-73-2]

$HN{=}C(NH_2)SO_2H$

$CH_4N_2O_2S$ M 108.121

Possibly exists as zwitterion. Reducing agent, e.g. for ketones and dyes. Used as aq. soln. for pptn. separation of Rh from Ir; gravimetric or photometric detn. of Rh. Needles. Sol. H_2O. Mp 126° dec.

Barnett, E.B., *J. Chem. Soc.*, 1910, **97**, 63 (*synth*)
Barnett, E.B. *et al*, *J. Solution Chem.*, 1910, **97**, 63 (*synth*)
Sullivan, R.A.L. *et al*, *Acta Crystallogr.*, 1962, **15**, 675 (*struct*)
Pshenitsyn, N.K. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 761 (*sepn, detn, Rh*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 232.
Rosevear, J. *et al*, *Aust. J. Chem.*, 1984, **37**, 2489 (*use*)

Formic acid, 9CI, 8CI F-00037

Methanoic acid

[64-18-6]

HCOOH

CH_2O_2 M 46.026

Observed by S. Fisher in 1670 from red ants (*Formica rufa*). Vesicant principle of nettles (*Urtica* spp.), widespread in plants. Used as decalcifier, wool dye reducer, depilatory for hides and tanning, electroplating, rubber regeneration and silage and grain preservation. Reactive alkylating agent for alcohols; carboxylating agent for tertiary compds. Reducing agent; used for gravimetric detn. of Au(*III*), Pt(*IV*), Rh(*III*), Rh(*III*), Hg(*II*). Liq. with pungent odour. Misc. H_2O, EtOH, Et_2O; mod. sol. C_6H_6. d_4^{20} 1.220. Mp 8.4°. Bp 100.5°. Bp_{120} 50°. Good solvent props. Strong reducing agent, burns with a blue flame.

▷ Causes severe burns, TLV 9. Esters may be toxic and/or highly flammable. LQ4900000.

NH_4 salt: Ammonium formate
Reagent for catalytic hydrogen transfer reacns. Mp 116°. V. hygroscopic.

4-Bromophenacyl ester: [10536-76-2].
Cryst. (EtOH). Mp 99°.

4-Nitrophenyl ester: 4-Nitrophenyl formate
$C_7H_5NO_4$ M 167.121
Formylating reagent for use in peptide synthesis. Cryst. (EtOH aq.). Mp 65-68°. Stable only when v. pure.

2,4,5-Trichlorophenyl ester: 2,4,5-Trichlorophenyl formate
$C_7H_3Cl_3O_2$ M 225.458
Formylating reagent for use in peptide synthesis. Cryst. (hexane). Mp 68-70°.

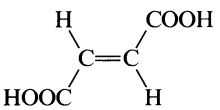
Hydrazide: [624-84-0]. *Hydrazinecarboxaldehyde, 9CI*
CH_4N_2O M 60.055
Used as 10% aq. soln. for photometric detn. of Au, Cu, Co. Cryst. (EtOH). Sol. H_2O.
▷ LQ8615000.

Pryanishnikov, A.A. *et al*, *CA*, 1933, **27**, 2672 (*synth*)
Zuffanti, S.J., *J. Am. Chem. Soc.*, 1941, **63**, 3123 (*NH_4 salt, synth, bibl*)
Hashmi, M.H. *et al*, *Anal. Chem.*, 1966, **38**, 439 (*use, hydrazide*)
Holsboer, D.H. *et al*, *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1971, **90**, 556 (*deriv*)
Nahringbauer, I., *Acta Crystallogr., Sect. B*, 1978, **34**, 315 (*cryst struct*)
Benninghoven, A. *et al*, *Adv. Mass Spectrom.*, 1978, **7B**, 1433 (*ms*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **11**, 257 (*rev*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 232.
Martinez, J. *et al*, *Synthesis*, 1982, 979 (*deriv*)
Ram, S. *et al*, *Synthesis*, 1988, 91 (*rev*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 339.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FNA000, FNN000.

Fumaric acid, 8CI F-00038

(E)-*2-Butenedioic acid, 9CI.* trans-*Ethylene-1,2-dicarboxylic acid. Paramaleic acid. Glaucic acid. Boletic acid*

[110-17-8]



$C_4H_4O_4$ M 116.073
Occurs in many plants, e.g. *Fumaria officinalis, Boletus scaber, Fomes igniarius.* Produced by *Rhizopus nigricans.* Is essential to vegetable and animal tissue respiration. Used as di-Na salt for pptn. sepn. of Th from lanthanides. Monoclinic, prismatic needles or leaflets (H_2O). Sol. EtOH, spar. sol. H_2O, Et_2O, Me_2CO, prac. insol. C_6H_6. Mp 300-302° (sealed tube). pK_a 4.54 (25°). At 230° forms maleic anhydride.
▷ LS9625000.

Mono-Me ester: [2756-87-8].
$C_5H_6O_4$ M 130.100
Found in *Tagetes minuta* and *Cudrania javanensis.* Prisms (EtOH). Mp 144.5°.

Mono-Me ester; B,HCl: [17081-97-9].
$C_5H_5ClO_3$ M 148.545
Mp 16°. Bp_{14} 69.5°.

Di-Me ester: [624-49-7].
$C_6H_8O_4$ M 144.127
Cryst. Mp 102°. Bp_{12} 88.5°.
▷ EM6125000.

Di-Et ester: [623-91-6].
$C_8H_{12}O_4$ M 172.180
Fragrance ingredient. d 1.052. Mp 1-2°. Bp 218-219°, Bp_{10} 95-96°. n_D^{20} 1.440.

Dichloride: [627-63-4]. *Fumaroyl chloride*
$C_4H_2Cl_2O_2$ M 152.964
Bp 158-160°.
▷ Highly irritant. Gives toxic fumes in contact with water. LT2800000.

Monoamide: [2987-87-3]. *4-Amino-4-oxo-2-butenoic acid, 9CI. Fumaramic acid*
$C_4H_5NO_3$ M 115.088
Used to manuf. Asparagine by bacterial conversion. Mp 218-222°.

Diamide: [627-64-5].
$C_4H_6N_2O_2$ M 114.104
Mp 267° dec.

Bis(dimethylamide):
$C_8H_{14}N_2O_2$ M 170.211
Mp 134.5°.

Dinitrile: [764-42-1]. *Fumaronitrile.* (E)-*1,2-Dicyanoethylene*
$C_4H_2N_2$ M 78.073
Needles. Sol. EtOH, Et_2O, C_6H_6. Mp 96°. Bp 186°.
▷ LT2300000.

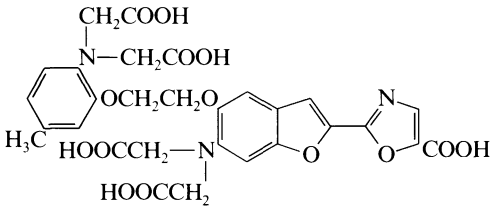
Me ester, nitrile: [925-56-4]. *Methyl β-cyanoacrylate*
$C_5H_5NO_2$ M 111.100
Cryst. (1-propanol aq.). Mp 32-34°. Bp_{35} 80-83°.

[17013-01-3]

Anschütz, R., *Justus Liebigs Ann. Chem.*, 1928, **461**, 155 (*isom*)
Justel, B., *Angew. Chem.*, 1943, **56**, 157 (*detn, Th*)
Org. Synth., Coll. Vol., 2, 1943, 302 (*synth*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **2**, 41 (*synth, use*)
U.S. Pat., 2 848 366, (1958).
Org. Synth., Coll. Vol., 4, 1963, 486 (*nitrile*)
Devlin, C.J. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1972, 1249 (*di-Et ester*)
Benghiat, V. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1972, 1758 (*cryst struct, deriv*)
Junek, H. *et al*, *Tetrahedron*, 1972, **28**, 4083 (*synth, pmr, deriv*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, no. 849.
Morris, W.W., *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 1037 (*ir*)
George, W.O. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1973, 954 (*ir, derivs*)
Fritz, H. *et al*, *J. Magn. Reson.*, 1974, **15**, 179 (*cmr*)
Kerr, R.O., *Benzene Its Ind. Deriv.*, Wiley, N.Y., 1975 (*rev*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 319.
Compton, D.A.C. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1975, 400 (*raman*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **14**, 770 (*rev*)
Pfau, M. *et al*, *Bull. Soc. Chim. Fr.*, Part II, 1982, 341 (*bisdimethylamide*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 5054.
Gajiwski, J.J. *et al*, *J. Am. Chem. Soc.*, 1989, **111**, 9078 (*Methyl β-cyanoacrylate*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DJJ800, DSB600, DXD800, FOU000, FOX000, FOY000.

Fura 2 F-00039

[96314-98-6]



$C_{29}H_{27}N_3O_{14}$ M 641.544

Tetra-K salt: Fluorescent probe for intracellular Mg.

Penta-K salt: [113694-64-7].
Fluorescent probe for intracellular Ca.

Penta-Et ester: [96331-97-4].
$C_{39}H_{47}N_3O_{14}$ M 781.812
Mp 138°.

Pentakis(acetoxymethyl)ester: [108964-32-5]. *Fura 2-AM*
$C_{44}H_{47}N_3O_{24}$ M 1001.861
Fluorescent probe for intracellular Ca. Yellow powder.

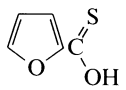
[96315-04-7, 100108-74-5, 100215-37-0, 120551-16-8]

Rao, G.H.R. *et al*, *Biochem. Biophys. Res. Commun.*, 1985, **132**, 652 (*use*)
Grynkiewicz, G. *et al*, *J. Biol. Chem.*, 1985, **260**, 3440 (*synth, use*)
Poenie, M., *Prog. Clin. Biol. Res.*, 1986, **210**, 53 (*rev*)
Cork, R.J. *et al*, *Biol. Bull. (Woods Hole, Mass.)*, 1989, **176**, 25 (*rev*)
Roe, M.W. *et al*, *Cell Calcium*, 1990, **11**, 63 (*rev*)

2-Furancarbothioic acid, 9CI F-00040

Thio-2-furoic acid, 8CI

[4741-45-1]



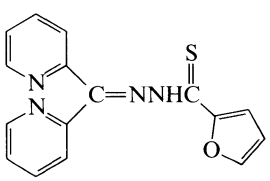
$C_5H_4O_2S$ M 128.151
Liq. Bp_{16} 101°.

Hydrazide: [68062-22-6]. *2-Furanthiocarboxhydrazide*
$C_5H_6N_2OS$ M 142.181
Used as 0.01*M* EtOH soln. for extraction-photometric detn. of Pt(*IV*) (λ_{max} 715 nm, pH 5.4-6.0, 4-methyl-2-pentanone), Os(*VI, VIII*), Ru(*III*), Re(*VII*). Cryst. (hot H_2O or C_6H_6). Sol. EtOH, C_6H_6; mod. sol. H_2O. Mp 130-131°.

Jensen, K.A. *et al*, *Acta Chem. Scand.*, 1961, **15**, 1097 (*synth, hydrazide*)
Niwa, E. *et al*, *CA*, 1968, **68**, 49377w (*synth*)
Shome, S.C. *et al*, *Mikrochim. Acta*, 1978, **2**, 343 (*synth, use*)

2-Furancarbothioic acid (di-2-pyridinyl) methylenehydrazide, 9CI F-00041

[73697-16-2]



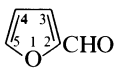
$C_{16}H_{12}N_4OS$ M 308.363
Used as 0.01*M* soln. in EtOH or Me_2CO for photometric detn. of Re (λ_{max} 546 nm, ε 15000, EtOH), Fe(*II*) (λ_{max} 738 nm, ε 12000, C_6H_6). Orange-red cryst. (EtOH). Sol. EtOH, Me_2CO, C_6H_6, $CHCl_3$. Mp 139°, Mp 142-143°.

Kettrup, A. *et al*, *Anal. Chim. Acta*, 1980, **115**, 383 (*synth, detn, Re*)
Nakanishi, T. *et al*, *Microchem. J.*, 1983, **28**, 99 (*detn, Fe*)

2-Furancarboxaldehyde, 9CI F-00042

Furfural. 2-Furaldehyde. 2-Formylfuran. Furfurole. α-Furfuraldehyde

[98-01-1]



$C_5H_4O_2$ M 96.085
Isol. from plant sources, obt. by hydrol. of pentoses, eg. gums. A common constit. of essential oils. Flavour ingredient. Reagent for the detn. of amines. Liq. Part. misc. H_2O. d_4^{20} 1.159. Bp 162°, Bp_{65} 90°. n_D^{20} 1.5261. Resinifies on keeping. Steam-volatile.

▷ Mod. toxic, irritant, TLV 20. LT7000000.

Phenylhydrazone: [2216-75-3].
Mp 97-98°.

2,4-Dinitrophenylhydrazone: [2074-02-4].
Scarlet leaflets. Mp 202°, Mp 229° dec.

Semicarbazone: Mp 190-192°.

Thiosemicarbazone: [5419-96-5]. *2-Furancarboxaldehyde thiosemicarbazone*
$C_6H_7N_3OS$ M 169.207
Used as 1% EtOH soln. for gravimetric detn. of Pd, Ni; photometric detn. of Pd (λ_{max} 347 nm, ε 34000), Cu (λ_{max} 364 nm, ε 33500), Co, Ni. Needles (EtOH). Sol. EtOH, DMF alkalis; sl. sol. H_2O. Mp 154°, Mp 162-163° , 182-183°.

(E)-*Oxime:* [620-03-1]. *α-Oxime.* syn-*Oxime*
$C_5H_5NO_2$ M 111.100
Mp 75-76°. pK_{a1} 11.16 (25°).

(Z)-*Oxime:* [1450-58-4]. *β-Oxime.* anti-*Oxime*
Cryst. (C_6H_6/pet. ether). Mp 90-91°.

Anil: [3237-23-8]. N-(*2-Furanylmethylene*)*benzenamine, 9CI. Furfurylildeneaniline*
$C_{11}H_9NO$ M 171.198
Cryst. Mp 58°. Bp_2 122-123°.

Dimethylhydrazone:
$C_7H_{10}N_2O$ M 138.169
Oil. Bp_2 69°.

Org. Synth., Coll. Vol., 1, 1932, 274 (*synth*)
Wacek, D.A., *Angew. Chem.*, 1941, **54**, 453 (*rev*)
Barney, J.E. *et al*, *J. Chromatogr.*, 1969, **45**, 82 (*use*)
Wasylishen, R. *et al*, *Can. J. Chem.*, 1972, **50**, 274 (*pmr, oximes*)
Abraham, R.J. *et al*, *Tetrahedron*, 1972, **28**, 3015 (*pmr*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, no. 1782 (*occur*)
Cano Pavon, J.M. *et al*, *Talanta*, 1973, **20**, 339 (*synth, detn, Pd*)
Pavon, J.M. *et al*, *Talanta*, 1973, **20**, 339 (*detn, Pd*)
Chadwick, D.J. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1974, 1141 (*pmr*)
Mas'ko, L.I. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 315 (*detn, Pd*)
Green, J.H.S. *et al*, *Spectrochim. Acta, Part A*, 1977, **33**, 843 (*ir*)
Rosales, D. *et al*, *Analyst (London)*, 1982, **107**, 385 (*detn, Ni*)
Gowda, H.S. *et al*, *Curr. Sci.*, 1983, **52**, 360 (*detn, Ni*)
Gowda, H.S. *et al*, *Indian J. Chem., Sect. A*, 1983, **22**, 551, 1086 (*detn, Co, Cu*)
Goto, G. *et al*, *Chem. Pharm. Bull.*, 1986, **34**, 3202 (*oxime*)
Ghabrial, S.S. *et al*, *Acta Chem. Scand., Ser. B*, 1987, **41**, 426 (*oxime*)
Potts, K.T *et al*, *J. Org. Chem.*, 1988, **53**, 1199 (*deriv, synth, pmr*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 340.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FPQ875.

3-Furancarboxaldehyde F-00043

3-Furaldehyde. 3-Formylfuran. β-Furfuraldehyde

[498-60-2]

$C_5H_4O_2$ M 96.085

Isol. from *Evonymus atropurpureus, E. europaeus, Phaseolus multiflorus* and other higher plants and fungi. Liq. d_{20}^{20} 1.111. Bp_{732} 144°, Bp_{43} 70-72°. n_D^{20} 1.4945. Polymerises on heating or in the light.

Oxime: [35940-93-3].

$C_5H_5NO_2$ M 111.100

Used for extraction-photometric detn. of Pd (λ_{max} 307 nm, ε 69700, CH_2Cl_2). Cryst.

Phenylhydrazone: [60162-44-9].

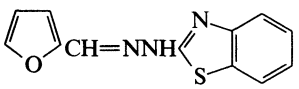
Mp 149.5°.

Gilman, H. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 2908 (*synth*)
Gronowitz, S. *et al*, *Ark. Kemi*, 1962, **17**, 483 (*pmr*)
Ueda, S. *et al*, *Nippon Kagaku Kaishi*, 1974, **10**, 1917; *CA*, **81**, 180695j (*detn, Pd*)
Gronowitz, S. *et al*, *Chem. Scr.*, 1975, **7**, 211 (*pmr, cmr*)
Benassi, R. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1988, 1501 (*struct*)

2-Furancarboxaldehyde 2-benzothiazolylhydrazone F-00044

Furfural 2-benzothiazolylhydrazone

[53846-87-0]



$C_{12}H_9N_3OS$ M 243.289

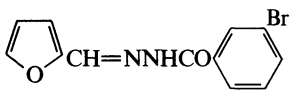
Used as 0.25m*M* C_6H_6 soln. for extraction-photometric detn. of Cu (λ_{max} 415 nm, ε 44000, C_6H_6). Cryst. Sol. C_6H_6, $CHCl_3$. Mp 170-172°. pK_{a2} 11.3 (50% dioxan).

Odashima, T. *et al*, *Anal. Chim. Acta*, 1976, **83**, 431 (*synth, detn, Cu*)

2-Furancarboxaldehyde 3-bromobenzoylhydrazone F-00045

3-Bromobenzoic acid (2-furanylmethylene)hydrazide, 9CI

[93418-03-2]



$C_{12}H_9BrN_2O_2$ M 293.119

Used as 0.01*M* in 4-methyl-2-pentanone or xylene for extraction-separation of Cd, Co, Cu, Ni, Zn (pH 5-9). Cryst. Sol. 4-methyl-2-pentanone.

Tossidis, I.A. *et al*, *Chem. Chron.*, 1983, **12**, 181 (*synth*)
Arpadjan, S. *et al*, *Analyst (London)*, 1988, **113**, 1699 (*use*)

2-Furancarboxaldehyde 4-bromobenzoylhydrazone F-00046

4-Bromobenzoic acid (2-furanylmethylene)hydrazide, 9CI

[93444-96-3]

$C_{12}H_9BrN_2O_2$ M 293.119

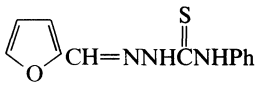
Used as 0.01*M* soln. in 4-methyl-2-pentanone or xylene for extraction separation of Cd, Co, Cu, Ni, Zn (pH 5-9). Cryst. Sol. 4-methyl-2-pentanone, xylene.

Tossidis, I.A. *et al*, *Chem. Chron.*, 1983, **12**, 181 (*synth*)
Arpadjan, S. *et al*, *Analyst (London)*, 1988, **113**, 1699 (*use*)

2-Furancarboxaldehyde phenylthiosemicarbazone F-00047

2-(2-Furanylmethylene)-N-phenylhydrazinecarbothioamide, 9CI. Furfural phenylthiosemicarbazone

[31397-09-8]



$C_{12}H_{11}N_3OS$ M 245.304

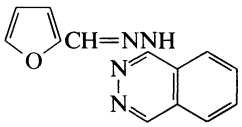
Used as 0.2% EtOH soln. for gravimetric detn. of Ni, Pd. Cryst. Sol. EtOH, alkalis; sl. sol. H_2O.

Cano Pavon, J.M. *et al*, *Anal. Lett.*, 1974, **7**, 159 (*synth, detn, Pd*)
Rosales, D. *et al*, *Analyst (London)*, 1982, **107**, 385 (*detn, Ni*)

2-Furancarboxaldehyde 1-phthalazinylhydrazone, 9CI F-00048

Furfural 1-phthalazinylhydrazone

[83728-77-2]



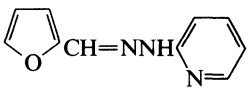
$C_{13}H_{10}N_4O$ M 238.248

Used as 1m*M* soln. in 10% Triton X-100 soln. for photometric detn. of Ni. Cryst. Sol. EtOH, $CHCl_3$; insol. H_2O, C_6H_6. Mp 205° dec.

Ishii, H. *et al*, *Analyst (London)*, 1982, **107**, 885 (*detn, Ni*)

2-Furancarboxaldehyde 2-pyridinylhydrazone, 9CI F-00049

[2746-57-8]



$C_{10}H_9N_3O$ M 187.201

Used as a 1m*M* soln. in EtOH for photometric detn. of Co (λ_{max} 418 nm, ε 47000). Cryst. Sol. Et_2O, EtOH, $CHCl_3$, dioxan. Mp 60-61°.

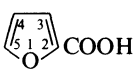
[100462-81-5, 100462-82-6]

Garcia Sanchez, F. *et al*, *Talanta*, 1985, **32**, 967 (*detn, Co*)

2-Furancarboxylic acid F-00050

Pyromucic acid. α-Furoic acid

[88-14-2]



$C_5H_4O_3$ M 112.085

Leaflets (H_2O). Mod. sol. cold H_2O, v. sol. hot. Mp 133-134°. Bp 230-232°, Bp_{20} 141-144°.

▷ LV1763000.

Me ester: [611-13-2].

$C_6H_6O_3$ M 126.112

Bp 181.3°.

▷ LV1950000.

Et ester: [614-99-3].

$C_7H_8O_3$ M 140.138

Mp 34°. Bp_{766} 195°, Bp_{95} 128°.

▷ LV1850000.

Anhydride: [615-08-7].

$C_{10}H_6O_5$ M 206.154
Needles (EtOH). Mp 73°. Bp 325° part. dec.

Chloride:
$C_5H_3ClO_2$ M 130.530
Mp −2°. Bp 173°, Bp_{10} 66°. Stable to water.
▷ Highly irritant.

Amide: [609-38-1]. *2-Furancarboxamide*
$C_5H_5NO_2$ M 111.100
Mp 142-143°.

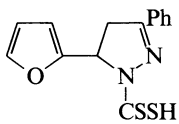
Hydrazide: [3326-71-4]. *2-Furoylhydrazine*
$C_5H_6N_2O_2$ M 126.115
Anal. reagent for carbohydrates. Cryst. (C_6H_6). Mp 78°.
▷ LV1925000.

Nitrile: [617-90-3]. *2-Cyanofuran. 2-Furancarbonitrile, 9CI*
C_5H_3NO M 93.085
Bp_{738} 146°.

Org. Synth., Coll. Vol., 4, 1963, 493 (*synth*)
Cook, M.J. *et al, Tetrahedron*, 1968, **24**, 4501 (*use, hydrazide*)
Chadwick, D.J. *et al, J. Chem. Soc., Perkin Trans. 1*, 1974, 1141 (*pmr*)
Gronowitz, S. *et al, Chem. Scr.*, 1975, **7**, 211 (*pmr, cmr*)
Lever, M. *et al, Anal. Biochem.*, 1984, **139**, 205 (*use, hydrazide*)
Murahashi, S.-I. *et al, J. Org. Chem.*, 1986, **51**, 898 (*synth, ir, pmr, ms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EKM000, FQF000, MKH600.

(2-Furanyl)-2,3-dihydro-4-phenyl-1*H*-pyrazole-1-carbonodithioic acid F-00051

5-(2-Furyl)-3-phenylpyrazoline-1-dithiocarbamic acid



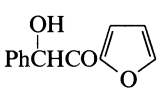
$C_{14}H_{12}N_2OS_2$ M 288.394
Used as 0.5% soln. in $CHCl_3$/3-methylbutanol for extraction-photometric detn. of Pd (λ_{max} 380 nm, ε 83000, $CHCl_3$) and other platinum metals. Yellow cryst. Sol. alkalis, $CHCl_3$, isopentanol.

Busev, A.I. *et al, Zh. Anal. Khim.*, 1967, **22**, 1028; 1972, **27**, 1802 (*synth, use*)

1-(2-Furanyl)-2-hydroxy-2-phenylethanone, 9CI F-00052

2-Furyl α-hydroxybenzyl ketone. Benzfuroin

[36715-43-2]

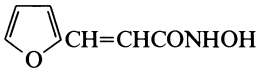


$C_{12}H_{10}O_3$ M 202.209
Cryst. Mp 137-139°.

Oxime: [86278-51-5]. *Benzfuroin oxime*
$C_{12}H_{11}NO_3$ M 217.224
Used as a 0.03% *M* aq. soln. for photometric detn. of U. Cryst. (EtOH). Sol. EtOH, H_2O. Mp 165-166°.

Feigl, F. *et al, Chem. Ber.*, 1925, **58**, 2294 (*synth*)
Tiffeneau, M. *et al, Bull. Soc. Chim. Fr.*, 1931, **49**, 725 (*synth*)
Armeanu, V. *et al, Rev. Roum. Chim.*, 1983, **28**, 45 (*use*)
Ricci, A. *et al, J. Org. Chem.*, 1985, **50**, 130 (*synth*)

3-(2-Furanyl)-*N*-hydroxy-2-propenamide F-00053



$C_7H_7NO_3$ M 153.137

N-*Ph:* [22861-47-8]. *3-(2-Furanyl)-N-hydroxy-N-phenyl-2-propenamide.* N-*Phenyl-2-furanacrylohydroxamic acid, 8CI*
$C_{13}H_{11}NO_3$ M 229.235
Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of Ti (λ_{max} 397 nm, ε 15000, from 9*M* HCl), V(*V*). Cryst. Sol. $CHCl_3$.

N-(*4-Methylphenyl*): [22861-49-0]. *3-(2-Furanyl)-N-hydroxy-N-(4-methylphenyl)-2-propenamide, 9CI*
$C_{14}H_{13}NO_3$ M 243.262
Used as a 0.1% $CHCl_3$ soln. for extraction-photometric detn. of Ti (λ_{max} 400 nm, ε 14800). Cryst. Sol. $CHCl_3$.

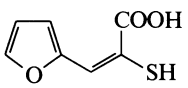
N-(*4-Chlorophenyl*): [67669-02-7]. N-*(4-Chlorophenyl)-3-(2-furanyl)-N-hydroxy-2-propenamide, 9CI*
$C_{13}H_{10}ClNO_3$ M 263.680
Used for amperometric detn. of Sc (pH 5.5-6.5). Cryst.

Bhura, D.C. *et al, J. Chem. Eng. Data*, 1969, **14**, 276 (*synth*)
Bhura, D.C. *et al, Anal. Chim. Acta*, 1971, **53**, 379 (*detn, V*)
Shvedene, N.V. *et al, Zh. Anal. Khim.*, 1978, **33**, 60 (*deriv, use*)
Bhura, D.C. *et al, Analusis*, 1980, **8**, 108 (*detn, Ti*)

3-(2-Furanyl)-2-mercapto-2-propenoic acid, 9CI F-00054

2-Mercapto-3-(2-furyl)propenoic acid. α-Mercapto-β-(2-furyl)acrylic acid. MDL 71626

[55927-33-8]

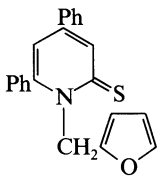


$C_7H_6O_3S$ M 170.189
Chelating agent protecting against toxicity and teratogenicity of Cd *in vivo*. Used as 1% soln. in EtOH for photometric detn. of Ti (λ_{max} 490 nm, ε 35000), Mo (λ_{max} 450 nm, ε 8900). Cryst. Sol. EtOH, MeOH. Mp 115-117°.

Campaigne, E. *et al, J. Org. Chem.*, 1956, **21**, 32.
Izquierdo, A. *et al, Quim. Anal. (Madrid)*, 1974, **28**, 148 (*use*)
Izquierdo, A. *et al, Analusis*, 1976, **4**, 200 (*detn, Mo*)
Izquierdo, A. *et al, Talanta*, 1978, **25**, 56 (*detn, Ti*)
Giroux, E. *et al, J. Biol. Chem.*, 1984, **259**, 3658.
Ferm, V.H. *et al, Experientia*, 1987, **43**, 208.

1-(2-Furanylmethyl)-4,6-diphenyl-2(1*H*)-pyridinethione F-00055

[76950-90-8]



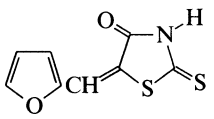
$C_{22}H_{17}NOS$ M 343.448
Used as a 0.25m*M* soln. in EtOH for photometric detn. of Hg (λ_{max} 314 nm, ε 46000, 50% EtOH). Yellow cryst. (EtOH). Sol. EtOH. pK_a 10.66.

Lorenzo, A. *et al, Synthesis*, 1980, 853 (*synth*)
Pérez Ruiz, T. *et al, Mikrochim. Acta*, 1984, **2**, 183 (*detn, Hg*)

5-(2-Furanylmethylene)-2-thioxo-4-thiazolidinone, 9CI F-00056

5-Furanylmethylenerhodanine

[4703-96-2]



$C_8H_5NO_2S_2$ M 211.265

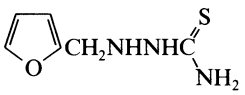
Several tautomers possible. Used as a 0.2% soln. in EtOH for photometric detn. of Au, Ag, Cu, Hg, Pd, Pt. Orange-red cryst. or yellow cryst. (EtOH). Sol. Et_2O, Me_2CO, EtOH, DMF. Mp 270°. pK_{a1} 8.3; pK_{a2} 12.2.

[618-81-5]

Kulberg, L.M. *et al*, *Zh. Anal. Khim.*, 1954, **9**, 85 (*use*)
Montana Gonzalez, M.T. *et al*, *Mikrochim. Acta*, 1982, **2**, 363 (*synth, reactions*)

N-(2-Furanylmethyl) hydrazinecarbothioamide, 9CI F-00057

[96860-19-4]



$C_6H_9N_3OS$ M 171.223

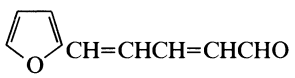
Used for photometric detn. of Ni (λ_{max} 366 nm, ε 21600). Cryst.

Gowda, H.S. *et al*, *Curr. Sci.*, 1983, **52**, 360 (*detn, Ni*)

5-(2-Furanyl)-2,4-pentadienal, 9CI F-00058

Furil-2-pentadienal

[5916-94-9]



$C_9H_8O_2$ M 148.161

Yellow leaflets. Mp 68-69°.

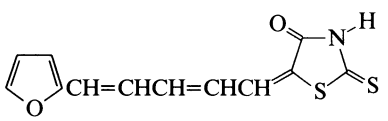
Thiosemicarbazone: [53652-13-4]. *2-[5-(2-Furanyl)-2,4-pentadienylidene]hydrazinecarbothioamide, 9CI*
$C_{10}H_{11}N_3OS$ M 221.282
Used as 0.4m*M* soln. in EtOH for photometric detn. of Pd (λ_{max} 435 nm, ε 80000). Cryst. Sol. EtOH.

[134919-61-2]

Konig, W., *Ber.*, 1925, **58**, 2559 (*synth*)
Mas'ko, L.I. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 315 (*synth, detn, Pd*)

5-[5-(2-Furanyl)-2,4-pentadienylidene]-2-thioxo-4-thiazolidinone, 9CI F-00059

5-[5-(2-Furanyl)-2,4-pentadienylidene]rhodanine



$C_{12}H_9NO_2S_2$ M 263.341

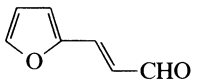
Several tautomers possible. Used as a 0.2% soln. in EtOH for photometric detn. of Au, Ag, Cu, Hg, Pd, Pt. Red cryst. Sol. Et_2O, EtOH, Me_2CO. Mp 200° dec.

Kulberg, L.M. *et al*, *Zh. Anal. Khim.*, 1954, **9**, 85 (*use*)

3-(2-Furanyl)-2-propenal, 9CI F-00060

Furfurylideneacetaldehyde. 2-Furanacrolein

[623-30-3]



(E)-form

$C_7H_6O_2$ M 122.123

(E)-form [39511-08-5]

Has insecticidal props. Needles with cinnamon odour. Sol. hot H_2O. Mp 54°. Bp_{14} 135°. Steam-volatile.

Semicarbazone: Mp 215-219°.

Phenylhydrazone: Cryst. (pet. ether). Mp 132°.

Thiosemicarbazone, 8CI:
$C_8H_9N_3OS$ M 195.245
Used as a 0.4m*M* soln. in EtOH for photometric detn. of Pd (λ_{max} 383 nm, ε 41000), Pt (λ_{max} 385 nm, ε 41000). Mp 157-158° (150-151°). pK_{a1} 0.46; pK_{a2} 11.70.

(Z)-form [71277-14-0]

$Bp_{0.1}$ 58°. 97% pure.

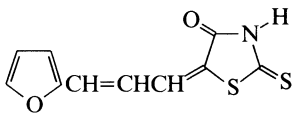
Di-Et acetal:
$C_{11}H_{16}O_3$ M 196.246
$Bp_{0.2}$ 63°.

König, R.H., *J. Prakt. Chem.*, 1913, **88**, 193.
Kerentseva, V.P. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1144; 1972, **27**, 719 (*synth, pKa, detn, Pd, Pt*)
Parr, W.J.E. *et al*, *Can. J. Chem.*, 1976, **54**, 3216 (*pmr*)
Bestmann, H.J. *et al*, *Chem. Ber.*, 1982, **115**, 161 (*synth*)

5-[3-(2-Furanyl)-2-propenylidene]-2-thioxo-4-thiazolidinone, 9CI F-00061

5-(3-Furanyl-2-propenylidene)rhodanine

[37530-63-5]



$C_{10}H_7NO_2S_2$ M 237.303

Several tautomers possible. Used as a 0.2% soln. in EtOH for photometric detn. of Au, Ag, Cu, Hg, Pd, Pt. Red cryst. Sol. Et_2O, EtOH, Me_2CO. Mp 205°.

Kulberg, L.M. *et al*, *Zh. Anal. Khim.*, 1954, **9**, 85 (*use*)

1-(2-Furanyl)-3-(2-selenophenyl)-1,3-propanedione, 9CI F-00062

Furoylselenoylmethane

[2801-99-2]

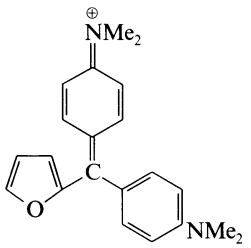
$C_{11}H_8O_3Se$ M 267.142

Used as a satd. soln. in EtOH for extraction-photometric detn. of Cu (λ_{max} 380 nm, ε 37000, $CHCl_3$). Yellow cryst. (MeOH). Sol. common org. solvs. Mp 43-44°. Bp_7 206-207°.

Yurev, Y.K. *et al*, *Zh. Obshch. Khim.*, 1961, **31**, 1449 (*synth, use*)

Furfurol green F-00063

N-[*4*-[[-(*Dimethylamino*)*phenyl*]-*2-furanylmethylene*]-*2,5-cyclohexadien-1-ylidene*]-N-*methylmethanaminium*(*1+*)



$C_{21}H_{23}N_2O^{\oplus}$ M 319.425 (ion)

Strictly, the name Furfurol green applies to the chloride.

Chloride: [6735-60-0].

$C_{21}H_{23}ClN_2O$ M 354.878

Used as 0.5% aq. soln. for extraction-photometric detn. of Tl (λ_{max} 627 nm, ε 26000, C_6H_6/butanone) as $[ThBr_4]^{\ominus}$ complex; detn. of Ga as $[GaCl_4]^{\ominus}$. Sol. H_2O.

Albu, C.D., *CA*, 1967, **66**, 3807 (*struct*)
Costinescu, P. *et al*, *CA*, 1971, **74**, 71284j (*detn, Ga*)
Constantinescu, C., *Rev. Chim.* (*Bucharest*), 1973, **24**, 919; *CA*, **81**, 85560c.

2-Furohydroxamic acid F-00064

N-*Hydroxy-2-furancarboxamide*, *9CI*

$C_5H_5NO_3$ M 127.099

N-(*3-Chlorophenyl*): [51639-70-4]. N-(*3-Chlorophenyl*)-N-*hydroxy-2-furancarboxamide*, *9CI*

$C_{11}H_8ClNO_3$ M 237.642

Used as 0.5% soln. in EtOH for extraction-photometric detn. of Sn(*IV*) (λ_{max} 480 nm, ε 50300, $CHCl_3$/EtOH). Cryst. Sol. EtOH.

N-(*4-Chlorophenyl*): [51639-68-0]. N-(*4-Chlorophenyl*)-N-*hydroxy-2-furancarboxamide*, *9CI*

$C_{11}H_8ClNO_3$ M 237.642

Used as 0.5% soln. in EtOH for extraction-photometric detn. of Sn(*IV*) (λ_{max} 480 nm, ε 51800, $CHCl_3$/EtOH). Cryst. Sol. EtOH.

N-(*4-Methylphenyl*): [29556-16-9]. N-*Hydroxy*-N-(*4-methylphenyl*)-*2-furancarboxamide*, *9CI*

$C_{12}H_{11}NO_3$ M 217.224

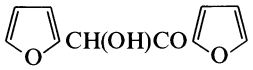
Used as a 0.1% soln. in $CHCl_3$ for extraction photometric detn. of Ce (λ_{max} 465 nm, $CHCl_3$) V (λ_{max} 532 nm, ε 4900, $CHCl_3$). Cryst.

Tandon, S.G. *et al*, *J. Chem. Eng. Data*, 1962, **7**, 553 (*synth, N*-4-methylphenyl)
Tandon, S.G. *et al*, *J. Indian Chem. Soc.*, 1970, **47**, 583 (*detn, V*)
Agrawal, Y.K. *et al*, *J. Chem. Eng. Data*, 1971, **16**, 371, 495 (*synth*)
Agrawal, Y.K. *et al*, *Chem. Anal.* (*Warsaw*), 1977, **22**, 215 (*detn, Ce*)
Agrawal, Y.K. *et al*, *Analyst* (*London*), 1985, **110**, 1325 (*detn, Sn*)

Furoin, 8CI F-00065

1,2-Di(*2-furanyl*)-*2-hydroxyethanone*, *9CI*. *Furoylfurylcarbinol*. α,α-*Furoin*

[552-86-3]



$C_{10}H_8O_4$ M 192.171

Needles (EtOH). Mp 138-139°.

▷ LV2100000.

Benzoyl:

$C_{17}H_{12}O_5$ M 296.279

Mp 92-93°.

Oxime: [21659-48-3]. α-*Furoinoxime*

$C_{10}H_9NO_4$ M 207.185

Used as a 0.01*M* soln. in aq. EtOH for photometric detn. of Fe(*III*). Yellow cryst. (EtOH aq.). Mp 160-161°.

Thiosemicarbazone: Mp 144-145°.

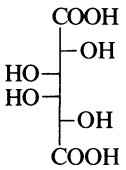
Buck, J.S. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 2163.
Hartmann, W.W. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 1228.
Klein, B., *J. Am. Chem. Soc.*, 1941, **63**, 1474.
Okuzumi, T. *et al*, *Nippon Kagaku Zasshi*, 1961, **82**, 1235; *CA*, **57**, 15090d.
Armeanu, V. *et al*, *Rev. Roum. Chim.*, 1968, **19**, 226 (*synth, use, oxime*)
Sadatoshi, A. *et al*, *Bull. Chem. Soc. Jpn.*, 1976, **49**, 746.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FQI000.

G

Galactaric acid, 9CI, 8CI G-00001

1,2,3,4-Tetrahydroxy-1,4-butanedicarboxylic acid. Mucic acid, 9CI, 8CI. Tetrahydroxyadipic acid. Galactosaccharic acid

[526-99-8]



$C_6H_{10}O_8$ M 210.140

A *meso*-compd., certain derivs. induce asymmetry. Isol. from sporophylls of brown algae, various fruits and fungi. Used as 2% aq. soln. to form colour complexes with Fe, Co, Cr(*III*), Mn, U(*VI*). (pH 3-10). Cryst. Sol. alkalis, H_2O. Mp 213°, Mp 225°, Mp 230° dec.

▷ LW5180000.

Bisphenylhydrazide: Mp 240°.

2,3,4,5-Tetra-Ac:

$C_{14}H_{18}O_{12}$ M 378.289

Mp 260° dec.

Tollens, B. *et al*, *Kurzes Handbuch der Kohlenhydrate*, Edwards Bros. Inc., Ann Arbor, 1943, 359.

Anet, E.F.L.J. *et al*, *Nature (London)*, 1954, **174**, 930 (*isol*)

Togasawa, Y. *et al*, *CA*, 1955, **49**, 7064 (*isol*)

Lewis, B.A. *et al*, *Methods Carbohydr. Chem.*, 1963, **2**, 38.

Burden, I.J. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1974, 863 (*pmr*)

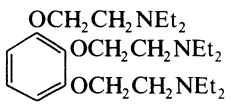
Gonzalez-Portal, A. *et al*, *Microchem. J.*, 1982, **27**, 357 (*use*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, GAR000.

Gallamine, BAN G-00002

2,2',2''-[1,2,3-Benzenetriyltris(oxy)]tris(N,N-diethylethanamine), 9CI. 2,2''',2'''''-(v-Phenenyltrioxy) tristriethylamine, 8CI

[153-76-4]



$C_{24}H_{45}N_3O_3$ M 423.638

Neuromuscular blocker. Muscle relaxant. Mp 145-150°. Used as triethiodide.

B,HCl: Used as a 0.1*M* aq. soln. for photometric detn. of $BrO_3^{\ominus}$, $NO_2^{\ominus}$. Cryst.

B,3EtI: [65-29-2]. *Gallamine triethiodide, USAN, INN. Benzcurine iodide. Flaxedil. Relaxan. Retensin. Numerous proprietary names*

Cryst. (Me_2CO aq.). Insol. Me_2CO, Et_2O, C_6H_6, $CHCl_3$. Mp 152-153°.

▷ BS1100000.

Bovet, D. *et al*, *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1947, **225**, 74 (*pharmacol*)

Protiva, M. *et al*, *Collect. Czech. Chem. Commun.*, 1948, **13**, 326 (*synth*)

U.S. Pat., 2 691 042, (1954); *CA*, **49**, 11706 (*synth*)

Older, I., *Anal. Chem.*, 1969, **41**, 1116 (*detn, $BrO_3^{\ominus}$, $NO_2^{\ominus}$*)

Lu, T.-C., *J. Pharmacol. Exp. Ther.*, 1970, **174**, 560 (*pharmacol*)

Dal Santo, G., *Br. J. Anaesth.*, 1972, **44**, 321 (*metab*)

Buzello, W. *et al*, *Anaesthesist*, 1978, **27**, 313 (*props*)

Colquhoun, D. *et al*, *Br. J. Pharmacol.*, 1979, **66**, 78 (*props*)

Henthorn, T.K. *et al*, *J. Pharmacol. Exp. Ther.*, 1982, **222**, 389 (*pharmacol*)

Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 5720.

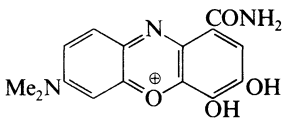
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 7902.

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PDD300.

Gallamine blue G-00003

1-(Aminocarbonyl)-7-(dimethylamino)-3,4-dihydroxyphenoxazin-5-ium(1+), 9CI. 7-Dimethylamino-3,4-dihydroxy-1-phenoxazinecarboxamide. Mordant blue 45. C.I. 51045

[1563-02-6]



$C_{15}H_{14}N_3O_4^{\oplus}$ M 300.293 (ion)

Strictly, the name Gallamine blue applies to the chloride.

Chloride:

$C_{15}H_{14}ClN_3O_4$ M 335.746

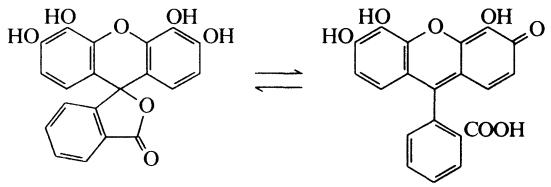
Acid-base indicator (pH range: 2 - 4; colour change: red → blue; pH range: 7 - 9; colour change: blue → purple) used as aq. soln. Dark greenish blue cryst.

Manelli, G. *et al*, *Ann. Chim.*, 1951, **41**, 68.

Gallein G-00004

4,5-Dihydroxyfluorescein. 3',4',5',6'-Tetrahydroxyspiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 9CI. 3',4',5',6'-Tetrahydroxyfluoran. C.I. Mordant violet 25. Alizarine violet

[2103-64-2]



$C_{20}H_{12}O_7$ M 364.311

Indicator. Used for photometric detn. of In, Sn, Mo, W, Zr, Ge. Biological stain. Used clinically for detn. of $PO_4^{3\ominus}$ in urine. Biological stain. Brownish-red powder or cryst. + $1\frac{1}{2}$ H_2O. Greenish-yellow when anhydrous. Sol. EtOH, alkalis; insol. H_2O, C_6H_6, $CHCl_3$. Mp >300° (loses H_2O at 180°). pK_{a1} 1.8; pK_{a2} 6.3.

Me ester:

$C_{21}H_{14}O_7$ M 378.337

Amorph. Mp >280°.

Tri-Me ether, Me ester:

$C_{24}H_{20}O_7$ M 420.418

Mp 199°.

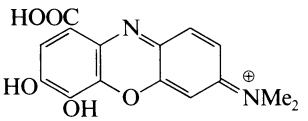
Orndorff, W.R. *et al*, *Am. Chem. J.*, 1909, **42**, 185 (*bibl*)

Gibbs, R.C. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 1755 (*uv*)

Orlovski, S.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1961, **27**, 687 (*detn, In*)
Leong, C.L., *Analyst* (*London*), 1970, **95**, 1018 (*detn, Mo*)
Ackermann, G. *et al*, *Talanta*, 1974, **21**, 431 (*detn, Sn*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 938 (*detn, W*)
Ouishi, H., *Photometric Determination of Traces of Metals, Part IIb: Individual Metals. Magnesium to Zinc*, John Wiley, New York, 4th Ed., 1989, 507, 510.

Gallocyanine G-00005

*1-Carboxy-7-(dimethylamino)-3,4-dihydroxyphenoxazin-5-ium(1+), 9CI. 7-Dimethylamino-3*H*-4-hydroxy-3-oxophenoxazine-1-carboxylic acid. C.I. Mordant blue 10. C.I. 51030. Alizarine navy blue AT. Brilliant chrome blue P*



$C_{15}H_{13}N_2O_5^{\oplus}$ M 301.278 (ion)

Strictly, the name Gallocyanine applies to the chloride.

Chloride: [1562-85-2].

Used as a 1% soln. in AcOH as metallochromic indicator in titrimetric detn. of Ga, Th. Dark reddish blue cryst. powder. Sl. sol. AcOH, EtOH; insol. H_2O.

▷ SP7692000.

Me ester, chloride: [6416-51-9].

$C_{16}H_{15}ClN_2O_5$ M 350.758

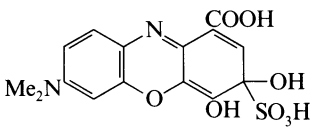
Used as a 0.2m*M* soln. in EtOH for photometric detn. of Bi (λ_{max} 563 nm, ε 23400). Orange cryst. Sol. EtOH.

Milner, G.W.C., *Analyst* (*London*), 1955, **80**, 77 (*detn, Ga*)
Specker, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1956, **149**, 97 (*detn, Ga*)
Sangal, S.P. *et al*, *CA*, 1961, **55**, 13164 (*detn, Th*)
Kotoucek, M. *et al*, *Collect. Czech. Chem. Commun.*, 1977, **42**, 235 (*deriv, use*)

Gallocyanine MS G-00006

*7-(Dimethylamino)-3,4-dihydroxy-3-sulfo-3*H*-phenoxazine-1-carboxylic acid, 8CI. Zirconin*

[27822-77-1]



$C_{15}H_{14}N_2O_8S$ M 382.350

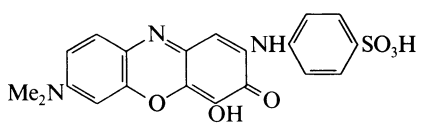
Used as 0.05% aq. soln. for photometric detn. of Zr (Hf) (λ_{max} 625 nm, ε 40000). Grey cryst. powder (MeOH aq.). Sol. H_2O. pK_{a2} ~3; pK_{a2} ~8.

Mustafin, I.S. *et al*, *Zavod. Lab.*, 1967, **33**, 12 (*detn, Zn*)
Mustafin, I.S. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1338 (*synth, use*)

Gallophenine G-00007

*4-[[7-(Dimethylamino)-4-hydroxy-3-oxo-3*H*-phenoxazin-2-yl] amino]benzenesulfonic acid. C.I. Mordant black 59. C.I. 51125*

[31995-53-6]



$C_{20}H_{17}N_3O_6S$ M 427.437

Strictly the name Gallophenine refers to the sodium salt. Redox indicator used as soln. in H_2O or EtOH (pH range 4.5-9; colour change: green → purple). Dark blue cryst. powder. Sol. EtOH, H_2O.

Michaelis, L. *et al*, *J. Biol. Chem.*, 1930, **87**, 713 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

Gelatin, BAN, USAN G-00008

Gelfoam. Puragel. Emagel. Gelafusal. Gelatine bloom 250. Gelrite. Nikkol CCP4. Pharmagel A. Rousselot 3046. Spongiofort

[9000-70-8]

Used in the food industry as a stabilser and thickener. Derived from collagen; obt. by boiling skin, tendons, ligaments and bones with H_2O. Used as a protecting colloid; serves as nonionic surfactant in polarography. Plasma expander. Pharmaceutical aid. Used in sponge and film forms as a local haemostatic agent. Sl. yellow sheets, flakes or coarse powder. Sol. hot H_2O, glycerol, AcOH; insol. org. solvs.

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1948, **4**, 297.
Veis, A., *The Macromolecular Chemistry of Gelatin*, Academic Press, New York, 1964.
Ward, A.G. *et al*, *The Science and Technology of Gelatin*, Academic Press, London, 1977.
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **11**, 155, 713 (*manuf*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 818.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PCU360.

Girard's reagent T G-00009

*2-Hydrazino-*N,N,N*-trimethyl-2-oxoethanaminium, 9CI. (Carboxymethyl)trimethylammonium hydrazide, 8CI*

$C_5H_{14}N_3O^{\ominus}$ M 132.185 (ion)

Reagent for forming water-sol. derivs. with carbonyl compds., used esp. in isoln. of steroids.

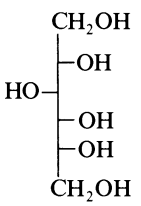
Chloride: [123-46-6].

$C_5H_{14}ClN_3O$ M 167.638

Needles. Mp 192° sl. dec. V. hygroscopic.

Girard, A. *et al*, *Helv. Chim. Acta*, 1936, **19**, 1095 (*synth*)
Org. Synth.. Coll. Vol., 2, 1943, 85 (*synth*)
Wheeler, O.H., *Chem. Rev.*, 1962, **62**, 205 (*rev*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 410.
Wheeler, O H., *J. Chem. Educ.*, 1968, **45**, 435 (*rev*)

Glucitol, 9CI, 8CI G-00010



$C_6H_{14}O_6$ M 182.173

D-form [50-70-4]

D-Sorbitol. L-Gulitol. Numerous proprietary names

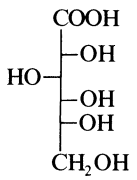
Occurs widely in plants ranging from algae to the higher orders. Fruits of the plant family Rosaceae, which include apples, pears, cherries, apricots, contain appreciable amounts. Rich sources are the fruits of the

Sorbus and *Crataegus* spp. Used for manuf. of sorbose, propylene glycol, ascorbic acid, resins, plasticisers and as antifreeze mixts. with glycerol or glycol. Tablet excipient, sweetening agent and humectant. Used in photometric detn. of Ru(*VI*) and Ru(*VIII*); in acid-base titration of borate. Needles + $\frac{1}{2}$ or $1H_2O$ (EtOH) with sweet taste (60% of sucrose). Freely sol. H_2O; fairly sol. hot EtOH; spar. sol. cold EtOH. Mp 97° (stable form), Mp 92° (labile form), Mp 110-112° (anhyd.). $[\alpha]_D$ +7° (borax), $[\alpha]_D$ +31° (molybdate). pK_a 13.00 (60°).

▷ LZ4290000.

Barker, S.A. *et al*, *Adv. Carbohydr. Chem.*, 1952, **7**, 137 (*rev*)
Thiel, I.M.E. *et al*, *J. Org. Chem.*, 1966, **31**, 3704.
Matsui, M. *et al*, *Chem. Pharm. Bull.*, 1968, **16**, 1288.
Park, Y.J. *et al*, *Acta Crystallogr., Sect. B*, 1971, **27**, 2393 (*cryst struct*)
Brimacombe, J.S. *et al*, *The Carbohydrates*, Academic Press, 1972, **1A**, 479 (*rev*)
Yankauskas, J.J. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 333 (*detn, Ru*)
Menon, K.R. *et al*, *CA*, 1974, **83**, 125709h (*detn, B*)
Colson, P. *et al*, *Can. J. Chem.*, 1975, **53**, 1030 (*cmr*)
Koester, R. *et al*, *Justus Liebigs Ann. Chem.*, 1975, 752 (*synth, pmr*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 618, 5070, 13262.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IHL000, SKV200.

Gluconic acid, 9CI, 8CI G-00011



$C_6H_{12}O_7$ M 196.157

D-form [526-95-4]

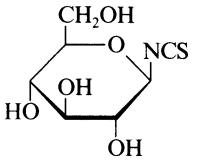
Used as an aq. soln. for photometric detn. of Mn. Needles. Sol. H_2O. Mp 130-132°. $[\alpha]_D^{20}$ −6.7° → +11.7° (H_2O, 5 d). pK_a 3.76 (17°).

Ca salt: [18016-24-5]. *Calcium gluconate, USAN. Calglucon* Electrolyte replenisher. $[\alpha]_D^{20}$ +8.5° (c, 3.0 in H_2O). Component of Calcet.

[299-28-5, 18016-24-5]

Tollens, B. *et al*, *Kurzes Handbuch der Kohlenhydrate*, Edwards Bros. Inc., Ann Arbor, 1943, 285.
Green, J.W., *Adv. Carbohydr. Chem.*, 1948, **3**, 153 (*rev*)
Tanabe, H. *et al*, *CA*, 1962, **58**, 8617ef (*synth, props*)
Frush, H.L. *et al*, *Methods Carbohydr. Chem.*, 1963, **2**, 14 (*synth, Ca salt*)
Fisch, D.C. *et al*, *Methods Enzymol.*, 1966, **9**, 53.
Zhadanov, Y.A. *et al*, *Zh. Obshch. Khim.*, 1969, **39**, 1128.
de Lederkremer, R.M. *et al*, *Carbohydr. Res.*, 1970, **13**, 9.
Bermejo Martinez, F. *et al*, *Mikrochim. Acta*, 1971, **1**, 489 (*detn, Mn*)
Lis, T., *Carbohydr. Res.*, 1983, **122**, 23 (*cryst struct*)
Olafsdottir, E.S. *et al*, *Phytochemistry*, 1992, **31**, 4129 (*biosynth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CAS750.

Glucopyranosyl isothiocyanate G-00012



$C_7H_{11}NO_5S$ M 221.234

β-D-form

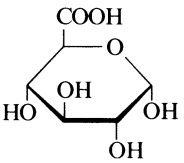
2,3,4,6-Tetra-Ac: [14152-97-7]. *TAGIT*
$C_{15}H_{19}NO_9S$ M 389.382
Derivatisation reagent for the resoln. of amino acids by hplc. Mp 112-113°. $[\alpha]_D$ +5° (c, 1 in $CHCl_3$).

[18866-59-6]

Muller, A. *et al*, *Ber.*, 1941, **74**, 698 (*synth*)
Nimura, N. *et al*, *J. Chromatogr.*, 1980, **202**, 375; 1981, **210**, 77; 1984, **316**, 547 (*use*)
Gal, J. *et al*, *J. Liq. Chromatogr.*, 1984, **7**, 2307; 1986, **9**, 673 (*use*)
Camarasa, M.J., *Synthesis*, 1984, 509 (*synth*)

Glucuronic acid, 9CI, 8CI G-00013

Glycuronic acid



α-Pyranose-*form*

$C_6H_{10}O_7$ M 194.141

D-form

Widely distributed in plants, where it occurs in gums, mucilages, saponins and flavone glycosides and in animals as a constit. of mucopolysaccharides. Glycosides are formed in the liver to detoxify poisonous hydroxyl-containing substances. Phenyl, cresyl and indoxyl glycosides are present in normal urine. Used in hplc to determine enantiomeric purity of dopamine agonists. Mp 165° (146°). $[\alpha]_D^{24}$ +11.7° → +36.3° (2 d) (H_2O).

Ba salt: [29600-83-7].
$[\alpha]_D^{20}$ +17.5° (H_2O).

Brucine salt: Monohydrate. Mp 156-157°. $[\alpha]_D^{20}$ −15.1° (H_2O).

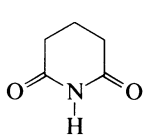
Na salt: [14984-34-0].
Monohydrate. $[\alpha]_D^{20}$ −0.6° → +22.5° (H_2O).

Tollens, B. *et al*, *Kurzes Handbuch der Kohlenhydrate*, Edwards Bros. Inc., Ann Arbor, 1943, 282.
Mehltretter, C.L. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 2424.
Aspinall, G.O., *Adv. Carbohydr. Chem.*, 1954, **9**, 131 (*rev*)
Easty, B.D., *J. Org. Chem.*, 1962, **27**, 2102.
Paulsen, H. *et al*, *Chem. Ber.*, 1966, **99**, 908.
Glucuronic Acid, Free Comb., (Dutton, G.J., Ed.), Academic Press, New York, 1966, 629 (*rev*)
Anthonsen, T. *et al*, *Acta Chem. Scand.*, 1973, **27**, 2671.
Timpe, W. *et al*, *Carbohydr. Res.*, 1975, **39**, 53.
Compernolle, F., *Carbohydr. Res.*, 1980, **83**, 135.
Gerding, T.K. *et al*, *J. Chromatogr.*, 1989, **487**, 125 (*use*)

Glutarimide G-00014

2,6-Piperidinedione, 9CI

[1121-89-7]



$C_5H_7NO_2$ M 113.116

Cryst. (EtOH aq.). Mp 152-154°.

Monoxime: [38105-50-9]. *2-Hydroxyimino-6-oxopiperidine*
$C_5H_8N_2O_2$ M 128.130
Gives colour reactions with Ag, Au, Co, Cr, Cu, Fe, Mn, Mo, Ni, U, V; used for pptn. of Ag, Au, Bi, Ce, Co, Hg, Pd.

Dioxime: [18271-49-3]. *Glutarimide dioxime*
$C_5H_9N_3O_2$ M 143.145
Used for photometric detn. of Ce.

Org. Synth., Coll. Vol., 4, 1963, 496 (*synth*)
Masquestiau, A. *et al*, *Bull. Soc. Chim. Belg.*, 1969, **78**, 309 (*ms*)
Petersen, C.S., *Acta Chem. Scand.*, 1971, **25**, 379 (*cryst struct*)
Buscarons, F. *et al*, *Quim. Ind. (Madrid)*, 1971, **17**, 6 (*use*)
Buscarons, F. *et al*, *Inf. Quim. Anal.*, 1972, **26**, 1.
Ul Hasan, M., *Org. Magn. Reson.*, 1980, **14**, 447 (*cmr*)
Crockett, G.C. *et al*, *Synth. Commun.*, 1981, **11**, 447 (*synth*)
Kinoshita, T. *et al*, *Synthesis*, 1985, 402 (*synth*)

Glycerol G-00015

1,2,3-Propanetriol, 9CI. 1,2,3-Trihydroxypropane. Glycerin. Amylac. Babylax. Bulboid. Cristal. Dagralax. Glyrol. Luxoral. Meprolax. Osmoglyn. Glyceritol

[56-81-5]

$HOCH_2CH(OH)CH_2OH$

$C_3H_8O_3$ M 92.094

Found extensively in esterified form in animal and plant glycerides. Obt. on large scale by alkaline hydrol. of fats during soap manuf. and by other routes. Used in cosmetics, foods, tobacco processing and extensively in numerous industrial and domestic prods. Component of alkyd resins and polyurethanes. Mild laxative, diuretic. Used for detn. of B; photometric detn. of Co. Syrup with sweet taste. Misc. H_2O, EtOH; insol. C_6H_6, $CHCl_3$, CCl_4. d 1.262, d_{15}^{15} 1.265. Mp 17.8°. Bp 290° part. dec., Bp_{20} 182°. pK_{a1} 14.4. V. hygroscopic. Steam-volatile. Numerous glycerides are listed separately.

▷ Reacts violently or explosively with many oxid. agents. MA8050000.

Bismuth salt: [17140-54-4]. *Bismutoral*
Oral antiseptic.

Complex with aluminium hydroxide: [12182-48-8]. ***Glucalox,*** **INN.** *Glycalox, BAN. Manalox AG*
Antacid.

Tribenzoyl: [614-33-5].
$C_{24}H_{20}O_6$ M 404.418
Mp 72°.

Tris-4-nitrobenzoyl: Mp 197.5°.

1-Me ether: [623-39-2]. *3-Methoxy-1,2-propanediol*
$C_4H_{10}O_3$ M 106.121
Bp 220°, Bp_{40} 136°.

2-Me ether: [761-06-8]. *2-Methoxy-1,3-propanediol*
$C_4H_{10}O_3$ M 106.121
Bp 232°, Bp_{40} 148°.

1,2-Di-Me ether: [40453-77-8]. *2,3-Dimethoxy-1-propanol*
$C_5H_{12}O_3$ M 120.148
Bp 180°, Bp_{40} 100°.

1,3-Di-Me ether: [623-69-8]. *1,3-Dimethoxy-2-propanol*
$C_5H_{12}O_3$ M 120.148
Bp 169°, Bp_{40} 88°.

Tri-Me ether: [20637-49-4]. *1,2,3-Trimethoxypropane*
$C_6H_{14}O_3$ M 134.175
Bp 148°.

[18673-08-0, 28959-04-8, 36887-04-4]

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **1**, 91 (*use*)
Gidez, L.I. *et al*, *J. Am. Chem. Soc.*, 1952, **74**, 2413 (*synth*)
Miner, C.S. *et al*, *Glycerol, Am. Chem. Soc. Monograph No. 117*, N.Y., 1953 (*rev*)
Nessonova, G.D. *et al*, *Zavod. Lab.*, 1959, **25**, 786 (*detn, Co*)
Kirk-Othmer Encycl. Chem. Technol., 2nd Ed., Wiley, N.Y., 1963-1971, **10**, 619 (*rev*)
U.S. Pat., 3 352 895, (1967); *CA*, **68**, 33186x (*synth, Glucalox*)
Newman, A.A., *Glycerol, Am. Chem. Soc. Monograph No. 117*, Morgan-Grampian, London, 1968 (*rev*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, no. 139.
Budden, R. *et al*, *Arzneim.-Forsch.*, 1978, **28**, 1579 (*pharmacol*)
Kern, J.C., *Kirk-Othmer Encycl. Chem. Technol.*, 3rd Ed., Wiley, N.Y., 1978-1984, **2**, 921 (*rev*)
Carmaniu, S. *et al*, *Arch. Int. Physiol. Biochim.*, 1980, **88**, 255 (*metab*)
Frank, M.S. *et al*, *Pharmacotherapy (Carlisle, Mass.)*, 1981, **1**, 147 (*rev, pharmacol*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1901.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 142.
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 448.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 342.
Lewis, R.J.. *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, GGA000, GGU000.

Glycine G-00016

Aminoacetic acid, 9CI. Glycocoll. Glue sugar

[56-40-6]

H_2NCH_2COOH

$C_2H_5NO_2$ M 75.067

Certain derivs. of importance in peptide synth. have been listed separately under the name of the *N*-protecting group. Occurs widely in peptides and proteins. Catalyst for Knoevenagel condensations. Used for detn. of Cu, Au. Cryst. (EtOH aq.). Sol. H_2O; sl. sol. EtOH. Mp 262° dec. pK_{a1} 2.35; pK_{a2} 9.78 (25°). Isoelectric point 5.97. Sweet taste.

▷ MB7600000.

B,HCl: Mp 185°.

Me ester:
$C_3H_7NO_2$ M 89.094
Bp 130° dec., Bp_{50} 54°.

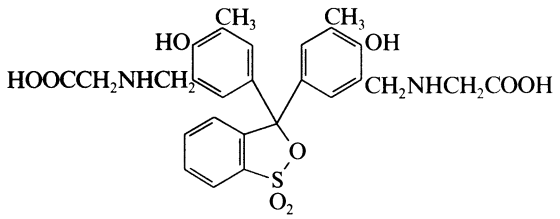
Me ester; B,HCl: Sol. EtOH. Mp 175°.

Org. Synth., Coll. Vol., 1, 1932, 298 (*synth*)
Org. Synth., Coll. Vol., 2, 1943, 310 (*synth*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, NY, 1947, **2** (*use*)
Greenstein, J.P. *et al*, *Chemistry of the Amino Acids*, (Chapter 26), Wiley. N.Y., 1961, **3**, 1955 (*bibl, synth*)
Junk, G. *et al*, *J. Am. Chem. Soc.*, 1963, **85**, 839 (*ms*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 412.
Leipert, T.K. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 269 (*nmr*)
Power, L.F. *et al*, *Acta Crystallogr., Sect. B*, 1976, **32**, 11.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, GHA000.

Glycinecresol red G-00017

N,N′-[*3H-2,1-Benzoxathiol-3-ylidenebis*[(*6-hydroxy-5-methyl-3,1-phenylene*)*methylene*]]*bisglycine* S,S-*dioxide*, *9CI*. *3,3′-Bis*(N-*carboxymethylaminomethyl*)-o-*cresolsulfonephthalein*. *3,3-Bis*(*3-aminomethyl-4-hydroxy-5-methylphenyl*)-*3H-2,1-benzoxathiole*-N,N′-*diacetic acid* S,S-*dioxide*

[4079-10-1]



$C_{27}H_{28}N_2O_9S$ M 556.592

Used as a 0.2*M* aq. soln. as metallochromic indicator in titrimetric detn. of Cu; photometric detn. of Ga. Dark red cryst. powder. Sol. H_2O. pK_{a1} −1.8; pK_{a2} 0; pK_{a3} 2.5; pK_{a4} 4.9; pK_{a5} 7.1; pK_{a6} 10.8; pK_{a7} 12.4.

Körbl, J. *et al*, *Chem. Ind.* (*London*), 1957, 1624 (*synth*, *use*)
Budesinski, B. *et al*, *Collect. Czech. Chem. Commun.*, 1963, **28**, 1154 (*use*)
Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 944 (*detn*, *Ga*)

Glycinedithiocarbamic acid G-00018

Carboxymethyldithiocarbamic acid

$C_4H_7NO_2S_2$ M 165.237

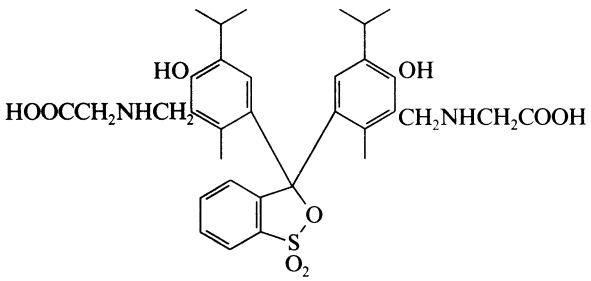
Used as aq. soln. of NH_4 salt for photometric detn. of Bi, Cu. Cryst. (H_2O). Sol. H_2O.

Haas, W. *et al*, *Mikrochim. Acta*, 1961, 787 (*synth*, *detn*, *Bi*, *Cu*)

Glycinethymol blue G-00019

N,N′-[*3H-2,1-Benzoxathiol-3-ylidenebis*[[*6-hydroxy-2-methyl-5-*(*1-methylethyl*)*-3,1-phenylene*]*methylene*]]*bisglycine* S,S-*dioxide*, *9CI*

[3810-63-7]



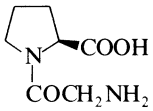
$C_{33}H_{40}N_2O_9S$ M 640.753

Used as 0.1m*M* aq. soln. for photometric detn. of Cr, U; used for indirect detn. of $F^{\ominus}$. Cryst. Sol. H_2O.

Körbl, J. *et al*, *Chem. Ind.* (*London*), 1957, 1624 (*synth*)
Tatev, O.A. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 930 (*detn*, *Cr*)
Kirillov, A.I. *et al*, *Zavod. Lab.*, 1974, **40**, 353 (*detn*, *U*)
Pilipenko, A.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1979, **45**, 1101 (*detn*, $F^{\ominus}$)

Glycylproline G-00020

N-*Aminoacetylpyrrolidine-2-carboxylic acid*



Absolute configuration

$C_7H_{12}N_2O_3$ M 172.183

(*S*)-***form*** [704-15-4]

L-form

Prisms (MeOH aq.). Mp 185°. $[\alpha]_D^{20}$ −113.8° (H_2O), $[\alpha]_D^{18}$ −86.2°. Hygroscopic.

Lactam:

$C_7H_{10}N_2O_2$ M 154.168

Mp 180-183°. $[\alpha]_D^{20}$ −202°.

N-*Benzyloxycarbonyl:* [1160-54-9].

Chiral additive for enantiomeric separation of amines and amino acids. Cryst. (EtOAc). Mp 158-159°. $[\alpha]_D$ −77.5° (c, 2 in $CHCl_3$).

N-*Benzyloxycarbonyl, Me ester:* Cryst. (Et_2O/pet. ether). Mp 49-50°.

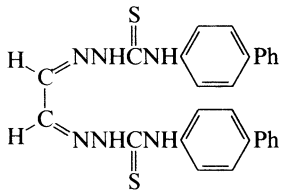
N-tert-*Butyloxycarbonyl:* Mp 142-144°. $[\alpha]_D$ −68.8° (c, 2.1 in DMF).

Abderhalden, E. *et al*, *Hoppe Seyler's Z. Physiol. Chem.*, 1925, **145**, 308 (*synth*)
Abderhalden, E. *et al*, *CA*, 1931, **25**, 77 (*synth*)
Bergmann, M. *et al*, *Ber.*, 1932, **65**, 1192 (*synth*)
Goodman, M. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 1279 (*synth*)
Wunsch, E., *Hoppe Seyler's Z. Physiol. Chem.*, 1963, **332**, 288 (*synth*)
Anderson, G.W. *et al*, *J. Am. Chem. Soc.*, 1964, **86**, 1839 (*synth*)
Kenner, G.W. *et al*, *J. Chem. Soc. C*, 1967, 108 (*synth*)
Pettersson, C. *et al*, *Chromatographia*, 1986, **21**, 321 (*use*, *deriv*)
Karlsson, A. *et al*, *J. Chromatogr.*, 1991, **543**, 287 (*use*, *deriv*)

Glyoxal bis(4-biphenylylthiosemicarbazone) G-00021

2,2′-(*1,2-Ethanediylidene*)*bis*[N-[*1,1′-biphenyl*] *hydrazinecarbothioamide*], *9CI*

[38985-48-7]



$C_{28}H_{24}N_6S_2$ M 508.670

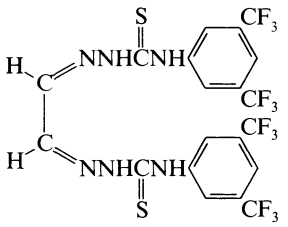
Used as 0.01% soln. in EtOAc for extraction-photometric detn. of Cu(*II*) (λ_{max} 510 nm, ε 17800), Hg(*II*), Zn. Grey cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone. Mp 237°.

Niederschulte, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth*, *use*)

Glyoxal bis[3,5-bis(trifluoromethyl) phenylthiosemicarbazone] G-00022

2,2'-(1,2-Ethanediylidene)bis[N-[*3,5-bis(trifluoromethyl) phenyl*]*hydrazinecarbothioamide*], *9CI*

[38985-47-6]

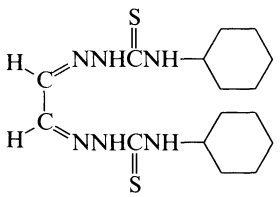


$C_{20}H_{12}F_{12}N_6S_2$ M 628.468

Used as 0.01% soln. in EtOAc for extraction-photometric detn. of Hg(*II*) (λ_{max} 460 nm, ε 11000, $CHCl_3$), Cu(*II*), Pb, Zn. Yellow cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone. Mp 221°.

Niederschulte, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

Glyoxal bis(4-cyclohexylthiosemicarbazone) G-00023



$C_{16}H_{28}N_6S_2$ M 368.569

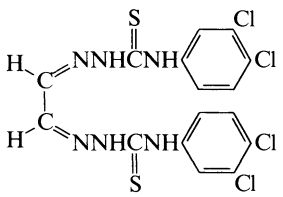
Used as 0.01% soln. in EtOAc for extraction-photometric detn. of Cu(*II*) (λ_{max} 510 nm, ε 7300, $CHCl_3$), Hg(*II*), Pb, Zn. Yellow-orange cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone.

Niederschulte, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

Glyoxal bis(3,4-dichlorophenylthiosemicarbazone) G-00024

2,2'-(1,2-Ethanediylidene)bis[N-(*3,4-dichlorophenyl*) *hydrazinecarbothioamide*], *9CI*

[38901-42-7]



$C_{16}H_{12}Cl_4N_6S_2$ M 494.254

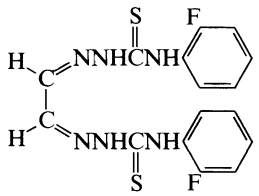
Used as 0.01% soln. in EtOAc to give colour reactions with Ag, Bi, Cd, Cu, Hg(*II*). Grey cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone. Mp 225°.

Niederschulte, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

Glyoxal bis(2-fluorophenylthiosemicarbazone) G-00025

2,2'-(1,2-Ethanediylidene)bis[N-(*2-fluorophenyl*) *hydrazinecarbothioamide*], *9CI*

[38901-38-1]



$C_{16}H_{14}F_2N_6S_2$ M 392.456

Used as 0.01% soln. in EtOAc to give colour reactions with Ag, Bi, Cd, Co, Cu, Pb. Yellow cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone. Mp 212°.

Niederschulte, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

Glyoxal bis(4-fluorophenylthiosemicarbazone) G-00026

2,2'-(1,2-Ethanediylidene)bis[N-(*4-fluorophenyl*) *hydrazinecarbothioamide*], *9CI*

[38985-46-5]

$C_{16}H_{14}F_2N_6S_2$ M 392.456

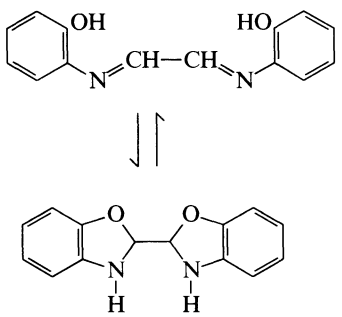
Used as 0.01% soln. in EtOAc for extraction-photometric detn. of Cu(*II*) (λ_{max} 500 nm, ε 11100), Hg(*II*), Zn. Brown cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone. Mp 221°.

Niederschulte, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

Glyoxal bis(2-hydroxyanil) G-00027

2,2'-(Ethanedilidenedinitrilo)diphenol, *9CI*. *Di*(o-*hydroxyphenylimino*)*ethane*. *2,2'-Benzoxazoline*. *GBHA*

[1149-16-2]



$C_{14}H_{12}N_2O_2$ M 240.261

Used as 0.05% soln. in MeOH for photometric detn. of Ca (λ_{max} 516 nm, ε 18000) Sc, Mn, Ni, U. Pale yellow needles (MeOH). Sol. alkalis; sl. sol. MeOH, EtOH, C_6H_6, dioxan; insol. H_2O. Mp 201-205°.

Umland, F. *et al*, *Fresenius' Z. Anal. Chem.*, 1960, **176**, 96 (*detn, Ca*)

Okač, A. *et al*, *Fresenius' Z. Anal. Chem.*, 1963, **195**, 338 (*detn, Sc*)

Fifield, J.A. *et al*, *Analyst (London)*, 1969, **94**, 503 (*detn, Ca*)

Hunter, G., *Analyst (London)*, 1972, **97**, 233 (*detn, Ca*)

Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 269 (*use*)

Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, 4th Ed., 1986, **4**, 352.

Glyoxal bis(4-hydroxybenzoylhydrazone) G-00028

4-Hydroxybenzoic acid 1,2-ethanediylidenedihydrazide, 9CI

[42272-80-0]

$C_{16}H_{14}N_4O_4$ M 326.311

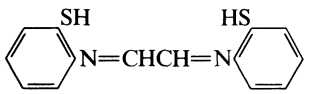
Used as a 1m*M* soln. in 0.01*M* NaOH for photometric detn. of Ca, Cd (λ_{max} 460 nm). Cryst. (EtOH). Sol. EtOH, DMF, alkalis.

Lever, M., *Anal. Chim. Acta*, 1973, **65**, 311 (*detn, Ca, Cd*)

Glyoxal bis(2-mercaptoanil) G-00029

2,2′-(1,2-Ethanediylidenedinitrilo)bisbenzenethiol, 9CI

[1723-98-4]



$C_{14}H_{12}N_2S_2$ M 272.394

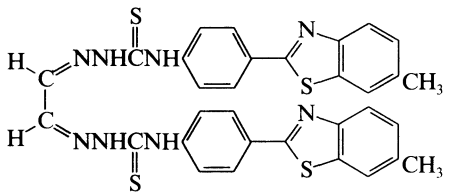
Used as 1% soln. in $CHCl_3$ for specific test for Hg; photometric detn. of Hg. Needles (pet. ether). Sol. $CHCl_3$, pet. ether. Mp 93-94°.

Thabet, S. *et al, Anal. Chim. Acta*, 1966, **34**, 231 (*synth, detn, Hg*)
Mehra, H.C., *Fresenius' Z. Anal. Chem.*, 1977, **285**, 262 (*detn, Hg*)

Glyoxal bis[4-(6-methyl-2-benzothiazolyl) phenyl]thiosemicarbazone G-00030

2,2′-(1,2-Ethanediylidene)bis[N-[4-(6-methyl-2-benzothiazolyl)phenyl]hydrazinecarbothioamide], 9CI

[38901-45-0]

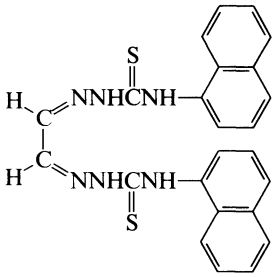


$C_{32}H_{26}N_8S_4$ M 650.875

Used as 0.01% soln. in EtOAc to give colour reactions with Ag, Bi, Cu, Hg(*II*), Co, Zn. Yellow cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone. Mp 250°.

Niederschilte, U. *et al, Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

Glyoxal bis(1-naphthylthiosemicarbazone) G-00031



$C_{24}H_{20}N_6S_2$ M 456.594

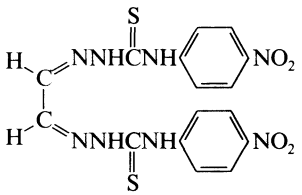
Used as 0.01% soln. in EtOAc for extraction-photometric detn. of Hg(*II*) (λ_{max} 460 nm, ε 13000), Cu(*II*), Pb, Zn. Orange cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone.

Niederschulte, U. *et al, Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

Glyoxal bis(4-nitrophenylthiosemicarbazone) G-00032

2,2′-(1,2-Ethanediylidene)bis[N-(4-nitrophenyl) hydrazinecarbothioamide], 9CI

[38901-35-8]



$C_{16}H_{14}N_8O_4S_2$ M 446.470

Used as 0.01% soln. in EtOAc to give colour reactions with Ag, Bi, Co, Cu, Hg(*II*), Zn. Orange cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone. Mp 210°.

Niederschulte, U. *et al, Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

Glyoxal bis(phenylthiosemicarbazone) G-00033

2,2′-(1,2-Ethanediylidene)bis[N-phenylhydrazinecarbothioamide], 9CI

[18670-34-3]

$C_{16}H_{16}N_6S_2$ M 356.475

Used as DMF soln. for photometric detn. of Pd (λ_{max} 635 nm, ε 3200); extraction-photometric detn. of Zn (λ_{max} 450 nm, ε 18000), Cu(*II*), Hg(*II*). Yellow-orange cryst. Sol. DMF, EtOH.

Niederschulte, U. *et al, Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)
Asuero, A.G. *et al, Analyst (London)*, 1986, **111**, 747 (*detn, Pd*)

Glyoxal bis(thiosemicarbazone) G-00034

2,2′-(1,2-Ethanediylidene)bishydrazinecarbothioamide, 9CI

[1072-12-4]

$C_4H_8N_6S_2$ M 204.279

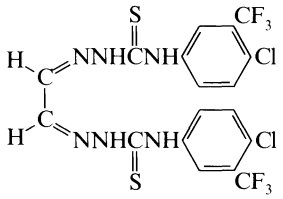
Used as a 0.1m*M* soln. in dil. NaOH for photometric detn. of Ag, Hg (λ_{max} 335 nm, ε 43000). Yellow cryst. Mp >300°.

Gingras, B.A. *et al*, *Can. J. Chem.*, 1962, **40**, 1053 (*synth*)
Budesinsky, B.W. *et al*, *Anal. Chim. Acta*, 1971, **55**, 115 (*detn, Ag, Hg*)

Glyoxal bis[4-(3-trifluoromethyl)-4-chlorophenyl]thiosemicarbazone G-00035

2,2′-(1,2-Ethanediylidene)bis[N-[*4-chloro-3-(trifluoromethyl)phenyl*]*hydrazinecarbothioamide*], *9CI*

[39022-53-2]



$C_{18}H_{12}Cl_2F_6N_6S_2$ M 561.361

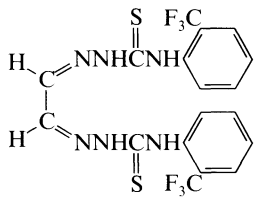
Used as 0.01% soln. in EtOAc for extraction-photometric detn. of Cu(*II*) (λ_{max} 510 nm, ε 13700), Hg(*II*), Pb, Zn. Grey cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone. Mp 222°.

Niederschulte, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

Glyoxal bis[4-(2-trifluoromethyl)phenyl]thiosemicarbazone G-00036

2,2′-(1,2-Ethanediylidene)bis[N-[*2-(trifluoromethyl)phenyl*]*hydrazinecarbothioamide*], *9CI*

[38901-40-5]



$C_{18}H_{14}F_6N_6S_2$ M 492.471

Used as 0.01% soln. in EtOAc to give colour reactions with Ag, Bi, Cd, Cu, Mn, Ni. Brown cryst. Sol. MeOH, $CHCl_3$, EtOAc, 4-methyl-2-pentanone. Mp 237°.

Niederschulte, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **261**, 191 (*synth, use*)

Glyoxime G-00037

Ethanedial dioxime, *9CI*. *Glyoxal dioxime*, *8CI*

[557-30-2]

HON=CHCH=NOH

$C_2H_4N_2O_2$ M 88.066

Used in detn. of Ni, pptn. separation and photometric detn. of Pd (ε 25000, $CHCl_3$); used as antidote to nerve gas poisoning. Cryst. V. sol. H_2O, EtOH, Et_2O. d 1.547. Mp 178° dec. pK_{a1} 9.9; pK_{a2} 11.5.

▷ MD2850000.

O,O′-Di-Ac: [26032-67-7]. *Glyoxal bis-O-acetyloxime*, *8CI*
$C_6H_8N_2O_4$ M 172.140
Ethylene copolymer crosslinking agent, fruit-ripening agent. Cryst. (H_2O). Mp 120° (126°).

O,O′-Dibenzoyl:
$C_{16}H_{12}N_2O_4$ M 296.282
Mp 139°.

[17016-13-6, 81745-49-5]

Wittenberg, M. *et al*, *Ber.*, 1883, **16**, 505 (*synth*)
Kahr, K. *et al*, *Ber.*, 1960, **93**, 132 (*synth*)
Calleri, M. *et al*, *Acta Crystallogr.*, 1966, **20**, 73; 1967, **22**, 468 (*cryst struct, complex*)
Ayres, G.H. *et al*, *Anal. Chim. Acta*, 1966, **35**, 181 (*detn, Ni, Pd*)
Guetle, J.-P. *et al*, *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1967, **264**, 1509 (*pmr*)
Ger. Pat., 2 338 010, (1974); *CA*, **80**, 132803a (*synth, derivs*)
Bodina, R.I. *et al*, *J. Org. Chem. USSR* (*Engl. Transl.*), 1976, **12**, 2039 (*synth, ir, uv*)
Charalambous, J. *et al*, *Org. Mass Spectrom.*, 1983, **18**, 406 (*ms*)
Cherskaya, N.O. *et al*, *Bull. Acad. Sci. USSR, Div. Chem. Sci.* (*Engl. Transl.*), 1986, **35**, 2150 (*ir, raman*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EEA000.

Glyoxylic acid, 8CI G-00038

Oxoacetic acid, *9CI*. *Glyoxalic acid*. *Aldehydoformic acid*. *Formylformic acid*

[298-12-4]

OHCCOOH

$C_2H_2O_3$ M 74.036

Found in plant and animal tissues. Prod. by *Aspergillus niger* and other microorganisms. Can replace HCHO in Mannich reactions and ozonolyses. V. deliquescent prisms giving yellow aq. soln. V. sol. H_2O; spar. sol. EtOH, Et_2O. Mp 104-107° (sinters from 94°). pK_a 2.32. Slowly reduces $NH_3.AgNO_3$. Forms a monohydrate, Mp 50°, and a hemihydrate, Mp 70-75°.

▷ Irritant, corrosive. MD4550000.

Semicarbazone: Mp 240° dec.

Thiosemicarbazone: [928-74-5]. [(*Aminothioxomethyl*)*hydrazono*]*acetic acid*, *9CI*
$C_3H_5N_3O_2S$ M 147.157
Used as 0.5m*M* aq. soln. for catalytic detn. of Rh(*III*). Cryst. Sol. H_2O, EtOH.

Et ester: [924-44-7].
$C_4H_6O_3$ M 102.090
Bp 130°.

Et ester, 2,4-dinitrophenylhydrazone: Mp 124.5-125.5°.

Et ester, semicarbazone: Mp 228°.

Di-Et acetal: [20461-86-3]. *Diethoxyacetic acid*
$C_6H_{12}O_4$ M 148.158
Bp_{11} 108-110°.

Di-Et acetal, Et ester: [6065-82-3].
$C_8H_{16}O_4$ M 176.212
Bp 199°, Bp_{13} 83-85°.

Di-Et acetal, nitrile: [6136-93-2]. *Cyanodiethoxymethane*
$C_6H_{11}NO_2$ M 129.158
Bp_{12} 55-56°.

Anilide:
$C_8H_7NO_2$ M 149.149
Mp 77-78°.

Anilide, 2,4-dinitrophenylhydrazone: Mp 171-172°.

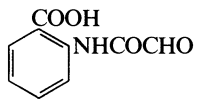
Benzyl ester:
$C_9H_8O_3$ M 164.160
Viscous liq. $Bp_{0.1}$ 90° (Kugelrohr).

tert-*Butyl ester:*
$C_6H_{10}O_3$ M 130.143
Viscous oil. Bp_{12} 49°.

Eisenbraun, A.A. *et al*, *Can. J. Chem.*, 1960, **38**, 622 (*synth*)
Org. Synth., Coll. Vol., 4, 1963, 124, 427 (*synth*)
Blake, J. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 4061 (*tert-butyl ester*)
Pappas, J.J. *et al*, *Tetrahedron Lett.*, 1966, 4273 (*synth*)
Kelly, T.R. *et al*, *Synthesis*, 1972, 544 (*synth*)
Ullmanns Encykl. Tech. Chem., 4. Aufl., 1976 (*rev*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 162.

Ezerskaya, N.A. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 846 (*synth, detn, Rh*)
Bishop, J.E. *et al*, *J. Org. Chem.*, 1991, **56**, 5079 (*benzyl, tert-butyl esters*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, GIQ000.

N-Glyoxyloylanthranilic acid G-00039



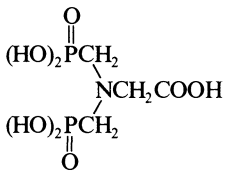
$C_9H_7NO_4$ M 193.159
Free acid not isol.

Monooxime: [6579-46-0].
$C_9H_8N_2O_4$ M 208.173
Used as a 1% soln. in EtOH for photometric detn. of Co. Cryst. Mp 206-208°.

Buscarons, F., *Anal. Chim. Acta*, 1958, **19**, 432 (*detn, Co*)

Glyphosine, BSI G-00040

N,N-*Bis(phosphonomethyl)glycine*, *9CI. Polaris*
[2439-99-8]



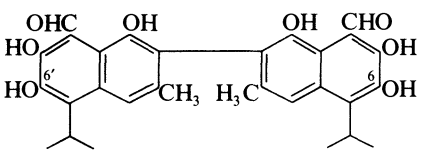
$C_4H_{11}NO_8P_2$ M 263.080
Plant growth regulator, used particularly in the sugar cane industry. Ligand for In, Mn, Ga, Ca, Mg, Fe, and Cu. Used for photometric detn. of Ca, Pb. Cryst. (EtOH aq.). V. sol. H_2O, sl. sol. EtOH, insol. C_6H_6. Mp 200° dec. pK_{a1} 1.7; pK_{a2} 2.0; pK_{a3} 5.1; pK_{a4} 6.45; pK_{a5} 10.98 (H_2O, 25°). Light-stable.

▷ MB9120000.

Westerback, S. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 2567 (*synth, props, complexes*)
Kireeva, A.Yu. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 2494), 1973, **43**, 2508 (*synth, ir, pmr*)
Karadakov, B. *et al*, *Dokl. Bolg. Akad. Nauk*, 1979, **32**, 325; *CA*, **91**, 217713y (*use*)
Pesticide Manual, 6th Ed., 1979, 293; 7th Ed., 304.
Tsirul'nikova, N.V. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 859), 1981, **51**, 1028 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BLG250.

Gossypol G-00041

1,1',6,6',7,7'-Hexahydroxy-3,3'-dimethyl-5,5'-bis(1-methylethyl)-[2,2'-binaphthalene]-8,8'-dicarboxaldehyde, *9CI. Thespesin*
[303-45-7]



$C_{30}H_{30}O_8$ M 518.562
Atropisomeric compd., occurs naturally in both (+)- and (±)-forms.

▷ Toxic. DU3100000.

(+)-*form* [20300-26-9]
Constit. of *Thespesia populinea*. Pale-yellow needles (pet. ether), deep-yellow prisms + Me_2CO (Me_2CO), large elongated plates (Me_2CO aq.). Mp 181-183°. $[\alpha]_D^{19}$ +445° (c, 0.15 in $CHCl_3$).

▷ DU3101000.

Hexa-Me ether: [17273-30-2].
Colourless. Mp 242-244°. $[\alpha]_D$ +177° ($CHCl_3$).

(±)-*form* [40112-23-0]
Toxic component of cotton boll cavities. Used as 0.2% EtOH soln. for detn. of Sn(*IV*); for photometric detn. of Ge. Male antifertility agent, undergoing widespread trials in the Peoples' Republic of China. Cryst. in three forms (Et_2O, $CHCl_3$, pet. ether). Mp 184°, Mp 199°, Mp 214°.

Hexa-Ac: [30719-67-6].
Mp 276-279°.

▷ DU3103000.

Bisphenylhydrazone: Yellow plates (C_6H_6). Mp 303°.

6-Me ether: [54302-42-0].
$C_{31}H_{32}O_8$ M 532.589
Constit. of the roots of *Gossypium* spp. Yellow cryst. (C_6H_6/hexane). Mp 146-149°.

6,6'-Di-Me ether: [1110-58-3].
$C_{32}H_{34}O_8$ M 546.616
From *G.* spp. Golden-yellow cryst. (C_6H_6/hexane). Mp 181-184°.

Hexa-Me ether: Cryst. in three forms, two colourless and one red. Mp 231-232° (colourless), Mp 221° (colourless), Mp 158-160° (red).

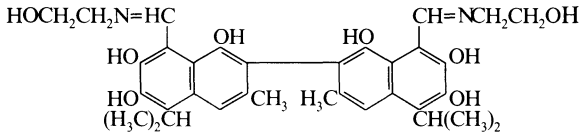
2-Aminoethylsulfonate: [87606-98-2]. *GSN (as disodium salt). Metaphin (as disodium salt)*
Immunosuppressive, antiviral agent.

[62770-38-1, 90141-22-3]

Vioque-Pizarro, A., *Anal. Chim. Acta*, 1951, **5**, 529 (*detn, Sn*)
Adams, R. *et al*, *Chem. Rev.*, 1960, **60**, 555 (*rev*)
Bell, A., *Phytopathology*, 1967, **57**, 759.
Bhakuni, D.S. *et al*, *Experientia*, 1968, **24**, 109 (*isol*)
King, T.J. *et al*, *Tetrahedron Lett.*, 1968, 261 (*isol*)
Wood, A.B. *et al*, *Chem. Ind. (London)*, 1969, 1738 (*conformn*)
Edwards, J.D., *J. Am. Oil Chem. Soc.*, 1970, **47**, 441 (*synth*)
Abou-Donia, M.B. *et al*, *Lipids*, 1970, **5**, 938 (*metab*)
Talipov, S.T. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 1420 (*detn, Ge*)
Stipanovic, R.D. *et al*, *Phytochemistry*, 1975, **14**, 1077.
O'Brien, D.H. *et al*, *J. Org. Chem.*, 1978, **43**, 1105 (*nmr*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 12798.
Aripov, U.A. *et al*, *Khim.-Farm. Zh.*, 1983, **17**, 908 (*pharmacol, deriv*)
Sega, S.J. *et al*, *Gossypol*, Plenum Press, N.Y., 1985 (*book*)
Masciadri, R. *et al*, *J. Chem. Soc., Chem. Commun.*, 1985, 1573 (*biosynth*)
Talipov, S.A. *et al*, *Khim. Prir. Soedin.*, 1985, **21**, 797; 1986, **22**, 108 (*cryst struct*)
Ibragimov, B.T. *et al*, *Khim. Prir. Soedin.*, 1985, **21**, 799; 1986, **22**, 110 (*cryst struct*)
Wu, D.F. *et al*, *Clin. Pharmacol. Ther. (St. Louis)*, 1986, **39**, 613 (*pharmacol*)
Stipanovic, R.D. *et al*, *J. Chem. Soc., Chem. Commun.*, 1986, 100 (*biosynth*)
Sampath, D.S. *et al*, *J. Chem. Soc., Chem. Commun.*, 1986, 649 (*cd, resoln*)
Lacombe, L. *et al*, *J. Nat. Prod. (Lloydia)*, 1987, **50**, 277 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, GJM000, GJM025, GJM030, GJM035.

Gossypol bis[*N*-(2-hydroxy)ethyleneimine] G-00042

[6287-78-1]



$C_{34}H_{40}N_2O_8$ M 604.699

Used as a 0.1% soln. in $CHCl_3$/3-methylbutanol for extraction-photometric detn. of V (λ_{max} 575 nm, ε 13000). Yellow cryst. Sol. Me_2CO, EtOH, $CHCl_3$; insol. H_2O. Mp 252-255°, Mp 276°.

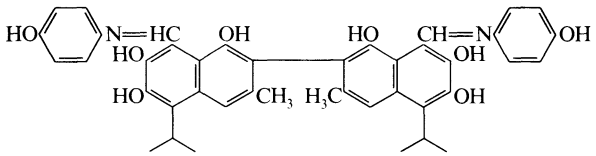
Gonzalez Correa, O. *et al*, *J. Am. Oil Chem. Soc.*, 1966, **43**, 678 (*synth*)

Inoyatov, A. *et al*, *Uzb. Khim. Zh.*, 1970, **14**, 20 (*detn, V*)

Gossypol bis(4-hydroxyphenyl)imine G-00043

8,8′-Bis[[(hydroxyphenyl)imino]methyl]-3,3′-dimethyl-5,5′-bis(1-methylethyl)[2,2′-binaphthalene]-1,1′,6,6′,7,7′-hexol, 9CI

[56286-59-0]



$C_{42}H_{40}N_2O_8$ M 700.787

Used as 0.1% soln. in EtOH for extraction-photometric detn. of W(*VI*) (λ_{max} 535 nm, ε 140000, $CHCl_3$). Cryst. Sol. EtOH, MeOH, butanol, isopentanol.

Chaprasova, L.V. *et al*, *Zavod. Lab.*, 1986, **52**, 13 (*detn, W*)

Guanidine, 9CI G-00044

Carbamidine. Iminourea. Aminoformamidine. Aminomethanamidine. Carbamamidine

[113-00-8]

CH_5N_3 M 59.071

Occurs widely e.g. first isol. from vetch seedlings (*Vicia sativa*). Organic base used to form extractable ion-pairs with anionic complexes. Deliquescent cryst. mass. Sol. H_2O, EtOH, acids aq. solns. Mp *ca.* 50°. Strong base, absorbs CO_2 from air.

▷ Highly toxic orally. ME7750000.

B,HNO₃: [52470-25-4].
Mp 214°.
▷ May explode during prepn.

B_2,H_2CO_3: Mp 197°.

B,AcOH: [34771-62-5].
Mp 229-230°.

N-*Benzenesulfonyl:* Mp 212°.

Picrate: Mp 333°.

1-N-*Ac:* [5699-40-1].
$C_3H_7N_3O$ M 101.108
Mp 145°.

Org. Synth., Coll. Vol., 1, 1932, 302 (*synth*)

Welcher, R.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **2**, 388 (*use*)

Watt, G.W. *et al*, *Ind. Eng. Chem.*, 1954, **46**, 2599 (*synth*)

Kirk-Othmer Encycl. Chem. Technol., 2nd Ed., Wiley, N.Y., 1963-1971, **10**, 734 (*rev*)

Hart, N.K. *et al*, *Aust. J. Chem.*, 1970, **23**, 1679 (*synth, deriv*)

Corral, R.A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1970, 556 (*synth, deriv*)

Ullmanns Encykl. Tech. Chem., 4. Aufl., 1976 (*rev*)

Fritsche-Lang, W. *et al*, *Chem. Ber.*, 1985, **118**, 2044 (*purifn*)

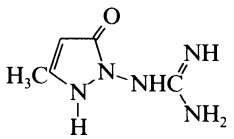
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 318.

Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 342.

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, GKW000, GLB300.

2-Guanidino-1,2-dihydro-5-methyl-3*H*-pyrazol-3-one G-00045

1-Carbamidino-3-methyl-5-pyrazolone



$C_5H_9N_5O$ M 155.159

Used for photometric detn. of $OsO_4^{2\ominus}$, $UO_2^{2\oplus}$. Cryst. Sol. EtOH, Me_2CO; sl. sol. cold H_2O.

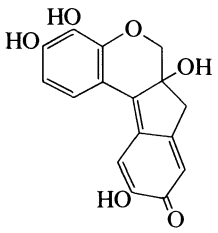
Poddar, S.N., *Fresenius' Z. Anal. Chem.*, 1964, **203**, 333 (*detn, $OsO_4^{2\ominus}$, $UO_2^{2\oplus}$*)

H

Haematein H-00001

6a,7-Dihydro-3,4,6a,10-tetrahydroxybenz[b]*indeno*[*1,2*-d]*pyran, 9CI. Hydroxybrazilein. Hematein*

[475-25-2]



$C_{16}H_{12}O_6$ M 300.267

Isol. from logwood under alkaline oxidn. conds. Used as 0.03% soln. in aq. MeOH for photometric detn. of B (λ_{max} 505 nm, ε 23000), Hf (λ_{max} 520 nm, ε 58000), Ga, Sn. Acid-base indicator (colour change: yellow → red → purple); biological stain. Brownish-red needles (EtOH). Mp 250° dec.

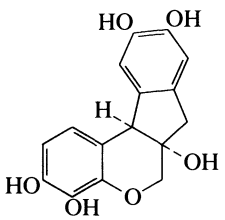
▷ DE3120000.

Tetra-Me ether: Amber prisms (EtOAc or EtOH). Mp 210°.

Hummel, J.J. *et al*, *Ber.*, 1882, **15**, 2337.
Bollina, E. *et al*, *Ber.*, 1902, **35**, 1678.
Engels, P. *et al*, *J. Chem. Soc.*, 1908, **93**, 1121 (*synth*)
Cooke, R.G. *et al*, *Aust. J. Chem.*, 1955, **8**, 109 (*uv*)

Haematoxylin H-00002

7,11b-Dihydrobenz[b]*indeno*[*1,2*-d]*pyran-3,4,6a,9,10*(*6*H)*-pentol, 9CI. Hematoxylin. C.I. Natural black 1. C.I. 75290*



Relative configuration

$C_{16}H_{14}O_6$ M 302.283

(+)-***form*** [517-28-2]

Constit. of *Haemotoxylon campechianum* (Logwood). First isol. in 1810. Histological stain. Used as 0.1% soln. in 95% EtOH for photometric detn. of B, Ti, Sn (λ_{max} 590 nm, ε 23000), $F^{\ominus}$ (indirectly). Prisms + $3H_2O$ (EtOH). Sol. hot H_2O. Mp 100-120°. $[\alpha]_D^{18}$ +102.4° (H_2O). Reddens on exp. to light.

▷ MH7875000.

Penta-Ac: Mp 165-166°.

(±)-***form*** [1621-46-1]

Mp 210-212°.

Perkin, W.H. *et al*, *J. Chem. Soc.*, 1908, **93**, 489 (*struct*)
Hunter, G.J. *et al*, *Anal. Chim. Acta*, 1953, **8**, 351; **9**, 425 (*detn, $F^{\ominus}$*)
Dann, O. *et al*, *Chem. Ber.*, 1965, **98**, 1498 (*synth*)
Craig, J.C. *et al*, *J. Org. Chem.*, 1965, **30**, 1573 (*stereochem, pmr*)
Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1966, **216**, 3.
Morsingh, F. *et al*, *Tetrahedron*, 1970, **26**, 281 (*synth*)
Robinson, R., *Bull. Soc. Chim. Fr.*, 1972, 3292 (*rev*)
Kirkiacharian, B.S. *et al*, *Bull. Soc. Chim. Fr.*, 1972, 3292 (*synth*)
Leong, C.L., *Analyst* (*London*), 1977, **102**, 293, 837 (*detn, Sn, Ti*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HAP500.

Heptadecanoic acid H-00003

Margaric acid. Daturinic acid

[506-12-7]

$H_3C(CH_2)_{15}COOH$

$C_{17}H_{34}O_2$ M 270.454

Used (with octadecanoic acid) for amino acid sequencing in peptides. Cryst. (pet. ether). Mp 62-63°.

▷ LD_{50} 36 mg/kg (mouse, i.v.). MI3850000.

Me ester: [1731-92-6].
$C_{18}H_{36}O_2$ M 284.481
Cryst. (EtOH). Mp 30°. Bp_9 184-187°.

Et ester: [14010-23-2].
$C_{19}H_{38}O_2$ M 298.508
Cryst. (EtOH aq.). Mp 28°. Bp_5 185°.

Amide: [25844-13-7].
$C_{17}H_{35}NO$ M 269.470
Cryst. (EtOH). Mp 108°.

Nitrile:
$C_{17}H_{33}N$ M 251.454
Cryst. (EtOH). Mp 34°. Bp_{10} 185°.

Bricas, E. *et al*, *Biochemistry*, 1965, **4**, 2254 (*use*)
Buchta, E. *et al*, *Justus Liebigs Ann. Chem.*, 1966, **698**, 93 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HAS500.

Heptafluorobutanoic acid, 9CI H-00004

Perfluorobutyric acid

[375-22-4]

$F_3CCF_2CF_2COOH$

$C_4HF_7O_2$ M 214.039

Liq. d_4^{20} 1.65. Mp −19.9°. Bp 120.8-121°.

▷ ET4025000.

Me ester: [356-24-1].
$C_5H_3F_7O_2$ M 228.066
Liq. Bp 81.5-82°.

Et ester: [356-27-4].
$C_6H_5F_7O_2$ M 242.093
Liq. Bp 96.6°.

▷ ET4200000.

Butyl ester: [1559-07-5].
$C_8H_9F_7O_2$ M 270.147
Liq. Bp 132.5°.

Fluoride: [335-42-2].
C_4F_8O M 216.031
Bp_{741} 7-7.5°.

Chloride: [375-16-6].
C_4ClF_7O M 232.485
d_4^{25} 1.56. Bp_{740} 38-39°.

Bromide:
C_4BrF_7O M 276.936
Bp_{736} 53°.

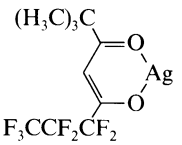
Iodide:
C_4F_7IO M 323.937

Bp 75-76°.
Anhydride: [336-59-4].
$C_8F_{14}O_3$ M 410.064
Anal. derivatisation reagent for alcohols, phenols, amines, amino acids, etc. Liq. d_4^{25} 1.65. Bp 108-108.5°.
Amide: [662-50-0].
$C_4H_2F_7NO$ M 213.055
Mp 102-103°.
▷ ES4725000.
Nitrile: [375-00-8].
C_4F_7N M 195.039
Bp 2° (5°).

Aldrich Library of IR Spectra, 3rd Ed., 297E, 417F (*ir*)
Haszeldine, R.N., *J. Chem. Soc.*, 1950, 3037 (*synth*)
Henne, A.L. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 992 (*synth*)
Banks, R.E., *Fluorocarbons and their Derivatives*, 2nd Ed., MacDonald, London, 1970, 72 (*props, use*)
Moss, C.W. *et al*, *J. Chromatogr.*, 1971, **60**, 134 (*anhydride, use*)
Ovenall, D.W. *et al*, *J. Magn. Reson.*, 1977, **25**, 361 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HAX000, HAX500, HAY000.

(6,6,7,7,8,8,8-Heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*)silver, 11CI, 10CI, 9CI H-00005

(1,1,1,2,2,3,3-Heptafluoro-7,7-dimethyl-4,6-octanedionato) silver(I). *Ag(fod)*
[76121-99-8]



$C_{10}H_{10}AgF_7O_2$ M 403.045
Nmr shift reagent; used in conjunction with $Yb(fod)_3$ and $Pr(fod)_3$ for aromatic protons. Light sensitive. Dec. on crystallisation. Insol. H_2O. Mp 134° dec.

Wenzel, T.J. *et al*, *J. Am. Chem. Soc.*, 1980, **102**, 5903 (*synth, use*)
Wenzel, T.J. *et al*, *Anal. Chem.*, 1981, **53**, 343 (*synth, use*)
Rackham, D.M. *et al*, *Spectrosc. Lett.*, 1981, **14**, 379, 639.
Audit, M. *et al*, *Org. Magn. Reson.*, 1983, **21**, 698 (*nmr studies*)
Hajek, M. *et al*, *Anal. Chem.*, 1986, **58**, 1743 (*use*)

6,6,7,7,8,8,8-Heptafluoro-2,2-dimethyl-3,5-octanedione, 8CI H-00006

Hexafluorobutanoylpivaloylmethane
[17587-22-3]

$(H_3C)_3CCOCH_2COCF_2CF_2CF_3$

$C_{10}H_{11}F_7O_2$ M 296.184
Used for gc separation of divalent metals; extraction of volatile divalent metals (Co, Zn) (C_6H_6, $CHCl_3$). Oily liq. $Bp_{2.7}$ 33°. pK_a 6.7 (24°; μ = 0.1; Me_4NClO_4).

Sweet, T.R. *et al*, *Anal. Chim. Acta*, 1970, **52**, 173 (*gc*)
Scribner, W.G. *et al*, *CA*, 1970, **73**, 92153k (*extrn*)

2,2,3,3,4,4,4-Heptafluoro-*N*-methyl-*N*-(trimethylsilyl)butanamide, 9CI H-00007

[53296-64-3]

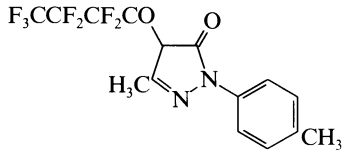
$F_3CCF_2CF_2CONMeSiMe_3$

$C_8H_{12}F_7NOSi$ M 299.263
Silylation reagent for gc analysis of individual glucosinolates in plant tissue, caffeine and strychnine.

Ger. Pat., 2 262 842, (1974); *CA*, **81**, 114256r (*synth, use*)
Thies, W., *Fette, Seifen, Anstrichm.*, 1976, **78**, 231; *CA*, **85**, 76445z (*use*)
U.S. Pat., 3 954 651, (1976); *CA*, **85**, 103518j (*synth, use*)

4-(2,2,3,3,4,4,4-Heptafluoro-1-oxobutyl)-2,4-dihydro-5-methyl-2-(4-methylphenyl)-3*H*-pyrazol-3-one, 9CI H-00008

3-Methyl-4-(perfluorobutyl)-1-p-tolyl-5-pyrazolone
[111278-72-9]

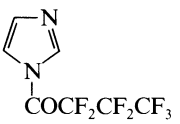


$C_{15}H_{11}F_7N_2O_2$ M 384.253
Used as a 0.05*M* soln. in C_6H_6 or cyclohexane for extraction-separation of Li, Na. Cryst. (EtOH aq. or dioxan aq.). Sol. cyclohexane, C_6H_6. Mp 101°.

Jensen, B.S., *Acta Chem. Scand.*, 1959, **13**, 1668 (*synth*)
Umetani, S. *et al*, *Talanta*, 1987, **34**, 779 (*detn, Li, Na*)

1-(2,2,3,3,4,4,4-Heptafluoro-1-oxobutyl)-1*H*-imidazole, 9CI H-00009

1-(Heptafluorobutyryl)imidazole
[32477-35-3]

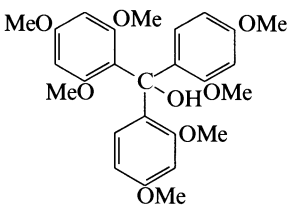


$C_7H_3F_7N_2O$ M 264.102
Gc derivatisation reagent for amines. Bp_{12} 56-58°.

Vessmann, J. *et al*, *Anal. Lett.*, 1969, **2**, 81 (*use*)
Franken, J.J. *et al*, *J. Chromatogr.*, 1974, **91**, 425 (*use*)
Benington, F. *et al*, *J. Chromatogr.*, 1975, **106**, 435 (*use*)
Pachler, K.G.R. *et al*, *Org. Magn. Reson.*, 1981, **17**, 278 (*cmr*)

Heptamethoxy red H-00010

α,α-Bis(2,4-dimethoxyphenyl)-2,4,6-trimethoxybenzenemethanol, 9CI. 2,2',2'',4,4',4'',6-Heptamethoxytriphenylcarbinol
[80202-76-2]



$C_{26}H_{30}O_8$ M 470.518
Acid-base indicator (pH range: 5.0-7.0; colour change: red → colourless), used as 0.1% soln. in EtOH. Cryst. powder. Mp 149°.

Kolthoff, I.M., *J. Am. Chem. Soc.*, 1927, **49**, 1218; 1939, **61**, 16 (*use*)
Lund, H., *J. Am. Chem. Soc.*, 1927, **49**, 1346 (*synth*)

1-Heptanesulfonic acid, 9CI H-00011

1-Heptylsulfonic acid
[60586-80-3]

$H_3C(CH_2)_5CH_2SO_3H$

$C_7H_{16}O_3S$ M 180.268

Na salt: [22767-50-6].

Ion-pairing reagent used in hplc of peptides and proteins. Mp > 300°.

Me ester: [3818-04-0].

$C_8H_{18}O_3S$ M 194.294

Liq. $Bp_{0.3}$ 95°.

Hancock, W.S. *et al*, *J. Chromatogr.*, 1978, **161**, 291 (*use*)
Johnson, T.J. *et al*, *Tetrahedron*, 1978, **34**, 547 (*synth*)
Bidlingmeyer, B.A. *et al*, *Adv. Chromatogr. (Houston) 19th 1984*, 1979, **14**, 435; *CA*, **91**, 217413a (*use*)
Costanzo, S.J., *J. Chromatogr.*, 1984, **314**, 402 (*use*)
Levin, S. *et al*, *Anal. Chem.*, 1985, **57**, 1830 (*use*)

4-Heptanone H-00012

Di-n-propyl ketone. Butyrone

[123-19-3]

$H_3C(CH_2)_2CO(CH_2)_2CH_3$

$C_7H_{14}O$ M 114.187

Scent constit. of urine of red fox *Vulpes vulpes*. Refractive liq. d 0.815. Mp −32.6°. Bp 142-144°.

▷ Mod. toxic, flammable. MJ5600000.

2,4-Dinitrophenylhydrazone: [1655-41-0].

Mp 75°.

Oxime: [1188-63-2].

$C_7H_{15}NO$ M 129.202

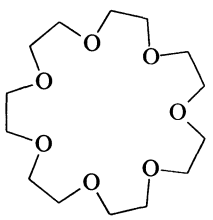
Used for extraction separation of Ag, Au, Pd ($CHCl_3$); photometric detn. of Pd. Cryst. Sol. $CHCl_3$. Mp 187-188°. Bp_{772} 196°.

Holland, W.J. *et al*, *Mikrochim. Acta*, 1972, 183 (*synth*)
Org. Synth., Coll. Vol., 5, 1973, 589 (*synth*)
Walker, R., *Mikrochim. Acta*, 1974, 105; 1975, **2**, 249, 541 (*detn, Au, Pd*)
Dunn, P. *et al*, *Mikrochim. Acta*, 1975, **2**, 129; 1977, **1**, 363 (*detn, Pd*)
Kirchoff, R., *Tetrahedron Lett.*, 1976, 2533 (*synth*)
Shono, T. *et al*, *Tetrahedron Lett.*, 1977, 3625 (*synth*)
Jorgensen, J.W. *et al*, *Science (Washington, D.C.)*, 1978, **199**, 796.
Whitten, W.K. *et al*, *J. Chem. Ecol.*, 1980, **6**, 49.
Dupuis, L.T. *et al*, *Mikrochim. Acta*, 1980, **1**, 29 (*detn, Ag*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DWT600.

1,4,10,13,16,19-Heptaoxacycloheneicosane, 9CI H-00013

21-Crown-7

[33089-36-0]



$C_{14}H_{28}O_7$ M 308.371

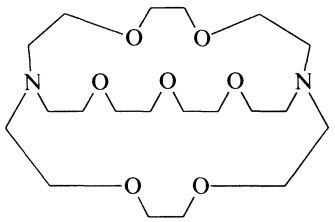
Used for complexing and extraction-separation of alkali metal ions. Liq. Misc. H_2O.

Vögtle, F.M. *et al*, *Top. Curr. Chem.*, 1981, **98**, 163 (*rev*)
Yoshio, M. *et al*, *Anal. Lett.*, 1982, **15**, 1197 (*rev*)

4,7,10,16,19,24,27-Heptaoxa-1,13-diazabicyclo[11.8.8]nonacosane, 9CI H-00014

Cryptand 3.2.2

[31255-22-8]



$C_{20}H_{40}N_2O_7$ M 420.545

Used as complexing agent for alkali metal ions; used for extraction separation of Cs, K, Rb. Cryst. Sol. H_2O. pK_{a1} 6.55; pK_{a2} 9.14 (H_2O, 25°).

Lehn, J.M. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 6700 (*use*)

Heptylarsonic acid, 9CI H-00015

[35328-95-1]

$H_3C(CH_2)_6As(O)(OH)_2$

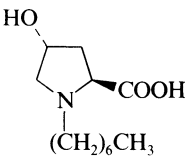
$C_7H_{17}AsO_3$ M 224.131

Used as soln. in $CHCl_3$ for extraction sepn. of Zr and Ti; gravimetric detn. of Zr. Cryst. Sol. $CHCl_3$, CCl_4.

Pietsch, R. *et al*, *Anal. Chim. Acta*, 1973, **64**, 345 (*detn, Zr, Ti*)

N-Heptylhydroxyproline H-00016

1-Heptyl-4-hydroxyproline



$C_{12}H_{23}NO_3$ M 229.319

(2S,4R)-form [76666-35-8]

L-form

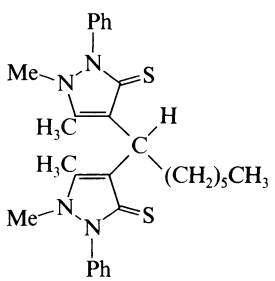
Hplc stationary phase for resoln. of racemic α-amino acids.

Davankov, V.A. *et al*, *Chromatographia*, 1980, **13**, 677.

4,4′-Heptylidenebis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], 9CI H-00017

Hexyldithiopyrylmethane

[74713-69-2]



$C_{29}H_{36}N_4S_2$ M 504.762

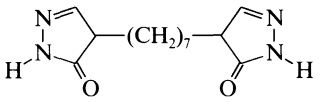
Used as aq. soln. for extraction-photometric detn. of Bi, Au(*III*), Mo, Pd(*II*), Pb, Sn. Yellowish cryst. powder. Sol. acids, DMF, AcOH, Me_2CO, $CHCl_3$; sl. sol. H_2O. Mp 169°.

Dolgorev, A.V. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 854 (*synth, use*)

4,4′-Heptylidenebis[1,2-dihydro-3*H*-pyrazol-3-one], 9CI H-00018

Dipyrazolonylheptane

[80936-04-5]



$C_{13}H_{20}N_4O_2$ M 264.327

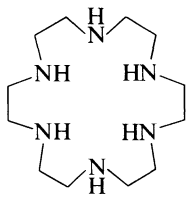
Used as 0.5*M* soln. in $CHCl_3$ for extraction-separation of Ag. Cryst. (EtOH). Sol. $CHCl_3$, PhCl, dichloroethane. Mp 131-132°.

Degtev, M.I. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 2158 (*synth, use*)

1,4,7,10,13,16-Hexaazacyclooctadecane, 9CI H-00019

18-Azacrown-6

[296-35-5]



$C_{12}H_{30}N_6$ M 258.409

Solubilizing agent for urinary calculi, superior to EDTA. Used as 5m*M* aq. soln. for extraction of many metal ions. Long needles (MeCN). Mp 147-150°, Mp 150-153°.

Hexakis(4-methylbenzenesulfonyl): [52601-75-9]. Mp 311-313°.

B,3H₂SO₄: [56187-09-8]. Sol. H_2O. Mp >300°.

Org. Synth., 1978, **58**, 86 (*synth*)
Stetter, H. *et al*, *Tetrahedron*, 1981, **37**, 767 (*synth, ir, pmr*)
Kimura, G. *et al*, *Chem. Pharm. Bull.*, 1983, **31**, 3264 (*use*)
Arpadian, S. *et al*, *Talanta*, 1987, **34**, 953 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HCN100.

Hexabutylphosphorous triamide, 9CI H-00020

Tris(N,N-*dibutylamino*)*phosphine*

[5848-65-7]

$P[N(CH_2CH_2CH_2CH_3)_2]_3$

$C_{24}H_{54}N_3P$ M 415.684

Liq. $Bp_{0.1}$ 140-141°. n_D^{20} 1.4700.

Oxide: [22421-85-8]. *Hexabutylphosphoric triamide. Tris*(N,N-*dibutylamino*)*phosphine oxide*
$C_{24}H_{54}N_3OP$ M 431.684
Used for extraction of the lanthanide elements. Liq. $Bp_{0.01}$ 130-132°. pK_{a1} 10.66; pK_{a2} 4.76 ($MeNO_2$). n_D^{25} 1.4618.

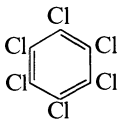
Sulfide: [3949-47-1]. *Hexabutylphosphorothioic triamide. Tris*(N,N-*dibutylamino*)*phosphine sulfide*
$C_{24}H_{54}N_3PS$ M 447.750
Used as a 2.5m*M* soln. in $CHCl_3$ for extraction of Ag, Cu, Hg. Low-melting solid. Mp 19-20°. n_D^{20} 1.4869.

Stuebe, C. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 976 (*synth, derivs*)
Handley, T.H., *Anal. Chem.*, 1964, **36**, 2467 (*use*)
Gonnet, C. *et al*, *Anal. Chim. Acta*, 1972, **62**, 227 (*oxide, use*)
Gonnet, C. *et al*, *Bull. Soc. Chim. Fr.*, Part I, 1973, 45 (*oxide, use*)
Buchikhin, E.P. *et al*, *Zh. Obshch. Khim.*, 1974, **44**, 1354; *J. Gen. Chem. USSR* (*Engl. Transl.*), 1330 (*oxide, props*)
Marchenko, A.P. *et al*, *Zh. Obshch. Khim.*, 1978, **48**, 551; *J. Gen. Chem. USSR* (*Engl. Transl.*), 501 (*oxide*)
Yakshin, V.V. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Khim.*, 1979, **247**, 128; *Dokl. Chem.* (*Engl. Transl.*), 344 (*oxide, props*)

Hexachlorobenzene, 9CI, 8CI H-00021

Perchlorobenzene

[118-74-1]



C_6Cl_6 M 284.782

Reference material used in elemental microanalysis. Needles (2-propanol). Mp 226°.

▷ Mod. toxic orally. DA2975000.

Schnepp, O. *et al*, *J. Chem. Phys.*, 1959, **30**, 868 (*uv*)
Bullester, M. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 4259 (*uv*)
Ware, J. *et al*, *J. Org. Chem.*, 1961, **26**, 2267 (*synth*)
Solomon, W. *et al*, *J. Org. Chem.*, 1966, **31**, 1551 (*synth*)
Delorme, P. *et al*, *J. Chim. Phys. Phys.-Chim. Biol.*, 1967, **64**, 591 (*ir*)
Analyst (*London*), 1972, **97**, 740 (*microanal*)
Clark, J. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1976, 73 (*ms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HCC500.

2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-Hexadecafluorononanoic acid, 9CI H-00022

9H-Hexadecafluorononanoic acid

[76-21-1]

$F_2HC(CF_2)_7COOH$

$C_9H_2F_{16}O_2$ M 446.088

Cryst. Mp 62-68°.

Et ester: [1799-47-9].
$C_{11}H_6F_{16}O_2$ M 474.142
Liq. Bp_{40} 112°. n_D^{25} 1.3203.

Chloride: [423-95-0].
$C_9HClF_{16}O$ M 464.533
Derivatisation reagent for gc of hydroxy steroids.

Amide: [376-19-2].
$C_9H_3F_{16}NO$ M 445.103
Cryst. Mp 136-138°.

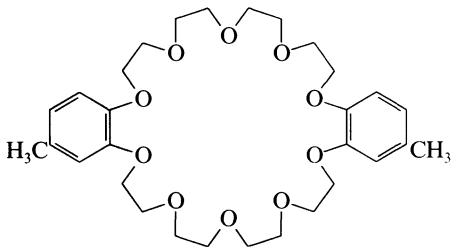
Nitrile: [5678-73-9].
$C_9HF_{16}N$ M 427.088
Liq. Bp 144°.

U.S. Pat., 2 559 629, (1951); *CA*, **46**, P3063h (*synth*)
Ellzey, S.E. *et al*, *J. Org. Chem.*, 1965, **30**, 3945 (*synth, derivs*)
Kirschner, M.A. *et al*, *Anal. Biochem.*, 1969, **30**, 346 (*use, chloride*)

6,7,9,10,12,13,15,16,23,24,26,27,29,30,32,33-Hexadecahydro-2,20-dimethyldibenzo[*b*,*q*][1,4,7,10,13,16,19,22,25,28]decaoxacyclotriacontin, 9CI H-00023

Dimethyldibenzo-30-crown-10

[41735-86-8]



$C_{30}H_{44}O_{10}$ M 564.672

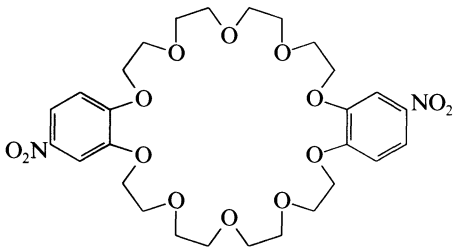
Used as 1% soln. in dipentyl phthalate in K-selective electrode (PVC membrane). Cryst. (hexane/Et_2O). Sol. hexane, Et_2O. Mp 77-78°.

Ryba, O. *et al*, *J. Electroanal. Chem.*, 1973, **44**, 425 (*synth*)
Petranek, J. *et al*, *Anal. Chim. Acta*, 1974, **72**, 375 (*use*)

6,7,9,10,12,13,15,23,24,26,27,29,30,32,33-Hexadecahydro-2,19-dinitrodibenzo[*b*,*q*]-[1,4,7,10,13,16,19,22,25,28]decaoxacyclotriacontin, 9CI H-00024

Dinitrodibenzo-30-crown-10

[54112-60-6]



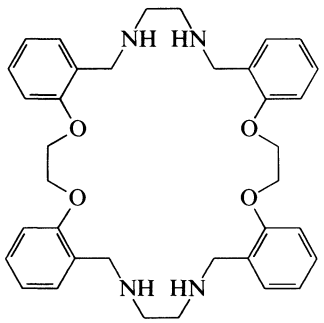
$C_{28}H_{38}N_2O_{14}$ M 626.613

Exact struct. unknown; may be either 2,19 or 2,20 isomer or a regioisomeric mixt. Used as 1% soln. in dipentyl phthalate in K-selective electrode (PVC membrane). Cryst. (C_6H_6/Et_2O). Sol. C_6H_6, Et_2O. Mp 129°.

Pederson, C.J., *J. Am. Chem. Soc.*, 1967, **89**, 7017 (*synth*)
Petranek, J. *et al*, *Anal. Chim. Acta*, 1974, **72**, 375 (*use*)

6,7,13,14,15,16,17,18,24,25,31,32,33,34,35,36-Hexadecahydrotetrabenzo[*e*,*m*,*s*,*a*$_1$][1,4,15,18,8,11,22,25]tetraoxatetraazacyclooctacosine, 9CI H-00025

[78891-75-5]



$C_{36}H_{44}N_4O_4$ M 596.768

Used as 1m*M* soln. in $CHCl_3$ for extraction separation of Ag, Hg, Pd, Cu, Co, Zn. Cryst. Sol. common org. solvs. Mp 167-168°.

Adam, K.R. *et al*, *Inorg. Chem.*, 1981, **20**, 4048 (*synth*)
Morosanova, E.I. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Khim.*, 1984, **277**, 1151 (*use*)

Hexadecanoic acid H-00026

Palmitic acid. Aethalic acid

[57-10-3]

$H_3C(CH_2)_{14}COOH$

$C_{16}H_{32}O_2$ M 256.428

Occurs in the form of esters (glycerides) in oils and fats of vegetable and animal origin. Usually obt. from palm oil. Widely distributed in plants. Used in detn. of water hardness. Cryst. Mp 63-64°. Bp 390°, Bp_{100} 268.5°, Bp_{15} 215°.

▷ LD_{50} 57 mg/kg (mouse, i.v.). RT4550000.

Me ester: [112-39-0].
$C_{17}H_{34}O_2$ M 270.454
Mp 30.5°. Bp_{147} 415-418°, Bp_{15} 196°, Bp_2 148°.

Et ester: [628-97-7].
$C_{18}H_{36}O_2$ M 284.481
Mp 19.3°, Mp 24° (dimorph.). Bp_{10} 191°.

Tetratricontanyl ester: [84461-48-3]. ***Tetratriacontanyl palmitate***
$C_{50}H_{100}O_2$ M 733.339
Isol. from seeds of *Cassia spectabilis* (Leguminosae) and flowers of *Melastoma candidum albiflorum*. Cryst. (C_6H_6). Mp 69°.

Chloride: [112-67-4].
$C_{16}H_{31}ClO$ M 274.873
Mp 12°. Bp_{20} 199°.

Anhydride: [623-65-4].
$C_{32}H_{62}O_3$ M 494.840
Mp 64°.

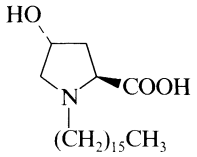
Amide: [629-54-9]. *Hexadecanamide, 9CI. Palmitamide, 8CI*
$C_{16}H_{33}NO$ M 255.443
Isol. from seeds of *Casimiroa edulis*. Mp 106-107°. Bp_{12} 235-236°.

Nitrile:
$C_{16}H_{31}N$ M 237.428
Mp 33°. Bp 333°, Bp_{100} 251°, Bp_1 142°.

Whitby, G.S., *J. Chem. Soc.*, 1926, 1458 (*synth*)
Smith, J.C., *J. Chem. Soc.*, 1931, 802.
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, NY, 1947, **2** (*use*)
Kincl, F.A. *et al*, *J. Chem. Soc.*, 1956, 4163 (*isol, amide*)
Bailey, A.V. *et al*, *J. Am. Oil Chem. Soc.*, 1971, **48**, 775 (*pmr*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, no. 703 (*occur*)
Hayashi, S., *J. Chem. Phys.*, 1975, **63**, 775 (*ir*)
Singh, M. *et al*, *Z. Naturforsch., B*, 1984, **39**, 1425 (*Tetratriacontanyl palmitate*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PAE250.

N-Hexadecylhydroxyproline H-00027

1-Hexadecyl-4-hydroxyproline



$C_{21}H_{41}NO_3$ M 355.560

(2S,4R)-form [76652-69-2]

L-form

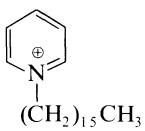
Hplc stationary phase for resoln. of racemic α-amino acids.

Davankov, V.A. *et al*, *Chromatographia*, 1980, **13**, 677.

1-Hexadecylpyridinium(1+) H-00028

Cetylpyridinium. Other proprietary names

[7773-52-6]



$C_{21}H_{38}N^{\oplus}$ M 304.538 (ion)

Surface active agent with bactericidal properties; used in throat pastilles etc. Used as a 0.2-0.3% aq. soln. to increase sensitivity in photometric detn. of metals; forms ternary complexes with metal ions and some chromogenic reagents.

Chloride: [123-03-5]. *Cetylpyridinium chloride, BAN, INN. Merocet. Ceepryn. Cepacol*

$C_{21}H_{38}ClN$ M 339.991

Sol. H_2O. Mp 87-88°. Monohydrate, Mp 77-83°.

▷ UU4900000.

Bromide: [140-72-7].

$C_{21}H_{38}BrN$ M 384.442

Microcryst. Sol. H_2O, EtOH. Mp 61-62°, Mp 66-68°.

Iodide: [2349-55-5].

$C_{21}H_{38}IN$ M 431.442

Mp 101°.

Warren, M.R. *et al*, *J. Pharm. Pharmacol.*, 1942, **74**, 401 (*pharmacol, tox*)
Huyck, C.L. *et al*, *Am. J. Pharm.*, 1944, **116**, 50 (*rev*)
Adam, N.K. *et al*, *Trans. Faraday Soc.*, 1946, **42**, 523 (*synth*)
Ziegler, M., *Angew. Chem.*, 1956, **68**, 411, 620 (*synth*)
Chumakov, Y.I. *et al*, *CA*, 1966, **64**, 19549d (*synth*)
Svoboda, V., *Talanta*, 1966, **13**, 237 (*use*)
Tikhonov, B.N., *Zh. Anal. Khim.*, 1977, **32**, 1435 (*rev*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2217.
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 78 (*use*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 6403 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CCX000.

Hexadecyltrimethylammonium(1+), 8CI H-00029

N,N,N-*Trimethyl-1-hexadecanaminium, 9CI. Cetyltrimethylammonium. Cetrimonium*

[6899-10-1]

$$H_3C(CH_2)_{15}N^{\oplus}Me_3$$

$C_{19}H_{42}N^{\oplus}$ M 284.547 (ion)

Topical antiseptic, surfactant. Reagent for isol. and purifn. of acidic polysaccharides and sulphonated carbohydrates. Used as 0.2-0.3% aq. soln. Increases sensitivity in photometric detn. of metals (e.g. Al, Be, In, Th, Zr) with some chelating reagents (e.g. chromazurol S, bromopyrogallol red, phenylfluorone); forms ternary complexes.

Chloride: [112-02-7]. *Cetrimonium chloride, BAN*

$C_{19}H_{42}ClN$ M 320.000

Bromide: [57-09-0]. *Cetrimonium bromide, INN. Cetrimide. Cetab. Other synonyms*

$C_{19}H_{42}BrN$ M 364.451

Microcryst. Sol. H_2O, EtOH, insol. C_6H_6, Et_2O. Mp 237-243°.

▷ Toxic, exp. teratogen. Emits highly toxic fumes when heated. BQ7875000.

Pentachlorophenolate: [87-76-3]. *TCAP. T.S.P.*

Topical antiseptic, fungicide.

4-Methylbenzenesulfonate: [138-32-9]. *Cetrimonium tosilate. Intol*

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 121.
Borisova, N.N. *et al*, *Zh. Prikl. Khim. (Leningrad)*, 1967, **40**, 2838 (*synth, pharmacol*)
Uno, T. *et al*, *Spectrochim. Acta, Part A*, 1968, **24**, 1749 (*ir*)
Chojnacki, J. *et al*, *Pol. J. Chem. (Rocz. Chem.)*, 1971, **45**, 1997 (*cryst struct*)
LoSurdo, A. *et al*, *J. Phys. Chem.*, 1972, **76**, 130 (*pmr*)
Kalyanasundaram, K. *et al*, *J. Phys. Chem.*, 1976, **80**, 1462 (*conformn*)
Tikhonov, B.N., *Zh. Anal. Khim.*, 1977, **32**, 1435 (*rev*)
Isomaa, B. *et al*, *Acta Pharmacol. Toxicol.*, 1980, **47**, 17 (*pharmacol, toxicity*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2216.
Callahan, J.H. *et al*, *Anal. Chem.*, 1984, **56**, 1632 (*theory*)
Chernova, R.K. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 1019 (*use*)
Antonovich, V.P. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 1157 (*use*)
Ohashi, M. *et al*, *Chem. Pharm. Bull.*, 1985, **33**, 2499 (*ms*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986 (*use*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 5535.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HCQ500, TLN150.

Hexafluoroacetylacetone H-00030

1,1,1,5,5,5-Hexafluoro-2,4-pentanedione, 9CI

[1522-22-1]

$$F_3CCOCH_2COCF_3$$

$C_5H_2F_6O_2$ M 208.060

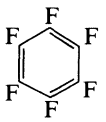
Used as 1% EtOH soln. for extraction separation of Fe(*III*), Be (C_6H_6); fluorimetric detn. of Eu, Tb, Sm. Liq. with irritant odour. d 1.470. Mp 90° dec. (as dihydrate). Bp 70-71° (63-65°). pK_a 4.42 (25°).

Henne, A. *et al*, *J. Am. Chem. Soc.*, 1947, **69**, 1819; 1956, **78**, 2790 (*synth*)
Scribner, W.G. *et al*, *Anal. Chem.*, 1965, **37**, 1136; 1966, **38**, 1779 (*detn, Be*)
Williams, D.E. *et al*, *Anal. Chem.*, 1971, **43**, 139 (*detn, Eu, Tb*)
Williams, D.E. *et al*, *Mikrochim. Acta*, 1972, 194 (*detn, Sm*)
Turoff, M.L. *et al*, *Talanta*, 1977, **24**, 567 (*detn, Fe*)
Lo, J.G. *et al*, *J. Chromatogr. Sci.*, 1980, **18**, 359 (*use*)

Hexafluorobenzene, 9CI, 8CI H-00031

Perfluorobenzene

[392-56-3]



C_6F_6 M 186.056

Internal reference standard used in ^{19}F nmr. Liq. d_4^{20} 161. Mp 3-4°. Bp_{743} 81-82°.

▷ DA3050000.

McBee, E.T. *et al*, *Ind. Eng. Chem.*, 1947, **39**, 378 (*synth*)
Gash, V.W. *et al*, *J. Org. Chem.*, 1966, **31**, 3602 (*nmr*)
Delorme, P. *et al*, *J. Chim. Phys. Phys.-Chim. Biol.*, 1967, **64**, 591 (*ir*)
Doyle, A.M., *J. Chem. Soc. C*, 1968, 2740 (*synth*)
Fenton, D.E., *Chem. Ind. (London)*, 1969, 695 (*uv*)
Smithson, L.D., *Org. Mass Spectrom.*, 1970, **4**, 1 (*ms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HDB000.

1,1,1,3,3,3-Hexafluoro-2-propanol, 9CI H-00032

[920-66-1]

$F_3CCH(OH)CF_3$

$C_3H_2F_6O$ M 168.039

Chromatographic derivatisation reagent for carboxylic acids. Liq. $d_{20.5}$ 1.46. Bp 57-58°. pK_{a1} 9.3 (25°).

▷ UB6450000.

Benzoyl: [10315-85-2].
$C_{10}H_6F_6O_2$ M 272.147
Cryst. (pentane).

Krunyants, I.L. *et al*, *CA*, 1962, **57**, 12305 (*rev*)
Middleton, W.J. *et al*, *J. Am. Chem. Soc.*, 1964, **86**, 4948 (*synth*)
Urry, W.H. *et al*, *J. Org. Chem.*, 1967, **32**, 347 (*ester*)
Dziedzic, S.W. *et al*, *Anal. Biochem.*, 1972, **47**, 592 (*use*)
Imai, K. *et al*, *J. Chromatogr.*, 1976, **120**, 181 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HDC500.

1,1,1,3,3,3-Hexafluoro-2-propanone, 9CI H-00033

Hexafluoroacetone

[684-16-2]

F_3CCOCF_3

C_3F_6O M 166.023

Forms a complex with H_2O_2 which functions as a peracid in synthesis. Reagent for gc anal. of amino acids and for the ^{19}F nmr anal. of alcohols and phenols. Gas. Fp −129°. Bp −26°. pK_a 6.58 (hydrate).

▷ Highly irritant, TLV 0.7. Experimental teratogen. UC2450000.

Covalent hydrate: [10543-95-0]. *1,1,1,3,3,3-Hexafluoro-2,2-propanediol*
$C_3H_2F_6O_2$ M 184.038
Bp_{93} 57°.

Semicarbazone: Mp 154°.

Imine:
C_3HF_6N M 165.038
Bp 15.5-17°.

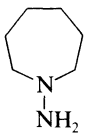
[34202-69-2]

Weygand, F. *et al*, *Chem. Ber.*, 1966, **99**, 1461 (*use*)
Krespan, C.G. *et al*, *Fluorine Chem. Rev.*, 1967, **1**, 145 (*rev*)
Org. Synth., 1970, **50**, 81 (*imine*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1972, **3**, 149.
Ho, F.F.L., *Anal. Chem.*, 1974, **46**, 496 (*use*)
Karhan, J. *et al*, *Collect. Czech. Chem. Commun.*, 1982, **47**, 1973 (*use*)
Tordeux, M. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1990, 1951 (*synth*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 345.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HCZ000, HDA000, HDA500.

Hexahydro-1*H*-azepin-1-amine, 9CI H-00034

1-Aminohexahydro-1H-azepine, 8CI. N-*Aminohomopiperidine.* N-*Aminohexamethylenimine*

[5906-35-4]



$C_6H_{14}N_2$ M 114.190

Derivatisation reagent for gc anal. of ketones. Liq. Bp_{55} 95°. n_D^{20} 1.4853.

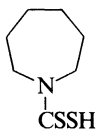
▷ CM3165000.

Van den Heuval, W.J.A. *et al*, *J. Chromatogr.*, 1965, **18**, 391 (*use*)
Sladkova, T.A. *et al*, *Khim. Geterotsikl. Soedin.*, 1968, 140 (*synth*)
Mikolajewska, H., *Acta Pol. Pharm.*, 1974, **31**, 181; *CA*, **82**, 124681k (*synth*)

Hexahydro-1*H*-azepine-1-carbodithioic acid, 9CI H-00035

Hexamethylenedithiocarbamic acid

[874-56-6]



$C_7H_{13}NS_2$ M 175.318

K salt: [52711-97-4].
Used for extraction-photometric detn. of Cu; extraction separation of Ir (dichloroethane). Cryst.

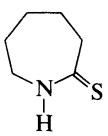
[24678-65-7]

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 225 (*detn, Cu*)
Byr'ko, V.M. *et al*, *CA*, 1973, **78**, 34527 (*sepn, Ir*)

Hexahydro-2*H*-azepine-2-thione, 9CI H-00036

Caprothiolactam. Thiocaprolactam

[7203-96-5]



$C_6H_{11}NS$ M 129.226

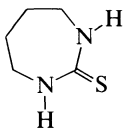
Used as a 3% soln. in $CHCl_3$ or a 0.2*M* soln. in aq. Me_2CO for extraction-photometric detn. of Bi; photometric detn. of Cu, Sb; gravimetric detn. of Cd, Pd; as 2% aq. soln. for extraction-photometric detn. of Au (λ_{max} 400 nm, ε 3700). Cryst. (EtOH). Sol. EtOH, Me_2CO, $CHCl_3$; spar. sol. H_2O. Mp 99-103°, Mp 107-110°.

Sikorska-Tomicka, A. *et al*, *Chem. Anal.* (*Warsaw*), 1967, **12**, 1291; 1969, **14**, 1177; 1970, **15**, 795; *CA*, 1967, **68**, 119106h; 1969, **72**, 128294k; 1970, **74**, 19002b (*detn, Bi, Pb, Sb*)
Basińska, H. *et al*, *Chem. Anal.* (*Warsaw*), 1969, **14**, 165, 1261; *CA*, **70**, 111338f; **72**, 106770c (*detn, Cd, Cu*)
Sikorska-Tomicka, H., *Mikrochim. Acta*, 1970, 1006 (*detn, Au*)
Yokoyama, M. *et al*, *Synthesis*, 1984, 827 (*synth*)
Yde, B. *et al*, *Tetrahedron*, 1984, **40**, 2047 (*synth*)

Hexahydro-2*H*-1,3-diazepine-2-thione, 9CI H-00037

Tetramethylenethiourea

[5700-04-9]



$C_5H_{10}N_2S$ M 130.213

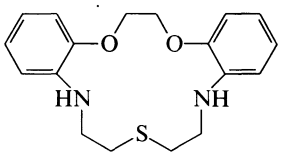
Used as 1% aq. soln. for extraction-photometric detn. of Bi (λ_{max} 480 nm, ε 11000, $CHCl_3$), Sb, Sn. Cryst. Sol. $CHCl_3$; mod. sol. H_2O.

Shelikhina, E.I. *et al*, *Zh. Neorg. Khim.*, 1982, **27**, 2065 (*synth*)
Presnyak, I.S. *et al*, *Zh. Anal. Khim.*, 1990, **45**, 1548 (*use*)

6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e*,*n*][1,4,10,7,13]dioxathiadiazacyclopentadecine, 9CI H-00038

1,3-Diaza-2-thiadibenzo-15-crown-5. 2,3:8,9-Dibenzo-13-thia-4,7-dioxa-1,10-diazacyclopentadecane

[96656-76-7]



$C_{18}H_{22}N_2O_2S$ M 330.450

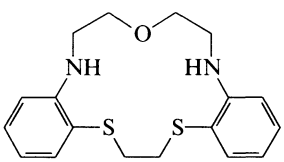
Used as 1m*M* soln. in $CHCl_3$ for extraction-separation and detn. of Hg(*II*). Cryst. Sol. $CHCl_3$.

Zolotov, Yu.A. *et al*, *Zh. Anal. Khim.*, 1986, **41**, 1046 (*synth*)
Poddubnykh, L.P. *et al*, *Zh. Neorg. Khim.*, 1986, **31**, 1812 (*detn, Hg*)
Poddubnykh, L.P. *et al*, *Zavod. Lab.*, 1987, **53**, 1 (*detn, Hg*)

6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e*,*k*][1,7,10,4,13]oxadithiadiazacyclopentadecine, 9CI H-00039

2,3:8,9-Dibenzo-13-oxa-4,7-dithia-1,10-diazacyclopentadecane

[96656-78-9]



$C_{18}H_{22}N_2OS_2$ M 346.517

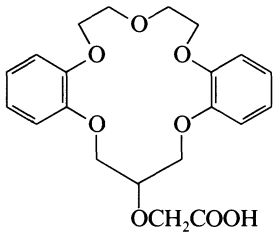
Used as 1m*M* soln. in $CHCl_3$ for selection extraction of Hg(*II*) and Ag. Cryst. Sol. $CHCl_3$.

Zolotov, Yu.A. *et al*, *Zh. Anal. Khim.*, 1986, **41**, 1046 (*detn, Hg*)
Poddubnykh, L.P. *et al*, *Zh. Neorg. Khim.*, 1986, **31**, 1812 (*detn, Hg, Ag*)

[(6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b*,*k*][1,4,7,10,13]pentaoxacyclohexadecin-18-yl)oxy]acetic acid, 9CI H-00040

sym-*Dibenzo-16-crown-5-oxyacetic acid*

[78708-41-5]



$C_{21}H_{24}O_8$ M 404.416

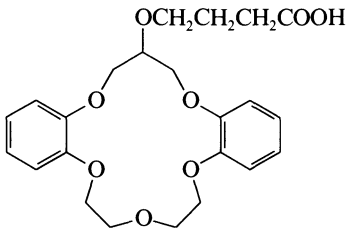
Used as a soln. in $CHCl_3$/heptanol mixt. for extraction sepn. of lanthanides. Cryst. (EtOH aq.). Sol. EtOH, heptanol; sl. sol. H_2O. Mp 166-166.5°. pK_a 4.6.

Strzelbicki, J. *et al*, *Anal. Chem.*, 1981, **53**, 1894 (*pKa*)
Bartsch, R.A. *et al*, *J. Org. Chem.*, 1982, **47**, 457 (*synth*)
Jian Tang, *et al*, *Anal. Chem.*, 1988, **58**, 3233 (*use*)
Tang, J. *et al*, *Analyst* (*London*), 1989, **114**, 451 (*detn, La*)

4-[(6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b*,*k*][1,4,7,10,13]pentaoxacyclohexadecin-18-yl)oxy]butanoic acid, 9CI H-00041

4-(sym-*Dibenzo-16-crown-5-oxy*)*butanoic acid*

[124617-96-5]



$C_{23}H_{28}O_8$ M 432.469

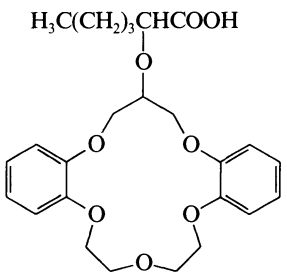
Used as 0.1m*M* $CHCl_3$ soln. for extraction separation of Ca, Sr, Ba. Cryst. (EtOH aq.). Sol. $CHCl_3$, CH_2Cl_2, EtOH. Mp 102-105°.

Uhlemann, E. *et al*, *Anal. Chim. Acta*, 1989, **224**, 47 (*synth, use*)

2-[6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b*,*k*]-[1,4,7,10,13-pentaoxacyclohexadecin-18-yl]oxy]hexanoic acid, 9CI H-00042

2-(sym-*Dibenzo-16-crown-5-oxy*)*hexanoic acid*

[79519-67-8]



$C_{25}H_{32}O_8$ M 460.523

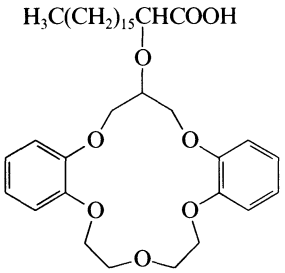
Used as $CHCl_3$ soln. for extraction separation of lanthanides. Cryst. (pet. ether). Sol. $CHCl_3$, pet. ether. Mp 93-95°.

Bartsch, R.A. *et al*, *J. Org. Chem.*, 1982, **47**, 457 (*synth*)
Tang, J. *et al*, *Analyst* (*London*), 1989, **114**, 451 (*detn, La, Eu, Lu*)

17-[(6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b,k*][1,4,7,10,13]-pentaoxacyclohexadecin-18-yl)oxy] octadecanoic acid, 9CI H-00043

2-(sym-*Dibenzo-16-crown-5-oxy*)*stearic acid*

[121108-87-0]



$C_{37}H_{56}O_8$ M 628.845

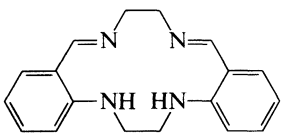
Used as $CHCl_3$ soln. for extraction separation of lanthanides. Cryst. (pet. ether). Sol. $CHCl_3$, pet. ether.

Bartsch, R.A. *et al*, *J. Org. Chem.*, 1982, **47**, 457 (*synth*)
Tang, J. *et al*, *Analyst* (*London*), 1989, **114**, 451 (*detn, La, Eu, Lu*)

7,8,15,16,17,18-Hexahydrodibenzo[*e,m*][1,4,8,11]-tetraazacyclotetradecine, 9CI H-00044

Macrocyclic schiff's base I

[33419-89-5]



$C_{18}H_{20}N_4$ M 292.383

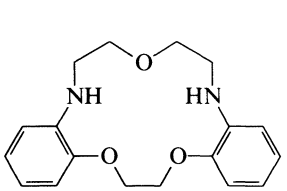
Used as 1 m*M* soln. in $CHCl_3$ for selective extraction-sepn. of Cu(*II*) (pH 5-8; in the presence of picrate). Cryst. Sol. $CHCl_3$.

Owston, P.G. *et al*, *J. Chem. Soc., Chem. Commun.*, 1980, 1218 (*synth*)
Zolotov, Yu.A. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Khim.*, 1984, **277**, 1145 (*use*)
Isakova, N.V. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 859 (*detn, Cu*)

6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e,n*][1,4,10,7,13]-trioxadiazacyclopentadecine, 9CI H-00045

2,3:8,9-Dibenzo-4,7,13-trioxa-1,10-diazacyclopentadecane

[96656-75-6]



$C_{18}H_{22}N_2O_3$ M 314.383

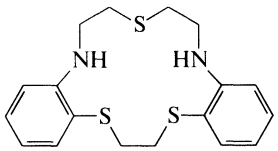
Used as 1m*M* soln. in $CHCl_3$ for selective extraction sepn. of Hg(*II*). Cryst. Sol. $CHCl_3$.

Zolotov, Yu.A. *et al*, *Zh. Anal. Khim.*, 1986, **41**, 1046 (*sepn, Hg*)

6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e,n*][1,4,10,7,13] trithiadiazacyclopentadecine, 9CI H-00046

2,3,8,9-Dibenzo-4,7,13-trithia-1,10-diazacyclopentadecane

[96656-79-0]



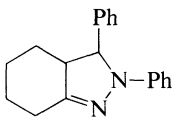
$C_{18}H_{22}N_2S_3$ M 362.583

Used as 1m*M* $CHCl_3$ soln. for extraction-photometric detn. of Ag (λ_{max} 380 nm, ε 25000). Cryst. Sol. $CHCl_3$, C_6H_6, 1,2-dichloroethane, PhCl.

Poddubnykh, L.P. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 255 (*synth, detn, Ag*)

3,3a,4,5,6,7-Hexahydro-2,3-diphenyl-2*H*-indazole, 9CI H-00047

[86328-94-1]



$C_{19}H_{20}N_2$ M 276.380

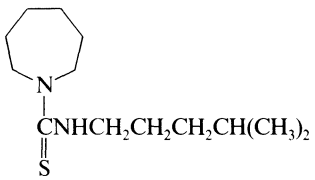
Used as 0.01% EtOH soln. for kinetic-fluorimetric detn. of V(*V*) (λ_{max} 535 nm; oxidation to pyrazole). Cryst. Sol. EtOH.

Grases, F. *et al*, *Anal. Chim. Acta*, 1983, **148**, 245 (*synth, use*)

Hexahydro-*N*-(4-methylpentyl)-1*H*-azepine-1-carbothioamide, 9CI H-00048

N-*Hexamethylene*-N′-*isohexylthiourea*

[64919-32-0]



$C_{13}H_{26}N_2S$ M 242.428

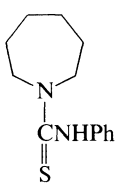
Used as a 0.05*M* $CHCl_3$ soln. for extraction of Ir. Viscous oil. Sol. $CHCl_3$, C_6H_6, EtOH.

Zolotov, Yu.A. *et al*, *Anal. Chim. Acta*, 1978, **100**, 613 (*synth, use*)

Hexahydro-*N*-phenyl-1*H*-azepine-1-carbothioamide, 9CI H-00049

N-*Hexamethylene*-N′-*phenylthiourea*

[64919-31-9]



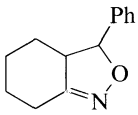
$C_{13}H_{18}N_2S$ M 234.365
Used as 0.05*M* $CHCl_3$ soln. for extraction of Ir. Cryst. (EtOH). Sol. $CHCl_3$, C_6H_6, EtOH.

Zolotov, Yu.A. *et al*, *Anal. Chim. Acta*, 1978, **100**, 613 (*synth, use*)

3,3a,4,5,6,7-Hexahydro-3-phenyl-2,1-benzisoxazole, 9CI H-00050

3-Phenyl-$\Delta^{1,7a}$-hexahydroanthranil

[86328-95-2]



$C_{13}H_{15}NO$ M 201.268
Used a 0.01% EtOH soln. for kinetic-fluorimetric detn. of V(*V*) (λ_{max} 520 nm). Cryst. Mod. sol. EtOH.

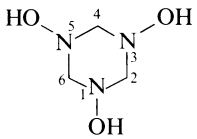
Grases, F. *et al*, *Anal. Chim. Acta*, 1983, **148**, 245 (*synth, detn, V*)

Hexahydro-1,3,5-trihydroxy-1,3,5-triazine, H-00051

9CI, 8CI

Triformoxime. N-*Trihydroxytrimethylenetriamine*

[3756-02-3]



$C_3H_9N_3O_3$ M 135.122
Used for photometric detn. of Mn(*II*) (λ_{max} 440 nm, ε 16000) and Fe(*III*) (λ_{max} 520 nm, ε 12000). Amorph. solid. Insol. H_2O, EtOH, Et_2O, sol. dil. acids.

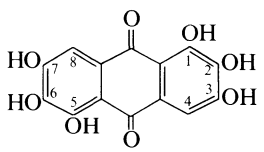
Kajiwara, M. *et al*, *Nippon Kagaku Zasshi*, 1964, **85**, 539; *CA*, **62**, 1072h (*detn, Fe*)
Jerslev, B. *et al*, *Acta Chem. Scand., Ser. B*, 1977, **31**, 875 (*cryst struct, synth*)
Jensen, K.A. *et al*, *CA*, 1978, **89**, 110 480 (*synth, pmr*)

1,2,3,5,6,7-Hexahydroxyanthraquinone, H-00052

8CI

1,2,3,5,6,7-Hexahydroxy-9,10-anthracenedione, 9CI. Rufigallol. Rufigallic acid

[82-12-2]



$C_{14}H_8O_8$ M 304.212
Used as 0.07% soln. in DMSO for photometric detn. of Be (λ_{max} 530 nm). Red needles. Mp 365°.

Hexa-Ac:
$C_{26}H_{20}O_{14}$ M 556.436
Yellow plates (Ac_2O). Mp 268-270° dec.

Hexa-Me ether: 1,2,3,5,6,7-Hexamethoxyanthraquinone
$C_{20}H_{20}O_8$ M 388.373
Yellow needles. Mp 240°.

Birkenshaw, J.H. *et al*, *Biochem. J.*, 1955, **59**, 475 (*uv*)
Grimshaw, J. *et al*, *J. Chem. Soc.*, 1956, 4225 (*synth*)
Bloom, H. *et al*, *J. Chem. Soc.*, 1959, 178 (*ir*)
Chan, A.W.K. *et al*, *Aust. J. Chem.*, 1966, **19**, 1701 (*pmr*)
Azim, M.A. *et al*, *Mikrochim. Acta*, 1969, 153 (*synth, detn, Be*)

1,2,4,5,6,8-Hexahydroxyanthraquinone, H-00053

8CI

1,2,4,5,6,8-Hexahydroxy-9,10-anthracenedione, 9CI. Anthracene blue WR

[6373-24-6]

$C_{14}H_8O_8$ M 304.212
Gives colour reaction for Sc (orange → violet). Used as 0.1% aq. soln. Deep-red needles (AcOH). Sl. sol. H_2O. Mp >360°.

[61169-36-6]

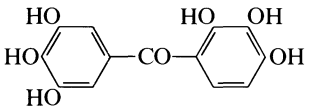
Treibs, A. *et al*, *Justus Liebigs Ann. Chem.*, 1933, **506**, 171 (*uv*)
Korenman, I.M., *Zh. Anal. Khim.*, 1959, **14**, 547 (*use*)
Banks, H.J. *et al*, *Aust. J. Chem.*, 1978, **31**, 2271 (*synth, ir, uv, pmr*)

2,3,3′,4,4′,5′-Hexahydroxybenzophenone, H-00054

8CI

(2,3,4-Trihydroxyphenyl)(3,4,5-trihydroxyphenyl)methanone, 9CI. 4-Galloylpyrogallol. ***Exifone,*** **INN**

[52479-85-3]



$C_{13}H_{10}O_7$ M 278.218
Antithrombotic, platelet aggregation inhibitor. Used as a 0.2-0.4% aq. soln. for photometric detn. of Mo (λ_{max} 420 nm, ε 14000). Yellowish needles (H_2O). Sol. hot H_2O, Me_2CO, EtOH. Mp 272-273°.

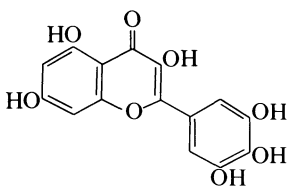
Hexa-Ac:
$C_{25}H_{22}O_{13}$ M 530.441
Mp 132°.

Bleuler, H. *et al*, *J. Chem. Soc.*, 1916, **109**, 529 (*synth*)
Popa, G. *et al*, *Rev. Chim. (Bucharest)*, 1973, **24**, 635; *CA*, **80**, 103486u.
Ger. Pat., 2 501 443, (1975); *CA*, **83**, 188522n (*synth, pharmacol, tox*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 3929.

3,3′,4′,5,5′,7-Hexahydroxyflavone H-00055

3,5,7-Trihydroxy-2-(3,4,5-trihydroxyphenyl)-4H-1-benzopyran-4-one, 9CI. 3′,4′,5,5′,7-Pentahydroxyflavonol. ***Myricetin.*** *Cannabiscetin. Myricetol*

[529-44-2]



$C_{15}H_{10}O_8$ M 318.239
Isol. from the bark of *Myrica rubra* and *M. nagi*; widespread in the plant world, occurring in seeds, flowers and stems, often as glycosides. Used as 0.1% soln. in Me_2CO or DMF for fluorimetric detn. of Sc. Light-yellow needles (EtOH aq.). Sol. Me_2CO, DMF Mp 357-360° dec.

▷ LK8646000.

Hexa-Ac: [14813-29-7].
Needles (EtOH). Mp 214-216°.
▷ LK8648000.

3′-O-β-D-Glucopyranoside: [520-14-9]. ***Cannabiscitrin***

$C_{21}H_{20}O_{13}$ M 480.381
Widespread, e.g. in *Thea sinensis, Corylopsis panciflora, Ribes nigrum.* Used as a 0.1% soln. in DMF or Me_2CO for fluorimetric detn. of Hf, Sc. Yellow cryst. Mp 220° (softens at 210°).

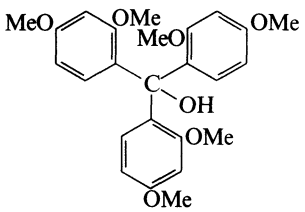
[6822-41-9, 26856-98-4, 28454-80-0, 29662-78-0, 36116-88-8, 39049-12-2, 79191-63-2]

Perkin, A.G., *J. Chem. Soc.*, 1902, **81**, 203 (*struct*)
Kalff, J. *et al*, *J. Chem. Soc.*, 1925, **127**, 183 (*synth*)
Nierenstein, M., *Ber.*, 1928, **61**, 361 (*synth*)
Seshadri, T.R. *et al*, *Proc. - Indian Acad. Sci., Sect. A*, 1946, **23**, 296; *CA*, **40**, 6447 (*struct*)
Farkas, L. *et al*, *Chem. Ber.*, 1967, **100**, 2296 (*synth*)
Berti, G. *et al*, *Tetrahedron*, 1967, **23**, 2295 (*isol, synth*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, 1575, 1576 (*occur*)
Gaydou, E.M. *et al*, *Ann. Chim. (Paris)*, 1977, **2**, 303 (*synth, uv, cmr*)
Dasgupta, S., *Indian J. Chem., Sect. B*, 1977, **15**, 197 (*isol*)
Markham, K.R. *et al*, *Tetrahedron*, 1978, **34**, 1389 (*cmr*)
Wells, E.F. *et al*, *Can. J. Bot.*, 1980, **58**, 1459 (*derivs*)
Srivastawa, S.K. *et al*, *Indian J. Chem., Sect. B*, 1981, **20**, 833 (*isol*)
Castleden, I.R. *et al*, *Aust. J. Chem.*, 1985, **38**, 1177 (*isol, cryst struct*)
Vogt, T. *et al*, *Phytochemistry*, 1987, **26**, 1027 (*derivs*)
Yu, S. *et al*, *Phytochemistry*, 1987, **26**, 2131 (*deriv*)
Zel'tser, L.E. *et al*, *Talanta*, 1987, **34**, 873 (*detn, Sc, Hf*)
The Flavonoids: Advances in Research since 1980, (Ed. Harborne, J.B.), Chapman and Hall, London, 1988.

Hexamethoxy red H-00056

α,α-Bis(2,4-dimethoxyphenyl)-2,4-dimethoxybenzenemethanol, 9CI. 2,2′,2″,4,4′,4″-Hexamethoxytriphenylcarbinol. Tris(2,4-dimethoxyphenyl) carbinol

[76832-37-6]



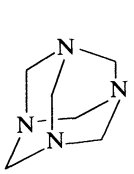
$C_{25}H_{28}O_7$ M 440.492
Acid-base indicator (pH range 2.6-4.6; colour change: pink → colourless). Used as 0.1% soln. in EtOH. Cryst. powder. Sol. EtOH. Mp 147°.

Kolthoff, I.M., *J. Am. Chem. Soc.*, 1927, **49**, 1218; 1939, **61**, 16.
Lund, H., *J. Am. Chem. Soc.*, 1927, **49**, 1346 (*synth*)

Hexamethylenetetramine, 8CI H-00057

*1,3,5,7-Tetraazatricyclo[3.3.1.1^{3,7}]decane, 9CI. **Methenamine, INN.** Aminoform. Formamine. Formin. Hexamine. Metenamine. Urotropin. Numerous proprietary names*

[100-97-0]



$C_6H_{12}N_4$ M 140.188
Uses include steel corrosion inhibitor, stabiliser for oils, urinary antiseptic, rubber vulcanisation accelerator and reagent for Au and Hg. Reagent used in the Delepine, Sommelet and Duff reactions. Used for pptn. separation of Fe(*III*), Al; gravimetric detn. of Fe(*III*), Al, U, Th, Cu and in buffer prep. Volatile, rhombohedral cryst. (EtOH). Sol. H_2O, less sol. warm H_2O. Subl. *ca.* 263° *in vacuo* with some dec.

▷ MN4725000.

B,HI: Mp 170-171°.
B,H_2SO_4: Monohydrate. Mp 108°.
Picrate: Mp 179° dec.
B,MeI: Needles (EtOH). Sol. H_2O, insol. $CHCl_3$, Et_2O. Mp 190°, Mp 204° dec.
Compd. with 5-Oxo-1,3-dioxolane-4,4-diacetic acid (1:1): [6190-43-8]. *Citrohexamine. Hexacitramine. Helmitol. Uropurgol. Other proprietary names*
Mp *ca.* 175° dec.
Camphorate (2:1): [630-55-7]. *Hexacamphamine. Other proprietary names*
Hippurate (1:1): [5714-73-8]. *Hexamine hippurate, BAN. Methenamine hippurate, USAN, JAN. Hiprex*
Mp 105-110°.
Mandelate (1:1): [587-23-5]. *Hexamethylenamine mandelate. Mandelamine. Methenamine mandelate, USAN. Other proprietary names*
Mp 128-130°.
Compd. with 2-Hydroxy-5-sulfobenzoic acid (1:1): [20480-93-7]. *Hexal. Hexalet. Sulfhexet. Uropuret*
Cryst. + $1H_2O$. Mp *ca.* 190° dec.
Compd. with $CHBr_3$: [15585-71-4]. ***Brometenamine, INN***

Butlerow, A., *Justus Liebigs Ann. Chem.*, 1860, **115**, 322.
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **3**, 124 (*synth, use*)
Ger. Pat., 824 055, (1951); *CA*, **49**, 7597 (*Mandelamine*)
Settimj, M., *CA*, 1952, **46**, 1965 (*Citrohexamine*)
Stetter, H., *Angew. Chem.*, 1954, **66**, 217.
Vogel, A.I., *Textbook of Qualitative Inorganic Analysis*, Longmans, London, 1961 (*use*)
Morita, M., *CA*, 1973, **79**, 32020d (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 243.
Gleckman, R. *et al*, *Am. J. Hosp. Pharm.*, 1979, **36**, 1509.
Alonso, F. *et al*, *CA*, 1979, **90**, 127487 (*Mandelamine*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 5657-5661.
Chou, M. *et al*, *Acta Crystallogr., Sect. C*, 1987, **43**, 322 (*cryst struct*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 530 (*synonyms*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 600.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HEI500.

Hexamethylphosphoric triamide, 9CI H-00058

Hexamethylphosphoramide. Tris(dimethylamido) oxophosphorus(V). HMPT

[680-31-9]

$OP(NMe_2)_3$

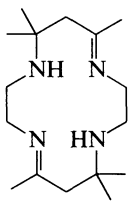
$C_6H_{18}N_3OP$ M 179.201
Widely used as polar, aprotic solvent which activates the synth. and use of organometallic compds. (e.g. Li, Mg derivs.). Widespread use in organic synthesis: converts benzamides into dimethylaminoquinolines, dehydrating agent for alcohols and amides. Used in combination with $SOCl_2$ for synth. of alkyl chlorides. Used for extraction separation of metals ($CHCl_3$, as SCN-complexes); photometric detn. of Os, Ru, Fe(*III*), Ti. Liq. Misc. H_2O. d_4^{20} 1.025. Mp 7°. Bp 235°, Bp_{15} 115°, Bp_1 68-70°. n_D^{20} 1.4582.

▷ Potent animal carcinogen; suspected human carcinogen. Irritant. TD0875000.

Normant, H., *Angew. Chem., Int. Ed. Engl.*, 1967, **6**, 1046 (*rev*)
Diggle, J.W. *et al*, *J. Phys. Chem.*, 1974, **78**, 1018 (*props*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 323; 1977, **6**, 273; 1979, **7**, 168; 1980, **8**, 240; 1981, **9**, 235; 1982, **10**, 196.
Gloe, K. *et al*, *J. Prakt. Chem.*, 1975, **317**, 529 (*synth*)
Pantzer, R. *et al*, *Z. Anorg. Allg. Chem.*, 1975, **416**, 297 (*ir, raman*)
Mitra, M. *et al*, *Anal. Chim. Acta*, 1977, **94**, 489 (*detn, Ti*)
London, A.G. *et al*, *Org. Mass Spectrom.*, 1977, **12**, 283 (*ms*)
Mitra, M. *et al*, *Talanta*, 1977, **24**, 698; 1978, **25**, 599 (*use*)
Pederson, E.B., *CA*, 1978, **89**, 89752e (*rev*)
Itaya, K. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 5996 (*purifn*)
Spencer, H., *Chem. Ind. (London)*, 1979, 728 (*tox*)
Chowdhury, R.P. *et al*, *Mikrochim. Acta*, 1979, **2**, 515 (*detn, Fe*)
Bergesen, K. *et al*, *Acta Chem. Scand., Ser. A*, 1981, **35**, 147 (*cmr*)
Pal, B.K. *et al*, *Talanta*, 1981, **28**, 62 (*detn, Os*)
Cowley, A.H. *et al*, *Inorg. Chem.*, 1982, **21**, 543 (*pe*)
Worley, S.D. *et al*, *J. Electron Spectrosc. Relat. Phenom.*, 1982, **25**, 135 (*pe, struct*)
Mitra, B.K. *et al*, *Mikrochim. Acta*, 1982, **2**, 449 (*detn, Ru*)
Duangthai, S. *et al*, *Org. Magn. Reson.*, 1982, **20**, 33 (*struct*)
Fujinaga, T. *et al*, *Recomm. Methods Purif. Solvents Tests Impurities*, (J.F. Coetzee Ed.), Pergamon, 1982, 38 (*rev*)
Koidan, G.N. *et al*, *Zh. Obshch. Khim.*, 1982, **52**, 2001; *J. Gen. Chem. USSR (Engl. Transl.)*, 1982, **52**, 1779 (*synth, props, derivs*)
Cload, P.A. *et al*, *Org. Mass Spectrom.*, 1983, **18**, 57 (*ms*)
Bollinger, J.-C. *et al*, *Org. Mass Spectrom.*, 1985, **20**, 318 (*ms*)
Appling, J.R. *et al*, *Org. Mass Spectrom.*, 1985, **20**, 343 (*ms*)
Bollinger, J.-C. *et al*, *Spectrochim. Acta, Part A*, 1985, **41**, 399 (*pmr, ir*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 346.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HEK000.

5,7,7,12,14,14-Hexamethyl-1,4,8,11-tetraazacyclotetradeca-4,11-diene, 9CI H-00059

[37933-61-2]

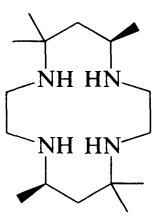


$C_{16}H_{32}N_4$ M 280.456

Used as 0.01 *M* aq. soln. of perchlorate salt for extraction-photometric detn. of Cu, Co, Ni ($\varepsilon \sim 50000$, $CHCl_3$). Cryst. Sol. acids.

Nazarenko, A.Yu. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 1946 (*synth, use*)
Pyatnitskii, I.V. *et al*, *Zh. Anal. Khim.*, 1985, **40**, 1423 (*detn Cu*)

5,5,7,12,12,14-Hexamethyl-1,4,8,11-tetraazacyclotetradecane, 9CI H-00060



$C_{16}H_{36}N_4$ M 284.487

(7RS,14RS)-form [10368-91-9]

(±)-cis-*form*

Used as aq. soln. for photometric detn. of Cu (λ_{max} 510 nm). Cryst. (Me_2CO). Sol. H_2O, Me_2CO.

Inorg. Synth., 1978, **18**, 10.
Pyatnitskii, I.V. *et al*, *Zh. Anal. Khim.*, 1985, **40**, 1423 (*detn, Cu*)

1,6-Hexanediamine, 9CI H-00061

Hexamethylenediamine. 1,6-Diaminohexane

[124-09-4]

$H_2NCH_2(CH_2)_4CH_2NH_2$

$C_6H_{16}N_2$ M 116.206

Starting material for nylon-type polymers. Reagent for the polarog. anal. of aldehydes and ketones. Leaflets, long needles (by subl.). Sol. H_2O, EtOH, C_6H_6. Mp 42°. Bp 204-205°, Bp_{1-2} 46-47°.

▷ Irritant. MO1180000.

B,2HCl: [6055-52-3].
Mp 248°.

N,N′-*Diformyl:* [35161-65-0].
$C_8H_{16}N_2O_2$ M 172.227
Mp 112°.

N,N′-*Di-Ac:* [3073-59-4].
$C_{10}H_{20}N_2O_2$ M 200.280
Mp 127°.

Picrate: Mp 220°.

N,N′-*Di-Me:* [13093-04-4]. N,N′-*Dimethyl-1,6-hexanediamine*, *9CI. 1,6-Bis(methylamino)hexane*
$C_8H_{20}N_2$ M 144.259
Bp 205°, Bp_2 65-70°.

N,N′-*Di-Me; B,HCl:* Mp 240-241° (210°).

Curtius, Th. *et al*, *J. Prakt. Chem.*, 1900, **62**, 189 (*synth*)
v. Braun, J. *et al*, *Ber.*, 1905, **38**, 2203 (*synth*)
Slotta, K.H. *et al*, *Ber.*, 1929, **62**, 1398 (*synth*)
Brown, R. *et al*, *J. Chem. Soc.*, 1946, 781 (*synth*)
Reppe, W. *et al*, *Justus Liebigs Ann. Chem.*, 1955, **596**, 80 (*synth*)
Ried, W. *et al*, *Justus Liebigs Ann. Chem.*, 1957, **611**, 71 (*deriv*)
Ishidate, M. *et al*, *Chem. Pharm. Bull.*, 1958, **6**, 164 (*deriv*)
Hall, M.E., *Anal. Chem.*, 1959, **31**, 2007 (*use*)
Leonhard, K.W., *Ullmanns Encykl. Tech. Chem., 4. Aufl.*, 1976, **12**, 665 (*rev*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 268.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HEO000, HEO500.

Hexanedioic acid, 9CI H-00062

Adipic acid. Butane-1,4-dicarboxylic acid

[124-04-9]

$HOOCCH_2CH_2CH_2CH_2COOH$

$C_6H_{10}O_4$ M 146.143

Obt. industrially by oxidn. of cyclohexane by air/catalyst followed by HNO_3. Used in manuf. of nylons, also plasticisers, resins and as food acidulant. Used in pptn. of Al, Zr, U(*VI*) and standardization of base solns. Important industrial chemical, 46th in order of volume for USA in 1990 (production 0.82 million tons/year). Monoclinic cryst. (HNO_3). Sol. EtOH; spar. sol. Et_2O; mod. sol. H_2O. Mp 153°, Mp 149-150°. Bp_{15} 216°. pK_{a1} 4.41; pK_{a2} 5.41 (20°), pK_{a1} 4.44; pK_{a2} 5.44 (25°). Sublimes. Does not readily form a monomeric anhydride; forms a polymeric anhydride which gives the unstable monomer on dist.

▷ AU8400000.

Me ester: [627-91-8].
$C_7H_{12}O_4$ M 160.169
Mp 3°. Bp_{10} 162°.

Di-Me ester: [627-93-0].

$C_8H_{14}O_4$ M 174.196
Fp 0°, Mp 8°.
▷ AV1645000.

Dichloride: [111-50-2].
$C_6H_8Cl_2O_2$ M 183.033
Bp_{18} 130-132° sl. dec.

Monoamide: Adipamic acid
$C_6H_{11}NO_3$ M 145.158
Needles (H_2O). Mp 125-130°.

Diamide: [628-94-4]. *Hexanediamide. Adipamide*
$C_6H_{12}N_2O_2$ M 144.173
Mp 220°.
▷ AU7800000.

Dinitrile: [111-69-3]. *1,4-Dicyanobutane. Adiponitrile*
$C_6H_8N_2$ M 108.143
Sol. EtOH, $CHCl_3$; insol. H_2O, Et_2O, CS_2. Mp 0-1°.
Bp_{20} 181°.
▷ High oral toxicity. Emits HCN on combustion. AV2625000.

Hill, J.W., *J. Am. Chem. Soc.*, 1930, **52**, 4110 (*anhydride*)
Org. Synth., Coll. Vol., 1, 1932, 18 (*synth*)
Henne, A.L. *et al*, *J. Am. Chem. Soc.*, 1943, **65**, 752 (*synth*)
Welcher, F., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **2**, 22 (*synth, standard*)
Jain, B.D., *Curr. Sci.*, 1963, **32**, 66 (*pptn*)
Tanaka, K., *Hydrocarbon Process.*, 1974, **53**, 114 (*rev*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **1**, 510 (*rev*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AEN000, AEN250, AER250, DOQ300.

2,5-Hexanedione, 9CI H-00063

Acetonylacetone. 1,2-Diacetylethane

[110-13-4]

$H_3CCOCH_2CH_2COCH_3$

$C_6H_{10}O_2$ M 114.144
Reagent for gc anal. of primary amines. Liq. gradually turns yellow. Misc. H_2O, EtOH. d_4^{20} 0.970. Mp −9°. Bp_{20} 194°. pK_{a1} 18.7.
▷ Highly toxic by inhalation. MO3150000.

Monoxime:
$C_6H_{11}NO_2$ M 129.158
Liq. Bp_{11} 130°.

Dioxime: [2157-57-5].
$C_6H_{12}N_2O_2$ M 144.173
E,Z-form gives colour reactions with Ni, Pd. Plates (C_6H_6). Sol. H_2O, Me_2CO, $CHCl_3$. Mp 137°.

Bis-2,4-dinitrophenylhydrazone: Mp 257°.

Disemicarbazone: Mp 223-224°.

[52402-53-6]

Knorr, L., *Ber.*, 1900, **33**, 1219.
Ponzio, G.J., *Prakt. Chem.*, 1901, **63**, 63.
Justoni, R., *Gazz. Chim. Ital.*, 1941, **71**, 375.
Walle, T., *Acta Pharm. Suec.*, 1968, **5**, 353 (*use*)
Stetter, H. *et al*, *Chem. Ber.*, 1985, **118**, 1115 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HEQ500.

1-Hexanesulfonic acid, 9CI H-00064

1-Hexylsulfonic acid

[13595-73-8]

$H_3C(CH_2)_4CH_2SO_3H$

$C_6H_{14}O_3S$ M 166.241
d_4^{25} 1.1047. Mp 16.1°. Bp_1 174°.

Na salt: [2832-45-3].
Ion-pairing reagent used in hplc of peptides and proteins. Mp > 300°.

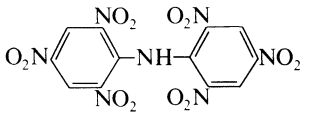
Me ester: [10307-26-3].
$C_7H_{16}O_3S$ M 180.268
Liq. $Bp_{0.3}$ 75°.

Vivian, D.L. *et al*, *J. Am. Chem. Soc.*, 1935, **57**, 2559 (*synth*)
Hancock, W.S. *et al*, *J. Chromatogr.*, 1978, **161**, 291 (*use*)
Johnson, T.J. *et al*, *Tetrahedron*, 1978, **34**, 547 (*synth*)
Bidlingmeyer, B.A. *et al*, *Adv. Chromatogr. (Houston) 19th 1984*, 1979, **14**, 435; *CA*, **91**, 217413a (*use*)
Okabayashi, H. *et al*, *Chem. Scr.*, 1982, **20**, 117 (*cmr*)
Levin, S. *et al*, *Anal. Chem.*, 1985, **57**, 1830 (*use*)

2,2′,4,4′,6,6′-Hexanitrodiphenylamine, 8CI H-00065

*2,4,6-Trinitro-*N*-(2,4,6-trinitrophenyl)benzenamine, 9CI. Bis(2,4,6-trinitrophenyl)amine. p-Dipicrylamine. 2,4,6,2′,4′,6′-Hexanitrodiphenylamine*

[131-73-7]



$C_{12}H_5N_7O_{12}$ M 439.211
Explosive. Forms ion-pairs with alkali metal cations; used in preciptn. and photometric detn. of K and Tl(*I*). Prisms (AcOH). Sol. AcOH. Mp 245-246° dec.
▷ Causes exp. neoplasms. JJ9275000.

NH_4 Salt: [2844-92-0]. *Aurantia*
Biological stain.
▷ Explosive.

N-*Ac:*
$C_{14}H_7N_7O_{13}$ M 481.248
Mp 240° dec.

N-*Me: Methyldipicrylamine*
$C_{13}H_7N_7O_{12}$ M 453.238
Cryst. (EtOH). Mp 236-237°.

N-*Et: Ethyldipicrylamine*
$C_{14}H_9N_7O_{12}$ M 467.265
Needles. Mp 201-202°.

Hoffman, A. *et al*, *J. Am. Chem. Soc.*, 1919, **41**, 1013 (*synth*)
U.S. Pat., 1 326 947, (1920); *CA*, **14**, 633.
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1948, **4**, 8 (*synth, rev*)
Lewis, P.R., *Analyst (London)*, 1955, **80**, 768 (*detn, K*)
Gorbenko-Germanov, D.S. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 1020 (*detn, K, Tl*)
Motomizu, S. *et al*, *Bull. Chem. Soc. Jpn.*, 1969, **42**, 1006 (*use*)
Sucharda-Sobezyk, A., *CA*, 1972, **77**, 113246 (*ir, uv*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HET500.

Hexanoic acid, 9CI H-00066

Caproic acid. Pentane-1-carboxylic acid

[142-62-1]

$H_3C(CH_2)_6COOH$

$C_6H_{12}O_2$ M 116.160
Occurs naturally, e.g. in lichens. Sex pheromone of the female dermestid beetle *Trogoderma glabrum*. Simple esters are used as flavouring agents. Used for extraction of Co, Mn, Ni and rare earth elements. Oily liq. Sol. alkalis, EtOH, Et_2O; spar. sol. H_2O. d 0.9274. Fp −1.5° to −2°. Bp 205°. pK_{a1} 4.8 (25°). n_D^{20} 1.41635.
▷ MO5250000.

Me ester: [106-70-7].
$C_7H_{14}O_2$ M 130.186
Bp 150°, Bp_{15} 52°.

▷ Causes burns. MO8401400.

S-*Benzylthiouronium salt:* Mp 146-147°.

Chloride: [142-61-0].

$C_6H_{11}ClO$ M 134.605

Bp 151-153°.

Anhydride: [2051-49-2].

$C_{12}H_{22}O_3$ M 214.304

Bp 254-257°, $Bp_{14.5}$ 143°. Stable to aq. carbonates.

Amide: [628-02-4]. *Hexanamide, 9CI. Caproamide*

$C_6H_{13}NO$ M 115.175

Mod. sol. hot H_2O. Mp 100°.

▷ MN7875000.

Nitrile: [628-73-9]. *Hexanenitrile, 9CI. Capronitrile*

$C_6H_{11}N$ M 97.160

Bp 163.6°, Bp_{25} 75°.

▷ MO3900000.

(E)-*2-Hexenyl ester:* [53398-86-0]. **(E)-*2-Hexenyl hexanoate***

$C_{12}H_{22}O_2$ M 198.305

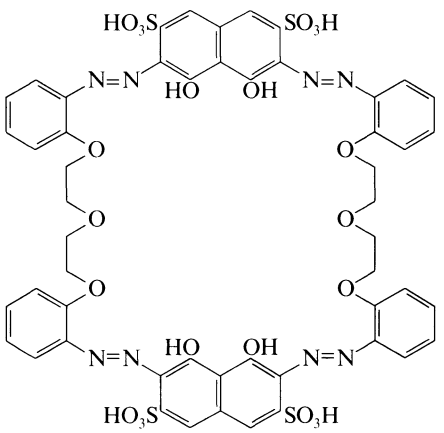
Alarm pheromone of *Riptortus clavatus*. Bp_3 79°.

Gartenmeister, R., *Justus Liebigs Ann. Chem.*, 1886, **233**, 249.
Org. Synth., Coll. Vol., 2, 1943, 474, Note 6 (*synth*)
Org. Synth., Coll. Vol., 3, 1955, 164 (*anhydride*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, no. 814 (*occur*)
Sekine, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1973, **46**, 1183 (*detn, Ag*)
Aizawa, H., *CA*, 1974, **79**, 108575m (*detn, Mn, Ni*)
Kremenskaya, I.N. *et al*, *CA*, 1974, **80**, 74765b (*detn, Co, Mn*)
Danilov, N.A., *Zh. Neorg. Khim.*, 1974, **19**, 194 (*detn, rare earth elements*)
Yarger, R.G. *et al*, *J. Chem. Ecol.*, 1975, **1**, 323.
Sevrin, M. *et al*, *Tetrahedron Lett.*, 1977, 3835 (*synth*)
Miyazaki, S. *et al*, *CA*, 1978, **89**, 129030b (*synth*)
Leal, W.S. *et al*, *Biosci., Biotechnol., Biochem.*, 1992, **56**, 1004 (*2-hexenyl hexanoate*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 347.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HEM500, HER500, HEU000.

Hexaoxacycloazochrome H-00067

*6,7,9,10,32,33,35,36-Octahydro-19,45,53,56-tetrahydroxy-18,21:44,47-dietheno-24,20:50,46-dimetheno-20*H,*46*H-*tetrabenzo*[b,o,x,k_1][*1,17,20,23,39,42,4,5,13,14,26,27,35,36*] *hexaoxaoctaazacyclotetracontine-23,49,55,58-tetrasulfonic acid, 9CI*

[96927-43-4]



$C_{52}H_{44}N_8O_{22}S_4$ M 1261.224

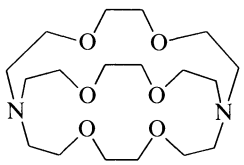
Used as 0.03% soln. in 0.05*M* HCl for photometric detn. of Pb (λ_{max} 720 nm, ε 150000). Dark brown cryst. powder. Mod. sol. H_2O, DMF; sl. sol. EtOH.

Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 2221; 1989, **44**, 603; 1990, **45**, 579 (*synth, use*)

4,7,13,16,21,24-Hexaoxa-1,10-diazabicyclo[8.8.8]hexacosane, 9CI H-00068

Cryptand 2.2.2. Kryptofix 222

[23978-09-8]



$C_{18}H_{36}N_2O_6$ M 376.492

Complexing agent for alkaline earth metals and Pb; used for photometric detn. of Ca, Mg, Sr. Cryst. (hexane). Sol. H_2O, Me_2CO, dioxan, C_6H_6, $CHCl_3$; insol. Et_2O. Mp 68-69°.

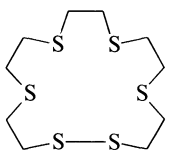
▷ MP4750000.

Dietrich, B. *et al*, *Tetrahedron*, 1973, **29**, 1629 (*synth, pmr*)
Metz, B. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1976, 423 (*cryst struct*)
Kolthoff, I.M., *Anal. Chem.*, 1979, **51**, 1R (*rev*)
Kagenow, M. *et al*, *Anal. Chim. Acta*, 1980, **114**, 227; 1983, **145**, 125 (*detn, Ca, Mg, Sr*)
Foerster, H.G. *et al*, *J. Am. Chem. Soc.*, 1980, **102**, 6984 (*N-15 nmr*)
Kulstad, S. *et al*, *Tetrahedron Lett.*, 1980, **21**, 643 (*synth*)
Szczepaniak, W. *et al*, *Anal. Chim. Acta*, 1982, **140**, 261 (*detn, Pb*)
Anelli, P.L. *et al*, *J. Org. Chem.*, 1985, **50**, 3453 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, LFQ000.

1,2,5,8,11,14-Hexathiacyclohexadecane, 9CI H-00069

Hexathia-18-crown-6

[125730-51-0]



$C_{10}H_{20}S_6$ M 332.664

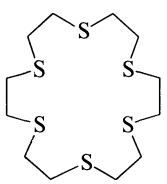
Used as 5m*M* soln. in 1,2-dichloroethane for extraction separation of Cu(*I*), Ag (in the presence of picrate, pH 4-5). Needles (hexane). Sol. C_6H_6, hexane, 1,2-dichloroethane. Mp 88.2-89.0°.

Sekido, E. *et al*, *Anal. Chim. Acta*, 1989, **221**, 99 (*synth, use*)

1,4,7,10,13,16-Hexathiacyclooctadecane H-00070

Hexathia-18-crown-6. S_6-Ethano-18

[296-41-3]



$C_{12}H_{24}S_6$ M 360.718

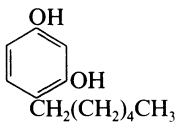
Used as 0.5m*M* soln. in 1,2-dichloroethane for extraction of Ag, Cu (λ_{max} 608 nm, ε 88000), Pd, Ni, Co, Zn. Needles (hexane/Me_2CO); cryst. (EtOH). Sol. EtOH, 1,2-dichloroethane, $CHCl_3$. Mp 92-94°.

Black, D.St.C. *et al*, *Tetrahedron Lett.*, 1969, 3961 (*synth*)
Ochrymowycz, L.A. *et al*, *J. Org. Chem.*, 1974, **39**, 2079 (*synth*)
Sevdic, D. *et al*, *J. Inorg. Nucl. Chem.*, 1980, **42**, 885 (*sepn, Ag, Hg*)
Sekido, E. *et al*, *Anal. Sci.*, 1988, **4**, 511 (*detn, Cu*)
Sekido, E. *et al*, *Bull. Chem. Soc. Jpn.*, 1988, **61**, 1587 (*extrn*)
Wolf, R.E. *et al*, *J. Am. Chem. Soc.*, 19887, **109**, 4328 (*synth, pmr, ir, cryst struct, bibl*)

4-Hexyl-1,3-benzenediol, 9CI H-00071

4-Hexylresorcinol, 8CI. Hexyl-2,4-dihydroxybenzene. 1-(2,4-Dihydroxyphenyl)hexane. Caprokol. ***Hexylresorcinol,*** **USAN.** *Hexylresorcin. Numerous proprietary names*

[136-77-6]



$C_{12}H_{18}O_2$ M 194.273

Urinary antiseptic. Anthelmintic. Reagent for the anal. of acrolein. Needles (pet. ether). Mp 68-70°. Bp_{6-7} 178-180°.

▷ Causes exp. neoplasms. VH1575000.

9-Aminoacridine complex: [7527-91-5]. ***Acrisorcin,*** **USAN, INN.** *Akrinol. Aminacrine hexylresorcinate. Sch 7056* Antifungal, anthelmintic agent. Yellow cryst. Mp 189-190°.

1-Ac:
$C_{14}H_{20}O_3$ M 236.310
Oil.

3-Ac:
$C_{14}H_{20}O_3$ M 236.310
Needles (heptane). Mp 62-63°.

Dohme, A.R.L. *et al*, *J. Am. Chem. Soc.*, 1926, **48**, 1691 (*synth*)
Cox, E.N., *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1931, **50**, 848 (*synth*)
Shas, E.Y., *Chem. Zentralbl.*, 1941, **2**, 636 (*rev*)
Cohen, I.R. *et al*, *Anal. Chem.*, 1961, **33**, 726 (*use*)
Seneca, H., *Antibiot. Chemother.* (*Washington, D.C.*), 1961, **11**, 587 (*Acrisorcin*)
U.S. Pat., 3 122 553, (1964); *CA*, **60**, 13231 (*Acrisorcin*)
Quercia, V. *et al*, *Boll. Chim. Farm.*, 1971, **110**, 428 (*ms*)
Hemenway, D.R. *et al*, *Am. Ind. Hyg. Assoc. J.*, 1980, **41**, 305; *CA*, **93**, 78676q (*use*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 782, 2202.
Mizobuchi, S. *et al*, *Agric. Biol. Chem.*, 1985, **49**, 1327 (*synth, props*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 2519.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HFV500.

N-Hexyl-*N'*-benzoylthiourea H-00072

N-[(*Hexylamino*)*thioxomethyl*]*benzamide, 9CI*

[125788-00-3]

$PhCONHC(S)NH(CH_2)_5CH_3$

$C_{14}H_{20}N_2OS$ M 264.391

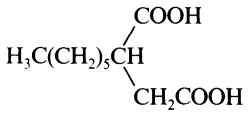
Used as toluene soln. for extraction separation of Pd(*II*). Cryst. (EtOH). Sol. toluene, C_6H_6, EtOH. Mp 37°.

Vest, P. *et al*, *Fresenius' Z. Anal. Chem.*, 1989, **335**, 759 (*synth, detn, Pd*)

2-Hexylbutanedioic acid H-00073

Hexylsuccinic acid, 8CI. Octane-1,3-dicarboxylic acid

[5702-91-0]



$C_{10}H_{18}O_4$ M 202.250

(±)-***form***

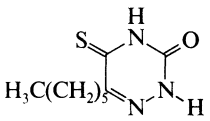
Used as 2m*M* aq. soln. for ion-pair chromatography separation of alkali, alkaline earth metals, Zn and Mn. Cryst. Sol. H_2O. Mp 84° (85-86°).

Schwedt, G. *et al*, *J. Anal. Chem. USSR* (*Engl. Transl.*), 1990, **336**, 415 (*synth, use*)

6-Hexyl-4,5-dihydro-5-thioxo-1,2,4-triazin-3(2*H*)-one, 9CI H-00074

3-Hydroxy-5-mercapto-6-hexyl-1,2,4-triazine

[49671-10-5]



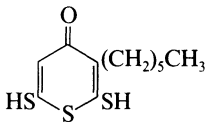
$C_9H_{15}N_3OS$ M 213.303

Used for photometric detn. of Os. Cryst. Sol. H_2O, EtOH.

Popa, G. *et al*, *An. Univ. Bucuresti, Chim.*, 1971, **20**, 33 (*detn, Os*)

3-Hexyl-2,6-dimercapto-4*H*-thiopyran-4-one, 9CI H-00075

[1768-94-1]



$C_{11}H_{16}OS_3$ M 260.445

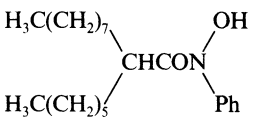
Used as a 0.1m*M* aq. soln. for photometric detn. of Bi (λ_{max} 425 nm, ε 32500), Sn (λ_{max} 420 nm, ε 23200). Cryst.

Usatenko, Y.I. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 462; 1967, **22**, 1823 (*detn, Bi, Sn*)

2-Hexyl-*N*-hydroxy-*N*-phenyldecanamide, 9CI H-00076

N-(*2-Hexyldecanoyl*)-N-*phenylhydroxylamine*

[132499-93-5]



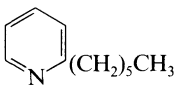
$C_{22}H_{37}NO_2$ M 347.540

Used as 0.1m*M* CCl_4 soln. for extraction separation of lanthanides. Cryst. (Et_2O/hexane). Sol. Et_2O, EtOAc, CCl_4, hexane. Mp 36-37°.

Haraguchi, K. *et al*, *Anal. Sci.*, 1990, **6**, 877 (*synth, use*)

2-Hexylpyridine, 9CI H-00077

[1129-69-7]



$C_{11}H_{17}N$ M 163.262

Used as 0.1*M* soln. in C_6H_6 for extraction separation of Fe(*III*) (as anionic chloride complex), Au. Cryst. Sol. C_6H_6, $CHCl_3$.

McDonald, F.R. *et al*, *Appl. Spectrosc.*, 1968, **22**, 325, 329 (*nmr, struct*)
Iqbal, M. *et al*, *Sep. Sci.*, 1976, **11**, 255 (*sepn, Au*)
Qureshi, M.A. *et al*, *Talanta*, 1979, **26**, 166 (*sepn, Fe*)

Hippuric acid H-00078

N-*Benzoylglycine*, *9CI. Benzoylaminoethanoic acid. Benzamidoacetic acid*

[495-69-2]

$PhCONHCH_2COOH$

$C_9H_9NO_3$ M 179.175

Naturally occurring amino acid found in the urine of most mammals including man. Urinary metab. of toluene, benzoic acid etc. Used in the azlactone synth. of aminoacids. Reference material used in elemental microanalysis. Needles (H_2O or EtOH), cryst. ($CHCl_3$/hexane). Mod. sol. cold H_2O; sol. hot H_2O, EtOH; spar. sol. $CHCl_3$. pK_{a1} 3.59 (40°, 0.3*M* KCl).

▷ MR8150000.

Me ester:
$C_{10}H_{11}NO_3$ M 193.202
Prisms. Mp 85°.

Et ester:
$C_{11}H_{13}NO_3$ M 207.229
Needles (H_2O). Mp 67.5°.

Ph ester:
$C_{15}H_{13}NO_3$ M 255.273
Plates (EtOH). Mp 104°.

Benzyl ester:
$C_{16}H_{15}NO_3$ M 269.299
Mp 87-89°.

Chloride: Mp 125-130°.

Amide:
$C_9H_{10}N_2O_2$ M 178.190
Cryst. (H_2O). Mp 183°. Sublimes.

Nitrile:
$C_9H_8N_2O$ M 160.175
Plates (EtOH). Mp 144°.

Hydrazide:
$C_9H_{11}N_3O_2$ M 193.205
Mp 162-164°.

Fisher, E., *Ber.*, 1905, **38**, 612.
Org. Synth., Coll. Vol., 2, 1943, 328 (*synth*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Currie, M. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1974, 784 (*cryst struct*)
Dejongh, D.C. *et al*, *Can. J. Chem.*, 1975, **53**, 3175 (*synth, ms*)

Hydrazine H-00079

Diazane

[302-01-2]

$H_2N—NH_2$ (C_2)

H_4N_2 M 32.045

Hydrogen-bonded as liq. and solid. Self-ionising solv. Interatomic distances: N—H 102, N—N 145 pm. Synth. from NH_3 + $ClO^{\ominus}$. Commercially available. Powerful and versatile reducing agent, esp. in basic soln. Used in plastics and agriculture industries and in H_2O treatment. Rocket fuel. Reducing agent often used in analysis e.g. Hg(*II*), Pt(*II,IV*) (to metal), Se(*IV*) to Se, $NO_3^{\ominus}$ to $NO_2^{\ominus}$. Colourless oily fuming liq. Misc. H_2O, alcohols; sl. sol. org. solvs. d^{25} 1.004. Mp 254°, Mp 1.8°. Bp 113.5°. pK_a 7.96. n_D^{25} 1.464.

▷ Explosive in air if ignited or overheated. Highly toxic, corrosive. MU7175000.

Salt with H_2SO_4: [10034-93-2]. *Hydrazinium(2+) sulfate*
$H_6N_2O_4S$ M 130.124
Synth. from hydrazine and H_2SO_4. Commercially available. Colourless cryst. Sl. sol. cold H_2O, sol. hot H_2O. Mp 254° dec.
▷ MV9625000.

Monohydrate: [7803-57-8]. *Hydrazine hydrate*
H_6N_2O M 50.060
Commercially available strong base, v. powerful reducing agent, solv., rocket engine propellant. Used in manuf. of Helman catalyst. Fuming liq. Insol. $CHCl_3$, Et_2O; misc. H_2O, alcohols. Mp −51.7°, < −65°. Bp_{740} 118-119°, Bp_{47} 26°. Molecular, not ionic, complex. More convenient to use than pure hydrazine.
▷ Cancer suspect agent. Toxic. Attacks glass, rubber, v. corrosive. MV8050000.

Deutero compd.: [13762-95-3]. *Hydrazine-d_4. Tetradeuterohydrazine. Perdeuterohydrazine*
D_4N_2 M 36.070
Commercially available. pK_a 9.1 (18°).

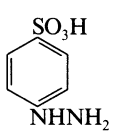
[10217-52-4]

Inorg. Synth., 1939, **1**, 90 (*synth, deriv*)
Wagner, E.L. *et al*, *J. Chem. Phys.*, 1951, **19**, 210 (*deutero, ir, raman, conformn*)
Morino, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1960, **33**, 46 (*struct*)
Durig, J. *et al*, *J. Chem. Phys.*, 1966, **44**, 4238 (*deutero, ir, raman*)
Mellor Compr. Treat. Inorg. Theor. Chem., Longman, London, *Part* 2, 1967, **8/II**, 69 (*rev*)
Kolthoff, L.M. *et al*, *Quant. Chem. Anal.*, 4 Ed., MacMillan, N.Y., 1969.
Compr. Inorg. Chem., Pergamon, Oxford, 1973, **2**, 250 (*rev*)
Brauer, G., *Handbuch Präp. Anorg. Chem.*, 3rd Ed., Ferdinand Enke Verlag, 1975-1981, **1**, 455 (*deriv, synth*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **12**, 734 (*rev*)
Madsen, B.C., *Anal. Chim. Acta*, 1981, **124**, 437 (*detn, $NO_3^{\ominus}$*)
Tanaka, N. *et al*, *J. Mol. Spectrosc.*, 1983, **99**, 245 (*deutero, theory*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HGS000, HGU500, HGW500.

4-Hydrazinobenzenesulfonic acid, 9CI H-00080

Phenylhydrazine-p-sulfonic acid

[98-71-5]



$C_6H_8N_2O_3S$ M 188.207

Bifunctional reagent used for carbonyl compd. resoln. and various anal. determinations. Forms easily separable derivs. with ketones. Used as 0.5% soln. in 0.1*M* HCl for photometric detn. of Se (λ_{max} 520 nm). Needles or leaflets (H_2O). Spar. sol. H_2O, EtOH. Mp 286°.

▷ DB6900000.

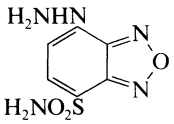
Thompson, L., *J. Soc. Dyers Colour.*, 1921, **37**, 7 (*synth*)

Kirkbright, G.F. *et al*, *Anal. Chem.*, 1963, **35**, 808 (*detn, Se*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 842.
Rigin, V.I. *et al*, *Zavod. Lab.*, 1967, **33**, 1370 (*detn, Se*)
Kaehler, H. *et al*, *Justus Liebigs Ann. Chem.*, 1972, **757**, 15 (*use*)
Sanghvi, A. *et al*, *Anal. Chem.*, 1973, **45**, 207 (*use*)
Kawashima, T. *et al*, *Anal. Chim. Acta*, 1977, **89**, 65 (*detn, Se*)
Osuji, G.O. *et al*, *FEBS Lett.*, 1977, **83**, 85 (*use*)
Mukai, M. *et al*, *Can. J. Chem.*, 1979, **57**, 360 (*use*)
Nakano, S. *et al*, *Chem. Lett.*, 1980, 1173 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PFI500.

7-Hydrazino-4-benzofurazansulfonamide, 9CI H-00081

4-(Aminosulfonyl)-7-hydrazino-2,1,3-benzoxadiazole

[131467-85-1]



$C_6H_7N_5O_3S$ M 229.219

Fluorogenic reagent for aldehydes and ketones. Yellow-orange needles (MeOH). Mp 184-185° dec.

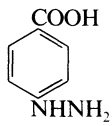
N,N-*Di-Me:* [131467-86-2].
$C_8H_{11}N_5O_3S$ M 257.273
Fluorogenic reagent for aldehydes and ketones. Reddish-brown cryst. (MeOH). Mp 138-139° dec.

Uzu, S. *et al*, *Analyst (London)*, 1990, **115**, 1477 (*synth, use*)

4-Hydrazinobenzoic acid, 9CI H-00082

Phenylhydrazine-p-carboxylic acid

[619-67-0]



$C_7H_8N_2O_2$ M 152.152

Reagent for detection and determination of carbonyl compds. Shows antitubercular activity. Yellow needles or plates (H_2O). Mp 114°.

B,HCl: [24589-77-3].
Mp 252-253° (rapid heat).

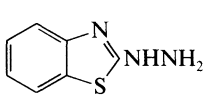
[52455-33-1]

Fischer, E., *Justus Liebigs Ann. Chem.*, 1882, **212**, 337 (*synth*)
Anchel, M. *et al*, *J. Biol. Chem.*, 1936, **114**, 543 (*synth*)
Veibel, S. *et al*, *Bull. Soc. Chim. Fr.*, 1938, **5**, 1506 (*synth*)
Veibel, S., *Monatsh. Chem.*, 1950, **81**, 330 (*use*)
Grammaticakis, P., *Bull. Soc. Chim. Fr.*, 1954, 1381 (*uv*)
Larsen, L.M., *Dan. Tidsskr. Farm.*, 1968, **42**, 296; *CA*, **71**, 56429e (*use*)

2-Hydrazinobenzothiazole H-00083

2(3H)-Benzothiazolone hydrazone

[615-21-4]



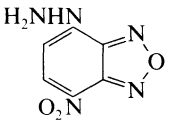
$C_7H_7N_3S$ M 165.218

Presumably tautomeric. Used for colorimetric detn. of sugars and keto steroids. Needles (EtOH). Mp 197-199°.

Boggust, W.A. *et al*, *J. Chem. Soc.*, 1949, 355 (*synth*)
Bartos, J., *Ann. Pharm. Fr.*, 1962, **20**, 650; *CA*, **61**, 3701e (*use*)
Peet, N.P. *et al*, *J. Heterocycl. Chem.*, 1988, **25**, 543 (*synth, ir, pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HHB500.

4-Hydrazino-7-nitrobenzofurazan, 9CI H-00084

[90421-78-6]



$C_6H_5N_5O_3$ M 195.137

Fluorogenic reagent for aldehydes and ketones.

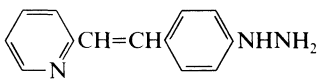
Compd. with hydrazine (1:1): [131467-87-3].
$C_6H_9N_7O_3$ M 227.182
Yellow-brown cryst. Mp >300°.

Guebitz, G. *et al*, *J. Liq. Chromatogr.*, 1984, **7**, 839 (*use*)
Koizumi, H. *et al*, *J. Chromatogr.*, 1988, **457**, 299 (*synth, use*)
Uzu, S. *et al*, *Analyst (London)*, 1990, **115**, 1477 (*synth, use*)

2-[2-(4-Hydrazinophenyl)ethenyl]pyridine, 9CI H-00085

4'-Hydrazino-2-stilbazole. 2-(p-Hydrazinostyryl)pyridine, 8CI

[27580-22-9]



$C_{13}H_{13}N_3$ M 211.266

Fluorimetric reagent for α-keto acids and neuraminic acids. Pale yellow prisms (propanol). Sol. EtOH, MeOH, C_6H_6, EtOAc; prac. insol. H_2O, pet. ether. Mp 138°.

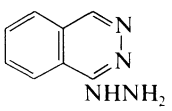
B,2HCl: Yellow prisms (dil. HCl). Sol. H_2O, MeOH, EtOH. Mp 200°.

Mizutani, S. *et al*, *Chem. Pharm. Bull.*, 1969, **17**, 2340 (*synth, use*)
Hirata, T. *et al*, *J. Chromatogr.*, 1981, **226**, 25 (*use*)
Kobayashi, K. *et al*, *Anal. Sci.*, 1985, **1**, 81 (*use*)

1-Hydrazinophthalazine H-00086

***Hydralazine*, BAN, INN.** *Numerous proprietary names*

[86-54-4]



$C_8H_8N_4$ M 160.178

Antihypertensive agent. Sensitive reagent for $NO_2^{\ominus}$ and formaldehyde. Used as 0.1% aq. soln. for photometric detn. of Fe(*III*) (λ_{max} 565 nm; pH ~ 11). Yellow cryst. (MeOH). Mp 171-173°.

▷ TH8925000.

B,HCl: [304-20-1]. *Hydralazine hydrochloride, USAN. Lopress. Apresoline*
Yellow cryst. Mp 273° dec. Component of Apresazide, Hydral, Hyserp, Seragen and Unipres.
▷ TH9000000.

[59275-69-3]

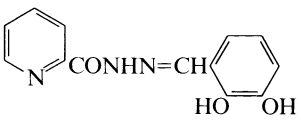
Druey, J. *et al*, *Helv. Chim. Acta*, 1951, **34**, 195 (*synth*)
Ruggieri, R., *Anal. Chim. Acta*, 1957, **16**, 242 (*detn, Fe*)
Oishi, E., *Yakugaku Zasshi*, 1969, **89**, 959; *CA*, **72**, 83624 (*synth*)
Stadnicka, K. *et al*, *Acta Crystallogr., Sect. B*, 1978, **34**, 1747 (*cryst struct*)

Orzech, C.E. *et al*, *Anal. Profiles Drug Subst.*, 1979, **8**, 283 (*rev*)
Butula, I. *et al*, *Croat. Chem. Acta*, 1979, **52**, 43 (*synth*)
Al-Rahi, M.F., *Diss. Abstr. Int., B*, 1980, **40**, 3163 (*synth, props*)
Ludden, T.M. *et al*, *Clin. Pharmacokinet.*, 1982, **7**, 185 (*rev*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 878.
Zacest, R. *et al*, *Handb. Hypertens.*, 1984, **5**, 312 (*rev, pharmacol*)
Kreye, V.A.W., *J. Cardiovasc. Pharmacol.*, 1984, **6**, 646 (*rev, pharmacol*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 854 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HGP495, HGP500.

Hydrazo II H-00087

2-Pyridinecarboxylic acid [(2,3-dihydroxyphenyl)methylene] hydrazide, 9CI. α-Picolinic acid resorcinolhydrazide. 2,3-Dihydroxybenzaldehyde 2-pyridinecarbonylhydrazone

[40522-21-2]



$C_{13}H_{11}N_3O_3$ M 257.248

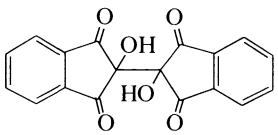
Used as soln. in Me_2CO for photometric detn. of Ti (λ_{max} 475 nm, ε 22000). Cryst. Sol. Me_2CO, EtOH.

Dolgorev, A.V., *Zavod. Lab.*, 1972, **38**, 1309 (*synth, use, detn, Ti*)

Hydrindantin H-00088

2,2′-Dihydroxy[2,2′-bi-1H-indene]-1,1′,3,3′(2H,2′H)-tetrone, 9CI. 2,2′-Dihydroxy[2,2′-biindan]-1,1′,3,3′-tetrone, 8CI

[5103-42-4]



$C_{18}H_{10}O_6$ M 322.273

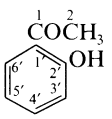
Reagent for colorimetric detn. of amino acids. Prisms + $2H_2O$ (Me_2CO). Becomes anhyd. at 100°, turns brown-red at 200° and dec. at 249-54°.

Moore, S. *et al*, *J. Biol. Chem.*, 1954, **211**, 907 (*synth*)
Bruice, T.C. *et al*, *J. Org. Chem.*, 1958, **23**, 145 (*synth*)
Schank, K. *et al*, *Justus Liebigs Ann. Chem.*, 1967, **710**, 137 (*synth*)
Schoenberg, A. *et al*, *Justus Liebigs Ann. Chem.*, 1968, **711**, 98 (*synth*)

2′-Hydroxyacetophenone, 8CI H-00089

1-(2-Hydroxyphenyl)ethanone, 9CI. o-Acetylphenol. 2-Hydroxyphenyl methyl ketone

[118-93-4]



$C_8H_8O_2$ M 136.150

Present in oil from *Chione glabra*. Greenish-yellow oil. Bp_{717} 213°, Bp_{17} 106°. pK_a 10.22 (25°).

▷ AM8575000.

Oxime: [1196-29-8].
$C_8H_9NO_2$ M 151.165
Used for gravimetric detn. of V(*V*); metallochromic indicator in titrimetric detn. of Fe(*III*). Mp 117°.

2,4-Dinitrophenylhydrazone: [17744-50-2].
Mp 213-214°.

Ac: [7250-94-4].
$C_{10}H_{10}O_3$ M 178.187
Needles (EtOH). Mp 89°.

Me ether: [579-74-8]. *2′-Methoxyacetophenone*
$C_9H_{10}O_2$ M 150.177
Oil. Bp 245°, Bp_{18} 131°.

Me ether, oxime:
$C_9H_{11}NO_2$ M 165.191
Needles. Mp 83°.

Hydrazone: [6962-75-0].
$C_8H_{10}N_2O$ M 150.180
Used for photometric detn. of Ni (λ_{max} 425 nm, ε 700). Cryst. Sol. common org. solvs.

Thiosemicarbazone: [7441-53-4].
$C_9H_{11}N_3OS$ M 209.271
Used for photometric detn. of Cu (λ_{max} 430 nm).

[54582-21-7, 54582-28-4]

Norris, J.F. *et al*, *J. Am. Chem. Soc.*, 1939, **61**, 1413 (*synth*)
Poddar, S.N. *et al*, *J. Indian Chem. Soc.*, 1963, **40**, 706 (*oxime, detn, V*)
Smith, W.B. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 1959 (*pmr*)
Durmis, J. *et al*, *Collect. Czech. Chem. Commun.*, 1973, **38**, 243 (*ir*)
Hem, L. *et al*, *Curr. Sci.*, 1973, **42**, 852 (*use*)
Desai, M.N. *et al*, *J. Indian Chem. Soc.*, 1973, **50**, 72 (*oxime, detn, Fe*)
Shah, J.R. *et al*, *J. Indian Chem. Soc.*, 1973, **50**, 157 (*thiosemicarbazone, use*)
Tomasik, P. *et al*, *Bull. Acad. Pol. Sci., Ser. Sci. Chim.*, 1974, **22**, 1065 (*uv*)
Ternai, B. *et al*, *Tetrahedron*, 1976, **32**, 565 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HIN500.

4′-Hydroxyacetophenone, 8CI H-00090

1-(4-Hydroxyphenyl)ethanone, 9CI. p-*Acetylphenol. 4-Hydroxyphenyl methyl ketone. Piceol. Ameliarol*

[99-93-4]

$C_8H_8O_2$ M 136.150

Occurs naturally as glucosides. Isol. free from *Picea glehnii, Apocynum cannabinum, Fabiana imbricata* and other plants. Needles (EtOH aq. or Et_2O). Mp 109°. Bp_3 148°. pK_a 8.05 (25°).

▷ AM8750000.

Oxime: [34523-34-7].
$C_8H_9NO_2$ M 151.165
Used as 1.5% soln. in aq. MeOH for extraction-photometric detn. of Ni (λ_{max} 375 nm, ε 4100, 4-methyl-2-pentanone), simultaneous detn. of Ni and Cu. Mp 144-145°.

2,4-Dinitrophenylhydrazone: Mp 225°.

O-β-D-Glucopyranoside: [530-14-3]. ***Piceoside.*** *Ameliaroside. Picein. Salinigrin. Salicinerein*
$C_{14}H_{18}O_7$ M 298.292
Found in *Salix* (willow) bark, *Picea* spp., *Amelanchier* spp. and other plants. Cryst. + $1H_2O$ (H_2O). Mp 195°. $[\alpha]_D$ −88.9° (H_2O).

β-D-Glucoside, tetra-Ac: Mp 172-173°.

Me ether: [100-06-1]. *4′-Methoxyacetophenone. Acetanisole. Melitone. Linarodin*
$C_9H_{10}O_2$ M 150.177
Trace constit. of oil of *Piper longum*. More common in combined form. Perfumery ingredient. Plates (EtOH). Mp 38-39°. Bp 258°, Bp_{15} 138-139°.

▷ AM9240000.

Me ether, oxime: [2475-92-5].
$C_9H_{11}NO_2$ M 165.191
Needles (pet. ether). Mp 86-87°.

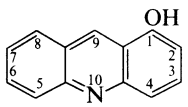
[26358-63-4]

Norris, J.F. *et al*, *J. Am. Chem. Soc.*, 1939, **61**, 1413 (*synth*)
Simons, J.H. *et al*, *J. Am. Chem. Soc.*, 1939, **61**, 1795 (*synth*)
Montgomery, H. *et al*, *J. Am. Chem. Soc.*, 1947, **64**, 693 (*glucoside*)
Edwards, O.E. *et al*, *Can. J. Chem.*, 1962, **40**, 256 (*isol*)
Tsuzuki, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1971, **44**, 526 (*glucoside*)
Miyajima, G. *et al*, *Chem. Pharm. Bull.*, 1971, **19**, 2301 (*cmr*)
Durmis, J. *et al*, *Collect. Czech. Chem. Commun.*, 1973, **38**, 243 (*ir*)
Sakurai, H. *et al*, *Org. Mass Spectrom.*, 1973, **7**, 1109 (*ms*)
Opdyke, D.L.J., *Food Cosmet. Toxicol., Suppl.*, 1974, 927 (*rev, deriv*)
Selikson, S.J. *et al*, *Tetrahedron Lett.*, 1974, 3029 (*synth, deriv*)
Reddy, T.S. *et al*, *Talanta*, 1979, **26**, 968 (*synth, use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HIO000, MDW750.

1-Hydroxyacridine H-00091

1-Acridinol, 9CI. Neooxine

[5464-73-3]



$C_{13}H_9NO$ M 195.220

Used for extraction of chelates with Cu, Ni, Zn similar to oxine in props. and reactions (nonpreciptn. of Al). Yellow cryst. (EtOH aq.). Mp 230°, Mp 250° dec. NH-(Keto) form sometimes detectable.

Me ether: [23043-45-0]. *1-Methoxyacridine*
$C_{14}H_{11}NO$ M 209.247
Cryst. (cyclohexane). Mp 134°.

Nitzsche, S., *Ber.*, 1943, **76**, 1187 (*synth*)
Albert, A. *et al*, *J. Chem. Soc.*, 1943, 458 (*synth*)
Mason, S.F., *J. Chem. Soc.*, 1957, 5010 (*tautom*)
Ishibashi, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1959, **32**, 1064 (*use*)

4-Hydroxyacridine H-00092

4-Acridinol, 9CI. Neoxine

[18123-20-1]

$C_{13}H_9NO$ M 195.220

Used for extraction-separation of Co, Cu(*II*), Ni, Zn. Similar to oxine in its props. and reactions. Yellow cryst. (EtOH aq.). Sol. common org. solvs. Mp 116.5°.

B,HCl: Orange cryst. Mp 252° dec.

Me ether: [3295-61-2]. *4-Methoxyacridine*
$C_{14}H_{11}NO$ M 209.247
Pale-yellow cryst. (EtOH aq.). Mp 130-131°.

Et ether: 4-Ethoxyacridine
$C_{15}H_{13}NO$ M 223.274
Yellow cryst. Mp 80°.

Nitzsche, S., *Ber.*, 1943, **76**, 1187 (*synth*)
Albert, A. *et al*, *J. Chem. Soc.*, 1943, 458 (*synth*)
Mason, S.F., *J. Chem. Soc.*, 1957, 5010 (*tautom*)
Ishibashi, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1959, **32**, 1064 (*use*)
Ionescu, M. *et al*, *J. Prakt. Chem.*, 1972, **314**, 441.

9-Hydroxyacridine H-00093

9-Acridinol. Acridol

[643-62-9]

$C_{13}H_9NO$ M 195.220

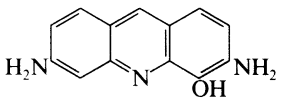
Me ether: [10228-90-7]. *9-Methoxyacridine*
$C_{14}H_{11}NO$ M 209.247
Yellow needles (pet. ether). Mp 65°. Forms monohydrate Mp 103°.

Et ether: 9-Ethoxyacridine
$C_{15}H_{13}NO$ M 223.274
Anal. reagent for hydralazine and cycloserine. Mp *ca.* 83°.

Ph ether: [2148-14-3]. *9-Phenoxyacridine*
$C_{19}H_{13}NO$ M 271.318
Cryst. (C_6H_6). Mp 127-128°.

Lehmstedt, K., *Chem. Ber.*, 1935, **68**, 1455.
Dupré, D.J., *J. Chem. Soc.*, 1945, 549.
Stewart, J.T. *et al*, *Int. J. Pharm.*, 1983, **17**, 161 (*deriv, use*)
Stewart, J.T. *et al*, *J. Pharm. Sci.*, 1988, **77**, 452 (*deriv, use*)

4-Hydroxy-3,6-acridinediamine H-00094



$C_{13}H_{11}N_3O$ M 225.249

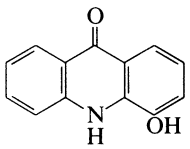
4-Et ether: 4-Ethoxy-3,6-acridinediamine
$C_{15}H_{15}N_3O$ M 253.303
Used as the lactate salt as an adsorption indicator in titrimetric detn. of $Br^{\ominus}$, $Cl^{\ominus}$, $I^{\ominus}$, $SCN^{\ominus}$. Yellow needles (EtOH). Sol. EtOH, Et_2O, H_2O.

Bognar, J., *Magy. Kem. Foly.*, 1959, **65**, 223, 227; *CA*, 1960, **54**, 3057 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

4-Hydroxyacridone H-00095

4-Hydroxy-9(10H)-acridinone, 9CI

[31231-39-7]



$C_{13}H_9NO_2$ M 211.220

Cryst. (AcOH aq.). Mp 300° dec. Green fluor. in H_2SO_4.

Me ether: [35308-00-0].
$C_{14}H_{11}NO_2$ M 225.246
Yellow cryst. (AcOH aq.). Mp 295-296°.

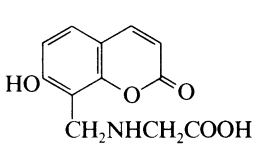
4-Et ether: [71803-12-8]. *4-Ethoxyacridone*
$C_{15}H_{13}NO_2$ M 239.273
Used as a 1% soln. in EtOH. Fluorescent pH indicator (pH range: 1.2-3.2; colour change; green → blue). Yellow cryst. (AcOH aq.). Sol. EtOH, Me_2CO. Mp 320° dec.

Jensen, K.A., *Fresenius' Z. Anal. Chem.*, 1933, **94**, 177 (*use*)
Villemey, L., *Ann. Chim. (Paris)*, 1950, **5**, 570 (*synth*)
Gurevich, A.I. *et al*, *CA*, 1961, **55**, 14460 (*struct*)
Lewis, J.R. *et al*, *J. Chem. Soc., Chem. Commun.*, 1970, 1625 (*synth*)

7-Hydroxy-8-(aminomethyl)coumarin-*N*-acetic acid H-00096

N-[(*7-Hydroxy-2-oxo-(2H)-1-benzopyran-8-yl)methyl*] *glycine, 9Cl. Umbelliferone-8-methyleneglycine*

[54696-34-3]



$C_{12}H_{11}NO_5$ M 249.223

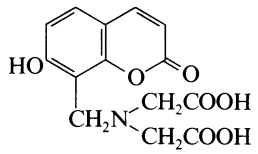
Used as a 0.1% aq. soln. as metal fluorescent indicator for detn. of Ca, Cu. Yellow cryst. (HCl aq.). Sol. alkalis; sl. sol. H_2O; insol. Me_2CO. Mp >300°. pK_{a1} 6.7; pK_{a2} 11.7 (0.1*M* KCl).

Huitnik, G.M. *et al*, *Talanta*, 1974, **21**, 1193 (*synth, nmr, use*)

7-Hydroxy-8-(aminomethyl)coumarin-*N,N*-diacetic acid H-00097

N-(*Carboxymethyl*)-[(*7-hydroxy-2-oxo-*(2H)*-1-benzopyran-8-yl*)*methyl*]*glycine*, *9CI. Umbelliferone-8-methyleneiminodiacetic acid*

[54696-33-2]

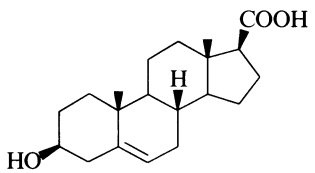


$C_{14}H_{13}NO_7$ M 307.259

Used as a 0.1% aq. soln. as metal fluorescent indicator for detn. of Ca, Cu. Yellow cryst. (HCl aq.). Sol. alkalis, sl. sol. H_2O; insol. Me_2CO. Mp >300°. pK_{a1} 2.94; pK_{a2} 6.9; pK_{a3} 11.18 (0.1*M* KCl).

Huitnik, G.M. *et al*, *Talanta*, 1974, **21**, 1193 (*synth, nmr, use*)

3-Hydroxyandrost-5-ene-17-carboxylic acid H-00098



(3β,17β)-*form*

$C_{20}H_{30}O_3$ M 318.455

(3β,17β)-form [10325-79-8]

Needles (EtOH). Mp 282-283° dec. $[\alpha]_D^{25}$ −20° (c, 0.2 in EtOH).

Ac: [7150-18-7].

$C_{22}H_{32}O_4$ M 360.492

Cryst. (AcOH). Mp 238-240°.

Ac, chloride: [7429-97-2].

$C_{22}H_{31}ClO_3$ M 378.938

Used as derivatising agent for gc analysis of optically active alcohols.

(3β,14β,17α)-form

Mp 246-248°.

Me ester, Ac: Needles. Mp 108-108.5°. $[\alpha]_D^{19}$ −12.7° (c, 0.806 in $CHCl_3$).

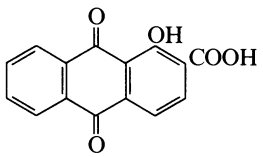
Ac: Needles. Mp 175-176°. $[\alpha]_D^{19}$ +4.4° (c, 0.478 in $CHCl_3$).

Heusser, H. *et al*, *Helv. Chim. Acta*, 1950, **33**, 1260 (*synth*)
Org. Synth., 1962, **42**, 4 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 9 (*use*)
Anders, M.W. *et al*, *Anal. Chem.*, 1971, **43**, 1093 (*chloride, use*)
Danishefsky, S. *et al*, *J. Org. Chem.*, 1975, **40**, 1989 (*synth*)
Guentert, T.W. *et al*, *Helv. Chim. Acta*, 1976, **59**, 2125 (*synth*)

1-Hydroxyanthraquinone-2-carboxylic acid H-00099

9,10-Dihydro-1-hydroxy-9,10-dioxo-2-anthracenecarboxylic acid, 9CI. 1-Hydroxy-2-carboxyanthraquinone

[7400-93-3]



$C_{15}H_8O_5$ M 268.225

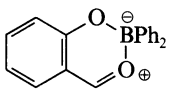
Used as 2m*M* soln. in EtOH for fluorometric detn. of Be and Mg, La (λ_{max} 580 nm); as 1m*M* soln. in EtOH for photometric detn. of Ni (λ_{max} 500 nm). Cryst. (AcOH). Sol. alkalis, EtOH, AcOH. Mp 223-225°.

Scholl, R., *Monatsh. Chem.*, 1913, **34**, 1023 (*synth*)
Capitan, F. *et al*, *Anal. Lett.*, 1975, **8**, 753 (*detn, Be*)
Salinas, F. *et al*, *Quim. Anal.* (*Madrid*), 1975, **29**, 319; *CA*, **85**, 103337z (*detn, Ni*)
Salinas, F. *et al*, *Analyst* (*London*), 1987, **112**, 1391 (*detn, Be, Mg*)
Salinas, F. *et al*, *Microchem. J.*, 1987, **36**, 79 (*detn, La*)

(2-Hydroxybenzaldehydato-*O,O'*) diphenylboron, 9CI H-00100

2,2-Diphenyl-1-oxa-3-oxonia-2-boratanaphthalene. (Salicylaldehydato)diphenylboron

[59911-25-0]



$C_{19}H_{15}BO_2$ M 286.137

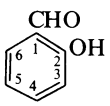
Fluorimetric reagent for amines. Bright yellow-orange needles (EtOH). Mp 151°.

Umland, F. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1965, **4**, 432 (*synth*)
Bally, I. *et al*, *Tetrahedron Lett.*, 1965, 3929 (*synth*)
Rettig, S.J. *et al*, *Can. J. Chem.*, 1976, **54**, 1168 (*cryst struct*)
Hohaus, E., *Fresenius' Z. Anal. Chem.*, 1982, **310**, 70; 1984, **319**, 533; 1985, **322**, 343; 1986, **325**, 15 (*use*)

2-Hydroxybenzaldehyde H-00101

Salicylaldehyde

[90-02-8]



$C_7H_6O_2$ M 122.123

Isol. from various plant sources, e.g. *Spiraea* spp., *Crepis foetida, Rauwolfia caffra*. Used as 1% soln. in dil. NH_3 for gravimetric detn. of Ni, Cu. Oil. d_4^{20} 1.17. Fp 0.7°. Bp 197°, Bp_{18} 86°. pK_{a1} 8.37 (25°). n_D^{20} 1.574. Steam-volatile.

▷ VN5250000.

Semicarbazone: [3030-97-5].

$C_8H_9N_3O_2$ M 179.178

Used as EtOH soln. for photometric detn. of Al and Zn (in the presence of surfactants), U; used as a 0.1% soln. in EtOH as acid-base fluorescent indicator (pH range: 7.6-8.0; colour change: yellow → blue); as 0.1% DMF soln. for fluorimetric detn. of Sc (λ_{max} 450 nm, pH 6.0). Needles (EtOH). Sol. EtOH, DMF, Me_2CO. Mp 230°, Mp 224°.

Thiosemicarbazone: [5351-90-6].
$C_8H_9N_3OS$ M 195.245
Used as 10m*M* MeOH soln. for photometric detn. of Hg(*II*), V, Fe, Cu (λ_{max} 375 nm, ε 9200). Used as 0.1% EtOH soln. for kinetic fluorimetric detn. of Mn (λ_{max} 440 nm, 2-9 ng/ml, with use of H_2O_2). Yellow cryst. Sol. MeOH, DMF, EtOH.
▷ VN6125000.

Hydrazone: [3291-00-7].
$C_7H_8N_2O$ M 136.153
Plates (EtOH). Mp 96°.

Phenylhydrazone: [614-65-3].
Used as a 10% soln. in EtOH for gravimetric detn. of Cu. Needles or plates. Mp 142-143°.

Benzoylhydrazone: [3232-37-9]. *Salicylaldehyde benzoylhydrazone. Hydrazo I*
$C_{14}H_{12}N_2O_2$ M 240.261
Used for fluorimetric detn. of Al (λ_{max} 458 nm); as Me_2CO soln. for photometric detn. of Ti, Cu, Pd; extraction-photometric detn. of Co, Cu, Fe, Ni, Ti, V. Cryst. (MeOH aq.). Sol. EtOH; sl. sol. H_2O. Mp 178°.

Guanylhydrazone: see *2-Hydroxybenzaldehyde guanylhydrazone, H-00105*

Phenylthiosemicarbazone: see *2-Hydroxybenzaldehyde phenylthiosemicarbazone, H-00107*

Isonicotinoylhydrazone: see *Salinazid, S-00003*

1-Phthalazinylhydrazone: see *2-Hydroxybenzaldehyde 1-phthalazinylhydrazone, H-00108*

Me ether: see *2-Methoxybenzaldehyde, M-00074*

Oxime: [94-67-7]. *Salicylaldoxime*
$C_7H_7NO_2$ M 137.138
Used as EtOH soln. for gravimetric detn. of Cu, Fe(*III*), Zn, Ni, Pb, Bi. Cryst. Sol. EtOH, Et_2O, C_6H_6; sl. sol. H_2O. Mp 57°.
▷ VN5775000.

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, N.Y., 1947, **3**, 259 (*use, salicylaldoxime*)
Sah, P.P. *et al*, *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1950, **69**, 1545 (*synth*)
Holzbecher, Z., *Chem. Listy*, 1958, **52**, 425.
Holzbecher, Z., *Collect. Czech. Chem. Commun.*, 1959, **24**, 1451.
Bozhevolnov, E.A. *et al*, *CA*, 1960, **54**, 23836 (*use*)
Umapathy, P. *et al*, *Curr. Sci.*, 1960, **29**, 428 (*synth*)
Umapathy, P. *et al*, *Indian J. Chem.*, 1963, **1**, 272 (*use*)
Dolgorev, A.V. *et al*, *Metalloved. Prochn. Mater.*, 1971, 363 (*synth, use, benzoylhydrazone*)
Dimmock, J.R. *et al*, *Can. J. Pharm. Sci.*, 1972, **7**, 100 (*synth, benzoylhydrazone*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 695 (*use*)
Pfluger, C.E. *et al*, *Acta Crystallogr.*, 1973, **29**, 2608 (*cryst struct, oxime*)
Bhasin, S.K. *et al*, *J. Indian Chem. Soc.*, 1973, **50**, 155 (*ms, benzoylhydrazone*)
Dolgorev, A.V. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1093 (*use*)
Morishige, K., *Anal. Chim. Acta*, 1974, **73**, 245 (*synth, detn, Sc*)
Rastogi, O.K. *et al*, *Acta Chim. Acad. Sci. Hung.*, 1975, **87**, 63; *CA*, **84**, 83705s (*extrn, Cu, Co, Ni*)
Vasilikiotis, G.S. *et al*, *CA*, 1976, **85**, 153389p (*detn, Cu, Pd*)
Cerveny, L. *et al*, *Chem. Tech. (Leipzig)*, 1976, **28**, 557 (*synth*)
Gassmann, P.G. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 7611 (*synth, ir*)
Casiraghi, G. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1978, 318 (*synth*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **13**, 70 (*rev*)
Reddy, N.S. *et al*, *J. Indian Inst. Sci.*, 1983, **64**, 133.
Moreno, A. *et al*, *Talanta*, 1983, **30**, 107 (*detn, Mn*)
Holzbecher, Z. *et al*, *Collect. Czech. Chem. Commun.*, 1984, **49**, 1468 (*synth, detn, Al, Zn*)
Gallardo Cespedes, A. *et al*, *Microchem. J.*, 1984, **30**, 105 (*detn, Hg*)
Reddy, N.S. *et al*, *Microchem. J.*, 1985, **31**, 318 (*detn, Cu*)
Lopez de Alba, P.L. *et al*, *J. Radioanal. Nucl. Chem.*, 1986, **104**, 255 (*detn, U*)
Uehara, N. *et al*, *Talanta*, 1989, **36**, 1031 (*synth, detn, Al*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SAG000, SAG500.

4-Hydroxybenzaldehyde H-00102

p-*Formylphenol*

[123-08-0]

$C_7H_6O_2$ M 122.123

Occurs naturally combined in many glycosides. Isol. free state from *Papaver somniferum*. Prod. by microorganisms. Present in sulfite liquor. Constit. of wing gland and abdominal hairpencils of the male African sugarcane borer *Eldana saccharina*. Reagent for the colorimetric detn. of shikimic acid. Needles (H_2O). Mp 115-116°. pK_a 7.62 (25°, H_2O).

▷ CU6475000.

Semicarbazone: Needles (EtOH). Mp 223-225°.

2,4-Dinitrophenylhydrazone: Cryst. ($PhNO_2$). Mp 280° dec.

Ac: [878-00-2].
$C_9H_8O_3$ M 164.160
Liq. Bp 265°.

O-*β*-D-*Glucopyranoside: 4-Glucosyloxybenzaldehyde. Hydrangea glucoside C*
$C_{13}H_{16}O_7$ M 284.265
Constit. of *Hydrangea serrata*. Needles (EtOH). Mp 168-170°. $[\alpha]_D^{16}$ −81.3° (c, 0.12 in MeOH).

Me ether: see *4-Methoxybenzaldehyde, M-00075*

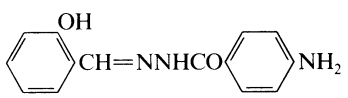
Et ether: [10031-82-0]. *4-Ethoxybenzaldehyde*
$C_9H_{10}O_2$ M 150.177
Mp 13-14°. Bp 249°, Bp_{20} 140°.
▷ CU6100000.

Ph ether: [67-36-7]. *4-Phenoxybenzaldehyde*
$C_{13}H_{10}O_2$ M 198.221
Cryst. solid. Mp 22-24°. $Bp_{0.3}$ 200-205°.

[60221-52-5]

Gattermann, L. *et al*, *Ber.*, 1898, **31**, 1765.
Gattermann, L., *Justus Liebigs Ann. Chem.*, 1907, **357**, 313.
Magnusen, L.B. *et al*, *J. Am. Chem. Soc.*, 1963, **85**, 1711.
Mossor, T. *et al*, *Anal. Biochem.*, 1972, **47**, 39 (*use*)
Yagi, A. *et al*, *Chem. Pharm. Bull.*, 1972, **20**, 1755 (*glucoside*)
Aldrich Library of NMR Spectra, 1974, **2**, 801B.
Aldrich Library of IR Spectra, 1975, **6**, 85A.
Beistel, D.W. *et al*, *J. Phys. Chem.*, 1976, **80**, 2023 (*cmr*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **13**, 70 (*rev*)
Burger, B.V. *et al*, *Z. Naturforsch., C*, 1985, **40**, 847.
Sammes, P.G. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1988, 3229 (*Ph ether*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EEL500, FOF000.

2-Hydroxybenzaldehyde *N*-(4-aminobenzoyl)hydrazone H-00103

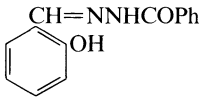


$C_{14}H_{13}N_3O_2$ M 255.276
Used for photometric detn. of Ti (λ_{max} 237 nm, ε 84600). Cryst. Mp 181°.

Dolgorev, A.V. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1093 (*use*)

2-Hydroxybenzaldehyde *N*-benzoylhydrazone H-00104

Salicylaldehyde benzoylhydrazide



$C_{14}H_{12}N_2O_2$ M 240.261

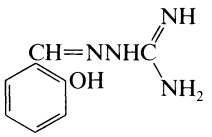
Used for photometric detn. of Cd, Co (λ_{max} 420 nm, ε 20000), Mn (λ_{max} 400 nm, ε 15000), Ni (λ_{max} 410 nm, ε 18000), Ti (λ_{max} 253 nm, ε 44400), Zn (λ_{max} 390 nm, ε 25000). Cryst. Sol. common org. solvs; insol. H_2O. Mp 178°.

Vasilikiotis, G.S. *et al*, *Microchem. J.*, 1973, **18**, 85 (*detn, Cd, Co, Mn, Ni, Zn*)
Dolgorev, A.V., *Zh. Anal. Khim.*, 1973, **28**, 1093 (*detn, Ti*)

2-Hydroxybenzaldehyde guanylhydrazone H-00105

2-[(2-Hydroxyphenyl)methylene]hydrazinecarboximidamide, 9CI. (Salicylideneamino)guanidine, 8CI. Salicylaldehyde guanylhydrazone

[94-90-6]



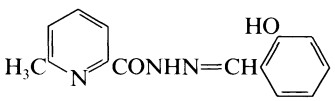
$C_8H_{10}N_4O$ M 178.193

Used as a 0.01*M* aq. soln. for photometric detn. of Fe(*II*) (λ_{max} 430 nm) Zn; kinetic photometric detn. of Mn.

B, HCl: [42452-50-6].
Cryst. (EtOH aq.). pK_{a1} 7.75; pK_{a2} 10.2 (μ = 0.1, 20°).
Nitrate: Mp 209-210°.

Thiele, J. *et al*, *Justus Liebigs Ann. Chem.*, 1898, **302**, 299 (*synth*)
Berzas Nevado, J.J. *et al*, *Microchem. J.*, 1984, **30**, 380 (*detn, Fe*)
Salinas, F. *et al*, *Talanta*, 1987, **34**, 321 (*detn, Mn*)
Kavlentis, E. *et al*, *Analusis*, 1989, **17**, 136 (*detn, Mn, Zn*)

2-Hydroxybenzaldehyde 6-methyl-2-nicotinoylhydrazone H-00106



$C_{14}H_{13}N_3O_2$ M 255.276

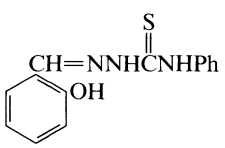
Used for photometric detn. of Ti (λ_{max} 255 nm, ε 13100). Cryst. Mp 230°.

Dolgorev, A.V. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1093 (*use*)

2-Hydroxybenzaldehyde phenylthiosemicarbazone H-00107

2-[(2-Hydroxyphenyl)methylene]-N-phenylhydrazinecarbothioamide, 9CI. Salicylaldehyde phenylthiosemicarbazone

[14938-70-6]



$C_{14}H_{13}N_3OS$ M 271.342

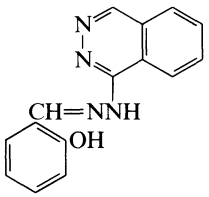
Used as 0.25 m*M* soln. in $CHCl_3$ for extraction-photometric detn. of Co, Cu, Ni, Pd (λ_{max} 400 nm, ε 13800). Cryst. (EtOH). Sol. $CHCl_3$, EtOH.

Patel, R.S. *et al*, *CA*, 1977, **86**, 34893j (*use*)
Yamaguchi, S. *et al*, *Analyst (London)*, 1985, **110**, 1241 (*synth, detn, Pd*)

2-Hydroxybenzaldehyde 1-phthalazinylhydrazone H-00108

Salicylaldehyde 1-phthalazinylhydrazone

[81914-09-2]



$C_{15}H_{12}N_4O$ M 264.286

Used as 0.75m*M* EtOH soln. to give colour reactions with Co, Cu, Mn, Cr, Zn, Pd, In, Ge; fluorescence with Ga, Al, In, Zn. Yellow cryst. (conc. HCl). Sol. dioxan, EtOH; sl. sol. H_2O. Mp 247-248°. pK_{a1} 4.53; pK_{a2} 10.0.

Callejon Mochon, M. *et al*, *Talanta*, 1986, **33**, 62 (*synth, use*)

N-Hydroxybenzamide, 9CI H-00109

Benzohydroxamic acid. Benzoylhydroxamic acid

[495-18-1]

PhCONHOH

$C_7H_7NO_2$ M 137.138

Used to ppt. among others; Cu, Cd, Al, In, Th, Zr. Used in extraction-photometric detn. of V (λ_{max} 500 nm, ε 4000), Co, Ni, Mo. Rhombic tablets. Mp 128°, Mp 125°. pK_a 8.91 (25°).

▷ DF9650000.

O-Benzoyl:
$C_{14}H_{11}NO_3$ M 241.246
Needles. Mp 161°. Exists as PhC(OH)=NOOCPh.

N-Ph: see *N-Phenylhydroxylamine, P-00135*

N-Benzyl: [7339-99-3]. *N-Benzylbenzohydroxamic acid. N-Hydroxy-N-phenylmethylbenzamide*
$C_{14}H_{13}NO_2$ M 227.262
Used as a 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V (λ_{max} 510 nm, ε 4300). Cryst. ($CHCl_3$).

N-(2-Methylphenyl): [1143-74-4]. *N-Hydroxy-N-(2-methylphenyl)benzamide, 9CI. N-o-Tolylbenzohydroxamic acid*
$C_{14}H_{13}NO_2$ M 227.262
Used as 5m*M* $CHCl_3$ soln. for gravimetric detn. of U(*VI*); extraction-photometric detn. of V(*V*) (λ_{max} 510 nm, ε 5000, 4*M* HCl), Fe(*III*), Cu, Mo, Ti. Cryst. (EtOH aq.). Sol. $CHCl_3$, C_6H_6, EtOH, Me_2CO, CCl_4; insol. H_2O. Mp 108°. pK_a 8.3.

N-(3-Methylphenyl): [13664-23-8]. *N-Hydroxy-N-(3-methylphenyl)benzamide, 9CI. N-m-Tolylbenzohydroxamic acid*
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 525 nm, ε 4850, 4*M* HCl), Cu, Fe(*III*), Mn. Cryst. (EtOH aq.). Sol. $CHCl_3$, C_6H_6. Mp 93°.

N-(4-Methylphenyl): [1503-92-0]. *N-Hydroxy-N-(4-methylphenyl)benzamide*

Used for extraction-photometric detn. of Ce(*IV*) (λ_{max} 465 nm, ε 46000), Ti(*IV*) (λ_{max} 370 nm, ε 7100). pK_a 8.4.

N-(*2-Chlorophenyl*): [1697-18-3]. N-(*2-Chlorophenyl*)-N-*hydroxybenzamide*

$C_{13}H_{10}ClNO_2$ M 247.680

Used for selective gravimetric detn. of Fe(*III*) (pH 3.4-3.8). pK_a 8.1.

N-(*3-Chlorophenyl*): [67055-91-8]. N-(*3-Chlorophenyl*)-N-*hydroxybenzamide*, *9CI*. N-m-*Chlorophenylbenzohydroxamic acid*

Used as 0.5% soln. in EtOH for extraction-photometric detn. of Sn(*IV*) (λ_{max} 480 nm, ε 48100, $CHCl_3$/EtOH). Cryst. Sol. EtOH.

N-(*4-Chlorophenyl*): [1528-82-1]. N-(*4-Chlorophenyl*)-N-*hydroxybenzamide*, *9CI*

Used as 1% soln. in EtOH for extraction-photometric detn. of Nb (λ_{max} 365 nm, ε 30000), Sn(*IV*) (λ_{max} 470 nm, ε 48800), Co, Cu(*II*), Fe(*II,III*), Ti, V(*V*). Cryst. Sol. EtOH. Mp 158-159°. pK_a 8.1.

N-(*4-Sulfophenyl*): [60096-04-0]. N-(*Sulfophenyl*) *benzohydroxamic acid. 4-(Benzoylhydroxyamino) benzenesulfonic acid*, *9CI*

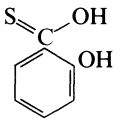
$C_{13}H_{11}NO_5S$ M 293.300

Used as a 3% aq. soln. for titrimetric detn. of Fe(*II*). Cryst. Sol. H_2O.

Jones, L.W. *et al*, *J. Am. Chem. Soc.*, 1921, **43**, 2422 (*synth*)
Org. Synth., Coll. Vol., 2, 1943, 67.
Jones, G.B. *et al*, *Anal. Chem.*, 1959, **31**, 1344 (*use*)
Kuehan, P.R. *et al*, *Anal. Chem.*, 1961, **33**, 740 (*detn, V*)
Alimarin, I.P., *Zh. Anal. Khim.*, 1963, **18**, 342 (*use*)
Majumdar, A.K. *et al*, *Anal. Chim. Acta*, 1964, **31**, 147 (*synth, N-(2-methylphenyl)*)
Alimarin, I.P. *et al*, *CA*, 1964, **60**, 8629 (*use*)
Exner, O., *Collect. Czech. Chem. Commun.*, 1964, **29**, 1337 (*ir, struct*)
Horner, L. *et al*, *Chem. Ber.*, 1965, **98**, 2631 (*synth*)
Jeffery, P.G. *et al*, *Analyst (London)*, 1967, **92**, 763.
Bowie, J.H. *et al*, *Aust. J. Chem.*, 1969, **22**, 175 (*ms*)
Gupta, V.K. *et al*, *J. Indian Chem. Soc.*, 1969, **46**, 983; 1971, **48**, 753 (*synth*)
Das, M.K. *et al*, *Anal. Chim. Acta*, 1970, **50**, 243 (*detn, U*)
Majumdar, A.K. *et al*, *Analyst (London)*, 1971, **96**, 127.
Shukla, J.P. *et al*, *Aust. J. Chem.*, 1971, **24**, 2701 (*deriv*)
Agrawal, Y.K. *et al*, *J. Chem. Eng. Data*, 1971, **16**, 371, 495; 1972, **17**, 257; 1977, **22**, 257 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.
Majumdar, A.K., *N-Benzoylphenylhydroxylamine and Its Analogues*, Pergamon, 1972 (*rev, bibl*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)
Shukla, J.P. *et al*, *J. Indian Chem. Soc.*, 1974, **51**, 437 (*synth*)
Agrawal, Y.K. *et al*, *Mikrochim. Acta*, 1976, 595 (*detn, Ce*)
Trickes, G. *et al*, *Z. Naturforsch., A*, 1977, **32**, 956 (*cmr*)
Vernon, F. *et al*, *Anal. Chim. Acta*, 1978, **98**, 349 (*N-4-chlorophenyl, use*)
Nanewar, R.R. *et al*, *Talanta*, 1978, **25**, 352 (*N-benzyl, use*)
Grigor'eva, M.F. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 2171 (*detn, V*)
Agrawal, Y.K. *et al*, *Bull. Soc. Chim. Belg.*, 1980, **89**, 9 (*detn, Nb*)
Yamada, K. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 7003 (*synth*)
Ando, W. *et al*, *Synth. Commun.*, 1983, **13**, 1053 (*synth*)
Agrawal, Y.K. *et al*, *Analyst (London)*, 1985, **110**, 1325; 1987, **112**, 1767 (*N-Ph, detn, $SCN^{\ominus}$*)
Hojjatie, M. *et al*, *Anal. Chim. Acta*, 1987, **199**, 49 (*synth, use, N-(3-Methylphenyl)*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BCL500.

2-Hydroxybenzenecarbothioic acid, 9CI H-00110

[7283-41-2]



$C_7H_6O_2S$ M 154.189

Mp 33-35°. $Bp_{0.4}$ 60-62°.

Hydrazide: [41820-68-2]. o-*Hydroxythiobenzhydrazide*

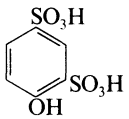
$C_7H_8N_2OS$ M 168.219

Used as 0.01*M* soln. in EtOH for photometric detn. of Re (λ_{max} 560 nm, ε 9600), Os, Ru, Pt. Cryst. (Et_2O). Sol. H_2O, EtOH, C_6H_6, $CHCl_3$. Mp 101-102°.

U.S. Pat., 3 136 800, (1964); *CA*, **61**, 4277f (*synth*)
Shome, S.C. *et al*, *Anal. Chim. Acta*, 1973, **65**, 217 (*synth, detn, Ru*)
Gangopadhyay, P.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 460; 1975, **75**, 235 (*detn, Pt, Re*)
Gangopadhyay, P.K. *et al*, *Mikrochim. Acta*, 1977, **1**, 173 (*detn, Os*)

4-Hydroxy-1,3-benzenedisulfonic acid, 9CI H-00111

[96-77-5]



$C_6H_6O_7S_2$ M 254.241

Used as soln. in conc. H_2SO_4 for photometric detn. of $NO_3^{\ominus}$ (λ_{max} 410 nm, ε 9400). Deliquescent needles. Sol. H_2O, EtOH, acids; insol. Et_2O. Mp 100° dec.

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **1** (*detn, $NO_3^{\ominus}$*)
Gordon, J.L. *et al*, *Anal. Chem.*, 1958, **30**, 2057 (*detn, $NO_3^{\ominus}$*)
Hora, F.B. *et al*, *Analyst (London)*, 1960, **85**, 567 (*detn, $NO_3^{\ominus}$*)

2-Hydroxybenzoic acid, 9CI H-00112

Salicylic acid. Numerous proprietary names

[69-72-7]

$C_7H_6O_3$ M 138.123

Occurs in form of esters in essential oils and plant prods. e.g. oil of wintergreen. Used as an antiseptic and antifungal agent, and for various skin conditions. Keratolytic. Simple esters are perfumery and flavouring ingredients. Used as aq. soln. for photometric detn. of Fe, Zr, NH_3, Sc; indirect photometric-detn. of $F^{\ominus}$; extraction separation of Sc. Needles (H_2O). Mod. sol. H_2O. Mp 159°. Bp_{20} 211°. pK_{a1} 2.98; pK_{a2} 13.6 (25°). Steam volatile. Subl. *in vacuo*.

▷ VO0525000.

Na salt: [54-21-7]. *Numerous proprietary names*

Antipyretic and antineuralgic. Cryst. Other metal salts of salicylic acid are used; mainly as analgesics and antiinflammatory agents e.g. Magnesium salicylate, USAN.

▷ VO5075000.

Et ester: [118-61-6]. ***Ethyl salicylate.*** *Mesotol. Sal ethyl. Salstan*

$C_9H_{10}O_3$ M 166.176

Has been used as a vet. counterirritant. Antirheumatic. Liq. Mp 1.3°. Bp 231-235°.
▷ VO3000000.

Amide: [65-45-2]. *2-Hydroxybenzamide, 9CI.* ***Salicylamide,*** **INN.** *Numerous proprietary names*
$C_7H_7NO_2$ M 137.138
Analgesic. Used as 1% soln. in EtOH as metallochromic indicator in titrimetric detn. of Fe(*III*). White or sl. pink cryst. Mp 140°.
▷ VN6475000.

Amide, oxime: [6005-58-9]. *Salicylamidoxime.* N,*2-Dihydroxybenzenecarboximidamide, 9CI*
$C_7H_8N_2O_2$ M 152.152
Used as 0.2% aq. soln. for photometric detn. of Ti (λ_{max} 400 nm). Cryst. Sol. EtOH, H_2O.

Amide, N-*hydroxy:* [89-73-6]. *Salicylhydroxamic acid.* N,*2-Dihydroxybenzamide, 9CI*
$C_7H_7NO_3$ M 153.137
Used as 0.05*M* soln. in 5*M* HCl for extraction-photometric detn. of Ti, V (CCl_4/heptanol). Trypanocide. Cryst. Sol. acids. Mp 168°.

Amide, N-*Ph, 2-Et ether:* [69079-96-5]. N-(o-*Ethoxybenzoyl)phenylhydroxylamine. 2-Ethoxy*-N-*hydroxy*-N-*phenylbenzamide, 9CI*
$C_{15}H_{15}NO_2$ M 241.289
Used for pptn. of Al, Cu, Fe, Hf, Mn, Pb, Sn(*II*), Sn(*IV*), Ti, Zr. Cryst. Sol. common org. solvs.; spar. sol. H_2O (1mg per 100 cm^3 at 25°). Mp 103°.

Anilide: [87-17-2]. *2-Hydroxy*-N-*phenylbenzamide, 9CI.* ***Salicylanilide.*** *Ansadol. Hyanilid. Salifebrin. Salinidol. ASK*
$C_{13}H_{11}NO_2$ M 213.235
Antipyretic and topical antifungal agent. Used as 1% aq. soln. for photometric detn. of U(*VI*) (λ_{max} 360 nm, ε 3870). Prisms (H_2O). Sol. alkalis, EtOH; mod. sol. H_2O. Mp 135.8-136.2°.

Ac: see *2-Acetoxybenzoic acid, A-00010*

Resorcinalhydrazide: see *2-Hydroxybenzoic acid* [(*2,4-dihydroxyphenyl)methylene*]*hydrazide, H-00116*

Hydrazide: Salicyloyl hydrazide
$C_7H_8N_2O_2$ M 152.152
Used as EtOH soln. for photometric detn. of V (λ_{max} 415 nm, ε 4000, 50% EtOH). Cryst. Sol. EtOH.
▷ VO3700000.

Salicylhydrazide: see *2-Hydroxybenzoic acid* [(*2-hydroxyphenyl)methylene*]*hydrazide, H-00120*
[18917-95-8]

Jeanrenaud, A., *Ber.*, 1889, **22**, 1270 (*synth, amide, N-hydroxy*)
Lacroix, S. *et al, Anal. Chim. Acta*, 1950, **4**, 68 (*detn, $F^{\ominus}$*)
Reichert, B., *Arzneim.-Forsch.*, 1953, **3**, 255 (*Salicylamide*)
Lutwick, G.D. *et al, Can. J. Chem.*, 1954, **32**, 949 (*use, deriv*)
Bandyopadhayay, D. *et al, J. Indian Chem. Soc.*, 1956, **33**, 21 (*synth*)
Bandyopadhayay, D. *et al, Fresenius' Z. Anal. Chem.*, 1957, **155**, 117 (*synth*)
Banerjea, D., *Fresenius' Z. Anal. Chem.*, 1957, **159**, 123 (*detn, Ti*)
Liberman, S. *et al, Bull. Soc. Chim. Fr.*, 1958, 185 (*Salicylanilide*)
Rogers, R.N. *et al, Anal. Chem.*, 1959, **31**, 616 (*detn, $F^{\ominus}$*)
Org. Synth., Coll. Vol., 4, 1963, 178 (*derivs*)
Smith, M.J.H. *et al, The Salicylates: a Critical Biographical Review*, Wiley, London, 1967.
Desai, M.N. *et al, Microchem. J.*, 1969, **14**, 503 (*detn, Fe*)
Shendrikar, A.D. *et al, Talanta*, 1969, **16**, 51 (*use, deriv*)
Ger. Pat., 91 052, (1972); *CA*, **78**, 29465b (*Benzyl salicylate*)
Morris, W.W., *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 1037 (*ir*)
Kubelka, W. *et al, Phytochemistry*, 1974, **13**, 1805.
Gottlieb, O.R. *et al, Phytochemistry*, 1975, **14**, 1825.
Sekhon, B.S. *et al, Ann. Chim. (Paris)*, 1976, **1**, 69 (*use, hydrazide*)
Kochetkova, S.K. *et al, Zh. Anal. Khim.*, 1976, **31**, 44 (*detn, Zr*)
Kjoeller, L. *et al, Acta Crystallogr., Sect. B*, 1978, **34**, 962 (*cryst struct, amide, N-hydroxy*)
Mandal, S.K. *et al, J. Indian Chem. Soc.*, 1978, **55**, 845 (*detn, U*)
Erickson, S.H., *Kirk-Othmer Encycl. Chem. Technol.*, 3rd Ed., Wiley, N.Y., 1978-1984, **20**, 500 (*rev*)
Levy, G., *Drug Metab. Rev.*, 1979, **9**, 1 (*rev, metab*)
Goldsmith, L.A., *Int. J. Dermatol.*, 1979, **18**, 32 (*rev, pharmacol*)
Zmievskaya, O.R. *et al, Zh. Anal. Khim.*, 1979, **34**, 908 (*detn, Ti*)
Grigor'eva, M.F. *et al, Zh. Anal. Khim.*, 1979, **34**, 2171 (*detn, V*)
Langade, A.D. *et al, Anal. Chem.*, 1980, **52**, 2031 (*detn, Sc*)
Krom, M.D., *Analyst (London)*, 1980, **105**, 305 (*detn, NH_3*)
Brune, K. *et al, Arzneim.-Forsch.*, 1984, **34**, 1060 (*rev, pharmacol*)
Shibasaki, J. *et al, J. Pharmacobio-Dyn.*, 1984, **7**, 804 (*Salicylamide*)
Kashino, S. *et al, Acta Crystallogr., Sect. C*, 1986, **42**, 457 (*Salicylanilide*)
Khadikar, P.V. *et al, Spectrochim. Acta, Part A*, 1986, **42**, 755 (*ir, thermodynamics*)
Piccolo, O. *et al, Tetrahedron*, 1986, **42**, 885 (*Salicylanilide*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 188.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CMG000, EEM000, SAH000, SAH500, SAI000, SAL000, SAL500, SJO000.

4-Hydroxybenzoic acid, 9CI H-00113

Catalpinic acid (obsol.). p-*Salicylic acid*
[99-96-7]
$C_7H_6O_3$ M 138.123
Isol. from many plants, free and combined. First isol. from fruits of *Catalpa bignonioides*. Prisms (xylene/EtOH), cryst. + $1H_2O$ (EtOH aq. or Me_2CO/EtOH). Mp 213-214°. pK_{a1} 4.67; pK_{a2} 9.37 (25°).
▷ DH1925000.

Me ester: [99-76-3]. *Methyl 4-hydroxybenzoate.* ***Methylparaben.*** *Methyl parasept. Nipagin M. Tegosept M*
$C_8H_8O_3$ M 152.149
Queen bee pheromone. Food and drug preservative. Needles (EtOH aq.). Mp 131° (127-129°). Bp 270-280° dec. Used as Na salt.
▷ Allergen. DH2450000.

Et ester: [120-47-8]. ***Ethylparaben,*** **INN, USAN.** *Ethyl 4-hydroxybenzoate. Ethyl butex. Ethyl chemosept. Ethyl parasept. Mekkings E. Mycocten. Nipagin A. Solbrol A. Tegosept E*
$C_9H_{10}O_3$ M 166.176
Rectal gland secretion from male melon flies (*Dacus cucurbitae*). Pharmaceutical aid, antifungal agent. Preservative. Cryst. Mp 116°. Bp 297-298° dec. pK_{a1} 8.50 (25°).
▷ Allergen. DH2190000.

Me ether: see *4-Methoxybenzoic acid, M-00079*

Hydrazide: [5351-23-5].
$C_7H_8N_2O_2$ M 152.152
Colorimetric reagent for reducing sugars. Leaflets (H_2O). Mp 260°.
[5026-62-0, 35285-69-9]

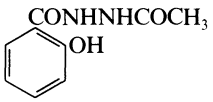
Struve, A. *et al, J. Prakt. Chem.*, 1895, **52**, 239 (*synth, hydrazide*)
King, L.C. *et al, J. Am. Chem. Soc.*, 1945, **67**, 2089.
Pearl, I.A., *J. Org. Chem.*, 1947, **12**, 85.
Kaemmerer, H. *et al, Spectrochim. Acta, Part A*, 1968, **24**, 2059 (*uv*)
Arnold, G. *et al, Z. Naturforsch., B*, 1968, **23**, 1192 (*ir, hydrazide*)
Exner, O. *et al, Collect. Czech. Chem. Commun.*, 1970, **35**, 1371; 1971, **36**, 534 (*ir*)
Scott, K.N., *J. Magn. Reson.*, 1970, **2**, 361; *J. Am. Chem. Soc.*, 1972, **94**, 8564 (*pmr, cmr*)
Kozior, M.J., *Anal. Chim. Acta*, 1981, **128**, 195 (*use, hydrazide*)
Slessor, K.N., *Nature (London)*, 1988, 332, 354.

Perkins, M.V. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1990, 1111.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BSC000, HJL000, HJL500, HJN000, HNU500, PNO250, SA1500.

2-Hydroxybenzoic acid 2-acetylhydrazide, 9CI H-00114

N-*Acetyl*-N′-*salicylhydrazine*

[20349-50-2]



$C_9H_{10}N_2O_3$ M 194.190

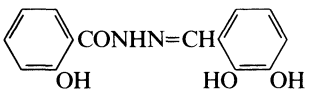
Used as 1% EtOH soln. for gravimetric detn. of Ti (pH 3.5-5). Cryst. (EtOH). Sol. EtOH. Mp 183°.

Tewari, S.R. *et al*, *Mikrochim. Acta*, 1979, **2**, 397 (*synth, detn, Ti*)

2-Hydroxybenzoic acid [(2,3-dihydroxyphenyl)methylene]hydrazide, 9CI H-00115

2,3-Dihydroxybenzaldehyde salicyloylhydrazone

[92071-89-1]



$C_{14}H_{12}N_2O_4$ M 272.260

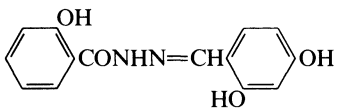
Used a 0.1m*M* EtOH soln. for fluorimetric detn. of Zn (10-800 ppb, λ_{max} 530 nm, pH 6-7.5, 60% EtOH). Cryst. (EtOH aq.). Sol. EtOH; sl. sol. H_2O. Mp 240-243°.

Afonso, A.M. *et al*, *Mikrochim. Acta*, 1984, **2**, 53 (*synth, detn, Zn*)

2-Hydroxybenzoic acid [(2,4-dihydroxyphenyl)methylene]hydrazide, 9CI H-00116

Salicylic acid resorcinalhydrazide. 2,4-Dihydroxybenzaldehyde 2-hydroxybenzoylhydrazone

[70478-94-3]



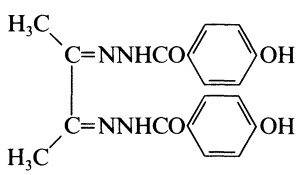
$C_{14}H_{12}N_2O_4$ M 272.260

Used as 0.01*M* soln. in Me_2CO or EtOH for photometric detn. of Ti (λ_{max} 400 nm, ε 24000, pH 0.8-1.8). Grey powder. Spar. sol. Me_2CO, EtOH, dioxan, DMF, $CHCl_3$, C_6H_6.

Chacrawazty, D. *et al*, *J. Pharm. Sci.*, 1969, **43**, 26 (*synth*)
Karpova, O.I. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 292 (*detn, Ti*)

4-Hydroxybenzoic acid (1,2-dimethyl-1,2-ethanediylidene)dihydrazide, 9CI H-00117

2,3-Butanedione bis(4-hydroxybenzoylhydrazone). Dimethylglyoxal bis(4-hydroxybenzoylhydrazone)



$C_{18}H_{18}N_4O_4$ M 354.365

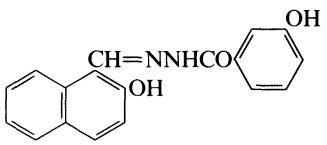
Used as a 1m*M* soln. in 0.01*M* NaOH for photometric detn. of Bi, Ca, Cd, La. Cryst. (EtOH). Sol. EtOH, DMF, alkalis.

Lever, M., *Anal. Chim. Acta*, 1973, **65**, 311 (*use*)

3-Hydroxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, 9CI H-00118

2-Hydroxy-1-naphthalenecarboxaldehyde 3-hydroxybenzoylhydrazone

[69733-99-9]



$C_{18}H_{14}N_2O_3$ M 306.320

Used as 0.1m*M* Me_2CO soln. for fluorimetric detn. of Al (λ_{max} 475 nm, pH 3-4, 60% Me_2CO). Yellow cryst. (EtOH). Sol. EtOH, Me_2CO; sl. sol. H_2O.

Dolgorev, A.V. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 2357 (*synth, detn, Al*)

4-Hydroxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, 9CI H-00119

2-Hydroxy-1-naphthalenecarboxaldehyde 4-hydroxybenzoylhydrazone

[69733-97-7]

$C_{18}H_{14}N_2O_3$ M 306.320

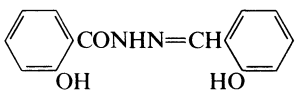
Used as 0.1m*M* Me_2CO soln. for fluorimetric detn. of Al (λ_{max} 480 nm, pH 3-4, 60% Me_2CO). Yellow cryst. (EtOH). Sol. EtOH, Me_2CO; sl. sol. H_2O.

Dolgorev, A.V. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 2357 (*synth, detn, Al*)

2-Hydroxybenzoic acid [(2-hydroxyphenyl)methylene]hydrazide, 9CI H-00120

Salicylic acid salicylhydrazide. Salicyloylsalicylalhydrazone

[3232-36-8]



$C_{14}H_{12}N_2O_3$ M 256.260

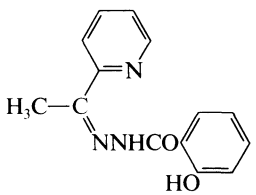
Used as a 0.5% soln. in EtOH for photometric detn. of Ti; extraction-photometric detn. of Fe, Ti, V. Cryst. (EtOH aq.). Sol. EtOH. Mp 277°.

Dolgorev, A.V. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1093 (*use*)

2-Hydroxybenzoic acid [2-(2-pyridinyl)ethylidene]hydrazide, 9CI H-00121

2-Acetylpyridine salicyloylhydrazone

[76122-69-5]



$C_{14}H_{13}N_3O_2$ M 255.276

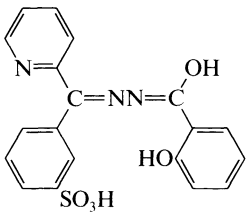
Incorr. named in reference. Used as 0.05% $CHCl_3$ soln. for extraction-photometric detn. of V (λ_{max} 415 nm, ε 18700). Yellow cryst. (EtOH). Sol. EtOH, DMF, $CHCl_3$, C_6H_6. Mp 230-234°.

Garcia-Vargas, M. *et al*, *Analyst (London)*, 1980, **105**, 965 (*synth, detn, V*)

2-Hydroxybenzoic acid [2-pyridinyl(3-sulfophenyl)methylene]hydrazide, 9CI H-00122

3-(Picolydene)benzenesulfonic acid 2-hydroxybenzoylhydrazone

[98774-26-6]



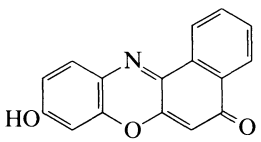
$C_{19}H_{15}N_3O_5S$ M 397.411

Used as 0.1% DMF soln. for photometric detn. of Ni (λ_{max} 375 nm, ε 36000), Co, V. Cryst. (EtOH aq.). Sol. DMF, H_2O; mod. sol. EtOH, Me_2CO.

Garcia-Vargas, M. *et al*, *Anal. Chim. Acta*, 1985, **171**, 313 (*synth, use*)

9-Hydroxy-5*H*-benzo[*a*]phenoxazin-5-one, 9CI H-00123

[792-08-5]



$C_{16}H_9NO_3$ M 263.252

Acid-base indicator. Orange cryst. Mp 305-307°.

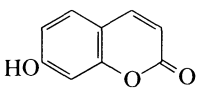
Ac: 9-Acetoxybenzo[α]phenoxazin-5-one
Mp 241-242°.

Afanas'eva, G.B. *et al*, *Zh. Obshch. Khim.*, 1964, **34**, 3893 (*synth*)
Stuzka, V. *et al*, *Collect. Czech. Chem. Commun.*, 1972, **37**, 1121; 1977, **42**, 1332 (*use*)

7-Hydroxy-2*H*-1-benzopyran-2-one, 9CI H-00124

*7-Hydroxycoumarin. **Umbelliferone.** Hydrangin. Skimmetin*

[93-35-6]



$C_9H_6O_3$ M 162.145

Occurs widely in plants including, *Angelica*, *Artemesia*, *Coronilla*, *Ferula* and *Ruta* spp. Phytoalexin of infected sweet potato. Used in sunscreen lotions and creams. Used as an acid-base indicator (pH range 6.5-8.0). Used as a 0.1% aq. soln. as metal fluorescent indicator for detn. of Ca, Cu. Cryst. (toluene), needles (H_2O), yellow cryst. (EtOH aq.). Sol. EtOH; sl. sol. hot H_2O or Et_2O; mod. sol. Me_2CO. Mp 230-232° (223-224°, 227-228°). pK_{a1} 7.7.

▷ GN6820000.

O-*Ac:* [10387-49-2]. *Acetylumbelliferone*
$C_{11}H_8O_4$ M 204.182
Constit. of *Daphne gnidiodes*. Prisms or needles (H_2O). Mp 140°.

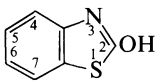
O-*Benzoyl:* [31005-05-7].
$C_{16}H_{10}O_4$ M 266.253
Cryst. (AcOH). Mp 16°.

Sethna, S. *et al*, *Org. React. (N.Y.)*, 1953, **7**, 20 (*synth*)
Org. React. (N.Y.), 1953, **VII**, 20 (*synth*)
Sen, K. *et al*, *J. Org. Chem.*, 1959, **24**, 316 (*synth, uv*)
Barnes, C.J. *et al*, *Aust. J. Chem.*, 1964, **17**, 975 (*ms*)
das Gupta, A.K. *et al*, *J. Chem. Soc. C*, 1969, 29 (*synth*)
González, A.G. *et al*, *An. Quim.*, 1973, **69**, 1013 (*pmr*)
Huitnik, G.M. *et al*, *Talanta*, 1974, **21**, 1193 (*detn, Ca, Cu*)
Cussans, N.J. *et al*, *Tetrahedron*, 1975, **31**, 2719 (*cmr*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*ind*)
Murray, R.D.H., *Prog. Chem. Org. Nat. Prod.*, 1978, **35**, 200 (*rev*)
Hardt, T.J., *Diss. Abstr. Int., B*, 1982, **43**, 1445 (*pharmacol*)
Ritschel, W.A. *et al*, *Arzneim.-Forsch.*, 1983, **33**, 836 (*metab*)
Joseph-Nathan, P. *et al*, *J. Heterocycl. Chem.*, 1984, **21**, 1141 (*pmr, deriv*)
Ueno, K., *Acta Crystallogr., Sect. C*, 1985, **41**, 1786 (*cryst struct*)
Abu-Eittah, R.H. *et al*, *Can. J. Chem.*, 1985, **63**, 1173 (*uv*)
Talapatra, B. *et al*, *Indian J. Chem., Sect. B*, 1986, **25**, 1122 (*synth*)
Ulubelen, A. *et al*, *J. Nat. Prod. (Lloydia)*, 1986, **49**, 692 (*acetate*)

2-Hydroxybenzothiazole H-00125

2-Benzothiazolol, 8CI. 1-Hydroxybenzthiazole (obsol.)

[934-34-9]



C_7H_5NOS M 151.189

Gives colour reaction with Pd (λ_{max} 368 nm). Cryst. Minor tautomer of 2(3*H*)-Benzothiazolone, B-00090.

Ac: [15456-95-8].
$C_9H_7NO_2S$ M 193.226
Mp 60°.

Me ether: [63321-86-8]. *1-Methoxybenzothiazole*
C_8H_7NOS M 165.215
Cryst. (MeOH) with odour of wintergreen. Mp 34-35°. Bp_{30} 119°.

Et ether: [70292-64-7]. *1-Ethoxybenzothiazole*
C_9H_9NOS M 179.242
Mp 25°. Bp >360°.

Davies, W.H. *et al*, *J. Chem. Soc.*, 1942, 304 (*deriv*)
Joshi, S.R. *et al*, *Indian J. Chem.*, 1973, **11**, 590 (*detn, Pd*)
Faure, R. *et al*, *Org. Magn. Reson.*, 1978, **11**, 617 (*tautom, cmr*)

4-Hydroxybenzothiazole H-00126

4-Benzothiazolol, 8CI

[7405-23-4]

C_7H_5NOS M 151.189

Used for gravimetric detn. of Cu, Ni, Zn. Yellow cryst. Sol. H_2O. Mp 143.5°.

Erlenmeyer, H. *et al*, *Helv. Chim. Acta*, 1938, **21**, 95; 1941, **24**, 1159.
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **1**, 208 (*synth, use*)

6-Hydroxybenzothiazole H-00127

6-Benzothiazolol, 9CI

[13599-84-3]

C_7H_5NOS M 151.189

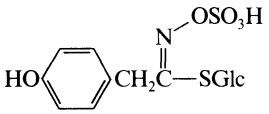
Useful for the enhancement of some peroxidase-catalysed chemiluminescent oxidn. reactions. Prisms (EtOAc/pet. ether). Mp 185-186°.

Boggust, W.A. *et al*, *J. Chem. Soc.*, 1949, 355 (*synth*)
Sawhney, S.N. *et al*, *J. Org. Chem.*, 1979, **44**, 1136 (*pmr*)
Thorpe, G.H.G. *et al*, *Anal. Biochem.*, 1985, **145**, 96 (*use*)

4-Hydroxybenzyl glucosinolate H-00128

*1-Thio-β-D-glucopyranose 1-[4-hydroxy-*N*-(sulfooxy) benzeneethanimidate]*. ***Glucosinalbin.*** *Glucosinalbate*

[19253-84-0]



$C_{14}H_{19}NO_{10}S_2$ M 425.437

Isol. from *Brassica* seeds.

Tetramethylammonium: [20643-28-1].
Prisms (EtOH aq.). Mp 191-192°. $[\alpha]_D^{24}$ −20° (c, 2 in H_2O).

4-Me ether: [499-27-4]. *4-Methoxybenzyl glucosinolate.* ***Glucoaubrietin***
$C_{15}H_{21}NO_{10}S_2$ M 439.464
Isol. from *Aubretia* sp.

4-Me ether, K salt: Glass. Mp 148-155° dec.

4-Me ether, tetramethylammonium salt: [21290-06-2].
Prisms (EtOH aq.). Mp 187-189°. $[\alpha]_D^{27}$ −21° (c, 2 in H_2O).

4-Me ether, tetra-Ac: [21412-37-3].
Needles (EtOH) (as K salt). Mp 187-190° (173-174°) (K salt). $[\alpha]_D^{27}$ −7° (c, 0.93 in H_2O).

Salt with sinapine: [20196-67-2]. ***Sinalbine.*** *Sinapinyl glucosinalbate*
Isol. from mustard seed (*Sinapsis alba*) and other crucifers. Acid base indicator (pH range: 6.2-8.4; colour change: colourless → yellow). Cryst. + $5H_2O$. Mp 83-84° (hydrate), Mp 139° (anhyd.). $[\alpha]_D$ −8.23° (H_2O).

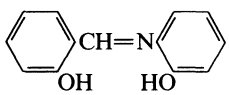
[16411-05-5, 27299-07-6, 74542-19-1]

Harrison, K., *Biochem. J.*, 1932, **26**, 88 (*Sinalbine, use*)
Kjaer, A. *et al*, *Acta Chem. Scand.*, 1956, **10**, 26; 1968, **22**, 2 (*isol, deriv*)
Ettlinger, M.G. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 4172 (*struct*)
Kindl, H. *et al*, *Monatsh. Chem.*, 1964, **95**, 439; 1965, **96**, 527; 1969, **100**, 1773 (*biosynth*)
Benn, M.H., *Can. J. Chem.*, 1965, **43**, 1 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*Sinalbine, use*)
Fenwick, G.R. *et al*, *Biomed. Mass Spectrom.*, 1980, **7**, 410; 1981, **8**, 265 (*ms*)
Cox, I.J. *et al*, *Carbohydr. Res.*, 1984, **132**, 323 (*pmr, cmr*)

2-(2-Hydroxybenzylideneamino)phenol H-00129

2-[[(2-Hydroxyphenyl)imino]methyl]phenol, 9CI. Salicylidene-2-aminophenol. Manganon IREA

[1761-56-4]



$C_{13}H_{11}NO_2$ M 213.235

Used as a 0.1% soln. in Me_2CO for extraction-photometric detn. of Al, Cu (λ_{max} 423 nm, ε 6200), Ni (λ_{max} 418 nm, ε 17000, pH 8.5-9.8, $CHCl_3$): as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 505 nm, pH 5.8), Ga (λ_{max} 515 nm, pH 4.0), Be (λ_{max} 440 nm, pH 10.5), In; as 0.1m*M* soln. in EtOH for photometric detn. of Co, Fe, Ti. Orange-red cryst. (EtOH). Sol. Me_2CO, EtOH, H_2O, DMF. Mp 187°, Mp 183-185°.

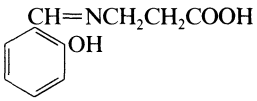
[51152-29-5]

Freeman, D.C. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 2676 (*synth*)
Hovorka, V., *Chem. Listy*, 1958, **52**, 1708 (*detn, Co, Fe, Ti*)
Saylor, J.H. *et al*, *Anal. Chim. Acta*, 1964, **30**, 427 (*synth, detn, Al, Ga, In*)
Dagnall, R.M. *et al*, *Talanta*, 1966, **13**, 609 (*detn, Al*)
Ishii, H. *et al*, *Bull. Chem. Soc. Jpn.*, 1969, **42**, 1558 (*detn, Ni*)
Ishii, H. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1969, **18**, 230 (*detn, Cu*)
Stolyarov, K.P. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1890 (*detn, Al*)
Morishige, K., *Anal. Chim. Acta*, 1974, **73**, 245; 1980, **121**, 301 (*synth, detn, Al, Be, Ga*)

3-(2-Hydroxybenzylideneamino)propanoic acid H-00130

N-[(*2-Hydroxyphenyl*)*methylene*]-*β-alanine, 9CI.* N-*Salicylidene-β-alanine*

[34295-85-7]

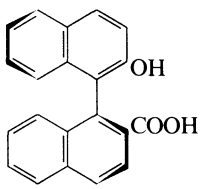


$C_{10}H_{11}NO_3$ M 193.202

Used as complexing agent for Cd, Co, Cu, Mn, Ni, $UO_2^{2\oplus}$, Zn. Cryst.

Mehta, R.K. *et al*, *Indian J. Appl. Chem.*, 1971, **34**, 27 (*detn, Cu*)
Mehta, R.K. *et al*, *J. Prakt. Chem.*, 1972, **314**, 950 (*pKa, use*)

2′-Hydroxy-[1,1′-binaphthalene]-2-carboxylic acid, 9CI H-00131



(*S*)-*form*

$C_{21}H_{14}O_3$ M 314.340

(S)-form

Me ether: [80317-69-7]. *2′-Methoxy-[1,1′-binaphthalene]-2-carboxylic acid*
$C_{22}H_{16}O_3$ M 328.367
$[\alpha]_D$ −25.5° (c, 2.60 in THF).

Me ether, chloride: [116741-65-2].
$C_{22}H_{15}ClO_2$ M 346.812
Derivatisation reagent for hplc separation of enantiomeric alcohols and amines. Prisms. Mp 139-142°.

(±)-form

Me ether: [93603-09-9].
Cryst. (EtOH aq.). Mp 258.5-260°.

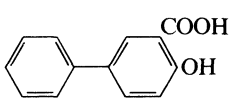
[80317-69-7, 106909-96-0, 124579-19-7]

Wilson, J.M. *et al*, *J. Org. Chem.*, 1984, **49**, 4930 (*synth*)
Miyano, S. *et al*, *Bull. Chem. Soc. Jpn.*, 1986, **59**, 2044; 1989, **62**, 1528, 3886 (*synth, resoln, use*)
Hotta, H. *et al*, *Chem. Lett.*, 1990, 143 (*synth*)

4-Hydroxy-3-biphenylcarboxylic acid, 8CI H-00132

2-Hydroxy-5-phenylbenzoic acid. 5-Phenylsalicylic acid

[323-87-5]



$C_{13}H_{10}O_3$ M 214.220

Used as 1% soln. in EtOH for indirect photometric detn. of $F^{\ominus}$ (using reagent as Fe(*III*) complex). Needles (EtOAc/pet. ether or C_6H_6). Mp 215-216° (212-213°).

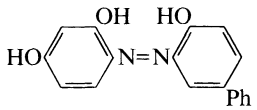
Me ester: [17504-13-1].
$C_{14}H_{12}O_3$ M 228.247
Needles (pet. ether). Mp 93-94°.

Me ether: [17504-10-8]. *4-Methoxy-3-biphenylcarboxylic acid*
$C_{14}H_{12}O_3$ M 228.247
Pale-yellow plates (Et_2O). Mp 166-167°.

Fieser, L.F. *et al*, *J. Am. Chem. Soc.*, 1936, **58**, 1738.
Vorozhtsov, N.N. *et al*, *CA*, 1938, **32**, 7907 (*synth*)
Nichols, M.L. *et al*, *Anal. Chem.*, 1954, **26**, 703 (*detn*, $F^{\ominus}$)
Baine, O. *et al*, *J. Org. Chem.*, 1954, **19**, 510 (*synth*)
Witiak, D.T. *et al*, *J. Med. Chem.*, 1975, **18**, 934 (*synth*)

4-[4-Hydroxy-3-biphenylylazo]-1,3-benzenediol H-00133

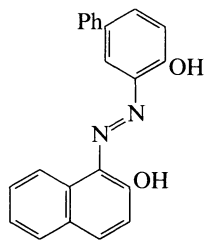
3-(2,4-Dihydroxyphenylazo)-4-hydroxybiphenyl



$C_{18}H_{14}N_2O_3$ M 306.320
Used as metal indicator for titrimetric detn. of Ca, Mg. Orange-red cryst. (C_6H_6). Sol. EtOH, C_6H_6, alkalis. Mp 123.5°. pKa_1 6.7; pK_{a2} 8.1; pK_{a3} 11.4 (μ = 0.1).

Diehl, H. *et al*, *Anal. Chem.*, 1960, **32**, 1120.

1-(4-Hydroxy-3-biphenylylazo)-2-naphthol H-00134

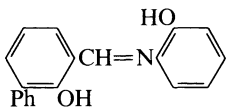


$C_{22}H_{16}N_2O_2$ M 340.381
Used for titrimetric detn. of Ca, Mg. Red cryst. (C_6H_6). Sol. EtOH, C_6H_6, Me_2CO; sl. sol. H_2O. Mp 191-193° (155° dec.). pK_{a1} 8.0; pK_{a2} 11.8 (μ = 0.1).

Diehl, H. *et al*, *Anal. Chem.*, 1960, **32**, 1120 (*synth*, *detn*, *Ca*, *Mg*)

N-(2-Hydroxy-3-biphenylyl)methylene-2-hydroxyaniline H-00135

2-Hydroxy-3-biphenylcarboxaldehyde 2-hydroxyanil



$C_{19}H_{15}NO_2$ M 289.333
Used as a 1m*M* soln. in EtOH for fluorimetric detn. of Al. Cryst. (EtOH). Sl. sol. H_2O; sol. EtOH. Mp 172-172.5°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth*, *detn*, *Al*)

2-[[2-Hydroxy-1,1-bis(hydroxymethyl)ethyl]amino]ethanesulfonic acid, 9CI H-00136

N-[*2-Hydroxy-1,1-bis(hydroxymethyl)ethyl*]*taurine*, *8CI*. N-*Tris(hydroxymethyl)methyl-2-aminoethanesulfonic acid*. *TES*
[7365-44-8]

$(HOCH_2)_3CNHCH_2CH_2SO_3H$

$C_6H_{15}NO_6S$ M 229.254
Good's buffer with pH range 6.8-8.2. Cryst. (EtOH aq.). Mod. sol. H_2O. Mp 226-228°. pK_a 7.5 (20°).

[70331-82-7, 83446-24-6]

Good, N.E. *et al*, *Biochemistry*, 1966, **5**, 467 (*synth*, *use*)
Amaralis Vega, C. *et al*, *Anal. Chem.*, 1976, **48**, 1293 (*props*)
Pfeiffer, S.E. *et al*, *J. Biol. Chem.*, 1976, **251**, 5112 (*use*)
Nakon, R. *et al*, *Science* (*Washington, D.C.*), 1983, **221**, 749 (*use*)
Jenkins, W.T. *et al*, *Anal. Biochem.*, 1985, **145**, 362 (*use*)

3-[[2-Hydroxy-1,1-bis(hydroxymethyl)ethyl]amino]-1-propanesulfonic acid, 9CI H-00137

N-*Tris(hydroxymethyl)methyl-3-aminopropanesulfonic acid*. *TAPS*
[29915-38-6]

$(HOCH_2)_3CNHCH_2CH_2CH_2SO_3H$

$C_7H_{17}NO_6S$ M 243.280
Good's buffer with pH range 7.7-9.1. Hygroscopic cryst. Mod. sol. H_2O. Mp 194°, Mp 240° dec. pK_a 8.4 (20°).

[91000-53-2]

Gregory, J.D. *et al*, *Science* (*Washington, D.C.*), 1970, **169**, 97 (*use*)
Zeid, I. *et al*, *Justus Liebigs Ann. Chem.*, 1974, 667 (*synth*)
McGlothlin, C.D. *et al*, *Anal. Lett.*, 1976, **9**, 245 (*props*)
Hutchens, T.W. *et al*, *J. Chromatogr.*, 1986, **359**, 157 (*use*)

[2-Hydroxy-1,1-bis(hydroxymethyl)ethyl]carbamodithioic acid, 9CI H-00138

N-[*Tris(hydroxymethyl)methyl*]*dithiocarbamic acid*

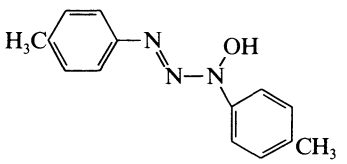
$(HOCH_2)_3CNHC(S)SH$

$C_5H_{11}NO_3S_2$ M 197.279
Used for amperometric titrimetric detn. of Co, Ni. Cryst.

Chaudhuri, H. *et al*, *Indian J. Chem.*, 1975, **13**, 1083 (*detn*, *Co*, *Ni*)

3-Hydroxy-1,3-bis(4-methylphenyl)triazene H-00139

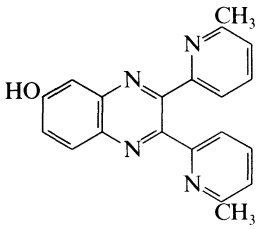
*3-Hydroxy-1,3-di-*p*-tolyltriazene*, *8CI*
[5756-85-4]



$C_{14}H_{15}N_3O$ M 241.292
Used as EtOH soln. for photometric detn. of Pd, Cu. Yellow cryst. Sol. EtOH. Mp 131°.

Purohit, D.N. *et al*, *J. Indian Chem. Soc.*, 1966, **43**, 703 (*synth*, *detn*, *Cu*, *Pd*)
Purohit, D.N., *Talanta*, 1967, **14**, 353 (*rev*)

6-Hydroxy-2,3-bis(6-methyl-2-pyridyl) quinoxaline H-00140



$C_{20}H_{16}N_4O$ M 328.373

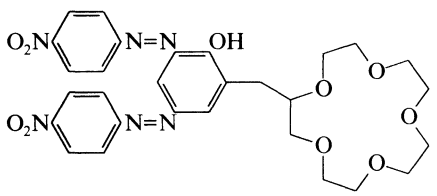
Me ether: [17401-69-3]. *6-Methoxy-2,3-bis(6-methyl-2-pyridyl)quinoxaline, 8CI*
$C_{21}H_{18}N_4O$ M 342.399
Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 515 nm, ε 5980, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 97°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)

2-Hydroxy-3,5-bis[(4-nitrophenylazo) phenyl]methyl-15-crown-5 H-00141

2,4-Bis[(4-nitrophenyl)azo]-6-(1,4,7,10,13-pentaoxacyclopentadec-2-ylmethyl)phenol, 9CI

[100443-60-5]



$C_{29}H_{32}N_6O_{10}$ M 624.606
Used as 1,2-dichloroethane soln. for extraction sepn. of Na from K and Cs. Brown powder (EtOH). Sol. EtOH, $CHCl_3$, 1,2-dichloroethane. pK_a 8.61.

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1985, **173**, 193 (*synth, use*)

N-Hydroxybutanamide, 9CI H-00142

Butyrohydroxamic acid

[4312-91-8]

$H_3CCH_2CH_2CONHOH$

$C_4H_9NO_2$ M 103.121
Used as EtOH soln. for photometric detn. of V(*V*) (λ_{max} 450 nm). Cryst. Sol. EtOH, Me_2CO.

Bass, V.C. *et al*, *Talanta*, 1966, **13**, 735 (*detn, V*)

N-Hydroxy-2-butenamide, 9CI H-00143

Crotonohydroxamic acid

$H_3CCH{=}CHCONHOH$

$C_4H_7NO_2$ M 101.105

N-*Ph:* [22861-53-6]. N-*Phenylcrotonohydroxamic acid, 8CI.* N-*Hydroxy*-N-*phenyl-2-butenamide, 9CI*
$C_{10}H_{11}NO_2$ M 177.202
Used as 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 535 nm, ε 4400, 4*M* HCl). Cryst. Sol. $CHCl_3$.

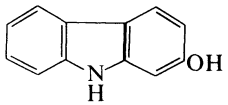
N-(*4-Methylphenyl*): [22861-54-7]. N-*Hydroxy*-N-(*4-methylphenyl*)-*2-butenamide, 9CI*
$C_{11}H_{13}NO_2$ M 191.229
Used as 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 540 nm, ε 4800, 4*M* HCl). Cryst. Sol. $CHCl_3$.

Bhura, D.C. *et al*, *J. Chem. Eng. Data*, 1969, **14**, 278 (*synth, deriv*)
Bhura, D.C. *et al*, *Anal. Chim. Acta*, 1971, **53**, 379 (*detn, V*)

2-Hydroxycarbazole H-00144

9H-Carbazol-2-ol, 9CI

[86-79-3]



$C_{12}H_9NO$ M 183.209
Reagent for the detn. of formaldehyde and pyruvaldehyde. Mp 276° (259-262°).

Ac:
$C_{14}H_{11}NO_2$ M 225.246
Mp 188°.

N-*Me:* [51846-67-4]. *9-Methyl-9H-carbazol-2-ol. 2-Hydroxy-9-methylcarbazole*
$C_{13}H_{11}NO$ M 197.236
Cryst. (Me_2CO/pet. ether). Mp 165°.

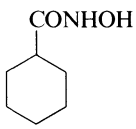
Et ether: 2-Ethoxycarbazole
$C_{14}H_{13}NO$ M 211.263
Mp 217°.

Haglid, F. *et al*, *Acta Chem. Scand.*, 1961, **15**, 1761 (*synth*)
Sawicki, E. *et al*, *Mikrochim. Acta*, 1962, 741 (*detn, formaldehyde, pyruvaldehyde*)
Oikawa, Y. *et al*, *J. Org. Chem.*, 1976, **41**, 1118 (*synth, ir, uv, pmr*)
Flo, C. *et al*, *Justus Liebigs Ann. Chem.*, 1987, 509 (*synth, ir, pmr, ms, deriv*)

N-Hydroxycyclohexanecarboxamide H-00145

Cyclohexanecarbohydroxamic acid

[13810-02-1]



$C_7H_{13}NO_2$ M 143.185
Cryst. (MeOH). Mp 131-132°.

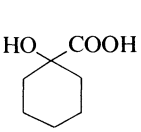
N-*Ph: Cyclohexanoylphenylhydroxylamine*
$C_{13}H_{17}NO_2$ M 219.283
Used as a 0.5% soln. in $CHCl_3$ to give colour reaction with V (λ_{max} 520 nm, ε 4200, $CHCl_3$). Red-orange flakes (EtOH aq.). Mp 124°.

Armour, C.A. *et al*, *Can. J. Chem.*, 1957, **35**, 1454 (*synth, deriv*)
Cohen, W. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 3928 (*synth*)
Cassidy, R.M. *et al*, *Can. J. Chem.*, 1968, **46**, 327 (*use, deriv*)

1-Hydroxycyclohexanecarboxylic acid, 9CI H-00146

Cyclohexanol-1-carboxylic acid

[1123-28-0]



$C_7H_{12}O_3$ M 144.170
Used as 5% aq. soln. for gravimetric detn. of Zr. Prisms (H_2O or EtOH). Mod. sol. H_2O (7.3 g per 100 cm^3 at 20°). Mp 108-109°. pK_{a1} 4.16 (25°).

Me ester: [6149-50-4].

$C_8H_{14}O_3$ M 158.197
Bp_{17} 103°. pK_a 5.29.

Et ester:
$C_9H_{16}O_3$ M 172.224
$Bp_{0.6}$ 67°.

3,5-Dinitrobenzoyl: Mp 165-166°.

Amide: [7500-69-8].
$C_7H_{13}NO_2$ M 143.185
Needles (EtOAc). Mp 128-129°.

Nitrile: [931-97-5]. *1-Cyanocyclohexanol. Cyclohexanone cyanhydrin*
$C_7H_{11}NO$ M 125.170
Sol. H_2O; insol. org. solvs. Mp 29°. $Bp_{17.5}$ 125-126°.
▷ GU7710000.

Nitrile, benzoyl: [32379-40-1].
$C_{14}H_{15}NO_2$ M 229.278
Cryst. Mp 71°.

Tarbouriech, C., *C. R. Hebd. Seances Acad. Sci.*, 1909, **149**, 604.
Ultée, *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1909, **28**, 4, 19.
v. Auwers, K. *et al*, *Ber.*, 1915, **48**, 1389 (*synth*)
Boeseken, *et al*, *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1932, **51**, 164.
Alimarin, I.P. *et al*, *Zh. Anal. Khim.*, 1961, **16**, 162 (*synth, use, detn, Zr*)
Harnden, M.R., *J. Chem. Soc. C*, 1969, 960 (*general synth*)
Carr, G. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1989, 359 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HKA000.

N-Hydroxydecanamide, 9CI H-00147

Decanohydroxamic acid. Caprihydroxamic acid

[2259-85-0]

$H_3C(CH_2)_8CONHOH$

$C_{10}H_{21}NO_2$ M 187.281
Cryst. Mp 88-88.5°.

N-*Ph:* [25310-16-1]. N-*Hydroxy*-N-*phenyldecanamide*, *9CI*. N-*Phenyldecanohydroxamic acid*, *8CI*
$C_{16}H_{25}NO_2$ M 263.379
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 500 nm, ε 4150, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

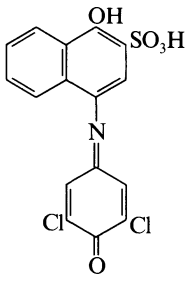
N-(*3-Methylphenyl*): [25310-18-3]. N-*Hydroxy*-N-(*3-methylphenyl*)*decanamide*
$C_{17}H_{27}NO_2$ M 277.406
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 510 nm ε 4450, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

N-(*4-Methylphenyl*): [25310-17-2]. N-*Hydroxy*-N-(*4-methylphenyl*)*decanamide*
$C_{17}H_{27}NO_2$ M 277.406
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 510 nm ε 4450 , 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

[3482-97-1]

Bayer, E. *et al*, *Angew. Chem.*, 1956, **68**, 698 (*synth, tlc*)
Gupta, V.K. *et al*, *J. Indian Chem. Soc.*, 1969, **46**, 831 (*synth*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

1-Hydroxy-4-[(3,5-dichloro-4-oxo-2,5-cyclohexadien-1-ylidene)amino]-2-naphthalenesulfonic acid H-00148



$C_{16}H_9Cl_2NO_5S$ M 398.222

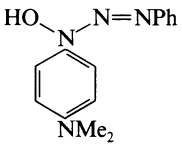
Na salt: Used as acid-base indicator; redox indicator. Used as 0.02% aq. soln. Red cryst. Sol. H_2O. pK_{a1} 6.1. E° +0.563 V.

Gibbs, H.D. *et al*, *Public Health Rep.*, 1925, **40**, 649; 1928, Suppl. No. 69.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 483 (*use*)

3-Hydroxy-3-(*p*-dimethylaminophenyl)-1-phenyltriazene H-00149

4-(1-Hydroxy-3-phenyl-2-triazenyl)-N,N-*dimethylbenzenamine*, *9CI*

[72072-29-8]



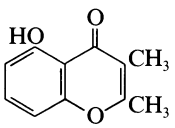
$C_{14}H_{16}N_4O$ M 256.307
Used for photometric detn. of Ru (λ_{max} 490 nm, ε 25000). Yellow-greenish cryst. (EtOH). Sol. EtOH, Et_2O. Mp 104-105°.

Purohit, D.N. *et al*, *Fresenius' Z. Anal. Chem.*, 1979, **298**, 160 (*synth, detn, Ru*)

5-Hydroxy-2,3-dimethyl-4*H*-1-benzopyran-4-one, 9CI H-00150

5-Hydroxy-2,3-dimethylchromone

[22598-82-9]



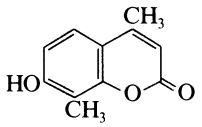
$C_{11}H_{10}O_3$ M 190.198
Used as 0.02*M* MeOH soln. for extraction-fluorimetric detn. of Ti (λ_{max} 517 nm, 40% MeOH, CCl_4). Yellow cryst. Sol. MeOH.

Murata, A. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1968, **17**, 1284 (*synth*)
Ito, T. *et al*, *Anal. Chim. Acta*, 1980, **113**, 343 (*detn, Ti*)

7-Hydroxy-4,8-dimethyl-2*H*-1-benzopyran-2-one H-00151

7-Hydroxy-4,8-dimethylcoumarin. 4,8-Dimethylumbelliferone

[4115-76-8]



$C_{11}H_{10}O_3$ M 190.198

Reagent for colorimetric detn. of $NO_3^{\ominus}$. Mp 257-258°.

Ac: Mp 135-136°.

Rangaswami, S. *et al*, *Proc. - Indian Acad. Sci., Sect. A*, 1938, **7**, 8; *CA*, **32**, 4561.

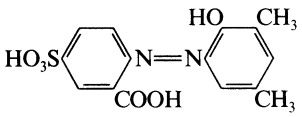
Laby, R.H. *et al*, *Nature (London)*, 1966, **210**, 298 (*use*)

Marcioni, S. *et al*, *Farmaco, Ed. Sci.*, 1979, **34**, 234 (*synth*)

2-[(2-Hydroxy-3,5-dimethylphenyl)azo]-5-sulfobenzoic acid H-00152

2'-Hydroxy-3',5'-dimethyl-4'-sulfoazobenzene-2-carboxylic acid

[57421-52-0]



$C_{15}H_{14}N_2O_6S$ M 350.351

Used as a 2m*M* aq. soln. for photometric detn. of Al (λ_{max} 510 nm, ε 2850), Cu, Fe(*III*) (λ_{max} 620 nm, ε 1270), Ni, Co (λ_{max} 520 nm, ε 8700). Orange-red cryst. (EtOH aq.). Sol. alkalis, EtOH; spar. sol H_2O; insol. C_6H_6. pK_{a1} 12.1; pK_{a2} 4.4 (0.2*M* KNO_3, 50% EtOH, 25°).

Sharma, O.P. *et al*, *Indian J. Chem., Sect. A*, 1975, **13**, 848 (*detn, Cu, Ni*)

Bokare, A. *et al*, *Indian J. Chem., Sect. A*, 1976, **14**, 541 (*pKa, detn, Fe*)

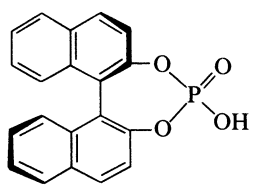
Deshmukh, K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 1012 (*detn, Al, Fe*)

Deshmukh, B.K. *et al*, *Fresenius' Z. Anal. Chem.*, 1978, **293**, 304 (*use*)

4-Hydroxydinaphtho[2,1-*d*:1',2'-*f*][1,3,2]dioxaphosphepin 4-oxide, 9CI H-00153

1,1'-Binaphthyl 2,2'-cyclic phosphoric acid

[35193-63-6]



(*R*)-*form*

$C_{20}H_{13}O_4P$ M 348.294

Resolving agent for bases, amino acids, and helicenes. Resolved *via* strychnine, cinchonine, or cinchonidine salts.

(R)-form [39648-67-4]

Solid. Mp 335-337°. $[\alpha]_D$ −609° (c, 0.24 in MeOH).

Strychnine salt: Solid. Mp 245-247°.

(S)-form [35193-64-7]

Cryst. Mp 350°. $[\alpha]_D^{22}$ +530° (c, 1.35 in MeOH). Rotn. quoted in the paper as $[\alpha]^{22}{}_J$, which seems to be a misprint.

(±)-form [50574-52-2]

Cryst. (MeOH). Mp 344-346°.

[50574-62-4]

Jacques, J. *et al*, *Tetrahedron Lett.*, 1971, 4617 (*synth, resoln, use*)

Mikeš, F. *et al*, *J. Chromatogr.*, 1978, **149**, 455 (*use*)

Hoyano, Y.Y. *et al*, *Can. J. Chem.*, 1980, **58**, 134 (*synth, resoln, derivs*)

Tetreau, C. *et al*, *Nouv. J. Chim.*, 1980, **4**, 423 (*cd*)

Arnold, W. *et al*, *Tetrahedron Lett.*, 1983, **24**, 343 (*use*)

Werner, W. *et al*, *J. Prakt. Chem.*, 1987, **329**, 1031 (*synth, use*)

Shapiro, M.J. *et al*, *J. Org. Chem.*, 1989, **54**, 5826 (*use*)

2-Hydroxy-3,5-dinitrobenzoic acid H-00154

3,5-Dinitrosalicylic acid

[609-99-4]

$C_7H_4N_2O_7$ M 228.118

Reagent for spectrophotometric anal. of reducing sugars. Derivatisation reagent for the chromatog. sepn. of unsymmetric hydrazines. Plates + $1H_2O$ (H_2O). Mp 173-174°. pK_{a1} 0.45; pK_{a2} 7.40 (25°, 0.1*M* KNO_3).

Me ester: [22633-33-6].
$C_8H_6N_2O_7$ M 242.145
Mp 127-128°.

Et ester: [22557-74-0].
$C_9H_8N_2O_7$ M 256.171
Cryst. (H_2O). Mp 99°.

Ph ester: [52040-46-7].
$C_{13}H_8N_2O_7$ M 304.215
Cryst. Mp 183°.

Amide: [2912-79-0].
$C_7H_5N_3O_6$ M 227.133
Yellow cryst. (H_2O). Mp 181°.

Nitrile: [25844-84-2]. *2-Cyano-4,6-dinitrophenol*
$C_7H_3N_3O_5$ M 209.118
Mp 72°.

Anilide: [78154-59-3].
$C_{13}H_9N_3O_6$ M 303.231
Mp 163°.

Me ether: [6083-67-6]. *2-Methoxy-3,5-dinitrobenzoic acid*
$C_8H_6N_2O_7$ M 242.145
Mp 165°.

Me ether, Me ester: [38102-00-0].
$C_9H_8N_2O_7$ M 256.171
Mp 69°.

Goldstein, H. *et al*, *Helv. Chim. Acta*, 1954, **37**, 1121 (*synth*)

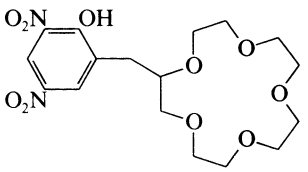
Meur, S.K. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **283**, 195 (*use*)

Jones, P.R. *et al*, *J. Org. Chem.*, 1986, **51**, 3016 (*synth*)

2-Hydroxy-3,5-dinitrobenzyl-15-crown-5 H-00155

2,4-Dinitro-6-(1,4,7,10,13-pentaoxacyclopentadec-2-ylmethyl) phenol, 9CI

[100443-57-0]



$C_{17}H_{24}N_2O_{10}$ M 416.384

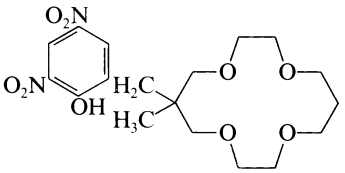
Used as 1,2-dichloroethane soln. for extraction of Na, K, Rb. Yellowish viscous oil. Sol. $CHCl_3$, 1,2-dichloroethane, dioxan. pK_a 3.97 (25°, aq. 10% dioxan).

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1985, **173**, 193 (*synth, use*)

6-(2-Hydroxy-3,5-dinitrobenzyl)-6-methyl-1,4,8,11-tetraoxacyclotetradecane H-00156

2-[(6-Methyl-1,4,8,11-tetraoxacyclotetradec-6-yl)methyl]-4,6-dinitrophenol, 9CI

[106419-35-6]



$C_{18}H_{26}N_2O_9$ M 414.411

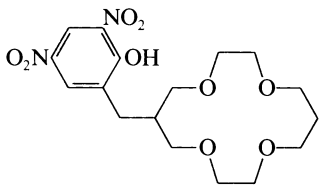
Used as soln. in 1,2-dichloroethane for extraction sepn. of Li (λ_{max} 374 nm, ε 16000) from other alkali metals (selectivity ratio Li/Na 76). Yellow solid (MeOH aq.). Sol. MeOH, 1,2-dichloroethane. Mp 95°.

Kimura, K. *et al*, *J. Org. Chem.*, 1987, **52**, 836 (*synth, detn, Li*)

6-(2-Hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane H-00157

2,4-Dinitro-6-(1,4,8,11-tetraoxacyclotetradec-6-ylmethyl) phenol, 9CI

[106434-35-9]



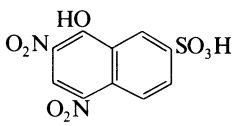
$C_{17}H_{24}N_2O_9$ M 400.385

Used as soln. in 1,2-dichloroethane for extraction sepn. of Li (λ_{max} 370 nm, ε 16000) from other alkali metals (selectivity ratio Li/Na 49). Pale yellow solid (MeOH aq.). Sol. MeOH, 1,2-dichloroethane. Mp 107°.

Kimura, K. *et al*, *J. Org. Chem.*, 1987, **52**, 836 (*synth, detn, Li*)

8-Hydroxy-5,7-dinitro-2-naphthalenesulfonic acid, 8CI H-00158

Flavianic acid. Acid yellow S. Citronin A. Naphthol yellow S. Sulfur yellow S. C.I. Acid yellow



$C_{10}H_6N_2O_8S$ M 314.232

Usually obt. as di-Na salt. Light-yellow needles + $3H_2O$. Sol. H_2O. Mp 100°.

Di-Na salt: [846-70-8].

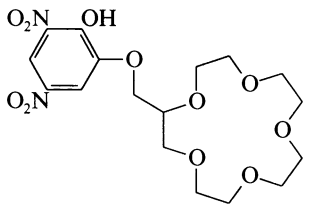
Dye for wool and silk, used in photography. Used as saturated aq. soln. for selective gravimetric detn. of Zr (pH 0.7, in the presence of Fe, Al, Cr, Be, U, Ti and Th). Greenish-yellow powder. Sol. H_2O. Mp 148-151°.

King, H.J.S., *J. Chem. Soc.*, 1924, **125**, 1334 (*synth*)
Yuteiko, T. *et al*, *Chem. Pharm. Bull.*, 1965, **13**, 399 (*uv*)
Rybakov, A.A. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 1110 (*detn, Zr*)

(2-Hydroxy-3,5-dinitrophenoxymethyl)-15-crown-5 H-00159

2,4-Dinitro-6-(1,4,7,10,13-pentaoxacyclopentadec-2-ylmethoxy)phenol, 9CI

[83416-20-0]



$C_{17}H_{24}N_2O_{11}$ M 432.383

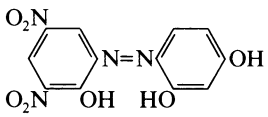
Used as soln. in 1,2-dichloroethane for extraction-photometric detn. of Na (λ_{max} 423 nm, ε 14000); extraction of alkali metals. Cryst. Sol. 1,2-dichloroethane, $CHCl_3$; spar. sol. H_2O. pK_a 3.16.

Nakamura, H. *et al*, *Anal. Chim. Acta*, 1982, **139**, 219 (*synth, use*)

4-[(2-Hydroxy-3,5-dinitrophenyl)azo]-1,3-benzenediol, 9CI H-00160

2,2',4'-Trihydroxy-3,5-dinitroazobenzene

[58566-40-8]



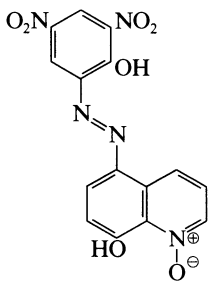
$C_{12}H_8N_4O_7$ M 320.218

Used as a 0.1% soln. in EtOH to give colour reactions with Al, Ga, Zn. Cryst.

Poluektov, N.S. *et al*, *Zh. Anal. Khim.*, 1958, **13**, 555 (*use*)

5-[(2-Hydroxy-3,5-dinitrophenyl)azo]-8-quinolinol 1-oxide, 9CI H-00161

[63319-33-5]



$C_{15}H_9N_5O_7$ M 371.265

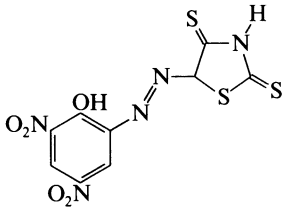
Used as 0.25m*M* soln. in Me_2CO for extraction-photometric detn. of Pd (λ_{max} 530 nm, ε 21000, toluene); as a soln. in NH_3 aq. for photometric detn. of Al, Co, Cu, Pb, Pd, Zn. Yellow-brown cryst. Sol. alkalis; spar. sol. EtOH (25mg per 100 cm^3), Me_2CO (30mg per 100 cm^3), H_2O (12mg per 100 cm^3). Mp 310-315°. λ_{max} 390 nm (EtOH).

Nemodruk, A.A. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 457 (*synth*)
Kleimenova, O.K. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 2170 (*detn, Pd*)

5-[(2-Hydroxy-3,5-dinitrophenyl)azo]-2,4-thiazolidinedithione, 9CI H-00162

Picraminazothiorhodanine

[36575-91-4]



$C_9H_5N_5O_5S_3$ M 359.367

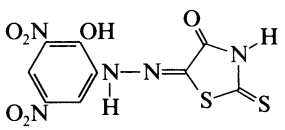
Used as EtOH soln. for photometric detn. of Pt(*II*). Red cryst. powder. Sol. EtOH, DMF.

Basargin, N.N. *et al*, *Zavod. Lab.*, 1972, **38**, 260 (*synth, detn, Pt*)

5-[(2-Hydroxy-3,5-dinitrophenyl)azo]-2-thioxo-4-thiazolidinone, 9CI H-00163

Picraminazorhodanine

[36575-90-3]



$C_9H_5N_5O_6S_2$ M 343.300

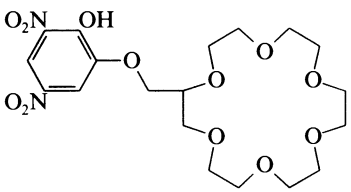
Several tautomers possible. Used as 0.1% soln. in EtOH for photometric detn. of noble metals. Red cryst. powder. Sol. EtOH, DMF, dioxan.

Propistsova, R.F. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 250 (*tautom*)
Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*synth, use*)

(2-Hydroxy-3,5-dinitrophenyl)oxymethyl-18-crown-6 H-00164

2-(1,4,7,10,13,16-Hexaoxacyclooctadec-2-ylmethoxy)-4,6-dinitrophenol, 9CI

[83416-18-6]



$C_{19}H_{28}N_2O_{12}$ M 476.436

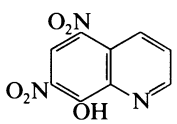
Used as soln. in 1,2-dichloroethane for extraction of alkali metals. Cryst. Sol. 1,2-dichloroethane, $CHCl_3$; spar. sol. H_2O. pK_a 3.27.

Nakamura, H. *et al*, *Anal. Chim. Acta*, 1982, **139**, 219 (*synth, use*)

8-Hydroxy-5,7-dinitroquinoline H-00165

5,7-Dinitro-8-quinolinol, 9CI. 5,7-Dinitrooxine

[1084-32-8]



$C_9H_5N_3O_5$ M 235.156

Forms anionic complexes extractable with Rhodamine B; used as 0.01*M* soln. in aq. NaOH for extraction-photometric detn. of Ca (ε 40000), Mg (λ_{max} 573 nm, C_6H_6). Yellow plates (dil. HCl). Spar. sol. most solvs. Mp 276°, Mp 320°.

N-*Oxide:* [21168-36-5].
$C_9H_5N_3O_6$ M 251.155
Used as freshly prepd. Me_2CO soln. for photometric detn. of Ru(*III*) (λ_{max} 410 nm, ε 6100); complexing agent for Al, Fe, lanthanides. Yellow rectangular needles (AcOH). Sol. Me_2CO. Mp 213-214°.

Bedall, K. *et al*, *Ber.*, 1881, **14**, 1368.
Schmitt, R. *et al*, *Ber.*, 1887, **20**, 2692.
Skrowaczewska, Z. *et al*, *Pol. J. Chem.* (*Rocz. Chem.*), 1948, **22**, 154; *CA*, **44**, 3494.
Ramaiah, K. *et al*, *Indian J. Chem.*, 1968, **6**, 635 (*synth*)
Gupta, R.D. *et al*, *CA*, 1969, **71**, 7068c (*detn, Al, Fe, lanthanides*)
Gupta, R.D. *et al*, *J. Less-Common Met.*, 1969, **18**, 139 (*synth*)
Gupta, R.D. *et al*, *Anal. Chim. Acta*, 1970, **50**, 109 (*detn, Ru*)
Bel'tyukova, S.V. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1976, **42**, 83.

2-Hydroxy-2,2-diphenylacetic acid H-00166

α-Hydroxy-α-phenylbenzeneacetic acid, 9CI. Diphenylglycollic acid. Benzilic acid

[76-93-7]

$Ph_2C(OH)COOH$

$C_{14}H_{12}O_3$ M 228.247

Used as a 0.2*M* aq. soln. of Na salt for gravimetric detn. of Mn, Sc. Needles. Sol. hot H_2O. Mp 151-152°. pK_a 3.04 (25°).

Me ester: [76-89-1].
$C_{15}H_{14}O_3$ M 242.274
Mp 74-75°. Bp_{13} 187°.

Et ester: [52182-15-7].
$C_{16}H_{16}O_3$ M 256.301
Mp 34°. Bp_{21} 201°.

Me ether: [7475-61-8]. *2-Methoxy-2,2-diphenylacetic acid*
$C_{15}H_{14}O_3$ M 242.274
Needles (AcOH). Mp 111-112°.

Et ether: [7495-45-6]. *2-Ethoxy-2,2-diphenylacetic acid*
$C_{16}H_{16}O_3$ M 256.301
Plates (Et_2O). Mp 114-115°.

Amide: [4746-87-6].
$C_{14}H_{13}NO_2$ M 227.262
Mp 154-155°.

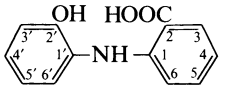
Me ester, Ac:
$C_{17}H_{16}O_4$ M 284.311
Mp 122°.

Kao, S. *et al*, *J. Chem. Soc.*, 1931, 443 (*amide*)
Org. Synth., Coll. Vol., 1, 1932, 89 (*synth*)
Lillien, I., *J. Org. Chem.*, 1964, **29**, 1631 (*synth*)
Wheland, R. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 6057 (*synth*)
Moersch, G.W. *et al*, *Synthesis*, 1971, 647 (*synth*)
Mullin, M.H. *et al*, *Anal. Chem.*, 1972, **44**, 1878 (*detn, Sc*)
Chatterjee, A. *et al*, *Indian J. Chem., Sect. A*, 1977, **15**, 70 (*detn, Mn*)
Adam, W. *et al*, *J. Org. Chem.*, 1977, **42**, 38 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EES300.

2′-Hydroxydiphenylamine-2-carboxylic acid H-00167

2-[(2-Hydroxyphenyl)amino]benzoic acid, 9CI. N-(o-*Hydroxyphenyl)anthranilic acid, 8CI. 2-(2-Hydroxyanilino) benzoic acid*

[14359-86-5]



$C_{13}H_{11}NO_3$ M 229.235

Fungicide. Needles (EtOH aq.). Mp 190°.

Me ether: [13278-32-5]. *2′-Methoxydiphenylamine-2-carboxylic acid. 2-[(2-Methoxyphenyl)amino]benzoic acid*

$C_{14}H_{13}NO_3$ M 243.262

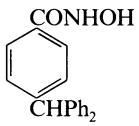
Used for photmetric detn. of V (λ_{max} 623nm, ε 31300); redox indicator. Needles (C_6H_6). Sol. EtOH, C_6H_6, AcOH; spar. sol. H_2O. Mp 176°. E° + 1.0V (0.5*M* H_2SO_4).

▷ CB3280000.

Ullmann, F. *et al, Justus Liebigs Ann. Chem.*, 1907, **355**, 312.
Sterlin, S.M. *et al, J. Gen. Chem. USSR (Engl. Transl.)*, 1938, **8**, 884.
Raines, S. *et al, J. Med. Chem.*, 1968, **11**, 895.
Frumina, N.S. *et al, Talanta*, 1969, **16**, 138 (*detn, V*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, indicator*)
Kim, D.H. *et al, J. Heterocycl. Chem.*, 1974, **11**, 703.

N-Hydroxy-4-(diphenylmethyl)benzamide, 9CI H-00168

p-(*Diphenylmethyl)benzohydroxamic acid. Triphenylmethane*-p-*hydroxamic acid*



$C_{20}H_{17}NO_2$ M 303.360

Used for photometric detn. of V (λ_{max} 450 nm). Cryst. Sol. $CHCl_3$.

Bass, V.C. *et al, Talanta*, 1966, **13**, 735 (*detn, V*)

N-Hydroxy-*N*,5-diphenyl-2,4-pentadienamide, 9CI H-00169

N-*Phenyl-3-styrylacrylohydroxamic acid*

[22861-42-3]

PhCH=CHCH=CHCON(OH)Ph

$C_{17}H_{15}NO_2$ M 265.311

Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 555 nm, ε 7500) Ti (λ_{max} 415 nm, ε 18000, from 9*M* HCl). Cryst. Sol. $CHCl_3$.

Bhura, D.C. *et al, J. Chem. Eng. Data*, 1969, **14**, 276 (*synth*)
Bhura, D.C. *et al, Anal. Chim. Acta*, 1971, **53**, 379 (*detn, V*)
Bhura, D.C. *et al, Analusis*, 1980, **8**, 106 (*detn, Ti*)

3-Hydroxy-1,3-diphenyl-1-triazene, 9CI H-00170

[5756-82-1]

PhN(OH)N=NPh

$C_{12}H_{11}N_3O$ M 213.238

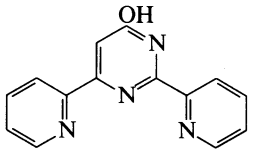
Used as 0.02*M* soln. in EtOH for photometric detn. of Tl(*III*) (λ_{max} 422 nm). Cryst. (EtOH). Sol. EtOH.

Sagani, N., *Anal. Chem.*, 1956, **28**, 1616 (*synth*)
Shome, S.C. *et al, Anal. Chem.*, 1966, **38**, 1522 (*detn, Tl*)

4-Hydroxy-2,6-di-2-pyridinylpyrimidine H-00171

2,6-Di-2-pyridyl-4-pyrimidinol, 8CI

[10239-68-6]



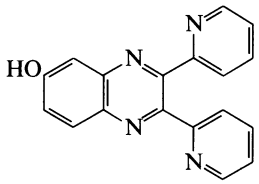
$C_{14}H_{10}N_4O$ M 250.259

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 525 nm, ε 10900). Cryst. (EtOH). Sol. C_6H_6; mod. sol. Me_2CO, Et_2O, EtOH. Mp 219-220°.

Lafferty, J.J. *et al, J. Org. Chem.*, 1967, **32**, 1591 (*synth*)
Schilt, A.A. *et al, Talanta*, 1969, **16**, 519 (*detn, Fe*)

6-Hydroxy-2,3-di-2-pyridinylquinoxaline H-00172

2,3-Bis(2-pyridyl)-6-hydroxyquinoxaline



$C_{18}H_{12}N_4O$ M 300.319

Me ether: [17401-68-2]. *6-Methoxy-2,3-di-2-pyridinylquinoxaline, 9CI*

$C_{19}H_{14}N_4O$ M 314.346

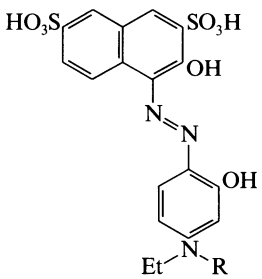
Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 505 nm, ε 3690, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 194°.

Stephen, W.I. *et al, Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)

2-(2-Hydroxy-3,6-disulfo-1-naphthalenylazo)-5-(*N*,*N*-diethylamino) phenol H-00173

4-[[4-(Diethylamino)-2-hydroxyphenyl]azo]-3-hydroxy-2,7-naphthalenedisulfonic acid, 9CI

[91999-87-0]



R = Et

$C_{20}H_{21}N_3O_8S_2$ M 495.533

Used as 0.05m*M* aq. soln. for photometric detn. of Mg (ε 47000), Ca (λ_{max} 560 nm, ε 39000, pH ~10). Cryst. + $3H_2O$ (EtOH/HCl). Sol. H_2O, EtOH. pK_{a1} 4.35; pK_{a2} 8.25; pK_{a3} 13.2 (μ = 0.1, 25°).

Wada, H. *et al, Anal. Chim. Acta*, 1984, **159**, 289 (*synth, detn, Ca, Mg*)

2-(2-Hydroxy-3,6-disulfo-1-naphthalenylazo)-5-[*N*-ethyl-*N*-(sulfopropyl)amino]phenol H-00174

4-[[4-[Ethyl-(3-sulfopropyl)amino]-2-hydroxyphenyl]azo]-3-hydroxy-2,7-naphthalenedisulfonic acid, 9CI

[91999-91-6]

As 2-(2-Hydroxy-3,6-disulfo-1-naphthalenylazo)-5-(*N,N*-diethylamino)phenol, H-00173 with

R = $CH_2CH_2CH_2SO_3H$

$C_{21}H_{23}N_3O_{11}S_3$ M 589.624

Used as 0.05m*M* aq. soln. for photometric detn. of Mg, Ca (λ_{max} 555 nm, pH ~10). Cryst. (propanol/EtOAc aq.). Sol. H_2O, EtOH; sl. sol. EtOAc. pK_{a1} 3.50; pK_{a2} 7.85; pK_{a3} 13.3 (μ = 0.1, 25°).

Wada, H. *et al*, *Anal. Chim. Acta*, 1984, **159**, 289 (*synth, detn, Ca, Mg*)

2-Hydroxydithiobenzoic acid H-00175

2-Hydroxybenzenecarbodithioic acid, 9CI. Dithiosalicylic acid, 8CI. 2-Hydroxybenzenethionothiolic acid

[527-89-9]

$C_7H_6OS_2$ M 170.256

Used as a 1% satd. aq. soln. for gravimetric, extraction-photometric detn. of Ni. Orange needles (pet. ether). Sol. hot H_2O, alkalis; sl. sol. cold H_2O. Mp 48-50°, Mp 64°.

Hg salt: Thioargyrium
Antiseptic.

Mg salt: [59654-94-3]. *Dithioral*
Antirheumatic, antineuralgic.

Me ester:
$C_8H_8OS_2$ M 184.283
Mp 10-20°.

Org. Synth., Coll. Vol., 2, 1943, 580 (*synth*)
Bost, R.W. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 25.
Weyers, G. *et al*, *Fresenius' Z. Anal. Chem.*, 1968, **235**, 418 (*synth, use*)
Belg. Pat., 795 177, (1973); *CA*, **80**, 112628u (*Mg salt*)

4-Hydroxydithiobenzoic acid, 8CI H-00176

4-Hydroxybenzenecarbodithioic acid, 9CI. 4-Hydroxybenzenethionothiolic acid

[6147-87-1]

$C_7H_6OS_2$ M 170.256

Used as 0.1*M* soln. in EtOH for extraction-photometric detn. of Ni (λ_{max} 372 nm, ε 60000). Cryst. Sol. EtOH.

Me ester: [5969-44-8].
$C_8H_8OS_2$ M 184.283
Mp 50-54°. $Bp_{0.15}$ 145-147°.

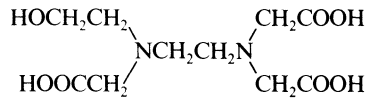
Et ester: [24530-66-3].
$C_9H_{10}OS_2$ M 198.309
Red cryst. + $\frac{1}{2}$ H_2O. Mp 42° (hydrate), Mp 57° (anhyd.). $Bp_{0.4}$ 170-173°.

Jörg, H., *Ber.*, 1927, **60**, 1466 (*synth*)
Viola, H. *et al*, *Chem. Ber.*, 1968, **101**, 3517 (*synth*)
Rudzit, A.P. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 2407 (*detn, Ni*)

N-(2-Hydroxyethyl) ethylenediaminetriacetic acid H-00177

N-[2-[*Bis*(*carboxymethyl*)*amino*]*ethyl*]-N-(*2-hydroxyethyl*) *glycine, 9CI. EDTA-OH.* N-(*Carboxymethyl*)-N′-(*2-hydroxyethyl*)-N,N′-*ethylenediglycine, 8CI. Chel DM acid. Detarol. Hamp-OL. HEDTA. HEEDTA*

[150-39-0]



$C_{10}H_{18}N_2O_7$ M 278.261

Used as titrant in chelatometric titrations; masking agent for various metals. Commercially available. Cryst. Mp 160-165° dec., Mp 212° dec. pK_{a1} 2.51; pK_{a2} 5.31; pK_{a3} 9.86.

▷ MB9185000.

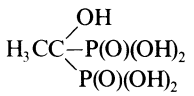
[139-89-9, 30718-90-2]

Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Chemistry*, Horwood, Chichester, 1976.
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HKS000.

(1-Hydroxyethylidene)bisphosphonic acid, 9CI H-00178

Hydroxyethane-1,1-diphosphonic acid. ***Etidronic acid,*** **BAN, USAN, INN.** *EHDP. Etidronate. Ksidifon. Xidiphone. Dequest 2010. Dequest 2015*

[2809-21-4]



$C_2H_8O_7P_2$ M 206.028

Calcification inhibitor for Paget's disease. Used for photometric detn. of V (λ_{max} 269 nm, ε 38200). Used as 0.025*M* aq. soln. as titrant in volumetric detn. of Th (Xylenol Orange as indicator); complexing agent for metals. Syrup, cryst. + $1H_2O$ (AcOH aq.). Sol. H_2O, EtOH, MeOH. Mp 105°. pK_{a1} 1.7; pK_{a2} 2.47; pK_{a3} 7.28; pK_{a4} 10.29; pK_{a5} 11.13 (H_2O, 25°). The tetra-Na salt marketed as Dequest 2016 and Dequest 2015 DN.

Di-Na salt: [7414-83-7]. *Calcimux. Didronel. Difosfen. Diphos*†*. Diphosphonat. Etidon. HEDSPA. Sodium etidronate. Etidronate disodium, USAN*
The name Diphos is also used for 1,2-Bis(diphenylphosphino)ethane, B-00338. Used in dentifrices.
▷ JL5950000.

Tri-Na salt: [2666-14-0].
Used in dentifrices.
▷ JL6650000.

Tetra-Me ester: [15207-88-2]. *Tetramethyl (1-hydroxyethylidene)bisphosphonate*
$C_6H_{16}O_7P_2$ M 262.136
Cryst. (C_6H_6/hexane). Mp 68-71°.

Tetra-Et ester: [20427-93-4]. *Tetraethyl (1-hydroxyethylidene)bisphosphonate*
$C_{10}H_{24}O_7P_2$ M 318.243
Liq. which isomerises on distn.

[3794-83-0, 70675-24-0]

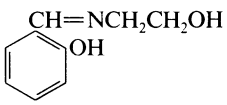
Přibil, R. *et al*, *Talanta*, 1967, **14**, 591 (*use*)
Kasparek, F., *Monatsh. Chem.*, 1968, **99**, 2016 (*synth*)

Nicholson, D.A. *et al*, *J. Org. Chem.*, 1970, **35**, 3149; 1971, **36**, 3843 (*ester, synth, P nmr*)
Strates, B.S. *et al*, *Biochim. Biophys. Acta*, 1971, **244**, 121 (*pharmacol*)
Wiers, B.H., *Inorg. Chem.*, 1971, **10**, 2581 (*salts*)
Blaser, B. *et al*, *Z. Anorg. Allg. Chem.*, 1971, **381**, 247 (*synth, props, P nmr*)
Michael, W.R. *et al*, *Toxicol. Appl. Pharmacol.*, 1972, **21**, 503 (*metab*)
Maier, L., *Helv. Chim. Acta*, 1973, **56**, 1257 (*ester, synth, pmr, P nmr, props*)
Bikhman, B.I. *et al*, *Zh. Neorg. Khim.*, (*Engl. transl.* p. 1273), 1973, **18**, 2406 (*ir, salts*)
Collins, A.J. *et al*, *J. Appl. Chem. Biotechnol.*, 1977, **27**, 651 (*props, salts*)
De Angelis, L., *Med. Actual.*, 1978, **14**, 101 (*rev, pharmacol*)
Barnett, B.L. *et al*, *Acta Crystallogr., Sect. B*, 1979, **35**, 1212 (*cryst struct*)
Worms, K.H. *et al*, *Z. Anorg. Allg. Chem.*, 1979, **457**, 209 (*synth*)
Motekaitis, R.J. *et al*, *Inorg. Chem.*, 1980, **19**, 1646 (*props, complexes*)
Rizhalla, E.N. *et al*, *Talanta*, 1980, **27**, 715 (*complexes*)
Goeva, L.V., *Radiokhimiya*, (*Engl. transl.* p. 489), 1982, **22**, 591 (*props*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 12674.
Fonong, T. *et al*, *Anal. Chem.*, 1983, **55**, 1089 (*props*)
Van der Pol, H.J., *Pharm. Weekbl.*, 1983, **118**, 330 (*anal, props*)
Perfil'ev, V.A. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 2133 (*detn, V*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DXD400, HKS780, TEE250, TNL750.

2-[(2-Hydroxyethyl)imino]methylphenol, 9CI H-00179

β-N-*Salicylidenaminoethanol*

[1952-38-1]



$C_9H_{11}NO_2$ M 165.191

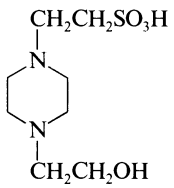
Used as a 3m*M* soln. in DMF for fluorimetric detn. of Zn. Cryst. Mp 36°.

Kato, H. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1972, **21**, 856 (*detn, Zn*)

4-(2-Hydroxyethyl)-1-piperazineethanesulfonic acid, 9CI H-00180

HEPES

[7365-45-9]



$C_8H_{18}N_2O_4S$ M 238.307

Good's buffer with pH range 6.8-8.2. Hygroscopic cryst. (EtOH aq.). Mp 234-238° dec. pK_a 7.55 (20°).

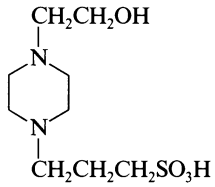
[75277-39-3]

Good, N.E. *et al*, *Biochemistry*, 1966, **5**, 467 (*synth, use*)
Shipman, C., *Proc. Soc. Exp. Biol. Med.*, 1969, **130**, 305 (*use*)
Eagle, H., *Science* (*Washington, D.C.*), 1971, **174**, 500 (*use*)
Amaralis Vega, C. *et al*, *Anal. Chem.*, 1976, **48**, 1293 (*use*)
McGlothlin, C.D. *et al*, *Anal. Lett.*, 1976, **9**, 245 (*props*)

4-(2-Hydroxyethyl)-1-piperazinepropanesulfonic acid, 9CI H-00181

N-(*2-Hydroxyethyl*)*piperazine*-N′-*3-propanesulfonic acid. EPPS. HEPPS*

[16052-06-5]



$C_9H_{20}N_2O_4S$ M 252.334

Good's buffer with pH range 7.5-8.5. Cryst. powder. V. sol. H_2O. Mp 231° dec. pK_a 8.0 (20°).

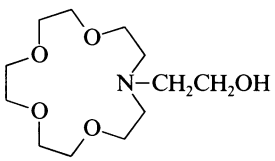
[81484-17-5]

Eagle, H., *Science* (*Washington, D.C.*), 1971, **174**, 500 (*use*)
McGlothlin, C.D. *et al*, *Anal. Lett.*, 1976, **9**, 245 (*props*)
Robinson, D.M., *Naturwissenschaften*, 1978, **65**, 438 (*use*)
Syvertsen, C. *et al*, *Eur. J. Biochem.*, 1981, **117**, 165 (*use*)
Hutchens, T.W. *et al*, *J. Chromatogr.*, 1986, **359**, 157 (*use*)

13-Hydroxyethyl-1,4,7,10-tetraoxa-13-azacyclopentadecane H-00182

1,4,7,10-Tetraoxa-13-azacyclopentadecane-13-ethanol, 9CI

[81331-60-4]



$C_{12}H_{25}NO_5$ M 263.333

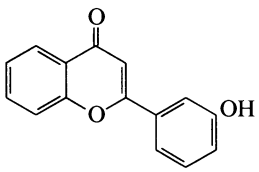
Used as 0.01*M* soln. in MeOH for complexation of Li, Na, K, Ca, Sr (in MeOH). Oil. Sol. MeOH. pK_a 8.90 (MeOH).

Masuyama, A. *et al*, *Tetrahedron Lett.*, 1981, **22**, 4665 (*synth*)
Wickstroem, T. *et al*, *Anal. Chim. Acta*, 1988, **211**, 223 (*use*)

3′-Hydroxyflavone H-00183

2-(3-Hydroxyphenyl)-4H-1-benzopyran-4-one, 9CI. 2-(3-Hydroxyphenyl)chromone

[70460-18-3]



$C_{15}H_{10}O_3$ M 238.242

Used as a 0.01% soln. in toluene for photometric detn. of organotin and organolead compounds. Prisms (EtOH aq.). Sol. C_6H_6, toluene. Mp 208°.

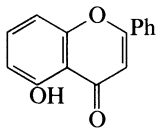
Me ether: [53906-83-5]. *3′-Methoxyflavone*
$C_{16}H_{12}O_3$ M 252.269
Isol. from *Pimelea decora*. Mp 131-132°.

Kostanecki, S. *et al*, *Ber.*, 1901, **34**, 1690 (*synth*)
Looker, J.H. *et al*, *J. Org. Chem.*, 1962, **27**, 381 (*synth, ir*)
Aldridge, W.N. *et al*, *Analyst* (*London*), 1981, **106**, 60 (*use*)
Freeman, P.W. *et al*, *Aust. J. Chem.*, 1981, **34**, 1779 (*isol*)
Guidugli, F.H. *et al*, *Org. Mass Spectrom.*, 1985, **19**, 502 (*ms*)

5-Hydroxyflavone H-00184

5-Hydroxy-2-phenyl-4H-1-benzopyran-4-one, 9CI. 5-Hydroxy-2-phenylchromone. ***Primuletin***

[491-78-1]



$C_{15}H_{10}O_3$ M 238.242

Isol. from *Primula* spp. Used for photometric detn. of U(*VI*) (λ_{max} 435 nm, pH 6.0-8.5). Yellow cryst. Sol. EtOH, MeOH. Mp 159° (156-157°).

Me ether: [42079-78-7]. *5-Methoxyflavone*
$C_{16}H_{12}O_3$ M 252.269
Mp 133° (131°).

Simonis, H. *et al*, *Ber.*, 1926, **59**, 2914 (*deriv*)
Sugasawa, S., *CA*, 1934, **28**, 6717 (*synth*)
Karrer, P. *et al*, *Helv. Chim. Acta*, 1941, **24**, 297 (*isol*)
Looker, J.H. *et al*, *J. Org. Chem.*, 1962, **27**, 381 (*synth, ir*)
Dev, B. *et al*, *Fresenius' Z. Anal. Chem.*, 1963, **196**, 178 (*detn, U*)
Naik, G.N. *et al*, *Indian J. Chem.*, 1966, **4**, 273 (*pmr*)
Wollenweber, E., *Biochem. Physiol. Pflanz.*, 1974, **166**, 419 (*isol*)
Tyukavkina, N.A. *et al*, *Khim. Prir. Soedin.*, 1975, 583 (*ir, uv*)
Ternai, B. *et al*, *Tetrahedron*, 1976, **32**, 565 (*cmr*)
Saxena, S. *et al*, *Synthesis*, 1985, 697 (*synth*)
Shoja, M., *Acta Crystallogr., Sect. C*, 1990, **46**, 517 (*cryst struct*)

N-Hydroxy-2,4-hexadienamide, 9CI H-00185

Sorbohydroxamic acid

[4076-62-4]

$H_3CCH{=}CHCH{=}CHCONH(OH)$

$C_6H_9NO_2$ M 127.143

Used as EtOH soln. for photometric detn. of V(*V*) (λ_{max} 450 nm). Cryst. Sol. EtOH, Me_2CO.

N-*Ph:* [22861-43-4]. N-*Hydroxy*-N-*phenyl-2,4-hexadienamide, 9CI.* N-*Phenylsorbohydroxamic acid, 8CI*
$C_{12}H_{13}NO_2$ M 203.240
Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of Ti (λ_{max} 390 nm, ε 9700; from 9*M* HCl), V(*V*). Cryst. Sol. $CHCl_3$.

N-(*4-Chlorophenyl*): [22861-46-7]. N-(*4-Chlorophenyl*)-N-*hydroxy-2,4-hexadienamide, 9CI*
$C_{12}H_{12}ClNO_2$ M 237.685
Used as a 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 550 nm, ε 5100). Cryst. Sol. $CHCl_3$.

N-(*3-Methylphenyl*): [22861-44-5]. N-*Hydroxy*-N-(*3-methylphenyl*)-*2,4-hexadienamide, 9CI*
$C_{13}H_{15}NO_2$ M 217.267
Used as a 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 550 nm, ε 5500, 4*M* HCl).

Bass, V.C. *et al*, *Talanta*, 1966, **13**, 735 (*detn, V*)
Bhura, D.C. *et al*, *J. Chem. Eng. Data*, 1969, **14**, 276, 278 (*synth*)
Bhura, D.C. *et al*, *Anal. Chim. Acta*, 1971, **53**, 379 (*detn, V*)
Bhura, D.C. *et al*, *Analusis*, 1980, **8**, 108 (*detn, Ti*)

N-Hydroxyhexanamide, 9CI H-00186

Hexanohydroxamic acid. Caprohydroxamic acid

[4312-93-0]

$H_3C(CH_2)_4CONHOH$

$C_6H_{13}NO_2$ M 131.174

Used for photometric detn. of V(*V*) (λ_{max} 460 nm, ε 3200). Cryst. Sol. EtOH, C_6H_6, $CHCl_3$, Et_2O. Mp 65-66°.

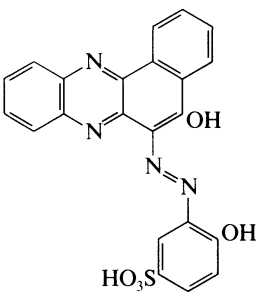
N-*Ph:* [25310-12-7]. N-*Hydroxy*-N-*phenylhexanamide, 9CI.* N-*Phenylhexanohydroxamic acid, 8CI*
$C_{12}H_{17}NO_2$ M 207.272
Used as 0.1m*M* soln. in CCl_4 for extraction-separation of Co, Ni, Zn, Pb; photometric detn. of V(*V*) (λ_{max} 505 nm, ε 4000, 4*M* HCl). Cryst. Sol. CCl_4, $CHCl_3$.

N-(*4-Methylphenyl*): [25310-13-8]. N-*Hydroxy*-N-(*4-methylphenyl*)*hexanamide*
$C_{13}H_{19}NO_2$ M 221.299
Used for extraction-photometric detn. of V(*V*) (λ_{max} 510 nm, ε 4350, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Indian Chem. Soc.*, 1969, **46**, 831 (*synth*)
Agrawal, Y.K. *et al*, *J. Chem. Eng. Data*, 1971, **16**, 495 (*synth, deriv*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)
Muzgin, V.N. *et al*, *Anal. Khim. Vanadija*, Nauka, Moscow, 1981 (*detn, V*)
Ando, W. *et al*, *Synth. Commun.*, 1983, **13**, 1053 (*synth*)
Haraguchi, K. *et al*, *Anal. Sci.*, 1989, **5**, 735 (*use*)

4-Hydroxy-3-[(5-hydroxybenzo[*a*]phenazin-6-yl)azo]benzenesulfonic acid, 9CI H-00187

[74261-72-6]



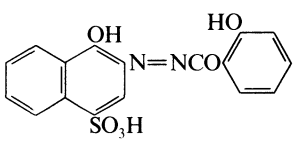
$C_{22}H_{14}N_4O_5S$ M 446.442

Used as 0.4 or 0.8m*M* aq. soln. for photometric detn. of V. Dark red cryst. Sol. alkalis. pK_{a2} 8.34; pK_{a2} 13.05.

Truong Son, N. *et al*, *Collect. Czech. Chem. Commun.*, 1980, **45**, 819 (*synth, detn, V*)

4-Hydroxy-3-[(2-hydroxybenzoyl)azo]-1-naphthalenesulfonic acid, 9CI H-00188

[58014-83-8]



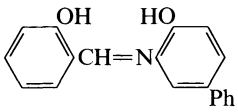
$C_{17}H_{12}N_2O_6S$ M 372.358

Used as 0.5m*M* soln. in 3% DMF as an indicator in EDTA titration of Hg, Cu, Tl(*III*), Th, In; photometric detn. of Cu, Hg. Bright red cryst. (EtOH/DMF). Sol. 30% EtOH, DMF, Me_2CO; sl. sol. H_2O. pK_a 7.00 (20% DMF).

Sommer, L. *et al*, *CA*, 1975, **83**, 172074g (*synth, use*)
Sommer, L. *et al*, *Collect. Czech. Chem. Commun.*, 1977, **42**, 2862 (*synth, use*)

4-Hydroxy-*N*-(2-hydroxybenzylidene)-3-biphenylamine H-00189

4-Hydroxy-3-(2-hydroxybenzylideneamino)biphenyl



$C_{19}H_{15}NO_2$ M 289.333

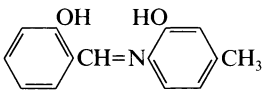
Used as a 1m*M* soln. in EtOH for fluorimetric detn. of Al. Cryst. (EtOH). Sol. EtOH; sl. sol. H_2O.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)

2-Hydroxy-*N*-(2-hydroxybenzylidene)-4-methylaniline H-00190

2-[[(2-Hydroxyphenyl)methylene]amino]-5-methylphenol, 9CI. 2-Hydroxybenzaldehyde 2-hydroxy-4-methylanil

[55041-60-6]



$C_{14}H_{13}NO_2$ M 227.262

Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 503 nm, pH 5.5), Ga (λ_{max} 510 nm, pH 3.5), Be (λ_{max} 435 nm, pH 9.5). Cryst. (EtOH). Sol. DMF, EtOH.

Morishige, K., *Anal. Chim. Acta*, 1980, **121**, 301 (*synth, detn, Al, Ga, Be*)

2-Hydroxy-*N*-(2-hydroxybenzylidene)-5-methylaniline H-00191

2-[[(2-Hydroxyphenyl)methylene]amino]-4-methylphenol, 9CI. 2-Hydroxybenzaldehyde 2-hydroxy-5-methylanil

[1761-57-5]

$C_{14}H_{13}NO_2$ M 227.262

Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 525 nm, pH 6.0), Ga (λ_{max} 535 nm, pH 4.5), Be (λ_{max} 435 nm, pH 9.5). Cryst. (EtOH). Sol. DMF, EtOH; sl. sol. H_2O. Mp 160.0-160.5°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)
Morishige, K., *Anal. Chim. Acta*, 1980, **121**, 301 (*synth, detn, Al, Be, Ga*)

2-Hydroxy-3-[[2-hydroxy-1,1-bis(hydroxymethyl)ethyl]amino]-1-propanesulfonic acid, 9CI H-00192

3-[N-Tris(hydroxymethyl)methylamino]-2-hydroxypropanesulfonic acid. TAPSO

[68399-81-5]

$(HOCH_2)_3CNHCH_2CH(OH)CH_2SO_3H$

$C_7H_{17}NO_7S$ M 259.280

Good's buffer with pH range 7.0-8.2. Cryst. V. sol. H_2O. Mp 226-228° dec. pK_a 7.6 (20°).

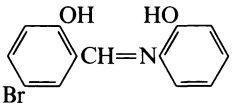
[105140-25-8]

Ferguson, W.J. *et al*, *Anal. Biochem.*, 1980, **104**, 300 (*synth, use*)
Hutchens, T.W. *et al*, *J. Chromatogr.*, 1986, **359**, 157 (*use*)
Irgum, K., *Anal. Chem.*, 1987, **59**, 358 (*use*)
Kitamura, Y. *et al*, *J. Solution Chem.*, 1987, **16**, 715 (*use*)

2-Hydroxy-*N*-(2-hydroxy-5-bromobenzylidene)aniline H-00193

4-Bromo-2-[[(2-hydroxyphenyl)imino]methyl]phenol, 9CI. 5-Bromo-2-hydroxybenzaldehyde 2-hydroxyanil

[1761-51-9]



$C_{13}H_{10}BrNO_2$ M 292.131

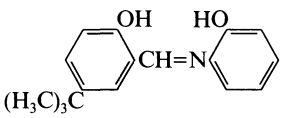
Used as a 1m*M* soln. in EtOH for fluorimetric detn. of Al. Cryst. (EtOH). Sol. EtOH; sl. sol. H_2O. Mp 188.0-188.7°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)

2-Hydroxy-*N*-(2-hydroxy-5-*tert*-butylbenzylidene)aniline H-00194

*4-(1,1-Dimethylethyl)-2-[[(2-hydroxyphenyl)imino]methyl]phenol, 9CI. 5-*tert*-Butyl-2-hydroxybenzaldehyde 2-hydroxyanil*

[54825-08-0]



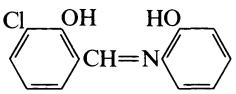
$C_{17}H_{19}NO_2$ M 269.343

Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 500 nm, pH 5.8), Ga (λ_{max} 510 nm, pH 4.0), Be (λ_{max} 450 nm, pH 8). Cryst. (EtOH). Sol. DMF, EtOH.

Morishige, K., *Anal. Chim. Acta*, 1974, **73**, 245; 1980, **121**, 301 (*synth, detn, Al, Ga, Be*)

2-Hydroxy-*N*-(2-hydroxy-3-chlorobenzylidene)aniline H-00195

6-Chloro-2-[[(2-hydroxyphenyl)imino]methyl]phenol, 9CI. 3-Chloro-2-hydroxybenzaldehyde 2-hydroxyanil



$C_{13}H_{10}ClNO_2$ M 247.680

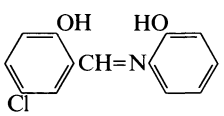
Used as a 1m*M* soln. in EtOH for fluorimetric detn. of Al. Cryst. (EtOH). Sol. EtOH, sl. sol. H_2O. Mp 185-186°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)

2-Hydroxy-*N*-(2-hydroxy-5-chlorobenzylidene)aniline H-00196

4-Chloro-2-[[(2-hydroxyphenyl)imino]methyl]phenol, 9CI. 5-Chloro-2-hydroxybenzaldehyde 2-hydroxyanil

[1761-47-3]



$C_{13}H_{10}ClNO_2$ M 247.680

Used as 0.1% DMF soln. for fluorimetric detn. of Be (λ_{max} 445 nm, pH 9.7), as 1m*M* soln. in EtOH for fluorimetric detn. of Al, Sc. Cryst. (EtOH). Sol. DMF, EtOH; spar. sol. H_2O. Mp 184°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Be, Sc, Al*)
Morishige, K., *Anal. Chim. Acta*, 1974, **73**, 245 (*synth, detn, Be*)

2-Hydroxy-3-[(2-hydroxy-1,1-dimethylethyl)amino]-1-propanesulfonic acid, 9CI H-00197

AMPSO

[68399-79-1]

$HOCH_2C(CH_3)_2NHCH_2CH(OH)CH_2SO_3H$

$C_7H_{17}NO_5S$ M 227.281

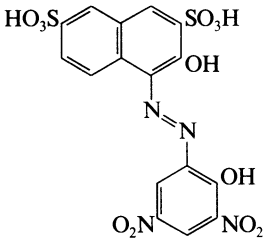
Biological buffer.

U.S. Pat., 4 246 194, (1979); *CA*, **92**, 75852h (*synth*)
McConnell, B. *et al*, *Biophys. Chem.*, 1984, **20**, 135 (*use*)
Szewczyk, B. *et al*, *Anal. Biochem.*, 1985, **150**, 403 (*use*)

3-Hydroxy-4-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI H-00198

Picramine R

[3626-45-7]



$C_{16}H_{10}N_4O_{12}S_2$ M 514.407

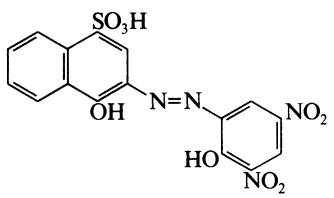
Used as 0.1% aq. soln. for fluorimetric detn. of Al (pH 2.8-3.3, 20% EtOH); as 0.06 or 0.1% aq. soln. for photometric detn. of Cu (λ_{max} 555 nm), Zr (λ_{max} 560 nm). Orange-red cryst. (H_2O). Sol. H_2O, EtOH.

[32446-27-8]

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 574 (*detn, Zr*)
Bogdanova, V.I. *et al*, *Zavod. Lab.*, 1968, **34**, 688 (*detn, Cu*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1945 (*synth, detn, Al*)

4-Hydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-1-naphthalenesulfonic acid, 9CI H-00199

[24763-66-4]



$C_{16}H_{10}N_4O_9S$ M 434.342

Used as 4.6m*M* aq. soln. for photometric detn. of V(*IV*) (λ_{max} 635 nm, ε 21000). Dark red cryst. powder. Mod. sol. H_2O. pK_{a1} 2.18; pK_{a2} 9.30 (μ = 0.2, 20°).

Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 813 (*detn, V*)

6-Hydroxy-5-[(2-hydroxy-3,5-dinitrophenyl)azo]-2-naphthalenesulfonic acid, 9CI H-00200

$C_{16}H_{10}N_4O_9S$ M 434.342

Na salt: [3838-30-0].

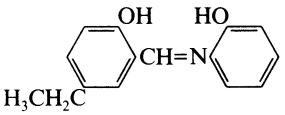
Used as a 1m*M* aq. soln. as metallochromic indicator for titrimetric detn. of Bi; detn. of Be, La, $VO^{2\oplus}$, $UO_2^{2\oplus}$. Brown cryst. powder. Sol. H_2O, EtOH.

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 568 (*detn, Bi*)
Shemyakin, F.M. *et al*, *Khim. Khim. Tekhnol. (Minsk)*, 1978, **21**, 1445; *CA*, **89**, 190318t (*detn, Be, La, $VO^{2\oplus}$, $UO_2^{2\oplus}$*)

2-Hydroxy-*N*-(2-hydroxy-5-ethylbenzylidene)aniline H-00201

4-Ethyl-2-[[(2-hydroxyphenyl)imino]methyl]phenol, 9CI. 5-Ethyl-2-hydroxybenzaldehyde 2-hydroxyanil

[54825-09-1]



$C_{15}H_{15}NO_2$ M 241.289

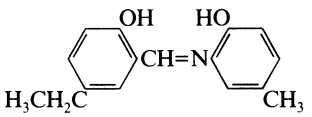
Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 500 nm, pH 5.8), Ga (λ_{max} 510 nm, pH 4.0), Be (λ_{max} 450 nm, pH 8). Cryst. (EtOH). Sol. DMF, EtOH.

Morishige, K., *Anal. Chim. Acta*, 1974, **73**, 245; 1980, **121**, 301 (*synth, detn, Al, Be*)

2-Hydroxy-*N*-(2-Hydroxy-5-ethylbenzylidene)-5-methylaniline H-00202

4-Ethyl-2-[[(2-hydroxy-5-methylphenyl)imino]methyl]phenol, 9CI. 5-Ethyl-2-hydroxybenzaldehyde 2-hydroxy-5-methylanil

[54825-07-9]



$C_{16}H_{17}NO_2$ M 255.316

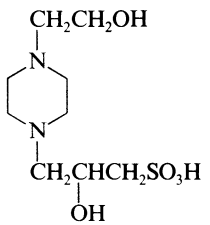
Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 525 nm, pH 6.0), Ga (λ_{max} 535 nm, pH 4.1), Be (λ_{max} 450 nm, pH 8.5). Cryst. (EtOH). Sol. DMF, EtOH.

Morishige, K., *Anal. Chim. Acta*, 1974, **73**, 245; 1980, **121**, 301 (*synth, detn, Al, Be, Ga*)

β-Hydroxy-4-(2-hydroxyethyl)-1-piperazinepropanesulfonic acid, 9CI H-00203

N-*2-Hydroxyethylpiperazine*-N′-*2-hydroxypropanesulfonic acid. HEPPSO*

[68399-78-0]



$C_9H_{20}N_2O_5S$ M 268.333

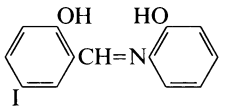
Good's buffer with pH range 7.4-8.6. Mesomorphic cryst. V. sol. H_2O. Mp 96-98°, Mp 158-160°. pK_a 7.9 (20°).

[89648-37-3]

Ferguson, W.J. *et al*, *Anal. Biochem.*, 1980, **104**, 300 (*synth, use*)
Kaushal, V. *et al*, *Anal. Biochem.*, 1986, **157**, 291 (*use*)
Pospichal, J. *et al*, *J. Chromatogr.*, 1987, **390**, 17 (*use*)

2-Hydroxy-*N*-(2-hydroxy-5-iodobenzylidene)aniline H-00204

2-[[(2-Hydroxyphenyl)imino]methyl]-4-iodophenol, 9CI. 2-Hydroxy-5-iodobenzaldehyde 2-hydroxyanil



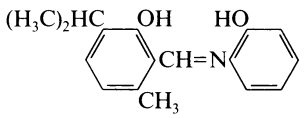
$C_{13}H_{10}INO_2$ M 339.132

Used as a 1m*M* soln. in EtOH for fluorimetric detn. of Al. Cryst. (EtOH). Sol. EtOH; sl. sol. H_2O. Mp 197.5-198°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)

2-Hydroxy-*N*-(2-hydroxy-3-isopropyl-6-methylbenzylidene)aniline H-00205

2-[[(2-Hydroxyphenyl)imino]methyl]-3-methyl-6-(1-methylethyl)phenol. 2-Hydroxy-3-isopropyl-6-methylbenzaldehyde 2-hydroxyanil



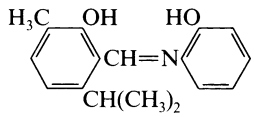
$C_{17}H_{19}NO_2$ M 269.343

Used as a 1m*M* soln. in EtOH for fluorimetric detn. of Al. Cryst. (EtOH). Sol. EtOH; sl. sol. H_2O. Mp 127-127.5°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)

2-Hydroxy-*N*-(2-hydroxy-6-isopropyl-3-methylbenzylidene)aniline H-00206

2-Hydroxy-6-isopropyl-3-methylbenzaldehyde 2-hydroxyanil



$C_{17}H_{19}NO_2$ M 269.343

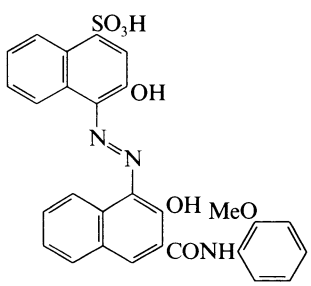
Used as a 1m*M* soln. in EtOH for fluorimetric detn. of Al. Cryst. (EtOH). Sol. EtOH; sl. sol. H_2O. Mp 146.0-146.5°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)

3-Hydroxy-4-[[2-hydroxy-3-[[(2-methoxyphenyl)amino]carbonyl]-1-naphthalenyl]azo]-1-naphthalenesulfonic acid, 9CI H-00207

Calconalide II

[21542-33-6]



$C_{28}H_{21}N_3O_7S$ M 543.556

Used as a 0.1% soln. in MeOH as metallochromic indicator for titrimetric detn. of Ca, Mg. Greenish blue cryst. Sol. H_2O, EtOH, Me_2CO.

Neumann, J. *et al*, *Fresenius' Z. Anal. Chem.*, 1968, **239**, 167 (*use*)

Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*use*)

3-Hydroxy-4-[[2-hydroxy-3-[[(4-methoxyphenyl)amino]carbonyl]-1-naphthalenyl]azo]-1-naphthalenesulfonic acid, 9CI H-00208

3-Hydroxy-4-[[2-hydroxy-3-[(p-methoxyphenyl)carbamoyl]-1-naphthyl]azo]-1-naphthalenesulfonic acid, 8CI. Calcon-p-aniside

[21542-34-7]

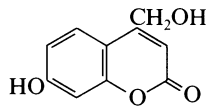
$C_{28}H_{21}N_3O_7S$ M 543.556

Used as a 0.1% soln. in MeOH as metallochromic indicator for titrimetric detn. of Ca. Orange-red cryst.

Neumann, J. *et al*, *Fresenius' Z. Anal. Chem.*, 1968, **239**, 167 (*detn, Ca*)

7-Hydroxy-4-(hydroxymethyl)-2*H*-1-benzopyran-2-one H-00209

7-Hydroxy-4-hydroxymethylcoumarin



$C_{10}H_8O_4$ M 192.171

7-Me ether: [72433-26-2]. *4-(Hydroxymethyl)-7-methoxy-2H-1-benzopyran-2-one, 9CI*

$C_{11}H_{10}O_4$ M 206.198

Reagent for fluorescent labelling of carboxylic acids. Cryst. (EtOH). Mp 183-185°.

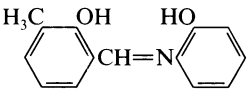
Lloyd, J.F.B., *J. Chromatogr.*, 1979, **178**, 249 (*use*)

Takadate, A. *et al*, *Synthesis*, 1983, 806 (*synth*)

2-Hydroxy-*N*-(2-hydroxy-3-methylbenzylidene)aniline H-00210

2-[[(2-Hydroxyphenyl)imino]methyl]-6-methylphenol, 9CI. 2-Hydroxy-3-methylbenzaldehyde 2-hydroxyanil

[1761-43-9]



$C_{14}H_{13}NO_2$ M 227.262

Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 505 nm, pH 5.8), Ga (λ_{max} 515 nm, pH 4.0), Be (λ_{max} 440 nm, pH 10.5). Cryst. (EtOH). Sol. DMF, EtOH; sl. sol. H_2O. Mp 153.5-154°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)

Morishige, K., *Anal. Chim. Acta*, 1980, **121**, 301 (*synth, detn, Al, Be, Ga*)

2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)aniline H-00211

2-[[(2-Hydroxyphenyl)imino]methyl]-5-methylphenol, 9CI. 2-Hydroxy-4-methylbenzaldehyde 2-hydroxyanil

[1761-42-8]

$C_{14}H_{13}NO_2$ M 227.262

Used as 0.1% DMF soln. or 1m*M* soln. in EtOH for fluorimetric detn. of Al (λ_{max} 498 nm, pH 6.0), Ga (λ_{max} 510 nm, pH 4.5), Be (λ_{max} 435 nm, pH 9.5). Cryst. (EtOH). Sol. DMF, EtOH; sl. sol. H_2O. Mp 184.5-185.0°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)
Morishige, K., *Anal. Chim. Acta*, 1980, **121**, 301 (*synth, detn, Al, Be, Ga*)

2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)aniline H-00212

2-[[(2-Hydroxyphenyl)imino]phenyl]-4-methylphenol, 9CI. 2-Hydroxy-5-methylbenzaldehyde 2-hydroxyanil

[1761-40-6]

$C_{14}H_{13}NO_2$ M 227.262

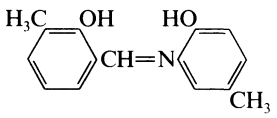
Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 500 nm, pH 6.0), Ga (λ_{max} 510 nm, pH 4.5), Be (λ_{max} 455 nm, pH 9.5). Cryst. (EtOH). Sol. DMF, EtOH. Mp 162.5-163°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)
Morishige, K., *Anal. Chim. Acta*, 1980, **121**, 301 (*synth, detn, Al, Be, Ga*)

2-Hydroxy-*N*-(2-hydroxy-3-methylbenzylidene)-5-methylaniline H-00213

2-[[(2-Hydroxy-3-methylphenyl)methylene]amino]-6-methylphenol, 9CI. 2-Hydroxy-3-methylbenzaldehyde 2-hydroxy-5-methylanil

[76950-23-7]



$C_{15}H_{15}NO_2$ M 241.289

Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 520 nm, pH 6.0), Ga (λ_{max} 530 nm, pH 4.5), Be (λ_{max} 455 nm, pH 10). Cryst. (EtOH). Sol. DMF, EtOH.

Morishige, K., *Anal. Chim. Acta*, 1980, **121**, 301 (*synth, detn, Al, Be, Ga*)

2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)-4-methylaniline H-00214

2-[[(2-Hydroxy-4-methylphenyl)methylene]amino]-6-methylphenol, 9CI. 2-Hydroxy-4-methylbenzaldehyde 2-hydroxy-4-methylanil

[76950-24-8]

$C_{15}H_{15}NO_2$ M 241.289

Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 500 nm, pH 5.0), Ga (λ_{max} 510 nm, pH 4.0), Be (λ_{max} 450 nm, pH 9.5). Cryst. (EtOH). Sol. DMF, EtOH.

Morishige, K., *Anal. Chim. Acta*, 1980, **121**, 301 (*synth, detn, Al, Be, Ga*)

2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)-5-methylaniline H-00215

2-[[(2-Hydroxy-4-methylphenyl)imino]methyl]-5-methylphenol, 9CI. 2-Hydroxy-4-methylbenzaldehyde 2-hydroxy-5-methylanil

[76950-27-1]

$C_{15}H_{15}NO_2$ M 241.289

Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 520 nm, pH 6.0), Ga (λ_{max} 530 nm, pH 4.5), Be (λ_{max} 430 nm, pH 9.5). Cryst. (EtOH). Sol. DMF, EtOH.

Morishige, K., *Anal. Chim. Acta*, 1980, **121**, 301 (*synth, use*)

2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)-4-methylaniline H-00216

2-[[(2-Hydroxy-5-methylphenyl)imino]methyl]-4-methylphenol, 9CI. 2-Hydroxy-5-methylbenzaldehyde 2-hydroxy-4-methylanil

[1761-91-7]

$C_{15}H_{15}NO_2$ M 241.289

Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 500 nm, pH 5.0), Ga (λ_{max} 510 nm, pH 3.8), Be (λ_{max} 450 nm, pH 10). Cryst. (EtOH). Sol. DMF, EtOH.

Morishige, K., *Anal. Chim. Acta*, 1974, **73**, 245; 1980, **121**, 301 (*synth, detn, Al, Be, Ga*)

2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)-5-methylaniline H-00217

2-[[(2-Hydroxy-5-methylphenyl)imino]methyl]-4-methylphenol, 9CI. 2-Hydroxy-5-methylbenzaldehyde 2-hydroxy-5-methylanil

[1761-41-7]

$C_{15}H_{15}NO_2$ M 241.289

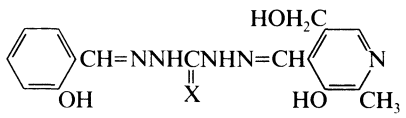
Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 525 nm, pH 6.0), Ga (λ_{max} 480 nm, pH 4.5), Be (λ_{max} 535 nm, pH 9.5). Cryst. (EtOH). Sol. DMF, EtOH; sl. sol. H_2O. Mp 185°.

[54825-06-8]

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)
Morishige, K., *Anal. Chim. Acta*, 1974, **75**, 245; 1980, **121**, 301 (*synth, detn, Al, Be, Ga*)

2-[[3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]-2′-[(2-hydroxyphenyl)methylene]carbonic acid dihydrazide, 9CI H-00218

[102502-25-0]



X = O

$C_{16}H_{17}N_5O_4$ M 343.341

Used as 0.05% aq. soln. for photometric detn. of Ga (λ_{max} 420 nm, ε 30000, pH 2.1), U, Al. Cryst. (EtOH aq.). Sol. H_2O, EtOH. Mp 222-223°.

Barragan de la Rosa, F.J. *et al*, *Talanta*, 1988, **35**, 343 (*synth, detn, Al, Ga, U*)

2-[[3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]-2′-[(2-hydroxyphenyl)methylene]carbothioic acid dihydrazide H-00219

[117932-58-8]

As 2-[[3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]-2′-[(2-hydroxyphenyl)methylene]carbonic acid dihydrazide, H-00218 with

X = S

$C_{16}H_{17}N_5O_3S$ M 359.408

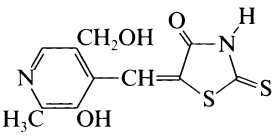
Used as 0.05% aq. soln. for photometric detn. of Cu(*II*), Ga, Co, Fe(*III*). Cryst. (EtOH aq.). Sol. H_2O, EtOH. Mp 217-218°.

Barragan de la Rosa, F.J. *et al*, *Talanta*, 1988, **35**, 343 (*synth, use*)

5-[[3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]-2-thioxo-4-thiazolidinone, 9CI H-00220

5-[4-(2-Methyl-3-hydroxy-5-hydroxymethyl)pyridylene] rhodanine

[105609-13-0]

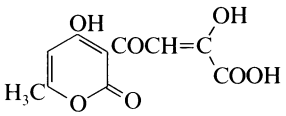


$C_{11}H_{10}N_2O_3S_2$ M 282.344

Used as 0.025% soln. in DMF for photometric detn. of Ag (λ_{max} 530 nm, ε 15000, DMF, pH 8.2). Orange cryst. (EtOH aq.). Sol. DMF. pK_{a1} 2.95; pK_{a2} 5.95; pK_{a3} 8.75 (μ = 1).

Godoy, R.E. *et al*, *Analyst (London)*, 1986, **111**, 1297 (*synth, detn, Ag*)

2-Hydroxy-4-(4-hydroxy-6-methyl-2-oxo-2*H*-pyran-3-yl)-4-oxo-2-butenoic acid, 9CI H-00221



$C_{10}H_8O_7$ M 240.169

Et ester: [59698-12-3].

$C_{12}H_{12}O_7$ M 268.223

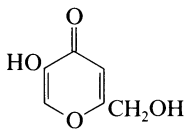
Used as a 1m*M* soln. in glac. AcOH for fluorimetric detn. of Al, Be. Cryst. Sol. Me_2CO, EtOH.

Drevenkar, V. *et al*, *Microchem. J.*, 1976, **21**, 402 (*detn, Al, Be*)

5-Hydroxy-2-(hydroxymethyl)-4*H*-pyran-4-one, 9CI H-00222

Kojic acid

[501-30-4]



$C_6H_6O_4$ M 142.111

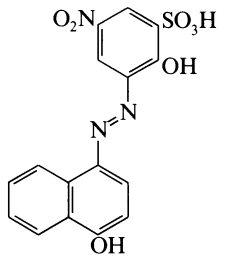
Prod. by the action of microorganisms, esp. *Aspergillus* spp. on carbohydrates, e.g. dextrose. Synthetic intermed. for prodn. of food additives. Used as aq. soln. for photometric detn. of V, U. Cryst. (H_2O). Sol. H_2O. Mp 161° (152°).

▷ UQ0875000.

Yabuta, T., *J. Chem. Soc.*, 1924, **125**, 575 (*struct*)
Becker, H.D., *Acta Chem. Scand.*, 1962, **16**, 78 (*synth*)
Satyanarayana, D. *et al*, *Chemist-Analyst*, 1965, **54**, 4 (*detn, V*)
Sommer, L. *et al*, *Collect. Czech. Chem. Commun.*, 1966, **31**, 1288 (*detn, U*)
Lichtenthaler, F.W. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1969, **8**, 978.
Kingsbury, C.A. *et al*, *J. Org. Chem.*, 1976, **41**, 2777 (*pmr*)
Bajpai, P. *et al*, *J. Sci. Ind. Res.*, 1982, **41**, 185 (*rev*)
Lokaj, J. *et al*, *Acta Crystallogr., Sect. C*, 1991, **47**, 193 (*cryst struct*)
Cole, R.J. *et al*, *Handbook of Toxic Fungal Metabolites*, Academic Press, N.Y., 1981, 759.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HLH500.

2-Hydroxy-3-[4-hydroxynaphthalenylazo]-5-nitrobenzenesulfonic acid H-00223

4-(2-Hydroxy-5-nitro-3-sulfophenylazo)-1-naphthol



$C_{16}H_{11}N_3O_7S$ M 389.345

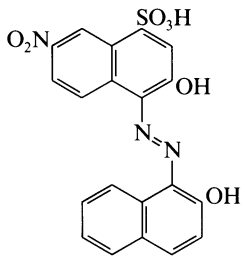
Used as 0.1% aq. soln. for photometric detn. of Al (λ_{max} 550 nm, ε 12200, pH 2.5-4). Yellow cryst. Sol. H_2O, EtOH.

Ermolenko, L.V. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 1030 (*synth, detn, Al*)

3-Hydroxy-4-[(2-hydroxy-1-naphthalenyl)azo]-7-nitro-1-naphthalenesulfonic acid, 9CI H-00224

1-(2-Hydroxy-4-sulfo-6-nitro-1-naphthylazo)-2-naphthol. 2,2'-Dihydroxy-6-nitro-1,1'-azonaphthalene-4-sulfonic acid. C.I. 15710. Aizen Chrome black AH. Eniachrome black A. Acid chrome black N. Azochromol black A. Hispacrom black A. Solochrome black AS (free acid). C.I. Mordant black 1, 8CI

[16279-54-2]



$C_{20}H_{13}N_3O_7S$ M 439.405

Used for photometric detn. of Ti (λ_{max} 420 nm, ε 19000); as a masking agent for Bi in detn. of Cu and Mg; as a 0.1% soln. in EtOH as metallochromic indicator for titrimetric detn. of Cu, Mg, Mn, Ni, Pb, Zn. Brownish black cryst. with faint metallic lustre. Sol. alkalis H_2O; sl. sol. EtOH, Me_2CO. pK_{a1} 6.2; pK_{a2} 13.0.

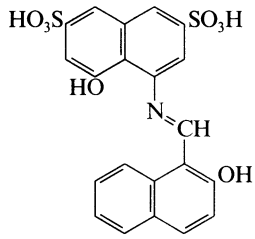
Na salt: [3618-58-4].

Dark red cryst. powder. Sol. H_2O; spar. sol. EtOH, Me_2CO.

Abd El Raheem, A.A. *et al*, *Anal. Chim. Acta*, 1958, **19**, 327 (*detn, Cu, Mn, Ni, Pb, Zn*)
Dryanovska-Noninska, B. *et al*, *Farmatsiya (Moscow)*, 1966, **16**, 50 (*masking*)
Hahn, C.S. *et al*, *CA*, 1969, **70**, 43506g (*synth*)
Ger. Pat., 2 224 643, (1972); *CA*, 1973, **78**, 73625c (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 307 (*use, ind*)
Korenman, I.M. *et al*, *CA*, 1975, **83**, 141388h (*detn, Ti*)

4-Hydroxy-5-[[(2-hydroxy-1-naphthalenyl) methylene]amino]-2,7-naphthalenedisulfonic acid, 9CI H-00225

[94787-53-8]



$C_{21}H_{15}NO_8S_2$ M 473.483

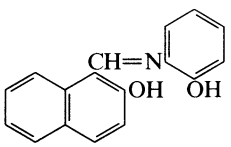
Used as 3% aq. soln. for photometric detn. of B (λ_{max} 445 nm, ε 8700; 30% MeOH medium). Cryst. Sol. H_2O.

Aznarez, J. *et al*, *Analyst* (*London*), 1985, **110**, 61 (*detn, B*)

2-Hydroxy-*N*-(2-hydroxynaphthylidene) aniline H-00226

1-[[(2-Hydroxyphenyl)imino]methyl]-2-naphthalenol, 9CI. 2-Hydroxy-1-naphthalenecarboxaldehyde 2-hydroxyanil

[894-93-9]



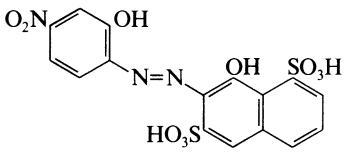
$C_{17}H_{13}NO_2$ M 263.295

Used as a 1m*M* soln. in EtOH for fluorimetric detn. of Al. Cryst. (EtOH). Sol. EtOH; sl. sol. H_2O. Mp 251.5-252.0°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)

8-Hydroxy-7-[(2-hydroxy-4-nitrophenyl) azo]-1,6-naphthalenedisulfonic acid, 9CI H-00227

[33683-71-5]



$C_{16}H_{11}N_3O_{10}S_2$ M 469.409

Used for photometric detn. of Al (λ_{max} 550 nm, ε 15600), Ga (λ_{max} 560 nm, ε 23200), In (λ_{max} 560 nm, ε 8800). Cryst. pK_{a1} 6.86.

Tiutiunnikova, P.D. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 508 (*detn, Al, Ga, In*)

8-Hydroxy-7-[(2-hydroxy-5-nitrophenyl) azo]-1,6-naphthalenedisulfonic acid, 9CI H-00228

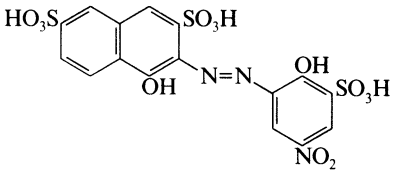
[33683-72-6]

$C_{16}H_{11}N_3O_{10}S_2$ M 469.409

Used for photometric detn. of Al (λ_{max} 580 nm, ε 22800), Ga (λ_{max} 580 nm, ε 24200), In (λ_{max} 590 nm, ε 14200). Cryst. pK_{a1} 5.42.

Tiutiunnikova, P.D. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 508 (*pKa, detn, Al, Ga, In*)

4-Hydroxy-3-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid H-00229



$C_{16}H_{11}N_3O_{13}S_3$ M 549.473

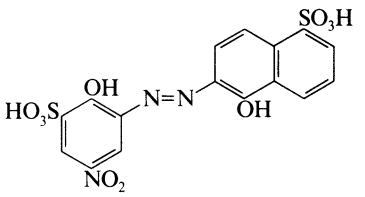
Used as 0.1% aq. soln. for photometric detn. of Al (λ_{max} 545 nm, ε 24300, pH 2.5-4). Yellow cryst. Sol. H_2O, EtOH.

Ermolenko, L.V. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 1030 (*synth, detn, Al*)

5-Hydroxy-6-[(2-hydroxy-5-nitro-3-sulfophenyl)-azo]-1-naphthalenesulfonic acid, 9CI H-00230

Sulfonitrophenol azurine 4,1

[33683-78-2]



$C_{16}H_{11}N_3O_{10}S_2$ M 469.409

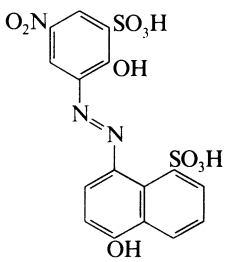
Used as 0.6m*M* aq. soln. for photometric detn. of Ga (λ_{max} 560 nm, ε 35800); as 0.1% aq. soln. for photometric detn. of Al (λ_{max} 545 nm, ε 12200, pH 2.5-4). Orange-red cryst. Sol. H_2O; sl. sol. EtOH. pK_a 3.74 (μ = 0.1), pK_{a2} 4.03; pK_{a3} 11.4.

Dedkov, Yu.M. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1266, 2350 (*synth, detn, Ga*)

Ermolenko, L.V. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 1030 (*synth, detn, Al*)

5-Hydroxy-8-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-1-naphthalenesulfonic acid, 9CI H-00231

[33683-79-3]



$C_{16}H_{11}N_3O_{10}S_2$ M 469.409

Used as a 0.6m*M* aq. soln. for photometric detn. of Ga (λ_{max} 560 nm, ε 35800); as 0.1% aq. soln. for photometric detn. of Al (λ_{max} 540 nm, ε 21600, pH 2.5-4). Orange-red cryst. Sol. H_2O. pK_{a2} 3.74; pK_{a3} 10.9.

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2350 (*detn, Ga*)

Ermolenko, L.V. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 1030 (*synth, detn, Al*)

5-Hydroxy-8-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-2-naphthalenesulfonic acid H-00232

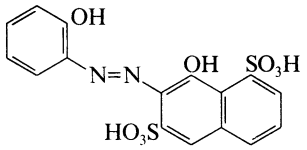
$C_{16}H_{11}N_3O_{10}S_2$ M 469.409

Used as 0.1% aq. soln. for photometric detn. of Al (λ_{max} 550 nm, ε 6800, pH 2.5-4). Yellow cryst. Sol. H_2O, EtOH.

Ermolenko, L.V. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 1030 (*synth, detn, Al*)

8-Hydroxy-7-[(2-hydroxyphenyl)azo]-1,6-naphthalenedisulfonic acid, 9CI H-00233

[33683-70-4]



$C_{16}H_{12}N_2O_8S_2$ M 424.411

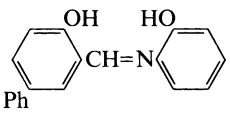
Used for photometric detn. of Al (λ_{max} 560 nm, ε 9600), Ga (λ_{max} 560 nm, ε 12000), In (λ_{max} 560 nm, ε 9400). Cryst. pK_{a1} 8.10.

Tiutiunnikova, P.D. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 508 (*detn, Al, Ga, In*)

2-Hydroxy-*N*-(2-hydroxy-5-phenylbenzylidene)aniline H-00234

3-[[(2-Hydroxyphenyl)imino]methyl][1,1'-biphenyl]-4-ol, 9CI. 4-Hydroxy-3-biphenylcarboxaldehyde 2-hydroxyanil

[1761-46-2]



$C_{19}H_{15}NO_2$ M 289.333

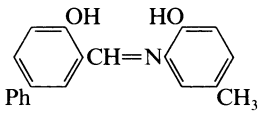
Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 503 nm, pH 5.0), Ga (λ_{max} 512 nm, pH 3.5), Be (λ_{max} 465 nm, pH 10.5). Cryst. (EtOH). Sol. DMF, EtOH. Mp 185.5-186.0°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)
Morishige, K., *Anal. Chim. Acta*, 1980, **121**, 301 (*synth, detn, Al, Be, Ga*)

2-Hydroxy-*N*-(2-hydroxy-5-phenylbenzylidene)-5-methylaniline H-00235

3-[[(2-Hydroxy-5-methylphenyl)imino]methyl][1,1'-biphenyl]-4-ol, 9CI. 4-Hydroxy-3-biphenylcarboxaldehyde 2-hydroxy-5-methylanil

[76950-26-0]

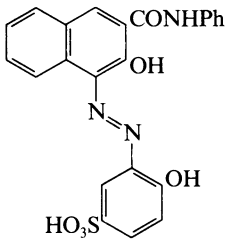


$C_{20}H_{17}NO_2$ M 303.360

Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 525 nm, pH 5.5), Ga (λ_{max} 535 nm, pH 3.0), Be (λ_{max} 460 nm, pH 10.5). Cryst. (EtOH). Sol. DMF, EtOH.

Morishige, K., *Anal. Chim. Acta*, 1980, **121**, 301 (*synth, detn, Al, Ga, Be*)

4-Hydroxy-3-[[2-hydroxy-3-(phenylcarbamoyl)-1-naphthyl]azo]benzenesulfonic acid, 8CI H-00236



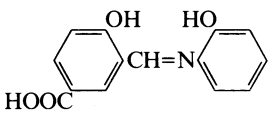
$C_{23}H_{17}N_3O_6S$ M 463.470

Used as a 0.1% soln. in MeOH as metallochromic indicator in titrimetric detn. of Ca. Cryst.

Neumann, J., *CA*, 1967, **67**, 3697b (*synth*)
Neumann, J. *et al*, *Fresenius' Z. Anal. Chem.*, 1968, **239**, 167 (*detn, Ca*)

4-Hydroxy-3-[[(2-hydroxyphenyl)imino]methyl]benzoic acid H-00237

3-Formyl-4-hydroxybenzoic acid 2-hydroxyanil



$C_{14}H_{11}NO_4$ M 257.245

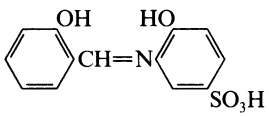
*Me ester: 2-Hydroxy-*N*-(2-hydroxy-5-carbomethoxybenzylidene)aniline*
$C_{15}H_{13}NO_4$ M 271.272
Used as a 1m*M* soln. in EtOH for fluorimetric detn. of Al. Cryst.(EtOH). Sol. EtOH; sl. sol. H_2O. Mp 234.5-235.0°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, detn, Al*)

4-Hydroxy-3-[[(2-hydroxyphenyl)methylene]amino]benzenesulfonic acid, 9CI H-00238

*2-Hydroxy-*N*-salicylidene-5-sulfoaniline. 2-Hydroxybenzaldehyde 2-hydroxy-5-sulfoanil*

[53851-92-6]



$C_{13}H_{11}NO_5S$ M 293.300

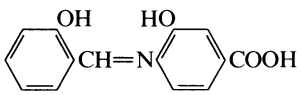
Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 480 nm, pH 5.5) Ga (λ_{max} 490 nm, pH 3.7), In, Be; as 0.1% aq. soln. for photometric detn. of Cu(*II*) (λ_{max} 406 nm, ε 14500, pH 4-7). Cryst. (EtOH). Sol. DMF, EtOH, H_2O.

Morishige, K., *Anal. Chim. Acta*, 1974, **72**, 295; **73**, 245 (*synth, detn, Al, Be, Ga*)
Zenki, M. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1978, **27**, 570 (*detn, Cu*)
Deguchi, M. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1990, **39**, 463 (*detn, In*)

3-Hydroxy-4-[[(2-hydroxyphenyl) methylene]amino]benzoic acid, 9CI H-00239

*4-Carboxy-2-hydroxy-*N*-salicylideneaniline*

[53899-51-7]



$C_{14}H_{11}NO_4$ M 257.245

Used as a 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 505 nm, pH 5.6), Ga (λ_{max} 510 nm, pH 3.5). Cryst. (EtOH). Sol. DMF, EtOH.

Morishige, K., *Anal. Chim. Acta*, 1974, **72**, 295 (*synth, detn, Al, Ga*)

4-Hydroxy-3-[[(2-hydroxyphenyl) methylene]amino]benzoic acid, 9CI H-00240

*5-Carboxy-2-hydroxy-*N*-salicylideneaniline*

[53851-94-8]

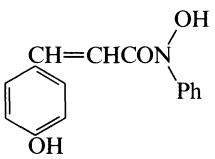
$C_{14}H_{11}NO_4$ M 257.245

Used as 0.1% DMF soln. for fluorimetric detn. of Al (λ_{max} 490 nm, pH 5.0), Ga (λ_{max} 495 nm, pH 3.5), Sn(*IV*). Cryst. (EtOH). Sol. DMF, EtOH.

Morishige, K., *Anal. Chim. Acta*, 1974, **72**, 295 (*synth, use*)
Morishige, K., *CA*, 1981, **95**, 161361v (*detn, Sn*)

N-Hydroxy-3-(4-hydroxyphenyl)-*N*-phenyl-2-propenamide, 9CI H-00241

p-*Hydroxy-*N*-phenylcinnamohydroxamic acid*



$C_{15}H_{13}NO_3$ M 255.273

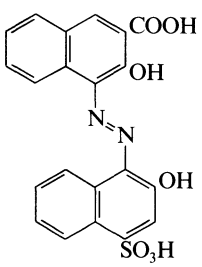
4-Me ether: [29625-36-3]. p-*Methoxy-*N*-phenylcinnamohydroxamic acid, 8CI.* N-*Hydroxy-3-(4-methoxyphenyl)-*N*-phenyl-2-propenamide*
$C_{16}H_{15}NO_3$ M 269.299
Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of Ti (λ_{max} 402 nm, ε 17000 from 9*M* HCl), V (λ_{max} 570 nm, ε 7500). Cryst. Sol. $CHCl_3$.

Bhura, D.C. *et al*, *J. Chem. Eng. Data*, 1969, **14**, 276 (*synth*)
Bhura, D.C. *et al*, *Anal. Chim. Acta*, 1971, **53**, 379 (*detn, V*)
Bhura, D.C. *et al*, *Analusis*, 1980, **8**, 108 (*detn, Ti*)

3-Hydroxy-4-[(2-hydroxy-4-sulfo-1-naphthalenyl)azo]-2-naphthalenecarboxylic acid H-00242

2,2′-Dihydroxy-4′-sulfo-1,1′-azonaphthalene-3-carboxylic acid. Calconcarboxylic acid. Calred. Kalces. Patton and Reeder's dye

[3737-95-9]



$C_{21}H_{14}N_2O_7S$ M 438.417

Used as 0.74m*M* EtOH soln. for photometric detn. of $F^{\ominus}$ (based on bleaching of the Al-reagent complex). Sol. hot H_2O, MeOH. pK_{a1} 1-2; pK_{a2} 3.8; pK_{a4} 13.6 (0.1*M* KCl, 24°). Hygroscopic.

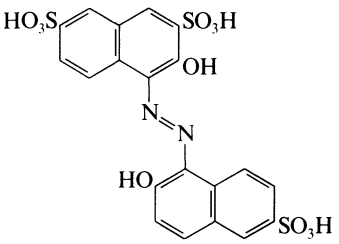
Na salt: [38756-90-0].
Used in a mixt. (1:100) with NaCl as metallochromic indicator in titrimetric detn. of Ca in the presence of Mg; used as 0.1m*M* aq. soln. for photometric detn. of U(*VI*) (λ_{max} 570 nm, ε 13600). Dark violet cryst. powder. Sol. H_2O.

Patton, J. *et al*, *Anal. Chem.*, 1956, **28**, 1026 (*synth*)
Bangh, C.A. *et al*, *Anal. Chem.*, 1961, **33**, 1804 (*detn, Ca*)
Baczyk, S., *Fresenius' Z. Anal. Chem.*, 1964, **202**, 273 (*detn, Ca*)
Ishii, H., *Bunseki Kagaku* (*Jpn. Anal.*), 1966, **15**, 972 (*detn, Ca*)
Itoh, A. *et al*, *Analyst* (*London*), 1970, **95**, 583 (*detn, Ca*)
Bishop, E., *Indicators*, Oxford, Pergamon, 1972 (*detn, Ca*)
Mavrodin, M., *Rev. Roum. Chim.*, 1972, **17**, 1199 (*detn, U*)
Irving, H., *Pure Appl. Chem.*, 1978, **50**, 339 (*detn, $F^{\ominus}$*)
Boos, K.S., *Biochim. Biophys. Acta*, 1982, **693**, 68 (*use*)
Rahim, S.A. *et al*, *Microchem. J.*, 1987, **36**, 294 (*detn, $F^{\ominus}$*)

3-Hydroxy-4-[(2-hydroxy-6-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI H-00243

1-(2-Hydroxy-6-sulfo-1-naphthylazo)-2-naphthol-3,6-disulfonic acid. 2,2′-Dihydroxy-1,1′-azonaphthalene-3,6,6′-trisulfonic acid

[32884-46-1]



$C_{20}H_{14}N_2O_{11}S_3$ M 554.535

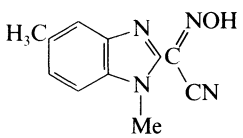
Used as 0.1m*M* aq. soln. as an indicator for complexiметric titration of Ca (λ_{max} 555 nm, pH 12). Dark violet cryst. Sol. H_2O. pK_{a1} 5.69; pK_{a2} 13.4 (25°, μ = 1).

Wada, H. *et al*, *Anal. Chim. Acta*, 1980, **121**, 265 (*synth, detn, Ca*)

α-(Hydroxyimino)-1,5-dimethyl-1*H*-benzimidazole-2-acetonitrile, 9CI H-00244

N-*Methyl-2-(α-isonitroso-α-cyano)methylbenzimidazole*

[70566-29-9]



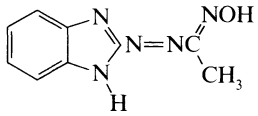
$C_{11}H_{10}N_4O$ M 214.226

Used as 0.2m*M* Me_2CO soln. for extraction-photometric detn. of Fe(*II*) (λ_{max} 540 nm, ε 16000, toluene/isopentanol). Cryst. Sol. Me_2CO.

Chernov'yants, M.S. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 236 (*synth, detn, Fe*)

2-[[1-(Hydroxyimino)ethyl]azo]-1*H*-benzimidazole, 9CI H-00245

[76128-52-4]



$C_9H_9N_5O$ M 203.203

Used as 0.05% EtOH soln. for photometric detn. of Cu (λ_{max} 525 nm, ε 12600), Co. Yellow cryst. (EtOH). Sol. EtOH, DMF, Me_2CO. pK_a 9.01.

N[1]-*Benzyl:* [76128-54-6]. *2-[[1-(Hydroxyimino)ethyl]azo]-1-(phenylmethyl)-1H-benzimidazole, 9CI*

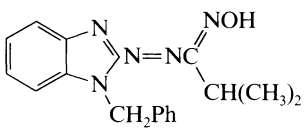
$C_{16}H_{15}N_5O$ M 293.327

Used as 0.02m*M* soln. in EtOH for photometric detn. of Cu, Co, Ni, Mn (pH 7-12). Yellow cryst. (EtOH). Sol. EtOH, DMF, Me_2CO.

Dubinina, L.F. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1700 (*synth, detn, Cu, Co*)

2-[[1-(Hydroxyimino)-2-methylpropyl]azo]-1-(phenylmethyl)-1*H*-benzimidazole, 9CI H-00246

[76128-55-7]



$C_{18}H_{19}N_5O$ M 321.381

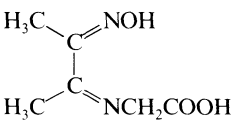
Used as 0.05% EtOH soln. for photometric detn. of Cu (λ_{max} 465 nm, ε 16000), Ni, Co. Yellow cryst. (EtOH). Sol. EtOH, Me_2CO. pK_a 9.46.

Dubinina, L.F. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1700 (*synth, use*)

N-[2-(Hydroxyimino)-1-methylpropylidene]glycine, 9CI H-00247

Biacetylglycinimine oxime

[76291-06-0]



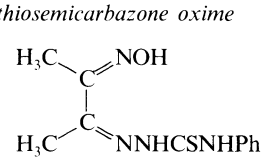
$C_6H_{10}N_2O_3$ M 158.157

Used as 0.05% soln. in EtOH for extraction-photometric and gravimetric detn. of Pd. Cryst. (EtOH). Sol. EtOH, Me_2CO; spar. sol. H_2O. Mp 234-235°.

Riyazuddin, P. *et al*, *Talanta*, 1982, **29**, 1122.

2-[2-(Hydroxyimino)-1-methylpropylidene]-*N*-phenylhydrazinecarbothioamide H-00248

Biacetyl phenythiosemicarbazone oxime



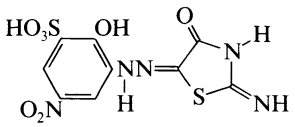
$C_{11}H_{14}N_4OS$ M 250.324

Used as a 0.1% soln. in DMF for photometric detn. of Mn. Cryst. (EtOH). Sol. EtOH, Me_2CO; insol. H_2O. Mp 210-212°.

Cano Pavon, J.M. *et al*, *Anal. Chim. Acta*, 1975, **75**, 335.

2-Hydroxy-3-[(2-imino-4-oxo-5-thiazolidinyl)azo]-5-nitrobenzenesulfonic acid H-00249

Sulfonitrophenolazopseudothiohydantoin



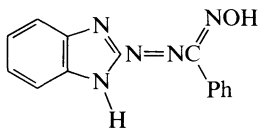
$C_9H_7N_5O_7S_2$ M 361.316

Various tautomers possible. Used as EtOH soln. for photometric detn. of Ag, Au, Pd, Pt. Yellow cryst. powder. Sol. H_2O, EtOH, DMF.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*synth, use*)

2-[[(Hydroxyimino)phenylmethyl]azo]-1*H*-benzimidazole, 9CI H-00250

[76128-53-5]



$C_{14}H_{11}N_5O$ M 265.274

Used as 0.02m*M* soln. in aq. EtOH for photometric detn. of Cu, Co, Ni, Mn (pH 4-7). Yellow cryst. (EtOH). Sol. EtOH, DMF, Me_2CO. pK_a 8.74.

N[1]-*Benzyl:* [76128-56-8]. *2-[[(Hydroxyimino)phenylmethyl]azo]-1-(phenylmethyl)-1H-benzimidazole, 9CI*

$C_{21}H_{17}N_5O$ M 355.398

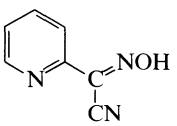
Used as 0.02m*M* soln. in aq. EtOH for photometric detn. of Cu (λ_{max} 460 nm, ε 12300), Co, Ni (λ_{max} 546 nm, ε 12300), Pb, Mn (pH 3.5-10). Yellow cryst. (EtOH). Sol. EtOH, DMF, Me_2CO. pK_{a1} 8.79.

Dubinina, L.F. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1700; 1983, **38**, 94 (*synth, use*)

α-(Hydroxyimino)-2-pyridineacetonitrile, 9CI H-00251

2-Pyridylcyanoxime

[4185-96-0]



$C_7H_5N_3O$ M 147.136

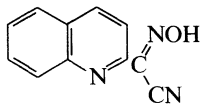
Used as 5m*M* EtOH soln. for extraction-photometric detn. of Fe(*II*) (λ_{max} 585 nm, ε 16500, $CHCl_3$), Cu(*I*). Cryst. Sol. EtOH. pK_{a1} 2.47; pK_{a2} 7.40.

Chernov'yants, M.S. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 797 (*synth, use*)

α-(Hydroxyimino)-2-quinolineacetonitrile, 9CI H-00252

2-Quinolylcyanoxime

[72082-07-6]



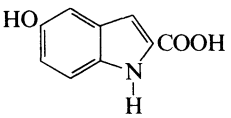
$C_{11}H_7N_3O$ M 197.196

Used as 5m*M* EtOH soln. for extraction-photometric detn. of Fe(*II*) (λ_{max} 545 nm, ε 13400, $CHCl_3$), Cu(*I*). Cryst. Sol. EtOH. pK_{a1} 2.73; pK_{a2} 7.0.

Chernov'yants, M.S. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 797 (*synth, use*)

5-Hydroxy-1*H*-indole-2-carboxylic acid, 9CI H-00253

[21598-06-1]



$C_9H_7NO_3$ M 177.159

Used for photometric detn. of $NO_2^{\ominus}$ (λ_{max} 465 nm, ε 3500, H_2SO_4). Mp 246° dec.

Me ester: [51991-39-0].
$C_{10}H_9NO_3$ M 191.186
Plates (MeOH). Mp 177°.

Et ester: [24985-85-1].
$C_{11}H_{11}NO_3$ M 205.213
Needles (EtOH). Mp 156°.

Me ether: [4382-54-1]. *5-Methoxy-1H-indole-2-carboxylic acid*
$C_{10}H_9NO_3$ M 191.186
Needles (H_2O). Sol. EtOH, Et_2O, AcOH. Mp 196-197° dec.

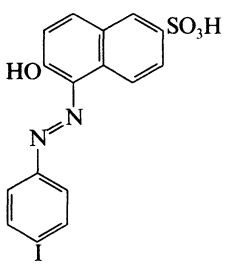
▷ NL6005000.

Me ether, Et ester: [4792-58-9].
$C_{12}H_{13}NO_3$ M 219.240
Mp 157°.

Blaikie, K.G. *et al*, *J. Chem. Soc.*, 1924, **125**, 309.
Bergel, F. *et al*, *J. Chem. Soc.*, 1943, 49.
Beer, R.J.S. *et al*, *J. Chem. Soc.*, 1948, 1605.
Bouchet, P. *et al*, *Synth. Commun.*, 1974, **4**, 57.
Capitan, F. *et al*, *Bol. Soc. Quim. Peru*, 1977, **43**, 1; *CA*, **88**, 114730k (*detn*, $NO_2^{\ominus}$)
Léon, P. *et al*, *J. Med. Chem.*, 1987, **30**, 2074 (*deriv, synth*)

6-Hydroxy-5-[(4-iodophenyl)azo]-2-naphthalenesulfonic acid, 9CI H-00254

[62936-60-1]



$C_{16}H_{11}IN_2O_4S$ M 454.244

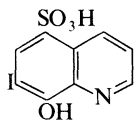
Used as a 0.1% soln. in 20% Me_2CO for photometric titrimetric detn. of Pd (λ_{max} 575 nm). Orange-red cryst. Sol. EtOH.

Khalifa, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **284**, 46 (*detn, Pd*)

8-Hydroxy-7-iodo-5-quinolinesulfonic acid, 9CI H-00255

Ferron. Loretin. Yatren. Numerous proprietary names

[547-91-1]



$C_9H_6INO_4S$ M 351.121

Antiamoebic. Topical disinfectant. Used as 0.1% aq. soln. for photometric detn. of Fe(*III*) (λ_{max} 610 nm, ε 4000), Al, Pd, V; indirect detn. of $F^{\ominus}$. Yellow prisms or laminae. V. spar. sol. H_2O, EtOH, prac. insol. Et_2O, $CHCl_3$, C_6H_6. Mp 250-280° dec. Forms cryst. salts with alkali and alkaline-earth metals. Used mainly as mixt. with $NaHCO_3$ (Chiniofon, INN).

▷ VC2800000.

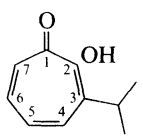
[8002-90-2]

Claus, A., *Arch. Pharm.* (*Weinheim, Ger.*), 1893, **231**, 706.
Cohn, G., *J. Prakt. Chem.*, 1911, **83**, 503.
Ger. Pat., 545 915, (1933); *CA*, **27**, 566.
Ziegler, M. *et al*, *Fresenius' Z. Anal. Chem.*, 1957, **154**, 170 (*detn, Fe*)
Botton, L.P., *CA*, 1958, **52**, 1840.
Adams, D.F., *Anal. Chem.*, 1960, **32**, 1312 (*detn, $F^{\ominus}$*)
Merritt, L.L. *et al*, *Acta Crystallogr., Sect. B*, 1970, **26**, 734 (*cryst struct*)
Gershon, H. *et al*, *J. Org. Chem.*, 1971, **36**, 3494.
Singh, T. *et al*, *Talanta*, 1971, **18**, 225 (*detn, Pd*)
Goto, K. *et al*, *Talanta*, 1974, **21**, 183 (*detn, Al*)
Przeszlakowski, G. *et al*, *Analyst* (*London*), 1982, **107**, 1320 (*detn, Fe*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 4766.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1082 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IEP200.

2-Hydroxy-3-isopropyl-2,4,6-cycloheptatrien-1-one H-00256

2-Hydroxy-3-(1-methylethyl)-2,4,6-cycloheptatrien-1-one, 9CI. 3-Isopropyltropolone. ***α-Thujaplicin***

[1946-74-3]



$C_{10}H_{12}O_2$ M 164.204

Occurs in *Juniperus conferta* and the heartwood of *Thuja plicata*. Also from *T. occidentalis*, *T. dolabrata*, *T. standishii*, *Cupressus* spp., and *Juniperus* spp. Antifungal. Used as 0.1*M* soln. in EtOH for extraction-photometric detn. of Fe, Ti, V, U ($CHCl_3$). Needles (pet. ether). Mp 82° (34°). $Bp_{0.001}$ 80° (bath).

Me ether: Mp 71.5-72.5°. Bp_4 118-120°.

Gripenberg, J., *Acta Chem. Scand.*, 1948, **2**, 639 (*isol*)
Cook, J.W. *et al*, *J. Chem. Soc.*, 1951, 695 (*synth*)
Zavarin, E. *et al*, *J. Org. Chem.*, 1959, **24**, 1318 (*isol*)

Bredenberg, J.B., *Acta Chem. Scand.*, 1961, **15**, 961 (*isol*)
Dyrssen, D. *et al*, *Acta Chem. Scand., Ser. A*, 1961, **15**, 1614; 1962, **16**, 785 (*detn, U*)
Dutt, Y. *et al*, *Talanta*, 1969, **16**, 1369 (*detn, Ti*)
McClellan, B.E. *et al*, *Anal. Chem.*, 1971, **43**, 436 (*detn, Fe*)
Menis, O. *et al*, *Anal. Chim. Acta*, 1971, **55**, 89 (*detn, V, Fe*)
Takaya, H. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 1778 (*synth*)

Hydroxylamine, 9CI H-00257

Hydroxyamine. Amino hydroxide

[7803-49-8]

H_2NOH (C_s)

H_3NO M 33.030

Usually handled in aq. soln. or as salts. Synth. from $[NH_2OH_2]Cl$ + sodium butoxide. May act as an oxidising agent (esp. when acidified) or more commonly as a reducing agent. Antioxidant for photographic developers etc. Reducing agent often used in analysis e.g. Hg(*II*) to metal, Fe(*III*) to Fe(*II*); photometric detn. of V(*V*). White thermally unstable hygroscopic cryst. V. sol. H_2O, alcohols, liq. NH_3; sol. acids. d^{33} 1.204. Mp 33°. Bp_{22} 58°. pK_a 5.95 (25°). Dec. rapidly at 20° esp. in moist air or CO_2.

▷ Explodes when heated. NC2975000.

B,HCl: [5470-11-1]. *Hydroxylamine hydrochloride. Hydroxylammonium chloride*

ClH_4NO M 69.490

Commercially available. Powerful reducing agent, catalyst and copolym. inhibitor. Mp 159° dec.

▷ Toxic, corrosive; explodes on heating. NC3675000.

B,H_2SO_4 (2:1): [10039-54-0]. *Hydroxylamine sulfate. Hydroxylammonium sulfate*

$H_8N_2O_6S$ M 164.139

Powerful reducing agent. Commercially available. Sol. H_2O. Mp ~170°.

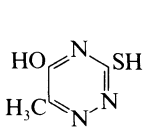
▷ Toxic, corrosive. NC5425000.

Inorg. Synth., 1939, **1**, 87 (*synth*)
Charlot, G., *Les Méthodes de la Chimie Analytique* (*V*), V. Ed., Masson, Paris, 1966.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 478, 481; 1969, **2**, 217; 1979, **7**, 176; 1981, **9**, 245 (*uses*)
Mellor Compr. Treat. Inorg. Theor. Chem., Part 2, 1967, **8/II**, 115 (*rev*)
Tsunehawa, S., *J. Phys. Soc. Jpn.*, 1972, **33**, 167 (*struct*)
Lukachina, V.V. *et al*, *Fresenius' Z. Anal. Chem.*, 1973, **28**, 86 (*detn, V*)
Maltseva, L.S. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 2053 (*detn, V*)
Brauer, G., *Handbuch Präp. Anorg. Chem.*, 3rd Ed., Ferdinand Enke Verlag, 1975-1981, **1**, 464, 465, 466, 467 (*synth, adducts*)
Stedman, G., *Adv. Inorg. Chem. Radiochem.*, 1979, **22**, 114 (*rev*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HLM500, HLN000, OLS000.

5-Hydroxy-3-mercapto-6-methyl-1,2,4-triazine H-00258

3-Mercapto-6-methyl-1,2,4-triazin-5-ol, 8CI

[7338-83-2]

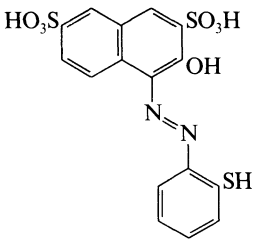


$C_4H_5N_3OS$ M 143.169

Used as 0.2% soln. in 1% NaOH for photometric detn. of Os.

Baiulescu, G., *Anal. Chim. Acta*, 1961, **24**, 463 (*detn, Os*)

3-Hydroxy-4-(2-mercaptophenylazo)-2,7-naphthalenedisulfonic acid H-00259



$C_{16}H_{12}N_2O_7S_3$ M 440.478

S-Me: [85261-30-9]. *3-Hydroxy-4-[[2-(methylthio)phenyl] azo]-2,7-naphthalenedisulfonic acid, 9CI*

$C_{17}H_{14}N_2O_7S_3$ M 454.505

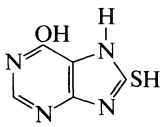
Used as aq. soln. for photometric detn. of Cu(*II*) (λ_{max} 513 nm, ε 20000) (as Na salt). Deep purple solid (Na salt). Sol. H_2O, EtOH.

Pringle, D.L. *et al*, *Talanta*, 1982, **29**, 1097 (*synth, detn, Cu*)

6-Hydroxy-8-mercaptopurine H-00260

1,7,8,9-Tetrahydro-8-thioxo-6H-purin-6-one, 9CI. 8-Thiohypoxanthine

[6305-94-8]



$C_5H_4N_4OS$ M 168.179

Used for photometric detn. of Pd (λ_{max} 343 nm, pH 1.35-1.5). Solid $+\frac{1}{2}H_2O$.

S-*Me:* [59008-28-5]. *1,7-Dihydro-8-methylthio-6H-purin-6-one, 9CI. 6-Hydroxy-8-methylthio-7H-purine*

$C_6H_6N_4OS$ M 182.206

Cryst. (AcOH).

S-*Me, Na salt:* [59008-15-0].

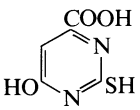
Used as a 0.8% soln. in DMF for pptn. detn. of many metals. Cryst.

Robins, R.K., *J. Am. Chem. Soc.*, 1958, **80**, 6671 (*synth*)
Rauret, G. *et al*, *Quim. Anal.* (*Madrid*), 1975, **29**, 216, 345 (*use*)

6-Hydroxy-2-mercapto-4-pyrimidinecarboxylic acid H-00261

1,2,3,6-Tetrahydro-6-oxo-2-thioxo-4-pyrimidinecarboxylic acid, 9CI. 2-Thioorotic acid, 8CI

[6953-78-2]



$C_5H_4N_2O_3S$ M 172.164

Oxo- and thioxo tautomers possible. Used as aq. soln. of NH_4 salt for gravimetric detn. of Hg(*II*). Yellow cryst. Insol. H_2O, EtOH, Et_2O. Mp 338-339° dec.

S-*Et:* [6308-28-7]. *2-(Ethylthio)-6-hydroxy-4-pyrimidinecarboxylic acid, 8CI*

$C_7H_8N_2O_3S$ M 200.218

Used as a 0.2% soln. in 4*M* NaOH for detn. of Mn(*VII*). Cryst. (H_2O). Mp 248°.

S-*Benzyl:* [6308-26-5]. *2-(Benzylthio)-6-hydroxy-4-pyridimidinecarboxylic acid, 8CI*
$C_{12}H_{10}N_2O_3S$ M 262.289
Used as a 0.2% soln. in 4*M* NaOH for detn. of Mn(*VII*). Cryst. (H_2O). Mp 265°.

S-*Me, 6-Me ether:* [15584-03-9]. *6-Methoxy-2-methylthio-4-pyrimidinecarboxylic acid*
$C_7H_8N_2O_3S$ M 200.218
Used as a 0.2% soln. in aq. NaOH to give colour reaction with Mn(*VII*). Cryst.

Johnson, T.B. *et al, J. Am. Chem. Soc.*, 1932, **54**, 2941 (*synth*)
Chung, O.K. *et al, Anal. Chem.*, 1967, **39**, 383, 525 (*detn, Mn*)
Shrivastava, M. *et al, J. Indian Chem. Soc.*, 1986, **63**, 783 (*detn, Hg*)
Jovanovic, M.V. *et al, J. Heterocycl. Chem.*, 1987, **24**, 191 (*cmr, tautomerism*)

Hydroxymethanesulfinic acid H-00262

$HOCH_2S(O)OH$

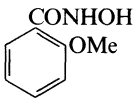
CH_4O_3S M 96.107

Na salt: [149-44-0]. *Rongalite*
Used as reducing agent for Ti(*IV*). Cryst.

Riazanceva, I.M. *et al, Khim. Khim. Tekhnol. (Minsk)*, 1974, **17**, 1256.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FMW000.

N-Hydroxy-2-methoxybenzamide, 9CI H-00263

2-Methoxybenzohydroxamic acid
[31791-97-6]



$C_8H_9NO_3$ M 167.164
Cryst. (Me_2CO/Et_2O). Mp 129-131°.

N-*Ph:* [34661-16-0]. N-*Hydroxy-2-methoxy*-N-*phenylbenzamide, 9CI*
$C_{14}H_{13}NO_3$ M 243.262
Used for extraction-photometric detn. of V(*V*) (λ_{max} 530 nm, ε 4200). Cryst. Sol. $CHCl_3$, C_6H_6.

N-(*2-Methylphenyl*): [34661-14-8]. N-*Hydroxy-2-methoxy*-N-(*2-methylphenyl*)*benzamide, 9CI*
$C_{15}H_{15}NO_3$ M 257.288
Used for extraction-photometric detn. of V(*V*) (λ_{max} 520 nm, ε 5000). Cryst. Sol. $CHCl_3$, C_6H_6.

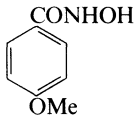
N-(*3-Methylphenyl*): [34661-25-1]. N-*Hydroxy-2-methoxy*-N-(*3-methylphenyl*)*benzamide, 9CI*
Used for photometric detn. of V(*V*) (λ_{max} 520 nm, ε 4900).

N-(*4-Methylphenyl*): [42772-57-6]. N-*Hydroxy-2-methoxy*-N-(*4-methylphenyl*)*benzamide, 9CI*
Used as a 0.05*M* soln. in $CHCl_3$ for extraction-photometric detn. of U (λ_{max} 360 nm, ε 2140, $CHCl_3$). Cryst. (C_6H_6/ pet. ether). Sol. common org. solvs. Mp 128°.

Stolberg, M.A. *et al, J. Am. Chem. Soc.*, 1957, **79**, 2615 (*synth*)
Tondon, U. *et al, J. Indian Chem. Soc.*, 1969, **46**, 983 (*synth, deriv*)
Gupta, V.K. *et al, J. Indian Chem. Soc.*, 1971, **48**, 743 (*derivs, synth*)
Gupta, V.K. *et al, Anal. Chim. Acta*, 1973, **66**, 39 (*derivs, use*)
Murti, M.V. *et al, Chem. Anal. (Warsaw)*, 1975, **20**, 741 (*detn, U*)
Abbasi, S.A. *et al, Fresenius' Z. Anal. Chem.*, 1976, **280**, 222 (*detn, U*)

N-Hydroxy-4-methoxybenzamide, 9CI H-00264

p-*Methoxybenzohydroxamic acid*
[10507-69-4]

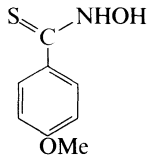


$C_8H_9NO_3$ M 167.164
Used as a 2% aq. soln. for extraction-photometric detn. of V(*V*) (λ_{max} 450 nm, ε 4030, hexanol). Cryst. Sol. H_2O.

Minczewski, J. *et al, Chem. Anal. (Warsaw)*, 1961, **6**, 377 (*detn, V*)

N-Hydroxy-4-methoxybenzenecarbothioamide, 9CI H-00265

p-*Methoxybenzothiohydroxamic acid*
[17650-20-3]

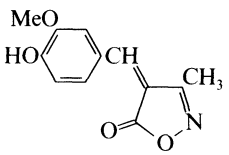


$C_8H_9NO_2S$ M 183.231
Used as 1% alkaline aq. soln. for extraction-photometric detn. of V (λ_{max} 372 nm, ε 20000, $CHCl_3$), Mo, Ti, Sn, Bi, Fe, Mn (λ_{max} 430 nm, butanol; λ_{max} 450 nm, ε 10600, $CHCl_3$), Nb (λ_{max} 430 nm, $CHCl_3$). Cryst. Sol. alkalis, H_2O.

Minczewski, J. *et al, Chem. Anal. (Warsaw)*, 1964, **9**, 397 (*detn, Mn, Nb*)
Skorko-Trybula, Z., *Chem. Anal. (Warsaw)*, 1965, **10**, 831; 1967, **12**, 815; 1971, **16**, 99 (*detn, V, Mo, Ti, Sn, Bi, Fe*)
Skorko-Trybula, Z.A., *CA*, 1975, **83**, 71070x (*detn, Bi, Co, Fe, Mn, Mo, Nb, Sn, Ti, V*)

4-(4-Hydroxy-3-methoxybenzylidene)-3-methyl-5(4*H*)-isoxazolone H-00266

3-Methyl-4-vanillylidene-2-isoxazolin-5-one, 8CI
[31867-76-2]

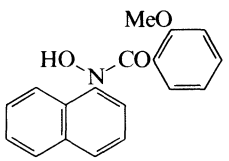


$C_{12}H_{11}NO_4$ M 233.223
Used as a 0.5% soln. in 0.2% NaOH for photometric detn. of Au. Cryst. (EtOH/MeOH). Mp 230-231°.

Hashmi, M.H. *et al, Mikrochim. Acta*, 1970, 1214 (*synth, detn, Au*)

N-Hydroxy-2-methoxy-*N*-1-naphthalenylbenzamide, 9CI H-00267

N-*1-Naphthyl*-o-*methoxybenzohydroxamic acid*
[36237-44-2]



$C_{18}H_{15}NO_3$ M 293.321

Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 525 nm, ε 4400, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Chem. Eng. Data*, 1972, **17**, 248 (*synth*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn*, *V*)

N-Hydroxy-4-methoxy-*N*-1-naphthalenylbenzamide, 9CI H-00268

N-*1-Naphthyl*-p-*methoxybenzohydroxamic acid*

[36237-43-1]

$C_{18}H_{15}NO_3$ M 293.321

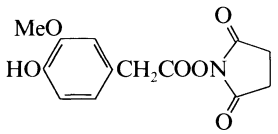
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 520 nm, ε 5400, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Chem. Eng. Data*, 1972, **17**, 248 (*synth*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn*, *V*)

1-[[(4-Hydroxy-3-methoxyphenyl)acetyl]oxy]-2,5-pyrrolidinedione, 9CI H-00269

Succinimide homovanillate

[72071-13-0]



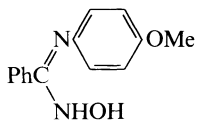
$C_{13}H_{13}NO_6$ M 279.249

Derivatisation reagent for amines for electrochem. detn. in liq. chromatog. Needles (EtOAc). Mp 141-142°.

Shimada, K. *et al*, *Chem. Pharm. Bull.*, 1979, **27**, 2259 (*synth*, *pmr*, *use*)

N-Hydroxy-*N'*-(4-methoxyphenyl)benzenecarboximidamide H-00270

[52395-23-0]



$C_{14}H_{14}N_2O_2$ M 242.277

Cryst. (C_6H_6/pet. ether). Mp 160-162°.

N-*Ph:* [59387-14-3]. N-*Hydroxy*-N'-(*4-methoxyphenyl*)-N-*phenylbenzenecarboximidamide*, *9CI*
$C_{20}H_{18}N_2O_2$ M 318.374
Used as a 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 580 nm, ε 3950, $CHCl_3$). Cryst. Sol. $CHCl_3$; mod. sol. C_6H_6, CCl_4, EtOAc. Mp 170°.

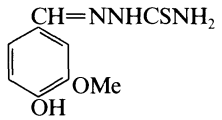
N-(*4-Methylphenyl*): [69038-92-2]. N-*Hydroxy*-N'-(*4-methoxyphenyl*)-N-(*4-methylphenyl*)*benzenecarboximidamide*, *9CI*
$C_{21}H_{20}N_2O_2$ M 332.401
Used as a 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 586 nm, ε 4460, $CHCl_3$). Cryst. Sol. $CHCl_3$; mod. sol. C_6H_6, CCl_4, EtOAc.

Dondoni, A. *et al*, *J. Org. Chem.*, 1977, **42**, 3372.
Satyanarayana, K. *et al*, *J. Indian Chem. Soc.*, 1978, **55**, 787 (*synth*, *use*, *derivs*)

2-[(4-Hydroxy-3-methoxyphenyl)methylene]hydrazinecarbothioamide, 9CI H-00271

2-(4-Hydroxy-3-methoxyphenyl)methylenethiosemicarbazone

[5351-92-8]



$C_9H_{11}N_3O_2S$ M 225.271

Used as 0.3% soln. in EtOH for photometric detn. of Co (λ_{max} 402 nm, ε 13700), Pd (λ_{max} 410 nm, ε 12300), Cu, Hg. Cryst. (EtOH). Sol. EtOH, DMF.

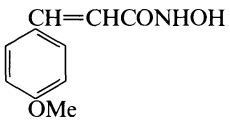
▷ VT3450000.

Gowda, H.S. *et al*, *Curr. Sci.*, 1983, **52**, 636 (*detn*, *Co*)
Thimmaiah, K.N. *et al*, *Indian J. Chem., Sect. A*, 1984, **23**, 248 (*detn*, *Hg*)
Thimmaiah, K.N. *et al*, *Rev. Roum. Chim.*, 1986, **31**, 719 (*detn*, *Pd*, *Cu*)

N-Hydroxy-3-(4-methoxyphenyl)-2-propenamide, 9CI H-00272

4-Methoxycinnamohydroxamic acid

[25357-01-1]



$C_{10}H_{11}NO_3$ M 193.202

Plates (MeOH). Mp 143.5-144°.

N-(*3-Methylphenyl*): [29265-64-3].
$C_{17}H_{17}NO_3$ M 283.326
Used as 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 570 nm, ε 7500, 4*M* HCl). Cryst. Sol. $CHCl_3$.

N-(*4-Methylphenyl*): [29265-65-4].
$C_{17}H_{17}NO_3$ M 283.326
Used as 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 570 nm, ε 7500, 4*M* HCl). Cryst. Sol. $CHCl_3$.

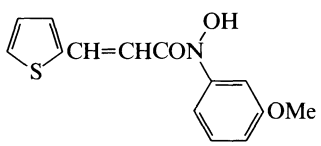
[29900-74-1]

Bhura, D.C. *et al*, *J. Chem. Eng. Data*, 1969, **14**, 278 (*synth*, *deriv*)
Bhura, D.C. *et al*, *Anal. Chim. Acta*, 1971, **53**, 379 (*detn*, *V*)
Tanaka, K. *et al*, *Chem. Pharm. Bull.*, 1983, **31**, 2810 (*synth*)

N-Hydroxy-*N*-(3-methoxyphenyl)-3-(2-thienyl)-2-propenamide, 9CI H-00273

N-m-*Methoxyphenyl-2-thenylacrylohydroxamic acid*

[119581-97-4]



$C_{14}H_{13}NO_3S$ M 275.328

Used as 0.1*M* soln. in $CHCl_3$, for extraction-photometric detn. of V(*V*) (λ_{max} 545 nm, ε 8100, 3.5-7.5*M* HCl). Cryst. (C_6H_6). Sol. $CHCl_3$, C_6H_6.

Abbasi, S.A. *et al*, *Analyst* (*London*), 1988, **113**, 1561 (*synth*, *detn*, *V*)

N-Hydroxy-*N*-(4-methoxyphenyl)-3-(2-thienyl)-2-propenamide, 9CI H-00274

N-p-*Methoxyphenyl-2-thenylacrylohydroxamic acid*

[119581-96-3]

$C_{14}H_{13}NO_3S$ M 275.328

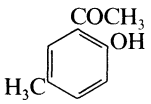
Used as 0.1*M* soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 545 nm, ε 8800, 3.5-7.5*M* HCl). Cryst. (C_6H_6). Sol. $CHCl_3$, C_6H_6.

Abbasi, S.A. *et al*, *Anal. Lett.*, 1987, **20**, 1347 (*detn, V*)
Abassi, S.A. *et al*, *Analyst (London)*, 1988, **113**, 1561 (*synth, detn, V*)

2′-Hydroxy-5′-methylacetophenone H-00275

*1-(2-Hydroxy-5-methylphenyl)ethanone, 9CI. 2-Acetyl-*p*-cresol. Methyl 6-hydroxy-*m*-tolyl ketone*

[1450-72-2]



$C_9H_{10}O_2$ M 150.177

Flavouring for coffee and tobacco. Prisms (pet. ether or MeOH aq.). Mp 50°. Bp_{20} 120-125°.

Oxime: [3973-90-8].
$C_9H_{11}NO_2$ M 165.191
Needles (EtOH). Mp 145°.

Me ether: [20628-07-3].
$C_{10}H_{12}O_2$ M 164.204
Bp 254°, Bp_{11} 132°.

Semicarbazone: [51040-40-5].
$C_{10}H_{13}N_3O_2$ M 207.232
Used as a 0.5% soln. in EtOH as a metallochromic indicator for titrimetric detn. of Fe(*II*). Needles (EtOH). Mp 212°.

Thiosemicarbazone: [51089-88-4].
$C_{10}H_{13}N_3OS$ M 223.298
Used for photometric detn. of Fe(*III*) (λ_{max} 645 nm). Yellow cryst. (AcOH).

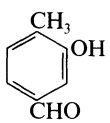
2,4-Dinitrophenylhydrazone: [22020-96-8].
Mp 273-273.5°.

Rosenmund, K.W. *et al*, *Justus Liebigs Ann. Chem.*, 1928, **460**, 56.
Yoshino, T. *et al*, *CA*, 1963, **59**, 7416 (*synth*)
Bonsall, C. *et al*, *J. Chem. Soc.*, 1967, 1836 (*ir, uv, nmr*)
Patel, M.C. *et al*, *J. Indian Chem. Soc.*, 1973, **50**, 560 (*thiosemicarbazone, use*)
Epshtein, L.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1974, 1710.
Basinski, W. *et al*, *Pol. J. Chem.* (*Rocz. Chem.*), 1974, **48**, 2217 (*synth*)
Manku, G.S., *Curr. Sci.*, 1976, **45**, 294 (*semicarbazone, use*)

2-Hydroxy-4-methylbenzaldehyde H-00276

*2-Hydroxy-*p*-tolualdehyde. m-Cresol-6-aldehyde. 4-Methylsalicylaldehyde. 2,4-Cresotaldehyde. 2-Formyl-5-methylphenol*

[698-27-1]



$C_8H_8O_2$ M 136.150

Needles (H_2O or EtOH). Mp 60-61°. Bp_{726} 219-221°. Steam-volatile.

Oxime: 4-Methylsalicylaldoxime
$C_8H_9NO_2$ M 151.165
Used as 1% aq. soln. for gravimetric detn. of Cu(*II*). Plates (EtOH aq.). Sol. EtOH, Et_2O, $CHCl_3$, hot H_2O. Mp 108.5-109°.

Semicarbazone: [54825-10-4]. *2-[(2-Hydroxy-4-methylphenyl)methylene]hydrazinecarboxamide, 9CI*
$C_9H_{11}N_3O_2$ M 193.205
Used as 0.1% DMF soln. for fluorimetric detn. of Ga (λ_{max} 440 nm, pH 3.2), Sc (λ_{max} 450 nm, pH 6.3). Cryst. (EtOH). Sol. EtOH, DMF. Mp 268°.

2,4-Dinitrophenylhydrazone: [973-82-0].
Mp 266-267°.

Me ether: [57415-35-7]. *2-Methoxy-4-methylbenzaldehyde*
$C_9H_{10}O_2$ M 150.177
Needles. Mp 42-43°. Bp_{720} 263-264°. Steam-volatile.

Anselmino, O., *Ber.*, 1917, **50**, 395.
Duff, J.C., *J. Chem. Soc.*, 1941, 547.
Welcher, F.J., *Organic Analytical Reagents*, Vol. 3, Van Nostrand, New York, 1947 (*synth, use*)
Gross, H. *et al*, *Chem. Ber.*, 1963, **96**, 308.
Casnati, G. *et al*, *Tetrahedron Lett.*, 1965, 243 (*synth*)
Morishige, K., *Anal. Chim. Acta*, 1974, **73**, 245 (*synth, detn, Sc*)
Bruce, J.M. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1974, **2**, 288 (*synth*)
Deguchi, M. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1985, **34**, 640; *CA*, **104**, 61168y (*synth, detn, Ga*)
Hauser, F.M. *et al*, *Synthesis*, 1987, 723 (*deriv, synth, ir, pmr, ms*)

2-Hydroxy-5-methylbenzaldehyde, 9CI H-00277

*6-Hydroxy-*m*-tolualdehyde. p-Cresol-2-aldehyde. 5-Methylsalicylaldehyde. 2,5-Cresotaldehyde. 2-Formyl-4-methylphenol*

[613-84-3]

$C_8H_8O_2$ M 136.150

Plates (EtOH aq.). Mp 56°. Bp 217-218°.

Oxime: [1726-86-9].
$C_8H_9NO_2$ M 151.165
Needles (H_2O). Mp 105°.

2,4-Dinitrophenylhydrazone: Mp 261-264°.

Semicarbazone: [54825-11-5].
$C_9H_{11}N_3O_2$ M 193.205
Used as 0.1% DMF soln. for fluorimetric detn. of Sc (λ_{max} 470 nm, pH 6.2). Needles (AcOH). Sol. DMF, EtOH. Mp 238° dec.

Thiosemicarbazone: [53851-95-9].
$C_9H_{11}N_3OS$ M 209.271
Used as 0.1% DMF soln. for fluorimetric detn. of Ga (λ_{max} 465 nm, pH 4.5). Cryst. (EtOH). Sol. DMF, EtOH.

*Me ether: 2-Methoxy-5-methylbenzaldehyde. 4-Methyl-*m*-anisaldehyde*
$C_9H_{10}O_2$ M 150.177
Bp 250°, Bp_{12} 130.2°.

Adams, R., *J. Am. Chem. Soc.*, 1919, **41**, 247.
Bell, F., *J. Chem. Soc.*, 1928, 2215.
Liggett, L.M. *et al*, *CA*, 1947, **41**, 110.
Eliseeva, V.N. *et al*, *CA*, 1962, **57**, 11080 (*synth*)
Morishige, K., *Anal. Chim. Acta*, 1974, **72**, 295; 1974, **73**, 245 (*synth, detn, Ga, Sc*)
Christensen, H., *Synth. Commun.*, 1975, **5**, 65 (*synth*)

2-Hydroxy-3-methylbenzoic acid, 9CI H-00278

*2-Hydroxy-*m*-toluic acid.* o*-Cresotic acid.* o*-Cresol-6-carboxylic acid. 3-Methylsalicylic acid.* o*-Cresotinic acid.* ***Hydroxytoluic acid,*** **BAN, INN.** *2,3-Cresotic acid*

[83-40-9]

$C_8H_8O_3$ M 152.149
Used as 0.1% aq. soln. as a metal indicator (pH range 2 → 4.2; colour change blue-violet → colourless (yellow)) for Fe(*III*), Th, Zr. Analgesic, antiseptic. Needles (H_2O or EtOH aq.). Sol. H_2O. Mp 169-170°. pK_{a1} 2.95; pK_{a2} 14.6 (25°).

▷ GP3920000.

Me ester: [23287-26-5].
$C_9H_{10}O_3$ M 166.176
Cryst. Mp 28-30°. Bp 235°, Bp_{13} 110°.

Ac: [4386-39-4].
$C_{10}H_{10}O_4$ M 194.187
Needles (C_6H_6). Mp 113°.

Amide: [14008-60-7]. *2-Hydroxy-3-methylbenzamide. 2,3-Cresotamide, 8CI.* ***Cresotamide,* INN**
$C_8H_9NO_2$ M 151.165
Analgesic, antipyretic, antiinflammatory agent. Needles (EtOH aq.). Mp 112°.

Me ether: [26507-91-5]. *2-Methoxy-3-methylbenzoic acid*
$C_9H_{10}O_3$ M 166.176
Needles (H_2O). Mp 85°. pK_{a1} 3.84 (20°, 1% EtOH).

Chloride: [15198-07-9].
$C_8H_7ClO_2$ M 170.595
Mp 27-28°. Bp_{16} 87-89°.

Nitrile: [13589-71-4]. *2-Cyano-6-methylphenol*
C_8H_7NO M 133.149
Plates (EtOH). Mp 88.5°.

Rather, J.B. *et al*, *J. Am. Chem. Soc.*, 1919, **41**, 75 (*synth*)
King, C. *et al*, *J. Am. Chem. Soc.*, 1945, **67**, 2089 (*synth*)
Pande, C.S. *et al*, *Fresenius' Z. Anal. Chem.*, 1960, **175**, 29 (*use*)
Fr. Pat., M19, (1961); *CA*, **58**, 1411d (*synth, pharmacol, amide*)
Gupta, M.P. *et al*, *Acta Crystallogr., Sect. B*, 1971, **27**, 713 (*cryst struct*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 372 (*use*)
Yamazaki, M. *et al*, *CA*, 1974, **80**, 47030b (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CNX625.

2-Hydroxy-5-methylbenzoic acid H-00279

6-Hydroxy-m-*toluic acid. 2,5-Cresotic acid.* p-*Cresol-2-carboxylic acid. 5-Methylsalicylic acid.* p-*Cresotic acid*

[89-56-5]

$C_8H_8O_3$ M 152.149
Used as 0.1% aq. soln. as a metal indicator (pH range 1.4-4.4; colour change blue-violet → colourless yellow) for Fe(*III*), Th, Zr. Needles (H_2O or pet. ether). Sol. H_2O. Mp 153°. pK_{a1} 3.15; pK_{a2} 13.35 (25°, 0.1*M* KCl).

Me ester: [22717-57-3].
$C_9H_{10}O_3$ M 166.176
$d^{15.8}$ 1.153. Mp −1°. Bp_{14} 122-124°.

Et ester: [34265-58-2].
$C_{10}H_{12}O_3$ M 180.203
Oil. Mp 251°.

Me ether: [25045-36-7]. *2-Methoxy-5-methylbenzoic acid*
$C_9H_{10}O_3$ M 166.176
Needles (H_2O). Mp 69°. pK_{a1} 4.20 (20°).

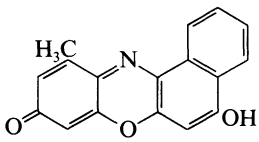
Amide: [39506-61-1].
$C_8H_9NO_2$ M 151.165
Needles (EtOH). Mp 177-178°.

Nitrile: [51282-90-7]. *2-Cyano-4-methylphenol*
C_8H_7NO M 133.149
Mp 100-101°.

Asahina, Y. *et al*, *Yakugaku Zasshi*, 1934, **54**, 488.
King, C. *et al*, *J. Am. Chem. Soc.*, 1947, **67**, 2089 (*synth*)
Pande, C.S. *et al*, *Fresenius' Z. Anal. Chem.*, 1960, **175**, 29 (*use*)
McCulloch, A.N. *et al*, *Can. J. Chem.*, 1971, **49**, 3152 (*ir, ester*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 373 (*use*)
Yamazaki, M. *et al*, *CA*, 1974, **80**, 47030b.

5-Hydroxy-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, 8CI H-00280

[17799-75-6]



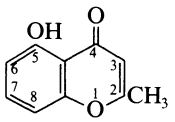
$C_{17}H_{11}NO_3$ M 277.279
Used as a 0.1m*M* soln. in EtOH aq. as acid-base indicator; redox indicator for titanometric detn. of Fe(*III*), Au(*III*), Ce(*IV*), $Cr_2O_7^{2\ominus}$, $VO_4^{3\ominus}$ and some org. compds. Red-brown cryst. Sol. C_6H_6, Et_2O; sl. sol. EtOH. Mp >360°. pK_{a2} 7.5 (50% EtOH, μ = 0.07). E° +0.295 V (1 *N* HCl, 50% EtOH, μ = 0.07).

Ružička, E. *et al*, *Mikrochim. Acta*, 1968, 1299; 1969, 698 (*use*)
Ružička, E. *et al*, *Monatsh. Chem.*, 1968, **99**, 838 (*synth*)

5-Hydroxy-2-methyl-4*H*-1-benzopyran-4-one, 9CI H-00281

5-Hydroxy-2-methylchromone

[1130-62-7]



$C_{10}H_8O_3$ M 176.171
Produced by *Daldinia concentrica*. Used as 0.02*M* MeOH soln. for extraction-fluorimetric detn. of Ti (λ_{max} 511 nm, 40% MeOH, CCl_4). Yellow needles. Sol. MeOH. Mp 72-76°, Mp 90-91°.

Me ether: [22105-23-3]. *5-Methoxy-2-methyl-4*H*-1-benzopyran-4-one. 5-Methoxy-2-methylchromone*
$C_{11}H_{10}O_3$ M 190.198
Cryst. Mp 105°.

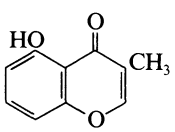
*2,3-Dihydro: 2,3-Dihydro-5-hydroxy-2-methyl-4*H*-1-benzopyran-4-one. 5-Hydroxy-2-methylchromanone*
$C_{10}H_{10}O_3$ M 178.187
Isol. from *D. concentrica*. Pale yellow needles (hexane). Mp 30-35°.

Allport, D.C. *et al*, *J. Chem. Soc.*, 1960, 654 (*isol, uv*)
Murata, A. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1968, **17**, 1284 (*synth*)
Murray, R.D.H. *et al*, *Tetrahedron*, 1969, **25**, 5819 (*synth, ir*)
Ito, T. *et al*, *Anal. Chim. Acta*, 1980, **113**, 343 (*detn, Ti*)

5-Hydroxy-3-methyl-4*H*-1-benzopyran-4-one, 9CI H-00282

3-Methyl-5-hydroxychromone

[22598-99-8]



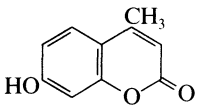
$C_{10}H_8O_3$ M 176.171
Used as 0.02*M* MeOH soln. for extraction-fluorimetric detn. of Ti (λ_{max} 530 nm, 40% MeOH, CCl_4). Yellow cryst. Sol. MeOH.

Murata, A. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1968, **17**, 1284 (*synth*)
Ito, T. *et al*, *Anal. Chim. Acta*, 1980, **113**, 343 (*detn, Ti*)

7-Hydroxy-4-methyl-2*H*-1-benzopyran-2-one, 9CI H-00283

7-Hydroxy-4-methylcoumarin. 4-Methylumbelliferone. Coumarin 4. ***Hymecromone,*** **INN, JAN, USAN.** *Cantabiline. BMU. Pilot 447. Hymechromone. Other proprietary names*

[90-33-5]



$C_{10}H_8O_3$ M 176.171

Isol. from young branches of *Dalbergia volubilis* and from *Eupatorium pauciflorum*. Used in tunable lasers. Choleretic, spasmolytic and sunscreen agent. Used as a 1% soln. in aq. EtOH for detn. of Al; fluorescence acid-base indicator (pH >7.0, blue fluorescence). Needles (EtOH). Mp 194-195°. pK_a 7.80 (25°). Phototautomerises.

▷ GN7000000.

Ac: [2747-05-9].
$C_{12}H_{10}O_4$ M 218.209
Isol. from *Trigonella foenumgraecum*. Cryst. Mp 153-154° (150-151°).

Benzoyl: [66185-72-6].
$C_{17}H_{12}O_4$ M 280.279
Needles (EtOH). Mp 159-160°.

Dihydrogen phosphate: [3368-04-5].
$C_{10}H_9O_6P$ M 256.151
Substrate for phosphatase. Cryst. (Et_2O). Mp 214-216°.

Me ether: [2555-28-4]. *7-Methoxy-4-methyl-2*H*-1-benzopyran-4-one. 7-Methoxy-4-methylcoumarin*
$C_{11}H_{10}O_3$ M 190.198
Needles (EtOH). Mp 159°.

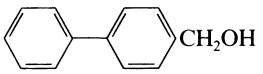
[5980-33-6, 103764-33-6]

v. Pechmann, H. *et al*, *Ber.*, 1883, **16**, 2122 (*synth*)
Org. Synth., Coll. Vol., 3, 1955, 282 (*synth*)
Fernley, H.N. *et al*, *Biochem. J.*, 1965, **97**, 95; 1966, **99**, 39; 1967, **102**, 48 (*synth, phosphate*)
Aguila, J.F., *Talanta*, 1967, **14**, 1195 (*synth, detn, Al*)
Kappe, T. *et al*, *Org. Prep. Proced.*, 1969, **1**, 61 (*synth*)
White, I.N.H. *et al*, *Biochim. Biophys. Acta*, 1971, **229**, 193 (*use, phosphate*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 695 (*use, indicator*)
Trozzolo, A.M. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 4699 (*tautom*)
Shimizu, S. *et al*, *Acta Crystallogr., Sect. B*, 1975, **31**, 1287 (*cryst struct*)
Sojka, S.A., *J. Org. Chem.*, 1975, **40**, 1175 (*cmr*)
Bhardwaj, D.K. *et al*, *Indian J. Chem., Sect. B*, 1977, **15**, 94 (*isol, acetate*)
Chawla, H.M. *et al*, *Indian J. Chem., Sect. B*, 1977, **15**, 492 (*isol*)
Krejcoves, J. *et al*, *Collect. Czech. Chem. Commun.*, 1979, **44**, 2211 (*synth*)
Kauffman, J.M., *Appl. Opt.*, 1980, **19**, 3431 (*use*)
Sankar, S.S. *et al*, *Org. Magn. Reson.*, 1982, **19**, 222 (*cmr*)
Taylor, R.T. *et al*, *Synthesis*, 1982, 672 (*synth*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 3725.
Chaudhari, D.D., *Chem. Ind. (London)*, 1983, **24**, 568 (*synth*)
Sinha, P.K. *et al*, *Histochem. J.*, 1984, **16**, 334 (*use, phosphate*)
Anthony, F.A. *et al*, *Anal. Biochem.*, 1986, **155**, 103 (*use, phosphate*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1420.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HMB000, MKP500.

4-(Hydroxymethyl)biphenyl H-00284

[1,1'-Biphenyl]-4-methanol, 9CI

[3597-91-9]



$C_{13}H_{12}O$ M 184.237

Indicator used in the titration of alkyl-lithiums (colourless to red end-point). Cryst. (C_6H_6). Mp 101-102°.

▷ DV5425000.

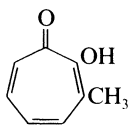
O-Ac: [62037-98-3].
$C_{15}H_{14}O_2$ M 226.274
Cryst. (Et_2O/pentane). Mp 32-33°.

4-Methylbenzenesulfonyl: Mp 114-115°.

Hammond, G.S. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 573 (*synth*)
Birkeland, S.P., *J. Org. Chem.*, 1961, **26**, 2662 (*synth*)
Bly, R.S. *et al*, *J. Organomet. Chem.*, 1976, **117**, 35 (*derivs, ir, pmr*)
Juaristi, E. *et al*, *J. Org. Chem.*, 1983, **48**, 2603 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HLY400.

2-Hydroxy-3-methyl-2,4,6-cycloheptatrien-1-one H-00285

β-Methyltropolone



$C_8H_8O_2$ M 136.150

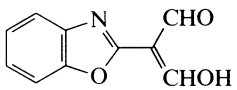
Used as chelating agent for Be, Ca, Co, Mg, Pb, Zn. Cryst. (ligroin). Mp 76-77°, Mp 69-70°. pK_{a1} 8.69 (50% dioxan, 30°).

Bryant, B.E. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 1696 (*synth*)
Gupta, B.P. *et al*, *Indian J. Chem.*, 1967, **5**, 322 (*use*)

α-(Hydroxymethylene)-2-benzoxazoleacetaldehyde, 9CI H-00286

2-(2-Benzoxazolyl)malonaldehyde

[39116-24-0]



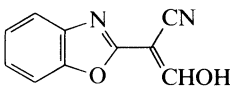
$C_{10}H_7NO_3$ M 189.170

Used as 0.01*M* soln. in 4-methyl-2-pentanone for extraction separation of Cd, Co, Fe(*II*), Mn, Zn, Ni. Cryst. (dioxan). Sol. dioxan, 4-methyl-2-pentanone, xylene.

Karadjova, I. *et al*, *Analyst (London)*, 1990, **115**, 1539 (*synth, use*)

α-(Hydroxymethylene)-2-benzoxazoleacetonitrile, 9CI H-00287

[39116-38-6]



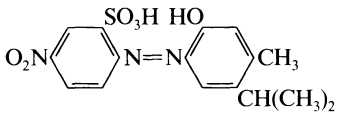
$C_{10}H_6N_2O_2$ M 186.170

Used as 0.01*M* soln. in 4-methyl-2-pentanone for extraction separation of Co, Fe(*II*), Ni. Cryst. (dioxan). Sol. dioxan, 4-methyl-2-pentanone, xylene.

Karadjova, I. *et al*, *Analyst (London)*, 1990, **115**, 1539 (*synth, use*)

2-[[2-Hydroxy-4-methyl-5-(1-methylethyl) phenyl]azo]-5-nitrobenzenesulfonic acid, 9CI H-00288

2'-Hydroxy -5'-isopropyl-4'-methyl-4-nitroazobenzene-2-sulfonic acid



$C_{16}H_{17}N_3O_6S$ M 379.393

K salt: [41364-44-7].

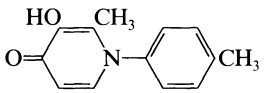
Used as a 4m*M* soln. in DMF for photometric detn. of Na (λ_{max} 550 nm). Orange cryst. (EtOH). Sol. DMF; spar. sol. H_2O.

Markovich, I.S., *Zh. Anal. Khim.*, 1973, **28**, 227 (*detn, Na*)

3-Hydroxy-2-methyl-1-(4-methylphenyl)-4(1*H*)-pyridinone, 9CI H-00289

3-Hydroxy-2-methyl-1-(4-tolyl)-4-pyridone

[49744-74-3]



$C_{13}H_{13}NO_2$ M 215.251

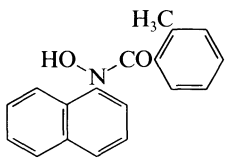
Used as 5m*M* soln. in $CHCl_3$ for extraction-photometric detn. of Ti (λ_{max} 355 nm, ε 16000, $CHCl_3$). Cryst. Sol. Me_2CO, EtOH, $CHCl_3$.

Tamhina, B. *et al*, *J. Inorg. Nucl. Chem.*, 1974, **36**, 1855 (*synth*)
Vojkovič, V. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **285**, 266 (*detn, Ti*)
Jahopčic, K. *et al*, *J. Inorg. Nucl. Chem.*, 1977, **39**, 1201 (*synth*)
Tamhina, B. *et al*, *Mikrochim. Acta*, 1986, **1**, 135 (*detn, Ti*)

N-Hydroxy-2-methyl-*N*-1-naphthalenylbenzamide, 9CI H-00290

N-*1-Naphthyl*-o-*methylbenzohydroxamic acid*

[36237-40-8]



$C_{18}H_{15}NO_2$ M 277.322

Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 515 nm, ε 4300, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Chem. Eng. Data*, 1972, **17**, 248 (*synth*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

N-Hydroxy-4-methyl-*N*-1-naphthalenylbenzamide, 9CI H-00291

N-*1-Naphthyl*-p-*methylbenzohydroxamic acid*

[36237-39-5]

$C_{18}H_{15}NO_2$ M 277.322

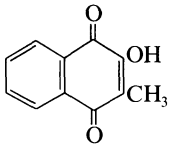
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 510 nm, ε 4900, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Chem. Eng. Data*, 1972, **17**, 248 (*synth*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 38 (*detn, V*)

2-Hydroxy-3-methyl-1,4-naphthoquinone H-00292

2-Hydroxy-3-methyl-1,4-naphthalenedione, 9CI. ***Phthiocol***

[483-55-6]



$C_{11}H_8O_3$ M 188.182

Pigment of human tubercle bacillus. Also isol. from *Streptococcus faecalis* and *Asplenium laciniatum*. Yellow needles (hexane). Mp 173-174°.

▷ QL8485000.

Ac:

$C_{13}H_{10}O_4$ M 230.220

Pale-yellow needles (MeOH). Mp 106°.

Thiosemicarbazone: Reddish-orange needles (EtOH aq.), prisms (MeOH). Mp 179-180°.

Monoxime: [35796-36-2].

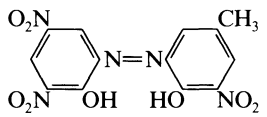
$C_{11}H_9NO_3$ M 203.197

Used as a 0.01*M* soln. in EtOH for photometric detn. of Ni (λ_{max} 510 nm, ε 22000). Cryst. (EtOH). Sol. EtOH. Mp 200-201°.

Andersen, R.J. *et al*, *J. Biol. Chem.*, 1933, **103**, 197; 1939, **130**, 429 (*isol, synth*)
Fieser, L., *J. Biol. Chem.*, 1940, **133**, 391 (*synth*)
Lichstein, H.C. *et al*, *J. Bacteriol.*, 1946, **52**, 145 (*props*)
Weygand, F. *et al*, *Chem. Ber.*, 1957, **90**, 1879 (*synth*)
Gaultier, N. *et al*, *Acta Crystallogr.*, 1965, **19**, 919 (*cryst struct*)
Baum, R.H. *et al*, *J. Biol. Chem.*, 1965, **240**, 3425 (*isol*)
Gupta, R.B. *et al*, *Curr. Sci.*, 1976, **45**, 44 (*isol*)
Kamini, M. *et al*, *Analusis*, 1982, **10**, 390 (*synth, detn, Ni*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HMI000.

2-[(2-Hydroxy-5-methyl-3-nitrophenyl) azo]-4,6-dinitrophenol H-00293

2,2'-Dihydroxy-5-methyl-3,3',5'-trinitroazobenzene



$C_{13}H_9N_5O_8$ M 363.243

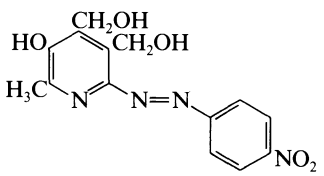
Used as a 1m*M* aq. soln. as metallochromic indicator for titrimetric detn. of Bi. Dark cryst. powder. Sol. EtOH, H_2O.

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 568 (*detn, Bi*)

5-Hydroxy-6-methyl-2-[(4-nitrophenyl) azo]-3,4-pyridinedimethanol, 9CI H-00294

6-(4-Nitrophenylazo)pyridoxine

[42322-96-3]



$C_{14}H_{14}N_4O_5$ M 318.288

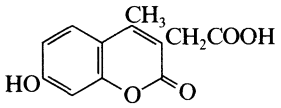
Used as a 0.5m*M* aq. soln. for photometric detn. of Hg. Orange-red cryst. Sol. EtOH; sl. sol. H_2O.

Bagbasarov, K.N. *et al*, *Zavod. Lab.*, 1973, **39**, 92 (*detn, Hg*)

7-Hydroxy-4-methyl-2-oxo-2*H*-1-benzopyran-3-acetic acid, 9CI H-00295

7-Hydroxy-4-methylcoumarin-3-acetic acid. 4-Methylumbelliferone-3-acetic acid

[5852-10-8]



$C_{12}H_{10}O_5$ M 234.208

Fluorescent label. Needles (EtOH aq.). Mp 268°.

Ac:

$C_{14}H_{12}O_6$ M 276.245

Mp 199-200°.

Benzoyl:

$C_{19}H_{14}O_6$ M 338.316

Mp 190-191°.

Et ester:

$C_{14}H_{14}O_5$ M 262.262

Needles (Me_2CO/EtOH). Mp 163°.

Et ester, Ac:

$C_{16}H_{16}O_6$ M 304.299

Fine leaflets (EtOH aq.). Mp 98°.

Et ester, benzoyl:

$C_{21}H_{18}O_6$ M 366.370

Mp 138°.

Me ether: [82412-17-7].

$C_{13}H_{12}O_5$ M 248.235

Plates (EtOH aq.). Mp 198°.

Me ether, Me ester:

$C_{14}H_{14}O_5$ M 262.262

Needles. Mp 122°.

Me ether, Et ester:

$C_{15}H_{16}O_5$ M 276.288

Shining plates (EtOH aq.). Mp 80°.

Amide:

$C_{12}H_{11}NO_4$ M 233.223

Needles (AcOH). Mp 300° dec.

Anilide:

$C_{18}H_{15}NO_4$ M 309.321

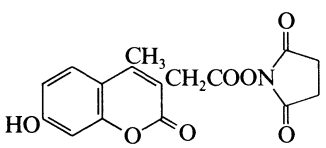
Silky needles (AcOH). Mp 242°.

Banerjee, S.K., *J. Indian Chem. Soc.*, 1931, **8**, 777 (*synth*)
Dey, B.B. *et al*, *J. Indian Chem. Soc.*, 1931, **8**, 817 (*synth*)
Shah, R.H. *et al*, *J. Indian Chem. Soc.*, 1942, **19**, 481 (*synth*)
Khalifan, H. *et al*, *Biochem. J.*, 1983, **209**, 265 (*use*)
Parmar, V.S. *et al*, *J. Indian Chem. Soc.*, 1987, **64**, 745 (*ms, Et ester*)
Parmar, V.S. *et al*, *Magn. Reson. Chem.*, 1988, **26**, 430 (*cmr, deriv*)

1-[[(7-Hydroxy-4-methyl-2-oxo-2*H*-benzopyran-3-yl)acetyl]oxy]-2,5-pyrrolidinedione, 9CI H-00296

Succinimido 7-hydroxy-4-methylcoumarin-3-acetate. Succinimido 4-methylumbelliferone-3-acetate. CASE

[96735-88-5]



$C_{16}H_{13}NO_7$ M 331.281

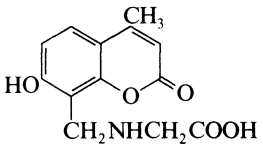
Fluorescent label. Used in radiolabelling proteins.

Khalfan, H. *et al*, *Biochem. J.*, 1983, **209**, 265 (*synth, use*)
Rand-Weaver, M. *et al*, *FEBS Lett.*, 1985, **182**, 185 (*synth, use*)
Samuel, D. *et al*, *J. Immunol. Methods*, 1985, **81**, 123 (*synth, use*)

N-[7-Hydroxy-4-methyl-2-oxo-(2*H*)-1-benzopyran-8-yl)methyl]glycine, 9CI H-00297

4-Methylumbelliferone-8-methyleneglycine

[54696-35-4]



$C_{13}H_{13}NO_5$ M 263.249

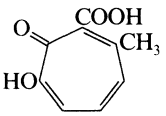
Used as a 0.1% aq. soln. as metal fluorescent indicator for detn. of Ca, Cu. Yellow cryst. (aq. HCl). Sol. alkalis; sl. sol. H_2O; insol. Me_2CO. Mp >300°. pK_{a1} 6.85; pK_{a2} 12.12 (0.1*M* KCl).

Huitnik, G.M. *et al*, *Talanta*, 1974, **21**, 1193 (*synth, nmr, detn, Ca, Cu*)

6-Hydroxy-2-methyl-7-oxo-1,3,5-cycloheptatriene-1-carboxylic acid, 8CI H-00298

α-Carboxy-β-methyltropolone

[4636-38-8]



$C_9H_8O_4$ M 180.160

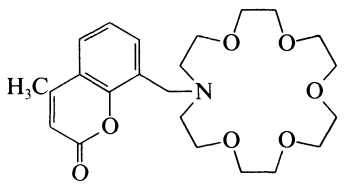
Gives colour reactions with Ba, Ca, Cd, Co, Fe(*III*), Mg, Mn, Ni, U, Zn, lanthanides, actinides. Cryst. (AcOH). Mp 190-192°. pK_{a1} 7.40; pK_{a2} 2.50 (0.1*M* $NaClO_4$), pK_{a1} 7.31; pK_{a2} 2.68 (0.5*M* KNO_3).

Dutt, Y. *et al*, *J. Indian Chem. Soc.*, 1965, **42**, 767 (*pKa, detn, U*)
Dutt, Y. *et al*, *Indian J. Chem.*, 1966, **4**, 214 (*pKa, detn, Fe*)
Gupta, B.P. *et al*, *J. Indian Chem. Soc.*, 1966, **43**, 610 (*detn, lanthanides, actinides*)
Gupta, B.P. *et al*, *Indian J. Chem.*, 1967, **5**, 322 (*detn, Ba, Ca, Cd, Co, Mg, Mn, Ni, Zn*)
Gupta, B.P. *et al*, *J. Inorg. Nucl. Chem.*, 1967, **29**, 1806 (*detn, lanthanides*)

7-Hydroxy-4-methyl-8-(1,4,7,10,13-pentaoxa-16-azacyclooctadec-16-ylmethyl)-2*H*-1-benzopyran-2-one, 9CI H-00299

N-(*4-Methyl-7-coumarin-8-ylmethyl*)*monoaza-18-crown-6*

[84166-70-1]



$C_{23}H_{33}NO_8$ M 451.516

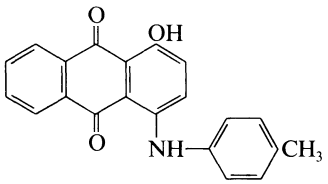
Used as 1,2-dichloroethane soln. for extraction of Li, Na, K, Rb. Yellow oil. Sol. $CHCl_3$, 1,2-dichloroethane, dioxan. pK_{a1} 6.45; pK_{a2} 10.5 (25°, dioxan aq.).

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1985, **173**, 193 (*synth, use*)

1-Hydroxy-4-[(4-methylphenyl)amino]-9,10-anthracenedione, 9CI H-00300

1-Hydroxy-4-p-toluidinoanthraquinone. Waxoline purple A. C.I. Solvent violet 13. C.I. 60725

[81-48-1]



$C_{21}H_{15}NO_3$ M 329.354

Used as 0.005% soln. in 85% H_2SO_4 for photometric detn. of B. Cryst. Sol. conc. H_2SO_4.

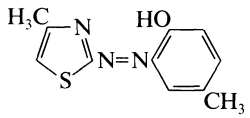
▷ CB7700000.

Trinder, N., *Analyst (London)*, 1948, **73**, 494 (*synth*)
Bell, D. *et al*, *Analyst (London)*, 1968, **93**, 298 (*detn, B*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HOK000.

2-(2-Hydroxy-5-methylphenylazo)-4-methylthiazole H-00301

4-Methyl-2-[(4-methyl-2-thiazolyl)azo]phenol, 9CI

[92289-55-9]



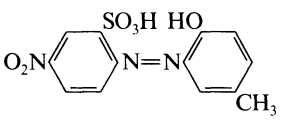
$C_{11}H_{11}N_3OS$ M 233.293

Used as 0.05% soln. in 0.4*M* NaOH in 50% EtOH for photometric detn. of Fe(*II*) (λ_{max} 773 nm, ε 10300, pH 4-4.5). Red cryst. Sol. EtOH, alkalis.

Ueda, K. *et al*, *Mikrochim. Acta*, 1984, **3**, 103 (*synth, detn, Fe*)

2-[(2-Hydroxy-5-methylphenyl)azo]-5-nitrobenzenesulfonic acid H-00302

2'-Hydroxy-5'-methyl-4-nitroazobenzene-2-sulfonic acid



$C_{13}H_{11}N_3O_6S$ M 337.312

Red cryst. Sol. DMF, spar. sol. H_2O.

K salt: [41364-43-6].

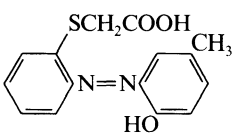
Used as a 4m*M* soln. in DMF for photometric detn. of Na (λ_{max} 550 nm).

Markovich, I.S., *Zh. Anal. Khim.*, 1973, **28**, 227 (*detn, Na*)

[[2-[(2-Hydroxy-5-methylphenyl)azo]phenyl]thio]acetic acid, 9CI H-00303

2-Hydroxy-5-methyl-2'-mercaptoazobenzene-S-acetic acid

[85261-28-5]



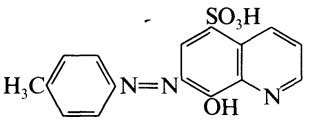
$C_{15}H_{14}N_2O_3S$ M 302.353

Used as aq. soln. for photometric detn. of Cu(*II*) (λ_{max} 520 nm, ε 10500), Ni. Orange needles (EtOH). Sol. EtOH, H_2O. Mp 146-148°. pK_{a1} 5.38 (50% EtOH).

Pringle, D.L. *et al*, *Talanta*, 1982, **29**, 1097 (*synth, use*)

8-Hydroxy-7-[(4-methylphenyl)azo]-5-quinolinesulfonic acid, 9CI H-00304

[17809-13-1]



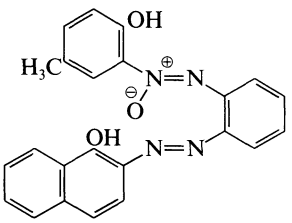
$C_{16}H_{13}N_3O_4S$ M 343.362

Used as 1m*M* aq. soln. for photometric detn. of Nb (λ_{max} 395 nm, pH 4-4.5). Yellow cryst. Sol. H_2O.

Aazmi, A.S. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 1858 (*synth, detn, Nb*)

1-[[2-[(2-Hydroxy-5-methylphenyl)-*O,N,N*-azoxy]phenyl]azo]-2-naphthalenol, 9CI H-00305

[19217-35-7]



$C_{23}H_{18}N_4O_3$ M 398.420

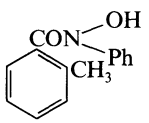
Used as a 0.2-0.5m*M* soln. in CCl_4 for extraction photometric detn. of Ca, Co, Cu; gives colour reactions with Ca, Co, Cu, Zn. Reddish brown cryst. Sol. dioxan, $CHCl_3$, CCl_4, C_6H_6, insol. H_2O.

Dziomko, W.M. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 661; *J. Anal. Chem. USSR (Engl. Transl.)*, 753 (*reactions*)
Dziomko, V.M. *et al*, *Zh. Obshch. Khim.*, 1960, **30**, 628.
Gorbenko, F.P. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 1198 (*detn, Ca*)
Minczewski, J., *Chem. Anal. (Warsaw)*, 1964, **9**, 365 (*detn, Cu*)
Wieteska, E., *Chem. Anal. (Warsaw)*, 1972, **17**, 85; 1974, **19**, 1237 (*detn, Ca*)

N-Hydroxy-2-methyl-*N*-phenylbenzamide, 9CI H-00306

N-o-*Methylbenzoyl*-N-*phenylhydroxylamine*

[17120-15-9]



$C_{14}H_{13}NO_2$ M 227.262

Used as 0.1*M* $CHCl_3$ soln. for extraction separation of Al, Fe(*III*), Cu, Mn, V. Cryst. (EtOH aq.). Sol. $CHCl_3$, EtOH. Mp 101°.

Hojjatie, M. *et al*, *Anal. Chim. Acta*, 1987, **199**, 49 (*synth, use*)

N-Hydroxy-4-methyl-*N*-phenylbenzamide, 9CI H-00307

N-p-*Methylbenzoyl*-N-*phenylhydroxylamine*

[17120-16-0]

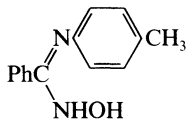
$C_{14}H_{13}NO_2$ M 227.262

Used as 0.1*M* $CHCl_3$ soln. for extraction separation of Al, Cu, Fe(*III*), Mn, V. Cryst. (EtOH aq.). Sol. $CHCl_3$, EtOH. Mp 116°.

Hojjatie, M. *et al*, *Anal. Chim. Acta*, 1987, **199**, 49 (*synth, use*)

N-Hydroxy-*N'*-(4-methylphenyl) benzenecarboximidamide H-00308

[36954-50-4]



$C_{14}H_{14}N_2O$ M 226.277
Cryst. (C_6H_6/pet. ether). Mp 159-160°.

N-*Ph:* [59387-13-2]. N-*Hydroxy*-N'-(*4-methylphenyl*)-N-*phenylbenzenecarboximidamide*, *9CI*
$C_{20}H_{18}N_2O$ M 302.375
Used as a 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 575 nm, ε 4200, $CHCl_3$). Cryst. Sol. $CHCl_3$, mod. sol. C_6H_6, CCl_4, EtOAc. Mp 190°.

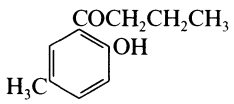
N-(*4-Methylphenyl*): [69038-91-1]. N-*Hydroxy*-N,N'-*bis*(*4-methylphenyl*)*benzenecarboximidamide*, *9CI*
$C_{21}H_{20}N_2O$ M 316.402
Used as a 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 578 nm, ε 4330, $CHCl_3$). Cryst. Sol. $CHCl_3$, mod. sol. C_6H_6, CCl_4, EtOAc. Mp 156°.

[53442-07-2]

Exner, O. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1974, 567 (*synth, pmr, confign*)
Satyanarayana, K. *et al*, *J. Indian Chem. Soc.*, 1978, **55**, 787 (*detn, V*)

1-(2-Hydroxy-5-methylphenyl)-1-butanone, 9CI H-00309

2-Hydroxy-5-methylpropiophenone



$C_{11}H_{14}O_2$ M 178.230

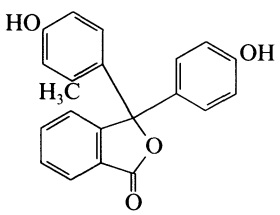
(E)-form

Oxime: [103582-37-2].
$C_{11}H_{15}NO_2$ M 193.245
Used for photometric detn. of $PO_4^{3\ominus}$. Sol. EtOH, Et_2O.

Reddy, V.K. *et al*, *J. Indian Inst. Sci.*, 1981, **63**, 211 (*detn, $PO_4^{3\ominus}$*)

3-(4-Hydroxy-2-methylphenyl)-3-(4-hydroxyphenyl)-1(3*H*)-isobenzofuranone H-00310

Phenol-m-*cresolphthalein. 2'-Methylphenolphthalein*



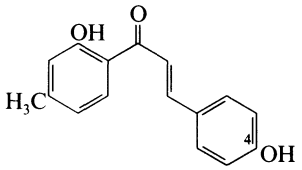
$C_{21}H_{16}O_4$ M 332.355

Used as acid-base indicator ($pH_{\frac{1}{2}}$ 9.92; colour change: colourless → red). Yellowish cryst. powder. Sol. Me_2CO, EtOH, AcOH.

Thiel, A. *et al*, *Z. Anorg. Allg. Chem.*, 1929, **178**, 49.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 102.

1-(2-Hydroxy-5-methylphenyl)-3-(4-hydroxyphenyl)-2-propen-1-one, 9CI H-00311

2',4-Dihydroxy-5'-methylchalcone



$C_{16}H_{14}O_3$ M 254.285
Cryst. Mp 71°.

4-Me ether: [16635-13-5]. *1-(2-Hydroxy-5-methylphenyl)-3-(4-methoxyphenyl)-2-propen-1-one*, *9CI*
$C_{17}H_{16}O_3$ M 268.312
Orange cryst. (EtOH). Mp 98-99°.

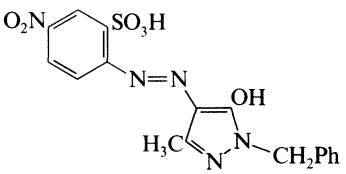
4-Me ether, oxime: [58434-59-6].
$C_{17}H_{17}NO_3$ M 283.326
Used as 1% EtOH soln. for extraction-photometric detn. of Cu (λ_{max} 370 nm, ε 7200), V(*V*) (λ_{max} 630 nm, ε 800, 9*M* HCl); gravimetric detn. of Pd, Ni, Cu. Cryst. (EtOH). Sol. EtOH, $CHCl_3$, cyclohexane. Mp 85°.

[1032-84-4]

Von Auwers, K. *et al*, *Ber.*, 1921, **54**, 1543 (*synth, deriv*)
Mahanthy, P. *et al*, *Indian J. Chem.*, 1965, **3**, 121 (*synth, ir*)
Deshmukh, B.K. *et al*, *Fresenius' Z. Anal. Chem.*, 1975, **279**, 363 (*detn, Cu*)
Deshmukh, B.K. *et al*, *J. Indian Chem. Soc.*, 1975, **52**, 385; 1976, **53**, 1067 (*deriv, synth, use*)
Gholse, S.B. *et al*, *Microchem. J.*, 1984, **30**, 297 (*use*)
Doshi, A.G. *et al*, *Curr. Sci.*, 1986, **55**, 502 (*synth, deriv*)

2-[[5-Hydroxy-3-methyl-1-(phenylmethyl)-1*H*-pyrazol-4-yl]azo]-5-nitrobenzenesulfonic acid, 9CI H-00312

1-Benzyl-5-hydroxy-3-methyl-4-(4-nitro-2-sulfophenylazo) pyrazole



$C_{17}H_{15}N_5O_6S$ M 417.401
Several tautomers possible. Used as 4m*M* soln. in DMF for photometric detn. of Na. Orange cryst. Sol. DMF; spar. sol. H_2O.

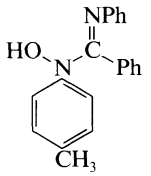
[41364-46-9, 41364-50-5]

Markovich, I.S. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 227 (*synth, detn, Na*)

N-Hydroxy-*N*-(4-methylphenyl)-*N*-phenylbenzenecarboximidamide, 9CI H-00313

N-*Hydroxy*-N-p-*tolyl*-N'-*phenylbenzamidine*

[69038-93-3]



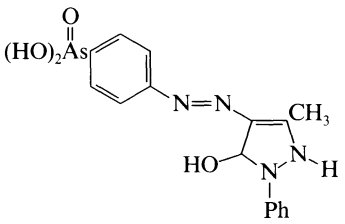
$C_{20}H_{18}N_2O$ M 302.375

Used as a 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V (λ_{max} 575 nm, ε 4460, $CHCl_3$). Cryst. Sol. $CHCl_3$; mod sol. C_6H_6, CCl_4, EtOAc. Mp 174°.

Satyanarayana, K. *et al*, *J. Indian Chem. Soc.*, 1978, **55**, 787 (*detn, V*)

[4-[[(5-Hydroxy-3-methyl-1-phenyl)-1*H*-pyrazol-4-yl]azo]phenyl]arsonic acid, 9CI H-00314

[37950-10-0]



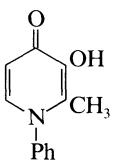
$C_{16}H_{17}AsN_4O_4$ M 404.256

Various tautomers possible. Used for gravimetric detn. of Zr. Dark red cryst. powder.

Popa, G. *et al*, *Chim. Anal.* (*Bucharest*), 1972, **2**, 147; *CA*, **77**, 159818j.

3-Hydroxy-2-methyl-1-phenyl-4(1*H*)-pyridinone, 9CI H-00315

[49744-73-2]



$C_{12}H_{11}NO_2$ M 201.224

Used as solns. in 1,2-dichloroethane or dioxan for extraction sepn. of In as 0.01*M* soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 625 nm, ε 5600, $CHCl_3$); as 7m*M* soln. in $CHCl_3$ for extraction separation of Ga, U; extraction-photometric detn. of Fe(*III*) (λ_{max} 470 nm, ε 6300, $CHCl_3$), W (λ_{max} 406 nm, ε 10600, $CHCl_3$). Cryst. Sol. 1,2-dichloroethane, dioxan, $CHCl_3$. pK_{a1} 3.02; pK_{a2} 9.56.

Tamhina, B. *et al*, *CA*, 1973, **79**, 132372p; 1974, **81**, 32852t (*detn, Ga, Fe*)

Tamhina, B. *et al*, *J. Inorg. Nucl. Chem.*, 1974, **36**, 1855; 1976, **38**, 1505 (*synth, detn, U*)

Vojkovič, V. *et al*, *Fresenius' Z. Anal. Chem.*, 1975, **276**, 377 (*detn*)

Jakopcic, K. *et al*, *J. Inorg. Nucl. Chem.*, 1977, **39**, 1201 (*synth*)

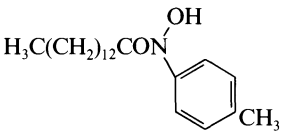
Tamhina, B. *et al*, *Microchem. J.*, 1977, **22**, 144 (*detn, W*)

Ishii, H. *et al*, *Bull. Chem. Soc. Jpn.*, 1989, **62**, 1817 (*detn, In*)

N-Hydroxy-*N*-(4-methylphenyl)tetradecanamide, 9CI H-00316

N-(*4-Methylphenyl*)*tetradecanohydroxamic acid.* N-p-*Tolylmyristohydroxamic acid*

[25310-20-7]



$C_{21}H_{35}NO_2$ M 333.513

Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 515 nm, ε 4300, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Indian Chem. Soc.*, 1969, **46**, 831 (*synth*)

Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

3-Hydroxy-3-methyl-1-phenyltriazene, 8CI H-00317

[5756-69-4]

$C_7H_9N_3O$ M 151.168

Used as aq. EtOH soln. for photometric detn. of Fe (pH 3.1-4.5). Cryst. Sol. EtOH, Me_2CO, H_2O. Mp 69°.

▷ XY2780000.

Purohit, D.N., *Talanta*, 1967, **14**, 353 (*synth, detn, Fe*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HMP000.

(Hydroxymethyl)phosphonic acid, 9CI H-00318

Phosphonomethanol

[2617-47-2]

CH_5O_4P M 112.022

Cryst. (EtOH/EtOAc). Mp 88-90°, Mp 98.5-100.5°. pK_{a1} 1.7; pK_{a2} 7.01 (25°).

Monoanilinium salt: Cryst. (EtOH). Mp 167-168°.

Di-Me ester: [24630-67-9]. *Dimethyl (hydroxymethyl) phosphonate*

$C_3H_9O_4P$ M 140.075

Derivatisation reagent for gc of carboxylic acids with thermionic detection. Liq.

Di-Et ester: [3084-40-0]. *Diethyl (hydroxymethyl) phosphonate*

$C_5H_{13}O_4P$ M 168.129

Liq. $Bp_{0.2}$ 103-105°. n_D^{20} 1.4342.

Bis(triethylsilyl) ester: Bis(triethylsilyl) (hydroxymethyl) phosphonate

$C_{13}H_{33}O_4PSi_2$ M 340.546

Liq. n_D^{20} 1.4472. Dec. on attempted distn.

Kharasch, M.S. *et al*, *J. Org. Chem.*, 1960, **25**, 1000 (*diethyl ester, synth*)

Orlov, N.F. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 537), 1966, **36**, 578 (*silyl ester*)

Maier, L., *Z. Anorg. Allg. Chem.*, 1972, **394**, 117 (*synth, P nmr, salts*)

Brun, G. *et al*, *Bull. Soc. Fr. Mineral. Cristallogr.*, 1974, **97**, 79; *CA*, **81**, 83219 (*cryst struct*)

Schulz, P. *et al*, *J. Chromatogr.*, 1975, **111**, 105 (*use, ester*)

Tebby, J.C. *et al*, *Phosphorus Relat. Group V Elem.*, 1975, **5**, 273 (*ms*)

Rueppel, M.L. *et al*, *Org. Magn. Reson.*, 1976, **8**, 19 (*pmr, P nmr*)

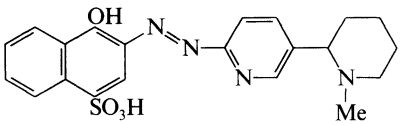
Griffiths, W.R. *et al*, *Phosphorus Relat. Group V Elem.*, 1976, **6**, 223 (*synth*)

Tebby, J.C. *et al*, *Phosphorus Relat. Group V Elem.*, 1976, **6**, 253 (*pmr*)
Holý, A. *et al*, *Collect. Czech. Chem. Commun.*, 1982, **47**, 3447 (*esters, synth, derivs*)
Baraldi, P.G. *et al*, *Synthesis*, 1982, 653 (*ester, synth, ir, pmr, props*)

4-Hydroxy-3-[[5-(1-methyl-2-piperidinyl)2-pyridinyl]azo]-1-naphthalenesulfonic acid H-00319

6′-[(1-Hydroxy-4-sulfo-2-naphthyl)azo]-1-methylanabasine, 8CI

[28115-71-1]



$C_{21}H_{22}N_4O_4S$ M 426.495

Na salt: [25349-58-0].

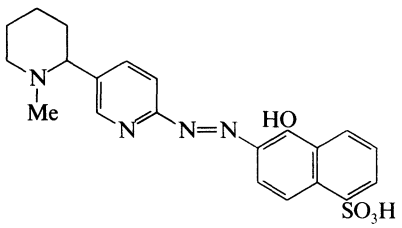
Used for photometric detn. of Mn(*II*); gives colour reactions with Cd, Co, Cu, Ga, Ni, Pd, U, Zn. Orange-red cryst. (EtOH/Et_2O). Sol. EtOH, H_2O; insol. Et_2O.

Kagramanova, N.G. *et al*, *CA*, 1969, **71**, 56314p; 1970, **72**, 96255x (*synth, use*)

5-Hydroxy-[6-[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]-1-naphthalenesulfonic acid H-00320

6′-[(1-Hydroxy-5-sulfo-2-naphthyl)azo]-1-methylanabasine, 8CI

[20649-80-3]



$C_{21}H_{22}N_4O_4S$ M 426.495

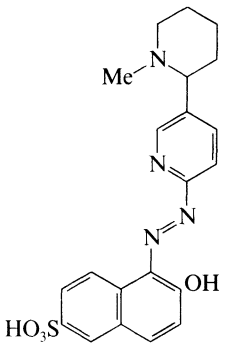
Used as a 0.01*M* aq. soln. to give colour reaction with Cd, Co, Cu, Ga, Ni, Pd, Zn; photometric titrimetric detn. of Bi (λ_{max} 590 nm, ε 2250), Tl(*III*) (λ_{max} 580 nm, ε 2950). Dark purple cryst. Sol. H_2O, EtOH. pK_a 9.2.

Dzhiyanbaeva, R.K. *et al*, *CA*, 1968, **69**, 8121k, 60029a, 73647a, 7 (*synth, ind, Cu, Bi, Ti*)
Sharipova, S.T. *et al*, *Uzb. Khim. Zh.*, 1968, **12**, 13; *CA*, **69**, 63276q (*pKa*)
Sharipova, S.T. *et al*, *CA*, 1970, **72**, 139227j (*detn, Cd, Co, Cu, Ni, Pd, Zn*)

6-Hydroxy-5-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]-2-naphthalenesulfonic acid H-00321

6′-[(2-Hydroxy-6-sulfo-1-naphthyl)azo]-1-methylanabasine, 8CI

[25763-79-5]



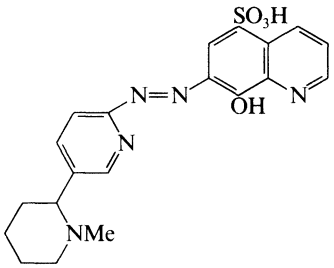
$C_{21}H_{22}N_4O_4S$ M 426.495

Gives colour reactions with Cd, Co, Cu, Ga, Ni, Pd, U, Zn. Orange-red cryst. Sol. H_2O. pK_{a2} 5.1, pK_{a3} 10.2 (0.5*M* KCl).

Mansurkhodzhaev, U. *et al*, *CA*, 1969, **71**, 125942f (*synth, use*)

8-Hydroxy-7-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]-5-quinolinesulfonic acid H-00322

6′-[(8-Hydroxy-5-sulfo-7-quinolyl)azo]-1-methylanabasine, 8CI



$C_{20}H_{21}N_5O_4S$ M 427.483

Na salt: [23333-79-1].

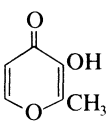
Gives colour reactions with Cd, Co, Cu, Ga, Ni, Pd, U, Zn. Pink cryst. Sol. H_2O.

Dzhiyanbaeva, R.K. *et al*, *CA*, 1968, **69**, 60029a (*synth, use*)

3-Hydroxy-2-methyl-4*H*-pyran-4-one, 9CI H-00323

3-Hydroxy-2-methyl-γ-pyrone. ***Maltol.*** *Laricin. Laricinic acid. Larixinic acid*

[118-71-8]



$C_6H_6O_3$ M 126.112

Found in larch trees (*Larix decidua*), pine needles, chicory, wood tars, roasted malt and produced by alkaline hyd. of streptomycin. Also from ferns *Arachniodes maximowiczii* and *Macrothelypteris torresiana*. Food flavouring additive. Used as metal indicator (e.g. for Fe(*III*)). Needles or prisms (toluene or $CHCl_3$) with odour of caramel/butterscotch. Mod. sol. H_2O, sol. EtOH. Mp 161-162°.

▷ UQ1050000.

Benzoyl:

$C_{13}H_{10}O_4$ M 230.220

Needles (EtOH aq.). Mp 115-116°.

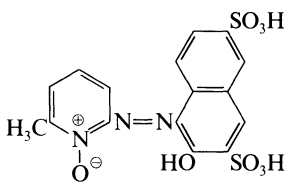
O-β-D-Glucopyranoside: [20847-13-6]. ***Dianthoside.*** *Maltol glucoside*

$C_{12}H_{16}O_8$ M 288.254

Isol. from *Dianthus* sp. and other plants, e.g. from ferns *A. maximowiczii*, *M. torresiana*, *Parathelypteris* spp. *Metathelypteris laxa*. Cryst. (EtOH/EtOAc). Mp 132°. $[\alpha]_D$ −52.8° (H_2O).

Food Chemicals Codex, 2nd Ed., 487 (*anal*)
Spielman, M.A. *et al*, *J. Am. Chem. Soc.*, 1947, **69**, 2908 (*synth*)
Plouvier, V., *C. R. Hebd. Seances Acad. Sci.*, 1964, **258**, 1099 (*Dianthoside*)
Shimizu, Y. *et al*, *Agric. Biol. Chem.*, 1970, **34**, 845 (*isol, ir, ms*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.
Chawla, R.K. *et al*, *J. Org. Chem.*, 1974, **39**, 3281 (*synth, ir, pmr*)
Torri, S. *et al*, *Chem. Lett.*, 1976, 495 (*synth*)
Shono, T. *et al*, *Tetrahedron Lett.*, 1976, 1363 (*synth*)
Looker, J.H. *et al*, *J. Carbohydr. Chem.*, 1985, **4**, 38 (*synth, pmr, cmr, Dianthoside*)
Tanaka, N. *et al*, *Chem. Pharm. Bull.*, 1986, **34**, 1015 (*isol*)
Arnarp, J. *et al*, *Acta Chem. Scand.*, 1990, **44**, 916 (*ms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MAO350.

3-Hydroxy-4-[(6-methyl-2-pyridinyl)azo]-2,7-naphthalenedisulfonic acid *N*-oxide H-00324



$C_{16}H_{13}N_3O_8S_2$ M 439.426

Di-Na salt: [73514-57-5].

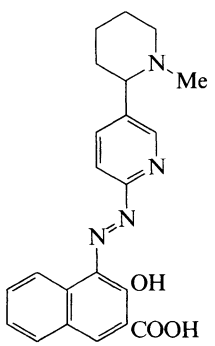
Used as 0.05% aq. soln. for photometric detn. of Cu (λ_{max} 536 nm, ε 18000), Zr (λ_{max} 545 nm, ε 15000), Sc (λ_{max} 555 nm, ε 16000), Fe(*III*). Brown cryst. (EtOH aq.). Sol. H_2O, EtOH.

Baeupré, P.W. *et al*, *Mikrochim. Acta*, 1979, **2**, 403; 1980, **2**, 53; 1982, **2**, 419; 1983, **3**, 71 (*synth, detn, Cu, Zr, Sc, Fe*)

3-Hydroxy-4-[[5-(1-methyl-2-pyrrolidinyl)-2-pyridinyl]azo]-2-naphthalenecarboxylic acid H-00325

6′-[(3-Carboxy-2-hydroxy-1-naphthyl)azo]-1-methylanabasine, 8CI

[23333-81-5]



$C_{22}H_{22}N_4O_3$ M 390.441

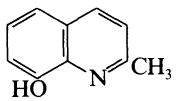
Gives colour reactions with Cd, Co, Cu, Ga, Ni, Pd, U, Zn. Pink cryst. (EtOH). V. sol. H_2O; sol. EtOH, Me_2CO.

Dzhiyanbaeva, R.K. *et al*, *CA*, 1968, **69**, 60029a (*synth, use*)

8-Hydroxy-2-methylquinoline H-00326

2-Methyl-8-quinolinol, 9CI. 8-Hydroxyquinaldine

[826-81-3]



$C_{10}H_9NO$ M 159.187

Used as 2% soln. in AcOH aq. or as 0.1% Me_2CO soln. for extraction-photometric detn. of Cr, Mn, Be, Ce, ($CHCl_3$, CCl_4); gravimetric detn. of Be, Cu, Fe(*III*). Prisms (EtOH aq.). Sol. AcOH, EtOH, Me_2CO, Et_2O, alkalis; insol. H_2O. Mp 74°. Bp 266-267°, Subl. 100°. Steam-volatile.

B,HCl: Mp 251-252°.

Ac: [27037-61-2]. *8-Acetoxyquinaldine*

$C_{12}H_{11}NO_2$ M 201.224

Used as 20% soln. in AcOH for pptn. of Th, Zn, Cu, In. Needles (pet. ether). Sol. EtOH, H_2O (hydrd.), Et_2O, pet. ether, C_6H_6. Mp 63-64°. Hydrol. after heating.

Me ether: [3033-80-5]. *8-Methoxy-2-methylquinoline*

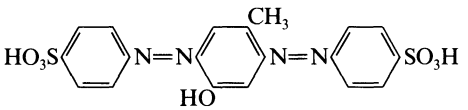
$C_{11}H_{11}NO$ M 173.214

Cryst. (C_6H_6). Mp 128-129°. Bp 282°, Bp_3 105-110°.

Manske, R.H.F. *et al*, *Can. J. Res., Sect. F*, 1949, **27**, 359.
Friedler, H., *J. Prakt. Chem.*, 1961, **13**, 86 (*synth*)
Hikime, S. *et al*, *Talanta*, 1964, **11**, 851 (*use*)
Jones, J.P. *et al*, *Talanta*, 1964, **11**, 861 (*use*)
Graham, R.P. *et al*, *Talanta*, 1964, **11**, 1641 (*use*)

4-[3-Hydroxy-6-methyl-4-(4-sulfophenylazo)phenylazo] benzenesulfonic acid H-00327

2,6-Bis[(4-sulfophenyl)azo]-4-methylphenol



$C_{19}H_{16}N_4O_7S_2$ M 476.490

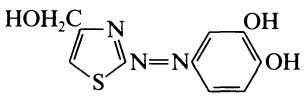
Used as a 0.05-1% aq. soln. to give colour reactions with Be, Co, Ni. Cryst.

Kuznetsov, V.I., *Zh. Anal. Khim.*, 1955, **10**, 276 (*use*)

4-[[4-(Hydroxymethyl)-2-thiazolyl]azo]-1,2-benzenediol, 9CI H-00328

2-(3,4-Dihydroxyphenylazo)-4-hydroxymethylthiazole

[54315-96-7]



$C_{10}H_9N_3O_3S$ M 251.265

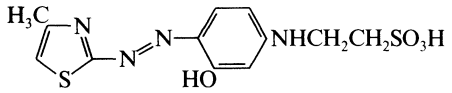
Used as a 1m*M* soln. in Me_2CO for photometric detn. of W (λ_{max} 510 nm, ε 49000). Orange-red cryst. Sol. EtOH, Me_2CO, alkalis. pK_{a1} 7.2; pK_{a2} 11.5 (0.1*M* LiCl).

Barkane, V. *et al*, *Latv. PSR Zinat. Akad. Vestis, Fiz. Teh. Zinat. Ser.*, 1974, 500; *CA*, **81**, 169470m (*props*)
M'asoedova, As., *Zh. Anal. Khim.*, 1975, **30**, 2398 (*detn, W*)

2-[[3-Hydroxy-4-[methyl-2-thiazolylazo]phenyl]amino]ethanesulfonic acid, 9CI H-00329

2-(4-Methyl-2-thiazolylazo)-5-[N-(2-sulfoethyl)amino]phenol

[104932-70-9]



$C_{12}H_{14}N_4O_4S_2$ M 342.399

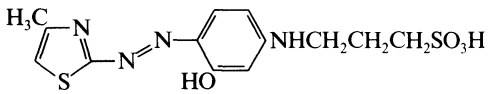
Used as 0.1% aq. soln. for photometric detn. of Fe(*II*) (λ_{max} 561 nm, ε 48600, pH 8.0), Co, Ni, Cu, Zn. Dark red powder. Sol. H_2O. Mp >280° dec. pK_{a2} 3.42; pK_{a3} 8.76 (25°, μ = 0.1).

Ueda, K. *et al*, *Analyst (London)*, 1986, **111**, 733 (*synth, use*)

3-[[3-Hydroxy-4-[(4-methyl-2-thiazolyl)azo]phenyl]amino]-1-propanesulfonic acid, 9CI H-00330

2-(4-Methyl-2-thiazolylazo)-5-[N-(2-sulfopropyl)amino]phenol

[104932-71-0]



$C_{13}H_{16}N_4O_4S_2$ M 356.426

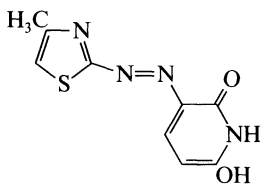
Used as 0.1% aq. soln. for photometric detn. of Fe(*II*) (λ_{max} 579 nm, ε 50000, pH ~5.5), Co, Ni, Cu, Zn. Dark red powder. Sol. H_2O. Mp >280° dec. pK_{a2} 3.59; pK_{a3} 9.09 (25°, μ = 0.1).

Ueda, K. *et al*, *Analyst (London)*, 1986, **111**, 733 (*synth, use*)

6-Hydroxy-3-[(4-methyl-2-thiazolyl)azo]-2(1*H*)-pyridinone, 9CI H-00331

3-(4-Methyl-2-thiazolylazo)-2,6-dihydroxypyridine

[72384-89-5]



$C_9H_8N_4O_2S$ M 236.254

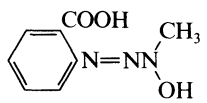
Used for photometric detn. of Cu (λ_{max} 510 nm, ε 30600); metallochromic indicator in titrimetric detn. of Cu (pH 4.6). Orange cryst. Sol. EtOH, Me_2CO. pK_{a1} 1.65; pK_{a2} 5.59; pK_{a3} 12.8.

Garcia-Montelongo, M. *et al*, *An. Quim., Ser. B*, 1979, **75**, 557 (*detn, Cu*)

2-(3-Hydroxy-3-methyl-1-triazenyl)benzoic acid, 9CI H-00332

1-(o-Carboxyphenyl)-3-hydroxy-3-methyltriazene

[50967-99-2]



$C_8H_9N_3O_3$ M 195.177

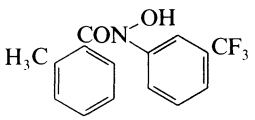
Used as a 0.01*M* soln. in EtOH for extraction-photometric detn. of Fe(*III*), Ti(*IV*) ($CHCl_3$). Cryst. (EtOH). Sol. EtOH, Me_2CO, $PhNO_2$, dioxan; sl. sol. hot H_2O, C_6H_6, $CHCl_3$, CCl_4. Mp 186° dec.

Majumdar, A.K. *et al*, *Anal. Chim. Acta*, 1973, **67**, 307 (*detn, Fe, Ti*)

N-Hydroxy-2-methyl-*N*-[3-(trifluoromethyl)phenyl]benzamide, 9CI H-00333

N-p-*Methylbenzoyl*-N-m-*trifluoromethylphenylhydroxylamine*

[113389-03-0]



$C_{15}H_{12}F_3NO_2$ M 295.260

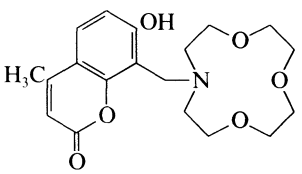
Used as 0.1*M* $CHCl_3$ soln. for extraction separation of Mo(*VI*), W(*VI*). Cryst. (EtOH aq.). Sol. $CHCl_3$, EtOH. Mp 119-120°.

Hojjatie, M. *et al*, *Anal. Chim. Acta*, 1987, **199**, 49 (*synth, detn, Mo, W*)

7-Hydroxy-4-methyl-8-(1,4,7-trioxa-10-azacyclododec-10-ylmethyl)-2*H*-1-benzopyran-2-one, 9CI H-00334

N-(*4-Methyl-7-hydroxycoumarin-8-ylmethyl*)*monoaza-12-crown-4*

[100443-50-3]



$C_{19}H_{25}NO_6$ M 363.410

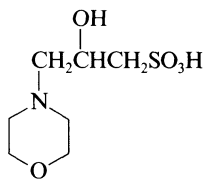
Used as 1,2-dichloroethane soln. for extraction of Li. Yellow cryst. ($CHCl_3$/EtOH). Sol. $CHCl_3$, 1,2-dichloroethane, dioxan. pK_{a1} 6.37; pK_{a2} 11.1 (25°, dioxan aq.).

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1985, **173**, 193 (*synth, sepn, Li*)

β-Hydroxy-4-morpholinepropanesulfonic acid, 9CI H-00335

Morpholine-N-(*2-hydroxypropanesulfonic acid*). *MOPSO*

[68399-77-9]



$C_7H_{15}NO_5S$ M 225.265

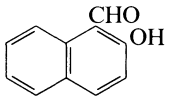
Good's buffer with pH range 6.2-7.4. Cryst. (MeOH). Sol. H_2O. Mp 273-274° (280-282°). pK_a 6.95 (20°).

Ferguson, W.J. *et al*, *Anal. Biochem.*, 1980, **104**, 300 (*synth, use*)
McConnell, B. *et al*, *Biophys. Chem.*, 1984, **20**, 135 (*use*)
Hutchens, T.W. *et al*, *J. Chromatogr.*, 1986, **359**, 157 (*use*)

2-Hydroxy-1-naphthaldehyde, 8CI H-00336

2-Hydroxy-1-naphthalenecarboxaldehyde, 9CI. 1-Formyl-2-naphthol

[708-06-5]



$C_{11}H_8O_2$ M 172.183

Used for gravimetric detn. of Mg. Yellow needles (hexane). Mp 82°.

Me ether: 2-Methoxy-1-naphthaldehyde

$C_{12}H_{10}O_2$ M 186.210

Needles (EtOH). Mp 84°. Bp_{11} 200-201°.

Oxime: [7470-09-9].

$C_{11}H_9NO_2$ M 187.198

Used as 0.02*M* in $CHCl_3$ soln. for extraction-photometric detn. of Ni (λ_{max} 412 nm, ε 7000); gravimetric detn. of V(*IV*); photometric detn. of U(*VI*). Needles. Sol. common org. solvs; sl. sol. H_2O. Mp 157°.

Semicarbazone: [56536-09-5].

$C_{12}H_{11}N_3O_2$ M 229.238

Used as EtOH soln. for fluorimetric detn. of Sc (λ_{max} 445 nm, acetate buffer). Yellow cryst. (EtOH). Sol. DMF; spar. sol. EtOH, Me_2CO.

Thiosemicarbazone: [7410-40-4].

$C_{12}H_{11}N_3OS$ M 245.304

Used as 0.015% soln. in EtOH for kinetic-photometric detn. of Mn. Yellow cryst. (EtOH/Me_2CO aq.). Sol. DMF; spar. sol. EtOH, Me_2CO. Mp 275°.

Sah, P.T. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1950, **69**, 1545 (*synth, thiosemicarbazone*)

Org. Synth., Coll. Vol., 3, 1955, 463.

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 180 (*oxime, synth, detn, V*)

Rappoport, Z., *J. Chem. Soc. B*, 1967, 898 (*uv*)

Reddy, G.R., *Curr. Sci.*, 1969, **38**, 139; *CA*, **71**, 45513b (*detn, U*)

Haish, D. *et al*, *Curr. Sci.*, 1973, **42**, 329 (*nmr*)

Narashimham, N. *et al*, *Tetrahedron*, 1975, **31**, 1005 (*synth*)

Holzbeher, Z., *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*detn, Mg*)

U.K. Pat., 1 490 350, (1977); *CA*, **88**, 192757p (*synth*)

Uesugi, K. *et al*, *Microchem. J.*, 1982, **27**, 71 (*detn, Ni, V, U, oxime*)

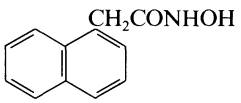
Perez-Bendito, D. *et al*, *Analyst* (*London*), 1984, **109**, 1297 (*synth, detn, Mn, thiosemicarbazone*)

Deguchi, M. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1986, **35**, 779 (*detn, Sc, semicarbazone*)

N-Hydroxy-1-naphthaleneacetamide, 9CI H-00337

1-Naphthoacetohydroxamic acid

[10335-80-5]



$C_{12}H_{11}NO_2$ M 201.224

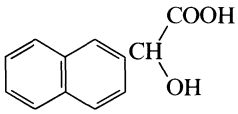
Used as EtOH soln. to give colour reactions with Cu, Fe(*III*), V(*V*), U(*VI*), Os, Ti. Cryst. Sol. EtOH, Me_2CO, $CHCl_3$.

Bass, V.C. *et al*, *Talanta*, 1966, **13**, 735 (*use*)

α-Hydroxy-2-naphthaleneacetic acid H-00338

2-Naphthaleneglycolic acid, 8CI

[14289-44-2]



$C_{12}H_{10}O_3$ M 202.209

(±)-*form*

Cryst. ($CHCl_3$/pet. ether). Mp 168°.

α-*Me ether:* [7362-01-8]. α-*Methoxy-2-naphthaleneacetic acid, 8CI*

$C_{13}H_{12}O_3$ M 216.236

Used for gravimetric detn. of Na. Cryst. (pet. ether). Sol. Et_2O, alkalis. Mp 98-99°.

NH_4 *salt:* [16291-71-7].

Mp 153-155°.

Reeves, W. *et al*, *J. Am. Chem. Soc.*, 1961, **83**, 2755 (*synth, deriv*)

Holzapfel, H. *et al*, *Anal. Chim. Acta*, 1967, **37**, 535 (*detn, Na*)

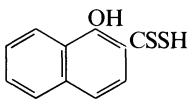
Holzapfel, H. *et al*, *CA*, 1967, **67**, 53926w (*synth*)

Compere, E.L., *J. Org. Chem.*, 1968, **33**, 2565 (*synth*)

1-Hydroxy-2-naphthalenecarbodithioic acid, 9CI H-00339

β-Dithionaphtholic acid

[17306-26-2]



$C_{11}H_8OS_2$ M 220.316

Used in photometric detn. of Ni, Co, Ru. Cryst. (EtOH). Sol. EtOH, MeOH.

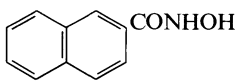
Janik, B. *et al*, *Mikrochim. Acta*, 1967, 843 (*detn, Ni*)

Górniak, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1975, **273**, 127; **275**, 205 (*detn, Co, Ru*)

N-Hydroxy-2-naphthalenecarboxamide, 9CI H-00340

N-*2-Naphthoylhydroxylamine. β-Naphthydroxamic acid*

[10335-79-2]



$C_{11}H_9NO_2$ M 187.198

Used as 0.05% soln. in MeOH for photometric detn. of V(*V*) (λ_{max} 450 nm). Plates (EtOH). Sol. EtOH, spar. sol. H_2O, Et_2O, C_6H_6. Mp 168°.

▷ QL0850000.

Ekstrand, G., *Ber.*, 1887, **20**, 1353.

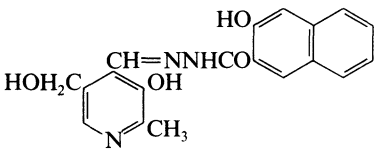
Bass, V.C. *et al*, *Anal. Chim. Acta*, 1966, **35**, 337 (*synth, detn, V*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NAV000.

3-Hydroxy-2-naphthalenecarboxylic acid [[3-hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]hydrazide, 9CI H-00341

Pyridoxal 3-hydroxy-2-naphthaloylhydrazone

[95735-67-4]



$C_{19}H_{17}N_3O_4$ M 351.361

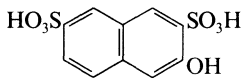
Used as 1.4m*M* DMF soln. for photometric detn. of Ti, Zr (λ_{max} 415 nm, ε 30000), Hf. Yellow cryst. (EtOH/DMF). Sol. DMF; spar. sol. H_2O, EtOH, Me_2CO, $CHCl_3$. pK_{a1} 3.5; pK_{a2} 7.1; pK_{a3} 9.5.

Gutiérrez, M.C. *et al*, *Mikrochim. Acta*, 1984, **2**, 17 (*synth, use*)

3-Hydroxy-2,7-naphthalenedisulfonic acid, 9CI H-00342

2-Naphthol-3,6-disulfonic acid. R Acid

[148-75-4]



$C_{10}H_8O_7S_2$ M 304.301

Important azo dyestuffs intermed. Used as an aq. soln. of salt as acid-base fluorescent indicator (pH range: 9.0-9.5); for photometric detn. of Fe(*III*). Needles. pK_a 9.62.

Anilide:

$C_{22}H_{18}N_2O_5S_2$ M 454.527

Mp 202°.

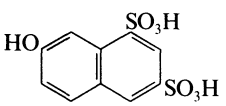
[135-51-3]

Kawaguchi, T., *CA*, 1924, **18**, 2891.
Forster, R.B. *et al*, *J. Soc. Chem. Ind., London*, 1927, **46**, 25T.
Pollak, J. *et al*, *Monatsh. Chem.*, 1928, **49**, 203.
Déribéré, M. *et al*, *Fresenius' Z. Anal. Chem.*, 1939, **116**, 341 (*use, ind*)
Hennion, G.F. *et al*, *J. Am. Chem. Soc.*, 1943, **65**, 2468.
Hashimoto, S. *et al*, *CA*, 1967, **67**, 32508w (*synth*)
Teodorescu, N. *et al*, *Rev. Roum. Chim.*, 1970, **21**, 326 (*detn, Fe*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)
Langfeld, H.W. *et al*, *Rev. Chim. (Bucharest)*, 1978, **29**, 873.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ROF300.

7-Hydroxy-1,3-naphthalenedisulfonic acid, 9CI H-00343

2-Naphthol-6,8-disulfonic acid. β-Naphthol-γ-disulfonic acid. G Acid

[118-32-1]



$C_{10}H_8O_7S_2$ M 304.301

The disodium salt (G salt) is used as an intermed. in the manuf. of azo dyestuffs. Used as an aq. soln. of salt as acid-base fluorescent indicator (pH range: 7.5-9.1). Cryst. Sol. H_2O. pK_a 8.99.

Dichloride:

$C_{10}H_6Cl_2O_5S_2$ M 341.192

Mp 161-162°.

Dianilide:

$C_{22}H_{18}N_2O_5S_2$ M 454.527

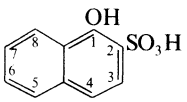
Mp 195°.

U.K. Pat., 210 120, (1924); *CA*, **18**, 1673.
Forster, R.B. *et al*, *J. Soc. Chem. Ind., London*, 1927, **40**, 25T.
Pollak, J. *et al*, *Monatsh. Chem.*, 1928, **49**, 203.
Déribéré, M., *Fresenius' Z. Anal. Chem.*, 1939, **116**, 341 (*use, ind*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)
Raisanen, K. *et al*, *Z. Naturforsch., B*, 1977, **32**, 818 (*cmr*)
Schulman, S.G. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 139 (*uv*)

1-Hydroxy-2-naphthalenesulfonic acid, 9CI H-00344

1-Naphthol-2-sulfonic acid

[567-18-0]



$C_{10}H_8O_4S$ M 224.237

Hydroxynaphthalenesulfonic acids have an extensive patent literature, mostly in the older lit., and many are used as dyestuffs intermediates. Used as an aq. soln. of salt as acid-base fluorescent indicator (pH range: 8.0-9.0). Cryst. (H_2O). Mp >250°.

Anilide, Ac:

$C_{18}H_{15}NO_4S$ M 341.387

Mp 157.5°.

Fr. Pat., 429 999, (1912); *CA*, **6**, 2536.
Anschutz, R., *Justus Liebigs Ann. Chem.*, 1918, **415**, 64.
Gebauer-Fülnegg, E. *et al*, *Monatsh. Chem.*, 1929, **53-4**, 100.
Eisenbrand, J., *Pharm. Zentralhalle Dtschl.*, 1930, **75**, 1033 (*use, ind*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)
Tatsuaki, N. *et al*, *Yuki Gosei Kagaku Kyokaishi*, 1972, **30**, 545 (*synth*)

4-Hydroxy-1-naphthalenesulfonic acid, 9CI H-00345

1-Naphthol-4-sulfonic acid. Nevile and Winthers' acid. NW acid

[84-87-7]

$C_{10}H_8O_4S$ M 224.237

Dyestuffs intermed. Used as an aq. soln. of salt as acid-base fluorescent indicator ($pH_{\frac{1}{2}}$ 8.2). Reagent for the detn. of nitroanilines and of hydrazines. Cryst. (H_2O). Mp 170° dec.

Aniline salt: Mp 186-187°.

S-Benzylthiouronium salt: Mp 103.4°.

Zincke, Th. *et al*, *Ber.*, 1915, **48**, 120.
Rowe, F.M., *J. Soc. Dyers Colour.*, 1919, **35**, 128.
Gebauer-Fülnegg, E. *et al*, *Ber.*, 1928, **61**, 781.
Eisenbrand, J., *Pharm. Ztg.*, 1930, **75**, 1033 (*use, ind*)
Krebser, A. *et al*, *Helv. Chim. Acta*, 1938, **21**, 1221.
Tanizaki, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1965, **38**, 1419 (*uv*)
Legradi, L., *CA*, 1966, **64**, 10403f (*use*)
Legradi, L., *Fresenius' Z. Anal. Chem.*, 1968, **239**, 29 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)
Lajunen, L.H.J. *et al*, *Finn. Chem. Lett.*, 1978, 207 (*cmr*)

5-Hydroxy-1-naphthalenesulfonic acid, 9CI H-00346

1-Naphthol-5-sulfonic acid

[117-59-9]

$C_{10}H_8O_4S$ M 224.237

Used as an aq. soln. of salt as acid-base fluorescent indicator (pH range: 6.5-7.5). Cryst. Sol. H_2O. Mp 110-112°.

Anilide:

$C_{16}H_{13}NO_3S$ M 299.350

Mp 201°.
Chloride, Ac:
$C_{12}H_9ClO_4S$ M 284.719
Mp 129°.

Heller, K., *J. Prakt. Chem.*, 1929, **1**, 121, 196.
Gebauer-Fülnegg, E. *et al*, *Monatsh. Chem.*, 1929, **53-4**, 100.
Kogan, I.M. *et al*, *J. Appl. Chem. USSR* (*Engl. Transl.*), 1938, **11**, 659; *CA*, **32**, 7031.
Déribéré, M., *Fresenius' Z. Anal. Chem.*, 1939, **116**, 341 (*use, ind*)
Kozlov, V.V., *CA*, 1965, **63**, 14780e (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

6-Hydroxy-2-naphthalenesulfonic acid, 9CI H-00347

2-Naphthol-6-sulfonic acid. Schaffer acid. β-Naphtholsulfonic acid-s

[93-01-6]

$C_{10}H_8O_4S$ M 224.237
Intermed. in manuf. of ball point pen inks and azo dyes. Resolving agent for amino acids. Used as an aq. soln. of salt as acid-base fluorescent indicator. Cryst. + 1 or $2H_2O$. Mp 129° (monohydrate), Mp 118° (dihydrate), Mp 167° (anhyd.).

▷ QK1820000.

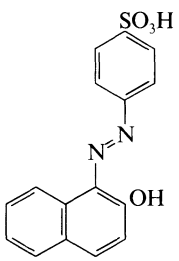
Aniline salt: Mp 264°.
Anilide:
$C_{16}H_{13}NO_3S$ M 299.350
Mp 161°.

Forster, R.B. *et al*, *J. Soc. Chem. Ind., London*, 1927, **46**, 29T.
Engel, K.H., *J. Am. Chem. Soc.*, 1930, **52**, 2835.
Vorontzov, I.I. *et al*, *CA*, 1934, **28**, 3730.
Krebser, A. *et al*, *Helv. Chim. Acta*, 1938, **21**, 1221.
Déribéré, M., *Fresenius' Z. Anal. Chem.*, 1939, **116**, 341 (*use, ind*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 470.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HMU500.

4-[(2-Hydroxy-1-naphthalenyl)azo] benzenesulfonic acid, 9CI H-00348

Tropaeolin OOO. C.I. 15510 Acid orange 7. C.I. 15510 Pigment orange 17. Acid orange A. Orange II. Mandarin G. Wool orange A

[573-89-7]



$C_{16}H_{12}N_2O_4S$ M 328.348
The name Tropaeolin OOO strictly applies to the sodium salt. Cryst. Sol H_2O, EtOH.

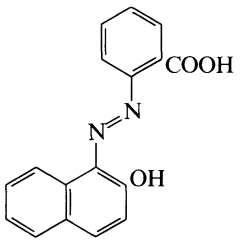
Na salt: [633-96-5].
Used as acid-base indicator (pH range 7.4-8.6 colour change amber → orange; pH 10.2 → 11.8 orange → red); extraction-photometric detn. of surfactants; photometric detn. of Co (λ_{max} 357, ε 26800). Used as a 0.005% soln. in phosphate buffer in 50% MeOH. Biological stain. Dye. Orange needles + $5H_2O$ (H_2O). Sol. H_2O, EtOH.

Org. Synth., Coll Vol II, 1943, 36 (*synth*)
Popa, G. *et al*, *Zh. Anal. Khim.*, 1959, **14**, 322 (*use*)
Hseu, T.M. *et al*, *J. Chin. Chem. Soc.* (*Taipei*), 1971, **18**, 203 (*detn, Co*)
Kawase, J. *et al*, *Analyst* (*London*), 1979, **104**, 750 (*use*)
Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 2656n.

2-[(2-Hydroxy-1-naphthalenyl)azo]benzoic acid, 9CI H-00349

1-(2-Carboxyphenylazo)-2-naphthol

[29128-56-1]

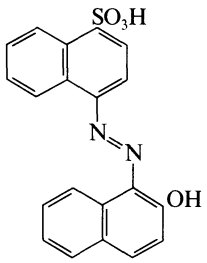


$C_{17}H_{12}N_2O_3$ M 292.293
Used for photometric detn. of Li. Orange-red cryst.

Strelcova, S.A. *et al*, *Uzb. Khim. Zh.*, 1967, **11**, 13 (*detn, Li*)

4-[(2-Hydroxy-1-naphthalenyl)azo]-1-naphthalenesulfonic acid, 9CI H-00350

2'-Hydroxy-1,1'-azonaphthalene-4-sulfonic acid

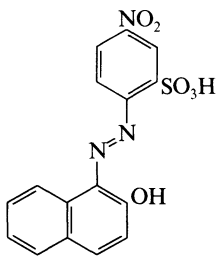


$C_{20}H_{14}N_2O_4S$ M 378.408
Ba salt: [50867-36-2].
Used as a 0.01% soln. in EtOH to give colour reaction with Pd. Orange-red cryst.

Popa, G. *et al*, *Zh. Anal. Khim.*, 1959, **14**, 322 (*use*)

2-[(2-Hydroxy-1-naphthalenyl)azo]-5-nitrobenzenesulfonic acid, 9CI H-00351

1-(4-Nitro-2-sulfophenylazo)-2-naphthol



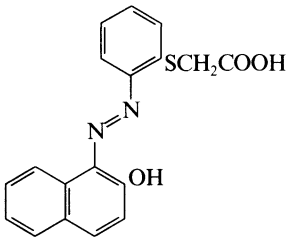
$C_{16}H_{11}N_3O_6S$ M 373.345
Used as a 4m*M* soln. in DMF for photometric detn. of Na (λ_{max} 550 nm). Red cryst. (DMF). Sol. DMF; spar. sol. H_2O.

[5850-83-9, 41364-45-8]

Markovich, I.S. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 227 (*synth, use*)

[[2-[(2-Hydroxy-1-naphthalenyl)azo]phenyl]thio]acetic acid, 9CI H-00352

[85261-29-6]



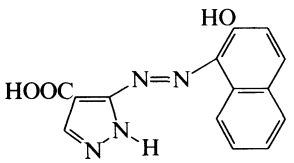
$C_{18}H_{14}N_2O_3S$ M 338.386

Used as aq. soln. for photometric detn. of Ni (λ_{max} 520 nm, ε 20200). Greenish prisms (AcOH). Sol. AcOH, EtOH, H_2O. Mp 167-169°. pK_{a1} 5.30 (50% EtOH).

Pringle, D.L. *et al*, *Talanta*, 1982, **29**, 1097 (*synth, detn, Ni*)

3-[(2-Hydroxy-1-naphthalenyl)azo]-1*H*-pyrazole-4-carboxylic acid H-00353

[51147-02-5]



$C_{14}H_{10}N_4O_3$ M 282.258

Used as a 1m*M* soln. in 1.5m*M* NaOH for photometric detn. of Co (λ_{max} 580 nm, ε 12500), Cu (λ_{max} 525 nm, ε 13000). Orange-red cryst. Sol. alkalis; spar. sol. Me_2CO, EtOH, dioxan. Mp 345-346°.

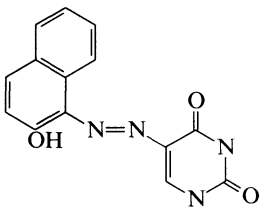
[29120-19-2]

Janik, B. *et al*, *Chem. Anal.* (*Warsaw*), 1970, **15**, 397; 1971, **16**, 413 (*synth, detn, Cu, Co*)

5-[(2-Hydroxy-1-naphthalenyl)azo]-2,4-(1*H*,3*H*)-pyrimidinedione, 9CI H-00354

1-(2,4-Dihydroxy-5-pyrimidylazo)-2-naphthol

[62817-76-9]



$C_{14}H_{10}N_4O_3$ M 282.258

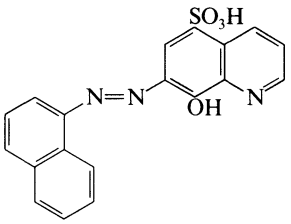
NH_4 salt: Used as a 0.01% soln. in EtOH as chelatometric indicator in titrimetric detn. of $MoO_4^{2\ominus}$, $WO_4^{2\ominus}$, $PO_4^{3\ominus}$. Red cryst.

Kundra, S.K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 715 (*detn, $MoO_4^{2\ominus}$, $WO_4^{2\ominus}$, $PO_4^{3\ominus}$*)

8-Hydroxy-7-(1-naphthalenylazo)-5-quinolinesulfonic acid, 9CI H-00355

Naphthylazoxine

[50539-65-6]



$C_{19}H_{13}N_3O_4S$ M 379.395

Used as a 0.1-4% soln. in DMF as metallochromic indicator in titrimetric detn. of Cd, Cu, Ga, In, Pb, Tl, Zn. Cryst. (DMF aq.). Sol. DMF, spar. sol. EtOH, Me_2CO; insol. H_2O, Et_2O, C_6H_6, $CHCl_3$.

Fritz, J.S. *et al*, *Anal. Chem.*, 1957, **29**, 821 (*detn, Cd, Cu, Pb, Zn*)

Busev, A.J. *et al*, *CA*, 1962, **57**, 6603 (*detn, In*)

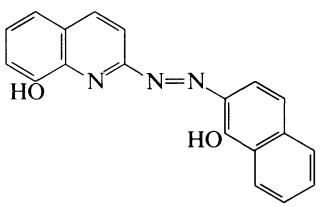
Busev, A.J. *et al*, *Uzb. Khim. Zh.*, 1962, **6**, 24; *CA*, **57**, 15799 (*detn, Tl*)

Busev, A.J. *et al*, *Zh. Anal. Khim.*, 1962, **17**, 180 (*synth, detn, Ga*)

2-[(1-Hydroxy-2-naphthalenyl)azo]-8-quinolinol, 9CI H-00356

2-[2-(8-Hydroxyquinolyl)azo]-1-naphthol

[22960-27-6]



$C_{19}H_{13}N_3O_2$ M 315.331

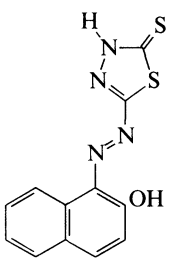
Used as 0.6m*M* soln. in aq. dioxan for photometric detn. of Ca (λ_{max} 610 nm, ε 24000, dioxan, pH 8.6-9.0) and as an indicator in EDTA titration of Ca. Reddish-brown needles (dioxan). Sol. dioxan. Mp 212°. pK_{a1} 1.74; pK_{a2} 10.4 (0.1*M* KCl, 40% dioxan, 25°).

Ishizuki, T. *et al*, *Anal. Chim. Acta*, 1985, **176**, 63 (*synth, detn, Ca*)

5-[(2-Hydroxy-1-naphthalenyl)azo]-1,3,4-thiadiazole-2(3*H*)-thione, 9CI H-00357

Mercaptothiadiazolylazonaphthol

[31165-30-7]



$C_{12}H_8N_4OS_2$ M 288.353

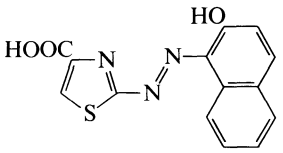
Used as a 0.2m*M* soln. in MeOH for photometric detn. of Co (λ_{max} 638 nm, ε 11800), Ni (λ_{max} 638 nm, ε 15000). Red amorph. powder. Sol. alkalis; mod. sol. Me_2CO, EtOH; spar.sol. H_2O. Mp 219-220°.

Domagalina, E. *et al*, *Chem. Anal.* (*Warsaw*), 1970, **15**, 769, 1227 (*synth, detn, Co, Ni*)

2-[(2-Hydroxy-1-naphthalenyl)azo]-4-thiazolecarboxylic acid H-00358

1-(4-Carboxy-2-thiazolylazo)-2-naphthol. 4-Carboxy-TAN

[30486-42-1]



$C_{14}H_9N_3O_3S$ M 299.309

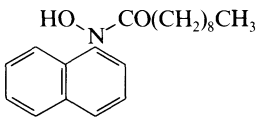
Used in photometric detn. of In. Cryst. (EtOH). Sol. EtOH, MeOH.

Drozdova, S.N., *Zh. Anal. Khim.*, 1971, **26**, 291 (*synth, detn, In*)

N-Hydroxy-*N*-1-naphthalenyldecanamide, 9CI H-00359

N-*1-Naphthylcaprihydroxamic acid*

[36237-35-1]



$C_{20}H_{27}NO_2$ M 313.439

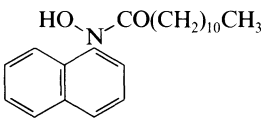
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 495 nm, ε 4150, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Chem. Eng. Data*, 1972, **17**, 248 (*synth*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

N-Hydroxy-*N*-1-naphthalenyldodecanamide, 9CI H-00360

N-*1-Naphthyllaurohydroxamic acid*

[36237-36-2]



$C_{22}H_{31}NO_2$ M 341.492

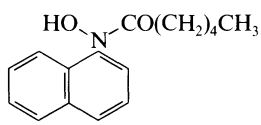
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 500 nm, ε 3800, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Chem. Eng. Data*, 1972, **17**, 248 (*synth*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

N-Hydroxy-*N*-1-naphthalenylhexanamide, 9CI H-00361

N-*1-Naphthylcaprohydroxamic acid*

[36237-34-0]



$C_{16}H_{19}NO_2$ M 257.332

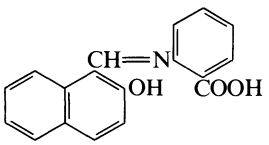
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 495 nm, ε 4250, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Chem. Eng. Data*, 1972, **17**, 248 (*synth*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

2-[[(2-Hydroxy-1-naphthalenyl)methylene]amino]benzoic acid, 9CI H-00362

N-(*2-Hydroxy-1-naphthylidene*)*anthranilic acid*

[796-47-4]



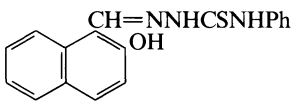
$C_{18}H_{13}NO_3$ M 291.306

Used as a 10% aq. soln. for gravimetric detn. of Cu. Orange cryst. (EtOH).

Mehta, R.K. *et al*, *J. Indian Chem. Soc.*, 1973, **50**, 658 (*synth, detn, Cu*)

2-[(2-Hydroxy-1-naphthalenyl)methylene]-*N*-phenylhydrazinecarbothioamide, 9CI H-00363

[59157-24-3]



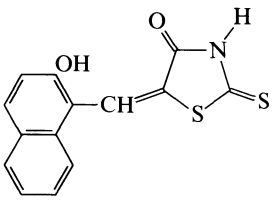
$C_{18}H_{15}N_3OS$ M 321.402

Used as 0.25 m*M* soln. in $CHCl_3$ for extraction-photometric detn. of Pd (λ_{max} 435 nm, ε 9700). Yellow cryst. (EtOH). Sol. $CHCl_3$, EtOH.

Yamaguchi, S. *et al*, *Analyst (London)*, 1985, **110**, 1241 (*synth, Pd*)

5-[(2-Hydroxy-1-naphthalenyl)methylene]-2-thioxo-4-thiazolidinone, 9CI H-00364

5-(2-Hydroxy-1-naphthylidene)rhodanine



$C_{14}H_9NO_2S_2$ M 287.363

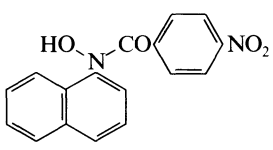
Used as a 0.2% soln. in EtOH for photometric detn. of Au, Ag, Cu, Hg, Pd, Pt. Orange-red cryst. Sol. EtOH.

Kulberg, L.M. *et al*, *Zh. Anal. Khim.*, 1954, **9**, 85 (*use*)

N-Hydroxy-*N*-1-naphthalenyl-4-nitrobenzamide, 9CI H-00365

N-*1-Naphthyl*-p-*nitrobenzohydroxamic acid*

[36237-42-0]



$C_{17}H_{12}N_2O_4$ M 308.293

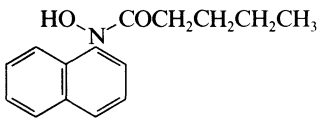
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 505 nm, ε 4500, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Chem. Eng. Data*, 1972, **17**, 248 (*synth*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

N-Hydroxy-*N*-1-naphthalenylpentanamide, 9CI H-00366

N-*1-Naphthylvalerohydroxamic acid*

[36237-33-9]



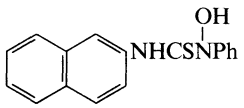
$C_{15}H_{17}NO_2$ M 243.305

Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 510 nm, ε 4200, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Chem. Eng. Data*, 1972, **17**, 248 (*synth*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

N-Hydroxy-*N'*-2-naphthalenyl-*N*-phenylthiourea, 9CI H-00367

[20717-98-0]



$C_{17}H_{14}N_2OS$ M 294.376

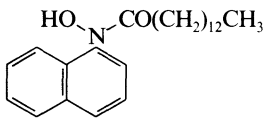
Used for photometric detn. of Co. Leaflets (EtOH). Sol. EtOH, Me_2CO, Et_2O.

Mocanu, R. *et al*, *CA*, 1973, **78**, 66602q (*synth, use, detn, Co*)

N-Hydroxy-*N*-1-naphthalenyltetradecanamide, 9CI H-00368

N-*1-Naphthylmyristohydroxamic acid*

[36237-37-3]



$C_{24}H_{35}NO_2$ M 369.546

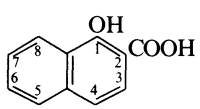
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 500 nm, ε 3800, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Chem. Eng. Data*, 1972, **17**, 248 (*synth*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

1-Hydroxy-2-naphthoic acid H-00369

1-Hydroxy-2-naphthalenecarboxylic acid, 9CI. 1-Naphthol-2-carboxylic acid

[86-48-6]



$C_{11}H_8O_3$ M 188.182

Used for titrimetric detn. of Al, Bi, Cr, Cu, Ni, Th, Zr. Needles (EtOH or Et_2O). Spar. sol. H_2O; sol. EtOH, Et_2O, C_6H_6. Mp 195°.

Me ester: [948-03-8].
$C_{12}H_{10}O_3$ M 202.209
Cryst. (EtOH). Mp 78°.

Et ester: [33950-71-9].
$C_{13}H_{12}O_3$ M 216.236
Cryst. (EtOH). Mp 49°.

Nitrile: [67176-26-5]. *2-Cyano-1-naphthol*
$C_{11}H_7NO$ M 169.182
Cryst. (C_6H_6/MeOH). Mp 176-177°.

Aggarwal, R.C. *et al*, *Z. Anorg. Allg. Chem.*, 1960, **304**, 337 (*use*)
Sen, A.B. *et al*, *Fresenius' Z. Anal. Chem.*, 1963, **195**, 255 (*use*)
Schulman, S., *Anal. Chim. Acta*, 1973, **67**, 259 (*uv*)
Beckmann, W., *Angew. Chem., Int. Ed. Engl.*, 1976, **88**, 549 (*synth*)
Gupta, M.P. *et al*, *Cryst. Struct. Commun.*, 1976, **5**, 553 (*struct*)
Hauser, F. *et al*, *J. Heterocycl. Chem.*, 1978, **15**, 1535; *J. Org. Chem.*, 1978, **43**, 178 (*synth*)
Broom, N.J.P. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1981, 465 (*deriv, pmr*)

3-Hydroxy-2-naphthoic acid H-00370

3-Hydroxy-2-naphthalenecarboxylic acid, 9CI. β-Hydroxynaphthoic acid. 2-Naphthol-3-carboxylic acid

[92-70-6]

$C_{11}H_8O_3$ M 188.182

Used in water-based inks and as dyestuff intermediate. Used as 0.1% soln. in EtOH for photometric detn. of Fe(*II*) (ε 2200). Yellow cryst. (H_2O or AcOH). Sol. EtOH; mod. sol. H_2O. Mp 222-223°.

▷ Mod. toxic, irritant. QL1755000.

Me ester: [883-99-8].
$C_{12}H_{10}O_3$ M 202.209
Needles (EtOH). Mp 75-76°.

Et ester: [7163-25-9].
$C_{13}H_{12}O_3$ M 216.236
Needles (AcOH). Mp 85°.

Chloride:
$C_{11}H_7ClO_2$ M 206.628
Needles (pet. ether). Mp 95-96°.

Amide:
$C_{11}H_9NO_2$ M 187.198
Yellow needles (EtOH or AcOH). Mp 217-218°.

Amide, N-hydroxy: [22974-74-9]. *3-Hydroxy-2-naphthohydroxamic acid, 8CI*
$C_{11}H_9NO_3$ M 203.197
Used for photometric detn. of V(*V*). Yellow cryst. Spar. sol. H_2O, sol. EtOH, Me_2CO. Mp 176°. pK_{a1} 7.50; pK_{a2} 9.04.

Nitrile: 3-Cyano-2-naphthol
$C_{11}H_7NO$ M 169.182
Cryst. (EtOH). Mp 188-189°.

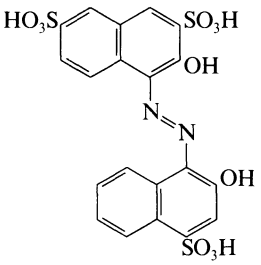
Anilide: [92-77-3]. *Naphthol AS. 3-Hydroxy-N-phenyl-2-naphthalenecarboxamide*
$C_{17}H_{13}NO_2$ M 263.295
Used as aq. soln. of Na salt as fluorescent acid-base indicator (pH range 8.2-10.3; colour change: non-fluorescence → yellowish-green). Cryst. Sol. alkalis, EtOH.

Majumdar, A.K. *et al*, *Anal. Chim. Acta*, 1959, **21**, 47 (*detn, Fe*)
Markman, A.L. *et al*, *Khim. Khim. Tekhnol. (Minsk)*, 1969, **12**, 97 (*hydroxamic acid, use*)
Ostrobrod, B.G. *et al*, *CA*, 1971, **75**, 19614y (*pKa*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)
Ger. Pat., 2 449 779, (1974); *CA*, **85**, 46258y (*synth*)
Prafer-Janczewska, L. *et al*, *Pol. J. Chem. (Rocz. Chem.)*, 1978, **52**, 1149 (*ms*)
Prafer-Janczewska, L. *et al*, *Spectrosc. Lett.*, 1978, **11**, 9 (*nmr*)
Pop, V. *et al*, *CA*, 1979, **90**, 177561t (*uv*)

Hydroxynaphthol blue H-00371

3-Hydroxy-4-[(2-hydroxy-4-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid. 2,2′-Dihydroxy-1,1′-azonaphthalene-3,4′,6-trisulfonic acid

[29120-26-1]



$C_{20}H_{14}N_2O_{11}S_3$ M 554.535

Strictly, the name Hydroxynaphthol blue applies to the trisodium salt. pK_{a4} 6.44; pK_{a5} 12.93.

Tri-Na salt: [63451-35-4].

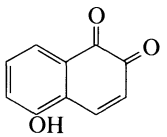
Used as metallochromic indicator in titrimetric detn. of Ca and for photometric detn. of Cu (λ_{max} 555 nm, ε 30000). Commercially available. Dark red cryst. powder.

Itoh, A. *et al*, *Analyst (London)*, 1970, **95**, 583 (*use*)
Sugawara, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1977, **50**, 3206 (*use*)
Sigma-Aldrich Library of Chemical Safety Data, 1988, **1**, 1943B.

5-Hydroxy-1,2-naphthoquinone H-00372

5-Hydroxy-1,2-naphthalenedione

[38028-39-6]



$C_{10}H_6O_3$ M 174.156

Red needles. Mp 172-176° dec.

Me ether: [61539-67-1]. *5-Methoxy-1,2-naphthoquinone*
$C_{11}H_8O_3$ M 188.182
Red cryst. (Me_2CO). Mp 208-210° (180-190°).

Dioxime: [56496-23-2].
$C_{10}H_8N_2O_3$ M 204.185
Used as 1m*M* soln. in EtOH for extraction-photometric detn. of Ni (λ_{max} 490 nm, ε 8600, $CHCl_3$). Cryst. Sol. EtOH.

[53589-70-1]

Cassebaum, H. *et al*, *Chem. Ber.*, 1959, **92**, 1643 (*synth, uv*)
Richey, F.A. *et al*, *J. Agric. Food Chem.*, 1972, **20**, 825 (*synth*)
Ashworth, P. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1974, 739 (*esr*)
Tôei, K. *et al*, *Anal. Chim. Acta*, 1975, **75**, 323 (*synth, detn, Ni*)
Ishii, H. *et al*, *Tetrahedron*, 1976, **32**, 2693 (*synth, ir, uv, pmr*)
Grundmann, C., *Synthesis*, 1977, 6441 (*synth*)
Krohn, K. *et al*, *Chem. Ber.*, 1989, **122**, 2323 (*synth, uv, pmr, cmr, ms*)

7-Hydroxy-1,2-naphthoquinone H-00373

7-Hydroxy-1,2-naphthalenedione, 9CI

[607-09-0]

$C_{10}H_6O_3$ M 174.156

Mp 195-200°.

Me ether: [18398-34-0]. *7-Methoxy-1,2-naphthoquinone*
$C_{11}H_8O_3$ M 188.182
Mp 165-170°.

Dioxime: [56496-24-3].
$C_{10}H_8N_2O_3$ M 204.185
Used as a 1m*M* soln. in EtOH for extraction-photometric detn. of Ni (λ_{max} 468 nm, ε 13300, $PhNO_2$). Cryst. Sol. EtOH.

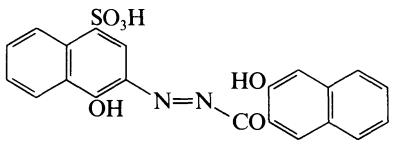
[53589-72-3, 59734-97-3]

Teuber, H.J. *et al*, *Chem. Ber.*, 1954, **87**, 1236 (*synth, uv*)
Ashworth, P. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1974, 739 (*esr*)
Tôei, K. *et al*, *Anal. Chim. Acta*, 1975, **75**, 323 (*detn, Ni*)
Dixon, W.T. *et al*, *Tetrahedron Lett.*, 1976, 623 (*esr*)
Murali, D. *et al*, *Indian J. Chem., Sect. B*, 1987, **26**, 668 (*synth*)
Lemaire, M. *et al*, *Tetrahedron*, 1987, **43**, 835 (*synth*)

2-(2-Hydroxy-3-naphthoylazo)-1-hydroxy-4-naphthalenesulfonic acid H-00374

4-Hydroxy-3-[[(3-hydroxy-2-naphthalenyl)carbonyl]azo]-1-naphthalenesulfonic acid, 9CI

[58033-08-2]



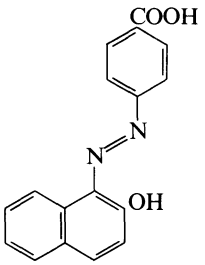
$C_{21}H_{14}N_2O_6S$ M 422.417

Used as a 1m*M* soln. in 10% DMF for photometric detn. of Ag, Hg; as 0.5m*M* soln. in 3% DMF as an indicator in EDTA titration of Hg, Cu, Tl(*III*), Th, In. Bright red cryst. (DMF aq.). Sol. Me_2CO, EtOH, DMF; insol. H_2O. pK_{a1} 7.22 (μ = 0.1, H_2O).

Sommer, L. *et al*, *CA*, 1975, **83**, 172074g (*synth, use*)
Sommer, L. *et al*, *Collect. Czech. Chem. Commun.*, 1977, **42**, 2862 (*synth, use, detn, Ag, Hg*)

p-[(2-Hydroxy-1-naphthyl)azo]benzoic acid, 8CI H-00375

[32624-43-4]



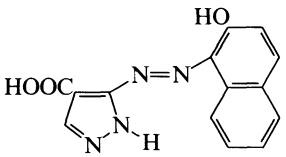
$C_{17}H_{12}N_2O_3$ M 292.293

Used as 0.5% aq. soln. for indirect photometric detn. of $F^{\ominus}$. Cryst. Sol. H_2O, EtOH.

Ramasamy, J. *et al*, *Anal. Chem.*, 1979, **51**, 2044 (*synth, use, detn, $F^{\ominus}$*)

3-[(2-Hydroxy-1-naphthyl)azo]-4-pyrazolecarboxylic acid, 8CI H-00376

[29120-19-2]



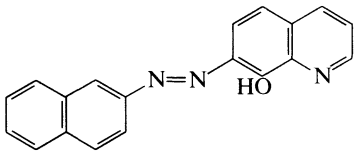
$C_{14}H_{10}N_4O_3$ M 282.258

Used as 1m*M* soln. in dioxan for photometric detn. of Cu(*II*) (λ_{max} 525 nm, ε 14000). Cryst. (EtOH). Sol. EtOH, dioxan, alkalis.

Janik, B. *et al*, *Chem. Anal.* (*Warsaw*), 1970, **15**, 397 (*synth, detn, Cu*)

8-Hydroxy-7-(2-naphthylazo)quinoline H-00377

7-(2-Naphthylazo)-8-quinolinol



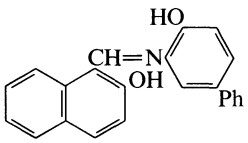
$C_{19}H_{13}N_3O$ M 299.331

Used as a soln. in EtOH as mercurimetric indicator. Orange-red cryst. Sol. Et_2O, Me_2CO, EtOH, $CHCl_3$.

Cherkesov, A.I., *Zavod. Lab.*, 1961, **27**, 1447 (*use*)

2-(2-Hydroxy-1-naphthylideneamino)-4-biphenylol H-00378

1-[N-(4-Hydroxy-3-biphenyl)formimidoyl]-2-naphthol



$C_{23}H_{17}NO_2$ M 339.393

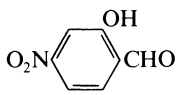
Used as a 1m*M* soln. in EtOH for fluorimetric detn. of Al. Cryst. (EtOH). Sol. EtOH; sl. sol. H_2O. Mp 274.5-275.5°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, use*)

2-Hydroxy-4-nitrobenzaldehyde H-00379

4-Nitrosalicylaldehyde. 2-Formyl-5-nitrophenol

[2460-58-4]



$C_7H_5NO_4$ M 167.121

Cryst. (EtOH aq.). Mp 134-135°.

Phenylhydrazone: Red cryst. (EtOH aq.). Mp 168-169°.

2,4-Dinitrophenylhydrazone: Orange cryst. (EtOH). Mp 323°.

2-Me, oxime: [64437-79-2]. *4-Nitro-o-anisaldoxime*

$C_8H_8N_2O_4$ M 196.162

Used a a 0.5% soln. in ethanediol for gravimetric detn. of Ag, Cu, Pd; photometric detn. of Ag, Pd. Yellow needles (C_6H_6). Sol. H_2O, Me_2CO, Et_2O, C_6H_6.

Segesser, J.R. *et al*, *J. Am. Chem. Soc.*, 1942, **64**, 825.

Ryabokobylko, Y.S. *et al*, *Zh. Strukt. Khim.*, 1974, **15**, 783 (*ir, nmr*)

Goswami, D.D., *CA*, 1975, **82**, 31075 (*synth*)

Buscarons, F. *et al*, *Quim. Anal.* (*Madrid*), 1976, **30**, 417; 1977, **31**, 29 (*detn, Ag, Pd*)

2-Hydroxy-5-nitrobenzaldehyde, 9CI H-00380

5-Nitrosalicylaldehyde. 2-Formyl-4-nitrophenol

[97-51-8]

$C_7H_5NO_4$ M 167.121

Derivatisation reagent for the gas chromatog. sepn. of unsymmetric hydrazines. Cryst. (AcOH aq.). Mp 126°. pK_{a1} 5.51 (25°).

Me ether: [25016-02-8]. *2-Methoxy-5-nitrobenzaldehyde*

$C_8H_7NO_4$ M 181.148

Needles (H_2O). Mp 89-90°.

Oxime: [1595-15-9].

$C_7H_6N_2O_4$ M 182.135

Used as soln. in AcOH for detn. of Bi, Cu, Pb, Ni; used as a 0.5% soln. in ethanediol for gravimetric detn. of Ag, Cu, Pd; photometric detn. of Ag, Pd. Yellow needles/cryst. (C_6H_6). Sol. AcOH. Mp 225°.

Phenylthiosemicarbazone: [41377-31-5]. *2-[(2-Hydroxy-5-nitrophenyl)methylene]-N-phenylhydrazinecarbothioamide, 9CI*

$C_{14}H_{12}N_4O_3S$ M 316.340

Used for extraction-photometric detn. of Cu(*II*) (λ_{max} 390 nm, ε 25000, $CHCl_3$, pH 2.3-6.2). Yellow cryst. Sol. DMF, EtOH.

[64437-80-5]

Miller, W., *Ber.*, 1887, **20**, 1927.

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **3**, 257 (*synth, use*)

Hach, C.C. *et al*, *CA*, 1948, **42**, 1240.

Denton, D.A. *et al*, *J. Chem. Soc.*, 1963, 4741 (*synth*)

Neurath, G. *et al*, *J. Chromatogr.*, 1968, **34**, 257 (*use*)

Ryabokobylko, Y.S. *et al*, *Zh. Strukt. Khim.*, 1974, **15**, 783 (*ir, nmr*)

Buscarons, F. *et al*, *Quim. Anal.* (*Madrid*), 1976, **30**, 417; 1977, **31**, 29 (*detn, Ag, Pd, Cu*)

Peshkova, V.M. *et al*, *Oximes*, Nauka, Moscow, 1977 (*synth, use*)

Yamaguchi, S. *et al*, *Anal. Sci.*, 1986, **2**, 149 (*synth, use*)

4-Hydroxy-2-nitrobenzaldehyde H-00381

4-Formyl-3-nitrophenol

$C_7H_5NO_4$ M 167.121

Yellow needles (EtOH). Mp 67°.

Phenylhydrazone: Red needles (EtOH). Mp 189-190°.

Me ether: [22996-21-0]. *4-Methoxy-2-nitrobenzaldehyde. 3-Nitro-p-anisaldehyde*

Cryst. ($CHCl_3$/pet. ether). Mp 95.5-96°.

Me ether, 2,4-dinitrophenylhydrazone: Orange needles (EtOH). Mp 222-223° dec.

Me ether, oxime: [64437-81-6]. *2-Nitro-p-anisaldoxime*

$C_8H_8N_2O_4$ M 196.162

Used as a 0.5% soln. in ethanediol for gravimetric detn. of Ag, Cu, Pd; photometric detn. of Ag, Pd. Yellow needles (C_6H_6). Sol. H_2O, Me_2CO, Et_2O, C_6H_6.

Sachs, F. *et al*, *Ber.*, 1906, **39**, 2754.

Woodward, R.B. *et al*, *Tetrahedron*, 1958, **2**, 1.

Sidhu, G.S. *et al*, *Justus Liebigs Ann. Chem.*, 1959, **627**, 218.

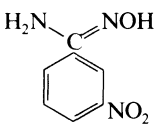
Buscarons, F. *et al*, *Quim. Anal.* (*Madrid*), 1976, **30**, 417; 1977, **31**, 29 (*deriv, detn, Ag, Pd, Cu*)

Boulton, A.J. *et al*, *J. Org. Chem.*, 1977, **42**, 897.

N-Hydroxy-3-nitrobenzenecarboximidamide, 9CI H-00382

m-*Nitrobenzamidoxime*

[5023-94-9]



$C_7H_7N_3O_3$ M 181.151

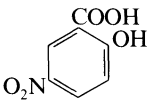
Used as a 0.05*M* soln. in EtOH for photometric detn. of Cr(*III*) (λ_{max} 550 nm). Cryst. (H_2O). Sol. H_2O, EtOH. Mp 174°.

Manolov, K. *et al*, *Mikrochim. Acta*, 1970, 634 (*detn, Cr*)

2-Hydroxy-5-nitrobenzoic acid H-00383

5-Nitrosalicylic acid

[96-97-9]



$C_7H_5NO_5$ M 183.120

Used as 1m*M* aq. soln. for photometric detn. of Ta (λ_{max} 405 nm, pH 9-10). Needles (H_2O). Sol. H_2O. Mp 229-230°. pK_{a1} 2.1; pK_{a2} 10.6 (25°, 0.1*M* KCl).

Me ester: [17302-46-4].
$C_8H_7NO_5$ M 197.147
Cryst. (Et_2O). Mp 119°.

Nitrile: [39835-09-1]. *2-Cyano-4-nitrophenol*
$C_7H_4N_2O_3$ M 164.120
Yellow needles (H_2O). Mp 194-196°. pK_a 4.1 (30°, 0.1*M* KCl).

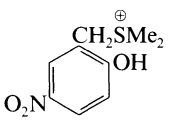
Me ether: [40751-89-1]. *2-Methoxy-5-nitrobenzoic acid*
$C_8H_7NO_5$ M 197.147
Plates or leaflets (H_2O). Mp 161°. Sublimes.

Me ether, chloride: [90763-46-5].
$C_8H_6ClNO_4$ M 215.592
Cryst. Mp 82-83°.

Simonsen, J.L. *et al*, *J. Chem. Soc.*, 1917, **111**, 220.
Chattaway, F.D., *J. Chem. Soc.*, 1926, 2720.
Meldrum, A.N. *et al*, *J. Indian Chem. Soc.*, 1928, **5**, 95.
Barany, H.C. *et al*, *J. Chem. Soc.*, 1946, 965.
McIntyre, J.S., *Can. J. Chem.*, 1967, **45**, 767 (*ir, uv*)
Gomaa, H.M. *et al*, *Environ. Lett.*, 1971, **2**, 47.
Sharma, I. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 398 (*use*)
Talberg, H.J., *Acta Chem. Scand., Ser. A*, 1977, **31**, 485 (*cryst struct*)
de Paulis, T. *et al*, *J. Med. Chem.*, 1988, **31**, 2027 (*deriv, synth*)

(2-Hydroxy-5-nitrobenzyl) dimethylsulfonium(1+) H-00384

[(2-Hydroxy-5-nitrophenyl)methyl]dimethylsulfonium(1+), 9CI. HNB sulfonium



$C_9H_{12}NO_3S^{\oplus}$ M 214.265 (ion)

Bromide: [28611-73-6].
$C_9H_{12}BrNO_3S$ M 294.169
Reagent for detn. of tryptophan residues. Cryst. Sol. H_2O. Mp 172-173° dec.

Chloride:
$C_9H_{12}ClNO_3S$ M 249.717
Cryst. ($MeOH/Et_2O$). Mp 152-153° dec.

Me ether: Dimethyl(2-methoxy-5-nitrobenzyl) sulfonium(1+). [(2-Methoxy-5-nitrophenyl)methyl] dimethylsulfonium(1+), 9CI
$C_{10}H_{14}NO_3S^{\oplus}$ M 228.291 (ion)

Me ether, bromide: [64415-08-3]. *MNB sulfonium bromide. K-IIWS*
$C_{10}H_{14}BrNO_3S$ M 308.195
Polarity reporter of microenvironment in proteins. Sol. H_2O. Mp 139-150° dec.

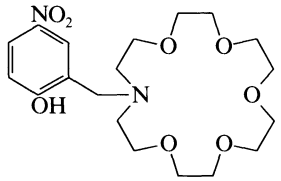
[28611-72-5]

Horton, H.R. *et al*, *J. Biol. Chem.*, 1970, **245**, 3397 (*synth*)
Tucker, W.P. *et al*, *Arch. Biochem. Biophys.*, 1971, **144**, 730 (*use*)
Borders, C.L. *et al*, *Biochem. Biophys. Res. Commun.*, 1972, **49**, 246 (*use*)
Michel, A. *et al*, *Arch. Int. Physiol. Biochim.*, 1976, **84**, 400 (*use*)
Kita, Y. *et al*, *J. Biochem. (Tokyo)*, 1982, **92**, 653 (*use*)

16-(2-Hydroxy-5-nitrobenzyl)-1,4,7,10,13-pentaoxa-16-azacyclooctadecane H-00385

4-Nitro-2-(1,4,7,10,13-pentaoxa-16-azacyclooctadec-16-ylmethyl)phenol, 9CI. N-*(2-Hydroxy-5-nitrobenzyl)monoaza-18-crown-6*

[79592-90-8]



$C_{19}H_{30}N_2O_8$ M 414.455

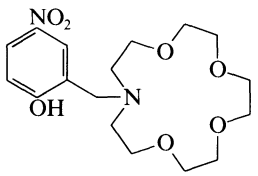
Used as 1,2-dichloroethane soln. for extraction of alkali metal ions. Yellow cryst. Sol. $CHCl_3$, 1,2-dichloroethane, dioxan. pK_{a1} 5.77; pK_{a2} 9.6 (25°, aq. 10% dioxan).

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1985, **173**, 193 (*synth, use*)

13-(2-Hydroxy-5-nitrobenzyl)-1,4,7,10-tetraoxa-13-azacyclopentadecane H-00386

4-Nitro-2-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-ylmethyl)phenol, 9CI. N-*(2-Hydroxy-5-nitrobenzyl)monoaza-15-crown-5*

[79566-00-0]



$C_{17}H_{26}N_2O_7$ M 370.402

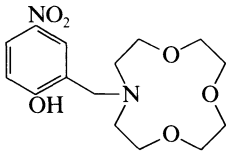
Used as 1,2-dichloroethane soln. for extraction of Li, Na, K. Yellow cryst. Sol. $CHCl_3$, 1,2-dichloroethane, dioxan. pK_{a1} 5.79; pK_{a2} 9.7 (25°, aq. 10% dioxan).

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1985, **173**, 193 (*synth, use*)

10-(2-Hydroxy-5-nitrobenzyl)-1,4,7-trioxa-10-azacyclododecane H-00387

4-Nitro-2-(1,4,7-trioxa-10-azacyclododec-10-ylmethyl)phenol, 9CI. N-*(2-Hydroxy-5-nitrobenzyl)monoaza-12-crown-4*

[96927-45-6]



$C_{15}H_{22}N_2O_6$ M 326.349

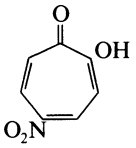
Used as 1,2-dichloroethane soln. for extraction photometric detn. sepn. of Li (λ_{max} 400 nm) from other alkali metals. Yellow cryst. Sol. $CHCl_3$, 1,2-dichloroethane, dioxan, H_2O. Mp 82-83°, Mp 98.5°. pK_{a1} 5.91; pK_{a2} 9.80 (25°, aq. 10% dioxan).

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1985, **173**, 193 (*synth, sepn, Li*)
Sasaki, K. *et al*, *Anal. Chim. Acta*, 1985, **174**, 141 (*sepn, Li*)

2-Hydroxy-5-nitro-2,4,6-cycloheptatrien-1-one, 9CI H-00388

5-Nitrotropolone

[3084-13-7]



$C_7H_5NO_4$ M 167.121

Gives colour reaction with Fe(*III*). Cryst. pK_{a1} 2.64.

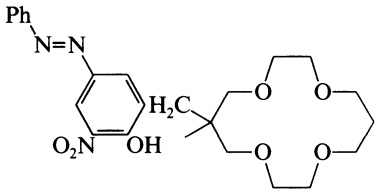
[55298-23-2]

Dutt, Y. *et al*, *Talanta*, 1969, **16**, 1369 (*pK, use*)

6-[2-Hydroxy-3-nitro-5-[(4-nitrophenyl)azo]benzyl]-6-methyl-1,4,8,11-tetraoxacyclotetradecane H-00389

2-[[(6-Methyl-1,4,8,11-tetraoxacyclotetradec-6-yl)methyl]azo]phenol, 9CI

[106419-36-7]



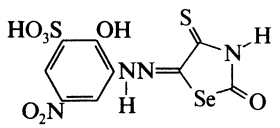
$C_{24}H_{30}N_4O_9$ M 518.522

Used as soln. in 1,2-dichloroethane for extraction sepn. of Li (λ_{max} 490 nm, ε 31000) from other alkali metals (selectivity ratio Li/Na 45). Red solid ($MeOH/CHCl_3$). Sol. MeOH, $CHCl_3$, 1,2-dichloroethane.

Kimura, K. *et al*, *J. Org. Chem.*, 1987, **52**, 836 (*synth, detn, Li*)

2-Hydroxy-5-nitro-3-[(2-oxo-4-thioxo-5-selenazolidinyl)azo]benzenesulfonic acid H-00390

Sulfonitrophenolazoselenoisorhodanine



$C_9H_6N_4O_7S_2Se$ M 425.261

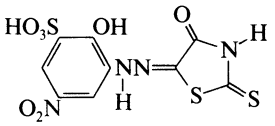
Various tautomers possible. Used as EtOH soln. for photometric detn. of Ag, Au, Pd, Pt. Brown cryst. powder. Sol. H_2O, EtOH.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*synth, use*)

2-Hydroxy-5-nitro-3-[(4-oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid, 9CI H-00391

Sulfonitrophenolazorhodanine

[35633-31-9]



$C_9H_6N_4O_7S_3$ M 378.367

Various tautomers possible. Used as 0.1% soln. in 50% EtOH for photometric detn. of Pt (λ_{max} 500 nm, ε 72000), Au, Ag. Red cryst. powder. Sol. H_2O, EtOH, DMF.

N-NH_2: *3-[(3-Amino-4-oxo-2-thioxo-5-thiazolidinyl)azo]-2-hydroxy-5-nitrobenzenesulfonic acid*

$C_9H_7N_5O_7S_3$ M 393.382

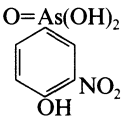
Used as EtOH soln. for photometric detn. of Ag, Au, Pd, Pt. Orange cryst. powder. Sol. H_2O, EtOH, DMF, dioxan.

Propistsova, R.F. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2424; 1975, **30**, 250 (*tautomer, synth, use*)
Basargin, N.N. *et al*, *Zavod. Lab.*, 1972, **38**, 260 (*Pt*)
Gur'eva, R.F. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 660 (*Ag*)
Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*rev*)

4-Hydroxy-3-nitrophenylarsonic acid, 9CI H-00392

4-Hydroxy-3-nitrobenzenearsonic acid. ***Roxarsone,*** **INN, BAN, USAN.** *Ren-O-sal. Ristat. NSC 2101*

[121-19-7]



$C_6H_6AsNO_6$ M 263.038

Used to control enteric infections in chickens and to improve growth and feed efficiency. Used as 2.5m*M* aq. soln. for pptn. separation of Ta from Sn, Ti, W; gravimetric detn. of Zr. Pale yellow needles or plates (H_2O). Spar. sol. hot H_2O. Mp >300°. Puffs up and deflagrates on heating.

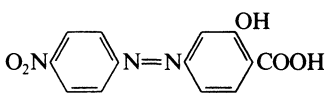
▷ Highly toxic orally. CY5250000.

Benda, L. *et al*, *Ber.*, 1911, **44**, 3445 (*synth*)
Izmailskii, V.A. *et al*, *Khim.-Farm. Promst.*, 1933, 317; *CA*, **28**, 3721 (*synth*)
Pressman, D. *et al*, *J. Am. Chem. Soc.*, 1943, **65**, 540 (*synth, pKa*)
Patrovsky, V., *Collect. Czech. Chem. Commun.*, 1965, **30**, 1727 (*detn, Ta*)
Kyrs, M. *et al*, *Collect. Czech. Chem. Commun.*, 1967, **32**, 747 (*detn, Zr*)
Chatterjee, A. *et al*, *Acta Crystallogr., Sect. B*, 1977, **33**, 3593 (*cryst struct*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 13220.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HMY000.

2-Hydroxy-4-(4-nitrophenylazo)benzoic acid H-00393

2-Hydroxy-4'-nitro-4-azobenzenecarboxylic acid

[20940-53-8]

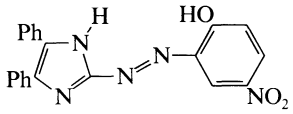


$C_{13}H_9N_3O_5$ M 287.231
Used as 0.006% aq. soln. (pH 10.5) for photometric detn. of Mg. Red cryst. Sol. alkalis.

Yoe, J.H., *J. Chem. Educ.*, 1937, **14**, 170 (*detn, Mg*)
Betteridge, D. *et al*, *Talanta*, 1962, **9**, 355 (*detn, Mg*)

2-[(2-Hydroxy-5-nitrophenyl)azo]-4,5-diphenylimidazole H-00394

2-[(4,5-Diphenylimidazol-2-yl)azo]-4-nitrophenol, 9CI
[5264-46-0]

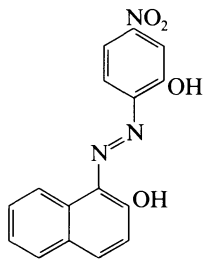


$C_{21}H_{15}N_5O_3$ M 385.381
Acetate salt: Used as a 1% soln. in EtOH-triethanolamine for photometric detn. of Co (λ_{max} 632 nm). Red cryst. (AcOH). Sol. EtOAc, EtOH. Mp 230° dec.

Mattison, L.E. *et al*, *Anal. Chem.*, 1969, **41**, 1690.

1-[(2-Hydroxy-4-nitrophenyl)azo]-2-naphthalenol, 9CI H-00395

[6434-57-7]



$C_{16}H_{11}N_3O_4$ M 309.281
Metal indicator used in complexometric detn. of Cd, Zn. Used as 0.1% soln. in EtOH or as a solid mixt. (1:100) with NaCl. Orange-red cryst. Sol. EtOH, Me_2CO. Mp 274-277°.

Budesinsky, B., *Collect. Czech. Chem. Commun.*, 1958, **23**, 895 (*detn, Cd, Zn*)
Schetty, G. *et al*, *Helv. Chim. Acta*, 1970, **53**, 1437; 1972, **55**, 1509 (*synth*)

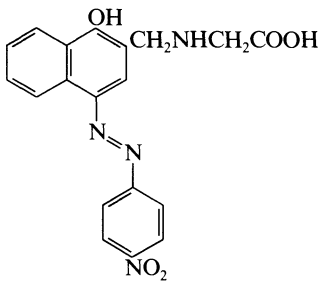
1-[(2-Hydroxy-5-nitrophenyl)azo]-2-naphthalenol, 9CI H-00396

[14847-54-2]
$C_{16}H_{11}N_3O_4$ M 309.281
Used as 2m*M* soln. in Me_2CO for photometric detn. of V(*IV*) (λ_{max} 550 nm, ε 14800), V(*V*) (λ_{max} 550 nm, ε 10700), Mo. Orange cryst. Sol. EtOH, Me_2CO.

Simov, D. *et al*, *CA*, 1972, **76**, 155562c (*synth*)
Popa, G. *et al*, *CA*, 1974, **81**, 145218j (*detn, Mo*)
Caramlau, M. *et al*, *Rev. Chim. (Bucharest)*, 1978, **29**, 983; *CA*, **90**, 132213q.

N-[[1-Hydroxy-4-(4-nitrophenylazo)-2-naphthyl]methyl]glycine H-00397

4-(p-Nitrophenylazo)-2-glycinomethyl-1-naphthol. Glycine naphthol violet

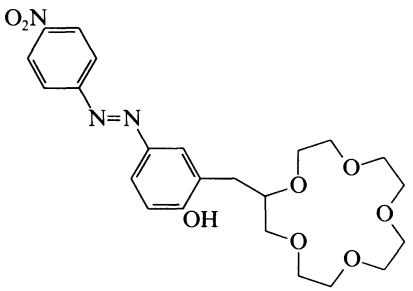


$C_{19}H_{16}N_4O_5$ M 380.359
Used as a metal indicator in titrimetric detn. of Co, Cu, Ni as a solid mixt. with KNO_3 (1:100). Orange-red cryst. Sol. alkalis.

Budesinsky, B., *Collect. Czech. Chem. Commun.*, 1959, **24**, 1804.

2-Hydroxy-[5-(4-nitrophenylazo)phenyl]methyl-15-crown-5 H-00398

4-[(4-Nitrophenyl)azo]-2-(1,4,7,10,13-pentaoxacyclopentadec-2-ylmethyl)phenol, 9CI
[100443-59-2]

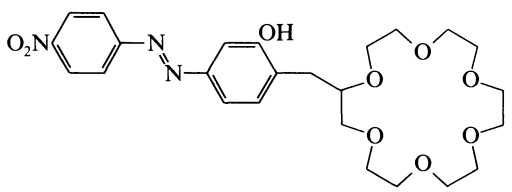


$C_{23}H_{29}N_3O_8$ M 475.497
Used as 1,2-dichloroethane soln. for extraction sepn. of Na, K, Rb, Cs. Brown powder ($CHCl_3$/EtOH). Sol. $CHCl_3$, dioxan, 1,2-dichloroethane. pK_a 7.97 (25°, aq. 10% dioxan).

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1985, **173**, 193 (*synth, use*)

2-Hydroxy-5-(4-nitrophenylazo)phenylmethyl-18-crown-6 H-00399

2-(1,4,7,10,13,16-Hexaoxacyclooctadec-2-ylmethyl)-4-[(4-nitrophenyl)azo]phenol, 9CI
[100443-61-6]



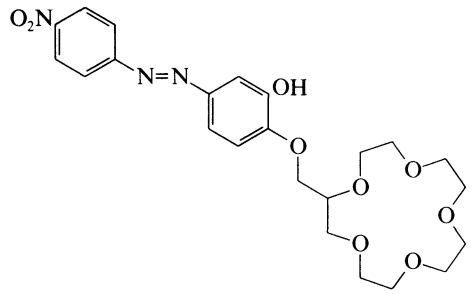
$C_{25}H_{33}N_3O_9$ M 519.550
Used as 1,2-dichloroethane soln. for extraction of alkali metals; sepn. of K from Na. Brown powder. Sol. $CHCl_3$, 1,2-dichloroethane, dioxan. pK_a 8.11 (25°, aq. 10% dioxan).

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1985, **173**, 193 (*synth, use*)

[2-Hydroxy-5-(4-nitrophenylazo)phenyl] oxymethyl-15-crown-5 H-00400

4-[(4-Nitrophenyl)azo]-2-(1,4,7,10,13-pentaoxacyclopentadec-2-ylmethoxy)phenol, 9CI

[81760-15-8]



$C_{23}H_{29}N_3O_9$ M 491.497

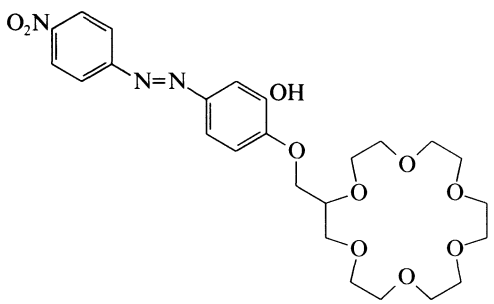
Used as 0.01m*M* soln. in 1,2-dichloroethane for extraction sepn. of alkali metals; extraction-photometric detn. of Na (λ_{max} 560 nm, ε 37000) and K. Red cryst. Sol. $CHCl_3$, C_6H_6, CCl_4, 1,2-dichloroethane. Mp 45-55°. pK_a 7.51 (25°, 10% dioxan).

Nakamura, H. *et al*, *Anal. Chim. Acta*, 1982, **139**, 219 (*synth, use*)

[2-Hydroxy-5-(4-nitrophenylazo)phenyl] oxymethyl-18-crown-6 H-00401

2-(1,4,7,10,13,16-Hexaoxacyclooctadec-2-ylmethoxy)-4-[(4-nitrophenyl)azo]phenol, 9CI

[81760-16-9]



$C_{25}H_{33}N_3O_{10}$ M 535.550

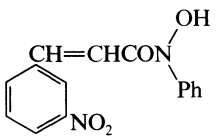
Used as 0.01m*M* soln. in 1,2-dichloroethane for extraction sepn. of alkali metals; extraction-photometric detn. of K (λ_{max} 575 nm, ε 35000) and Na. Red cryst. Sol. $CHCl_3$, C_6H_6, CCl_4. Mp 88-89°. pK_a 7.54 (25°, 10% dioxan).

Nakamura, H. *et al*, *Anal. Chim. Acta*, 1982, **139**, 219 (*use*)

N-Hydroxy-3-(3-nitrophenyl)-*N*-phenyl-2-propenamide, 9CI H-00402

N-(m-*Nitrocinnamoyl*)*phenylhydroxylamine*

[81105-52-4]



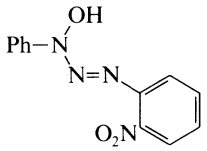
$C_{15}H_{12}N_2O_4$ M 284.271

Used as 5m*M* EtOH soln. for amperometric detn. of La (0.08-0.15 mg, pH 7.3, rotating graphite microelectrode). Bright-yellow cryst. Sol. EtOH. Mp 170°. pK_a 8.20.

Oliferenko, G.L. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 2330 (*synth, detn, La*)

3-Hydroxy-1-(2-nitrophenyl)-3-phenyl-1-triazene, 9CI H-00403

[53464-35-0]



$C_{12}H_{10}N_4O_3$ M 258.236

Used as a 1.5m*M* soln. in EtOH for photometric detn. of Zn (λ_{max} 490 nm). Brown-orange cryst. Sol. dioxan, Me_2CO; spar. sol. Et_2O, EtOH; insol. H_2O. Mp 142-144°.

Hazova, I.P., *Khim. Khim. Tekhnol. (Minsk)*, 1963, **6**, 218 (*synth, detn, Zn*)

Piatnitskii, I.V. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 44 (*detn, Zn*)

3-Hydroxy-1-(4-nitrophenyl)-3-phenyl-1-triazene, 9CI H-00404

[17026-17-4]

$C_{12}H_{10}N_4O_3$ M 258.236

Used as 0.05% EtOH soln. for photometric detn. of Mg. Greenish yellow cryst. Sol. EtOH, MeOH, Me_2CO, toluene. Mp 182-184° dec.

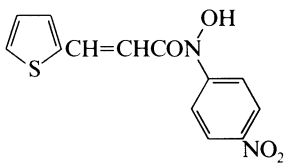
Pochinok, K.N. *et al*, *Zh. Anal. Khim.*, 1951, **6**, 288 (*synth, detn, Mg*)

Purohit, D.N., *Talanta*, 1967, **14**, 353 (*rev*)

N-Hydroxy-*N*-(4-nitrophenyl)-3-(2-thienyl)-2-propenamide, 9CI H-00405

N-p-*Nitrophenyl-2-thenylacrylohydroxamic acid*

[119582-04-6]



$C_{13}H_{10}N_2O_4S$ M 290.299

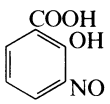
Used as 0.1*M* soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 520 nm, ε 5900, 3.5-7.5*M* HCl). Cryst. (C_6H_6). Sol. $CHCl_3$, C_6H_6.

Abbasi, S.A. *et al*, *Analyst (London)*, 1988, **113**, 1561 (*synth, detn, V*)

2-Hydroxy-3-nitrosobenzoic acid, 9CI H-00406

3-Nitrososalicylic acid

[64780-75-2]



$C_7H_5NO_4$ M 167.121

Used as metallochromic indicator for titrimetric detn. of Cu, Ni; extraction-photometric detn. of Co, Ni. Cryst. Sol. EtOH, alkalis, pet. ether.

Perry, M.H. *et al*, *Anal. Chem.*, 1950, **22**, 565 (*detn, Co, Ni*)

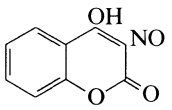
Conaghan, H.F. *et al*, *CA*, 1960, **54**, 15090 (*detn, Cu, Ni*)

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*detn, Cu, Ni*)

4-Hydroxy-3-nitroso-2*H*-1-benzopyran-2-one, 9CI H-00407

3-Nitroso-4-hydroxycoumarin. Oximidobenzotetronic acid

[22308-86-7]



$C_9H_5NO_4$ M 191.143

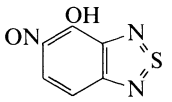
Used as 1-2% EtOH soln. or 0.1% soln. in dioxan for photometric detn. of Ir, Os, Pt, Pd, Co, Cu (λ_{max} 427 nm), Fe(*II*), Th (λ_{max} 419 nm); gravimetric detn. of Co, Pd; spot test for Co, Cu, Fe. Cryst. Sol. EtOH.

Bhat, A.N. *et al*, *Anal. Chim. Acta*, 1961, **25**, 343 (*detn, Fe*)
Bhat, A.N. *et al*, *J. Indian Chem. Soc.*, 1961, **38**, 779 (*synth*)
Manku, G.S. *et al*, *Anal. Chim. Acta*, 1967, **39**, 128 (*detn, Co*)
Manku, G.S. *et al*, *Talanta*, 1969, **16**, 1421, 1431 (*detn, Co, Pt, Pd, Os, Ir*)
Manku, G.S. *et al*, *Mikrochim. Acta*, 1970, 1101, 1836; 1972, 811 (*detn, Cu, Co, Fe, Th*)

4-Hydroxy-5-nitroso-2,1,3-benzothiadiazole H-00408

5-Nitroso-2,1,3-benzothiadiazol-4-ol, 9CI

[53370-81-3]



$C_6H_3N_3O_2S$ M 181.175

Used as a 0.5m*M* soln. in aq. EtOH for extraction-photometric detn. of Co, Fe ($CHCl_3$). Cryst. Sol. EtOH.

D'yachenko, S.A. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 877 (*detn, Co, Fe*)

5-Hydroxy-4-nitroso-2,1,3-benzothiadiazole H-00409

4-Nitroso-2,1,3-benzothiadiazol-5-ol, 9CI

[1753-78-2]

$C_6H_3N_3O_2S$ M 181.175

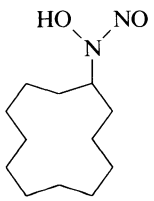
Used as a 0.5m*M* soln. in 50% EtOH for extraction-photometric detn. of Co, Fe ($CHCl_3$). Cryst. Sol. EtOH. Mp 170-175° (dec.).

Piesin, W.G. *et al*, *Zh. Obshch. Khim.*, 1964, **34**, 3763 (*synth*)
D'yachenko, S.A. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 877 (*use*)

N-Hydroxy-*N*-nitrosocyclododecanamine, 9CI H-00410

N-*Nitroso*-N-*cyclododecylhydroxylamine*

[51279-09-5]



$C_{12}H_{24}N_2O_2$ M 228.334

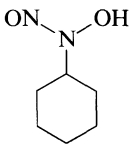
Used as a 1% soln. in EtOH for gravimetric detn. of Ca, Mg; extraction sepn. of Al, Bi, Fe, Sb, Th, Zr; turbidimetric detn. of Ca, Mg. Cryst. Sol. EtOH (5.3 g per 100 cm^3 at 20°); spar. sol. $CHCl_3$, C_6H_6, CCl_4; insol. H_2O. pK_{a1} 5.47.

Buscaróns, F. *et al*, *Anal. Chim. Acta*, 1974, **70**, 468 (*use*)

N-Hydroxy-*N*-nitrosocyclohexanamine, 9CI H-00411

N-*Nitroso*-N-*cyclohexylhydroxylamine. Hexahydrocupferron*

[4883-72-1]



$C_6H_{12}N_2O_2$ M 144.173

pK_{a1} 5.58.

NH_4 salt: [22990-96-1].

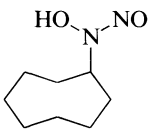
Used as 1-3 % aq. soln. for extraction-photometric detn. of Cu, Fe, Ti, V; extraction sepn. of Al, Bi, Fe, Sb, Th, Zr; amperometric titrimetric detn. of Cu, Fe. Cryst. Sol. H_2O (11.49 g per 100 cm^3 at 20°); sl. sol. EtOH (0.43 g per 100 cm^3 at 20°); spar. sol. $CHCl_3$, C_6H_6, CCl_4. Mp 140° (250° dec.).

[22990-95-0]

Buscaróns, F. *et al*, *Anal. Chim. Acta*, 1973, **67**, 349; 1974, **70**, 113 (*detn, Al, Ti, V*)
Buscaróns, F. *et al*, *Quim. Anal.* (*Madrid*), 1974, **28**, 1975 (*amp detn, Cu, Fe*)

N-Hydroxy-*N*-nitrosocyclooctylamine, 9CI H-00412

N-*Nitroso*-N-*cyclooctylhydroxylamine*



$C_8H_{16}N_2O_2$ M 172.227

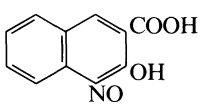
Used as a 1% aq. soln. for extraction sepn, of Al, Bi, Fe, Sb, Th, Zr. Cryst. Sol. H_2O (24.4 g per 100 cm^3 at 20°), EtOH (4.1 g per 100 cm^3 at 20°); spar. sol. $CHCl_3$, C_6H_6, CCl_4. pK_{a1} 5.65.

[51279-10-8]

Buscaróns, F. *et al*, *Anal. Chim. Acta*, 1974, **70**, 468 (*use*)

3-Hydroxy-4-nitroso-2-naphthalenecarboxylic acid, 9CI H-00413

[32446-26-7]



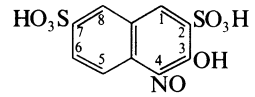
$C_{11}H_7NO_4$ M 217.181

Used as a 2m*M* aq. soln. for extraction-photometric detn. of Co (λ_{max} 428 nm, ε 32000, C_6H_6). Cryst. Sol. alkalis; mod. sol. H_2O.

Motomizu, S., *Bunseki Kagaku* (*Jpn. Anal.*), 1971, **20**, 590 (*detn, Co*)

3-Hydroxy-4-nitroso-2,7-naphthalenedisulfonic acid, 9CI, 8CI H-00414

1-Nitroso-2-hydroxy-3,6-naphthalenedisulfonic acid



$C_{10}H_7NO_8S_2$ M 333.299

Sol. H_2O.

Di-Na salt: [525-05-3]. *Nitroso R salt*

Used as 0.5% aq. soln. for photometric detn. of Co (λ_{max} 415 nm, ε 35000), Fe, Pd, Rh, Ru, Th (indirectly). Dispersant for aq. drilling fluids. Golden-yellow cryst. Sol. H_2O. pK_a 7.05.

▷ QJ6480000.

Shipman, W.H. *et al*, *Anal. Chem.*, 1955, **27**, 1240; 1956, **28**, 1151 (*detn, Co*)

Shamir, J. *et al*, *Talanta*, 1961, **8**, 330 (*detn, Pd*)

Miller, D.J. *et al*, *Anal. Chem.*, 1965, **37**, 739 (*detn, Ru*)

U.S. Pat., 3 531 408, (1970); *CA*, **73**, 132712a (*use*)

Barkovski, V.F. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 128 (*detn, Fe*)

Rollins, O.W. *et al*, *Anal. Chem.*, 1971, **43**, 146 (*detn, Rh*)

Ibrahim, N.A. *et al*, *J. Prakt. Chem.*, 1973, **315**, 203 (*use*)

Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976.

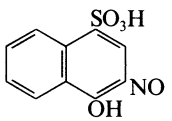
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986.

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HNB000.

4-Hydroxy-3-nitroso-1-naphthalenesulfonic acid, 9CI H-00415

2-Nitroso-1-naphthol-4-sulfonic acid

[3682-32-4]



$C_{10}H_7NO_5S$ M 253.235

Used as 0.02*M* aq. soln. for photometric detn. of Co (λ_{max} 566 nm, ε 166000), Fe (ε 210000, $CHCl_3$). Cryst. Sol. H_2O.

Motomizu, S. *et al*, *Anal. Chim. Acta*, 1977, **89**, 167; 1980, **120**, 267 (*detn, Co*)

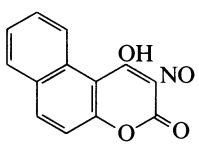
Motomizu, S. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1981, **30**, 245 (*detn, Fe*)

Motomizu, S. *et al*, *Talanta*, 1982, **29**, 89 (*detn, Co*)

1-Hydroxy-2-nitroso-3*H*-naphtho[2,1-*b*]pyran-3-one, 9CI H-00416

4-Hydroxy-3-nitroso-5,6-benzocoumarin

[53051-89-1]



$C_{13}H_7NO_4$ M 241.203

Used as 0.05% soln. in Me_2CO for extraction-photometric detn. of Ru (λ_{max} 540 nm, ε 10400, butanol), Ni (λ_{max} 395 nm, ε 25000), Cu; detn. of Co, Fe. Yellow cryst. (AcOH). Sol. AcOH, Me_2CO, EtOH; insol. H_2O. Mp 178-180° dec.

Kohli, N. *et al*, *Curr. Sci.*, 1973, **42**, 142 (*detn, Ni*)

Kohli, N. *et al*, *Chimia*, 1974, **28**, 661 (*synth, detn, Cu*)

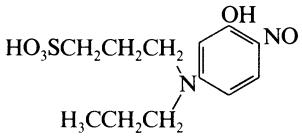
Kohli, N. *et al*, *Talanta*, 1974, **21**, 638 (*detn, Ru*)

Kohli, N. *et al*, *Mikrochim. Acta*, 1975, **1**, 675 (*detn, Co*)

3-[(3-Hydroxy-4-nitrosophenyl)propylamino]-1-propanesulfonic acid, 9CI H-00417

2-Nitroso-5-(propylamino)phenol-N-propanesulfonic acid

[80459-15-0]



$C_{12}H_{18}N_2O_5S$ M 302.351

Used as aq. soln. for photometric detn. of Fe(*II*) (λ_{max} 756 nm, ε 45000). Yellow cryst. powder. Sol. H_2O.

Saito, M. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1981, **30**, 635.

N-Hydroxy-*N*-nitroso-2-propanamine, 9CI H-00418

N-*Nitroso*-N-*isopropylhydroxylamine*

$(H_3C)_2CHN(OH)NO$

$C_3H_8N_2O_2$ M 104.108

Used as a 1% aq. soln. for extraction sepn. of Al, Bi, Fe, Sb, Th, Zr. Cryst. Sol. H_2O (25.6 g per 100 cm^3 at 20°), EtOH (6.8 g per 100 cm^3 at 20°); spar. sol. $CHCl_3$, C_6H_6, CCl_4. pK_a 5.64.

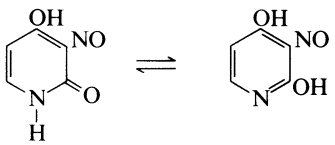
[53765-13-2]

Buscaróns, F. *et al*, *Anal. Chim. Acta*, 1974, **70**, 468 (*use*)

4-Hydroxy-3-nitroso-2(1*H*)-pyridinone, 9CI H-00419

2,4-Dihydroxy-3-nitrosopyridine

[52809-57-1]



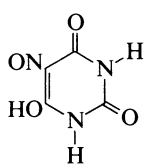
$C_5H_4N_2O_3$ M 140.098

Used as a 0.1% soln. in EtOH for photometric detn. of Co (λ_{max} 412 nm, ε 24500) and Fe(*II*) (λ_{max} 655 nm, ε 12600). Cryst. (EtOH). Sol. EtOH, Me_2CO. pK_{a1} 4.68 (μ = 0.1, 25°).

Musumeci, S. *et al*, *Fresenius' Z. Anal. Chem.*, 1976, **282**, 221 (*detn, Co, Fe*)

6-Hydroxy-5-nitroso-2,4(1*H*,3*H*)-pyrimidinedione, 9CI H-00420

[43109-88-2]



$C_4H_3N_3O_4$ M 157.085

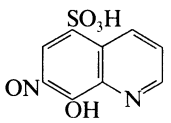
Used for photometric detn. of Co (λ_{max} 367 nm, ε 40500). Cryst. Sol. EtOH, Me_2CO, Et_2O.

Tsuchya, M. *et al*, *CA*, 1976, **85**, 186238s (*detn, Co*)

8-Hydroxy-7-nitroso-5-quinolinesulfonic acid, 9CI H-00421

7-Nitroso-8-quinolinol-5-sulfonic acid

[5263-74-1]



$C_9H_6N_2O_5S$ M 254.223

Na salt: [56956-50-4].

Used as 2.5m*M* aq. soln. for photometric detn. of Fe (λ_{max} 710 nm, ε 29000), Co (λ_{max} 525 nm, ε 11500); complexing agent for Cu, Fe, $UO_2^{2\oplus}$. Cryst. Sol. H_2O.

[40204-96-4]

Aly, M.M. *et al*, *J. Inorg. Nucl. Chem.*, 1972, **34**, 3939; 1973, **35**, 2727 (*synth, detn, Cu, Fe, $UO_2^{\ominus}$*)

Aly, M.M. *et al*, *Fresenius' Z. Anal. Chem.*, 1973, **266**, 127; 1974, **270**, 32 (*detn, Co, Fe*)

Eldawy, M.A. *et al*, *Anal. Chem.*, 1975, **47**, 1844 (*detn, Fe*)

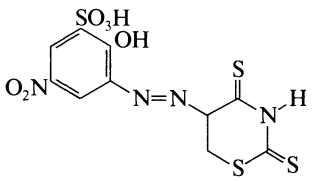
Eldawy, M.A. *et al*, *CA*, 1976, **85**, 37330p (*detn, Co*)

Abbasi, S. *et al*, *Indian J. Chem., Sect. A*, 1976, **14**, 215 (*detn, Fe*)

2-Hydroxy-5-nitro-3-[(tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo]benzenesulfonic acid, 9CI H-00422

Sulfonitrophenolazothiopropiorhodanine

[64780-77-4]



$C_{10}H_8N_4O_6S_4$ M 408.460

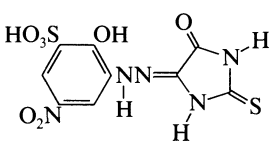
Used as 0.1% aq. soln. for photometric detn. of Pt, Pd, Au, Ag. Dark red cryst. powder. Sol. H_2O, alkalis, EtOH, Me_2CO.

Gur'eva, R.F. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 632 (*synth, detn, Ag*)

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*rev*)

2-Hydroxy-5-nitro-3-[(2-thioxo-4-oxopyrrolidinyl)azo]benzenesulfonic acid H-00423

Sulfonitrophenolazothiohydantoin



$C_9H_7N_5O_7S_2$ M 361.316

Various tautomers known. Used as EtOH soln. for photometric detn. of Pt, Pd, Au, Ag. Yellow cryst. powder. Sol. H_2O, EtOH, DMF.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*synth, use*)

N-Hydroxyoctanamide, 9CI H-00424

Octanohydroxamic acid. Caprylohydroxamic acid

[7377-03-9]

$H_3C(CH_2)_6CONHOH$

$C_8H_{17}NO_2$ M 159.228

Used as an EtOH soln. for photometric detn. of V(*V*) (λ_{max} 450 nm). Cryst. Mp 78.5-79°.

N-*Ph:* [25310-14-9]. N-*Phenyloctanohydroxamic acid.* N-*Hydroxy*-N-*phenyloctanamide*, *9CI*

$C_{14}H_{21}NO_2$ M 235.325

Used as 0.1m*M* soln. CCl_4 for extraction separation of Co, Ni, Zn, Pb, V(*V*) (λ_{max} 510 nm, ε 4000, 4*M* HCl), lanthanides. Cryst. (Et_2O/hexane). Sol. CCl_4, $CHCl_3$. Mp 64.5-65.5°.

N-(*4-Methylphenyl):* [25310-15-0]. N-p-*Tolyloctanohydroxamic acid.* N-*Hydroxy*-N-(*4-methylphenyl*)*octanamide*

$C_{15}H_{23}NO_2$ M 249.352

Used for extraction-photometric detn. of V(*V*) (λ_{max} 510 nm, ε 4200, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Inoue, Y. *et al*, *Nippon Kagaku Kaishi*, 1940, **16**, 504, 510; *CA*, 1941, **35**, 731 (*synth*)

Bass, V.C. *et al*, *Talanta*, 1966, **13**, 735 (*detn, V*)

Gupta, V.K. *et al*, *J. Indian Chem. Soc.*, 1969, **46**, 831.

Agrawal, Y.K. *et al*, *J. Chem. Eng. Data*, 1971, **16**, 495 (*deriv, synth*)

Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

Sosnovsky, G. *et al*, *Synthesis*, 1980, 654 (*synth, ir, nmr*)

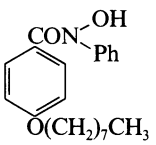
Haraguchi, K. *et al*, *Anal. Sci.*, 1989, **5**, 735; 1990, **6**, 877 (*deriv, use*)

Ruiqin, W. *et al*, *J. Am. Chem. Soc.*, 1989, **111**, 114 (*N-14 nmr*)

N-Hydroxy-4-(octyloxy)-*N*-phenylbenzamide, 9CI H-00425

N-p-*Octyloxybenzoyl*-N-*phenylhydroxylamine*

[111052-01-8]



$C_{21}H_{27}NO_3$ M 341.449

Used as 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of Ti, V(*V*) (λ_{max} 570 nm, ε 7900, in the presence of $SCN^{\ominus}$). Cryst. Sol. $CHCl_3$, 1,2-dichloroethane.

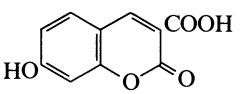
Inoue, S. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1988, **37**, 316 (*synth, detn, Ti*)

Inoue, S. *et al*, *Talanta*, 1989, **36**, 794 (*detn, V*)

7-Hydroxy-2-oxo-2*H*-1-benzopyran-3-carboxylic acid, 9CI H-00426

7-Hydroxy-3-coumarincarboxylic acid

[779-27-1]



$C_{10}H_6O_5$ M 206.154

Used for fluorimetric detn. of amines. Cryst. Mp 271° dec.

Ac: [81017-23-4].

$C_{12}H_8O_6$ M 248.192

Cryst. (AcOH). Mp 208°.

Me ester: [86788-49-0].

$C_{11}H_8O_5$ M 220.181

Cryst. (MeOH). Mp 236-237°.

Et ester: [6093-71-6].

$C_{12}H_{10}O_5$ M 234.208

Cryst. Mp 171°.

Et ester, Ac:

$C_{14}H_{12}O_6$ M 276.245

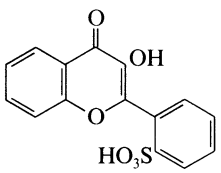
Plates (EtOH). Mp 153-154°.

Me ether: [20300-59-8]. *7-Methoxycoumarin-3-carboxylic acid*
$C_{11}H_8O_5$ M 220.181
Fluorescent label for alcohols and amines. Faint greenish-yellow plates (EtOH aq.). Mp 195°.
Me ether, Me ester:
$C_{12}H_{10}O_5$ M 234.208
Yellow needles (MeOH). Mp 201-202°.
Me ether, Et ester: [6093-72-7].
$C_{13}H_{12}O_5$ M 248.235
Rhombic plates (EtOH). Mp 134°.
Me ether, chloride: [51867-62-0].
$C_{11}H_7ClO_4$ M 238.627
Fluorescent derivatisation reagent for alcohols. Pale yellow prismatic needles ($CHCl_3$/pet. ether). Mp 143°.
Me ether, fluoride: [129601-67-8]. *7-Methoxy-2-oxo-2H-1-benzopyran-3-carbonyl fluoride. 7-Methoxycoumarin-3-carbonyl fluoride*
$C_{11}H_7FO_4$ M 222.172
Fluorescent labelling reagent for primary amines. Pale yellow needles (hexane). Mp 158-160°.
Me ether, azide: [97632-67-2]. *7-Methoxy-2-oxo-2H-1-benzopyran-3-carbonyl azide, 9CI*
$C_{11}H_7N_3O_4$ M 245.194
Fluorescent labelling reagent for alcohols. Pale yellow needles. Mp 170-171°.

v. Pechmann, V.H. *et al*, *Ber.*, 1901, **34**, 378 (*synth*)
Boehm, T. *et al*, *Arch. Pharm. (Weinheim, Ger.)*, 1933, **271**, 490 (*synth*)
Baker, W. *et al*, *J. Chem. Soc.*, 1949, 512 (*synth*)
Sherman, W.R. *et al*, *Anal. Chem.*, 1968, **40**, 803 (*spectra*)
Khan, M.A.S. *et al*, *Anal. Chim. Acta*, 1968, **43**, 156 (*pmr*)
Stewart, J.T. *et al*, *Anal. Chim. Acta*, 1970, **52**, 390 (*use*)
Stewart, J.T. *et al*, *J. Pharm. Sci.*, 1971, **60**, 461 (*use*)
Bissell, E.R., *Synthesis*, 1982, 846 (*synth, Et ester*)
Hogberg, T. *et al*, *Acta Chem. Scand., Ser. B*, 1984, **38**, 359 (*synth, pmr, ms*)
Wolfbeis, O.S. *et al*, *Bull. Chem. Soc. Jpn.*, 1985, **58**, 731 (*spectra*)
Takadate, A. *et al*, *Chem. Pharm. Bull.*, 1985, **33**, 1164 (*azide, synth, use*)
Hamada, C. *et al*, *J. Chromatogr.*, 1985, **341**, 426 (*chloride, use*)
Fujino, H. *et al*, *Anal. Sci.*, 1990, **6**, 465 (*deriv, synth, use*)

2-(3-Hydroxy-4-oxo-4*H*-1-benzopyran-2-yl)benzenesulfonic acid, 8CI H-00427

3-Hydroxyflavone-2'-sulfonic acid. Flavonol-2'-sulfonic acid
[17356-55-7]

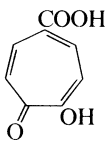


$C_{15}H_{10}O_6S$ M 318.306
Used as EtOH soln. for photometric detn. of Tl(*III*) (λ_{max} 372 nm, ε 29000 pH 6-7.6), Zr, Sn(*IV*), Th. Yellowish cryst. Sol. H_2O, EtOH.

Oka, Y. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1964, **13**, 207 (*detn, Zr*)
Oka, Y. *et al*, *Nippon Kagaku Kaishi, Pure. Chem. Sect.*, 1964, **85**, 430; *CA*, **61**, 12627h (*detn, Th*)
Yamamoto, K., *Nippon Kagaku Kaishi, Pure. Chem. Sect.*, 1967, **88**, 345; *CA*, **67**, 17575x (*detn, Tl*)

4-Hydroxy-5-oxo-1,3,6-cycloheptatriene-1-carboxylic acid H-00428

Tropolone-5-carboxylic acid
[56968-86-6]

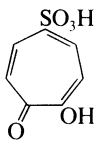


$C_8H_6O_4$ M 166.133
Fine yellow needles (AcOH). Mp 288° (dec.). Forms a monohydrate, Mp. 224-225°.
Nitrile: [3266-92-0]. *4-Hydroxy-5-oxo-1,3,6-cycloheptatriene-1-carbonitrile, 9CI. 5-Cyanotropolone*
$C_8H_5NO_2$ M 147.133
Used as complexing agent for Fe(*III*). Yellow needles (H_2O). Mp 236°. pK_{a1} 3.72 (25°).
Me ester, Me ether: [57014-01-4].
$C_{10}H_{10}O_4$ M 194.187
Needles (C_6H_6). Mp 185°.

Cook, J.W. *et al*, *J. Chem. Soc.*, 1952, 4416; 1954, 530 (*synth*)
Johns, R.B. *et al*, *J. Chem. Soc.*, 1955, 309 (*synth*)
Dutt, Y. *et al*, *Talanta*, 1969, **16**, 1369 (*pKa, use*)

4-Hydroxy-5-oxo-1,3,6-cycloheptatriene-1-sulfonic acid, 9CI H-00429

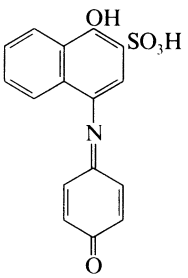
5-Sulfotropolone. Tropolone-5-sulfonic acid



$C_7H_6O_5S$ M 202.187
NH_4 salt: [56968-76-4].
Used as complexing agent for Fe(*III*), Th, $UO_2^{2\oplus}$. Cryst. Mp 280°. pK_{a1} 4.66, pK_{a1} 5.07.

Dutt, Y. *et al*, *Talanta*, 1969, **16**, 1369 (*pKa, use*)

1-Hydroxy-4-[(4-oxo-2,5-cyclohexadien-1-ylidene)amino]-2-naphthalenesulfonic acid, 8CI H-00430



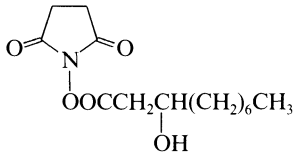
$C_{16}H_{11}NO_5S$ M 329.333
Na salt: [5418-38-2].
Redox indicator; acid-base indicator (colour change: brownish-red → blue). Used as a 0.02% aq. soln. Red cryst. Sol. H_2O. pK_{a1} 8.7. E° +0.544 V.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 484 (*use*)

1-[(3-Hydroxy-1-oxodecyl)oxy]-2,5-pyrrolidinedione, 9CI H-00431

N-[(*3-Hydroxydecanoyl)oxy*]*succinimide, 8CI. Succinimido 3-hydroxydecanoate*

[53665-56-8]



$C_{14}H_{23}NO_5$ M 285.339

Reagent for peptide sequence detn. by ms. Cryst. (EtOAc/pet. ether). Mp 78-78.5°.

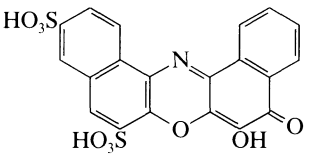
[33796-55-3]

Hiramoto, M. *et al*, *Chem. Pharm. Bull.*, 1971, **19**, 1308 (*synth, use*)

Okada, K. *et al*, *Tetrahedron*, 1974, **30**, 1175 (*use*)

6-Hydroxy-5-oxo-5*H*-dibenzo[*a,j*]phenoxazine-8,11-disulfonic acid, 9CI H-00432

[65501-73-7]



$C_{20}H_{11}NO_9S_2$ M 473.440

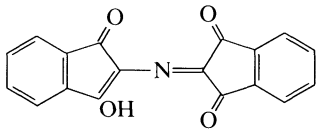
Used as 0.4m*M* aq. soln. for photometric detn. of V(*V*) (λ_{max} 630 nm, ε 22000). Cryst. Sol. H_2O. pK_a 3.37.

Lasovsky, J. *et al*, *Collect. Czech. Chem. Commun.*, 1977, **42**, 1941 (*detn, V*)

2-[(3-Hydroxy-1-oxo-1*H*-inden-2-yl)imino]-1*H*-indene-1,3(2*H*)-dione, 9CI H-00433

Ninhydrin dye. Azinbisindandione

[7185-16-2]



$C_{18}H_9NO_4$ M 303.273

Used as a 0.1m*M* aq. soln. for photometric detn. of Bi, Pb (λ_{max} 560 nm), Hg (λ_{max} 530 nm); as metallochromic indicator for titrimetric detn. of Cu. Brown cryst. (propanol). Mp 310°.

[36968-48-6]

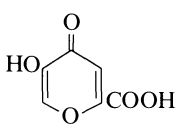
Wehber, P. *et al*, *Fresenius' Z. Anal. Chem.*, 1957, **158**, 10 (*detn, Cu*)

Burkina, A.Y. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 473 (*detn, Bi, Pb, Hg*)

5-Hydroxy-4-oxo-4*H*-pyran-2-carboxylic acid, 9CI H-00434

5-Hydroxy-4-pyrone-2-carboxylic acid. Comenic acid

[499-78-5]



$C_6H_4O_5$ M 156.095

Yellow cryst. Mp 270° dec. pK_{a1} −2.34; pK_{a2} 7.29 (25°).

Me ester: [49652-51-9].

$C_7H_6O_5$ M 170.121

Mp 185.5-186.5°.

Et ester: [50671-51-7].

$C_8H_8O_5$ M 184.148

Used as a 1% soln. in $CHCl_3$ for photometric detn. of O_2. Cryst. Mp 126-127°, Mp 135°. Subl.

Et ester, Ac:

$C_{10}H_{10}O_6$ M 226.185

Mp 104°.

Me ether: [1199-60-6]. *5-Methoxy-4-oxo-4*H*-pyran-2-carboxylic acid*

$C_7H_6O_5$ M 170.121

Mp 280-282°.

*Et ether: 5-Ethoxy-4-oxo-4*H*-pyran-2-carboxylic acid*

$C_8H_8O_5$ M 184.148

Mp 239-240°.

Garkusha, G.A. *et al*, *Zh. Obshch. Khim.*, 1953, **23**, 1578; 1961, **31**, 2573 (*synth*)

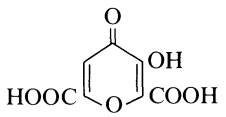
Becker, H.D., *Acta Chem. Scand.*, 1962, **16**, 78 (*synth*)

Garkusha, G.A. *et al*, *Zh. Prikl. Khim. (Leningrad)*, 1968, **41**, 995 (*detn, O_2*)

3-Hydroxy-4-oxo-4*H*-pyran-2,6-dicarboxylic acid, 9CI H-00435

3-Hydroxy-4-pyrone-2,6-dicarboxylic acid. Meconic acid. Opium acid

[497-59-6]



$C_7H_4O_7$ M 200.104

Occurs in opium (*Papaver somniferum*) and other *P.* spp. Used as a 0.5% aq. soln. for titrimetric detn. of Fe(*III*). Cryst. + $3H_2O$ (H_2O), loses $3H_2O$ at 100°. Sol. EtOH, C_6H_6. Mp 270° dec. Subl. 210-215°. pK_{a1} 1.83; pK_{a2} 2.11; pK_{a3} 11.3 (30% EtOH, μ = 0.1).

Di-Me ester: [58262-33-2].

$C_9H_8O_7$ M 228.158

Cryst. (MeOH). Mp 117°.

Di-Et ester: [729-63-5].

$C_{11}H_{12}O_7$ M 256.212

Cryst. (H_2O). Mp 111.5°.

Ac:

$C_9H_6O_8$ M 242.142

Cryst. (H_2O). Mp 218°.

Benzoyl:

$C_{14}H_8O_8$ M 304.212

Mp 248°.

Mennel, *J. Prakt. Chem.*, 1882, **26**, 456.

Garkusha, G.A. *et al*, *J. Gen. Chem. USSR* (*Engl. Transl.*), 1946, **16**, 2025.

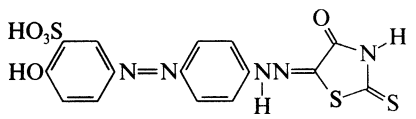
Sommer, L. *et al*, *Collect. Czech. Chem. Commun.*, 1956, **21**, 1645; 1966, **31**, 1288 (*detn, Fe*)

Goryaev, M.I., *CA*, 1963, **59**, 11419.

Garkusha, G.A. *et al*, *Zh. Obshch. Khim.*, 1963, **33**, 3579; *CA*, **60**, 11969 (*synth*)

2-Hydroxy-5-[[4-[(4-oxo-2-thioxo-5-thiazolidinyl)azo]phenyl]azo]benzenesulfonic acid H-00436

Sulfophenolazobenzeneazorhodanine



$C_{15}H_{11}N_5O_5S_3$ M 437.480

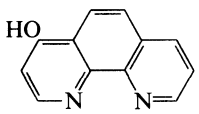
Various tautomers known. Used as EtOH soln. for photometric detn. of Ag, Au, Pd, Pt. Brown cryst. powder. Sol. H_2O, EtOH.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*synth, use*)

4-Hydroxy-1,10-phenanthroline H-00437

1,10-Phenanthrolin-4-ol, 9CI

[23443-31-4]



$C_{12}H_8N_2O$ M 196.208

Used as 0.01*M* soln. in dil. NaOH for photometric detn. of Fe(*II*) (λ_{max} 545 nm, ε 12000). Light yellow cryst. (H_2O). Sol. H_2O, alkalis. Mp 214-216°.

Poe, D.P. *et al*, *Talanta*, 1980, **27**, 368 (*synth, use, detn, Fe*)

6-Hydroxy-1,7-phenanthroline H-00438

1,7-Phenanthrolin-6-ol, 9CI

[3697-13-0]

$C_{12}H_8N_2O$ M 196.208

OH-form preferred. Shows inhibition of growth of *Plasmodium falciparum*. Forms complexes with transition metals. Can be used in spectrophotometric detn. of Fe(*II*) (λ_{max} 570 nm, ε 6500) and V. Slender prisms or plates (C_6H_6), cream needles (EtOH). Mp 160-161° (157°).

B,HCl: Yellow plates. Mp 274-275°.

B,2HCl: Pale yellow slender prisms (HCl conc.). Mp 315° dec.

Picrate: Yellow plates or clusters of yellow needles (EtOH). Mp 243° (237°) dec.

Me ether: 6-Methoxy-1,7-phenanthroline

$C_{13}H_{10}N_2O$ M 210.235

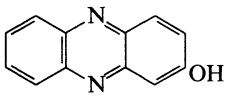
Yellow cryst. (C_6H_6). Mp 99°.

Howarth, R.D. *et al*, *J. Chem. Soc.*, 1944, 311 (*synth*)
Druey, J. *et al*, *Helv. Chim. Acta*, 1950, **33**, 1080 (*Me ether*)
Mason, S.F., *J. Chem. Soc.*, 1957, 4874 (*ir, tautom*)
Duswalt, J.M. *et al*, *Anal. Chem.*, 1961, **33**, 1782 (*detn, Fe*)
Dougherty, J.A. *et al*, *Anal. Chem.*, 1965, **37**, 1096 (*use*)
Sen Gupta, P.K. *et al*, *J. Indian Chem. Soc.*, 1977, **54**, 653 (*synth, uv, ir*)

2-Hydroxyphenazine H-00439

2-Phenazinol, 9CI

[4190-95-8]



$C_{12}H_8N_2O$ M 196.208

Formed by *Pseudomonas aureofaciens*. Dark-red cryst. + $1H_2O$ (EtOH), anhyd. at 100°. Mp 253-254° dec. (>200° dec.).

Ac: [18258-47-4].
$C_{14}H_{10}N_2O_2$ M 238.245
Cryst. (EtOH or C_6H_6). Mp 151-152°.

Benzoyl: [35605-70-0].
$C_{19}H_{12}N_2O_2$ M 300.316
Mp 144-145°.

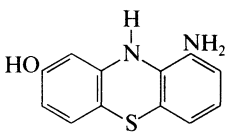
Me ether: [2876-18-8]. *2-Methoxyphenazine*
$C_{13}H_{10}N_2O$ M 210.235
Cryst. (H_2O). Mp 126°.

10-Oxide: [18274-41-4].
$C_{12}H_8N_2O_2$ M 212.207
Mp 258° dec.

N-*Me:* [63508-56-5]. *10-Methyl-2(10H)-phenazinone, 9CI. Methylaposafranone*
$C_{13}H_{10}N_2O$ M 210.235
Used as a redox indicator. Dark red needles (H_2O). E° + 0.197 V (30°).

Priesler, P.W. *et al*, *J. Am. Chem. Soc.*, 1937, **59**, 141 (*N-Me, synth, ind*)
Levitch, M.E. *et al*, *Biochemistry*, 1966, **5**, 689 (*isol, uv, ir, synth*)
Pietra, S. *et al*, *Ann. Chim. (Rome)*, 1971, **61**, 290 (*synth*)
Inoue, H., *Bull. Chem. Soc. Jpn.*, 1971, **44**, 3101 (*synth*)
Flood, M.E. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1972, 622 (*isol*)
Neuenhaus, W. *et al*, *Z. Naturforsch., B*, 1980, **35**, 385 (*synth*)

8-Hydroxy-10*H*-phenothiazin-1-amine, 9CI H-00440



$C_{12}H_{10}N_2OS$ M 230.290

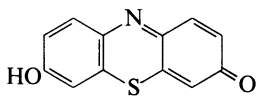
Et ether: [66824-85-9]. *1-Amino-8-ethoxyphenothiazine. 8-Ethoxy-10H-phenothiazin-1-amine, 9CI*
$C_{14}H_{14}N_2OS$ M 258.343
Used for photometric detn. of Hg (λ_{max} 445 nm, ε 24100). Yellow cryst. powder.

Chaudhary, R.C. *et al*, *CA*, 1978, **89**, 52764j (*detn, Hg*)

7-Hydroxy-3*H*-phenothiazin-3-one, 9CI H-00441

Thionol

[3568-81-8]



$C_{12}H_7NO_2S$ M 229.259

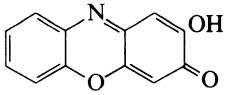
Used as a 0.1% soln. in conc. HCl as redox indicator. Reddish yellow needles (AcOH). pK_{a1} 5.8; pK_{a2} 9.2; pK_{a3} 10.5. E° +0.53 V (21°); λ_{max} 590 nm.

De Eds, F. *et al*, *J. Am. Chem. Soc.*, 1938, **60**, 1446, 2079 (*synth, props*)
Granick, S. *et al*, *J. Am. Chem. Soc.*, 1947, **69**, 2983 (*synth*)
Ruzicka, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1963, **195**, 411 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

2-Hydroxy-3*H*-phenoxazin-3-one, 9CI H-00442

Phenoxazone

[1915-49-7]



$C_{12}H_7NO_3$ M 213.192
Used as a redox indicator. Red cryst. Sol. common org. solvs. Mp 264-265° dec. E° +0.35 V.

*Me ether: 2-Methoxy-3*H*-phenoxazin-3-one*
$C_{13}H_9NO_3$ M 227.219
Pale-yellow cryst. Mp 255° dec.

Musha, S. *et al*, *Nippon Kagaku Kaishi*, 1955, **76**, 1289 (*use, ind*)
Cavill, G.W.K. *et al*, *Tetrahedron*, 1961, **12**, 139 (*synth*)
Bolognese, A. *et al*, *J. Heterocycl. Chem.*, 1986, **23**, 1003 (*synth, uv, pmr*)

7-Hydroxy-3*H*-phenoxazin-3-one, 9CI H-00443

Resorufin. Azoresorufin. 9-Hydroxy-3-isophenoxazone

[635-78-9]

$C_{12}H_7NO_3$ M 213.192
Brown needles (aniline). Sol. alkali, insol. H_2O, Et_2O.

10-Oxide: [550-82-3]. *Resazurin*
$C_{12}H_7NO_4$ M 229.192
Used as indicator and for colorimetric detn. of bacteria in milk. Used as a 1m*M* soln. in EtOH as redox indicator for titanometry, stannometry. Blue prisms (AcOH). Dark red to greenish prisms or plates (AcOH, EtOAc). Sol. Et_2O, EtOH. E° +0.324V (pH 2.09, 23°).
▷ SP7700000.

Ac: [1152-14-3]. o-*Acetoresorufin*
$C_{14}H_9NO_4$ M 255.229
Used as 0.1m*M* soln. in HCl in EtOH as redox indicator for titanometry, stannometry. Orange cryst. (AcOH). Sol. Et_2O, EtOH. Mp 221°. E° +0.405V (pH 1.7, 23°).

Ac, 10-oxide: [3950-29-6]. o-*Acetylresazurin*
$C_{14}H_9NO_5$ M 271.229
Used as a redox indicator for titanometry and stannometry. Orange cryst. (AcOH). Sol. Et_2O, EtOH. E° + 0.405V (pH 2.1, 23°).

Me ether: [5725-89-3].
$C_{13}H_9NO_3$ M 227.219
Used as a 1m*M* soln. in EtOH as redox indicator for titanometry, stannometry. Orange cryst. (EtOH). Sol. Et_2O, EtOH. E° +0.329V (pH 2.04, 23°).

Me ether, 10-oxide: [5748-27-6].
$C_{13}H_9NO_4$ M 243.218
Used as 1m*M* soln. in EtOH as redox indicator for titanometry, stannometry. Dark red cryst. Sol. Et_2O, EtOH. E° +0.339V (pH 2.27, 23°).

Et ether: [5725-91-7].
$C_{14}H_{11}NO_3$ M 241.246
Use as a 1m*M* soln. in EtOH as redox indicator for titanometry, stannometry. Fluorimetric substrate for cytochrome P_{450} linked enzymes. Orange needles (EtOH). Sol. Et_2O, EtOH. Mp 225°. E° +0.339V (pH 2, 23°).

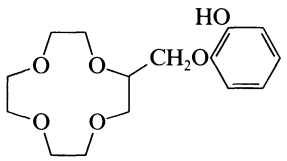
Et-ether, 10-oxide: [3705-80-4].
$C_{14}H_{11}NO_4$ M 257.245
Used as a 1m*M* soln. in EtOH as redox indicator for titanometry, stannometry. Dark red needles (EtOH). Sol. Et_2O, EtOH. Mp 215°. E° +0.363V (pH 2.1, 23°).

Nietzki, B. *et al*, *Ber.*, 1889, **22**, 3020.
Twigg, R.S., *Nature (London)*, 1945, **155**, 401.
Ruzička, E., *Fresenius' Z. Anal. Chem.*, 1967, **228**, 423 (*use, 10-oxide, Et ether*)
Burke, M.D. *et al*, *Biochem. Pharmacol.*, 1985, **34**, 3337 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HNG500.

(2-Hydroxyphenoxymethyl)-12-crown-4 H-00444

2-(1,4,7,10-Tetraoxacyclododec-2-ylmethoxy)phenol, 9CI

[90095-19-5]

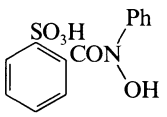


$C_{15}H_{22}O_6$ M 298.335
Used as a 0.1m*M* soln. in CH_2Cl_2 for extraction separation of alkali metals. Cryst. Sol. CH_2Cl_2, $CHCl_3$, toluene.

Pacey, G.E. *et al*, *Synth. Commun.*, 1981, **11**, 323 (*synth*)
Pacey, G.E. *et al*, *Talanta*, 1984, **31**, 165 (*use*)

2-[(Hydroxyphenylamino)carbonyl] benzenesulfonic acid H-00445

N-(*2-Sulfobenzoyl*)-N-*phenylhydroxylamine*



$C_{13}H_{11}NO_5S$ M 293.300
Na salt: [33834-74-1].
Used as aq. soln. for photometric detn. of Fe(*III*) (λ_{max} 450 nm, ε 4100). Cryst. Sol. H_2O.

Bhargava, S.P. *et al*, *J. Inst. Chem. (India)*, 1971, **43**, 159; *CA*, **76**, 80705r.

1-(Hydroxyphenylamino)-5-phenyl-1,4-pentadien-3-one, 9CI H-00446

3-Styrylacryloyl-N-*phenylhydroxylamine*

[67734-63-8]

PhCH=CHCH=CHCON(OH)Ph

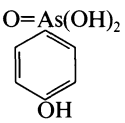
$C_{17}H_{15}NO_2$ M 265.311
Used as 4m*M* EtOH soln. for amperometric detn. of Sc (pH 5.5-6.5, graphite electrode). Cryst. Sol. EtOH; sl. sol. H_2O.

Shvedene, N.V. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 60 (*synth, detn, Sc*)

(4-Hydroxyphenyl)arsonic acid H-00447

4-Hydroxybenzenearsonic acid. Oxarsanilic acid

[98-14-6]



$C_6H_7AsO_4$ M 218.040
Used for pptn. separation of many metals. Prisms (AcOH). Sol. H_2O, EtOH. Mp 177-178° dec. pK_{a1} 3.85; pK_{a2} 8.63; pK_{a3} 10.13 (25°).
▷ Toxic. CY5075000.

Na salt: Cryst. (EtOH aq.).
Formaldehyde polymer mixt.: [54531-52-1]. ***Polybenzarsol, INN.*** *Benzarsol. Benzocal. Benzodol. Benzoral*
Antiprotozoal agent. LD_{50} 235 mg/kg (mouse, i.p.).
▷ CH9495000.

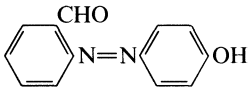
[9006-68-2]

Bertheim, A., *Ber.*, 1908, **41**, 1854 (*synth*)

Barrowcliff, M. *et al*, *J. Chem. Soc.*, 1908, **93**, 1895 (*synth*)
Org. Synth., Coll. Vol., 1, 1932, 490 (*synth*)
Pressman, D. *et al*, *J. Am. Chem. Soc.*, 1943, **65**, 540 (*pKa*)
Faith, H.E., *J. Am. Chem. Soc.*, 1950, **72**, 837 (*polybenzarsol*)
Ueda, T. *et al*, *Yakugaku Zasshi*, 1951, **71**, 821 (*synth*)
Jones, W.R. *et al*, *Antibiot. Chemother. (Washington, D.C.)*, 1958, **8**, 400 (*polybenzarsol*)
Nakata, H. *et al*, *Bull. Chem. Soc. Jpn.*, 1962, **35**, 1611 (*pptn*)
Kyrs, M. *et al*, *Collect. Czech. Chem. Commun.*, 1967, **32**, 747 (*detn, Hf, Zr*)
Morgan, W.E. *et al*, *Inorg. Chem.*, 1972, **11**, 219.
Vlacil, F., *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BCJ150, PDO250.

2-(4-Hydroxyphenylazo)benzaldehyde H-00448

4'-Hydroxyazobenzene-2-carboxaldehyde. 2-Formyl-4'-hydroxyazobenzene



$C_{13}H_{10}N_2O_2$ M 226.234

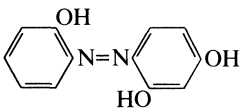
Me ether, oxime:
$C_{14}H_{13}N_3O_2$ M 255.276
Used as a 2m*M* aq. soln. for photometric detn. of Co. Orange-red cryst.

Mahgoub, A.E. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **284**, 205 (*detn, Co*)

4-[(2-Hydroxyphenyl)azo]-1,3-benzenediol, 9CI H-00449

4-(2-Hydroxyphenylazo)resorcinol. 2,2',4-Trihydroxyazobenzene

[4867-02-1]



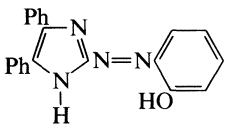
$C_{12}H_{10}N_2O_3$ M 230.223
Used for titrimetric detn. of Ca, Mg. Pale yellow cryst. (EtOH). Sol. EtOH, alkalis; sl. sol. H_2O. Mp 183-184° dec. pK_{a1} 6.6; pK_{a2} 8.7; pK_{a3} 12.2 (μ = 0.1).

Diehl, H. *et al*, *Anal. Chem.*, 1960, **32**, 1120 (*synth, use, detn, Ca, Mg*)

2-[(2-Hydroxyphenyl)azo]-4,5-diphenylimidazole H-00450

2-[(4,5-Diphenyl-1H-imidazol-2-yl)azo]phenol, 9CI

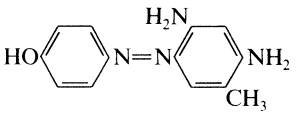
[60037-63-0]



$C_{21}H_{16}N_4O$ M 340.384
Used as 0.1m*M* soln. in EtOH aq. for colour reactions with Cu, Co, Ag, Cd, Ga, Mn, Ni, Pb, V, Zn. Orange needles (EtOH aq.). Sol. EtOH, $CHCl_3$, alkalis; spar. sol. H_2O. Mp 243°. pK_{a2} 2.7; pK_{a3} 8.7 (EtOH aq.).

Shibata, S. *et al*, *Anal. Chim. Acta*, 1976, **81**, 131 (*synth, use*)

4-[(4-Hydroxyphenyl)azo]-6-methyl-1,3-benzenediamine H-00451



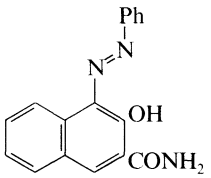
$C_{13}H_{14}N_4O$ M 242.280

Et ether: 4-[(4-Ethoxyphenyl)azo]-6-methyl-1,3-benzenediamine
$C_{15}H_{18}N_4O$ M 270.333
Acid-base indicator (pH 4.8-6.6; colour change: red → yellow). Used as 0.1% soln. in EtOH. Orange cryst. (EtOH). Sol. EtOH, C_6H_6, Et_2O; insol. H_2O.

Schulek, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1944, **128**, 398 (*use*)

3-Hydroxy-4-(phenylazo)-2-naphthalenecarboxamide H-00452

[6271-25-6]

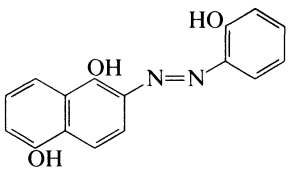


$C_{17}H_{13}N_3O_2$ M 291.309

N-*Hydroxy:* [58998-10-0]. *1-Phenylazo-2-hydroxy-3-naphthylhydroxamic acid.* N,*3-Dihydroxy-4-(phenylazo)-2-naphthalenecarboxamide, 9CI*
$C_{17}H_{13}N_3O_3$ M 307.308
Used as $CHCl_3$ soln. for extraction-photometric detn. of V (λ_{max} 545 nm, ε 65400, C_6H_6). Cryst. Sol. C_6H_6, $CHCl_3$, DMF.

Abdusalamova, E.K. *et al*, *CA*, 1976, **84**, 159197a (*synth, use*)

2-[(2-Hydroxyphenyl)azo]-1,5-naphthalenediol H-00453



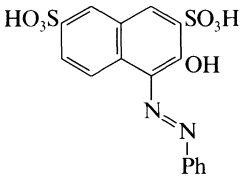
$C_{16}H_{12}N_2O_3$ M 280.282
Metal indicator used as a 0.1% soln. in EtOH for titrimetric detn. of Ca, Cd, Mg, Mn, Zn. Orange-red cryst. Sol. EtOH, Me_2CO.

Budesinsky, B., *Collect. Czech. Chem. Commun.*, 1958, **23**, 895 (*use*)

3-Hydroxy-4-(phenylazo)-2,7-naphthalenedisulfonic acid, 9CI H-00454

C.I. Acid orange 14. C.I. 16100. Brilliant orange 2R. Naphthalene lake orange R. Ponceau G. Cetil orange RR. Orange R. Other proprietary names

[3626-43-5]



$C_{16}H_{12}N_2O_7S_2$ M 408.412

The name Ponceau G is also used for C.I. Acid red 26.

Disodium salt: [5859-00-7].

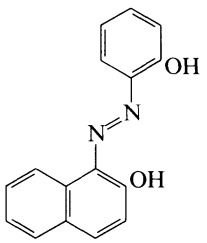
Used for photometric detn. of Pd. Orange-red cryst. Sol. H_2O; spar. sol. EtOH.

Colour Index, 3rd Ed., 1971, **4**, 4090.

Issa, Y.M. *et al*, *An. Quim.*, 1983, **79**, 207.

1-[(2-Hydroxyphenyl)azo]-2-naphthalenol, 9CI H-00455

[4866-98-2]



$C_{16}H_{12}N_2O_2$ M 264.283

Used as a 0.1% soln. in EtOH as metal indicator in complexometric detn. of Ca, Mg, Sr. Orange-red cryst. (EtOH). Sol. EtOH, Me_2CO. Mp 192°. pK_{a1} 7.7; pK_{a2} 12.4.

[52820-18-5]

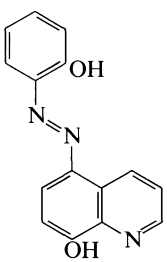
Drew, H.D.K. *et al*, *J. Chem. Soc.*, 1938, 292 (*synth*)

Budesinsky, B., *Collect. Czech. Chem. Commun.*, 1958, **23**, 895 (*detn, Ca, Sr*)

Diehl, H. *et al*, *Anal. Chem.*, 1960, **32**, 1120 (*synth, detn, Ca, Mg*)

5-(2-Hydroxyphenylazo)-8-quinolinol, 9CI H-00456

8-Hydroxy-5-(2-hydroxyphenylazo)quinoline



$C_{15}H_{11}N_3O_2$ M 265.271

Gives colour reactions with Cd, Co, Mn, Ni, Pb, Zn. Orange cryst. (dioxan). Sol. EtOH. Mp 222° dec. pK_{a1} 3.3; pK_{a2} 8.4; pK_{a3} 12.4 (μ = 0.1, 50% dioxan, 25°).

Takamoto, S., *Anal. Chem.*, 1965, **37**, 1249 (*use*)

5-(3-Hydroxyphenylazo)-8-quinolinol, 9CI H-00457

[4563-87-5]

$C_{15}H_{11}N_3O_2$ M 265.271

Gives colour reactions with Cd, Co, Mn, Ni, Pb, Zn. Orange cryst. (EtOH). Mp 210°. pK_{a1} 3.1; pK_{a2} 8.8; pK_{a3} 11.2 (μ = 0.1; 50% dioxan, 25°).

Takamoto, S., *Acta Chim. Hung.*, 1965, **37**, 1249.

5-(4-Hydroxyphenylazo)-8-quinolinol, 9CI H-00458

8-Hydroxy-5-(4-hydroxyphenylazo)quinoline

[5087-35-4]

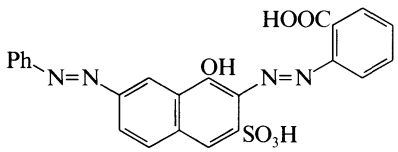
$C_{15}H_{11}N_3O_2$ M 265.271

Gives colour reactions with Cd, Co, Mn, Ni, Pb, Zn. Orange cryst. (EtOH). Mp 239° dec. pK_{a1} 3.3; pK_{a2} 9.2; pK_{a3} 10.7 (μ = 0.1, 50% dioxan, 25°).

Takamoto, S., *Anal. Chem.*, 1965, **37**, 1249.

2-[(1-Hydroxy-7-(phenylazo)-3-sulfo-2-naphthalenyl)azo]benzoic acid H-00459

3-(2-Carboxyphenylazo)-4-hydroxy-6-phenylazo-2-naphthalenesulfonic acid



$C_{23}H_{16}N_4O_6S$ M 476.469

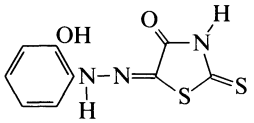
Used as a 0.01% soln. in EtOH to give colour reaction with Pd. Cryst.

Popa, G. *et al*, *Zh. Anal. Khim.*, 1959, **14**, 322 (*use*)

5-[(2-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, 9CI H-00460

o-*Phenolazorhodanine*

[35633-33-1]



$C_9H_7N_3O_2S_2$ M 253.305

Various tautomers possible. Used as 0.1% soln. in 50% EtOH for photometric detn. of Pt, Au, Ag (λ_{max} 540 nm, ε 35000). Red cryst. powder. Sol. EtOH, DMF, dioxan.

Propistsova, R.F. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2424; 1975, **30**, 250 (*synth, use*)

Gur'eva, R.F. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 660 (*detn, Ag*)

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*rev*)

5-[(3-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, 9CI H-00461

m-*Phenolazorhodanine*

$C_9H_7N_3O_2S_2$ M 253.305

Various tautomers possible. Used as 0.1% soln. in 50% EtOH for photometric detn. of noble metals. Red cryst. powder. Sol. EtOH, DMF, dioxan.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*rev*)

5-[(4-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, 9CI H-00462

p-Phenolazorhodanine

[3220-35-7]

$C_9H_7N_3O_2S_2$ M 253.305

Various tautomers possible. Used as 0.1% soln. in aq. EtOH for photometric detn. of Au, Pt, Pd. Red cryst. powder. Sol. EtOH, DMF, dioxan.

N^3-*NH_2:* [97474-89-0]. *3-Amino-5-[(4-hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, 9CI*

$C_9H_8N_4O_2S_2$ M 268.320

Used as an EtOH soln. for photometric detn. of Au, Pt, Pd, Hg(*II*) (λ_{max} 540 nm, ε 20000). Orange cryst. powder. Sol. EtOH, DMF, dioxan.

Propistsova, R.F. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2424 (*synth, use*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1985, **40**, 820 (*deriv, detn, Hg*)
Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*rev*)

N-Hydroxy-*N*-phenylbenzeneacetamide, 9CI H-00463

N-*Phenylacetylphenylhydroxylamine*

[13663-57-5]

$PhCH_2CON(OH)Ph$

$C_{14}H_{13}NO_2$ M 227.262

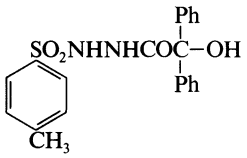
Used as a soln. in $CHCl_3$ for extraction-photometric detn. of Ti (λ_{max} 390 nm, $CHCl_3$, ε 1800). Cryst. Mp 90-91°.

Bag, S.P. *et al*, *Microchem. J.*, 1977, **22**, 434 (*synth, use*)

α-Hydroxy-α-phenylbenzeneacetic acid 2-[(4-methylphenyl)sulfonyl]hydrazide, 9CI H-00464

Benzylic acid N'-(4-tolylsulfonyl)hydrazide

[87852-85-5]



$C_{21}H_{20}N_2O_4S$ M 396.466

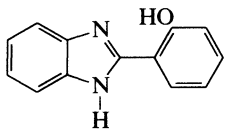
Used as 1m*M* EtOH soln. for extraction-photometric detn. of Os(*VI*) (λ_{max} 513 nm, $CHCl_3$). Cryst. Sol. EtOH.

Vorob'eva, N.E. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 467 (*synth, detn, Os*)

2-(2-Hydroxyphenyl)benzimidazole H-00465

2-(1H-Benzimidazol-2-yl)phenol, 9CI

[2963-66-8]



$C_{13}H_{10}N_2O$ M 210.235

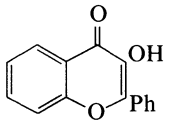
Used as 0.1% soln. in EtOH as a fluorescence acid-base indicator ($pH_{\frac{1}{2}}$ 9.9; colour change: no fluorescence → blue-violet); photometric detn. of Hg. Cryst. (EtOH aq.). Sol. EtOH, AcOH. Mp 242°. EtOH soln. shows blue fluoresc.

Walter, J.L. *et al*, *Anal. Chem.*, 1953, **25**, 127 (*synth, detn, Hg*)
Holzbecher, Z., *Chem. Listy*, 1958, **52**, 425 (*use*)
Holzbecher, Z., *Collect. Czech. Chem. Commun.*, 1959, **24**, 1451 (*use*)

3-Hydroxy-2-phenyl-4*H*-1-benzopyran-4-one, 9CI H-00466

Flavonol. 3-Hydroxyflavone. 3,4-Flavandione. 3-Hydroxy-2-phenylchromone

[577-85-5]



$C_{15}H_{10}O_3$ M 238.242

Used as 0.01% soln. in EtOH for detn. of Zr, Hf; fluorimetric detn. of Zr, Cr. Pale yellow needles (EtOH aq.). Sol. EtOH, alkalis; sl. sol. H_2O. Mp 170°.

▷ LK8650000.

Ac:

$C_{17}H_{12}O_4$ M 280.279

Mp 110-111°.

Me ether: 3-Methoxy-2-phenyl-4H-1-benzopyran-4-one. 3-Methoxy-2-phenylchromone

$C_{16}H_{12}O_3$ M 252.269

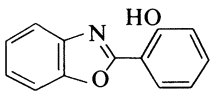
Mp 114°.

v. Kostenecki, S. *et al*, *Ber.*, 1904, **37**, 2819.
Oyamada, T., *Anal. Chem.*, 1934, **55**, 1256.
Alford, W.C. *et al*, *Anal. Chem.*, 1951, **23**, 1149 (*detn, Zr*)
Bognar, P., *Justus Liebigs Ann. Chem.*, 1966, **693**, 225.
Smith, M.A. *et al*, *J. Heterocycl. Chem.*, 1968, **5**, 425.
Ramakrishnan, V.T., *J. Org. Chem.*, 1970, **35**, 2898 (*synth*)
Sommer, L. *et al*, *Mikrochim. Acta*, 1970, 1181 (*detn, Zr*)
Filer, T.D., *Anal. Chem.*, 1971, **43**, 469, 1753 (*detn, Zr*)
Jose, C.I., *Spectrochim. Acta, Part A*, 1974, **30**, 1199 (*ir*)
Costa, A.M. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1985, 799 (*synth, pmr*)
Moriarty, R.M. *et al*, *J. Heterocycl. Chem.*, 1985, **22**, 583 (*synth*)
Cabrera-Martin, C. *et al*, *Anal. Chim. Acta*, 1986, **183**, 263 (*detn, Cr*)

2-(2-Hydroxyphenyl)benzoxazole H-00467

2-(2-Benzoxazolyl)phenol, 9CI

[835-64-3]



$C_{13}H_9NO_2$ M 211.220

Used as 0.1% soln. in 95% EtOH for pptn. sepn. and gravimetric detn. of Cd and Cu. Pink cryst. (EtOH or AcOH aq.). Sol. EtOH. Mp 125-126°. Bp 338°.

▷ SJ7520000.

O-*Ac:* [51589-61-8].

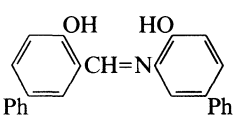
$C_{15}H_{11}NO_3$ M 253.257

Cryst. (MeOH). Mp 85-87°.

De Voe, J.R. *et al*, *Anal. Chem.*, 1959, **31**, 1428 (*detn, Cd, Cu*)
Sténson, P., *Acta Chem. Scand.*, 1969, **23**, 1514 (*cryst struct*)
Nagai, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1973, **46**, 2600 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HNI000.

N-2-Hydroxy-5-phenylbenzylidene-2-hydroxy-5-phenylaniline H-00468

2,2'-(Methylidynenitrilo)bis[4-phenylphenol]

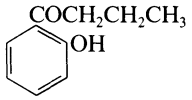


$C_{25}H_{19}NO_2$ M 365.431
Used as a 1m*M* soln. in EtOH for fluorimetric detn. of Al. Cryst. (EtOH). Sol. EtOH; sl. sol. H_2O. Mp 238.5-239.5°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, use*)

1-(2-Hydroxyphenyl)-1-butanone H-00469

2-Butanoylphenol

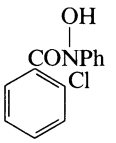


$C_{10}H_{12}O_2$ M 164.204
Oxime: [21667-43-6].
$C_{10}H_{13}NO_2$ M 179.218
Used for extraction-photometric detn. of Fe(*III*) (λ_{max} 510 nm, ε 1000). Cryst. pK_{a1} 11.81 (75% dioxan, μ = 0.1, 40°).

Gandhi, M.H. *et al*, *Chim. Anal.* (*Paris*), 1968, **50**, 167 (*use*)
Shah, J.R. *et al*, *J. Indian Chem. Soc.*, 1973, **50**, 362 (*pKa*)

N-Hydroxy-*N*-phenyl-2-chlorobenzamide, 9CI H-00470

o-*Chloro*-N-*phenylbenzohydroxamic acid, 8CI*
[17221-72-6]



$C_{13}H_{10}ClNO_2$ M 247.680
Used for photometric detn. of V (λ_{max} 530 nm, ε 4400). Cryst. (EtOH aq.). Sol. EtOH, Me_2CO; spar. sol. H_2O, C_6H_6. Mp 105-107°.

Nekhaenko, T.M. *et al*, *CA*, 1969, **71**, 87377r; 1970, **72**, 139368f (*synth, detn, V*)

1-Hydroxy-2-phenyldiazene 2-oxide H-00471

N-*Hydroxy*-N-*nitrosobenzenamine, 9CI*. N-*Nitroso*-N-*phenylhydroxylamine, 8CI*. N-*Hydroxy*-N-*nitrosoaniline*
[148-97-0]

$$PhN^{\oplus}(O^{\ominus})=NOH(Z\text{-}) \rightleftharpoons PhN(OH)NO$$

$C_6H_6N_2O_2$ M 138.126
Frequently represented as nitrosophenylhydroxylamine, but "nitrobenzene-*N*-oxime" tautomer predominates. Cryst. (Me_2CO). V. unstable in air and org. solvs.
▷ NC4550000.

NH_4 salt: [135-20-6]. *Cupferron*
$C_6H_9N_3O_2$ M 155.156
Used in precipitation and extraction separation of Al, Bi, Co, Zn, Cu, Fe, Ga, In, Mn, Sb, Th, Ti, U, W, Zr; gravimetric detn. of Al, Bi, Cu, Fe(*III*), Nb, Ti, Zr; photometric detn. of Fe(*III*), Ti, V. Needles (H_2O). Sol. H_2O, EtOH; insol. Et_2O. Mp 163-164°. Dec. on heating to NH_3 and NO_x.
▷ Highly toxic, exp. carcinogen. NC4725000.

4-Methylbenzenesulfonyl: [16046-28-9].
Plates (EtOAc), cryst. ($CHCl_3$/hexane). Mp 136-137° dec.

Me ether: [25370-94-9]. *1-Methoxy-2-phenyldiazene 2-oxide, 9CI. 1-Methoxy-2-phenyldiimine 2-oxide, 8CI*
$C_7H_8N_2O_2$ M 152.152
Prisms (pet. ether). Mp 37-38°.

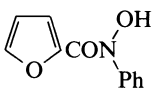
Benzyl ether: [25370-92-7]. *1-Benzyloxy-2-phenyldiazene 2-oxide. 1-Benzyloxy-2-phenyldiimide 2-oxide, 8CI*
$C_{13}H_{12}N_2O_2$ M 228.250
Cryst. (Et_2O/hexane). Mp 80-81°.

[31773-90-7]

Bamberger, E. *et al*, *Ber.*, 1896, **29**, 2412 (*deriv*)
Org. Synth., Coll. Vol., 1, 1932, 177 (*synth, deriv*)
Allen, S.H. *et al*, *Anal. Chim. Acta*, 1952, **7**, 483 (*detn, W*)
Elving, P.J. *et al*, *Anal. Chem.*, 1955, **27**, 1817 (*detn, Ti, Zr, Hf*)
George, M.V. *et al*, *Can. J. Chem.*, 1959, **37**, 679 (*deriv*)
Hibbits, J.O. *et al*, *Talanta*, 1961, **8**, 209; 1964, **11**, 1509 (*detn, Nb, Ti*)
Stevens, T.E., *J. Org. Chem.*, 1964, **29**, 311 (*deriv*)
Crump-Wiesner, H.J. *et al*, *Talanta*, 1969, **16**, 124 (*detn, U*)
White, E.H. *et al*, *Tetrahedron Lett.*, 1970, 4467 (*deriv, struct*)
Yoshimura, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1972, **45**, 1424 (*ir, uv, synth*)
Hickmann, E. *et al*, *Tetrahedron Lett.*, 1979, 2457 (*struct*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 71 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ANO500.

N-Hydroxy-*N*-phenyl-2-furancarboxamide, 9CI H-00472

N-*Furoylphenylhydroxylamine*
[7630-14-0]

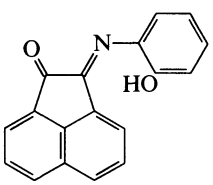


$C_{11}H_9NO_3$ M 203.197
Used as a 0.2% soln. in $CHCl_3$ (detn. of V), a 0.1-0.2*M* soln. in EtOH (detn. of Ti) for extraction-photometric detn. of V (λ_{max} 530 nm, ε 5650, $CHCl_3$); photometric detn. of Ti (λ_{max} 360 nm, ε 9600). Cryst. (MeOH). Sol. $CHCl_3$, EtOH, C_6H_6, Me_2CO. Mp 132-134°.

Pilipenko, A.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1966, **32**, 383 (*detn, Ti*)
Pilipenko, A.T. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1014 (*detn, V*)
Eremenko, M.V. *et al*, *Zh. Anal. Khim.*, 18978, **33**, 1955 (*detn, Ti*)

2-[(2-Hydroxyphenyl)imino]-1-acenaphthenone, 8CI H-00473

[23003-63-6]



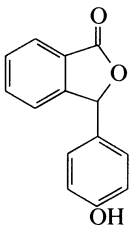
$C_{18}H_{11}NO_2$ M 273.290
Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of Ca. Yellow cryst. Sol. EtOH, $CHCl_3$; insol. H_2O. Mp 180-181°.

Pelczar, T., *Mikrochim. Acta*, 1968, 1295 (*synth, use*)

3-(4-Hydroxyphenyl)-1-(3*H*)-isobenzofuranone, 9CI H-00474

3-(4-Hydroxyphenyl)phthalide

[7468-76-0]

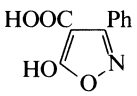


$C_{14}H_{10}O_3$ M 226.231

Used as a 0.2% soln. in EtOH as adsorption indicator in argentometric titrimetric detn. of $Cl^{\ominus}$, $I^{\ominus}$. Light brown cryst. Mp 210-212°.

Singh, E., *J. Indian Chem. Soc.*, 1973, **50**, 676; 1976, **53**, 948, 950 (*synth, detn, $I^{\ominus}$, $Cl^{\ominus}$*)

5-Hydroxy-3-phenyl-4-isoxazolecarboxylic acid, 9CI H-00475



$C_{10}H_7NO_4$ M 205.170

Free acid unknown.

Me ester: [15969-44-5].

$C_{11}H_9NO_4$ M 219.196

Cryst. (Et_2O). Mp 128.5°.

Et ester: [46796-31-0].

$C_{12}H_{11}NO_4$ M 233.223

Used as 0.01*M* soln. in 2-methylpentanol for photometric detn. of Fe(*III*) (λ_{max} 490 nm, ε 4200). Cryst. (Et_2O). Sol. 2-methylpentanol, Et_2O. Mp 148-149°.

Stagno d'Alcontres, G. *et al*, *Gazz. Chim. Ital.*, 1961, **91**, 1005; 1967, **97**, 997 (*synth*)

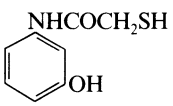
Doyle, F.P. *et al*, *J. Chem. Soc.*, 1963, 5845 (*synth*)

Corigliano, F. *et al*, *Talanta*, 1976, **23**, 545 (*detn, Fe*)

N-(3-Hydroxyphenyl)-2-mercaptoacetamide, 9CI H-00476

3-(Mercaptoacetylamino)phenol

[6310-11-8]



$C_8H_9NO_2S$ M 183.231

Used as a 0.5-1% soln. in aq. EtOH or dil. HCl for gravimetric detn. of Ag, Au, Co, Cu, Ir, Pd, Pt, Rh, Fe, molybdate. Cryst. (EtOH). Mp 161°.

Poonia, N.S. *et al*, *Anal. Chem.*, 1966, **38**, 113 (*detn, Cu*)

Gupta, H. *et al*, *Bull. Chem. Soc. Jpn.*, 1967, **40**, 215 (*use*)

Poonia, N.S., *Mikrochim. Acta*, 1968, 1204; 1969, 211 (*detn, Ag, Au, Pd, Pt*)

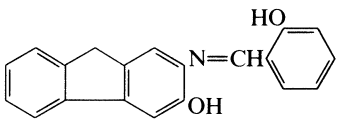
Kakkar, S.N. *et al*, *J. Indian Chem. Soc.*, 1974, **51**, 808 (*detn, Co, Ir, Rh*)

Kakkar, S.N. *et al*, *Mikrochim. Acta*, 1974, 403 (*detn, Fe, Co, molybdate*)

2-[[(2-Hydroxyphenyl)methylene]amino]-9*H*-fluoren-3-ol, 9CI H-00477

3-Hydroxy-2-(salicylideneamine)fluorene

[1761-52-0]



$C_{20}H_{15}NO_2$ M 301.344

Used as a 1m*M* soln. in EtOH for fluorimetric detn. of Al, Ga. Cryst. (EtOH). Sol. EtOH; sl. sol. H_2O. Mp 246-246.5°.

Argauer, R.J. *et al*, *Anal. Chem.*, 1964, **36**, 2141 (*synth, Al*)

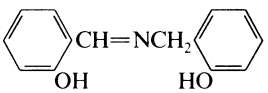
White, C.E. *et al*, *Anal. Chem.*, 1967, **39**, 367 (*detn, Al*)

Grigor'ev, N.N. *et al*, *CA*, 1974, **80**, 145878d; **81**, 111923v (*detn, Al, Ga*)

Stolyarov, K.P. *et al*, *CA*, 1975, **83**, 187874s (*detn, Al, Ga*)

2-[[[(2-Hydroxyphenyl)methylene]amino]methyl]phenol, 9CI H-00478

[3946-40-5]



$C_{14}H_{13}NO_2$ M 227.262

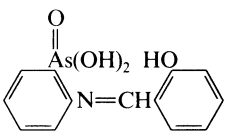
Used for fluorescent detn. of Ga; fluorimetric detn. of Zn. Yellow cryst. (EtOH). Sol. EtOH, dioxan, isopentanol. Mp 185-186°. pK_{a1} 4.5; pK_{a2} 7.9; pK_{a3} 8.7 (50% dioxan).

Holzbecher, Z., *Collect. Czech. Chem. Commun.*, 1972, **37**, 2557 (*synth, use, pKa*)

[2-[[(2-Hydroxyphenyl)methylene]amino]phenyl]arsonic acid, 9CI H-00479

N-*Salicylidene-2-aminophenylarsonic acid. 2-Hydroxybenzaldehyde 2-arsonoanil*

[30937-57-6]



$C_{13}H_{12}AsNO_4$ M 321.164

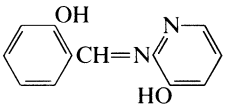
Used as 0.1% soln. in Me_2CO or DMF for luminescence analysis for Al, Ga, In, Zr, Hf. Cryst. (Me_2CO). Sol. Me_2CO, DMF.

Zel'tser, L.E. *et al*, *Talanta*, 1987, **34**, 873 (*synth, use*)

2-[[(2-Hydroxyphenyl)methylene]amino]-3-pyridinol, 9CI H-00480

N-(*3-Hydroxy-2-pyridyl*)*salicylaldimine*

[38016-39-6]



$C_{12}H_{10}N_2O_2$ M 214.223

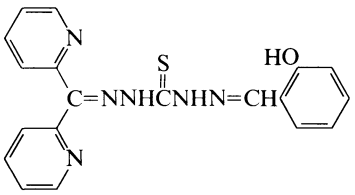
Used as 1m*M* DMF soln. for fluorimetric detn. of Al (λ_{max} 506 nm, pH 4-6, aq. DMF). Yellow cryst. (MeOH). Sol. EtOH, MeOH, DMF; spar. sol. H_2O. Mp 162°.

Sanchez Rojas, F. *et al*, *Analyst (London)*, 1988, **113**, 1287 (*synth, detn, Al*)

[(2-Hydroxyphenyl)methylene] carbonothioic acid (di-2-pyridinylmethylene) dihydrazide, 9CI H-00481

1-[Di(2-pyridyl)methylene]-5-salicylidenethiocarbonohydrazide

[108100-42-1]



$C_{19}H_{16}N_6OS$ M 376.441

Used as 0.1% soln. in DMF for photometric detn. of Zn (λ_{max} 417 nm, ε 60500, pH 5.3-5.8). Yellow cryst. Sol. DMF. pK_{a1} 3.05; pK_{a2} 8.25; pK_{a3} 12.04 (14% DMF, μ = 0.1).

Morales, M.T. *et al*, *Analyst* (*London*), 1987, **112**, 467 (*synth, detn, Zn*)

[(2-Hydroxyphenyl)methylene](2-pyridinylmethylene)carbonic dihydrazide, 9CI H-00482

1-(2-Pyridylmethylideneamino)-3-(salicylideneamino)urea

[99223-48-0]

$C_{14}H_{13}N_5O_2$ M 283.289

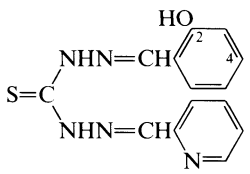
Used as 1m*M* soln. in aq. EtOH for photometric detn. of Zn (λ_{max} 385 nm, ε 21600),Cd, Ni, Fe(*II*), Co, Pd. Yellow cryst. (EtOH). Sol. EtOH. Mp 241-243° dec.

Rosales, D. *et al*, *Talanta*, 1985, **32**, 467 (*synth, use*)

[(2-Hydroxyphenyl)methylene](2-pyridinylmethylene)carbonothioic dihydrazide, 9CI H-00483

1-(2-Pyridylmethylideneamino)-3-(salicylideneamino)thiourea

[95514-80-0]



$C_{14}H_{13}N_5OS$ M 299.356

Used as 1m*M* soln. in EtOH for photometric detn. of In (λ_{max} 415 nm, ε 63000), Bi, Co, Cu, Pd, Zn. Yellow cryst. (EtOH). Sol. EtOH. Mp 180-182° dec.

Rosales, D. *et al*, *Talanta*, 1985, **32**, 467 (*synth, use*)

[(4-Hydroxyphenyl)methylene](2-pyridinylmethylene)carbonothioic dihydrazide, 9CI H-00484

1-(4-Hydroxybenzylideneamino)-3-(2-pyridylmethylideneamino)thiourea

[117345-79-6]

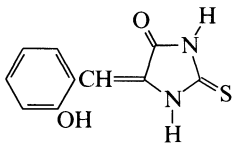
$C_{14}H_{13}N_5OS$ M 299.356

Used as DMF soln. for photometric detn. of Bi, Zn, Ga, Hg(*II*), Cu (40% DMF). Yellow cryst. (EtOH). Sol. EtOH, DMF, H_2O. Mp 215-216°. pK_{a1} 3.5; pK_{a2} 7.0; pK_{a3} 8.1.

Alvarez, F. *et al*, *Talanta*, 1988, **35**, 493 (*synth, use*)

5-[(2-Hydroxyphenyl)methylene]-2-thioxo-4-imidazolidinone H-00485

5-(2-Hydroxybenzylidene)-2-thioxo-5-imidazolidinone. 5-Salicylidene-2-thioimidazole



$C_{10}H_8N_2O_2S$ M 220.251

Several tautomers possible.

N^1-*Ac: 5-Salicylidene-1-acetyl-2-thioimidazole*

$C_{12}H_{10}N_2O_3S$ M 262.289

Used as a 0.2% soln. in EtOH for photometric detn. of Ag, Au, Cu, Hg, Pd, Pt,W; fluorimetric detn. of Au, W. Cryst. Sol. EtOH.

N^3-*Ph: 5-Salicylidene-3-phenyl-2-thioimidazole*

$C_{16}H_{12}N_2O_2S$ M 296.349

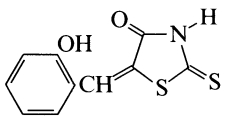
Used as 0.2% soln. in EtOH for photometric detn. of Ag, Au, Cu, Hg, Pd, Pt, Tl, W; fluorimetric detn. of Au, Tl, W. Cryst. Sol. EtOH.

Turkevich, N.M. *et al*, *Zh. Anal. Khim.*, 1956, **11**, 180 (*use*)

5-[(2-Hydroxyphenyl)methylene]-2-thioxo-4-thiazolidinone, 9CI H-00486

5-(o-Hydroxybenzylidene)rhodanine

[34709-44-9]



$C_{10}H_7NO_2S_2$ M 237.303

Several tautomers possible. Used as a 0.2% soln. in EtOH for photometric detn. of Au, Ag, Cu, Hg, Pd, Pt, Tl. Orange-red cryst. Sol. EtOH, Me_2CO.

Kulberg, L.M. *et al*, *Zh. Anal. Khim.*, 1954, **9**, 85 (*use*)
Turkiewicz, N.M., *Zh. Anal. Khim.*, 1956, **11**, 180 (*use*)

5-[(3-Hydroxyphenyl)methylene]-2-thioxo-4-thiazolidinone, 9CI H-00487

5-(m-Hydroxybenzylidene)rhodanine

[37530-35-1]

$C_{10}H_7NO_2S_2$ M 237.303

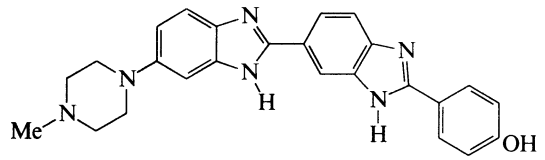
Several tautomers possible. Used as a 0.01% soln. in EtOH for photometric detn. of Au, Ag, Cu, Hg, Pd, Pt, Tl. Orange-red cryst. Sol. EtOH.

Kulberg, L.M. *et al*, *Zh. Anal. Khim.*, 1954, **9**, 85 (*use*)

2′-(4-Hydroxyphenyl)-5-(4-methyl-1-piperazinyl)-2,5′-bi-1*H*-benzimidazole H-00488

4-[5-(4-Methyl-1-piperazinyl)[2,5′-bi-1H-benzimidazol]-2′-yl]phenol, 9CI. Hoechst 33258. H 33258

[23491-44-3]



$C_{25}H_{24}N_6O$ M 424.504

Base-specific fluorescent probe for metaphase chromosomes and DNA. Anthelmintic. Mp 235° dec.

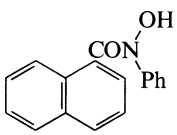
B,3HCl: [23491-45-4].
Mp 280° dec.

Loewe, H. *et al*, *Arzneim.-Forsch.*, 1974, **24**, 1927 (*synth*)
Kubota, Y., *Bull. Chem. Soc. Jpn.*, 1990, **63**, 758 (*bibl*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MOD500.

N-Hydroxy-*N*-phenyl-1-naphthalenecarboxamide, 9CI H-00489

N-(*1-Naphthoyl*)*phenylhydroxylamine*

[29556-17-0]



$C_{17}H_{13}NO_2$ M 263.295

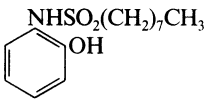
Used for pptn. of Al, Cu, Fe, Hf, Mn, Pb, Sn(*II*), Sn(*IV*), Ti, Zr. Cryst. Sol. common org. solvs.; spar. sol. H_2O (3 mg per 100 cm^3, 25°). Mp 129°.

Lutwick, G.D. *et al*, *Can. J. Chem.*, 1954, **32**, 949 (*use*)
Shendrikar, A.D. *et al*, *Talanta*, 1969, **16**, 51 (*use*)

N-(2-Hydroxyphenyl)-1-octanesulfonamide, 9CI H-00490

2-Octanesulfonamidophenol

[86252-94-0]



$C_{14}H_{23}NO_3S$ M 285.407

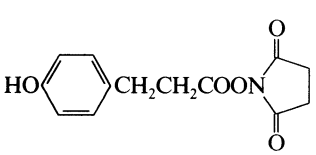
Used as 0.02*M* soln. in PhCl for extraction separation of Cu(*II*), Co, Zn, Cd, Pb, Hg(*II*). Cryst. (cyclohexane). Sol. PhCl, toluene, cyclohexane. Mp 88-88.5°.

Ide, S. *et al*, *Anal. Chim. Acta*, 1983, **149**, 235 (*synth, use*)

1-[3-(4-Hydroxyphenyl)-1-oxopropoxy]-2,5-pyrrolidinedione, 9CI H-00491

N-[(p-*Hydroxyhydrocinnamoyl*)*oxy*]*succinimide, 8CI. Succinimido 3-(4-hydroxyphenyl)propionate. Bolton-Hunter reagent*

[34071-95-9]



$C_{13}H_{13}NO_5$ M 263.249

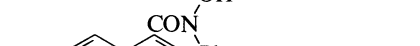
Used in iodine-125 labelling of proteins. Derivatisation reagent for anal. of aliphatic amines by hplc. with electrochem. detn. Cryst. (2-propanol aq.). Mp 120-122°.

Rudinger, J. *et al*, *Biochem. J.*, 1973, **133**, 538 (*synth*)
Smith, R.M. *et al*, *Electroanalysis* (*N.Y.*), 1990, **2**, 167; *CA*, **113**, 125763j (*use*)

N-Hydroxy-*N*-phenylpentanamide, 8CI H-00492

N-*Phenyl*-n-*valerohydroxamic acid*

[25310-10-5]



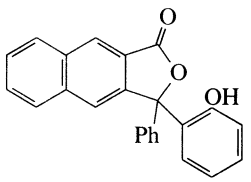
$C_{11}H_{15}NO_2$ M 193.245

Used as 5m*M* soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 505 nm, ε 4050, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Indian Chem. Soc.*, 1969, **66**, 831 (*synth*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

3-[2-Hydroxyphenyl]-3-phenylnaphtho[2,1-*b*]furan-1(3*H*)-one, 9CI H-00493

[38619-49-7]



$C_{24}H_{16}O_3$ M 352.389

Used as a 0.2% soln. in EtOH as adsorption indicator in argentometric detn. of $Cl^{\ominus}$, $I^{\ominus}$. Cryst. CAS no. given also refers to the 4-hydroxy compd. below.

Singh, E. *et al*, *Z. Naturforsch.*, *B*, 1972, **27**, 405 (*synth, uv, ir*)
Singh, E. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 948, 950 (*detn, $I^{\ominus}$, $Cl^{\ominus}$*)

3-[4-Hydroxyphenyl]-3-phenylnaphtho[2,1-*b*]furan-1(3*H*)-one, 9CI H-00494

$C_{24}H_{16}O_3$ M 352.389

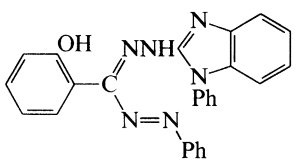
Used as a 0.2% soln. in EtOH as adsorption indicator in argentometric detn. of $Cl^{\ominus}$, $I^{\ominus}$. Cryst.

Singh, E. *et al*, *Z. Naturforsch.*, *B*, 1972, **27**, 405 (*synth, uv, ir*)
Singh, E. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 948, 950 (*detn, $I^{\ominus}$, $Cl^{\ominus}$*)

3-(2-Hydroxyphenyl)-1-phenyl-5-(1-phenyl-2-benzimidazolyl)formazan H-00495

2-[1-Phenyl-5-(1-phenyl-1H-benzimidazol-2-yl)formazanyl]phenol, 9CI

[62164-53-8]



$C_{26}H_{20}N_6O$ M 432.484

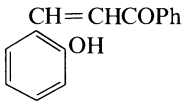
Used as 1m*M* EtOH soln. for photometric detn. of Hg(*II*) (λ_{max} 350 nm, ε 19000, pH 5-6, Me_2CO). Cryst. Sol. EtOH, Me_2CO.

Dubinina, L.V. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 1547 (*synth, detn, Hg*)

3-(2-Hydroxyphenyl)-1-phenyl-2-propen-1-one, 9CI H-00496

2'-Hydroxychalcone, 8CI. ω-Salicylideneacetophenone. ω-o-Hydroxybenzylideneacetophenone. (2-Hydroxystyryl)phenyl ketone

[644-78-0]



$C_{15}H_{12}O_2$ M 224.259

Used as 0.5% EtOH soln. for specific gravimetric detn. of Be (orange-yellow ppt., pH 8-9).

(E)-form [42224-53-3]

Mp 153° dec.

(Z)-form

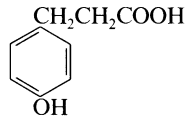
Mp 159°.

v. Auwers, K. *et al, Justus Liebigs Ann. Chem.*, 1932, **493**, 218.
Miquel, J.F., *C. R. Hebd. Seances Acad. Sci.*, 1962, **254**, 4479.
Fournari, P. *et al, Bull. Soc. Chim. Fr.*, 1967, 2673.
Truce, W.E. *et al, J. Am. Chem. Soc.*, 1973, **95**, 4426.
Bravo, P. *et al, Gazz. Chim. Ital.*, 1975, **105**, 109.
Naidu, R.R., *Talanta*, 1975, **22**, 614 (*synth, use*)

3-(4-Hydroxyphenyl)propanoic acid H-00497

4-Hydroxybenzenepropanoic acid, 9CI. 3-(p-Hydroxyphenyl) propionic acid, 8CI. Dihydro-p-coumaric acid. 4-Hydroxyhydrocinnamic acid. Phloretinic acid. HPPA

[501-97-3]



$C_9H_{10}O_3$ M 166.176

Constit. of urine. Isol. from sulfite liquors, prod. by *Clostridium butyricum*. Isol. from heartwood of *Haplormosia monophylla* (Leguminosae). Fluorescent substrate for the detn. of peroxidase. Prisms (Et_2O). Mp 129-130°. pK_a 4.76 (25°).

Me ester: [5597-50-2].

$C_{10}H_{12}O_3$ M 180.203

Cryst. (Et_2O/pet. ether). Mp 40-41°. Bp_{17} 186-187°.

Et ester:

$C_{11}H_{14}O_3$ M 194.230

Mp 45°. Bp_{18} 193°.

Ac:

$C_{11}H_{12}O_4$ M 208.213

Mp 93.5-95.5°.

Amide:

$C_9H_{11}NO_2$ M 165.191

Prisms. Mp 58-59°.

Me ether: 3-(4-Methoxyphenyl)propanoic acid

$C_{10}H_{12}O_3$ M 180.203

Cryst. (EtOH or H_2O). Mp 104-105°. Bp_{15} 192-194°.

Me ether, Me ester: [15823-04-8].

$C_{11}H_{14}O_3$ M 194.230

Plates (H_2O). Mp 38°. Bp 278°, Bp_1 120°.

Me ether, amide: [25413-27-8].

$C_{10}H_{13}NO_2$ M 179.218

Prisms (EtOH). Mp 125-126°.

Me ether, nitrile: [22442-48-4].

$C_{10}H_{11}NO$ M 161.203

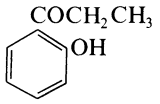
Bp 290-300°, Bp_{15} 167°.

Zemplén, G. *et al, Ber.*, 1928, **61**, 2486.
Bowden, E. *et al, J. Am. Chem. Soc.*, 1940, **62**, 2422.
Pearl, I.A. *et al, J. Org. Chem.*, 1961, **26**, 546 (*isol*)
Grimmer, G. *et al, Biochem. Z.*, 1966, **346**, 186 (*isol*)
Wittstruck, T.A. *et al, J. Am. Chem. Soc.*, 1967, **89**, 3803 (*pmr*)
Chatterjee, A. *et al, Tetrahedron Lett.*, 1969, 73.
Ballantine, J.A. *et al, Org. Mass Spectrom.*, 1970, **3**, 1215 (*ms*)
Hayashi, Y. *et al, Mokuzai Gakkaishi*, 1974, **20**, 595; *CA*, **82**, 74659m (*isol*)
Zaitsu, K. *et al, Anal. Biochem.*, 1980, **109**, 109 (*use*)

1-(2-Hydroxyphenyl)-1-propanone, 9CI H-00498

2'-Hydroxypropiophenone, 8CI. Ethyl 2-hydroxyphenyl ketone. o-Propionylphenol

[610-99-1]



$C_9H_{10}O_2$ M 150.177

Oil. Bp_{80} 150°, $Bp_{0.1}$ 54°.

Oxime: [18265-75-3].

$C_9H_{11}NO_2$ M 165.191

Used for gravimetric detn. of Ti; pptn. sepn. of Ti. Cryst. (pet. ether). Mp 93-94°, Mp 104°.

Semicarbazone: Mp 189°.

2,4-Dinitrophenylhydrazone: [17189-82-1].

Scarlet cryst. Mp 189°.

Me ether: [5561-92-2]. *1-(2-Methoxyphenyl)-1-propanone. o-Propionylanisole*

$C_{10}H_{12}O_2$ M 164.204

Pale-yellow oil. $Bp_{16.5}$ 137°.

Petschek, E. *et al, Ber.*, 1913, **46**, 2014.
Robertson, A. *et al, J. Chem. Soc.*, 1931, 2426.
Böchmühl, M. *et al, CA*, 1932, **26**, 4343.
Jhaveri, L.C. *et al, J. Indian Chem. Soc.*, 1976, **53**, 1147 (*synth, use*)

N-Hydroxy-3-phenylpropenamide, 9CI H-00499

Cinnamohydroxamic acid, 8CI

[3669-32-7]

PhCH=CHCONHOH

$C_9H_9NO_2$ M 163.176

Used as a 2% soln. in EtOH for complexometric detn. of Fe (colour change: violet→yellow); gravimetric detn. of Fe(*III*). Cryst. Sol. EtOH, Me_2CO.

▷ GE1050000.

N-*Ph:* [7369-44-0]. N-*Cinnamoylphenylhydroxylamine.* N-*Hydroxy*-N,*3-diphenyl-2-propenamide, 9CI*

$C_{15}H_{13}NO_2$ M 239.273

Used as 0.1% $CHCl_3$ soln. or 0.5% sol. in EtOH for extraction photometric detn. of V (ε 63000), U, Fe(*III*); gravimetric detn. of Nb, Ta. Pale green cryst. Sol. $CHCl_3$, CCl_4. Mp 162-163°, Mp 159-160°.

N-(*2-Methylphenyl*): [22861-50-3]. N-o-*Tolylcinnamohydroxamic acid.* N-*Hydroxy-3-phenyl-2-propenamide, 9CI*

$C_{16}H_{15}NO_2$ M 253.300

Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of Ti (λ_{max} 395 nm, ε 15200, 9*M* HCl), V(*V*). Cryst. Sol. $CHCl_3$.

N-(*3-Methylphenyl*): [22861-51-4]. N-m-*Tolylcinnamohydroxamic acid, 8CI*

Used as a 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 540 nm, ε 6200, 4*M* HCl). Cryst. Sol. $CHCl_3$.

N-(*4-Methylphenyl*): [29284-28-4]. N-p-*Tolylcinnamohydroxamic acid, 8CI*

Used as 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 555 nm, ε 6500, 4*M* HCl). Cryst. Sol. $CHCl_3$.

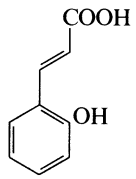
N-(*4-Chlorophenyl*): see N-(*4-Chlorophenyl*)-N-*hydroxy-3-phenyl-2-propenamide, C-00232*

Majumdar, A.K. *et al, Anal. Chim. Acta*, 1960, **22**, 514 (*detn, Nb, Ta*)
Priyadarshini, U. *et al, Analyst (London)*, 1961, **86**, 544 (*detn, V*)
Majer, J. *et al, Chem. Zvesti*, 1962, **16**, 633 (*synth*)
Tandon, S.G. *et al, J. Chem. Eng. Data*, 1962, **7**, 553 (*deriv, synth*)
Springer, V. *et al, Fresenius' Z. Anal. Chem.*, 1964, **202**, 51.
Springer, V. *et al, Chem. Zvesti*, 1965, **19**, 481; 1968, **22**, 797 (*gravimetric detn, extrn of Fe*)
Zharovskii, F.G. *et al, Zh. Anal. Khim.*, 1966, **21**, 59 (*detn, U*)
Priyadarshini, M. *et al, J. Chem. Eng. Data*, 1967, **12**, 143 (*synth*)
Bhura, D.C. *et al, J. Chem. Eng. Data*, 1969, **14**, 278 (*synth, derivs*)
Bhura, D.C. *et al, Anal. Chim. Acta*, 1971, **53**, 379 (*detn, V*)
Husakova, N.N. *et al, Zh. Anal. Khim.*, 1975, **30**, 721 (*detn, V*)
Roshania, R.D. *et al, Microchem. J.*, 1979, **24**, 378 (*detn, V*)
Bhura, D.C. *et al, Analusis*, 1980, **8**, 108 (*detn, Ti*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CMQ475.

3-(2-Hydroxyphenyl)-2-propenoic acid, 9CI H-00500

o-*Hydroxycinnamic acid, 8CI.* o-*Cumaric acid.* o-*Coumaric acid*

[583-17-5]



(*E*)-*form*

$C_9H_8O_3$ M 164.160

Used as a 1% soln. in EtOH as a fluorescence acid-base indicator (pH range 7.2-9.0; colour change: non-fluoresc. → green). pK_{a1} 3.70 (30°, 1.0*M* LiCl).

(*E*)-*form* [614-60-8]

Occurs in many plants e.g. *Melilotus officinalis* and *Angraecum fragrans*. Intermed. in biosynth. of coumarins. Needles (H_2O). Sol. EtOH, hot H_2O, Et_2O; insol. CS_2, $CHCl_3$. Mp 207-208° dec. pK_a 4.61. Nonvolatile in steam. Dec. on dist.

▷ GD9090000.

Ac:
$C_{11}H_{10}O_4$ M 206.198
Mp 149°.

Me ether: [1011-54-7]. *3-(2-Methoxyphenyl)-2-propenoic acid.* o-*Methoxycinnamic acid.* O-*Methyl*-o-*coumaric acid*
$C_{10}H_{10}O_3$ M 178.187
Mp 185-186°. pK_a 4.78 (25°).

(*Z*)-*form* [495-79-4]

Coumarinic acid

Obt. by photoisomerisation. Readily loses H_2O giving coumarin.

Me ether: [14737-91-8].
Mp 93.6°. pK_a 3.27 (25°).

[6099-03-2]

Tiemann, F., *Ber.*, 1877, **10**, 284 (*synth*)
Fittig, R. *et al, Justus Liebigs Ann. Chem.*, 1883, **216**, 141; 1884, **226**, 351 (*synth*)
Roth, W.A. *et al, Ber.*, 1913, **46**, 260 (*synth*)
Sen, R.N. *et al, J. Indian Chem. Soc.*, 1930, **7**, 247 (*synth*)
Jensen, K.A., *Fresenius' Z. Anal. Chem.*, 1933, **94**, 177 (*use, indicator*)
Dippy, F.J.F. *et al, J. Chem. Soc.*, 1938, 357 (*synth*)
Lock, G. *et al, Ber.*, 1939, **72**, 1064 (*deriv*)
Baddar, F.G., *J. Chem. Soc.*, 1947, 224 (*synth*)
Narayana, M. *et al, J. Org. Chem.*, 1962, **27**, 4704 (*synth, uv*)
Wheeler, O.H. *et al, J. Org. Chem.*, 1963, **28**, 2015 (*uv*)
Bergman, J. *et al, J. Chem. Soc.*, 1964, 2021 (*cryst struct, deriv*)
Hadjoudis, E. *et al, J. Chem. Soc., Perkin Trans. 2*, 1972, 1060 (*synth, ir*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MEJ775.

N-Hydroxy-*N*-phenyl-2-propylpentanamide, 9CI H-00501

N-(*2-Propylpentanoyl*)-N-*phenylhydroxylamine*

[132520-39-9]

$(H_3CCH_2CH_2)_2CHCON(OH)Ph$

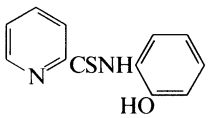
$C_{14}H_{21}NO_2$ M 235.325

Used as 0.1m*M* CCl_4 soln. for extraction separation of lanthanides. Cryst. (Et_2O/hexane). Sol. Et_2O, EtOAc, hexane, CCl_4. Mp 49-50°.

Haraguchi, K. *et al, Anal. Sci.*, 1990, **6**, 877 (*synth, use*)

N-(2-Hydroxyphenyl)-2-pyridinecarbothioamide H-00502

[84356-80-9]



$C_{12}H_{10}N_2OS$ M 230.290

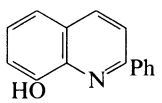
Me ether: [13225-86-0]. N-(*2-Methoxyphenyl*)-*2-pyridinecarbothioamide, 9CI.* N-o-*Methoxyphenyl-2-thiopicolinamide. Thio*-o-*picolinanisidide, 8CI*
$C_{13}H_{12}N_2OS$ M 244.317
Used as 1m*M* soln. in $CHCl_3$ for extraction separation of microamounts of Au (*III*) (from 5.4*M* HCl medium), Pd, Ag, Pt. Yellow cryst. Sol. $CHCl_3$, CCl_4, 1,2-dichloroethane, EtOH. Mp 82-83°.

Glazneva, G.V. *et al, Zh. Obshch. Khim.*, 1966, **36**, 1499; *CA*, **66**, 18652m (*synth, deriv*)
Gibalo, I.M. *et al, Zh. Anal. Khim.*, 1982, **37**, 92 (*detn, Au*)
Gibalo, I.M. *et al, Zh. Neorg. Khim.*, 1982, **27**, 1005 (*detn, Pd, Ag*)
Romana, D.V. *et al, Indian J. Chem., Sect. B*, 1987, **26**, 517 (*ms, deriv*)
Rukhadze, E.G. *et al, Zh. Anal. Khim.*, 1989, **44**, 1257 (*detn, Pt*)

8-Hydroxy-2-phenylquinoline H-00503

2-Phenyl-8-quinolinol

[6961-25-7]



$C_{15}H_{11}NO$ M 221.258

Used as MeOH soln. for pptn. reactions with Zn, Cd, Ni, Co, Hg(*II*), Mn, Pb, Cu(*II*). Yellow cryst. (MeOH). Sol. MeOH, EtOH, $CHCl_3$. Mp 59°. pK_{a1} 5.10; pK_{a2} 9.90 (20°).

Me ether:
$C_{16}H_{13}NO$ M 235.285
Cryst. (pet. ether). Mp 69.8-70.5°.

Phillips, J.P. *et al, J. Am. Chem. Soc.*, 1949, **71**, 3986 (*synth*)
Bocquet, G. *et al, Anal. Chim. Acta*, 1955, **13**, 508; 1956, **14**, 1, 201 (*synth, reactions*)

N-Hydroxy-*N*-phenyltetradecanamide, 9CI H-00504

N-*Phenyltetradecanohydroxamic acid, 8CI.* N-*Phenylmyristohydroxamic acid*

[25310-19-4]

$H_3C(CH_2)_{12}CONPhOH$

$C_{20}H_{33}NO_2$ M 319.486

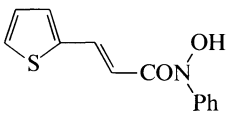
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 510 nm, ε 4300, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al, J. Indian Chem. Soc.*, 1969, **4**, 831 (*synth, deriv*)
Gupta, V.K. *et al, Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

N-Hydroxy-*N*-phenyl-3-(2-thienyl)-2-propenamide, 9CI H-00505

N-*Phenyl-2-thiopheneacrylohydroxamic acid*

[119582-00-2]



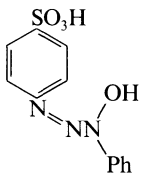
$C_{13}H_{11}NO_2S$ M 245.301

Used as 0.1*M* soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 535 nm, ε 7200, 3.5-7.5*M* HCl). Cryst. (C_6H_6). Sol. $CHCl_3$, C_6H_6.

Abbasi, S.A. *et al, Analyst* (*London*), 1988, **113**, 1561 (*synth, detn, V*)

4-(3-Hydroxy-3-phenyl-1-triazenyl)benzenesulfonic acid, 9CI H-00506

[13521-01-2]



$C_{12}H_{11}N_3O_4S$ M 293.303

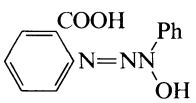
Used as a 1% aq. soln. of Na salt for titrimetric amperometric detn. of Pd, metallochromic indicator in titrimetric detn. of Fe(*III*); gives colour reactions with Co, Cu, Fe, Mo, Ni, Pd, Ti; indirect photometric detn. of citrate, $F^{\ominus}$, oxalate, $PO_4^{3\ominus}$. Light yellow cryst. Mp 157° dec. pK_{a1} 9.99.

Sogani, N.C., *Anal. Chem.*, 1957, **29**, 397 (*synth, detn, Pd*)
Gupta, H.K. *et al, J. Indian Chem. Soc.*, 1960, **37**, 97 (*photometric detn, Fe*)
Jaimni, J.P.C. *et al, Fresenius' Z. Anal. Chem.*, 1964, **203**, 181 (*detn, Fe*)
Purohit, D.N. *et al, J. Indian Chem. Soc.*, 1966, **43**, 703 (*detn, use*)
Purohit, D.N., *Talanta*, 1967, **14**, 353 (*rev*)
Temyanko, V.S. *et al, CA*, 1972, **77**, 147215x (*detn, Pd*)

2-(3-Hydroxy-3-phenyl-1-triazenyl)benzoic acid, 9CI H-00507

1-(o-*Carboxyphenyl*)-*3-hydroxy-3-phenyltriazene*

[20184-65-0]



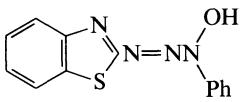
$C_{13}H_{11}N_3O_3$ M 257.248

Used as a 0.5% soln. in aq. NH_3 for extraction-photometric detn. of Fe, Ti, V ($CHCl_3$). Yellowish brown cryst. (EtOH). Sol. alkalis, EtOH, Me_2CO; sl. sol. C_6H_6, $CHCl_3$; insol. H_2O. Mp 164-165°.

Majumdar, A.K. *et al, Anal. Chim. Acta*, 1968, **40**, 299; 1969, **44**, 85 (*detn, Ti, V, Fe*)

2-(3-Hydroxy-3-phenyl-1-triazenyl)benzothiazole, 9CI H-00508

[57340-35-9]



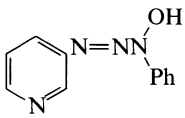
$C_{13}H_{10}N_4OS$ M 270.314

Used for gravimetric detn. of Cu, Ni, Pd. Yellow cryst.

Mukerji, S.K. *et al, Indian J. Chem., Sect. A*, 1977, **15**, 366 (*use*)

3-(3-Hydroxy-3-phenyl-1-triazenyl)pyridine, 9CI H-00509

[38800-92-9]



$C_{11}H_{10}N_4O$ M 214.226

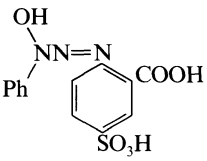
Used as a 0.01m*M* soln. in $CHCl_3$ for extraction-photometric detn. of Co (λ_{max} 350 nm, ε 30000, $CHCl_3$), Cu (λ_{max} 347 nm, ε 63000, $CHCl_3$), Fe(*III*) (λ_{max} 347 nm, ε 47000, $CHCl_3$). Cryst. Sol. common org. solvs.

Korotkaya, E.D. *et al, Khim. Khim. Tekhnol.* (*Minsk*), 1975, **18**, 1695 (*use*)

2-(3-Hydroxy-3-phenyl-1-triazenyl)-5-sulfobenzoic acid, 8CI H-00510

1-(*2-Carboxy-4-sulfophenyl*)-*3-hydroxy-3-phenyltriazene*

[30897-83-7]



$C_{13}H_{11}N_3O_6S$ M 337.312

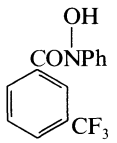
Used as a 0.5% soln. in aq. NH_3 for photometric detn. of Fe, Mo, Pd, V. Yellowish brown cryst. (EtOH). Sol. alkalis, EtOH, Me_2CO; sl. sol. C_6H_6, $CHCl_3$; insol. H_2O.

Majumdar, A.K. *et al, Anal. Chim. Acta*, 1971, **53**, 393 (*use*)

N-Hydroxy-*N*-phenyl-3-(trifluoromethyl)benzamide, 9CI H-00511

N-m-*Trifluoromethylbenzoyl*-N-*phenylhydroxylamine*

[31012-15-4]



$C_{14}H_{10}F_3NO_2$ M 281.234

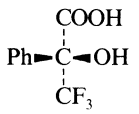
Used as 0.1*M* $CHCl_3$ soln. for extraction separation of Al, Cu, Fe(*III*), Mn, V. Cryst. (EtOH aq.). Sol. $CHCl_3$, EtOH. Mp 75°.

Hojjatie, M. *et al*, *Anal. Chim. Acta*, 1987, **199**, 49 (*synth, use*)

2-Hydroxy-2-phenyl-3,3,3-trifluoropropanoic acid H-00512

α-Hydroxy-α-(trifluoromethyl)benzeneacetic acid, 9CI. α-Hydroxy α-trifluoromethylphenylacetic acid. α-(Trifluoromethyl)mandelic acid, 8CI

[55519-22-7]



(*S*)-*form*

$C_9H_7F_3O_3$ M 220.148

(R)-form [17257-70-4]

$[\alpha]_D^{20}$ −23.2° (c, 2.93 in $CHCl_3$). +ve rotn. in MeOH or H_2O.

Me ether: [20445-31-2]. *α-Methoxy-α-(trifluoromethyl) benzeneacetic acid, 9CI. 2-Methoxy-2-phenyl-3,3,3-trifluoropropanoic acid. MTPA. Mosher's reagent. β,β,β,-Trifluoro-α-methoxyhydratropic acid, 8CI*

$C_{10}H_9F_3O_3$ M 234.174

Chiral nmr shift reagent and resolving agent. Reagent for determining optical purity of alcohols and amines. $Bp_{1.5}$ 116-118°. $[\alpha]_D^{25}$ +68.5° (c, 1.49 in MeOH).

Me ether, chloride: [20445-33-4].

$C_{10}H_8ClF_3O_2$ M 252.620

Resolving agent for alcohols and amines. Bp_1 54-56°. $[\alpha]_D^{24}$ +129.0° (c, 5.7 in CCl_4).

(S)-form [29246-94-4]

Me ester: [26164-18-1].

$C_{10}H_9F_3O_3$ M 234.174

$[\alpha]_D$ +6.90° (neat). Not opt. pure.

Me ether: [17257-71-5].

Reagent for detn. of optical purity of alcohols and amines. Mp 46-49°. $Bp_{0.05}$ 95-97°, $Bp_{1.5}$ 115-117°. $[\alpha]_D$ −71.8° (c, 3.28 in MeOH).

(±)-form

Cryst (C_6H_6). Mp 110.5-111.5°.

Me ester: Bp_{2-3} 86-92°.

Me ether: [56135-03-6].

Nmr shift reagent. Bp_1 105-110°.

Amide:

$C_9H_8F_3NO_2$ M 219.163

Cryst. (C_6H_6/hexane). Mp 102-103°.

Nitrile: 1-Cyano-2,2,2-trifluoro-1-phenylethanol. 2,2,2-Trifluoroacetophenone cyanohydrin

$C_9H_6F_3NO$ M 201.148

Cryst. (hexane). Mp 75-77°.

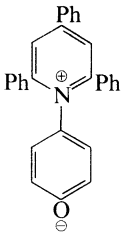
[20698-90-2]

Dale, J.A. *et al*, *J. Org. Chem.*, 1969, **34**, 2543 (*synth, resoln, bibl*)
Mioskowski, C. *et al*, *Tetrahedron*, 1973, **29**, 3669 (*abs config*)
Gal, J., *J. Pharm. Sci.*, 1977, **66**, 169 (*deriv, use*)
Hull, W.E. *et al*, *Tetrahedron*, 1986, **42**, 547 (*deriv, synth, use*)

1-(4-Hydroxyphenyl)-2,4,6-triphenylpyridinium hydroxide inner salt H-00513

*2,4,6-Triphenyl-*N*-(4-hydroxyphenyl)pyridinium betaine*

[17658-06-9]



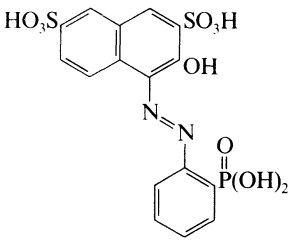
$C_{29}H_{21}NO$ M 399.491

Used as 1m*M* soln. for photometric detn. of H_2O in org. solvs. (EtOH, isopropanol, Me_2CO, MeCN, dioxan). Orange-red cryst. Sol. common org. solvs.

Dimroth, K. *et al*, *Justus Liebigs Ann. Chem.*, 1963, **661**, 1 (*synth*)
Kumoi, S. *et al*, *Talanta*, 1970, **17**, 319 (*use*)

3-Hydroxy-4-[(2-phosphonophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI H-00514

Phosphonazo R



$C_{16}H_{13}N_2O_{10}PS_2$ M 488.392

Strictly, the name Phosphonazo R applies to the disodium salt.

Di-Na salt: [18029-18-0].

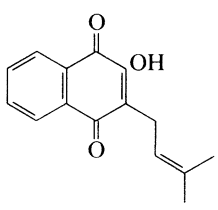
Used as 0.1% aq. soln. for photometric detn. of Li (λ_{max} 450 nm, ε 2300, propanol aq.). Brown cryst. powder. Sol. H_2O, EtOH.

Lazarev, A.I. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 36 (*detn, Li*)
Kina, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1971, **44**, 2710 (*synth, use*)

2-Hydroxy-3-prenylnaphthoquinone H-00515

2-Hydroxy-3-(3-methyl-2-butenyl)-1,4-naphthalenedione, 9CI. ***Lapachol.*** *Greenhartin. Taiguic acid. Tecomin. Groenhartin. Lapachoic acid. NSC 11905*

[84-79-7]



$C_{15}H_{14}O_3$ M 242.274

Widespread occurrence in the plant world, particularly in heartwood, bark and roots, e.g. the Bigononiaceae and various *Tabebuia*, *Tecomella* and *Tectona* spp.

Anticoagulant with anticancer activity; said to be comly. available in Brazil as an anticancer agent but has

undesirable side-effects. Used as a 0.05% soln. in MeOH as acid-base indicator (pH range: 3.7-5.7; colour change: yellow → wine red). Yellow prisms (EtOH or Et_2O). Mp 139-140°.

▷ QL8750000.

Ac: Yellow prisms (EtOH). Mp 82-83°.

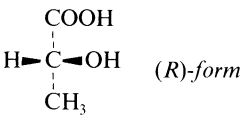
Me ether: [17241-45-1]. *2-Methoxy-3-prenylnaphthoquinone*
$C_{16}H_{16}O_3$ M 256.301
Constit. of the heartwood of *Tabebuia avellanedae*. Yellow cryst. (pet. ether). Mp 54-55°.

Hooker, S.C., *J. Am. Chem. Soc.*, 1936, **58**, 1181 (*synth, bibl*)
Burnett, A.R. *et al, J. Chem. Soc. C*, 1967, 2100; *Chem. Ind. (London)*, 1968, 1771 (*synth*)
Pettit, G.R. *et al, Can. J. Chem.*, 1968, **46**, 2471; *J. Chem. Soc. C*, 1971, 509 (*synth*)
Jacobsen, N. *et al, Acta Chem. Scand.*, 1973, **27**, 3211 (*synth*)
Rao, K.V., *Cancer Chemother. Rep., Part 2*, 1974, **4**, 11 (*use*)
Da Silveira, J.C. *et al, Phytochemistry*, 1975, **14**, 1829 (*isol*)
Sawnhey, S.S. *et al, Indian J. Chem.*, 1976, **14**, 295 (*use*)
McDonald, I.A. *et al, Aust. J. Chem.*, 1977, **30**, 1727 (*pmr, cmr*)
Sawnhey, S.S. *et al, J. Indian Chem. Soc.*, 1977, **54**, 403 (*use*)
Kapoor, N.K. *et al, Indian J. Chem., Sect. B*, 1982, **21**, 189 (*synth*)
Ghera, E. *et al, J. Org. Chem.*, 1985, **50**, 3355 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HLY500.

2-Hydroxypropanoic acid, 9CI H-00516

Lactic acid, 8CI. Chem-Cast. Enyper. Kerlactine. Lactogyn. Lactolavol. Lactovagan. Neostil. Tonsillosan. Variclene

[50-21-5]



(R)-form

$C_3H_6O_3$ M 90.079

Various uses include as a caustic, dermatologic, antiseptic and as a digestive. Used in the resolution of alcohols. Aq. soln. used as complexing agent in ion-exchange separations, of alkaline earth metals.

▷ Irritant. Butyl ester is highly toxic. OD2800000.

(R)-form [10326-41-7]

D-form

Prismatic plates; cryst. (diisopropyl ether aq.). Sol. H_2O, EtOH, Et_2O; prac. insol. $CHCl_3$. Mp 26-27° (53°). $[\alpha]_D$ −2.26° (H_2O). pK_a 3.83.

Me ester: [17392-83-5].
$C_4H_8O_3$ M 104.105
Oil. Bp_{13} 40°. $[\alpha]_D^{20}$ +7.46°.

(S)-form [79-33-4]

L-form. Sarcolactic acid. Paralactic acid

Occurs in the juice of muscular tissue, bile etc. Flavour ingredient, food antioxidant. Various esters are also used in flavourings. Prisms (AcOH or $CHCl_3$). Mp 25-26°, Mp 53°. $[\alpha]_D^{15}$ +3.82° in H_2O. pK_a 3.79 (25°). Very hygroscopic.

Me ester: [27871-49-4].
$C_4H_8O_3$ M 104.105
Oil. Bp_{19} 58°. $[\alpha]_D^{20}$ −8.25°.

(±)-form

Widely distributed in nature - starch, molasses, potatoes etc. Also obtained from sulfite pulp liquor. Used in foodstuffs (preservative, flavours, acidulant), plasticizers, mordants. In brewing, manuf. of cheese and confectionery. Depilatory for hides. Cryst., or colourless or yellowish syrupy liq. Sol. H_2O, EtOH; spar. sol. Et_2O; insol. $CHCl_3$, CS_2, ligroin. Volatile in superheated steam.

Me ester: [2155-30-8].
Oil. Bp 144.8°.

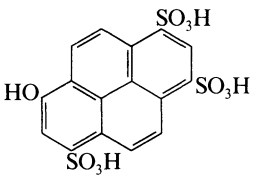
▷ Mod. irritant. Flammable.

Irvine, J.C., *J. Chem. Soc.*, 1906, 936 (*resoln*)
Milton, G.M. *et al, Can. J. Chem.*, 1957, **35**, 541 (*use*)
Gil-Av, E. *et al, Proc. Chem. Soc., London*, 1962, 146 (*use*)
Strelow, F.W. *et al, Talanta*, 1970, **17**, 1 (*cation exchange*)
Holten, C.H. *et al, Lactic Acid*, Verlag Chemie, Weinheim, 1971.
Wood, G.W. *et al, Can. J. Chem.*, 1975, **53**, 3500 (*ms*)
Hayashi, T. *et al, Tetrahedron Lett.*, 1976, 4351 (*synth*)
Waldron, R.W. *et al, Inorg. Chem.*, 1977, **16**, 1220 (*synth*)
Imuta, M. *et al, J. Org. Chem.*, 1978, **43**, 3530.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 373.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, LAG000, LAQ000.

8-Hydroxy-1,3,6-pyrenetrisulfonic acid, 9CI H-00517

HPT

[27928-00-3]



$C_{16}H_{10}O_{10}S_3$ M 458.447

Used in chromatography for the detn. of bile acids; fluorescent indicator for acid-base titrations.

Tri-Na salt: [6358-69-6]. *C.I. Solvent green 7. Pyranine*
Fluorescent dye. Yellow needles (+ H_2O).

▷ UR2700000.

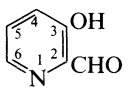
Trichloride, acetate: [91991-08-1]. *8-(Acetyloxy)-1,3,6-pyrenetrisulfonyl trichloride, 9CI*
$C_{18}H_9Cl_3O_8S_3$ M 555.820
Fluorescent label for amines.

Tietze, E. *et al, Justus Liebigs Ann. Chem.*, 1939, **540**, 189 (*synth*)
Kellogg, T.F. *et al, J. Lipid Res.*, 1970, **11**, 498 (*use*)
Kano, K. *et al, Biochim. Biophys. Acta*, 1978, **509**, 289 (*use*)
Goswami, S.K. *et al, Lipids*, 1981, **16**, 759 (*use*)
Wolfbeis, O.S., *Fresenius' Z. Anal. Chem.*, 1985, **320**, 271 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TNM000.

3-Hydroxy-2-pyridinecarboxaldehyde, 9CI H-00518

3-Hydroxypicolinaldehyde, 8CI. 2-Formyl-3-hydroxypyridine

[1849-55-4]



$C_6H_5NO_2$ M 123.111

Model compd. for Pyridoxal, P-00414. Yellow clusters (hexane). Mp 81-82° (78-79°). Bp_5 64°.

Oxime:
$C_6H_6N_2O_2$ M 138.126
Long needles (H_2O). Mp 178-179°.

2,4-Dinitrophenylhydrazone; B,HCl: Orange powder (EtOH aq.). Mp 253-254.5°.

Thiosemicarbazone: [3814-79-7].
$C_7H_8N_4OS$ M 196.232
Used as 1m*M* EtOH soln. for fluorimetric detn. of Mn (λ_{max} 460 nm, EtOH aq. medium + H_2O_2). Yellow cryst. Sol. EtOH, DMF, alkalis; spar. sol. H_2O. Mp 250-252°.

Thiosemicarbazone; B,HCl: Used as 0.1% EtOH soln. for photometric detn. of Co (λ_{max} 450 nm, ε 23500). Orange needles + $2H_2O$ (HCl aq.). Mp 225-235° dec.

Me ether: [1849-53-2]. *3-Methoxy-2-pyridinecarboxaldehyde*
$C_7H_7NO_2$ M 137.138
Leaflets (C_6H_6/cyclohexane). Mp 67-68° (55-56°). Bp_3 106-108°.

Me ether, oxime:
$C_7H_8N_2O_2$ M 152.152
Short needles (H_2O). Mp 196.5-197.5°.

Me ether, 2,4-dinitrophenylhydrazone; B,HCl: Orange-yellow cryst. powder (EtOH aq.). Mp 269-270°.

Me ether, thiosemicarbazone: Yellow cryst. (EtOH aq.). Mp 204-205° dec.

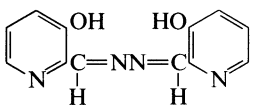
Me ether, di-Et acetal: 2-(Diethoxymethyl)-3-methoxypyridine
$C_{11}H_{17}NO_3$ M 211.260
Pale yellow oil. Bp_3 120°.

Heinert, D. *et al*, *Tetrahedron*, 1958, **3**, 49 (*synth*)
Heinert, D. *et al*, *J. Am. Chem. Soc.*, 1959, **81**, 3933 (*synth, ir*)
Nakamoto, K. *et al*, *J. Am. Chem. Soc.*, 1959, **81**, 5857, 5863 (*uv*)
Gansow, O.A. *et al*, *Tetrahedron*, 1968, **24**, 4477 (*pmr*)
Cano Pavon, J.M. *et al*, *Mikrochim. Acta*, 1976, **2**, 233 (*synth*)
Vazquez Ruiz, J. *et al*, *Talanta*, 1984, **31**, 29 (*detn, Mn*)
Comins, D.L. *et al*, *J. Org. Chem.*, 1990, **55**, 69 (*synth, pmr, cmr, ir*)

3-Hydroxy-2-pyridinecarboxaldehyde [(3-hydroxy-2-pyridinyl)methylene] hydrazone, 9CI H-00519

3-Hydroxypicolinaldehyde azine

[49610-88-0]



$C_{12}H_{10}N_4O_2$ M 242.237

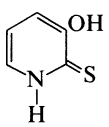
Used as 0.05% soln. in DMF for photometric detn. of Ni (λ_{max} 480 nm, ε 42000), Co (λ_{max} 570 nm, ε 30000); as 1m*M* EtOH soln. for fluorimetric detn. of Mn (λ_{max} 540 nm, EtOH/DMF with H_2O_2). Yellow cryst. (EtOH). Sol. H_2O, EtOH, DMF. Mp 162°. pK_{a1} 3.92; pK_{a2} 7.97.

Garcia de Torres, A. *et al*, *Talanta*, 1973, **20**, 915 (*synth*)
Garcia de Torres, A. *et al*, *Anal. Chim. Acta*, 1974, **68**, 466; 1975, **79**, 257 (*detn, Ni, Co*)
Vazquez Ruiz, J. *et al*, *Talanta*, 1984, **31**, 29 (*detn, Mn*)

3-Hydroxy-2(1*H*)-pyridinethione H-00520

3-Hydroxy-2-mercaptopyridine. 2-Mercapto-3-pyridinol

[23003-22-7]



C_5H_5NOS M 127.167

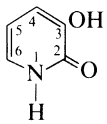
Used as a 0.5% aq. soln. for detn. of Os. Used as 0.01*M* soln. in MeOH for photometric detn. of Fe(*III*); indicator in chelatometric titration of Fe(*III*). Cryst. (EtOH). Sol. MeOH, EtOH, $CHCl_3$. Mp 144-145°.

Me ether, Me thioether: [98627-11-3]. *3-Methoxy-2-(methylthio)pyridine, 9CI*
C_7H_9NOS M 155.220
No phys. props. given.

Udheim, K. *et al*, *Acta Chem. Scand.*, 1969, **23**, 1704 (*synth, uv*)
Katyal, M. *et al*, *Analyst (London)*, 1973, **98**, 659 (*detn, Fe, Os*)
Kushwaha, V. *et al*, *Talanta*, 1974, **21**, 763 (*detn, Pd*)
Mehta, Y.L. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 402 (*use*)
Davies, J.S. *et al*, *Tetrahedron Lett.*, 1980, **21**, 2191 (*synth*)
Comins, D.L. *et al*, *Tetrahedron Lett.*, 1988, **29**, 773 (*Me ether synth*)

3-Hydroxy-2(1*H*)-pyridinone, 9CI H-00521

[16867-04-2]



$C_5H_5NO_2$ M 111.100

Used as a 0.5%-1.0% soln. in EtOH or H_2O for photometric detn. of Os, Fe; metallochromic indicator for titrimetric detn. of Fe(*III*). Mp 248°. pK_{a1} 0.22 (in aq. H_2SO_4 soln.); pK_{a2} 9.00 (20°).

N-Me: [19365-01-6].
$C_6H_7NO_2$ M 125.127
Mp 130-131°.

3-Ac:
$C_7H_7NO_3$ M 153.137
Mp 155°.

Diol-form

2,3-Pyridinediol. 2,3-Dihydroxypyridine
Cryst.

Di-Me ether: [52605-97-7]. *2,3-Dimethoxypyridine*
$C_7H_9NO_2$ M 139.154
Bp_{17} 100°.

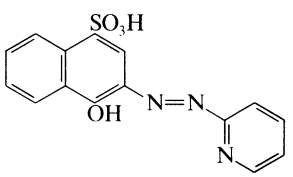
N-Oxide: 1,3-Dihydroxy-2(1H)-pyridinone
$C_5H_5NO_3$ M 127.099
Cryst. (1-butanol). Mp 188-190° (182-184°). Exists in soln. as the *N*-hydroxypyridine tautomer.

Bain, B.M. *et al*, *J. Chem. Soc.*, 1961, 5216 (*synth*)
Curtis, K.E. *et al*, *Anal. Chim. Acta*, 1970, **49**, 351 (*detn, Fe*)
Moehrle, H. *et al*, *Tetrahedron*, 1970, **26**, 3779 (*synth*)
Goel, D.P. *et al*, *Analyst (London)*, 1971, **96**, 123 (*detn, Fe*)
Curtis, K.E. *et al*, *Can. J. Chem.*, 1972, **50**, 1649 (*detn, Fe*)
Mehra, H.C. *et al*, *Anal. Chim. Acta*, 1974, **74**, 194 (*detn, Fe*)
Stogryn, E.C. *et al*, *J. Heterocycl. Chem.*, 1974, **11**, 251 (*deriv*)
Mehta, Y.L. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 402 (*detn, Os*)
Elguero, J. *et al*, *Tautomerism of Heterocycles*, Academic Press, London, 1976, 111 (*tautom*)
Ballesteros, P. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1990, 1215 (*N-oxide*)
Streater, M. *et al*, *J. Med. Chem.*, 1990, **33**, 1749 (*1-Me, synth*)

4-Hydroxy-3-(2-pyridinylazo)-1-naphthalenesulfonic acid, 9CI H-00522

2-(2-Pyridylazo)-1-naphthol-4-sulfonic acid. PANS

[10558-11-9]



$C_{15}H_{11}N_3O_4S$ M 329.336

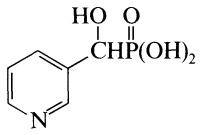
Used as 0.5m*M* DMF soln. for photometric detn. of Cd (λ_{max} 490 nm, ε 21000), Zn, In (λ_{max} 550 nm, ε 24000), Ni, Cu; as a soln. in dil. NaOH for photometric detn. of Cu, Ga (λ_{max} 550 nm, ε 28000), Tl (λ_{max} 560 nm, ε 35000), Hg (λ_{max} 550 nm, ε 46000); metallochromic indicator. Red cryst. powder. Sol. DMF, H_2O, alkalis.

Sommer, L. *et al*, *Collect. Czech. Chem. Commun.*, 1974, **39**, 396 (*synth, indicator*)

Kobližhova, V. *et al*, *Collect. Czech. Chem. Commun.*, 1978, **43**, 2711 (*detn, Cu, Ni*)
Kobližkova, V. *et al*, *Chem. Zvesti*, 1979, **33**, 485 (*detn, Hg*)
Voznica, P. *et al*, *Collect. Czech. Chem. Commun.*, 1980, **45**, 54 (*detn, Ga, In, Tl*)
Jančař, L. *et al*, *Collect. Czech. Chem. Commun.*, 1982, **47**, 2654 (*detn, Cd, Zn*)

(Hydroxy-3-pyridinylmethyl)phosphoric acid, 9CI H-00523

[65128-80-5]



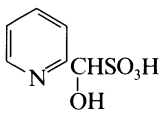
$C_6H_8NO_4P$ M 189.107
Used as 0.5*M* soln. in 0.5*M* HCl for photometric detn. of Ti (λ_{max} 440 nm, ε 1700, in the presence of Tiron). Cryst. Sol. H_2O.

Szczepaniak, W. *et al*, *Pol. J. Chem.* (*Rocz. Chem.*), 1977, **51**, 1633 (*synth*)
Szczepaniak, W. *et al*, *Chem. Anal.* (*Warsaw*), 1980, **25**, 719 (*detn, Ti*)

2-Hydroxy-2-(2-pyridyl)methanesulfonic acid H-00524

α-Hydroxy 2-pyridinemethanesulfonic acid, 8CI

[3343-41-7]



$C_6H_7NO_4S$ M 189.192
Used as a 0.02% soln. in dil. NH_3 for photometric detn. of Fe(*II*) (λ_{max} 525 nm). Commercially available. Cryst. Sol. alkalis; mod. sol. H_2O. Subl. 224°. pK_{a1} 4.05; pK_{a2} 9.7 (25°, 0.1*M* $NaClO_4$).

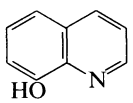
▷ Toxic if inhaled.

Sigma-Aldrich Library of Chemical Safety Data, **2**, 3005B (*haz*)
Banford, L. *et al*, *J. Chem. Soc.*, 1964, 378 (*pKa*)
Pitt, E.E.H. *et al*, *Anal. Chem.*, 1969, **41**, 981 (*detn, Fe*)

8-Hydroxyquinoline H-00525

8-Quinolinol, 9CI. Oxine. Oxyquinoline. Bioquin. Chinoral. Quinophenol

[148-24-3]



C_9H_7NO M 145.160
Disinfectant. Antiseptic. Used as 1% $CHCl_3$ soln. for pptn., extraction and separation of many metals, e.g. Al, Co, Zn, Fe, In, Ti, V, W; extraction-photometric detn. of Al (λ_{max} 390 nm, ε 7300, $CHCl_3$), Ce (λ_{max} 495 nm, ε 6700), Sc, Fe(*III*), Ga, In, Zn, Cd, Mg, Ti, U, V; gravimetric detn. of Al, Mg, Ga, Mo; indirect titrimetric detn. of some metals. Reference material used in elemental microanalysis. Needles (EtOH aq.). Sol. $CHCl_3$, C_6H_6, CCl_4, EtOH, Me_2CO, alkalis and acids. Mp 75-76°. Bp *ca.* 267°. pK_{a1} 4.91; pK_{a2} 9.81 (25°). Also used as sulfate (Oxyquinoline sulfate, USAN).

▷ Exp. carcinogen. VC4200000.

B,HCl: Yellow needles $+1H_2O$. Mp 234-235°.
B,$\frac{1}{2}H_2SO_4$*:* [134-31-6]. *Quinosol. Numerous proprietary names*
Pale-yellow cryst. Mp 175-178°.
▷ VC8260000.
B,MeI: Yellow needles $+1H_2O$. Mp 143° dec.
O-*Ac:* [2598-29-0].
$C_{11}H_9NO_2$ M 187.198
Used as soln. in AcOH for pptn. of Mg, Al, U, Th. Cryst. (heptane/diisopropyl ether). Sol. EtOH, H_2O (hydrol.), Et_2O, diisopropyl ether, pet. ether, C_6H_6. Bp 280°. Easily hydrol. at r.t.
Benzoyl: [86-75-9]. ***Benzoxiquine*, USAN, INN.** *8-Quinolinol benzoate, 9CI. Dioxyline. NSC 3951. Benzoxyline. Oxyquinoline benzoate*
$C_{16}H_{11}NO_2$ M 249.268
Disinfectant. Cryst. (EtOH). Mp 118-120°.
▷ VC4440000.
N-*Oxide:* [1127-45-3].
$C_9H_7NO_2$ M 161.160
Used as aq. soln. for photometric detn. of Ru(*III*), Ir (*IV*); forms chelates with platinum metal chloro-complexes. Cryst. Sol. H_2O, EtOH. Mp 138°.
▷ VC8238500.
Me ether: [938-33-0]. *8-Methoxyquinoline.* o-*Quinanisole*
$C_{10}H_9NO$ M 159.187
Mp 49-50°, Mp 95-98°.
Et ether: [1555-94-8]. *8-Ethoxyquinoline*
$C_{11}H_{11}NO$ M 173.214
Needles. Bp_{718} 285-287°, Bp_4 125°.
Et ether, picrate: Yellow needles (EtOH). Mp 180-181°.
N-*Me, inner salt: 1-Methylquinolinium-8-olate. 8-Hydroxy-1-methylquinolinium betaine*
$C_{10}H_9NO$ M 159.187
Cryst. $+ 2H_2O$. Mp 130° dec.
Indium complex (3:1): Tris(8-quinolinato)indium. Indium oxyquinoline
$C_{27}H_{18}InN_3O_3$ M 547.277
^{111}In-labelled compd. used as radioactive agent. Diagnostic aid.

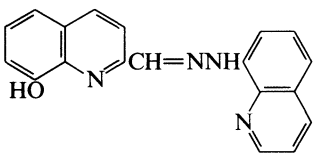
[134-31-6, 65389-08-4]

Skraup, Z.H., *Monatsh. Chem.*, 1881, **3**, 536.
Hollingshead, R.G.W., *Oxine and its Derivatives*, Butterworths, London, 1954 (*bibl*)
Phillips, J.P., *Chem. Rev.*, 1956, **56**, 271 (*rev*)
Hollingshead, R.G., *Anal. Chim. Acta*, 1958, **19**, 447.
Marec, D.J. *et al*, *Talanta*, 1961, **8**, 293 (*O-Ac, detn, Al*)
Bordner, J. *et al*, *Talanta*, 1961, **8**, 579 (*O-Ac, detn, U*)
Ramaiah, K. *et al*, *Proc. Indian Acad. Sci., Sect A*, 1962, **55**, 360 (*synth, oxide*)
Corkins, J.T. *et al*, *Talanta*, 1962, **9**, 49 (*O-Ac, detn, Mg*)
Fiedler, H. *et al*, *Pharmazie*, 1966, **21**, 233 (*activity*)
Mottola, H.A. *et al*, *Talanta*, 1967, **14**, 864 (*props*)
Gupta, R.D. *et al*, *Talanta*, 1970, **17**, 772 (*oxide, detn, Ru, Ir*)
Zolotov, Yu.A. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 1845 (*use*)
Desiderato, R. *et al*, *Acta Crystallogr., Sect. B*, 1971, **27**, 2443 (*cryst struct*)
Analyst (*London*), 1972, **97**, 740 (*microanal*)
Sawada, Y. *et al*, *Chem. Pharm. Bull.*, 1978, **26**, 1357 (*metab*)
Mirth, D.B. *et al*, *J. Dent. Res.*, 1978, **57**, 65 (*activity*)
Vinogradov, A.V. *et al*, *Hydroxyquinoline*, Nauka, Moscow, 1979.
Scheffel, U. *et al*, *J. Inorg. Nucl. Chem.*, 1979, **20**, 524 (*In complex*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 253 (*use*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1614.
Roømming, C. *et al*, *Acta Chem. Scand., Ser. B*, 1983, **37**, 791 (*deriv, cryst struct*)
Banerjee, T. *et al*, *Acta Crystallogr., Sect. C*, 1986, **42**, 1408 (*cryst struct*)

Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, New York, 4th Ed., 1986, 31, 383, 582, 670; *Part II b: Individual Metals. Magnesium to Zinc*, John Wiley, New York, 4th Ed., 1989, 11.
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 220, 623.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1091.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, QPA000, QPS000.

8-Hydroxy-2-quinolinecarboxaldehyde 8-quinolylhydrazone, 9CI H-00526

[24430-56-6]



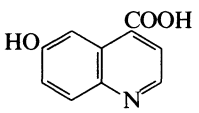
$C_{19}H_{14}N_4O$ M 314.346
Used as soln. in 0.1*M* KOH for fluorimetric detn. of Ca (pH 11-13); as a 0.002% aq. soln. for luminescent detn. of Ca; fluorescent detn. of Ca. Yellow needles (C_6H_6). Sol. alkalis, Me_2CO, EtOH, $CHCl_3$; insol. H_2O. Mp 201.5-202.5°. pK_{a1} 4.9; pK_{a2} 11.1.

Bozhevolnov, E.A., *Zh. Anal. Khim.*, 1969, **24**, 531 (*synth, detn, Ca*)
Krasavrin, I.A. *et al*, *CA*, 1972, **76**, 14293d (*synth*)
Fedorova, L.F. *et al*, *CA*, 1972, **77**, 159848 (*fluoresc detn, Ca*)
Bozhevolnov, E.A. *et al*, *CA*, 1973, **78**, 66597s (*luminescence detn, Ca*)

6-Hydroxy-4-quinolinecarboxylic acid H-00527

6-Hydroxycinchoninic acid. Xanthoquininic acid

[4312-44-1]



$C_{10}H_7NO_3$ M 189.170
Plates (H_2O). Mp 325° dec.

Me ether, Me ester: [19834-77-6].
$C_{12}H_{11}NO_3$ M 217.224
Mp 84°.

B,MeI: Orange-yellow cryst. (EtOH). Mp 302°.

Et ester: [31610-09-0].
$C_{12}H_{11}NO_3$ M 217.224
Mp 185.5°.

Me ether: [86-68-0]. *6-Methoxy-4-quinolinecarboxylic acid. Quininic acid*
$C_{11}H_9NO_3$ M 203.197
Used as a satd. aq. soln. as acid-base fluorescent indicator (pH range: 4.0-5.0; colour change: yellow → blue). Yellow prisms (dil. HCl). Spar. sol. H_2O; sol. acids, alkalis. Mp 285° dec. pK_a 3.05. Yellow col. in acid soln. Blue fluor. in EtOH destroyed by H_2O or acids.

Me ether, Et ester: [5345-57-3].
$C_{13}H_{13}NO_3$ M 231.251
Insol. H_2O. Mp 69°.

Et ether: 6-Ethoxy-4-quinolinecarboxylic acid. Optoquinic acid
$C_{12}H_{11}NO_3$ M 217.224
Yellow needles (propanol). Mp 278°.

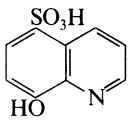
Me ether, nitrile: 4-Cyano-6-methoxyquinoline
$C_{11}H_8N_2O$ M 184.197
Yellow needles (C_6H_6). Mp 157°.

John, H., *Ber.*, 1930, **63**, 2657.
John, H., *J. Prakt. Chem.*, 1930, **128**, 194 (*synth*)
Rabe, P. *et al*, *Ber.*, 1931, **64**, 2492.
Thielpape, E. *et al*, *Ber.*, 1939, **72B**, 1432.
King, H. *et al*, *J. Chem. Soc.*, 1942, 401.
Elderfield, R.C. *et al*, *J. Org. Chem.*, 1946, **11**, 803.
Benassi, C.A. *et al*, *Gazz. Chim. Ital.*, 1967, **97**, 3 (*synth, ir*)
Schultz, O.-E. *et al*, *Justus Liebigs Ann. Chem.*, 1970, **740**, 192.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, Me ether*)

8-Hydroxy-5-quinolinesulfonic acid, 9CI H-00528

Oxine-5-sulfonic acid

[36970-47-5]

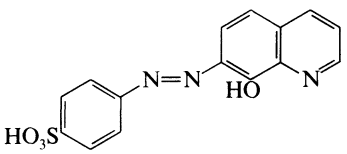


$C_9H_7NO_4S$ M 225.225
Used as 0.1*M* aq. soln. for photometric detn. of Mo (λ_{max} 540 nm, ε 5200), Nb (λ_{max} 383 nm, ε 15000), V. Cryst. Sol. H_2O, alkalis.

Busev, A.I. *et al*, *Talanta*, 1962, **9**, 107 (*detn, Mo*)
Kambara, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1973, **46**, 500 (*detn, V*)
Garcia Alonso, J.I. *et al*, *Talanta*, 1984, **31**, 361 (*detn, Nb*)

4-[(8-Hydroxy-7-quinolinyl)azo] benzenesulfonic acid H-00529

8-Hydroxy-7-(p-sulfophenylazo)quinoline



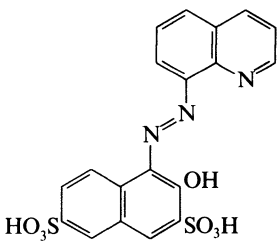
$C_{15}H_{11}N_3O_4S$ M 329.336
Used as a soln. in EtOH as mercurimetric indicator. Orange-red cryst. Sol. H_2O, EtOH.

Cherkesov, A.I., *Zavod. Lab.*, 1961, **27**, 1447 (*use, ind*)

3-Hydroxy-4-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, 9CI H-00530

Quinolinazo R

[28415-92-1]



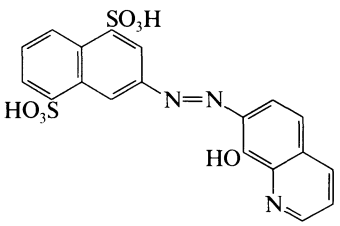
$C_{19}H_{13}N_3O_7S_2$ M 459.460
Used as 0.2% aq. soln. for photometric detn. of Co. Brown-red cryst. powder. Sol. H_2O; sl. sol. EtOH.

Kuznetsov, V.I., *Tr. Kom. Anal. Khim., Akad. Nauk SSSR*, 1965, **15**, 279; *CA*, **63**, 2363c (*synth*)
Basargin, N.N. *et al*, *Zavod. Lab.*, 1969, **35**, 16 (*detn, Co*)

3-[(8-Hydroxy-7-quinolinyl)azo]-1,5-naphthalenedisulfonic acid, 8CI H-00531

Azoxin C

[28832-63-5]



$C_{19}H_{13}N_3O_7S_2$ M 459.460

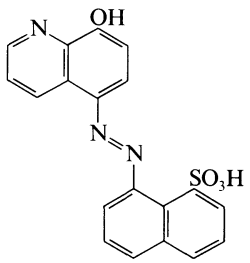
Strictly, the name Azoxin C applies to the dipotassium salt.

Di-K salt: Used in photometric detn. of Hg (λ_{max} 540 nm, ε 44000). Red cryst. + $3H_2O$. Sol. H_2O, EtOH; spar. sol. Me_2CO; insol. C_6H_6. pK_a 8.41.

Cherkesov, A.I. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 466.

8-[(8-Hydroxy-5-quinolinyl)azo]-1-naphthalenesulfonic acid, 9CI H-00532

[7526-02-5]



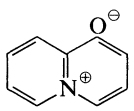
$C_{19}H_{13}N_3O_4S$ M 379.395

Used as a soln. in aq. EtOH for photometric detn. of $Cl^{\ominus}$. Cryst.

Mustafin, I.S., *Khim. Khim. Tekhnol.* (*Minsk*), 1962, **5**, 875 (*synth, detn, $Cl^{\ominus}$*)

Petrova, G.S. *et al*, *CA*, 1972, **77**, 139769r (*synth*)

1-Hydroxyquinolizinium betaine H-00533



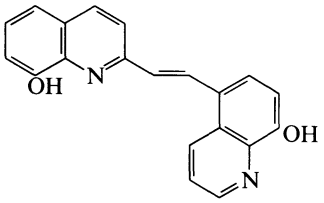
C_9H_7NO M 145.160

Used as a 1m*M* soln. for photometric detn. of H_2O in organic solvs. (EtOH, Me_2CO, MeCN, dioxan). Orange cryst. Sol. common org. solvs.

Kumoi, S. *et al*, *Talanta*, 1970, **17**, 319 (*detn, H_2O*)

1-(8-Hydroxy-2-quinolyl)-2-(8-hydroxy-5-quinolyl)ethylene H-00534

2,5'-Ethenylidenebis-8-quinolinol. 8,8'-Dihydroxy-2,5'-biquinolylethene



$C_{20}H_{14}N_2O_2$ M 314.343

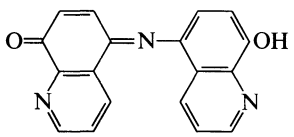
B, 2HCl: Used as a satd. soln. in dil. HCl for extraction-photometric detn. of Cu. Orange cryst. (EtOH/HCl). Spar. sol. EtOH; insol. H_2O. Mp 233°. pK_{a1} 3.0.

Philips, J.P. *et al*, *Anal. Chim. Acta*, 1960, **23**, 131 (*synth, detn, Cu*)

5-[(8-Hydroxy-5-quinolyl)imino-8(5*H*)-quinolone], 8CI H-00535

Indo-oxine

[17306-34-2]



$C_{18}H_{11}N_3O_2$ M 301.304

Used as 0.05*M* soln. in EtOH for pptn. of metals; photometric detn. of Th, Zn. Cryst. Sol. EtOH, MeOH.

Berg, R. *et al*, *Fresenius' Z. Anal. Chem.*, 1940, **119**, 81 (*metal pptn*)

Svoboda, O. *et al*, *Mikrochim. Acta*, 1954, 122 (*detn, Zn*)

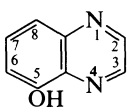
Tomic, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1957, **156**, 326 (*detn, Th*)

Kirkbright, G.F. *et al*, *Chem. Ind.* (*London*), 1967, **25**, 1091 (*use*)

5-Hydroxyquinoxaline H-00536

5-Quinoxalinol

[17056-99-4]



$C_8H_6N_2O$ M 146.148

Used as a chelating agent. Cryst. by subl. Mp 101-102.5° (99.5°).

[7556-88-9]

Albert, A. *et al*, *J. Chem. Soc.*, 1952, 4985 (*synth*)

Mason, S.F., *J. Chem. Soc.*, 1957, 4874 (*ir*)

Mason, S.F., *J. Chem. Soc.*, 1957, 5010 (*uv*)

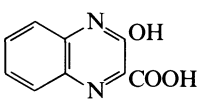
Brignell, P.J. *et al*, *J. Chem. Soc. B*, 1967, 1241 (*pmr*)

Oguchi, S. *et al*, *Bull. Chem. Soc. Jpn.*, 1968, **41**, 980 (*use*)

Verbeek, J. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1976, **95**, 285 (*synth*)

3-Hydroxy-2-quinoxalinecarboxylic acid, 8CI H-00537

[1204-75-7]



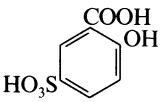
$C_9H_6N_2O_3$ M 190.158
Used as aq. soln. for specific gravimetric detn. of Pd. Yellow-brown needles (H_2O). Sol. H_2O, EtOH. Mp 264°.

Dutt, N.K. *et al*, *Anal. Chim. Acta*, 1968, **41**, 331 (*synth, detn, Pd*)

2-Hydroxy-5-sulfobenzoic acid H-00538

o-*Hydroxybenzoic acid 5-sulfonic acid. Salicylic acid 5-sulfonic acid. 5-Sulfosalicylic acid*

[97-05-2]



$C_7H_6O_6S$ M 218.187
In vitro diagnostic aid for proteins. Metal chelating agent. Used as 0.2*M* aq. soln. for photometric detn. of U, Fe(*III*) (λ_{max} 425 nm, ε 5800) and $F^{\ominus}$ (indirectly). Cryst. (H_2O). Mp 120°. pK_{a2} 2.30; pK_{a3} 11.41 (25°, 0.5*M* $NaClO_4$). Hygroscopic.

▷ Produces irritation of skin and mucous membranes. VO6500000.

Di-Et ester:
$C_{11}H_{14}O_6S$ M 274.294
Cryst. (EtOH). Mp 56°.

Sulfonyl chloride: [17243-13-9].
$C_7H_5ClO_5S$ M 236.632
Needles (C_6H_6). Mp 171-172° dec.

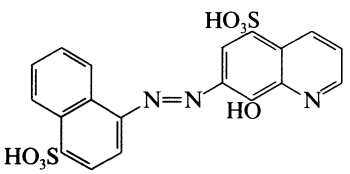
Sulfonamide: [5378-41-6].
$C_7H_7NO_5S$ M 217.202
Plates (EtOH). Mp 253-255° dec.

[5965-83-3]

Hirsch, R., *Ber.*, 1900, **33**, 3238.
Cohn, G., *J. Prakt. Chem.*, 1900, **61**, 544.
Eberius, E., *Angew. Chem.*, 1951, **63**, 513 (*detn, Fe*)
Rogers, R.N. *et al*, *Anal. Chem.*, 1959, **31**, 616 (*detn, $F^{\ominus}$*)
Pusca, V. *et al*, *Rev. Chim. (Bucharest)*, 1962, **13**, 49 (*synth*)
Quast, R., *Acta Chem. Scand.*, 1967, **21**, 873 (*detn, Fe*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 1118 (*use*)
Havel, J. *et al*, *Collect. Czech. Chem. Commun.*, 1968, **33**, 529 (*detn, U*)
Shestakova, M.T. *et al*, *CA*, 1972, **77**, 11912 (*ir*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SOC500.

8-Hydroxy-7-[(4-sulfo-1-naphthalenyl) azo]-5-quinolinesulfonic acid, 9CI H-00539

Snazox S



$C_{19}H_{13}N_3O_7S_2$ M 459.460
Strictly, the name Snazox S applies to the disodium salt. pK_{a1} 3.0; pK_{a2} 7.0.

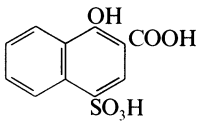
Di-Na salt: [53611-17-9].
Used as 0.1% aq. soln. as a metal indicator in chelatometry of Cu, Ni, Zn, Pb, Bi, Ga, In. Red brown powder. Sol. H_2O.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1962, **17**, 447, 831 (*synth, detn, In, Ga*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)
Vytras, K. *et al*, *Talanta*, 1975, **22**, 529 (*detn, Zn*)

1-Hydroxy-4-sulfo-2-naphthoic acid H-00540

1-Hydroxy-4-sulfo-2-naphthalenecarboxylic acid, 9CI

[66695-90-7]



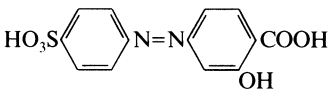
$C_{11}H_8O_6S$ M 268.247
Used as 1% aq. soln. for photometric detn. of Fe. Cryst. Sol. H_2O, EtOH.

Lajunen, L.H. *et al*, *Talanta*, 1981, **28**, 277, 603 (*synth, use, detn, Fe*)

2-Hydroxy-4-[(4-sulfophenyl)azo]benzoic acid H-00541

2-Hydroxy-4'-sulfoazobenzene-4-carboxylic acid. C.I. Mordant yellow 10, 8CI. C.I. 14010

[21542-82-5]



$C_{13}H_{10}N_2O_6S$ M 322.298
pK_{a3} 10.8.

Di-Na salt: Used as 0.1m*M* aq. soln. for photometric detn. of Be (λ_{max} 430 nm, ε 19300). Yellow cryst. (AcOH). Sol. AcOH, alkalis; mod. sol. H_2O.

Adamovich, L.P. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 994 (*synth, detn, Be*)

2-Hydroxy-5-[(4-sulfophenyl)azo]benzoic acid, 9CI H-00542

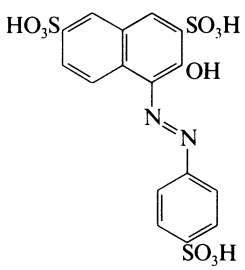
Hydroxy-4'-sulfoazobenzene-3-carboxylic acid

$C_{13}H_{10}N_2O_6S$ M 322.298

Di-Na salt: [6054-99-5].
Used for photometric detn. of Pd (λ_{max} 490 nm, ε 8100), Zn, Co, Cd; potentiometric detn. of UO_2, Pb, Hg, Mg. Orange-yellow plates (H_2O). Sol. H_2O, EtOH. pK_{a1} 6.32. Dec. > 250°.

Mohan, P.N. *et al*, *J. Indian Chem. Soc.*, 1972, **49**, 739, 1109 (*pKa, detn, UO_2, Pb, Hg, Mg*)
Mohan, P.N. *et al*, *Indian J. Chem.*, 1973, **11**, 73, 196 (*synth, detn, Co, Cd, Zn*)
Joseph, P.T. *et al*, *Indian J. Chem.*, 1975, **13**, 742 (*detn, Pd*)

3-Hydroxy-4-[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid H-00543



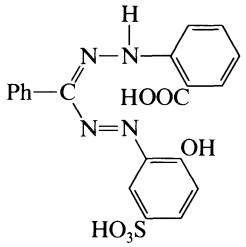
$C_{16}H_{12}N_2O_{10}S_3$ M 488.476
Tri-Na salt: [50880-65-4]. *Sulf-R-azo*
Used as aq. soln. for photometric detn. of Co (λ_{max} 560 nm). Brown cryst. powder. Sol. H_2O, EtOH.

Kuznetsov, V.I. *et al*, *CA*, 1977, **87**, 177125s, 193161f.

1-(2-Hydroxy-5-sulfophenyl)-3-phenyl-5-(2-carboxyphenyl)formazan H-00544

2-[1-(2-Hydroxy-5-sulfophenyl)-3-phenyl-5-formazano] benzoic acid, 9CI. Zincon

[135-52-4]



$C_{20}H_{16}N_4O_6S$ M 440.436

Metallochromic indicator for direct titrations of Zn; used as 0.1% soln. in EtOH for photometric detn. of Zn (λ_{max} 620 nm, ε 20000), Cu (λ_{max} 625 nm, ε 23000). Brown violet powder. Sol. alkalis, EtOH; insol. H_2O. Mp 203° dec.

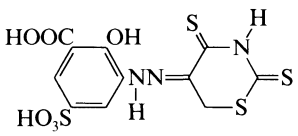
[62625-22-3]

Yoe, J.H. *et al*, *Anal. Chim. Acta*, 1952, **6**, 526.
Rush, R.M. *et al*, *Anal. Chem.*, 1954, **26**, 1345 (*detn, Zn, Cu*)
McCall, J.T. *et al*, *Anal. Chem.*, 1958, **30**, 1345 (*use*)
Scroggie, L.E. *et al*, *Anal. Chim. Acta*, 1959, **21**, 282 (*use*)
Sugawara, M. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1973, **22**, 1219 (*detn, Cu*)
Vytrasova, J. *et al*, *Collect. Czech. Chem. Commun.*, 1976, **41**, 47 (*use*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 284 (*use*)
Koupparis, M.A. *et al*, *Analyst (London)*, 1986, **111**, 1311 (*use*)
West, T.S. *et al*, *The Determination of Trace Metals in Natural Waters*, Blackwell, Oxford, 1988, 23.
Onishi, H., *Photometric Determination of Traces of Metals, Part IIb: Individual Metals. Magnesium to Zinc*, John Wiley, New York, 4th Ed., 1989, 719.

2-Hydroxy-5-sulfo-3-[(tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo]benzoic acid, 9CI H-00545

Carboxysulfophenolazothiopropiorhodanine

[67627-62-7]



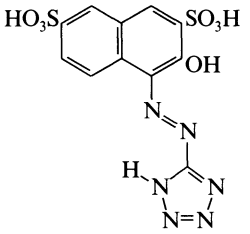
$C_{11}H_9N_3O_6S_4$ M 407.473

Various tautomers known. Used as 0.1% aq. soln. for photometric detn. of Ag, Au, Pd, Pt. Orange cryst. Sol. H_2O, EtOH, Me_2CO.

Gur'eva, R.F. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 632 (*synth, detn, Ag*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1987, **34**, 87 (*rev*)

3-Hydroxy-4-(1*H*-tetrazol-5-ylazo)-2,7-naphthalenedisulfonic acid, 9CI H-00546

[35332-95-7]



$C_{11}H_8N_6O_7S_2$ M 400.352

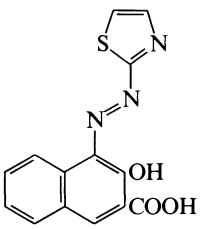
Used as 1m*M* aq. soln. for photometric detn. of Pd (λ_{max} 665 nm, ε 10000). Orange cryst. Sol. H_2O.

Fulle Soldi, T. *et al*, *Gazz. Chim. Ital.*, 1977, **107**, 347 (*synth*)
Pesavento, M. *et al*, *Analyst (London)*, 1985, **110**, 801 (*detn, Pd*)

3-Hydroxy-4-(2-thiazolylazo)-2-naphthalenecarboxylic acid, 9CI H-00547

1-(2-Thiazolylazo)-2-naphthol-3-carboxylic acid

[22026-06-8]



$C_{14}H_9N_3O_3S$ M 299.309

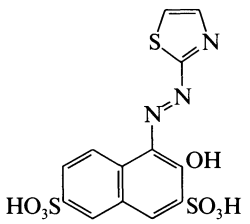
Used as a 1m*M* soln. in DMF for photometric detn. of Ga (λ_{max} 690 nm, ε 3300), In (λ_{max} 580 nm, ε 11000). Cryst. (AcOH). pK_{a1} 3.4; pK_{a2} 10.0 (0.1*M* KCl).

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 686; 1977, **32**, 1847 (*synth, detn, Ga, In*)

3-Hydroxy-4-(2-thiazolylazo)-2,7-naphthalenedisulfonic acid, 9CI H-00548

1-(2-Thiazolylazo)-2-naphthol-3,6-disulfonic acid

[2172-27-2]



$C_{13}H_9N_3O_7S_3$ M 415.428

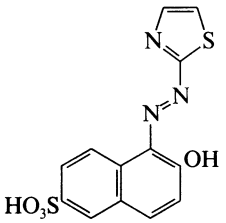
Used as a 1m*M* aq. soln. for modification of anion exchangers for preconcentration of Pd, titrimetric detn. of Ga, In; mercurimetric indicator; photometric detn. of Ga (λ_{max} 570 nm, ε 23300), In (λ_{max} 570 nm, ε 24700), Ni (λ_{max} 596 nm, ε 26500), Tl (λ_{max} 580 nm, ε 29800); as metallochromic indicator in titrimetric detn. of Cd, Co, Cu, Ni, Pb. Cryst. Sol. H_2O.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 2165, 2361; 1974, **29**, 1758 (*detn, Ga, In, Tl, Ni*)
Zholondkovskaya, T.N. *et al*, *CA*, 1973, **78**, 143481d; **79**, 121519r (*photometric, titrimetric, detn, Ga, In*)

Ciba, J. *et al*, *Collect. Czech. Chem. Commun.*, 1973, **38**, 3405 (*use, ind*)
Andreeva, Z.F. *et al*, *CA*, 1974, **80**, 36186f (*detn, Ni*)
Vostova, J. *et al*, *Collect. Czech. Chem. Commun.*, 1976, **41**, 1139 (*detn, Pd*)
Marchak, T.V. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 2361 (*detn, Pd*)
Pesavento, M. *et al*, *Analyst (London)*, 1983, **108**, 1128 (*use, ind*)

6-Hydroxy-5-(2-thiazolylazo)-2-naphthalenesulfonic acid H-00549

1-(2-Thiazolylazo)-2-naphthol-6-sulfonic acid

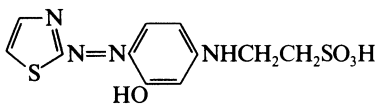


$C_{13}H_9N_3O_4S_2$ M 335.364
Used as a 0.1% soln. in MeOH as metallochromic indicator for titrimetric detn. of Co, Cu, Ni, Pb, Zn. Cryst. Sol. H_2O. pK_{a1} 8.38 (H_2O), pK_{a1} 8.44 (50% MeOH aq.).

Skytte Jensen, B., *Acta Chem. Scand.*, 1960, **14**, 927 (*detn, Co, Cu, Ni*)
Nickless, G. *et al*, *Anal. Chim. Acta*, 1967, **39**, 37 (*pKa*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

2-[[3-Hydroxy-4-(2-thiazolylazo)phenyl]amino]ethanesulfonic acid, 9CI H-00550

2-(2-Thiazolylazo)-5-[N-(sulfoethyl)amino]phenol
[104932-68-5]

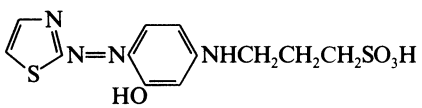


$C_{11}H_{12}N_4O_4S_2$ M 328.372
Used as 0.1% aq. soln. for photometric detn. of Fe(*II*) (λ_{max} 732 nm, ε 19000, pH 8), Co, Ni, Cu, Zn. Dark red powder. Sol. H_2O. Mp >280° dec. pK_{a2} 3.0; pK_{a3} 8.4 (μ = 0.1, 25°).

Ueda, K. *et al*, *Analyst (London)*, 1986, **111**, 733 (*synth, use*)

3-[[3-Hydroxy-4-(2-thiazolylazo)phenyl]amino]-1-propanesulfonic acid, 9CI H-00551

2-(2-Thiazolylazo)-5-[N-(sulfopropyl)amino]phenol
[104932-69-6]

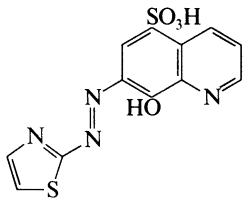


$C_{12}H_{14}N_4O_4S_2$ M 342.399
Used as 0.1% aq. soln. for photometric detn. of Fe(*II*) (λ_{max} 742 nm, ε 25400, pH 9.5), Co, Ni, Zn. Dark red powder. Sol. H_2O. Mp >280° dec. pK_{a2} 3.24; pK_{a3} 9.0 (μ = 0.1, 25°).

Ueda, K. *et al*, *Analyst (London)*, 1986, **111**, 733 (*synth, use*)

8-Hydroxy-7-(2-thiazolylazo)-5-quinolinesulfonic acid, 9CI H-00552

[3885-61-8]

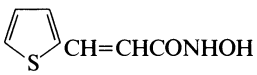


$C_{12}H_8N_4O_4S_2$ M 336.352
Used as a 0.4m*M* soln. in aq. DMF/Me_2CO for photometric detn. of Zn (λ_{max} 510 nm, ε 87100); gives colour reactions with Mn(*II*), U(*VI*), Zn. Cryst. Sol. DMF.

Rudometkina, T.F. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 877, 1945 (*detn, Mn, U, Zn*)

N-Hydroxy-3-(2-thienyl)-2-propenamide H-00553

2-Thiophenylacrylohydroxamic acid



$C_7H_7NO_2S$ M 169.204
N-(*3-Methylphenyl*): [119581-99-6]. N-*Hydroxy*-N-(*3-methylphenyl*)-*3-(2-thienyl)-2-propenamide*, *9CI*. N-m-*Tolyl-2-thiophenylacrylohydroxamic acid*
$C_{14}H_{13}NO_2S$ M 259.328
Used as 0.1*M* soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 540 nm, ε 7600, 3.5-7.5*M* HCl). Cryst. (C_6H_6). Sol. $CHCl_3$, C_6H_6.
N-(*4-Methylphenyl*): [119581-98-5]. N-*Hydroxy*-N-(*4-methylphenyl*)-*3-(2-thienyl)-2-propenamide*, *9CI*
Used as 0.1*M* soln. in $CHCl_3$ for extraction-photometric detn. of V(*V*) (λ_{max} 540 nm, ε 8000, 3.5-7.5*M* HCl). Cryst. (C_6H_6). Sol. $CHCl_3$, C_6H_6.

Abbasi, S.A. *et al*, *Analyst (London)*, 1988, **113**, 1561 (*synth, detn, V*)

N-Hydroxy-2-thiophenecarboxamide, 9CI H-00554

2-Thenoylhydroxamic acid. 2-Thiophenecarbohydroxamic acid, 8CI
[17698-15-6]

$C_5H_5NO_2S$ M 143.166
Cryst. (H_2O). Mp 123-124.5°.
N-*Ph*: [29556-13-6].
$C_{11}H_9NO_2S$ M 219.264
Used as a 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V(λ_{max} 530 nm, ε 5450). Cryst. (pet. ether). Mp 98°.
N-(*4-Methylphenyl*): [29556-14-7].
$C_{12}H_{11}NO_2S$ M 233.290
Used as a 0.1% soln. in $CHCl_3$ for extraction-photometric detn. of V. Cryst. (C_6H_6/pet. ether). Mp 123°.
N-(*3-Chlorophenyl*): [78181-58-5].
$C_{11}H_8ClNO_2S$ M 253.708
Used as 0.5% soln. in EtOH for extraction-photometric detn. of Sn(*IV*) (λ_{max} 470 nm, ε 48800, $CHCl_3$/EtOH), U(*VI*) (λ_{max} 560 nm, ε 15000). Cryst. Sol. EtOH.
N-(*4-Chlorophenyl*): [68166-12-1].

Used for extraction-photometric detn. of V (λ_{max} 530 nm, ε 5500, $CHCl_3$), Sn(*IV*) (λ_{max} 480 nm, ε 51800, $CHCl_3$/EtOH). Cryst. Sol. EtOH, Me_2CO, C_6H_6, $CHCl_3$; insol. H_2O.

N-(*2-Methoxyphenyl*): [59995-19-6]. N-*Hydroxy*-N-(*2-methoxyphenyl*)-*2-thiophenecarboxamide*, *9CI*

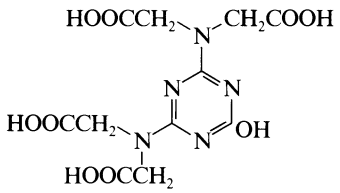
$C_{12}H_{11}NO_3S$ M 249.290

Used for extraction-photometric detn. of V(*V*) (λ_{max} 545 nm, ε 7200). Cryst. (C_6H_6). Mp 161°.

Jones, L.W. *et al*, *J. Am. Chem. Soc.*, 1921, **43**, 2422 (*synth*)
Tandon, S.G. *et al*, *Anal. Chem.*, 1961, **33**, 1267; 1964, **36**, 1378.
Hase, *Chem. Pharm. Bull.*, 1971, **19**, 363 (*synth*)
Agrawal, Y.K. *et al*, *J. Chem. Eng. Data*, 1971, **16**, 371, 495 (*synth, deriv*)
Abbasi, S.A., *Anal. Lett.*, 1976, **9**, 113; 1979, **12**, 1027 (*deriv, use*)
Pande, K.R. *et al*, *CA*, 1979, **90**, 179561s (*detn, V*)
Agrawal, Y.K. *et al*, *Analyst (London)*, 1985, **110**, 1325 (*detn, Sn*)
Agrawal, Y.K. *et al*, *J. Radioanal. Nucl. Chem.*, 1986, **97**, 255 (*detn, U*)

6-Hydroxy-1,3,5-triazine-2,4-diyldinitrilotetraacetic acid H-00555

2,4-Diamino-6-hydroxy-s-*triazine*-N-*tetraacetic acid*



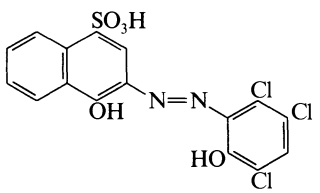
$C_{11}H_{13}N_5O_9$ M 359.252

Used as complexing agent for many metals. Cryst. (H_2O). Sol. H_2O, alkalis; spar. sol. EtOH; insol. Me_2CO, C_6H_6, $CHCl_3$.

Lastovsky, R.P. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 419 (*synth, use*)

4-Hydroxy-3-[(2,3,5-trichloro-6-hydroxyphenyl)azo]-1-naphthalenesulfonic acid H-00556

2-(2-Hydroxy-3,5,6-trichlorophenylazo)-1-naphthol-4-sulfonic acid. Fast violet BS. Diamond chrome blue 8RL. Metachrome brilliant blue 8RL. Solochromate fast violet B. C.I. Mordant violet 4. C.I. 14760



$C_{16}H_9Cl_3N_2O_5S$ M 447.682

Na salt: [5858-47-9].

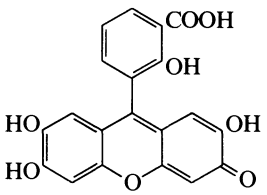
Used as aq. soln. as indicator for titrimetric detn. of Cu, Mn, Pb. Dark red cryst. powder. Sol. H_2O; mod. sol. EtOH; insol. C_6H_6.

Belcher, R. *et al*, *Chemist-Analyst*, 1957, **46**, 86 (*use*)
Colour Index, 3rd Edn., 1971, **4**, 4069 (*synth*)

2-Hydroxy-3-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, 9CI H-00557

2-Hydroxy-3-carboxyphenylfluorone

[68925-71-3]



$C_{20}H_{12}O_8$ M 380.310

Used for photometric detn. of Hf, Ti, Zr. Orange cryst. Mod. sol. H_2O.

Holler, P. *et al*, *CA*, 1979, **90**, 47862f; 1980, **93**, 87916v (*detn, Hf, Zr, Ti*)

2-Hydroxy-4-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, 9CI H-00558

(3-Hydroxy-4-carboxyphenyl)fluorone

[68925-73-5]

$C_{20}H_{12}O_8$ M 380.310

Used for photometric detn. of Hf, Ti, Zr. Orange cryst. Mod. sol. H_2O.

Holler, P. *et al*, *CA*, 1979, **90**, 47862f; 1980, **93**, 87916v (*detn, Hf, Zr, Ti*)

3-Hydroxy-2-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, 9CI H-00559

(2-Hydroxy-6-carboxyphenyl)fluorone

[68925-72-4]

$C_{20}H_{12}O_8$ M 380.310

Used for photometric detn. of Hf, Ti, Zr. Orange cryst. Mod. sol. H_2O.

Holler, P. *et al*, *CA*, 1979, **90**, 47862f (*detn, Hf, Zr*)
Holler, P. *et al*, *CA*, 1980, **93**, 87916v (*detn, Ti*)

2-Hydroxy-*N*,*N*,*N*-trimethyl-1-dodecanaminium(1+), 9CI H-00560

[50595-48-7]

$H_3C(CH_2)_{10}CH(OH)N^{\oplus}Me_3$

$C_{15}H_{34}NO^{\oplus}$ M 244.440 (ion)

Bromide:

$C_{15}H_{34}BrNO$ M 324.344

Used as a 0.3% aq. soln. to increase sensitivity of detn. of Mo(*VI*), Ni with Chromazurol S and Pyrogallol Red. Cryst. Sol. H_2O.

Takeuchi, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1966, **15**, 473.
Shijo, Y. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1966, **15**, 1063; 1968, **17**, 1192 (*detn, Ni, Cu*)
Japan. Pat., 73 52 712, (1973); *CA*, **80**, 26738y (*synth*)

N-Hydroxy-3,5,5-trimethyl-*N*-phenylhexanamide, 9CI H-00561

N-*Phenyl*-N-(*3,5,5-trimethylhexanoyl*)*hydroxylamine*

[132499-92-4]

$(H_3C)_3CCH_2CH(CH_3)CH_2CON(OH)Ph$

$C_{15}H_{23}NO_2$ M 249.352

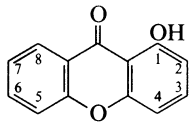
Used as 0.1m*M* CCl_4 soln. for extraction separation of lanthanides. Cryst. (Et_2O/hexane). Sol. Et_2O, EtOAc, CCl_4, hexane. Mp 90-91°.

Haraguchi, K. *et al*, *Anal. Sci.*, 1990, **6**, 877 (*synth, use*)

1-Hydroxyxanthone H-00562

*1-Hydroxy-9*H*-xanthen-9-one, 9CI*

[719-41-5]



$C_{13}H_8O_3$ M 212.204

Used as a 0.015m*M* aq. soln. for photometric and fluorimetric detn. of many metals. Yellow needles (EtOH). Mp 148-149°. pK_a 4.1.

Ac: [51584-72-6].
$C_{15}H_{10}O_4$ M 254.242
Prisms (EtOH). Mp 170°.

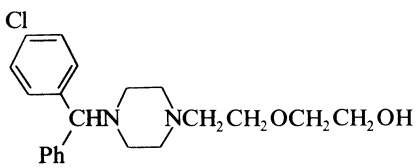
Me ether: [6563-60-6]. *2-Methoxyxanthone*
$C_{14}H_{10}O_3$ M 226.231
Yellow needles (C_6H_6/ligroin or EtOH). Mp 138°.

Konig, E. *et al*, *Ber.*, 1894, **27**, 1996 (*synth*)
Ullman, F. *et al*, *Justus Liebigs Ann. Chem.*, 1906, **350**, 113 (*synth*)
Pankajamani, K.S. *et al*, *J. Sci. Ind. Res., Sect. B*, 1954, **13**, 369 (*synth*)
de Barros Correa, D. *et al*, *Phytochemistry*, 1970, **9**, 447 (*uv*)
Murata, A. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1972, **21**, 487 (*use*)
Akhtar, Z.M. *et al*, *Org. Mass Spectrom.*, 1973, **7**, 647 (*ms*)
Mizutani, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1974, **47**, 1596 (*pKa*)

Hydroxyzine, BAN, INN H-00563

2-[2-[4-[(4-Chlorophenyl)phenylmethyl]-1-piperazinyl]ethoxy] ethanol, 9CI. Numerous proprietary names

[68-88-2]



$C_{21}H_{27}ClN_2O_2$ M 374.909

▷ KK2275000.

(±)-*form*

Tranquilliser. Antihistamine. Oil. $Bp_{0.5}$ 220°.

B,2HCl: [2192-20-3]. *Atarax. Vistaril parenteral. Hydroxyzine hydrochloride, USAN*
Used for photometric detn. of Co. Sol. H_2O. Mp 193°.
▷ KK2280000.

Embonate (1:1): [10246-75-0]. *Hydroxyzine pamoate, USAN, JAN. Masmoran. Paxistil. Equipose*

3,4,5-Trimethoxybenzoyl: [18465-25-3]. ***Hydroxyzine trimethoxybenzoate.*** *SAS 521*
$C_{31}H_{37}ClN_2O_6$ M 569.096
Antiarrhythmic agent.

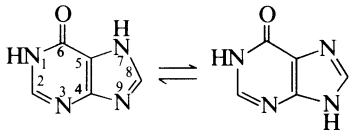
3,4,5-Trimethoxybenzoyl; B,2HCl: [20541-83-7].
Mp 190-192°.
▷ KK2355000.

Belg. Pat., 523 899, (1954); *CA*, **53**, 18072d (*synth*)
Cannizarro, G., *Boll. Chim. Farm.*, 1965, **104**, 39 (*pharmacol, metab*)
Thompson, W.E. *et al*, *J. Pharm. Sci.*, 1965, **54**, 1819 (*ir*)
Torrielli, M.V. *et al*, *Eur. J. Med. Chem.*, 1968, **3**, 210; *Boll. Chim. Farm.*, 1968, **107**, 606 (*trimethoxybenzoate*)
Siek, T.J., *J. Forensic Sci.*, 1974, **19**, 193 (*uv*)
Marozzi, E. *et al*, *Farmaco, Ed. Prat.*, 1976, **31**, 180 (*glc*)
Tsau, J. *et al*, *Anal. Profiles Drug Subst.*, 1978, **7**, 319 (*rev*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 6138, 6139.
Palmier, L. *et al*, *Drugs Exp. Clin. Res.*, 1984, **10**, 119 (*pharmacol*)
Simons, F.E.R. *et al*, *J. Allergy Clin. Immunol.*, 1984, **73**, 69.
Nacea, V. *et al*, *CA*, 1985, **103**, 167076m (*use*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 6215 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CJR909.

Hypoxanthine H-00564

*1,7-Dihydro-6*H*-purin-6-one, 9CI. 6(1*H*)-Purinone. Sarcine. Sarkine*

[68-94-0]



1,7-Dihydro-*form* 1,9-Dihydro-*form*

$C_5H_4N_4O$ M 136.113

Many alternative tautomeric forms possible. Occurs widely in plant and animal tissue. Used as a 0.8% soln. in DMF for pptn. detn. of Ag, Bi, Pd. Needles. Mp >360°.

▷ UP0791000.

1,7-Dihydro-form

1,7-Di-Me:
$C_7H_8N_4O$ M 164.166
Cryst. Mp 245-246°.

1-Oxide:
$C_5H_4N_4O_2$ M 152.112
▷ Carcinogenic.

1,9-Dihydro-form [51953-23-2]

1,9-Di-Me:
$C_7H_8N_4O$ M 164.166
Cryst. (EtOH). Mp 255-256°.

3,7-Dihydro-form

Minor tautomer.

3,7-Di-Me:
$C_7H_8N_4O$ M 164.166
Cryst. Mp 242-245°.

3,9-Dihydro-form

Minor tautomer.

7,9-Dihydro-form

Imidazolium betaine-form

7,9-Di-Me: [5752-16-9]. *6-Hydroxy-7,9-dimethyl-7*H*-purinium hydroxide inner salt, 9CI*
$C_7H_8N_4O$ M 164.166
Cryst. (MeOH). Mp 330-332°.

Jones, J.W. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 1914 (*derivs*)
Bullock, F.J. *et al*, *J. Org. Chem.*, 1964, **29**, 1988 (*pmr*)
Lister, J.H., *Chem. Heterocycl. Compd.*, (Weissberger, A. etal, Ed.), Part II, 1971 (*rev*)
Sekiya, M. *et al*, *Chem. Pharm. Bull.*, 1972, **20**, 209 (*synth*)
Lichtenberg, D. *et al*, *Isr. J. Chem.*, 1972, **10**, 805 (*nmr, uv, tautom*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, no. 2553 (*occur*)

Chenon, M.T. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 4636 (*cmr, tautom*)
Raurez, G. *et al*, *Quim. Anal.* (*Madrid*), 1975, **29**, 216 (*use*)
Schmalle, H.W. *et al*, *Acta Crystallogr., Sect. C*, 1988, **44**, 732 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DMC000.

I

1*H*-Imidazole, 9CI I-00001

Glyoxaline. Iminazole

[288-32-4]

$C_3H_4N_2$ M 68.078

Isol. from the seeds of *Lens culinaris*. Also present in the seeds of other legumes: *Adenanthera pavonina*, *Amphimas pterocarpoides*, *Cathormion altissimum*, *Erythrophleum* sp., *Lathyrus rotundifolius*, *L. sylvestris*, *Macrotyloma uniflorum*, *Parkia bicolor*, *Psophocarpus tetragonolobus*, *Tephrosia platycarpa*, *Vigna radiata*. Used as aq. soln. to accelerate the colour reaction in photometric detn. of Co with porphine. Sol. H_2O. Mp 88-90°. Bp 255°. pK_{a1} 7.0 (basic); pK_{a2} 14.52 (acidic) (25°).

▷ NI3325000.

N-*Formyl:* [3197-61-3]. *1H-Imidazole-1-carboxaldehyde, 9CI. 1-Formylimidazole*
$C_4H_4N_2O$ M 96.088
Formylating agent for amines effective at r.t. Hygroscopic cryst. Mp 53-55°. Loses CO at 60°.

N-*Ac:* [2466-76-4]. N-*Acetylimidazole*
$C_5H_6N_2O$ M 110.115
Transfer acetylating agent. Derivatisation reagent in anal., e.g. for ms of sugars. Mp 104-105°, Mp 101.5-102.5°.

▷ Exp. neoplastic agent. NI3400000.

N-*Benzoyl:* [10364-94-0].
$C_{10}H_8N_2O$ M 172.186
Mp 202-203°.

N-*Methoxycarbonyl:* [61985-23-7].
$C_5H_6N_2O_2$ M 126.115
Cryst. (C_6H_6/heptane). Mp 35-39°.

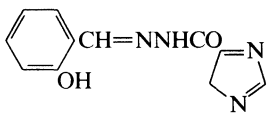
N-*Ethoxycarbonyl:* [19213-72-0].
$C_6H_8N_2O_2$ M 140.141
Bp_{60} 135-138°.

N-*Me:* see *1-Methylimidazole, M-00190*

1-Amino:
$C_3H_5N_3$ M 83.093
Oil.

Boyer, J.H., *J. Am. Chem. Soc.*, 1952, **74**, 6274 (*deriv*)
Crosby, D.G. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 4458 (*deriv*)
Org. Synth., Coll. Vol., 3, 1955, 471.
Brown, D.J., *J. Chem. Soc.*, 1958, 1974.
Reddy, J.S. *et al*, *J. Chem. Soc.*, 1963, 1414 (*deriv*)
Bredereck, H. *et al*, *Chem. Ber.*, 1964, **97**, 827 (*synth*)
Reddy, J.S. *et al*, *Chem. Ind. (London)*, 1965, 1426 (*deriv*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 407; 1969, **2**, 220.
Grimmett, M.R., *Adv. Heterocycl. Chem.*, 1970, **12**, 103; 1980, **27**, 241 (*bibl*)
Bosso, C. *et al*, *Org. Mass Spectrom.*, 1977, **12**, 493 (*use, acetyl deriv*)
Ishii, H. *et al*, *Mikrochim. Acta*, 1983, **1**, 279.
Hayman, A.R. *et al*, *Phytochemistry*, 1987, **26**, 3247 (*isol, pmr, ms*)
Foces-Foces, M. de La.C. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1990, 237 (*1-Amino*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ACO250, IAL000.

5*H*-Imidazole-4-carboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, 9CI I-00002



$C_{11}H_{10}N_4O_2$ M 230.226

Used as a 0.5% soln. in EtOH for photometric detn. of Ti; extraction-photometric detn. of Fe, Ti, V. Cryst. (EtOH aq.). Sol. EtOH. Mp 273°.

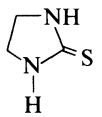
[71112-97-5]

Dolgorev, A.V. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1093 (*detn, Fe, Ti, V*)

2-Imidazolidinethione, 9CI, 8CI I-00003

2-Mercapto-4,5-dihydroimidazole. Ethylene thiourea. ETU. Accel 22. Accel 22S

[96-45-7]



$C_3H_6N_2S$ M 102.160

Polymer vulcanising and curing agent. Reagent for the characterization of alkyl halides. Used as 0.5% Me_2CO soln. as a displacing agent in the complexometric (EDTA) detn. of Hg(*II*); as 1% soln. for extraction-photometric detn. of Bi (λ_{max} 485 nm, ε 1000). Needles or prisms (EtOH or pentanol). Sol. H_2O; insol. Et_2O, $CHCl_3$, C_6H_6, Me_2CO. Mp 197-200°.

▷ Exp. carcinogen and teratogen. Industrial use subject to severe restriction. NI9625000.

1-Me: [13431-10-2].
$C_4H_8N_2S$ M 116.187
Mp 132°.

1,3-Di-Me: [13461-16-0].
$C_5H_{10}N_2S$ M 130.213
Used as 1% aq. soln. for extraction-photometric detn. of Bi (λ_{max} 430 nm, ε 13000, toluene), Sb. Cryst. (pentane/Me_2CO). Mp 152°.

▷ NI9680000.

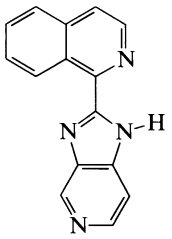
Org. Synth., Coll. Vol., 3, 1955, 394 (*synth*)
Boyd, R.N. *et al*, *Anal. Chem.*, 1960, **32**, 551 (*use*)
Matolcsy, G., *Chem. Ber.*, 1968, **101**, 522 (*synth*)
Cumper, C.W.N. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1972, 2045 (*synth*)
Kohn, H. *et al*, *J. Org. Chem.*, 1977, **42**, 941 (*synth, ir, pmr, cmr, ms*)
Dwarakanath, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1979, **52**, 2699 (*ir*)
Assef, G. *et al*, *Bull. Soc. Chim. Fr.*, 1979, 165 (*synth*)
Chieh, C. *et al*, *Can. J. Chem.*, 1982, **61**, 211 (*cryst struct, deriv*)
Shelikhina, E.I. *et al*, *Zh. Neorg. Khim.*, 1982, **27**, 2065 (*synth, detn, Bi*)
Broda, W. *et al*, *Justus Liebigs Ann. Chem.*, 1983, 1839 (*synth*)

Bogatskii, A.V. *et al*, *Synthesis*, 1984, 136 (*synth*, *Di-Me*)
Narayana, B. *et al*, *Talanta*, 1988, **35**, 719 (*detn*, *Hg*)
Presnyak, I.S. *et al*, *Zh. Anal. Khim.*, 1990, **45**, 1548 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IAQ000.

1-(1*H*-Imidazo[4,5-*c*]pyridin-2-yl) isoquinoline, 8CI I-00004

2-(1-Isoquinolyl)-1H-imidazo[4,5-c]pyridine

[17583-65-2]



$C_{15}H_{10}N_4$ M 246.271

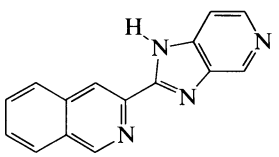
Used as 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 654 nm, ε 1190). Cryst. (C_6H_6). Sol. common org. solvs. Mp 221-222°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 483 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*detn*, *Fe*)

3-(1*H*-Imidazo[4,5-*c*]pyridin-2-yl) isoquinoline, 8CI I-00005

2-(3-Isoquinolyl)-1H-imidazo[4,5-c]pyridine

[17583-66-3]



$C_{15}H_{10}N_4$ M 246.271

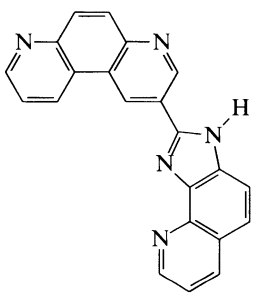
Used as 5m*M* soln. in aq. EtOH to give colour reaction with Fe(*II*). Cryst. (EtOH). Sol. common org. solvs. Mp 278-279°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 483 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

2-(3*H*-Imidazo[4,5-*h*]quinolin-2-yl)-4,7-phenanthroline, 8CI I-00006

2-(2-Phenanthrolyl)-2H-imidazo[4,5-h]quinoline

[14241-37-3]



$C_{22}H_{13}N_5$ M 347.378

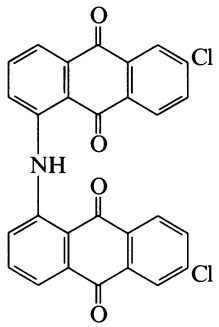
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 597 nm, ε 10700). Cryst. (C_6H_6). Sol. common org. solvs. Mp 269-270°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*detn*, *Fe*)

1,1′-Iminobis[6-chloroanthraquinone], 8CI I-00007

1,1′-Iminobis[6-chloro-9,10-anthracenedione]. 1,1′-Bis(6-chloroanthraquinolyl)amine. 6,6′-Dichloro-1,1′-dianthrimide

[17401-57-9]



$C_{28}H_{13}Cl_2NO_4$ M 498.320

Used as 1m*M* soln. in conc. H_2SO_4 for photometric detn. of B. Dark red cryst. powder. Sol. conc. acids, C_6H_6, $CHCl_3$. Mp 305-315°.

Grob, R.L. *et al*, *Anal. Chim. Acta*, 1967, **39**, 115.

3,3′-Iminobis[1-(4-methylphenyl)-2-propen-1-one], 9CI I-00008

Bis[2-(4-methylbenzoyl)vinyl]amine

[53669-99-1]

$C_{20}H_{19}NO_2$ M 305.376

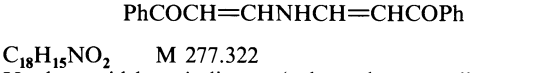
Used as acid-base indicator (colour change: yellow → orange). Yellow cryst. (PhCl). Mp 232-233°.

Ollinger, P. *et al*, *Monatsh. Chem.*, 1974, **105**, 346 (*synth*, *nmr*, *use*, *ind*)

3,3′-Iminobis[1-phenyl-2-propen-1-one], 9CI I-00009

Bis(2-benzoylvinyl)amine

[30091-50-0]



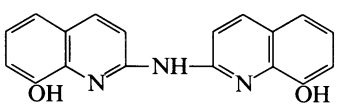
$C_{18}H_{15}NO_2$ M 277.322

Used as acid-base indicator (colour change: yellow → orange). Yellow cryst. (PhCl). Mp 230-231°.

Ollinger, P. *et al*, *Monatsh. Chem.*, 1974, **105**, 346 (*synth*, *nmr*, *use*, *ind*)

2,2′-Iminobis-8-quinolinol, 9CI I-00010

[85139-11-3]



$C_{18}H_{13}N_3O_2$ M 303.320

Used as 0.02m*M* EtOH soln. for fluorimetric detn. of Y, La, Lu. Cryst. Sol. EtOH, DMF.

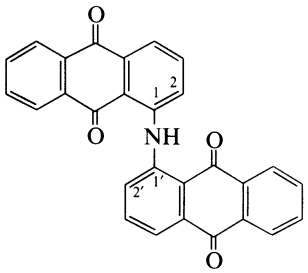
N-*Butyl*: [82361-90-8]. *2,2′-(Butylimino)bis-8-quinolinol*, 9CI
$C_{22}H_{21}N_3O_2$ M 359.427
Used as 0.02m*M* EtOH soln. for fluorimetric detn. of Y, La, Lu. Cryst. Sol. EtOH, DMF.

Kachin, S.V. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 1390 (*synth*, *use*)

1,1′-Iminodianthraquinone, 8CI I-00011

1,1′-Iminobis-9,10-anthracenedione, 9CI. 1,1′-Dianthrimide. Anthrimide. 1,1′-Dianthraquinolylamine

[82-22-4]



$C_{28}H_{15}NO_4$ M 429.431

Used as 0.04% soln. in conc. H_2SO_4 for photometric detn. of B (λ_{max} 630 nm, ε 19000), Ge, Se, Te. Deep-red needles (PhCl), rhombs ($PhNO_2$). Sol. conc. H_2SO_4; spar. sol. aniline, PhCl, $PhNO_2$; insol. org. solvs.

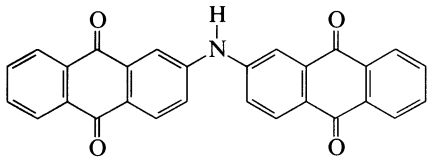
▷ CB7780000.

Ger. Pat., 162 824, (1905); *Chem. Zentralbl.*, 1905, **2**, 1206 (*synth*)
Eckert, A. *et al*, *Monatsh. Chem.*, 1914, **35**, 1129 (*synth*)
Skaar, O.B. *et al*, *Anal. Chim. Acta*, 1959, **21**, 370 (*detn, Ge*)
Danielsson, L., *Talanta*, 1959, **3**, 138, 203 (*detn, B*)
Langmyhr, F.S. *et al*, *Anal. Chim. Acta*, 1961, **25**, 262; 1966, **35**, 212 (*detn, B, Se*)
Kaczmarczyk, A. *et al*, *Anal. Chem.*, 1971, **43**, 271 (*detn, B*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IBI000.

2,2′-Iminodianthraquinone I-00012

2,2′-Iminobis-9,10-anthracenedione, 9CI. 2,2′-Dianthrimide. 2,2′-Dianthraquinoylamine

[572-82-7]



$C_{28}H_{15}NO_4$ M 429.431

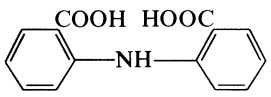
Used in photometric detn. of Se (conc. H_2SO_4). Red cryst. Sol. conc. H_2SO_4.

Langmyhr, F.J., *Anal. Chim. Acta*, 1960, **23**, 565; 1963, **29**, 377; 1966, **35**, 24.

2,2′-Iminodibenzoic acid, 8CI I-00013

2,2′-Iminobisbenzoic acid, 9CI. Diphenylamine-2,2′-dicarboxylic acid. Vanadox

[579-92-0]



$C_{14}H_{11}NO_4$ M 257.245

Used as a 0.1 or 1% soln. in conc. H_2SO_4 for photometric detn. of V (λ_{max} 610 nm, ε 23000); redox indicator (colour change: colourless → blue). Cryst. (EtOH). Sol. alkalis, conc. acids. Mp 314-316° (295°). E° +0.88 V (9*M* H_2SO_4); E° +1.26 V (1*M* H_2SO_4).

▷ DH2960000.

Di-Me ester: [34069-89-1].
$C_{16}H_{15}NO_4$ M 285.299
Cryst. (MeOH). Mp 102-103°.

Dichloride: [32621-46-8].
$C_{14}H_9Cl_2NO_2$ M 294.136
Yellow prisms. Mp 161-163° (155°).

Diamide: [32615-84-2]. *2,2′-Iminobisbenzamide, 9CI. 2,2′-Dicarbamoyldiphenylamine*
$C_{14}H_{13}N_3O_2$ M 255.276
Pale-yellow needles (DMF/MeOH). Mp 219-220°.

Kissanov, A.V. *et al*, *Bull. Soc. Chim. Fr.*, 1936, **3**, 2037 (*use*)
Frumina, N.S. *et al*, *Talanta*, 1969, **16**, 138 (*use*)
Hellwinkel, D. *et al*, *Chem. Ber.*, 1971, **104**, 1001 (*ester*)
Banerji, A. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1977, 1162 (*synth*)
Ozaki, K. *et al*, *J. Org. Chem.*, 1981, **46**, 1571 (*diamide*)

2,3′-Iminodibenzoic acid, 8CI I-00014

2,3′-Iminobisbenzoic acid, 9CI. Diphenylamine-2,3′-dicarboxylic acid

[27693-67-0]

$C_{14}H_{11}NO_4$ M 257.245

Used as a 0.1 or 1% soln. in conc. H_2SO_4 for photometric detn. of V (λ_{max} 578 nm, ε 10400); redox indicator (colour change; colourless → blue). Needles (EtOH). Sol. alkalis, conc. acids. Mp 296°. E° +1.12 V (0.1*M* H_2SO_4).

Ullmann, F. *et al*, *Justus Liebigs Ann. Chem.*, 1907, **355**, 355 (*synth*)
Kirsanov, A.V. *et al*, *Bull. Soc. Chim. Fr.*, 1936, **3**, 2037 (*use*)
Frumina, N.S. *et al*, *Talanta*, 1969, **16**, 138 (*use*)

2,4′-Iminodibenzoic acid, 8CI I-00015

2,4′-Iminobisbenzoic acid, 9CI. Diphenylamine-2,4′-dicarboxylic acid

[17332-57-9]

$C_{14}H_{11}NO_4$ M 257.245

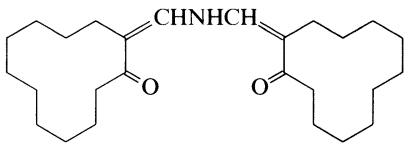
Used as a 0.1 or 1% soln. in conc. H_2SO_4 for photometric detn. of V (λ_{max} 568 nm, ε 18000); redox indicator (colour change; colourless → blue). Needles (EtOH). Sol. alkalis, conc. acids. Mp 290° (278-279°).

Di-Me ester:
$C_{16}H_{15}NO_4$ M 285.299
Mp 180-181°.

Ullmann, F. *et al*, *Justus Liebigs Ann. Chem.*, 1907, **355**, 356 (*synth*)
Picciola, G. *et al*, *Farmaco, Ed. Sci.*, 1968, **23**, 502 (*synth, props*)
Frumina, N.S. *et al*, *Talanta*, 1969, **16**, 138 (*use*)

2,2′-(Iminodimethylidene) biscyclododecanone, 9CI I-00016

[53670-00-1]



$C_{26}H_{43}NO_2$ M 401.631

Used as acid-base indicator (colour change: pale yellow → pale orange). Yellow cryst. Mp 150-152°.

Ollinger, P. *et al*, *Monatsh. Chem.*, 1974, **105**, 346 (*synth, nmr, use*)

2,2′-(Iminodimethylidene) biscyclohexanone, 9CI I-00017

[53670-01-2]

$C_{14}H_{19}NO_2$ M 233.310

Used as acid-base indicator (colour change: yellow → orange). Yellow cryst. Mp 164-165°.

Ollinger, P. *et al*, *Monatsh. Chem.*, 1974, **105**, 346 (*synth*, *nmr*, *use*, *ind*)

2,2′-(Iminodimethylidene)bis[3,4-dihydro-5,7-dimethyl-1(2*H*)-naphthalenone], 9CI I-00018

[53670-02-3]

As 2,2′-(Iminodimethylidene)bis[3,4-dihydro-1(2*H*)-naphthalenone], I-00019 with

R = CH_3

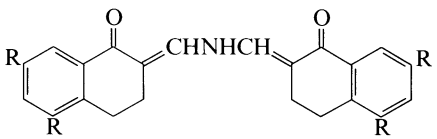
$C_{26}H_{27}NO_2$ M 385.505

Used as acid-base indicator (colour change: yellow → dark red). Yellow cryst. Mp 196-198°.

Ollinger, P. *et al*, *Monatsh. Chem.*, 1974, **105**, 346 (*synth*, *nmr*, *use*)

2,2′-(Iminodimethylidene)bis[3,4-dihydro-1(2*H*)-naphthalenone], 9CI I-00019

[36705-73-4]



R = H

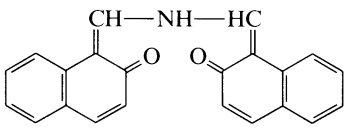
$C_{22}H_{19}NO_2$ M 329.398

Used as acid-base indicator (colour change: yellow → dark red). Yellow cryst. Mp 182-183°.

Ollinger, P. *et al*, *Monatsh. Chem.*, 1974, **105**, 346 (*synth*, *nmr*, *use*)

1,1′-(Iminodimethylidene)bis-2(1*H*)-naphthalenone, 9CI I-00020

[53732-90-4]



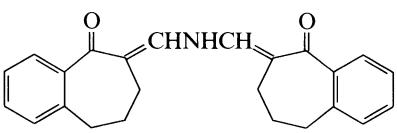
$C_{22}H_{15}NO_2$ M 325.366

Used as acid-base indicator (colour change: bright yellow → blue-green). Yellow cryst. Mp 272-273°.

Ollinger, P. *et al*, *Monatsh. Chem.*, 1974, **105**, 346 (*synth*, *nmr*, *use*)

6,6′-(Iminodimethylidene)bis[6,7,8,9-tetrahydro-5*H*-benzocyclohepten-5-one], 9CI I-00021

[53670-03-4]



$C_{24}H_{23}NO_2$ M 357.451

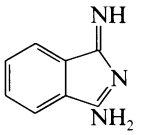
Used as acid-base indicator (colour change: yellow → bright red). Yellow cryst. Mp 215-216°.

Ollinger, P. *et al*, *Monatsh. Chem.*, 1974, **105**, 346 (*synth*, *nmr*, *use*)

1-Imino-1*H*-isoindol-3-amine, 8CI I-00022

3-Amino-1-iminoisoindole. 1,3-Diiminoisoindolenine. 1,3-Diiminoisoindoline. Phthalimidimide. Phthalocyanine blue 01216. Phthalogene brilliant blue IF3G. Fastogen blue 5040

[3468-11-9]



$C_8H_7N_3$ M 145.163

Commercially available. Used as aq. soln. for sensitive spot tests for Cu, Co, Ni, Zn, Cd. Yellow cryst. Sol. alcohols, acids; sl. sol. H_2O. Mp 199° dec.

▷ Severe irritant. NR3500000.

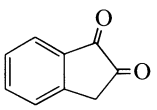
[57500-34-2]

Ackermann, G., *Mikrochim. Acta*, 1964, 222 (*use*)
Sigma-Aldrich Library of Chemical Safety Data, 1988, **1**, 1283B.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DNE400.

1,2-Indanedione I-00023

1H-Indene-1,2(3H)-dione, *9CI. 1,2-Dioxohydrindene. Oxindone*

[16214-27-0]



$C_9H_6O_2$ M 146.145

Yellow leaflets. Sol. hot H_2O. Mp 114-116°, Mp 95-115°, 95°.

2-Oxime: [15028-10-1]. *1H-Indane-1,2(3H)-dione-2-oxime*
$C_9H_7NO_2$ M 161.160
Used as EtOH soln. for pptn. of Pd. Needles. Mp 215° dec.

2-Semicarbazone: Mp 230-233° dec.

Phenylhydrazone: Mp 123-124°.

Bisphenylhydrazone: Mp 230-235° (222-223°).

Perkin, W.H. *et al*, *J. Chem. Soc.*, 1912, **101**, 234.
Ishiwara, F., *J. Prakt. Chem.*, 1924, **108**, 194.
Hock, H., *Chem. Ber.*, 1957, **84**, 122.
Cava, P. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 2255.
House, H.O. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 1463.
Bark, L.S. *et al*, *Talanta*, 1963, **10**, 1189 (*pptn*, *Pd*, *oxime*)
Undheim, K. *et al*, *Acta Chem. Scand., Ser. B*, 1975, **29**, 503.
Gupta, S.K. *et al*, *J. Pharm. Sci.*, 1976, **65**, 134.

1,3-Indanedione I-00024

1,3-Dioxohydrindene

[606-23-5]

$C_9H_6O_2$ M 146.145

Needles (ligroin). Spar. sol. H_2O, sol. hot EtOH, C_6H_6. Mp 130-131°. pK_a 7.2 (20°, 1% EtOH). Deep-yellow soln. in alkali (enol form).

▷ NK5070000.

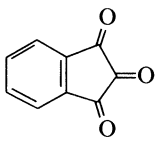
Dioxime: [6624-48-2].
$C_9H_8N_2O_2$ M 176.174
Mp 220-225° dec.

Phenylhydrazone: Mp 162-163°.
Bisphenylhydrazone: Pink needles. Mp 171°.
Bis(thiosemicarbazone): [3401-45-4]. *2,2′-(1H-Indene-1,3(2H)-diylidene)bishydrazinecarbothioamide, 9CI*
$C_{11}H_{12}N_6S_2$ M 292.388
Used as 0.8% DMF soln. for photometric detn. of $IO_4^{\ominus}$ (λ_{max} 520 nm, ε 4800, pH 1.7-2.5). Grey powder (Py aq.). Sol. Py, DMF; insol. H_2O, EtOH, Et_2O, C_6H_6. Mp 236-242° dec.

Horn, O. *et al*, *Chem. Ber.*, 1951, **84**, 607.
Grinsteins, V. *et al*, *Zh. Obshch. Khim.*, 1962, **32**, 1077 (*synth*)
Norcross, B.E., *J. Chem. Educ.*, 1965, **42**, 268.
Bravic, G. *et al*, *Cryst. Struct. Commun.*, 1976, **5**, 1 (*cryst struct*)
Hughes, D.W. *et al*, *Can. J. Chem.*, 1977, **55**, 3304 (*cmr*)
Shapiro, B.L. *et al*, *J. Phys. Chem. Ref. Data*, 1977, **6**, 919.
Callejon Mochon, M. *et al*, *Microchem. J.*, 1986, **23**, 83 (*detn, $IO_4^{\ominus}$*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IBS000.

1,2,3-Indanetrione I-00025

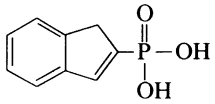
1H-Indene-1,2,3-trione, 9CI
[938-24-9]



$C_9H_4O_3$ M 160.129
Used as soln. (pH 5.5) in aq. 2-methoxyethanol for photometric detn. of NH_3. Cryst. Sol. 2-methoxyethanol; spar. sol. H_2O. Mp 241-243°.
2-Oxime: [13167-95-8].
$C_9H_5NO_3$ M 175.143
Cryst. (AcOH). Mp 200-201°.
2-(4-Nitrophenyl)hydrazone: [35117-30-7].
Orange-red cryst. (AcOH). Mp 310°.
Covalent hydrate: see *Ninhydrin, N-00071*
2-(Thiosemicarbazone): [102036-43-1].
$C_{10}H_7N_3O_2S$ M 233.250
Used as 5m*M* soln. in DMF for photometric detn. of Os (λ_{max} 440 nm, ε 64000). Orange needles (EtOH). Sol. DMF; spar. sol. EtOH, $CHCl_3$, C_6H_6. Mp 260-262°. pK_{a1} 4.60; pK_{a2} 8.10.
Trioxime: [112359-95-2].
$C_9H_7N_3O_3$ M 205.173
Used as a 0.01*M* soln. in aq. DMF for photometric detn. of Co (λ_{max} 320 nm, ε 53200, pH 4.5-7.5). Cryst. Sol. DMF, H_2O.

Ruhemann, S., *J. Chem. Soc.*, 1910, **97**, 1438, 2025 (*synth*)
Shriner, R.L. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 3026.
Vanags, G. *et al*, *Ber.*, 1938, **71**, 1267 (*synth*)
Jacobs, S., *Analyst (London)*, 1960, **85**, 257.
Regitz, M. *et al*, *Justus Liebigs Ann. Chem.*, 1965, **690**, 125.
Brown, R.F.C. *et al*, *Aust. J. Chem.*, 1966, **19**, 1045 (*ms*)
Lepley, A.R. *et al*, *Tetrahedron*, 1966, **22**, 101 (*ir*)
Reddy, K.H. *et al*, *Mikrochim. Acta*, 1985, **2**, 319 (*synth, detn, Os*)
Rao, D.M. *et al*, *Indian J. Chem., Sect. A*, 1987, **26**, 363 (*trioxime, synth*)
Rao, D.M. *et al*, *Mikrochim. Acta*, 1987, **2**, 57 (*trioxime, use*)

1*H*-Inden-2-ylphosphonic acid, 9CI I-00026

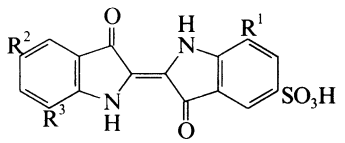


$C_9H_9O_3P$ M 196.142
Used as a 1% aq. soln. for pptn. sepn. of Th, Zr. Cryst. (AcOH) or plates (H_2O). Mp 184°.
Di-Et ester: Diethyl 1H-inden-2-ylphosphonate
$C_{13}H_{17}O_3P$ M 252.249
Liq. Bp_1 150°.

Bergmann, E. *et al*, *Ber.*, 1930, **63**, 1158 (*synth*)
Willard, H. *et al*, *Anal. Chem.*, 1948, **20**, 165 (*detn, Zr*)
Anisimov, K.N. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1956, 16; *CA*, **50**, 13784 (*ester*)
Lukianov, V.F. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 1097 (*detn, Th*)
Kenyon, G.L. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 3557 (*synth, pmr*)

Indigo-5-sulfonic acid I-00027

2-(1,3-Dihydro-3-oxo-2H-indol-2-ylidene)-2,3-dihydro-3-oxo-1H-indole-5-sulfonic acid, 9CI. 3,3′-Dioxo-[$\Delta^{2,2'}$-biindoline]-5-sulfonic acid, 8CI. Indigo 5-monosulfonic acid
[605-18-5]



$R^1 = R^2 = R^3 = H$

$C_{16}H_{10}N_2O_5S$ M 342.331
Redox indicator used as aq. soln.; used in detn. of Mn(*II*). Dark bluish-red cryst. powder. Sol. H_2O; spar. sol. EtOH. E° +0.262 V (30°).

[72629-95-9]

Brant, L.Z., *Fresenius' Z. Anal. Chem.*, 1914, **53**, 1 (*use*)
Rao, G.G. *et al*, *Talanta*, 1967, **14**, 849 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)
Rukmini, N. *et al*, *Fresenius' Z. Anal. Chem.*, 1979, **298**, 159 (*detn*)
Sychev, A.Ya. *et al*, *CA*, 1980, **92**, 68967a (*detn, Mn*)

Indigo-5,5′,7,7′-tetrasulfonic acid I-00028

2-(1,3-Dihydro-3-oxo-5,7-disulfo-2H-indol-2-ylidene)-2,3-dihydro-3-oxo-1H-indole-5,7-disulfonic acid. 3,3′-Dioxo-[Δ,$\Delta^{2,2'}$-biindoline]-5,5′,7,7′-tetrasulfonic acid, 8CI. C.I. 73020 Acid dye. Indigotine P

As Indigo-5-sulfonic acid, I-00027 with

$R^1 = R^2 = R^3 = SO_3H$

$C_{16}H_{10}N_2O_{14}S_4$ M 582.524
E° +0.365 V (30°).
Tetra-Na salt: [6371-42-2].
Redox indicator used as aq. soln. Dark bluish-red cryst. powder. Sol. H_2O; insol. EtOH.
Tetra-K salt: [28699-96-9].
Commercially available. Light sensitive.

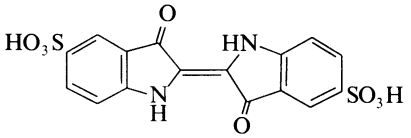
[67627-19-4]

Brandt, L.Z., *Fresenius' Z. Anal. Chem.*, 1914, **53**, 1 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

Indigotindisulfonic acid I-00029

2-(1,3-Dihydro-3-oxo-5-sulfo-2H-indol-2-ylidene)-2,3-dihydro-3-oxo-1H-indole-5-sulfonic acid, 9CI. 3,3'-Dioxo[$\Delta^{2,2'}$-biindoline]-5,5'-disulfonate, 8CI. Indigodisulfonic acid

[483-20-5]



$C_{16}H_{10}N_2O_8S_2$ M 422.396

Obt. by sulfonating indigo with conc. or sl. fuming H_2SO_4 (Barth, 1740). Cryst. Sol. H_2O.

Di-Na salt: [860-22-0]. *Indigo carmine. Soluble indigo blue. C.I. Acid blue 74. C.I. Food blue 1. Amacid brilliant blue. Carmine blue. Indigotine. C.I. Pigment blue 63. C.I. 73015*

Dye used in cytoscopy as diagnostic aid, in indicators and cosmetics. Used as 0.2% aq. soln. as indicator in titrimetric detn. of Cr(*II*), Sn(*II*), Fe(*III*), Ti(*III*); used for photometric detn. of O_2 (λ_{max} 620 nm), Cl_2, $NO_3^{\ominus}$, $MnO_4^{\ominus}$; indirect photometric detn. of O_3 (λ_{max} 610 nm, ε 22000). Biological stain. Dark blue solid. Sol. H_2O; sl. sol. EtOH; insol. C_6H_6, $CHCl_3$. Sensitive to light and oxidizing agents.

▷ DU3000000.

Heymann, B., *Ber.*, 1891, **24**, 1476, 3066 (*synth*)
Vorländer, D. *et al*, *Ber.*, 1901, **34**, 1860 (*struct*)
Holness, H. *et al*, *Analyst* (*London*), 1942, **67**, 221 (*detn, Ti*)
Welcher, F.J., *Organic Analytical Reagents*, van Nostrand, N.Y., 1947, **4**, 505 (*detn, Cl_2, $NO_3^{\ominus}$, $MnO_4^{\ominus}$*)
Loomis, W.F., *Anal. Chem.*, 1956, **28**, 1347 (*detn, O_2*)
Tandon, J.P. *et al*, *Fresenius' Z. Anal. Chem.*, 1962, **187**, 410 (*detn, Cr*)
Henze, G. *et al*, *Fresenius' Z. Anal. Chem.*, 1964, **200**, 434 (*detn, Sn*)
Hooson, J. *et al*, *Food Cosmet. Toxicol.*, 1975, **13**, 177 (*tox*)
Bergshoeff, G. *et al*, *Analyst* (*London*), 1984, **109**, 1165 (*detn, O_3*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FAE100.

Indigo-5,5',7-trisulfonic acid I-00030

2-(1,3-Dihydro-3-oxo-5-sulfo-2H-indol-2-ylidene)-2,3-dihydro-3-oxo-1H-indole-5,7-disulfonic acid. 3,3'-Dioxo-[$\Delta^{2,2'}$-biindoline]trisulfonic acid, 8CI

[109715-11-9]

As Indigo-5-sulfonic acid, I-00027 with

$R^1 = H$, $R^2 = R^3 = SO_3H$

$C_{16}H_{10}N_2O_{11}S_3$ M 502.460

Commercially available as trisodium salt. Redox indicator used as aq. soln. Used in detn. of O_3 in H_2O. Dark bluish-red cryst. powder. Sol. H_2O; spar. sol. EtOH. E° +0.332 V (30°).

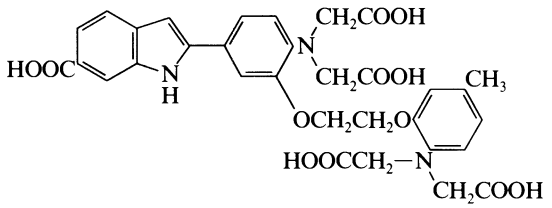
[28606-01-1, 67627-18-3]

Brandt, L.Z., *Fresenius' Z. Anal. Chem.*, 1914, **53**, 1 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)
Baden, H. *et al*, *Water Res.*, 1981, **15**, 449 (*detn, O_3*)
Sigma-Aldrich Library of Chemical Safety Data, 1988, 2905b (*haz*)

Indo 1 I-00031

2-[4-[Bis(carboxymethyl)amino]-3-[2-[2-[bis(carboxymethyl)amino]-5-methylphenoxy]ethoxy]phenyl]-1H-indole-6-carboxylic acid, 9CI

[96314-96-4]



$C_{32}H_{31}N_3O_{12}$ M 649.610

Fluorescent indicator for intracellular Ca.

Penta-K salt: [132319-56-3].
Fluorimetric reagent for Ca.

Tetra-K salt: [132299-21-9].
Fluorimetric reagent for Mg.

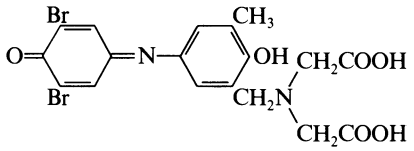
Pentakis(acetoxymethyl ester): [112926-02-0]. *Indo 1AM*
Fluorescent indicator for Ca.

Grynkiewicz, G. *et al*, *J. Biol. Chem.*, 1985, **260**, 3440 (*synth*)

Indoferron I-00032

N-(*Carboxymethyl*)-N-[[5-[(3,5-dibromo-4-oxo-2,5-cyclohexadien-1-ylidene)amino]-2-hydroxy-3-methylphenyl]methyl]glycine, *9CI. 2,6-Dibromoindo-3'-methyl-5'-N,N-dicarboxymethylaminomethylphenol. 2,6-Dibromophenolindo-o-cresol complexan*

[27728-33-2]



$C_{18}H_{16}Br_2N_2O_6$ M 516.142

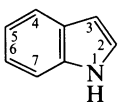
Used as a 0.2% aq. soln. of di-Na salt for extraction-photometric detn. of Fe(*III*), Sc, Zr ($CHCl_3$); metallochromic indicator for chelatometric detn. of Bi, Sc, Th. Dark violet cryst. powder. Sol. alkalis; spar. sol. H_2O. pK_{a1} 3.01; pK_{a2} 5.49; pK_{a3} 9.20 (25°, μ = 0.1).

▷ AG5985000.

Körbl, J. *et al*, *Chem. Ind.* (*London*), 1958, 1233 (*synth, ind*)
Shimizu, T. *et al*, *Talanta*, 1969, **16**, 1527 (*detn, Sc*)
Sakai, T., *Bull. Chem. Soc. Jpn.*, 1970, **43**, 3171 (*detn, Fe, Zr*)
Wakamatsu, Y. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1970, **19**, 537 (*detn, Fe*)

Indole I-00033

[120-72-9]



C_8H_7N M 117.150

Constit. of several flower oils, esp. of *Jasminum* and *Citrus* spp. (Oleaceae, Rutaceae). A prod. of bacterial dec. of proteins, ubiquitous in faeces. Also a constit. of coal tar. Constit. of anal gland secretion of aard wolf (*Proteles cristatus*). Perfumery and flavouring ingredient. Used as 0.5% EtOH soln. for photometric detn. of $NO_2^{\ominus}$ (λ_{max} 530 nm, ε 9500, 2.5-5*M* HCl). Cryst. (H_2O). Sol. EtOH. Mp 52°. Bp 253-254°, Bp_5 122.5-124°.

▷ Mod. toxic. NL2450000.

N-*Formyl:*
C_9H_7NO M 145.160
Mp 52°. Bp_8 125-126°.

N-*Ac:* [576-15-8].
$C_{10}H_9NO$ M 159.187
Bp_{14} 152-153°.

N-*Benzoyl:* [1496-76-0].
$C_{15}H_{11}NO$ M 221.258
Mp 44°, Mp 67-68°. Bp_{16} 213°.

N-*Nitroso:*
$C_8H_6N_2O$ M 146.148
Mp 171-172° dec.
▷ Exp. carcinogen.

N-*Benzyl:*
$C_{15}H_{13}N$ M 207.274
Bp_2 155°.

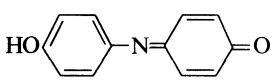
N-*Butyl:* [22014-99-9].
$C_{12}H_{15}N$ M 173.257
Bp_2 125°.

Stowe, B.B., *Fortschr. Chem. Org. Naturst.*, 1959, **17**, 250 (*occur*)
Sawicki, E. *et al*, *Talanta*, 1963, **10**, 641 (*use*)
Jennings, A.L. *et al*, *J. Org. Chem.*, 1964, **29**, 2065 (*ms*)
Black, P.J. *et al*, *Aust. J. Chem.*, 1965, **18**, 353 (*pmr*)
Bravo, P. *et al*, *Gazz. Chim. Ital.*, 1970, **100**, 652 (*synth*)
Sundberg, R.J., *The Chemistry of Indoles*, Academic Press, N.Y., 1970 (*rev*)
Roychowdhury, P. *et al*, *Acta Crystallogr., Sect. B*, 1975, **31**, 1559 (*cryst struct*)
Lieto, J. *et al*, *Bull. Soc. Chim. Fr.*, 1976, 1246 (*synth*)
Nakazuki, M. *et al*, *J. Org. Chem.*, 1976, **41**, 1877 (*synth*)
Ito, Y. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 3532.
Chem. Heterocycl. Compd., (Houlihan, W., Ed.), PartsI-III, Wiley, N.Y., 1978 (*rev*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **13**, 213 (*rev*)
Rahim, S.A. *et al*, *Microchem. J.*, 1983, **28**, 479 (*use*)
Apps, P.J. *et al*, *J. Chem. Ecol.*, 1989, **15**, 1681.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ICM000.

Indophenol I-00034

4-[(4-Hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, 9CI

[500-85-6]



$C_{12}H_9NO_2$ M 199.209
Dye produced in photometric detn. of NH_3 with use of phenol and $ClO^{\ominus}$ (Bertollet's reaction). Cryst. (Me_2CO/pet. ether). Mp 160°.

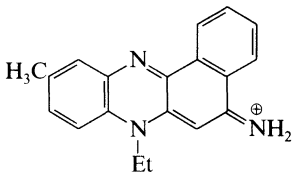
B,HCl: Mp 310°.

Ac: [7761-80-0].
$C_{14}H_{11}NO_3$ M 241.246
Cryst. (pet. ether). Mp 115-116°.

Heller, G., *Justus Liebigs Ann. Chem.*, 1912, **392**, 16 (*synth*)
Meyer, K.H. *et al*, *Ber.*, 1921, **54**, 337 (*synth*)
Kehrmann, F. *et al*, *Ber.*, 1921, **54**, 2435 (*synth*)
Riley, J.P., *Anal. Chim. Acta*, 1953, **9**, 575.
Bohnstedt, U., *Fresenius' Z. Anal. Chem.*, 1958, **163**, 415.
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986.

Induline scarlet I-00035

5-Amino-7-ethyl-10-methylbenzo[a]phenazinium(1+). C.I. 50080 Basic dye



$C_{19}H_{18}N_3^{\oplus}$ M 288.371 (ion)
Strictly, the name Induline scarlet applies to the chloride salt.

Chloride: [2611-49-6].
$C_{19}H_{18}ClN_3$ M 323.824
Redox indicator used as a soln. in EtOH or H_2O. Dark blue cryst. Sol. EtOH, H_2O. E° +0.047 V (30°).

Stiehler, R.D. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 4097 (*use*)

Iodoacetic acid, 9CI, 8CI I-00036

Iodoethanoic acid

[64-69-7]

ICH_2COOH

$C_2H_3IO_2$ M 185.949
Used as a chromatographic derivatisation reagent for the *S*-carboxymethylation of cystine and cysteine in peptides. Plates (ligroin). V. sol. Et_2O, sol. H_2O, EtOH. Mp 82-83°. pK_a 3.18 (25°, H_2O).
▷ Highly toxic and irritant, causes severe burns. AI3500000.

Me ester: [5199-50-8].
$C_3H_5IO_2$ M 199.976
Liq. Bp 169-171°.

Chloride: [38020-81-4]. *Iodoacetyl chloride*
C_2H_2ClIO M 204.394
Yellow-brown oil. d^{25} 2.25. Bp_{15} 49-52°.

Anhydride: [54907-61-8].
$C_4H_4I_2O_3$ M 353.883
Cryst. (EtOH aq.). V. sol. $CHCl_3$, EtOAc, Et_2O, less sol. H_2O, EtOH. Mp 46°.

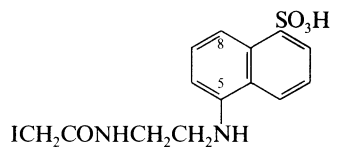
Nitrile: [624-75-9].
C_2H_2IN M 166.949
Oil. Bp_{12} 76-77°.

v. Braun, J., *Ber.*, 1908, **41**, 2130 (*synth nitrile*)
Abderhalden, E. *et al*, *Ber.*, 1908, **41**, 2852 (*synth*)
Heritage, A.M., *CA*, 1919, **13**, 3288.
Moodie, I.M. *et al*, *J. Chromatogr.*, 1976, **124**, 315 (*use*)
Karpitskaya, L.G. *et al*, *Zh. Org. Khim.*, 1976, **12**, 462 (*synth*)
Cooper, J.D.H. *et al*, *J. Chromatogr.*, 1982, **227**, 158 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 364.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IDZ000.

5-[[2-[(Iodoacetyl)amino]ethyl]amino]-1-naphthalenesulfonic acid, 9CI I-00037

1,5-I-AEDANS

[36930-63-9]



$C_{14}H_{15}IN_2O_4S$ M 434.254

Fluorescent reagent for thiols. Light- and moisture-sensitive.

Hudson, E.N. *et al*, *Biochemistry*, 1973, **12**, 4154 (*synth, use*)

8-[[2-[(Iodoacetyl)amino]ethyl]amino]-1-naphthalenesulfonic acid, 9CI I-00038

1,8-I-AEDANS

[36930-64-0]

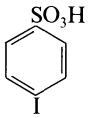
$C_{14}H_{15}IN_2O_4S$ M 434.254

Fluorescent reagent for thiols. Mp 226° dec. Light- and moisture-sensitive.

Hudson, E.N. *et al*, *Biochemistry*, 1973, **12**, 4154 (*synth, use*)

4-Iodobenzenesulfonic acid I-00039

[13035-63-7]



$C_6H_5IO_3S$ M 284.074

Hygroscopic cryst. V. sol. H_2O. Mp 70°.

Chloride: [98-61-3]. *4-Iodobenzenesulfonyl chloride. Pipsyl chloride*

$C_6H_4ClIO_2S$ M 302.520

Used in detn. of free side-chain amino groups in proteins. Cryst. (pet. ether). Mp 86-87°.

Anhydride: [2828-64-0]. *Pipsan*

$C_{12}H_8I_2O_5S_2$ M 550.133

^{131}I or ^{35}S-labelled compds. used in the detn. of steroid hormones. Cryst. ($CHCl_3$/pentane). Mp 220-221°.

Keston, A.S. *et al*, *J. Am. Chem. Soc.*, 1949, **71**, 249 (*synth, chloride*)

Bojeson, E., *Scand. J. Clin. Lab. Invest.*, 1956, **8**, 55 (*synth, use, anhydride*)

Christensen, N.H., *Acta Chem. Scand.*, 1961, **15**, 219 (*synth*)

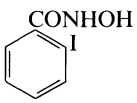
Oratz, M. *et al*, *Biochim. Biophys. Acta*, 1966, **115**, 88 (*use, chloride*)

Fletcher, J.C., *Biochem. J.*, 1967, **102**, 815 (*use, chloride*)

2-Iodobenzohydroxamic acid I-00040

N-*Hydroxy-2-iodobenzamide, 9CI*

[79271-23-1]



$C_7H_6INO_2$ M 263.034

N-*Ph:* [37433-80-0]. N-(o-*Iodobenzoyl*)*phenylhydroxylamine*. N-*Hydroxy-2-iodo*-N-*phenylbenzamide, 9CI*

$C_{13}H_{10}INO_2$ M 339.132

Used for pptn. of Al, Cu, Fe(*III*), Hf, Mn, Pb, Sn(*II*), Sn(*IV*), Ti, Zr. Cryst. Sol. common org. solvs.; spar. sol. H_2O. Mp 128°. pK_{a1} 10.75 (25°, 50% dioxan), pK_{a1} 10.63 (35°, 50% dioxan).

N-(*2-Methylphenyl*): [34661-22-8]. N-o-*Tolyl*-o-*iodobenzohydroxamic acid*. N-*Hydroxy-2-iodo*-N-(*2-methylphenyl*)*benzamide, 9CI*

$C_{14}H_{12}INO_2$ M 353.159

Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 510 nm, ε 4750, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

N-(*3-Methylphenyl*): [34661-31-9]. N-m-*Tolyl*-o-*iodobenzohydroxamic acid*. N-*Hydroxy-2-iodo*-N-(*3-methylphenyl*)*benzamide, 9CI*

$C_{14}H_{12}INO_2$ M 353.159

Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 530 nm, ε 3800, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

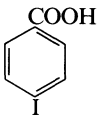
Gupta, V.K. *et al*, *J. Indian Chem. Soc.*, 1971, **48**, 753 (*synth*)

Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

Baldwin, R.M. *et al*, *J. Radioanal. Chem.*, 1981, **65**, 269.

4-Iodobenzoic acid, 9CI I-00041

[619-58-9]



$C_7H_5IO_2$ M 248.020

Reference material used in elemental microanalysis. Leaflets by subl. Mp 267°. pK_a 3.93 (25°, H_2O), pK_a 4.00 (25°), pK_a −7.50 (H_2SO_4).

Me ester: [619-44-3].

$C_8H_7IO_2$ M 262.047

Needles (Et_2O/EtOH). Mp 114°.

Et ester: [51934-41-9].

$C_9H_9IO_2$ M 276.073

Liq. Bp_{16} 154°.

Chloride: [1711-02-0].

C_7H_4ClIO M 266.465

Needles (Et_2O). Mp 83° (77-78°). Bp_{32} 163-164°, Bp_9 126°.

Anhydride:

$C_{14}H_8I_2O_3$ M 478.024

Prisms ($CHCl_3$). Mp 228°.

Amide: [3956-07-8].

C_7H_6INO M 247.035

Mp 217.6° (209°).

Nitrile: [3058-39-7]. *1-Cyano-4-iodobenzene*

C_7H_4IN M 229.020

Mp 128-129°.

Org. Synth., Coll. Vol., 1, 1932, 325 (*synth*)

Sah, P.P.T. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1940, **59**, 364 (*synth*)

Robinson, R.A. *et al*, *J. Chem. Soc.*, 1959, 2314 (*uv*)

Cox, R.H., *Spectrochim. Acta, Part A*, 1969, **25**, 1189 (*pmr*)

Analyst (*London*), 1972, **97**, 740 (*microanal*)

Lynch, B.M., *Can. J. Chem.*, 1977, **55**, 541 (*cmr*)

Green, J.H.S., *Spectrochim. Acta, Part A*, 1977, **33**, 575 (*ir*)

Baughman, R.G. *et al*, *Acta Crystallogr., Sect. C*, 1984, **40**, 204 (*cryst struct*)

Katritzky, A.R. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1990, 1515 (*ir, uv, cmr*)

1-Iodobutane, 9CI I-00042

Butyl iodide

[542-69-8]

$H_3CCH_2CH_2CH_2I$

C_4H_9I M 184.020

Used to esterify fatty acids for gc anal. Liq. d_4^{20} 1.6166. Fp −103°. Bp 130.4-131°.

▷ EK4400000.

Adams, R. *et al*, *J. Am. Chem. Soc.*, 1919, **41**, 789 (*synth*)

Org. Synth., 1971, **51**, 44 (*synth*)

Greeley, R.H., *J. Chromatogr.*, 1974, **88**, 229 (*use*)

Miyano, S. *et al*, *Nippon Kagaku Kaishi*, 1977, 138 (*synth*)

Eweiss, N.F. *et al*, *Synthesis*, 1977, 634 (*synth*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BRQ250.

Iodoethane, 9CI, 8CI I-00043

Ethyl iodide

[75-03-6]

H_3CCH_2I

C_2H_5I M 155.966

Used to esterify fatty acids for gc anal. Heavy, refractive liq. with ethereal odour, turns red in light. Misc. org. solvs., v. spar. sol. H_2O (gradual dec.). d^{15} 1.948. Fp −108°. Bp 72.3°. Light sensitive. Silver leaf retards dec.

▷ Mod. toxic and irritant vapour. KI4750000.

Hunt, B.A., *J. Chem. Soc.*, 1920, **117**, 1592 (*synth*)
Hirao, N., *Nippon Kagaku Kaishi*, 1931, **52**, 269 (*synth*)
Greeley, R.H., *J. Chromatogr.*, 1974, **88**, 229 (*use*)
Jung, M.E. *et al*, *J. Org. Chem.*, 1977, **42**, 3761 (*synth*)
Jung, M.E. *et al*, *Tetrahedron Lett.*, 1977, 2659 (*synth*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 365.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ELP500.

1-Iodoheptane, 9CI, 8CI I-00044

n-*Heptyl iodide*

[4282-40-0]

$H_3C(CH_2)_5CH_2I$

$C_7H_{15}I$ M 226.100

Reagent used in gc anal. of acetaminophen (paracetamol). Liq. d_4^{20} 1.3774. Bp 204°, Bp_{17} 91°.

Sherrill, M.L., *J. Am. Chem. Soc.*, 1930, **52**, 1982 (*synth*)
Corey, E.J. *et al*, *J. Org. Chem.*, 1967, **32**, 4160 (*synth*)
Dechtiaruk, W.A. *et al*, *Clin. Chem.* (*Winston-Salem, N.C.*), 1976, **22**, 879 (*use*)
Stahl, D. *et al*, *Org. Mass Spectrom.*, 1977, **12**, 761 (*ms*)
Gavrilenko, V.V. *et al*, *Zh. Obshch. Khim.*, 1978, **48**, 2073 (*synth*)

Iodomethane, 9CI I-00045

Methyl iodide

[74-88-4]

H_3CI

CH_3I M 141.939

Methylating agent. Liq. with pleasant odour. Spar. sol. H_2O. d_4^{20} 2.28. Fp −66.5°. Bp 42.5°. n_D^{20} 1.5317. Darkens on exp. to light.

▷ Toxic by inhalation and skin absorption. Suspected carcinogen. TLV 28. PA9450000.

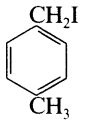
Hydrate: Mp −4°.

Timmermans, J. *et al*, *J. Chem. Phys.*, 1934, **31**, 85 (*synth*)
Vogel, A.I., *J. Chem. Soc.*, 1943, 636 (*synth, props*)
Org. Synth., Coll. Vol., 2, 1943, 399, 404 (*synth*)
Kawaguchi, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1973, **46**, 53 (*cryst struct*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 342.
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 304.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 366.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MKW200.

1-(Iodomethyl)-4-methylbenzene, 9CI I-00046

α-*Iodo*-p-*xylene*. p-*Xylyl iodide*. p-*Methylbenzyl iodide*

[4484-74-6]



C_8H_9I M 232.064

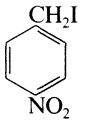
Derivatization reagent for gc analysis of carboxylic acids. Needles (Et_2O or pet. ether). Mp 46-47°.

Zeltner, T., *Ber.*, 1910, **43**, 944.
Watson, J.R. *et al*, *J. Chromatogr.*, 1970, **52**, 63 (*use*)
Anderson, S.N. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1973, 311 (*nmr*)
Lorenzo, A. *et al*, *Synthesis*, 1980, 853 (*synth*)

1-Iodomethyl-4-nitrobenzene I-00047

α-*Iodo*-4-*nitrotoluene*. p-*Nitrobenzyl iodide*

[3145-86-6]



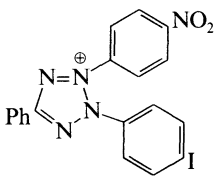
$C_7H_6INO_2$ M 263.034

Fungicide and antimicrobial agent. Reagent for derivatising carboxylic acids for gc anal. Needles (EtOH). Mp 127°.

Kumpf, G., *Justus Liebigs Ann. Chem.*, 1884, **224**, 96 (*synth*)
Finkelstein, H., *Ber.*, 1910, **43**, 1528.
Watson, J.R. *et al*, *J. Chromatogr.*, 1970, **52**, 63 (*use*)
Issa, R.M. *et al*, *Spectrochim. Acta, Part A*, 1975, **31**, 199 (*ir, uv*)
Inamoto, T. *et al*, *Synthesis*, 1983, 460 (*synth*)

Iodonitrotetrazolium violet I-00048

2-(4-Iodophenyl)-3-(4-nitrophenyl)-5-phenyl-2H-tetrazolium(1+), 9CI



$C_{19}H_{13}IN_5O_2^{\oplus}$ M 470.248 (ion)

Strictly, the name Iodonitrotetrazolium violet applies to the chloride.

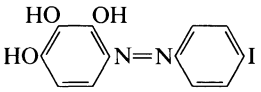
Chloride: [146-68-9]. *INT*
$C_{19}H_{13}ClIN_5O_2$ M 505.701
Used as 0.2% aq. soln. for photometric detn. of creatine phosphokinase isoenzymes; photometric detn. of $S^{2\ominus}$ (λ_{max} 630 nm, ε 110000, pH 10.3-11.5). Pale yellow cryst. Sol. hot H_2O, EtOH, alkalis, DMF.

Hoag, G.N. *et al*, *Clin. Biochem.*, 1977, **10**, 94 (*detn, enzymes*)
Alexandrov, A. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **288**, 187 (*detn, $S^{2\ominus}$*)
Kolesnikova, A.M. *et al*, *Zavod. Lab.*, 1985, **51**, 1 (*detn, $S^{2\ominus}$*)

4-[(4-Iodophenyl)azo]-1,2,3-benzenetriol, 9CI I-00049

2,3,4-Trihydroxy-4'-iodoazobenzene

[80527-63-5]



$C_{12}H_9IN_2O_3$ M 356.119

Used as 1m*M* Me_2CO soln. for photometric detn. of Mo(*VI*) (λ_{max} 480 nm, ε 37500, 0.005-0.07*M* H_2SO_4). Dark brown powder. Sol. Me_2CO, EtOH.

Gambarov, D.G. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 2190 (*synth, detn, Mo*)

1-Iodopropane, 9CI, 8CI I-00050

Propyl iodide

[107-08-4]

$H_3CCH_2CH_2I$

C_3H_7I M 169.993

Used to prepare propyl derivs. for gc. studies. Colourless or sl. yellow liq. Prac. insol. H_2O, misc. EtOH, Et_2O. d_4^{20} 1.7471. Fp −101.3°, Mp ~ −98.7°. Bp 102.5°.

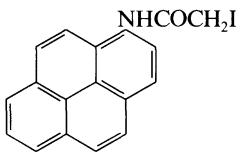
▷ TZ4100000.

Adams, R. *et al*, *J. Am. Chem. Soc.*, 1919, **41**, 789 (*synth*)
Hirao, N., *Nippon Kagaku Kaishi*, 1931, **52**, 269 (*synth*)
Houriet, R. *et al*, *Helv. Chim. Acta*, 1976, **59**, 119 (*ms*)
Arbin, A., *J. Chromatogr.*, 1977, **144**, 85 (*use*)
Gusev, Yu. *et al*, *Zh. Obshch. Khim.*, 1977, **47**, 45 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PNO750.

2-Iodo-*N*-1-pyrenylacetamide, 9CI I-00051

N-(*1-Pyrene*)*iodoacetamide*. *1-(Iodoacetylamino)pyrene*. N-(*Iodoacetyl*)-*1-pyrenamine*

[76936-87-3]



$C_{18}H_{12}INO$ M 385.203

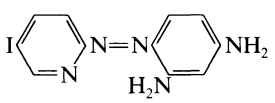
Fluorescent label for thiols.

Kouyama, T. *et al*, *Eur. J. Biochem.*, 1981, **114**, 33 (*use*)
Lin, T.L. *et al*, *Biophys. Chem.*, 1982, **15**, 289 (*use*)
Ikkai, T. *et al*, *FEBS Lett.*, 1986, **207**, 177 (*use*)

4-[(5-Iodo-2-pyridinyl)azo]-1,3-benzenediamine, 9CI I-00052

2-(2,4-Diaminophenylazo)-5-iodopyridine

[50768-77-9]



$C_{11}H_{10}IN_5$ M 339.138

Used as a 1m*M* soln. in EtOH for extraction-photometric detn. of Co (λ_{max} 590 nm, ε 118000). Dark red cryst. (EtOH aq.). Sol. EtOH; spar. sol. H_2O. Mp 248-250°.

Kiss, E., *Anal. Chim. Acta*, 1973, **66**, 385 (*synth, use*)

2-Iodosylbenzoic acid, 9CI I-00053

o-Iodosobenzoic acid

[304-91-6]

$C_7H_5IO_3$ M 264.019

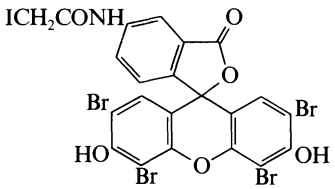
Reagent for the α-hydroxylation of ketones. Used as 0.5m*M* aq. soln. for photometric detn. of $S_2O_3^{2\ominus}$, ascorbic acid and other reducing substances (indirectly). Cryst. Sol. H_2O. pK_{a1} 7.0.

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 509.
Lee, K.T. *et al*, *Mikrochim. Acta*, 1975, 93 (*use*)
Moriarty, R.M. *et al*, *Tetrahedron Lett.*, 1984, **25**, 691 (*use*)
Katritzky, A.R. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1990, 1515, 1657 (*ir, uv, cmr, cryst struct*)

2-Iodo-*N*-(2',4',5',7'-tetrabromo-3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3*H*),9'[9*H*]xanthen]-5-yl)acetamide, 9CI I-00054

Eosin-5-iodoacetamide

[69414-31-9]



$C_{22}H_{10}Br_4INO_6$ M 830.845

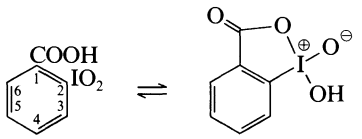
Fluorescent label for thiol groups.

Eshaghpour, H. *et al*, *Nucleic Acids Res.*, 1979, **7**, 1485 (*use*)
Chen, R.F. *et al*, *Anal. Lett.*, 1985, **18**, 393 (*use*)

2-Iodylbenzoic acid, 9CI I-00055

2-Iodoxybenzoic acid

[64297-64-9]



$C_7H_5IO_4$ M 280.019

Used in image intensifier solns. in colour photography and for photometric detn. of drugs. Used as titrant in the anal. of anhydrides by photometric titration. Silver-white cryst. Sol. H_2O; prac. insol. Et_2O. Mp 230° (222°) (explodes). pK_a 7.6.

▷ Explodes violently on heating. Shock-sensitive explosive.

Ammonium salt: Amidoxyl

Antiarthritic agent. Cryst. V. sol. H_2O; spar. sol. EtOH; insol. C_6H_6, Et_2O.

▷ Highly toxic.

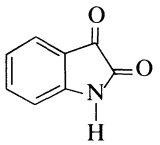
Hartmann, C. *et al*, *Ber.*, 1893, **26**, 1727 (*synth, haz*)
Greenbaum, F.R., *Am. J. Pharm.*, 1936, **108**, 17 (*synth*)
Careway, W.T. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 5334 (*props*)
Bell, R. *et al*, *J. Chem. Soc.*, 1960, 1209 (*ir*)
Banerjee, A. *et al*, *J. Indian Chem. Soc.*, 1981, **58**, 605 (*synth, ir*)
Verma, K.K. *et al*, *Anal. Chem.*, 1984, **56**, 2154 (*use*)
Verma, K.K. *et al*, *Analyst (London)*, 1984, **109**, 735 (*use*)

Plumb, J.B. *et al*, *Chem. Eng. News*, July 16, 1990, 3 (*synth, haz*)
Katritzky, A.R. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1990, 1515, 1657 (*ir, uv, cmr, cryst struct*)

Isatin I-00056

1H-Indole-2,3-dione, 9CI

[91-56-5]



$C_8H_5NO_2$ M 147.133

Isol. from the fungal pigment of a mutant of *Schizophyllum commune*. Intermediate for indigoid dyestuffs. Used as 0.2% MeOH soln. for photometric detn. of thiophene, proline, hydroxyproline. Orange cryst. Spar. sol. H_2O. Mp 203.5° dec. Sublimes.

▷ NL7873000.

2-Oxime: [3265-35-8].
$C_8H_6N_2O_2$ M 162.148
Used for photometric detn. of Cu (λ_{max} 564 nm, ε 95000), transition metals. Yellow-orange needles (EtOH, H_2O). Sol. Et_2O, Me_2CO, AcOH; mod. sol. H_2O, EtOH. Mp 198-200°.

3-Oxime: [607-28-3].
$C_8H_6N_2O_2$ M 162.148
Used for photometric detn. of transition metals. Yellow-orange needles (EtOH aq.). Sol. Et_2O, Me_2CO, AcOH; mod. sol. H_2O, EtOH. Mp 214°, Mp 225° dec.

▷ NL7980000.

3-Semicarbazone: Mp 266° dec.

N-*Ac:* [574-17-4].
$C_{10}H_7NO_3$ M 189.170
Mp 141°.

▷ NL7873800.

1-Methoxycarbonyl: [41042-18-6].
$C_{10}H_7NO_4$ M 205.170
Mp 170° dec.

1-Ethoxycarbonyl: [27008-84-0].
$C_{11}H_9NO_4$ M 219.196
Yellow cryst. (pet. ether). Mp 117°.

3-Hydrazone: [2365-44-8]. *Isatin hydrazone*
$C_8H_7N_3O$ M 161.163
Used for photometric detn. of 3-ketosteroids. Mp 222-223°.

3-(4-Nitrophenylhydrazone): [31107-06-9].
$C_{14}H_{10}N_4O_3$ M 282.258
Used as a 0.02% soln. in 5% NaOH for detn. of Mg. Cryst.

[73859-64-0, 73859-66-2]

Hantzsch, A., *Ber.*, 1921, **54**, 1242.
Org. Synth., 1925, **5**, 71.
Barnett, H.A. *et al*, *Anal. Chem.*, 1960, **32**, 842 (*use*)
Goldstein, D., *Mikrochim. Acta*, 1962, 352 (*detn, Mg*)
Epstein, E. *et al*, *CA*, 1966, **66**, 102443 (*isol*)
Divis, L. *et al*, *CA*, 1970, **73**, 10333g, 126626j (*detn, transition metals, Cu*)
Boctor, F.N., *Anal. Biochem.*, 1971, **43**, 66 (*detn, thiophene, proline*)
Heinisch, L. *et al*, *J. Prakt. Chem.*, 1972, **314**, 682 (*deriv*)
Popp, F.D., *Adv. Heterocycl. Chem.*, 1975, **18**, 1 (*rev*)
Gassmann, P.G. *et al*, *J. Org. Chem.*, 1977, **42**, 1344 (*synth*)
Dochinets, D.I. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 510; *CA*, **110**, 219165f (*hydrazone, use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ICR000.

Isobutyl chloroformate I-00057

2-Methylpropyl carbonochloridate, 9CI

[543-27-1]

$ClCOOCH_2CH(CH_3)_2$

$C_5H_9ClO_2$ M 136.578

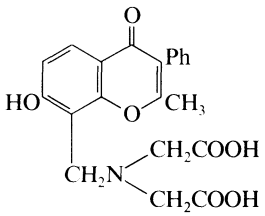
Peptide coupling reagent. Reagent for gc anal. of amino acids. Liq. Bp 128-129°.

Lazur'evskii, G.V. *et al*, *Zh. Obshch. Khim.*, 1959, **29**, 3498 (*synth*)
Makita, M. *et al*, *Chem. Ind. (London)*, 1975, 355 (*use*)
Makita, M. *et al*, *J. Chromatogr.*, 1976, **124**, 92 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 307 (*use*)

Isocein I-00058

N-(*Carboxymethyl*)-N-[(*7-hydroxy-2-methyl-4-oxo-3-phenyl-4H-1-benzopyran-8-yl*)*methyl*]*glycine, 9CI*

[54462-49-6]



$C_{21}H_{19}NO_7$ M 397.384

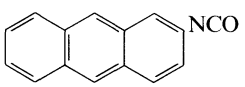
Used as 3m*M* aq. soln. for fluorimetric detn. of Ca. Cryst. (Me_2CO). Sol. Me_2CO, alkalis; spar. sol. H_2O. Mp 179-181° dec.

Huitnik, G.M., *Anal. Chim. Acta*, 1974, **70**, 311 (*synth, use, detn, Ca*)

2-Isocyanatoanthracene, 9CI I-00059

2-Anthryl isocyanate, 8CI. Anthracene-2-isocyanate

[17017-03-7]



$C_{15}H_9NO$ M 219.242

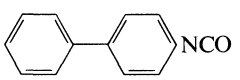
Fluorescent label for hydroxy groups. Faint yellow needles. Mp 207.5-208°.

Fieser, L.F. *et al*, *J. Am. Chem. Soc.*, 1939, **61**, 3502 (*synth*)
Wintersteiger, R., *J. Liq. Chromatogr.*, 1982, **5**, 897 (*use*)

4-Isocyanato-1,1′-biphenyl, 9CI I-00060

4-Biphenylyl isocyanate. p-*Xenyl isocyanate*

[92-95-5]



$C_{13}H_9NO$ M 195.220

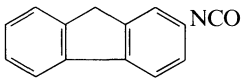
Reagent for the identification of alcohols and phenols. Cryst. (pet. ether). Mp 56°. Bp 283° dec.

Morgan, G.T. *et al*, *J. Chem. Soc.*, 1931, 1124 (*synth, use*)
Hardy, D.V.N., *J. Chem. Soc.*, 1934, 2011 (*synth*)

2-Isocyanato-9*H*-fluorene, 9CI I-00061

2-Fluorenyl isocyanate

[81741-69-7]



$C_{14}H_9NO$ M 207.231

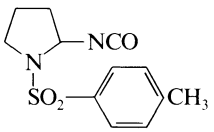
Reagent for characterisation of alcohols. Cryst. (pet. ether). Mp 69-70°.

Witten, B. *et al*, *J. Am. Chem. Soc.*, 1947, **69**, 2470 (*use*)

2-Isocyanato-1-[(4-methylphenyl)sulfonyl] pyrrolidine, 9CI I-00062

N-(p-*Toluenesulfonyl*)*prolyl isocyanate. TSPI*

[129665-92-5]



$C_{12}H_{14}N_2O_3S$ M 266.320

Derivatisation reagent for resoln. of amine and alcohol enantiomers by hplc.

Zhou, Y. *et al*, *J. Liq. Chromatogr.*, 1990, **13**, 875 (*synth, use*)

2-Isocyanato-2-methylpropane, 9CI I-00063

tert-*Butyl isocyanate. Isocyanic acid* tert-*butyl ester, 8CI*

[1609-86-5]

$(H_3C)_3CNCO$

C_5H_9NO M 99.132

Reagent for the gc anal. of amines and for gc enantiomer sepn. Liq. Bp 85-86°.

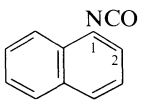
▷ Irritant, lachrymator. NQ8300000.

Stowell, J.C. *et al*, *J. Org. Chem.*, 1971, **36**, 3056 (*synth, ir, pmr*)
Slemrova, J. *et al*, *J. Chromatogr.*, 1974, **94**, 65 (*use*)
Benecke, I. *et al*, *Angew. Chem.*, 1982, **94**, 709 (*use*)
Danopoulos, A. *et al*, *Synthesis*, 1985, 682 (*synth*)

1-Isocyanatonaphthalene, 9CI I-00064

Isocyanic acid 1-naphthyl ester, 8CI. 1-Naphthyl isocyanate

[86-84-0]



$C_{11}H_7NO$ M 169.182

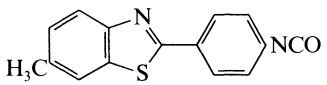
Reagent for characterisation of alcohols and amines and for end-group analysis of proteins. Liq. Bp 269-270°.

Vittenet, H., *Bull. Soc. Chim. Fr.*, 1899, **21**, 952.
Ruth, J.M. *et al*, *Anal. Chem.*, 1966, **38**, 720 (*ms*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 718.
Emsley, J.W. *et al*, *J. Chem. Soc. B*, 1970, 1513 (*pmr*)
Wintersteiger, R. *et al*, *Fresenius' Z. Anal. Chem.*, 1981, **309**, 201 (*use*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 846.

2-(4-Isocyanatophenyl)-6-methylbenzothiazole, 9CI I-00065

(*6-Methylbenzothiazol-2-yl*)*phenyl isocyanate*

[67229-93-0]



$C_{15}H_{10}N_2OS$ M 266.323

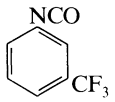
Reagent used for the fluorescence derivatisation of alcohols, amines and thiols. Cryst. (cyclohexane). Mp 142°.

Wintersteiger, R. *et al*, *Fresenius' Z. Anal. Chem.*, 1982, **312**, 455 (*use*)
Wolfbeis, O.S. *et al*, *Monatsh. Chem.*, 1983, **114**, 599 (*synth, use*)

1-Isocyanato-3-(trifluoromethyl)benzene, 9CI I-00066

α,α,α-*Trifluoro*-m-*tolyl isocyanate, 8CI. 3-*(*Trifluoromethyl*)*phenyl isocyanate*

[329-01-1]



$C_8H_4F_3NO$ M 187.121

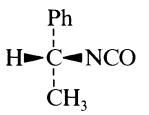
Derivatisation reagent for gc analysis of amines. d_4^{20} 1.3455. Bp_{11} 54-55°. n_D^{20} 1.4742.

Inukai, K. *et al*, *Kogyo Kagaku Zasshi*, 1964, **67**, 807; *CA*, **61**, 9418e (*synth*)
Hardy, W.B. *et al*, *Tetrahedron Lett.*, 1967, 961 (*synth*)
Nitsche, I. *et al*, *J. Chromatogr.*, 1974, **94**, 65 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TKJ250.

(1-Isocyanoethyl)benzene, 9CI I-00067

1-Phenylethyl isocyanate. 1-Isocyano-1-phenylethane

[1837-73-6]



(R)-form

C_9H_9NO M 147.176

(R)-form [33375-06-3]

Resolving agent for alcohols and amines.

(S)-form [14649-03-7]

Resolving agent for alcohols and amines. $[\alpha]_D$ −17.4° (c, 1.38 in C_6H_6).

(±)-form [65451-96-9]

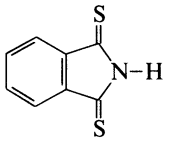
Bp_{12} 86-89°, $Bp_{0.4}$ 38°. n_D^{20} 1.5151.

Cairns, T.L., *J. Am. Chem. Soc.*, 1941, **63**, 871 (*synth*)
Hoover, F.W. *et al*, *J. Org. Chem.*, 1964, **29**, 163 (*synth*)
Freytag, W. *et al*, *J. Chromatogr.*, 1969, **41**, 473 (*use*)
Hamberg, M., *Chem. Phys. Lipids*, 1971, **6**, 152 (*use*)
Maibaum, J., *J. Chromatogr.*, 1988, **436**, 269 (*use*)

1*H*-Isoindole-1,3(2*H*)-dithione, 9CI I-00068

Dithiophthalimide

[18138-19-7]



$C_8H_5NS_2$ M 179.266

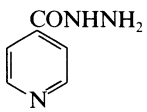
Used as a 0.05% soln. in EtOH for extraction-photometric detn. of Ru (λ_{max} 660 nm, $CHCl_3$). Brown needles. Mp 180-184°.

Drew, H.D.K. *et al*, *J. Chem. Soc.*, 1941, 625 (*synth*)
Shlenskaya, V.I. *et al*, *Vestn. Mosk. Univ., Ser. 2: Khim.*, 1961, 51.
Johar, G.S. *et al*, *Mikrochim. Acta*, 1974, 437 (*detn, spot test*)

Isoniazid, BAN, USAN, INN I-00069

4-Pyridinecarboxylic acid hydrazide, 9CI.
Isonicotinohydrazide. Numerous proprietary names

[54-85-3]



$C_6H_7N_3O$ M 137.141

Used as 0.2% aq. soln. for simultaneous photometric detn. of $IO_3^{\ominus}$ and $BrO_3^{\ominus}$. Tuberculostatic. Used for photometric detn. of Os. Cryst. (EtOH). Sol. EtOH, Et_2O. Mp 171.4°.

▷ NS1750000.

N^2-*Methanesulfonyl:* [13447-95-5]. *4-Pyridinecarboxylic acid 2-(sulfomethyl)hydrazide. Isoniazid methanesulfonate.* ***Methaniazide,*** **INN.** *Metaniazide*

$C_7H_9N_3O_4S$ M 231.232

Tuberculostatic. Cryst. Dec. at 187-189°.

N^2-*Methanesulfonyl, Na salt:* [3804-89-5]. *Isonate sodium. Erbazid. Neo-Iscotin. Nesticide. Neo-Tizide*

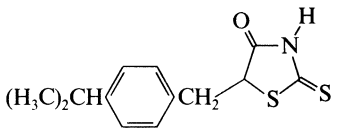
Yellow cryst. (H_2O). Dec. at 164-167°.

▷ NS2275000.

Meyer, H. *et al*, *Monatsh. Chem.*, 1912, **33**, 400 (*synth*)
Ceriotti, G. *et al*, *Arch. Int. Pharmacodyn. Ther.*, 1953, **93**, 105 (*Methaniazide*)
Ceriotti, G. *et al*, *Br. J. Pharmacol.*, 1953, **8**, 356 (*Methaniazide*)
U.S. Pat., 2 759 944, (1956); *CA*, **51**, 11398 (*Methaniazide*)
Hashmi, M.H. *et al*, *Anal. Chem.*, 1964, **36**, 2471 (*detn, $IO_3^{\ominus}$, $BrO_3^{\ominus}$*)
Bhat, T.N. *et al*, *Acta Crystallogr., Sect. B*, 1974, **30**, 2921 (*cryst struct*)
Krishna Murti, C.R. *et al*, *Antibiotics (N.Y.)*, 1975, **3**, 623 (*rev*)
Gowda, H.S. *et al*, *Curr. Sci.*, 1976, **45**, 818 (*detn, Os*)
Brewer, G.A. *et al*, *Anal. Profiles Drug Subst.*, 1977, **6**, 183 (*rev, synth, props, anal*)
Takayama, K. *et al*, *Antibiotics (N.Y.)*, 1979, **5**, 98 (*rev*)
Weber, W.W. *et al*, *Clin. Pharmacokinet.*, 1979, **4**, 401 (*rev*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7559, 7560, 7562.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 438 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ILD000, SIJ000.

5-(4-Isopropylbenzyl)-2-thioxo-4-thiazolidinone I-00070

Tetrahydro-5-[[4-(1-methylethyl)phenyl]methyl]-2-thioxo-4-thiazolidinone

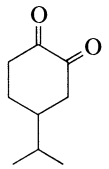


$C_{13}H_{15}NOS_2$ M 265.400

Used as 0.2% soln. in EtOH for photometric detn. of Ag, Au, Cu, Hg, Pd, Pt. Cryst. Sol. EtOH, Me_2CO, Et_2O. Mp 158-159°.

Kulberg, L.M. *et al*, *Zh. Anal. Khim.*, 1954, **9**, 85 (*use*)

4-Isopropyl-1,2-cyclohexanedione I-00071



$C_9H_{14}O_2$ M 154.208

Solid. Mp 65-70°. Bp_1 77-84°.

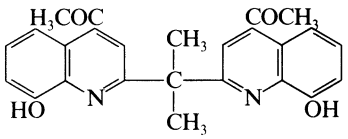
Dioxime: [18310-20-8]. *4-Isopropylnioxime*

$C_9H_{16}N_2O_2$ M 184.238

Used as 4m*M* aq. soln. for extraction-photometric detn. of Ni. Cryst. (EtOH aq.). Spar. sol. H_2O. Mp 184-185°.

Banks, C.V. *et al*, *J. Org. Chem.*, 1956, **21**, 547 (*synth*)
McDowell, B.L. *et al*, *Anal. Chem.*, 1959, **31**, 931 (*synth, use, detn, Ni*)

2,2′-Isopropylidenebis(4-acetyl-8-hydroxyquinoline) I-00072



$C_{25}H_{22}N_2O_4$ M 414.460

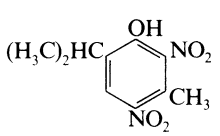
Used as chelating agent for Cu, Ni, Zn. Yellow needles (toluene). Sol. EtOH, C_6H_6, Me_2CO; spar. sol. H_2O. Mp 200.5-201.5°.

Yamamoto, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1980, **53**, 809 (*synth, ir, use*)

6-Isopropyl-3-methyl-2,4-dinitrophenol I-00073

3-Methyl-6-(1-methylethyl)-2,4-dinitrophenol, 9CI. 2,4-Dinitrothymol

[303-21-9]



$C_{10}H_{12}N_2O_5$ M 240.215

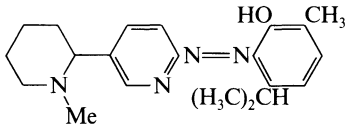
Used as acid-base indicator (pH range: 2.2 - 3.4; colour change: straw → lemon yellow). Yellow prisms (pet. ether). V. sol. Me_2CO, EtOH; sol. alkalis; sl. sol. H_2O. Mp 55°.

Van den Haute, J., *CA*, 1935, **29**, 5767 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DVG200.

3-Isopropyl-6-methyl-2-[[5-(1-methylpiperidinyl)-2-pyridinyl]azo] phenol I-00074

6-[(1-Methyl-2'-anabasinyl)azo]thymol, 8CI

[31311-06-5]



$C_{21}H_{28}N_4O$ M 352.478

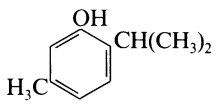
Used as a 0.005% soln. in EtOH for extraction-photometric detn. of V (λ_{max} 610 nm, ε 3700, $CHCl_3$). Orange red cryst. Sol. EtOH, Me_2CO, Et_2O.

Mirzakasimov, T.M. *et al*, *Uzb. Khim. Zh.*, 1968, **12**, 29; *CA*, **74**, 71346f (*detn, V*)

2-Isopropyl-5-methylphenol I-00075

5-Methyl-2-(1-methylethyl)phenol, 9CI. p-*Mentha-1,3,5-trien-3-ol.* p-*Cymen-3-ol, 8CI. 6-Isopropyl*-m-*cresol. 3-Hydroxy-4-isopropyltoluene. 3-Hydroxy*-p-*cymene.* ***Thymol.*** *Thymianic acid (obsol.). Thymianic camphor (obsol.)*

[89-83-8]



$C_{10}H_{14}O$ M 150.220

Found in many essential oils. Esp. found in the Labiateae. Rich sources are thyme oil, seed oil of *Ptychotis ajowan* and oils of *Monarda punctata* and *Ocimum* spp. Perfumery and flavour ingredient. Gives red or orange products with Ti, W (in conc. H_2SO_4). Plates (EtOAc or AcOH or Me_2CO) with odour of thyme. Mp 51.5°. Bp 233.5°, Bp_{10} 115°.

▷ XP2275000.

Ac: [528-79-0].
$C_{12}H_{16}O_2$ M 192.257
Bp 242-243°.

Benzoyl: [6380-29-6].
$C_{17}H_{18}O_2$ M 254.328
Plates. Mp 33°.

O-β-D-Glucopyranoside:
$C_{16}H_{24}O_6$ M 312.362
Constit. of *Jasonia montana.*

Me ether: [1076-56-8]. *1-Isopropyl-2-methoxy-4-methylbenzene. 2-Isopropyl-5-methylanisole.* ***Thymol methyl ether***
$C_{11}H_{16}O$ M 164.247
Naturally occurring, e.g. in oil of *Crithmum maritimum* and *Orthodon hadai, Citrus* spp., *Pulicaria dysenterica, Arnica montana.* Gives red or orange products with Ti, W (in conc. H_2SO_4). Oil with ethereal odour. Bp_{745} 211-212°, Bp_{15} 94-96°.

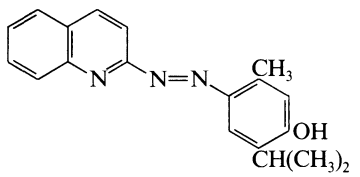
Et ether: [4732-12-1]. *2-Ethoxy-1-isopropyl-4-methylbenzene*
$C_{12}H_{18}O$ M 178.274
Bp 224-228°.

Austerweil, G. *et al*, *Bull. Soc. Chim. Fr.*, 1927, **41**, 454.
Fujita, Y., *CA*, 1947, **41**, 3585 (*isol, deriv*)
v. Sydow, E., *Acta Chem. Scand.*, 1963, **17**, 2504 (*ms*)
Schulte, K.E. *et al*, *Arch. Pharm.* (*Weinheim, Ger.*), 1963, **296**, 353 (*isol, synth, deriv*)
Yamazaki, M. *et al*, *Chem. Pharm. Bull.*, 1963, **11**, 363 (*biosynth*)
Kraus, M. *et al*, *Collect. Czech. Chem. Commun.*, 1963, **28**, 1877 (*synth*)
Uldrickies, J. *et al*, *CA*, 1965, **63**, 11408 (*synth*)
Morris, W.W., *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 1037 (*ir*)
Sandell, E.B. *et al*, *Photometric Determination of Traces of Metals*, General Aspects, Wiley, New York, 1978, 301.
Ahmed, A.A. *et al*, *Phytochemistry*, 1990, **29**, 3658 (*glucoside*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TFX810.

2-Isopropyl-5-methyl-4-[(2-quinolinyl)azo] phenol I-00076

4-[(2-Quinolyl)azo]thymol, 8CI. 2-(4-Hydroxy-5-isopropyl-2-methylphenylazo)quinoline

[23079-09-6]



$C_{19}H_{19}N_3O$ M 305.379

Used as 0.2% EtOH soln. for extraction-photometric detn. of Ni (λ_{max} 640 nm, ε 36000, $CHCl_3$). Cryst. Sol. EtOH, $CHCl_3$.

Mirzakasimov, T.M. *et al*, *Uzb. Khim. Zh.*, 1968, **12**, 29; *CA*, **70**, 73927n (*synth, use*)

Isopropylphosphonic acid I-00077

(1-Methylethyl)phosphonic acid, 9CI. 2-Phosphonopropane

[4721-37-3]

$(H_3C)_2CHP(O)(OH)_2$

$C_3H_9O_3P$ M 124.076

Several esters are used in the extraction and sepn. of lanthanides. Cryst. (C_6H_6). Mp 74-75°. pK_{a1} 2.66; pK_{a2} 8.44 (H_2O, 25°).

Monoanilinium salt: Cryst. (MeCN). Mp 175-177°.

Di-Me ester: [54552-77-1]. *Dimethyl isopropylphosphonate*
$C_5H_{13}O_3P$ M 152.130
Liq. Bp_{13} 73-74°. n_D^{20} 1.4203.

Di-Et ester: [1538-69-8]. *Diethyl isopropylphosphonate*
$C_7H_{17}O_3P$ M 180.183
Liq. Bp_{19} 83°. n_D^{20} 1.4149.

Di-Ph ester: [1538-72-3]. *Diphenyl isopropylphosphonate*
$C_{15}H_{17}O_3P$ M 276.271
Cryst. (pet. ether). Mp 42.5-43°.

Difluoride: [677-42-9].
$C_3H_7F_2OP$ M 128.058
Liq. Bp 114-115°.

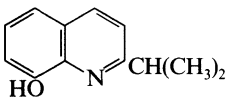
Diisocyanate: [2736-47-2].
$C_5H_7N_2O_3P$ M 174.096
Liq. d_4^{20} 1.26. Bp_4 60-61°. n_D^{20} 1.4628.

Crofts, P.C. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 3379 (*synth, props*)
Myers, T.C. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 4172 (*ester*)
Haven, A.C., *J. Am. Chem. Soc.*, 1956, **78**, 842 (*diisocyanate*)
Ivanova, Zh.M. *et al*, *Zh. Obshch. Khim.*, 1968, **38**, 1334; *J. Gen. Chem. USSR* (*Engl. Transl.*), 1284 (*difluoride*)
Ivanova, Zh.M. *et al*, *Zh. Obshch. Khim.*, 1969, **39**, 1037; *J. Gen. Chem. USSR* (*Engl. Transl.*), 1008 (*diisocyanate*)
Griffiths, W.R. *et al*, *Phosphorus Relat. Group V Elem.*, 1975, **5**, 273 (*ms*)
Villieras, J. *et al*, *J. Organomet. Chem.*, 1978, **144**, 17 (*ester, synth, ir, pmr*)
Griffiths, W.R. *et al*, *Phosphorus Sulfur Relat. Elem.*, 1978, **5**, 101 (*esters, ms*)

2-Isopropyl-8-quinolinol I-00078

2-(1-Methylethyl)-8-quinolinol, 9CI. 8-Hydroxy-2-isopropylquinoline. 2-Isopropyl-8(1H)-quinolinone

[7545-73-5]



$C_{12}H_{13}NO$ M 187.241

Used as a 1% soln. in $CHCl_3$, BuOH, 2-4% soln. in HCl for pptn. or extraction sepn. of Al. Cryst. (EtOH). Sol. acids, Et_2O, C_6H_6, $CHCl_3$, CCl_4.

Narayanan, A. *et al*, *Analyst* (*London*), 1981, **106**, 1137, 1145 (*sepn, Ac*)

Isopropyltriphenylphosphonium(1+), 8CI I-00079

(1-Methylethyl)triphenylphosphonium(1+), 9CI

$Ph_3P^{\oplus}CH(CH_3)_2$

$C_{21}H_{22}P^{\oplus}$ M 305.378 (ion)

With butyllithium, salts give the ylide.

Chloride: [35171-77-8].

$C_{21}H_{22}ClP$ M 340.831

Used as a 2-5% aq. soln. for extraction of Pt, detn. of Au.

Bromide: [1530-33-2].

$C_{21}H_{22}BrP$ M 385.282

Used as $CHCl_3$ soln. for extraction-photometric detn. of Mo(*VI*). Solid. Sol. EtOH, 4-methyl-2-pentanone, $CHCl_3$, CH_2Cl_2. Mp 239-240°.

Iodide: [24470-78-8].

$C_{21}H_{22}IP$ M 432.283

Cryst. (EtOH/Et_2O). Mp 195-196°.

Perchlorate:

$C_{21}H_{22}ClO_4P$ M 404.829

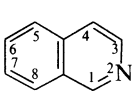
Cryst. (EtOH). Mp 182-183°.

Senise, P. *et al*, *Anal. Chim. Acta*, 1962, **26**, 89 (*detn, Au*)
Senise, P. *et al*, *Talanta*, 1964, **11**, 1185 (*detn, Pt*)
Hendrickson, J. *et al*, *Tetrahedron*, 1964, **20**, 449 (*iodide, synth, pmr*)
Vrchlabsky, M. *et al*, *Talanta*, 1968, **15**, 887 (*detn, Mo*)
Gibson, N.A. *et al*, *Anal. Chim. Acta*, 1972, **58**, 159 (*partition coefficient*)
Grebeňova, B. *et al*, *Collect. Czech. Chem. Commun.*, 1973, **38**, 379 (*detn, Mo*)
Jaenicke, L. *et al*, *Justus Liebigs Ann. Chem.*, 1973, 1252 (*bromide*)
Albright, T.A. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 940, 2942; 1976, **98**, 6249 (*cmr, nmr*)
Reid, D.H. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1979, 2334 (*synth*)
Smith, K.M. *et al*, *J. Am. Chem. Soc.*, 1980, **102**, 2437 (*iodide*)

Isoquinoline I-00080

2-Benzazine

[119-65-3]



C_9H_7N M 129.161

Isol. from the upper parts of *Spigelia anthelmia* (Spigeliaceae). Used for photometric detn. of Ni (λ_{max} 410 nm, ε 7900). Hygroscopic cryst. or oil. Sol. EtOH, Et_2O, Me_2CO, C_6H_6. d_4^{20} 1.10. Mp 24.6°. Bp 242°, Bp_{40} 142°.

▷ Mod. toxic by skin absorption. NW6825000.

Picrate: Mp 226°.

B,MeI: Cryst. $+1H_2O$ (H_2O). Mp 159°.

B,EtI: Mp 148°.

B,$CH_3(CH_2)_{11}Br$: [93-23-2]. *Laurylisoquinolinium bromide, INN. Isothan Q5*

$C_{21}H_{32}BrN$ M 378.394

Antiinfective agent.

▷ NX5250000.

B,$PhCH_2I$: Mp 175-176°.

Oxide: [1532-72-5].

C_9H_7NO M 145.160

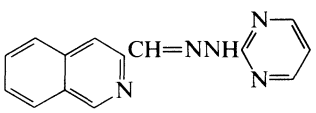
Oil, cryst. on cooling ($+2H_2O$). Sol. H_2O, EtOH. Mp 98°.

Oxide; B,HCl: Needles (EtOH). Mp 180-181°.

Meisenheimer, J., *Ber.*, 1926, **59**, 1848 (*oxide*)
Manske, R.H.F., *Chem. Rev.*, 1942, **30**, 145 (*rev*)
Narasimhan, N.S. *et al*, *Chem. Ind.* (*London*), 1967, 120 (*synth*)
Johns, S.A. *et al*, *Aust. J. Chem.*, 1976, **29**, 1617 (*cmr*)
Gansow, O.A. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 4250 (*pmr*)
Raju, A.M. *et al*, *Indian J. Chem., Sect. A*, 1977, **15**, 1005 (*use*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **19**, 499 (*rev*)
Dyke, S.F. *et al*, *Chem. Heterocycl. Compd.*, 1981, **38**, 1 (*rev*)
Kametani, T. *et al*, *Chem. Heterocycl. Compd.*, 1981, **38**, 139 (*rev*)
Wagner, H. *et al*, *Planta Med.*, 1986, 378 (*isol, uv, pmr, ms*)
Goto, M. *et al*, *Chem. Pharm. Bull.*, 1992, **40**, 1612 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IRX000, LBW000.

3-Isoquinolinecarboxaldehyde 2-pyrimidinylhydrazone, 9CI I-00081

[73568-99-7]



$C_{14}H_{11}N_5$ M 249.274

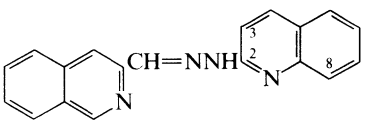
Used as 5m*M* soln. in EtOH aq. for photometric detn. of Co (λ_{max} 448 nm, ε 34200), Cu(*I*) (λ_{max}430 nm, ε 20700), Fe(*II*) (λ_{max} 488 nm, ε 10800), Ni (λ_{max} 415 nm, ε 48500). Cryst. + $1H_2O$ (MeOH). Sol. common org. solvs. Mp 220°.

Schilt, A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, use*)

3-Isoquinolinecarboxaldehyde 2-quinolinylhydrazone, 9CI I-00082

3-Isoquinolyl-N-2-quinolylhydrazone

[82633-04-3]



$C_{19}H_{14}N_4$ M 298.346

Used as 0.01*M* soln. in 0.05*M* HCl/EtOH for photometric detn. of Co (λ_{max} 495 nm, ε 31200, pH 7), Fe(*II*), Ni, Zn, Cu(*I*). Cryst. (2-methoxyethanol). Sol. common org. solvs. Mp 230°.

Schilt, A.A. *et al*, *Talanta*, 1982, **29**, 338 (*synth, detn, Co, Fe*)

3-Isoquinolinecarboxaldehyde 3-quinolinylhydrazone, 9CI I-00083

[82644-63-1]

$C_{19}H_{14}N_4$ M 298.346

Used as 0.01*M* soln. in 0.05*M* HCl/EtOH for photometric detn. of Cu(*I*) (λ_{max} 500 nm, ε 3000). Cryst. + $1H_2O$ (EtOH). Sol. common org. solvs. Mp 229°.

Schilt, A.A. *et al*, *Talanta*, 1982, **29**, 338 (*synth, detn, Cu*)

3-Isoquinolinecarboxaldehyde 8-quinolinylhydrazone, 9CI I-00084

*3-Isoquinolyl-*N*-8-quinolylhydrazone*

[82633-17-8]

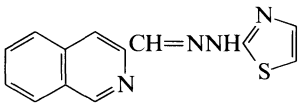
$C_{19}H_{14}N_4$ M 298.346

Used as 0.01*M* soln. in 0.05*M* HCl/EtOH for photometric detn. of Co, Cu(*I*) (λ_{max} 488 nm, ε 19500), Fe(*II*) (λ_{max} 501 nm, ε 13800), Ni. Cryst. (2-methoxyethanol). Sol. common org. solvs. Mp 228°.

Schilt, A.A. *et al*, *Talanta*, 1982, **29**, 338 (*synth, use*)

3-Isoquinolinecarboxaldehyde 2-thiazolylhydrazone, 9CI I-00085

[73568-88-4]



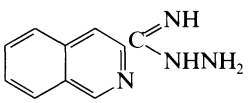
$C_{13}H_{10}N_4S$ M 254.315

Used as 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 462 nm, ε 34900), Cu(*I*) (λ_{max} 441 nm, ε 19900), Fe(*II*) (λ_{max} 556 nm, ε 10400), Ni (λ_{max} 462 nm, ε 40000). Cryst. (EtOH). Sol. common org. solvs. Mp 219°.

Schilt, A.A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, use*)

3-Isoquinolinecarboximidic acid hydrazide, 8CI I-00086

[17583-53-8]



$C_{10}H_{10}N_4$ M 186.216

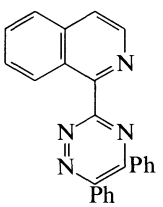
Used as 5m*M* soln. in EtOH aq. to give colour reactions with Co, Cu(*I*), Fe(*II*). Cryst. (C_6H_6). Sol. common org. solvs. Mp 122-123°.

Case, F.H. *et al*, *J. Heterocycl. Chem.*, 1967, **4**, 483 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*detn, Co, Cu, Fe*)

3-(Isoquinolyl)-5,6-diphenyl-1,2,4-triazine I-00087

1-(5,6-Diphenyl-1,2,4-triazin-3-yl)isoquinoline, 9CI

[93372-15-7]



$C_{24}H_{16}N_4$ M 360.417

Used for photometric detn. of Fe(*II*) (λ_{max} 592 nm, ε 26800). Yellow green needles (AcOH aq.). Mp 224-226°.

Tris-SO_3H deriv.: [93527-68-5].
$C_{24}H_{16}N_4O_9S_3$ M 600.610

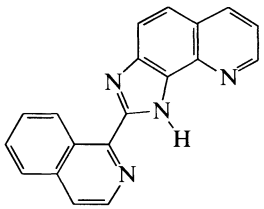
Used as a 0.01*M* aq. soln. for photometric detn. of Fe(*II*) (λ_{max} 596 nm, ε 23700). Bright yellow powder (as tri-NH_4 salt). Exact. posns. of SO_3H groups not known.

[93365-11-8]

Kiss, E., *Anal. Chim. Acta*, 1974, **72**, 127; 1984, **161**, 231 (*synth, detn, Fe*)

2-(1-Isoquinolyl)-3*H*-imidazo[4,5-*h*]quinoline, 8CI I-00088

[17583-63-0]



$C_{19}H_{12}N_4$ M 296.331

Used as 5m*M* soln. in aq. EtOH to give colour reactions with Co, Cu(*I*), Fe(*II*). Cryst. (C_6H_6). Sol. common org. solvs. Mp 219-220°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 483 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

2-(3-Isoquinolyl)-3*H*-imidazo[4,5-*h*]quinoline, 8CI I-00089

[17583-64-1]

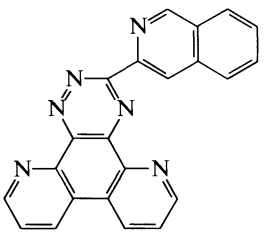
$C_{19}H_{12}N_4$ M 296.331

Used as 5m*M* soln. in aq. EtOH to give colour reactions with Co, Cu(*I*), Fe(*II*). Cryst. (C_6H_6). Sol. common org. solvs. Mp 235-236°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 483 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

3-(3-Isoquinolyl)-1,2,4-triazino[5,6-*f*][4,7]phenanthroline I-00090

[17583-56-1]



$C_{22}H_{12}N_6$ M 360.377

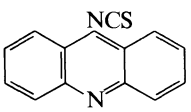
Used as 5m*M* soln. in aq. EtOH for photometric detn. of Co, Cu(*I*), Fe(*II*) (λ_{max} 605 nm, ε 1780). Cryst. (DMF). Sol. common org. solvs. Mp 350-351°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 483 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*detn, Co, Cu, Fe*)

9-Isothiocyanatoacridine, 9CI I-00091

9-Acridinyl isothiocyanate, 8CI

[7620-46-4]



$C_{14}H_8N_2S$ M 236.297

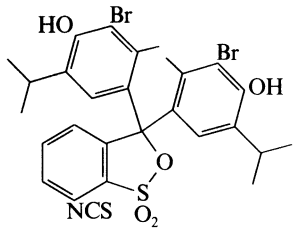
Reagent for fluorescence anal. of amines and amino acids. Yellow needles. Mp 132-133°.

Sinsheimer, J.E. *et al*, *J. Pharm. Sci.*, 1971, **60**, 141 (*use*)
Vlassa, M. *et al*, *J. Prakt. Chem.*, 1985, **327**, 1007 (*synth*)
Sarbu, C. *et al*, *Talanta*, 1987, **34**, 438 (*use*)

Isothiocyanatobromothymol blue I-00092

4,4'-(7-Isothiocyanato-3H-2,1-benzoxathiol-3-ylidene)bis[2-bromo-3-methyl-6-(1-methylethyl)phenol] S,S-*dioxide*

[134141-75-6]



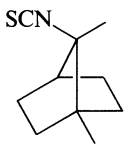
$C_{28}H_{27}Br_2NO_5S_2$ M 681.465

Used as 0.1% EtOH soln. as an acid-base indicator (pH range 6.5-8.5; colour change: yellow → blue). Pink cryst. powder. Sol. EtOH. pK_{a1} 7.6.

Puschett, J.B. *et al*, *Talanta*, 1991, **38**, 335 (*synth, use*)

7-Isothiocyanato-1,7-dimethylbicyclo[2.2.1]heptane, 9CI I-00093

1,7-Dimethyl-7-norbornyl isothiocyanate



$C_{10}H_{15}NS$ M 181.301

(−)-***form*** [69623-92-3]

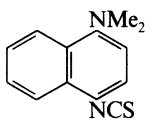
Reagent for the hplc resoln. of amino acid enantiomers. Oil. Bp_5 94°. $[\alpha]_D^{20}$ −69.9° (c, 1.3 in $CHCl_3$).

Nambara, T. *et al*, *Anal. Chem.*, 1978, **101**, 111 (*synth, use*)

4-Isothiocyanato-*N,N*-dimethyl-1-naphthalenamine, 9CI I-00094

4-(Dimethylamino)-1-naphthyl isothiocyanate. DNTC

[29711-79-3]



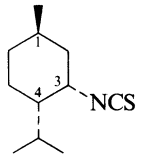
$C_{13}H_{12}N_2S$ M 228.317

Fluorogenic Edman reagent for peptide sequence anal. Pale yellow needles. Mp 67°.

Ichikawa, H. *et al*, *Chem. Pharm. Bull.*, 1970, **18**, 1493 (*synth, use*)
Miyano, H. *et al*, *Biomed. Chromatogr.*, 1987, **2**, 139 (*use*)

3-Isothiocyanato-*p*-menthane I-00095

2-Isothiocyanato-4-methyl-1-(1-methylethyl)cyclohexane, 9CI



$C_{11}H_{19}NS$ M 197.344

(*1R,3S,4S*)-***form*** [69623-93-4]

(+)-*form. Neomenthyl isothiocyanate*

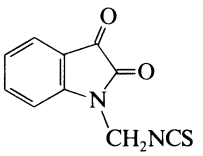
Derivatisation reagent for hplc resoln. of amino acid enantiomers. Oil. Bp_5 55°. $[\alpha]_D^{17}$ +34.5° (c, 2.0 in $CHCl_3$).

Nambara, T. *et al*, *Anal. Chim. Acta*, 1978, **101**, 111 (*use*)

1-(Isothiocyanatomethyl)-1*H*-indole-2,3-dione, 9CI I-00096

1-(Isothiocyanatomethyl)isatin

[28150-74-5]



$C_{10}H_6N_2O_2S$ M 218.236

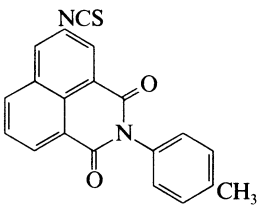
Reagent for the identification of amines. Orange-yellow cryst. (Me_2CO). Mp 127°.

Knotz, F., *Sci. Pharm.*, 1970, **38**, 26; *CA*, **73**, 7318a (*synth, use*)
Bohme, H. *et al*, *Arch. Pharm. (Weinheim, Ger.)*, 1974, **307**, 775 (*synth*)

5-Isothiocyanato-2-(4-methylphenyl)-1*H*-benz[*de*]isoquinoline-1,3(2*H*)-dione, 9CI I-00097

5-Isothiocyanato-1,3-dioxo-2-p-tolyl-2,3-dihydro-1H-benz[de]isoquinoline

[62903-82-6]



$C_{20}H_{12}N_2O_2S$ M 344.393

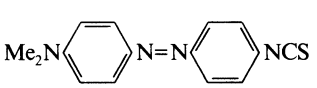
Used as 0.1% soln. for photometric detn. of H_2O in organic solvs. Cryst. Sol. C_6H_6, Et_2O.

Khalaf, H. *et al*, *Z. Physiol. Chem.*, 1977, **358**, 505 (*synth*)
Khalaf, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1980, **302**, 204 (*detn, H_2O*)

4-[(4-Isothiocyanatophenyl)azo]-*N,N*-dimethylbenzenamine, 9CI I-00098

4-(Dimethylamino)azobenzene-4-isothiocyanate. 4-Dimethylamino-4'-isothiocyanatoazobenzene. DABITC

[7612-98-8]



$C_{15}H_{14}N_4S$ M 282.368

Reagent for amino acid sequencing. Orange leaflets (Me_2CO). Mp 171-172°.

Martvon, A. *et al*, *Collect. Czech. Chem. Commun.*, 1969, **34**, 3912 (*synth*, *ir*, *uv*)
Chang, J.Y. *et al*, *Biochem. J.*, 1976, **153**, 607 (*use*)
Chang, J.Y. *et al*, *J. Chromatogr.*, 1977, **132**, 303 (*use*)
Wittmann-Leibold, B. *et al*, *FEBS Lett.*, 1978, **93**, 205; 1979, **101**, 157; 1979, **108**, 69, 75 (*use*)
Liu, W. *et al*, *Anal. Biochem.*, 1982, **127**, 426 (*synth*)

(4-Isothiocyanatophenyl)phenyldiazene, 9CI I-00099

p-(*Phenylazo*)*phenyl isothiocyanate*, *8CI*. *4-Isothiocyanatoazobenzene*

[7612-96-6]

$C_{13}H_9N_3S$ M 239.300

Reagent for protein *N*-terminal aminoacid detn. Salmon-coloured needles (AcOH aq.). Mp 94-95°, Mp 125°.

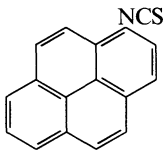
▷ NX9125000.

Bolser, C.F. *et al*, *J. Am. Chem. Soc.*, 1923, **45**, 2349 (*synth*)
Martvon, A. *et al*, *Collect. Czech. Chem. Commun.*, 1969, **34**, 3912 (*synth*, *ir*, *uv*)
Datta, S. *et al*, *Biochem. Biophys. Res. Commun.*, 1976, **72**, 1296 (*use*)

1-Isothiocyanatopyrene, 9CI I-00100

1-Pyrene isothiocyanate. *3-Pyrene isothiocyanate* (*obsol.*)

[24722-90-5]



$C_{17}H_9NS$ M 259.331

Fluorescent label for amines. Light yellow needles (2-propanol). Mp 125-126°.

Picrate: Copper-coloured needles (2-propanol). Mp 145°.

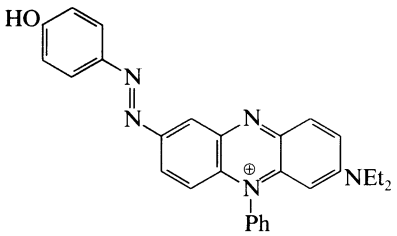
Neunhoeffer, O. *et al*, *Justus Liebigs Ann. Chem.*, 1961, **647**, 108 (*synth*)
Hansen, P.E. *et al*, *Acta Chem. Scand., Ser. B*, 1981, **35**, 131 (*ir*)

J

Janus black J-00001

3-(Diethylamino)-7-[(4-hydroxyphenyl)azo]-5-phenylphenazinium(1+), 9CI. C.I. Basic black 2, 8CI. C.I. 11825. Aizen cathilon grey BLH. Sevron charcoal MF. Sumiacryl black G

[4443-99-6]



$C_{28}H_{26}N_5O^{\oplus}$ M 448.546 (ion)

Strictly, the name Janus black applies to the chloride.

Chloride:

$C_{28}H_{26}ClN_5O$ M 483.999

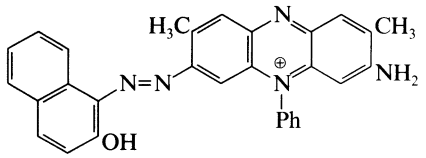
Used for photometric detn. of org. and inorg. solvents. Dark blue cryst. powder. Sol. H_2O, EtOH.

Colour Index, 3rd Edn., 1971, **4**, 4026.

Yanagii, K., *CA*, 1986, **104**, 141424u (*use*)

Janus blue J-00002

3-Amino-7-[(2-hydroxy-1-naphthalenyl)azo]-2,8-dimethyl-5-phenylphenazinium(1+). C.I. Basic blue 16. Indoin blue. C.I. 12210



$C_{30}H_{24}N_5O^{\oplus}$ M 470.552 (ion)

Strictly, the name Janus blue applies to the chloride salt.

Chloride: [4569-88-4].

$C_{30}H_{24}ClN_5O$ M 506.005

Used for extraction-photometric detn. of Au, Fe, Sb, Ta. Dark blue cryst. powder. λ_{max} = 589 nm (H_2O).

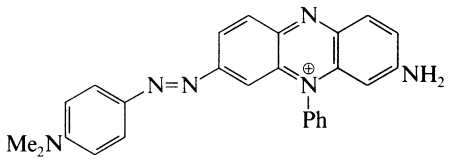
▷ SG1608000.

Guseinov, I.K. *et al*, *CA*, 1977, **86**, 114777q (*detn, Au*)

Guseinov, I.K. *et al*, *Azerb. Khim. Zh.*, 1982, **6**, 83; 1984, **4**, 92; 1985, **6**, 105 (*detn, Sb, Fe, Ta*)

Janus green J-00003

3-Amino-7-[[4-(dimethylamino)phenyl]azo]-5-phenylphenazinium(1+)



$C_{26}H_{23}N_6^{\oplus}$ M 419.508 (ion)

Strictly, the name Janus green applies to the chloride.

Chloride: [4618-88-6].

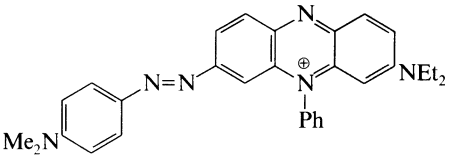
$C_{26}H_{23}ClN_6$ M 454.961

Used for photometric detn. of Sb. Dark blue cryst. powder. Sol. EtOH.

Guseinov, I.K. *et al*, *Azerb. Khim. Zh.*, 1982, **6**, 83.

Janus green B J-00004

3-Diethylamino-7-[[4-(dimethylamino)phenyl]azo]-5-phenylphenazinium(1+). Diazin green S. Union green B



$C_{30}H_{31}N_6^{\oplus}$ M 475.615 (ion)

Strictly, the name Janus green B applies to the chloride salt.

Chloride: [2869-83-2]. *C.I. 11050 Basic dye*

$C_{30}H_{31}ClN_6$ M 511.068

Used for extraction-photometric detn. of Sb. Biological stain. Dark green cryst. powder. λ_{max} 660 nm.

▷ SG1633000.

Guseinov, I.K. *et al*, *Azerb. Khim. Zh.*, 1982, 83 (*detn, Sb*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DHM500.

L

Laurohydroxamic acid L-00001

N-*Hydroxydodecanamide, 9CI*

[10335-68-9]

$H_3C(CH_2)_{10}CONHOH$

$C_{12}H_{25}NO_2$ M 215.335

Used as EtOH soln. for photometric detn. of V(*V*) (λ_{max} 450 nm). Plates (C_6H_6). Sol. EtOH, Me_2CO. Mp 93°.

N-*Ph:* [13663-53-1]. N-*Hydroxy*-N-*phenyldodecanamide, 9CI.* N-*Phenyllaurohydroxamic acid*

$C_{18}H_{29}NO_2$ M 291.433

Used as 0.02% soln. in hexane for extraction-photometric detn. of Ti (in the presence of phenylfluorone, λ_{max} 560 nm, ε 183000). Cryst. (EtOH aq.). Sol. hexane, EtOH, alkalis.

[34097-44-4]

Bass, V.C. *et al*, *Talanta*, 1966, **13**, 735 (*detn, V*)
Hase, J. *et al*, *Chem. Pharm. Bull.*, 1971, **19**, 363 (*synth*)
Gunawardhana, H.D. *et al*, *Indian J. Chem.*, 1982, **21**, 338 (*synth, deriv*)
Gunawardhana, H.D., *Analyst (London)*, 1983, **108**, 952 (*detn, Ti*)

Lauryltrimethylammonium(1+) L-00002

N,N,N-*Trimethyl-1-dodecanaminium(1+), 9CI. Dodecyltrimethylammonium(1+)*

[10182-91-9]

$H_3C(CH_2)_{11}N^{\oplus}Me_3$

$C_{15}H_{34}N^{\oplus}$ M 228.440 (ion)

Bromide: [1119-94-4].

$C_{15}H_{34}BrN$ M 308.344

Forms extractable ion-pairs with anionic complexes of transition metals; used for extraction-photometric detn. of Nb, V; flotation separation of Cd(*II*). Commercially available. Hygroscopic off-white cryst. (HBr aq.). Sol. H_2O. Mp 246° dec.

▷ Eye and skin irritant. BQ3195000.

Chloride: [112-00-5].

$C_{15}H_{34}ClN$ M 263.893

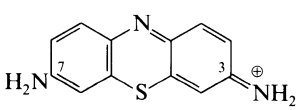
Cryst. (dil. HCl aq.). Sol. H_2O.

Nardillo, A.M. *et al*, *Anal. Chim. Acta*, 1973, **66**, 359 (*detn, Nb*)
Lessing, J.G.V. *et al*, *J. Inorg. Nucl. Chem.*, 1973, **35**, 2009 (*detn, Ni, Zn, Ir, Os, Ag, Pt*)
Nardillo, A.M. *et al*, *Anal. Chim. Acta*, 1975, **74**, 85 (*detn, V*)
Kobayashi, K., *Bull. Chem. Soc. Jpn.*, 1975, **48**, 1745 (*detn, Cd*)
Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 1496B (*haz*)

Lauth's violet L-00003

3,7-Diaminophenothiazin-5-ium(1+), 9CI

[26754-93-8]



$C_{12}H_{10}N_3S^{\oplus}$ M 228.297 (ion)

Strictly the name Lauth's violet refers to the chloride.

Chloride: [581-64-6]. *Thionine hydrochloride. C.I. 52000 Basic dye*

$C_{12}H_{10}ClN_3S$ M 263.750

Bacteriological stain, antioxidant. Used as C_6H_6 soln. for extraction-photometric detn. of Ge; as a 0.05% aq. soln. for photometric detn. of Ga and as an indicator in visual titrations with $TiCl_3$ soln; fluorimetric detn. of S; indicator in complexonometric titrimetric detn. of Al. Blackish-green needles (HCl aq.). Sol. hot H_2O, H_2SO_4; sl. sol. cold H_2O. Blue or violet soln. in H_2O, λ_{max} 602.5 nm. Forms colourless leuco-dye on redn. with Zn/H^+ or $Na_2S_2O_4$; derivs. behave similarly. Used as a mixture with Methylene blue, M-00175 (Azure II) for extraction-photometric detn. of Hg(*II*), Sb(*V*).

▷ LD_{50} 400 mg/kg (mouse, i.p.). SN5425000.

N(3)-Me, chloride: [531-57-7]. *Azure C*

$C_{13}H_{12}ClN_3S$ M 277.777

Biological stain. Used as a 0.05% aq. soln. as an indicator in iodometry. Green cryst. (HCl aq.). Sol. EtOH, Me_2CO, H_2O; insol. CCl_4. Blue soln. in H_2O; λ_{max} 608-612 nm.

▷ SP5680000.

N(3),N(3)-Di-Me, chloride: [531-53-3]. *Azure A. 3-Amino-7-(dimethylamino)phenothiazi-5-ium chloride. C.I. 52005*

$C_{14}H_{14}ClN_3S$ M 291.803

Thiazine basic dye. Biological stain. Used as 0.05% aq. soln. as indicator in iodometric titrimetry. Green cryst. (HCl aq.). Sol. H_2O, EtOH, Me_2CO; insol. CCl_4. Mp 290° dec. Blue soln. in H_2O; λ_{max} 620-634 nm.

▷ SP5660000.

N(3),N(7)-Di-Me, chloride: [34185-21-2].

$C_{14}H_{14}ClN_3S$ M 291.803

Green cryst.

N(3),N(3),N(7)-Tri-Me, chloride: [531-55-5]. *Azure B. Azure I. C.I. 52010*

$C_{15}H_{16}ClN_3S$ M 305.830

Biological stain. Used as a 0.1% aq. soln. for photometric detn. of Si. Green cryst. (HCl aq.). Sol. H_2O; spar. sol. EtOH; insol. C_6H_6. Red-brown fluorescence in EtOH soln. Blue soln. in H_2O; λ_{max} 648-655 nm. A mixt. with Methylene blue, M-00175 is sometimes mistakenly referred to as Azure II.

▷ SO5550000.

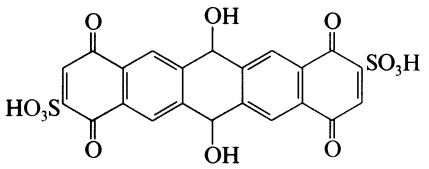
N-*Tetra-Me:* see *Methylene blue, M-00175*

[37247-10-2]

Lauth, C., *C. R. Hebd. Seances Acad. Sci.*, 1876, **82**, 1441 (*synth*)
MacNeal, W.J. *et al*, *J. Am. Chem. Soc.*, 1926, **48**, 740 (*synth*)
Rabinowitch, E. *et al*, *J. Am. Chem. Soc.*, 1941, **63**, 69 (*props*)
Ružička, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1963, **195**, 411 (*indicator, titanometry*)
Meites, L., *Handbook of Analytical Chemistry*, McGraw-Hill, New York, 1963 (*detn, Al*)
Loach, K.W., *J. Chromatogr.*, 1971, **60**, 119 (*derivs, chromatog*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 128 (*use, Lauth's violet*)
Tarayan, V.M. *et al*, *Arm. Khim. Zh.*, 1973, **26**, 643; *CA*, **80**, 22328s (*Azure II, detn, Hg*)
Tarayan, V.M. *et al*, *CA*, 1973, **78**, 79350f (*Azure II, detn, Sb*)
Muralikrishna, U. *et al*, *Curr. Sci.*, 1976, **45**, 276 (*use, Azure C*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*detn, S*)
Mirzoyan, F.V. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 1293 (*use, Azure B*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AKK750.

Lead blue L-00004

1,4,6,8,11,13-Hexahydro-6,13-dihydroxy-1,4,8,11-tetraoxo-2,9-pentacenedisulfonic acid. 6,13-Dihydro-6,13-dihydroxy-1,4:8,11-pentacenequinone-2,9-disulfonic acid



$C_{22}H_{12}O_{12}S_2$ M 532.462

Indicator used as a 0.05% aq. soln. in titrimetric detn. of Pb. Dark red cryst. powder. Sol. H_2O.

Junek, H. *et al*, *Mikrochim. Acta*, 1962, 114 (*detn, Pb*)
Blantner, H., *Mikrochim. Acta*, 1962, 125 (*synth, detn, Pb*)
Bishop, E., *Indicators*, Oxford, Pergamon, 1972 (*detn, Pb*)

Leucylalanine L-00005

$(H_3C)_2CHCH_2CH(NH_2)CONHCH(CH_3)COOH$

$C_9H_{18}N_2O_3$ M 202.253

(S,S)-form [7298-84-2]

L,L-form

Used in the fluorimetric detn. of secondary amines and of phenylalanine. Cryst. (EtOH). Mp 255-256°. $[\alpha]_D^{24}$ +23° (c, 5 in MeOH), $[\alpha]$ +76° (H_2O).

N-Benzyloxycarbonyl, Me ester: Mp 129-130°.

(S)-(R)-form [17664-98-1]

N-*L-Leucyl-D-alanine*

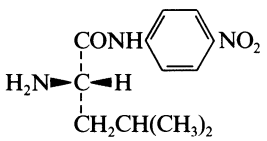
Plates (EtOH). Sol. H_2O, MeOH. Mp 257°. $[\alpha]_D^{20}$ +22.9° (MeOH).

N-Benzyloxycarbonyl, Me ester: Mp 92-93°.

Fischer, E. *et al*, *Justus Liebigs Ann. Chem.*, 1905, **340**, 160 (*synth*)
McGregor, W.M. *et al*, *J. Org. Chem.*, 1961, **26**, 1849 (*synth*)
McCaman, M.W. *et al*, *J. Lab. Clin. Med.*, 1962, **59**, 885 (*use*)
Noda, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1968, **41**, 401 (*synth, sepn*)
Karczynski, F. *et al*, *CA*, 1970, **72**, 26620p (*ord*)
Conti, F. *et al*, *Org. Magn. Reson.*, 1970, **2**, 131, (*pmr*)
Nakamura, H. *et al*, *Anal. Chem.*, 1980, **52**, 2087 (*use*)

Leucyl-*p*-nitroanilide L-00006

*2-Amino-4-methyl-*N-*(4-nitrophenyl)pentanamide, 9CI. 2-Amino-4-methyl-4'-nitrovaleranilide*



$C_{12}H_{17}N_3O_3$ M 251.285

S-form [4178-93-2]

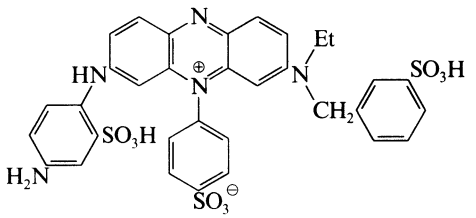
L-form

Substrate for leucine aminopeptidase and bromelin.

Wachsmuth, E.D. *et al*, *Biochemistry*, 1966, **2**, 169 (*use*)
Hennrich, N. *et al*, *FEBS Lett.*, 1969, **2**, 278 (*use*)

Lissamine blue BF L-00007

3-[(4-Amino-3-sulfophenyl)amino]-7-[ethyl[(3-sulfophenyl) methyl]amino]-5-(4-sulfophenyl)phenazinium hydroxide inner salt. C.I. 50230. C.I. Acid blue 18



$C_{33}H_{29}N_5O_9S_3$ M 735.818

Strictly, the name Lissamine blue BF applies to the disodium salt.

Di-Na salt: [6448-97-1].

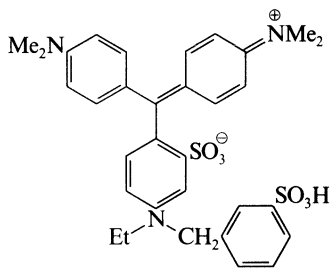
Redox indicator used as a soln. in EtOH or H_2O. Dark reddish blue cryst. powder. Sl. sol. EtOH, H_2O. E° +0.196V (25°).

Horrobin, S. *et al*, *Trans. Faraday Soc.*, 1954, **50**, 803 (*use*)
Colour Index, 3rd Edn., 1971, **4**, 4451 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

Lissamine violet 10B L-00008

N-*[4-[[4-(Dimethylamino)phenyl][4-[ethyl[(3-sulfophenyl) methyl]amino]-2-sulfophenyl]methylene]-2,5-cyclohexadien-1-ylidene]*-N-*methylmethanaminium hydroxide inner salt, 9CI. C.I. Acid blue 13. Xylene fast blue 10B. C.I. 42571. Acid violet 10B. Acidal fast violet 10B. Dermina violet 10B. Hispacid fast violet 10B*

[5863-53-6]



$C_{32}H_{36}N_3O_6S_2$ M 622.785

Strictly the name Lissamine violet 10B refers to the sodium salt. Redox indicator used as a 0.1% aq. soln. Dark violet cryst. powder. Sol. H_2O; spar. sol. EtOH. E° +1.12 V (1 *N* H_2SO_4).

Brazier, J.N. *et al*, *Anal. Chim. Acta*, 1965, **33**, 625 (*use*)
Colour Index, 3rd Edn., 1971, **4**, 4393 (*synth*)

Lithmus L-00009

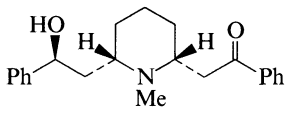
Lacmus

MW *ca.* 3300. Blue colouring material isol. from various species of lichens. Used as acid-base indicator (pH range 4.5→ 8.3: colour change red → blue); used for detn. of NH_3. Blue powder. Spar. sol. H_2O, EtOH.

Feigl, F., *Mikrochemie*, 1933, **15**, 129.
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1948, **4** (*detn, NH_3*)
Vogel, A.I., *A Textbook of Quantitative Inorganic Analysis*, Longmans, London, 1961.
Beecken, H. *et al*, *Angew. Chem.*, 1961, **73**, 665.

Lobeline, INN L-00010

2-[6-(2-Hydroxy-2-phenylethyl)-1-methyl-2-piperidinyl]-1-phenylethanone, 9CI. 8,10-Diphenyllobelionol



(–)-*form*

$C_{22}H_{27}NO_2$ M 337.461

(–)-*form* [90-69-7]

α-*Lobeline. Inflatine. Other proprietary names*

Alkaloid from *Lobelia inflata, L. nicotianaefolia, L. hassleri, L. stallfeldii* and several other *L.* spp. Also isol. from seeds of *Campanula medium* (Campanulaceae). Used in antismoking preparations. Has been used as a respiratory stimulant. Used as a 0.1*M* aq. soln. for photometric detn. of Mo (λ_{max} 465 nm, ε 13800). Needles (EtOH). Mp 130-131°. $[\alpha]_D^{15}$ −42.85° (EtOH). Oxidn. gives the symmetrical Lobelanine which is *meso*-.

▷ OJ8480000.

B,HCl: [134-63-4]. *Zoolobelin. Lobran*

Needles (EtOH). Mp 182°.

▷ OJ8490100.

B, ½ H_2SO_4: [134-64-5].

Cryst. (EtOH). $[\alpha]_D^{25}$ −25° (c, 0.2 in $CHCl_3$).

Benzoyl: Mp 155-157°.

(±)-*form* [134-65-6]

Lobelidine

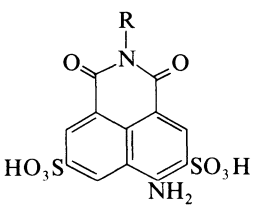
Alkaloid from *L. inflata* and *L. salicifolia* (Campanulaceae). Analeptic agent. Prisms. Mp 110°.

B,HCl: Mp 170°.

[10122-32-4]

Wieland, H. *et al, Justus Liebigs Ann. Chem.*, 1929, **473**, 118 (*isol*)
Schöpf, C. *et al, Justus Liebigs Ann. Chem.*, 1965, **682**, 206; **687**, 241 (*abs config*)
Cambar, P.J. *et al, Arch. Int. Pharmacodyn. Ther.*, 1969, **177**, 1 (*pharmacol*)
Korczyn, A.D. *et al, Arch. Int. Pharmacodyn. Ther.*, 1969, **182**, 370 (*pharmacol*)
Döpke, W. *et al, Pharmazie*, 1970, **25**, 128 (*isol*)
Krochmal, A. *et al, J. Nat. Prod. (Lloydia)*, 1972, **35**, 303 (*isol*)
Shah, C.S. *et al, Phytochemistry*, 1972, **11**, 2884 (*isol, occur*)
Mansuri, S.M. *et al, Arzneim.-Forsch.*, 1973, **23**, 1721 (*pharmacol*)
O'Donovan, D.G. *et al, J. Chem. Soc., Perkin Trans. 1*, 1975, 415 (*biosynth*)
Alhadeff, M., *Med. Actual.*, 1977, **13**, 236 (*rev*)
Nytko, K. *et al, Microchem. J.*, 1980, **25**, 548 (*detn, Mo*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1427.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 6579.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, LHY000, LHZ000.

Lucifer yellow L-00011



CH; R = $NHCONHNH_2$
VS; R = *m*-$C_6H_4SO_2CH{=}CH_2$

Dyes used as intracellular markers in biol. systems.

Lucifer yellow CH

$C_{13}H_{11}N_5O_9S_2$ M 445.390

Fluorescent dye used in marking nerve cells. λ_{max} 280, 430 nm (H_2O). Used as Di-Li salt.

Di-K salt: [71206-95-6].

Cryst. (H_2O).

Di-Li salt: [67769-47-5].

Fluffy orange hygroscopic powder.

Lucifer yellow VS [71231-14-6]

$C_{20}H_{14}N_2O_{10}S_3$ M 538.536

λ_{max} 280, 430 nm (H_2O). Used as Di-Li salt.

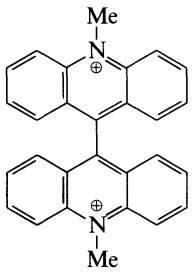
Di-K salt: Cryst. (H_2O).

[71206-95-6]

Stewart, W.W., *Cell (Cambridge, Mass.)*, 1978, **14**, 741 (*use*)
Stewart, W.W., *J. Am. Chem. Soc.*, 1981, **103**, 7615 (*synth*)
Stewart, W.W., *Nature (London)*, 1981, **292**, 17 (*use, bibl*)

Lucigenine L-00012

10,10'-Dimethyl-9,9'-biacridinium



$C_{28}H_{22}N_2^{2\oplus}$ M 386.495 (ion)

Dinitrate: [2315-97-1].

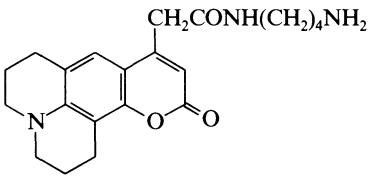
Used as a 0.001m*M* soln. in aq. MeOH for chemiluminescent detn. of Cu, Cr, Ir, Mn, Os, Pt, Rh, Tl; chemiluminescent acid-base indicator. Cryst.

Brin, A.Y. *et al, CA*, 1973, **78**, 66575h (*detn, Os*)
Pilipenko, A.T. *et al, Zh. Anal. Khim.*, 1973, **28**, 1135 (*detn, Pt, Rh, Ir*)
Dubovenko, L.I. *et al, CA*, 1974, **80**, 103572u, 150583 (*detn, W, Mn*)
Tovmasyan, A.P., *CA*, 1975, **83**, 187824a (*detn, Mn, Cu, Tl, Fe*)
Dubovenko, L.I. *et al, Khim. Khim. Tekhnol. (Minsk)*, 1975, **18**, 1211; *CA*, **84**, 38257m (*detn, Cr*)

Luminarin 4 L-00013

N-(*4-Aminobutyl*)-*2,3,6,7-tetrahydro-11-oxo-1*H,*5*H,*11*H-*benzopyrano*[*6,7,8*-ij]*quinolizine-9-acetamide, 9CI*

[127697-01-2]



$C_{21}H_{27}N_3O_3$ M 369.463

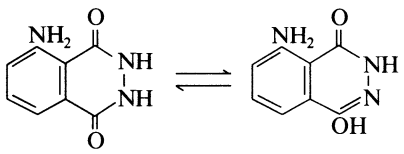
Labelling reagent for carboxylic acids in liq. chromatog. with peroxyoxalate chemiluminescence detection.

Pat. Coop. Treaty (WIPO), 89 12 052, (1989); *CA*, 1990, **113**, 23889n (*synth, use*)
Tod, M. *et al, J. Chromatogr.*, 1991, **542**, 295 (*use*)

Luminol L-00014

5-Amino-2,3-dihydro-1,4-phthalazinedione. 3-Aminophthalic hydrazide

[521-31-3]



$C_8H_7N_3O_2$ M 177.162

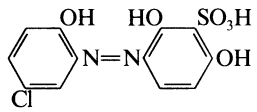
Strongly chemiluminescent on oxidn. Anal. reagent for metals e.g. Cu, peroxides, cyanides. Yellow cryst. Mp 329-332°.

Huntress, E.H. *et al*, *J. Am. Chem. Soc.*, 1934, **56**, 241.
Org. Synth., 1949, **29**, 78.
White, E.H. *et al*, *J. Am. Chem. Soc.*, 1964, **86**, 941.
White, E.H. *et al*, *Acc. Chem. Res.*, 1970, **3**, 54 (*rev*)

Lumogallion L-00015

5-Chloro-3-[(2,4-dihydroxyphenyl)azo]-2-hydroxybenzenesulfonic acid, 8CI. C.I. Mordant red 72

[4386-25-8]



$C_{12}H_9ClN_2O_6S$ M 344.732

Used as 0.4m*M* aq. soln. for photometric detn. of Sc (ε 34000), Ga, In, Bi, Pd; metal indicator. Reddish cryst. powder. Sol. H_2O, EtOH, Me_2CO.

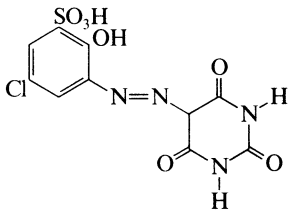
▷ DB5300000.

Salikhov, V.D. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 1299; 1967, **22**, 998 (*detn, Ga, In*)
Alimarin, I.P. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 2336 (*detn, Sc*)
Woodword, C. *et al*, *Talanta*, 1973, **20**, 417 (*use, ind*)
Kotelanskaya, L.I. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 1095 (*detn, Bi*)
Tataev, O.A., *Zavod. Lab.*, 1980, **46**, 884 (*detn, Pd*)

Lumomagneson L-00016

5-Chloro-3-[(hexahydro-2,4,6-trioxo-5-pyrimidinyl)azo]-2-hydroxybenzenesulfonic acid, 8CI

[3773-16-8]



$C_{10}H_7ClN_4O_7S$ M 362.707

Used for fluorimetric detn. of Mg, photometric detn. of Sc. Orange-yellow cryst. powder. Sol. H_2O, EtOH, Me_2CO.

Kurbatova, I.I., *Zavod. Lab.*, 1966, **32**, 1064 (*detn, Mg*)
Akhmedli, M.K. *et al*, *CA*, 1967, **66**, 16338 (*detn, Sc*)

M

Macrocyclic formazan I M-00001

6,7,9,10,12,13-Hexahydro-19H-dibenzo[b,i][*1,11,14,17,4,5,7,8*]*tetraoxatetraazacyclononadecine-21-carbonitrile, 9CI. 2,3,5,6,8,9-Hexahydro-7-cyano-5H-dibenzo*[k,r]-*1,4,7,10,13,14,16,17-tetraoxatetraazacyclononadecine*

[80473-47-8]

As Macrocyclic formazan II, M-00002 with

R = CN

$C_{20}H_{21}N_5O_4$ M 395.417

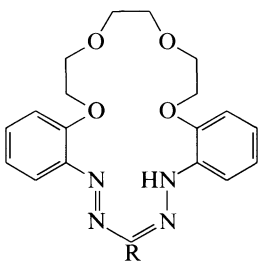
Used as Me_2CO soln. as selective chelating reagent for alkali metals. Used as 1m*M* soln. in $CHCl_3$ or in EtOH for extraction-separation of Cu(*II*), Hg(*II*) (pH 6.5-8.5); photometric detn. of Hg(*II*) (λ_{max} 568 nm). Red cryst. Sol. C_6H_6, $CHCl_3$, DMF, Py; spar. sol. EtOH, H_2O. Mp 205-206°. pK_{a1} 10.9.

Dziomko, V.M. *et al*, *Zh. Obshch. Khim.*, 1981, **51**, 2324 (*synth*)
Isakova, N.V. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 1045 (*detn, Cu, Hg*)

Macrocyclic formazan II M-00002

6,7,9,10,12,13-Hexahydro-21-phenyl-19H-dibenzo-[b,i][*1,11,14,17,4,5,7,8*]*tetraoxatetraazacyclononadecine, 9CI*

[90906-67-5]



R = Ph

$C_{25}H_{26}N_4O_4$ M 446.505

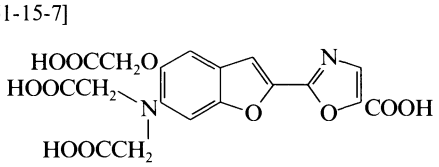
Cycloformazan. Used as 1 m*M* soln. in $CHCl_3$ for selective extraction Cu and Hg (in the presence of picrate). Cryst. Sol. $CHCl_3$, 4-methyl-2-pentanone, EtOH; sl. sol. H_2O.

Niz'eva, N.V. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Khim.*, 1984, **274**, 611 (*synth, use*)
Isakova, N.V. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 1045 (*detn, Cu, Hg*)

Mag-fura-2 M-00003

Furaptra

[120551-15-7]



$C_{18}H_{14}N_2O_{11}$ M 434.315

Fluorescent probe for intracellular Mg. Mp 222-226°.

Tetrakis(acetoxymethyl)ester: [130100-20-8].

$C_{30}H_{30}N_2O_{19}$ M 722.569

Fluorescent probe for intracellular Mg.

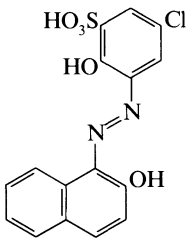
[120551-16-8]

Raju, B. *et al*, *Am. J. Physiol.*, 1989, **256**, C540 (*synth, pmr, use*)
Murphy, E. *et al*, *Proc. Natl. Acad. Sci. U.S.A.*, 1989, **86**, 2981 (*use*)

Magneson IREA M-00004

5-Chloro-2-hydroxy-3-[*(2-hydroxy-1-naphthalenyl)azo*]*benzenesulfonic acid, 9CI. 1-(2-Hydroxy-3-sulfo-5-chlorobenzeneazo)-2-naphthol. C.I. Mordant violet 31. C.I. Mordant blue 12 (discontinued). Chrome fast blue RLL*

[3567-23-5]



$C_{16}H_{11}ClN_2O_5S$ M 378.792

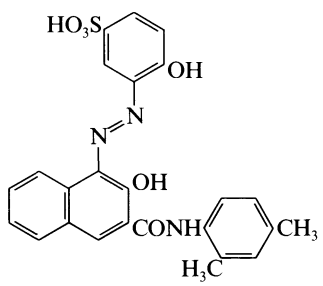
Used for extraction-photometric detn. of Ga ($CHCl_3$), Sc (λ_{max} 520 nm, ε 15000, Et_2O); as an aq. soln. as an indicator in complexometric indicator in EDTA titrations (Ca, Mg); photometric detn. of codeine, Nb (λ_{max} 540 nm, ε 16000), as 0.1% soln. in Me_2CO for extraction-fluorimetric detn. of Al (pH 3.2-5.3, butanol). Orange-red cryst. Sol. H_2O, Me_2CO, EtOH, $CHCl_3$, C_6H_6.

Belcher, R., *Chemist-Analyst*, 1958, **47**, 2 (*use, ind*)
Alimarin, I.P. *et al*, *CA*, 1970, **72**, 50638w (*detn, Sc*)
Severina, A.I. *et al*, *CA*, 1971, **74**, 130413a (*detn, Codeine*)
Elinson, S.V. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1535 (*detn, Nb*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*detn, Ca, In*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1945 (*synth, detn, Al*)
Pyatnitskii, I.V. *et al*, *Uzb. Khim. Zh.*, 1982, **48**, 1287 (*detn, Ga*)

Magon M-00005

3-[[*4-*[[(*2,4-Dimethylphenyl)amino*]*carbonyl*]*-2-hydroxy-1-naphthalenyl*]*azo*]*-4-hydroxybenzenesulfonic acid, 9CI. 1-Azo-2-hydroxy-3-(2,4-dimethylcarboxanilido)naphthalene-1'-(2-hydroxybenzene-5-sulfonic acid). Xylidyl blue I*

[36505-52-9]



$C_{25}H_{21}N_3O_6S$ M 491.523

Used as 0.015% soln. in EtOH for photometric detn. of Mg (λ_{max} 510 nm, pH ~9). Brilliant red cryst. Sol. H_2O, EtOH.

[14936-97-1]

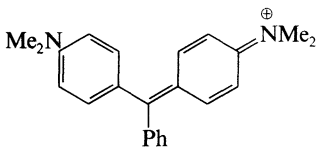
Mann, C.K. *et al*, *Anal. Chem.*, 1956, **28**, 202 (*synth, detn, Mg*)

Mann, C.K. *et al*, *Anal. Chim. Acta*, 1957, **16**, 155 (*detn, Mg*)
Apple, R.F. *et al*, *Talanta*, 1961, **8**, 419 (*detn, Mg*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 154 (*use*)

Malachite green M-00006

N-[4-[[4-(Dimethylamino)phenyl]phenylmethylene]-2,5-cyclohexadien-1-ylidene]-N-methylmethanaminium(1+). C.I. Basic green 4. Aniline green. China green. Diamond green B. Victoria green B. C.I. 42000

[569-64-2]



$C_{23}H_{25}N_2^{\oplus}$ M 329.464 (ion)

Strictly, the name Malachite green refers to the chloride (or oxalate salt).

Chloride:

$C_{23}H_{25}ClN_2$ M 364.917

Used for photometric detn. of many elements (e.g. As, Sb, Bi, B, Ga, In, Ge, Si, Re, Ir, Rh, Au(*III*), Hg, Pd, Ta, U, $ClO_4^{\ominus}$); biological stain. Acid-base indicator. Clinical reagent for inorganic phosphate assay. Dark green cryst. powder. Sol. H_2O, EtOH. Forms colourless leuco-form (4,4′-Bis(dimethylamino)triphenylmethane, B-00327-1) on reduction.

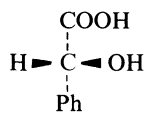
▷ LD_{50} 275 mg/kg (rat, oral).

Jankovsky, J., *Talanta*, 1959, **2**, 29 (*detn, Ga*)
Eberle, A.R. *et al*, *Anal. Chem.*, 1967, **39**, 662 (*detn, Ta*)
Colour Index, 3rd Ed., 1971, **4**, 4380 (*synth*)
Hohenwallner, W. *et al*, *Clin. Chim. Acta*, 1973, **45**, 169 (*detn, $PO_4^{3\ominus}$*)
Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 52 (*detn, In*)
Marczenko, K. *et al*, *Anal. Chim. Acta*, 1979, **108**, 261 (*detn, Rh*)
De, A.K. *et al*, *Mikrochim. Acta*, 1979, **2**, 201 (*detn, Hg*)
Marczenko, Z. *et al*, *Mikrochim. Acta*, 1983, **2**, 169 (*detn, Ir*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AFG500.

Mandelic acid M-00007

α-Hydroxybenzeneacetic acid, 9CI. 2-Hydroxy-2-phenylacetic acid. α-Hydroxyphenylacetic acid. Phenylglycollic acid. Amygdalinic acid

[90-64-2]



(*R*)-*form*

$C_8H_8O_3$ M 152.149

Prior to 1923 confusion existed between the (*R*)- and (*S*)-forms.

▷ Mod. toxic orally. OO6300000.

(*R*)-*form* [611-71-2]

D-*form* (*obsol.*)

Found in some plants, e.g. *Poria sinuosa*. Plates. Mp 133°. $[\alpha]_D^{20}$ −159.73° (EtOH), $[\alpha]_D$ −187.44° (AcOH). pK_a 3.37. Slowly racemises at 160°.

Me ester: [20698-91-3].

$C_9H_{10}O_3$ M 166.176

Mp 55°. Bp_{12} 135°. $[\alpha]_D^{18}$ −214° (CS_2).

(*S*)-*form* [17199-29-0]

L-*form* (*obsol.*)

Plates. Mp 133.8°. $[\alpha]_D^{20}$ +156.57° (H_2O).

Ac: [7322-88-5].

Cryst. Mp 102-104°. $[\alpha]_D^{20}$ +154.4° (c, 2.1 in $CHCl_3$).

(±)-*form* [611-72-3]

Used as aq. soln. for detn. of Cu; gravimetric detn. of Zr, Hf; extraction-photometric detn. of B. Plates (H_2O). d_4^{20} 1.30. Mp 118-119°. pK_{a1} 3.19 (25°, 0.1*M* KNO_3).

Me ester: [4358-87-6].

Plates (C_6H_6/ligroin). Mp 58°. Bp 250° sl. dec., Bp_{20} 144°.

Ac: [5438-68-6].

Cryst. (C_6H_6), cryst. + $1H_2O$ (H_2O). Mp 79-80° (anhyd.), Mp 38-39° (hydrate).

Me ether: [7021-09-2].

Used as 10% soln. in EtOH/KOH for detn. and gravimetric detn. of Na. Plates (ligroin). Sol. $CHCl_3$, Me_2CO, Et_2O, EtOH, alkalis. Mp 71-72°. pK_a 3.13.

Me ether, chloride: [56271-12-6]. *α-Methoxybenzeneacetyl chloride*

$C_9H_9ClO_2$ M 184.622

Resolving agent for amines by gc or hplc. $Bp_{0.1}$ 80-81°. Dec. on dist. at 15 mm.

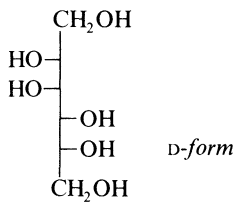
[1701-77-5]

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **2**, 112 (*synth, use*)
Org. Synth., Coll. Vol., 3, 1955, 538 (*synth*)
Brewster, J.H., *J. Am. Chem. Soc.*, 1956, **78**, 4061 (*abs config*)
Reeve, W., *Anal. Chem.*, 1959, **31**, 1066 (*synth, detn, Na*)
Cambie, R.C. *et al*, *J. Chem. Soc.*, 1963, 2056 (*isol*)
Erdey, L., *Theorie und Praxis der Gravimetrischen Analyse*, Akademiai Kiado, Budapest, 1964, **2**.
Feigl, D.M. *et al*, *J. Chem. Soc., Chem. Commun.*, 1965, 615 (*chloride, use*)
Adamovich, L.P. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 782 (*synth, detn, Na*)
Analyst (*London*), 1972, **97**, 740 (*microanal*)
Helmchen, G. *et al*, *Chromatographia*, 1974, **7**, 713 (*chloride, use*)
Måkansson, R. *et al*, *Tetrahedron*, 1976, **32**, 2973 (*cd*)
Wei, K.-T. *et al*, *Acta Crystallogr., Sect. B*, 1977, **33**, 797 (*cryst struct*)
Sato, S., *Anal. Chim. Acta*, 1983, **151**, 465 (*detn, B*)
Whitesell, J.K. *et al*, *J. Org. Chem.*, 1983, **48**, 3548 (*use*)
Brouillette, W.J. *et al*, *J. Med. Chem.*, 1984, **27**, 202 (*deriv, synth, pmr, ir*)
Wikstroem, H. *et al*, *J. Med. Chem.*, 1984, **27**, 1030 (*chloride, use*)
Wu, B. *et al*, *J. Org. Chem.*, 1986, **51**, 1904 (*deriv, synth*)
Takano, S. *et al*, *Synthesis*, 1989, 39 (*Me ether, synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MAP000.

Mannitol M-00008

Kurrine (*obsol.*)

[87-78-5]



D-*form*

$C_6H_{14}O_6$ M 182.173

D-*form* [69-65-8]

Cordycepic acid. Osmitrol. Resectisol. Other proprietary names

Widespread in plants and their exudates particularly olive and plane trees. Obt. from manna and seaweeds. Diagnostic aid (renal function determination); diuretic. Used as solid in alkalimetric titration of boric acid and

Ge(*IV*); masking agent for metals. Reference material used in elemental microanalysis. Needles. Sol. H_2O, Py; sl. sol. EtOH; insol. Et_2O. Mp 166°. $Bp_{3.5}$ 295°. $[\alpha]_D^{25}$ −0.21° (c, 17.6 in H_2O), $[\alpha]_D^{25}$ +28.61° (c, 10 in 12.8% borax aq.). pK_{a1} 13.29 (25°). Cordycepic acid was originally given the struct. of a stereoisomer of quinic acid.

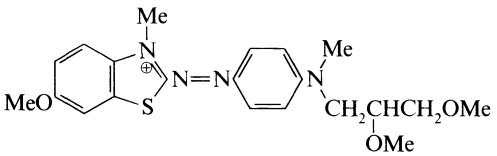
▷ OP2060000.

Lohmar, R. *et al*, *Carbohydr. Res.*, 1949, **4**, 211 (*rev*)
Kolthoff, I.M. *et al*, *Volumetric Analysis*, Interscience, NY, 1954, **2** (*use*)
Wright, L. *et al*, *J. Org. Chem.*, 1961, **26**, 1588 (*synth*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Brimacombe, J.S. *et al*, *The Carbohydrates*, Academic Press, 1972, **1A**, 479.
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*use*)
Benson, F.R., *Kirk-Othmer Encycl. Chem. Technol.*, 3rd Ed., Wiley, N.Y., 1978, **1**, 754 (*rev*)
Matsuhiro, B. *et al*, *Carbohydr. Res.*, 1981, **89**, 326 (*cmr*)
Makkee, M. *et al*, *Starch/Staerke*, 1985, **37**, 136 (*rev, synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HER000, MAW250, MAW800.

Maxilon blue GRL M-00009

2-[[4-[(2,3-Dimethoxypropyl)methylamino]phenyl]azo]-6-methoxy-3-methylbenzothiazolium(1+), 9CI. C.I. Basic blue 41

[12270-13-2]



$C_{21}H_{27}N_4O_3S^{\oplus}$ M 415.535 (ion)

Strictly the name Maxilon blue GRL applies to the chloride salt.

Chloride:

$C_{21}H_{27}ClN_4O_3S$ M 450.988

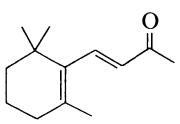
Used for extraction-photometric detn. of Au (λ_{max} 578 nm, ε 96200, C_6H_6). Dark red cryst.

Constantinescu, G.C. *et al*, *CA*, 1975, **82**, 105931a.

5,7-Megastigmadien-9-one M-00010

4-(2,6,6-Trimethyl-1-cyclohexen-1-yl)-3-buten-2-one, 9CI. β-Ionone. Boronione

[14901-07-6]



$C_{13}H_{20}O$ M 192.300

Found in many essential oils including oil of *Boronia megastigma*. Constit. of coml. Ionone. Perfumery ingredient. Oil. Bp_{24} 150-151°.

▷ EN0350000.

Semicarbazone: Cryst. Mp 149°.

Thiosemicarbazone: [2302-90-1]. *β-Iononethiosemicarbazone*

$C_{14}H_{23}N_3S$ M 265.422

Used as a 0.1% soln. in EtOH for extraction-photometric detn. of Cu (λ_{max} 380 nm, ε 17000, $CHCl_3$). Cryst. Sol. common org. solvs.; spar. sol. H_2O. Mp 167-169°.

9-Alcohol: [22029-76-1]. *β-Ionol*

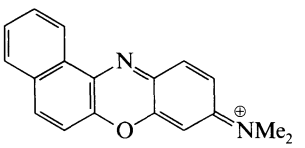
$C_{13}H_{22}O$ M 194.316

Bp_2 105°.

Naves, Y.R., *Perfum. Essent. Oil Rec.*, 1964, **55**, 658,667 (*occur*)
Thomas, A.F. *et al*, *Tetrahedron Lett.*, 1967, 5129 (*ms*)
Shervi, V.B. *et al*, *Some Recent Dev. Chem. Nat. Prod.*, (Rangoswami, S. etal, Ed.), Prentice-Hall, India, 1972, 1 (*rev*)
Guzman, M. *et al*, *Inf. Quim. Anal.*, 1973, **23**, 209; *CA*, **80**, 103445e (*synth, ir, use*)
Ishihara, T. *et al*, *Agric. Biol. Chem.*, 1974, **38**, 439 (*synth*)
Schmidt, C. *et al*, *Can. J. Chem.*, 1974, **52**, 1732 (*β-Ionol*)
Englert, G., *Helv. Chim. Acta*, 1975, **58**, 2367 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IFX000.

Meldola's blue M-00011

9-(Dimethylamino)benzo[a]phenoxazin-7-ium(1+), 9CI. C.I. Basic black 6. C.I. 51175



$C_{18}H_{15}N_2O^{\oplus}$ M 275.329 (ion)

Strictly, the name Meldola's blue applies to the chloride.

Chloride: [7057-57-0].

$C_{18}H_{15}ClN_2O$ M 310.782

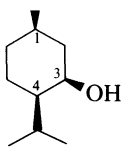
Used as 0.2% soln. in dil. H_2SO_4 for extraction-photometric detn. of B (as $BF_4^{\ominus}$), Ga, Tl(*III*), Ta (λ_{max} 580 nm, ε 29000, PhCl). Black-violet cryst. powder. Sol. H_2O, EtOH.

Skaar, O.B., *Anal. Chim. Acta*, 1965, **32**, 508 (*detn, B*)
Pilipenko, A.T., *Ukr. Khim. Zh. (Russ. Ed.)*, 1968, **34**, 703, 1291; 1969, **35**, 303 (*detn, Ta, Tl*)
Burd, J. *et al*, *Anal. Chim. Acta*, 1973, **46**, 223 (*detn, Ta*)

p-Menthan-3-ol M-00012

5-Methyl-2-(1-methylethyl)cyclohexanol. 2-Isopropyl-5-methylcyclohexanol

[1490-04-6]



(1R,3R,4R)-form

$C_{10}H_{20}O$ M 156.267

Found in many essential oils.

▷ Irritant, allergen.

(1R,3R,4R)-form [20752-34-5]

(+)-*Neoisomenthol*

Oil. Mp −8°. Bp 214.6°. $[\alpha]_D^{18}$ +3.8° (c, 6 in EtOH).

(1R,3R,4S)-form [2216-51-5] (−)-***Menthol.*** *Menthacamphor. Peppermint camphor*

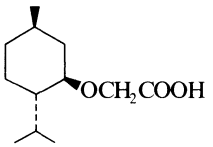
Present in large amts. in peppermint oil (*Mentha piperita*), also in other *M.* spp., *Artemisia* spp., *Glechoma hederacea* and others. Used in confectionery, perfumery, menthol cigarettes, inhalers, etc. Mild local anaesthetic, analgesic, antipruritic and internally as a carminative. Used to determine the optical purity of amino acids. Cryst. (MeOH) with strong peppermint odour. Sl. sol. H_2O; v. sol. org. solvs. Mp 42.5-43°. Bp 216°. $[\alpha]_D^{20}$ −50.0° (c, 2 in $CHCl_3$). Exists in four cryst. modifications; Mp given is the highest. Component of Larylgan.

▷ OT0700000.

Vitt, S.V. *et al*, *Tetrahedron Lett.*, 1965, 2575 (*use*)

Katsuhara, J. *et al*, *Bull. Chem. Soc. Jpn.*, 1966, **39**, 617 (*synth, menthol*)
Oritani, T. *et al*, *Agric. Biol. Chem.*, 1973, **37**, 1695 (*synth, neoisomenthol*)
Morris, W.W., *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 1037 (*ir*)
Leffingwell, J.C. *et al*, *Cosmet. Perfum.*, 1974, **89**, 69 (*rev*)
Hasegawa, M. *et al*, *Anal. Biochem.*, 1975, **63**, 308 (*use*)
Yamaguchi, S. *et al*, *Tetrahedron Lett.*, 1977, 89 (*abs config*)
Nakatani, Y. *et al*, *Synthesis*, 1978, 147 (*synth*)
Dauzonne, D. *et al*, *Org. Magn. Reson.*, 1981, **17**, 18 (*cmr*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 266.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MCG250.

3-Menthoxyacetic acid M-00013



$C_{12}H_{22}O_3$ M 214.304

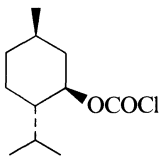
(−)-*form* [6070-21-9]
Used for the resolution of organic bases and alcohols. Cryst. (Et_2O). Mp 53-54°. Bp_{11} 171°. $[\alpha]_D^{20}$ −92.9° (MeOH). (+)- and (±)-forms are also known.

Chloride: [15356-62-4].
$C_{12}H_{21}ClO_2$ M 232.749
Used for the resolution of diols. $Bp_{8.5}$ 124-130°. $[\alpha]_D^{13}$ −84.8° ($CHCl_3$).

Booth, J. *et al*, *J. Chem. Soc.*, 1950, 2808 (*use, chloride*)
Baker, R.H. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 699.
Akujama, F. *et al*, *Bull. Chem. Soc. Jpn.*, 1967, **40**, 359.
Harvey, R.G. *et al*, *Anal. Biochem.*, 1977, **80**, 540 (*use, chloride*)

Menthyl chloroformate M-00014

5-Methyl-2-(1-methylethyl)cyclohexyl carbonochloridate, 9CI
[51259-57-5]



$C_{11}H_{19}ClO_2$ M 218.723
Usually prepd. in soln. in toluene or C_6H_6.

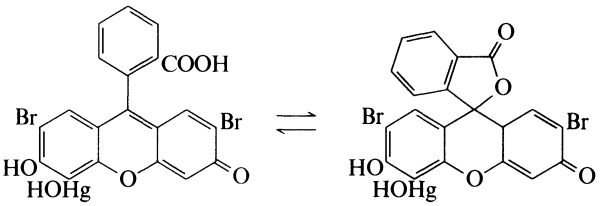
(−)-*form* [14602-86-9]
Reagent for the chromatog. resolution and anal. of optical isomers, e.g. warfarin and its analogs. Bp_{11} 108-109°, Bp_5 96°. n_D^{20} 1.4712.

[50277-59-3]

Kost, A.N., *CA*, 1953, **47**, 9907h (*synth*)
Westley, J.W. *et al*, *J. Org. Chem.*, 1968, **33**, 3978 (*synth, use*)
Annett, R.G. *et al*, *Anal. Biochem.*, 1972, **47**, 638 (*synth, use*)
Jeyaraj, G.L. *et al*, *J. Chromatogr.*, 1984, **315**, 378 (*use*)

Merbromin, INN M-00015

(2',7'-Dibromo-3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H)-9'[9H]xanthen]-4'-yl)hydroxymercury, 9CI. 2,7-Dibromo-4-hydroxymercurifluorescein. Mercurochrome. Numerous proprietary names
[55728-51-3]



$C_{20}H_{10}Br_2HgO_6$ M 706.693
Antibacterial agent. Red powder.

Di-Na salt: [129-16-8].
Used as a 0.1-0.3% aq. soln. for detn. of Cd, Cu, Fe(*II*), Fe(*III*), Tl(*I*), $Br^{\ominus}$ and thio compds. Iridescent green scales + $3H_2O$. Sol. H_2O (soln. carmine-red); insol. EtOH, Me_2CO, $CHCl_3$, Et_2O.
▷ LM5250000.

White, E.C., *J. Am. Chem. Soc.*, 1920, **42**, 2355 (*synth*)
Rymill, F.E. *et al*, *Q. J. Pharm. Pharmacol.*, 1934, **7**, 543 (*synth*)
Johar, G.S., *Talanta*, 1972, **19**, 1231 (*detn, Fe(II)*)
Johar, G.S., *Mikrochim. Acta*, 1974, 729 (*use*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2256.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 5539.
Korany, M.A. *et al*, *Anal. Lett.*, 1989, **22**, 1909 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MCV000 (*PG5900*)

Mercaptoacetic acid, 9CI, 8CI M-00016

Thioglycollic acid
[68-11-1]

$HSCH_2COOH$

$C_2H_4O_2S$ M 92.118
Reduces sulphoxides to sulphides. Used as 0.1*M* aq. soln. for photometric detn. of Co, Ni, Mo, Nb, Re, Te. Liq. d^{20} 1.325. Fp −16.5°. Bp_{16} 107-108°. pK_{a1} 3.55; pK_{a2} 10.22 (25°). Oxidises in air.
▷ Irritant, causes burns. TLV 5. The NH_4 salt is highly toxic and a strong allergen. It emits toxic fumes on heating or in contact with acids. AI5950000.

Me ester: [2365-48-2].
$C_3H_6O_2S$ M 106.145
Bp_{15} 49°.
▷ AI7350000.

Et ester: [623-51-8].
$C_4H_8O_2S$ M 120.172
Bp 156-158°, Bp_{17} 55°.
▷ AI6650000.

6-Methylheptyl ester: [25103-09-7]. *Isooctyl thioglycolate*
$C_{10}H_{20}O_2S$ M 204.333
Used for extraction of Ag, Au, Bi, Cu, Hg. Liq. Bp_{17} 125°.
▷ AI7300000.

2-Ethylhexyl ester: [7859-86-1].
$C_{10}H_{20}O_2S$ M 204.333
Used as 1% Me_2CO soln. for extraction-photometric detn. of Co (λ_{max} 495 nm, ε 16700, pH 8, $CHCl_3$). Liq. Sol. Me_2CO, C_6H_6. Bp 115°. pK_a 12.6.

Amide: [758-08-7].
C_2H_5NOS M 91.134

Needles. V. sol. H_2O; spar. sol. EtOH. Mp 52°.
▷ AC4600000.

Anilide: [4822-44-0]. *2-Mercapto-N-phenylacetamide, 9CI*
C_8H_9NOS M 167.231
Gives colour reaction with Co; used as 5% soln. in MeOH for extraction photometric detn. of Pd (λ_{max} 370 nm, ε 8000). Needles (EtOH or H_2O). Mp 110.5-111°.
▷ AE4375000.

Nitrile: [54524-31-1]. *Mercaptoacetonitrile, 9CI. Cyanomethanethiol. Thiocyanohydrin. Cyanomercaptomethane*
C_2H_3NS M 73.118
Bp_2 34°.
▷ Unstable, can polymerise spontaneously.

S-*Me:* [2444-37-3]. *Methylmercaptoacetic acid. S-Methylthioglycollic acid. Dimethyl sulfide carboxylic acid*
$C_3H_6O_2S$ M 106.145
d_{20}^{20} 1.223. Bp_{27} 130-131°. n_D^{20} 1.495.

S-*Me, Me ester:* [16630-66-3].
$C_4H_8O_2S$ M 120.172
Bp_{11} 53-55°.

S-*Me, anilide:* [10156-36-2].
$C_9H_{11}NOS$ M 181.258
Needles (Et_2O/pet. ether). Mp 80°.

S-*Et:* [627-04-3].
$C_4H_8O_2S$ M 120.172
Oil. Fp −8.7°. Bp_{11} 117-118°.

S-*Et, Et ester:* [17640-29-8].
$C_6H_{12}O_2S$ M 148.226
Bp 187-189°.

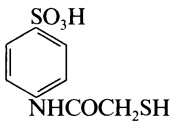
S-*Et, amide:* [60247-87-2].
C_4H_9NOS M 119.187
Mp 44°.

S-*Ac:* [1190-93-8].
$C_4H_6O_3S$ M 134.156
Yellow oil. Bp_{17} 158-159°.
▷ AF1665000.

S-*Ac, chloride:*
$C_4H_5ClO_2S$ M 152.601
Bp_{20} 93.5°.

Larsson, E., *Chem. Zentralbl.*, 1928, **2**, 234; *Ber.*, 1930, **63**, 1349 (*synth, deriv*)
Holmberg, B., *J. Prakt. Chem.*, 1934, **141**, 93 (*synth*)
Boehme, H. *et al*, *Arch. Pharm. (Weinheim, Ger.)*, 1961, **294**, 475 (*synth*)
Fritz, J.S. *et al*, *Anal. Chem.*, 1966, **38**, 1869 (*use, isooctyl ester*)
Kirkbright, G.F. *et al*, *Anal. Chim. Acta*, 1966, **35**, 116 (*detn, Te*)
Přibil, R. *et al*, *Talanta*, 1971, **18**, 349 (*detn, Mo*)
Dutta, R.K. *et al*, *Talanta*, 1974, **21**, 1091 (*detn, Nb*)
Yamida, M. *et al*, *J. Org. Chem.*, 1977, **42**, 2180 (*synth*)
Nacu, A. *et al*, *Rev. Roum. Chim.*, 1977, **28**, 1091 (*anilide, detn, Pd*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 366.
Wünsch, G. *et al*, *Fresenius' Z. Anal. Chem.*, 1979, **295**, 119 (*detn, W*)
Gambarov, D.G. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 738 (*synth, detn, Co*)
Mathias, E. *et al*, *J. Chem. Soc., Chem. Commun.*, 1981, 569 (*nitrile, synth, pmr, cmr, ir, haz*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 380.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ACQ250, EMB200, ILR000, MCK000, MCK300, MLE750, TFJ100.

4-[(Mercaptoacetyl)amino]benzenesulfonic acid, 9CI M-00017



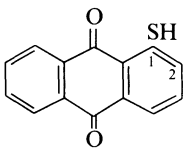
$C_8H_9NO_4S_2$ M 247.295

Na salt: [6155-24-4].
Used as a 1% aq. soln. for photometric detn. of Co. Cryst. Sol. H_2O; spar. sol. EtOH, Me_2CO.

Gupta, H.K.L. *et al*, *Anal. Chem.*, 1959, **31**, 918 (*synth, use, detn, Co*)

1-Mercaptoanthraquinone, 8CI M-00018

1-Mercapto-9,10-anthracenedione. Anthraquinone-1-thiol
[6338-09-6]

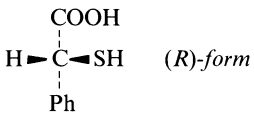


$C_{14}H_8O_2S$ M 240.282
Gives colour reaction with Cd, Co, Cu, Ni, Pd. Orange prisms or yellow needles (AcOH). Mp 187°.
▷ CB7875000.

Fries, K., *Ber.*, 1919, **52**, 217 (*synth*)
Baltrop, J.A. *et al*, *J. Chem. Soc.*, 1956, 4245 (*uv, ir*)
Berger, H., *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1963, **82**, 773.
Capitan, F. *et al*, *Inf. Quim. Anal.*, 1969, **23**, 156 (*synth, use*)

α-Mercaptobenzeneacetic acid, 9CI M-00019

2-Mercapto-2-phenylacetic acid. α-Mercaptophenylacetic acid. Thiomandelic acid
[4695-09-4]



(R)-form

$C_8H_8O_2S$ M 168.216

(R)-form [16201-51-7]
Mp 88-88.5°. $[\alpha]_D^{25}$ −106.2° (c, 0.5 in EtOH).

Me ester: [16201-52-8].
$C_9H_{10}O_2S$ M 182.243
$[\alpha]_D^{25}$ −101.2° (c, 1.4 in EtOH).

S-*Benzyl:* [13136-52-2].
$C_{15}H_{14}O_2S$ M 258.340
Mp 91.5-92°. $[\alpha]_D$ −161° (c, 1.05 in EtOH).

(S)-form [103616-08-6]
Needles (C_6H_6/hexane). Mp 88.5-90°. $[\alpha]_D^{25}$ +112.2° (c, 2 in 95% EtOH). Optical purity 85%.

S-*Benzyl:* [13136-51-1].
Mp 91-91.5°. $[\alpha]_D^{25}$ +161° (c, 0.89 in EtOH).

(±)-form [16201-50-6]
Used as 1% EtOH soln. Forms precipitates or soluble coloured complexes with Cu(*II*), Pd, Mo(*VI*), Cr(*III*), Fe, Co, Ni, U(*V*) (pH 4.4-6.6). Vile-smelling oil or cryst. (C_6H_6). Sol. EtOH, pet. ether; mod. sol. H_2O. Mp 64-65°, Mp 60.5°. $Bp_{0.5}$ 147°. pK_{a1} 3.40; pK_{a2} 10.3 (0.1*M* KNO_3, 80% EtOH, 25°). n_D^{24} 1.5665.

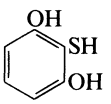
S-*Benzyl:* Mp 86°.

Parravano, N. *et al*, *Gazz. Chim. Ital.*, 1909, **39**, 62 (*synth*)
Janczewski, M. *et al*, *CA*, 1964, **60**, 52989 (*synth*)
Bonner, W.A., *J. Org. Chem.*, 1967, **32**, 2495; 1968, **33**, 1831 (*synth, resoln, abs config, ir, nmr*)
Izquierdo, A. *et al*, *Mikrochim. Acta*, 1985, **32**, 191 (*use*)
Strijtveen, B. *et al*, *J. Org. Chem.*, 1986, **51**, 3664 (*synth*)

2-Mercapto-1,3-benzenediol, 9CI M-00020

2-Mercaptoresorcinol. 2-Thiopyrogallol

[2103-60-8]



$C_6H_6O_2S$ M 142.178

Used as 0.4% aq. soln. for extraction-photometric detn. of Re (λ_{max} 535 nm, ε 15900, 9*M* HCl, $CHCl_3$/isopentanol). Needles. Sol. H_2O, EtOH, Et_2O, alkalis. Mp 83-84°.

Bag, S.P. *et al*, *J. Indian Chem. Soc.*, 1984, **61**, 159 (*synth, detn, Re*)

4-Mercapto-1,3-benzenediol, 9CI M-00021

4-Mercaptoresorcinol

[2553-70-0]

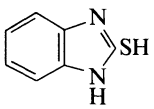
$C_6H_6O_2S$ M 142.178

Gives colour reactions with Bi, Co, Cu, Fe (in basic media), Pd, Sb, Ti, V (in acidic media). Cryst. Mp 110-111°.

Urushibara, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1956, **29**, 419 (*synth*)
Buscaróns, F. *et al*, *Inf. Quim. Anal.*, 1965, **19**, 12 (*use*)
Traxler, J.T., *J. Org. Chem.*, 1979, **44**, 4971 (*synth*)

2-Mercaptobenzimidazole M-00022

1H-Benzimidazole-2-thiol, 9CI



$C_7H_6N_2S$ M 150.204

Used as 1% EtOH soln. for photometric detn. of Se (λ_{max} 325 nm, ε 10500); gravimetric detn. of Bi, Cu, Cd, Pb, Hg, Au. Cryst. Sol. EtOH; sl. sol. H_2O. Mp 292-293°.

S-*Me:* [7152-24-1].
$C_8H_8N_2S$ M 164.231
Mp 201°.
▷ DD9480000.

S-*Et:* [14610-11-8].
$C_9H_{10}N_2S$ M 178.257
Mp 170-170.5°.

S-*Benzyl:* [51290-77-8].
$C_{14}H_{12}N_2S$ M 240.328
Mp 186-187°.

Billeter, S. *et al*, *Ber.*, 1887, **20**, 231.
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1948, **4**, 127 (*synth, use*)
Futaki, K. *et al*, *Yakugaku Zasshi*, 1954, **74**, 1365; *CA*, **49**, 15876.
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1962, **17**, 1091 (*detn, Se*)
Busev, A.I., *Talanta*, 1964, **11**, 485 (*detn, Se*)
Klanderman, B.H., *J. Org. Chem.*, 1965, **39**, 2469.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MPS500.

2-Mercaptobenzoic acid M-00023

o-*Thiosalicylic acid.* o-*Mercaptobenzoic acid*

[147-93-3]

$C_7H_6O_2S$ M 154.189

Used in manuf. of thioindigo dyes. Analgesic. Used as 2% Py soln. for extraction-photometric detn. of Co (ε 16500), Pd (λ_{max} 370 nm, ε 17000, $CHCl_3$). Yellow leaflets or needles (EtOH aq.). Sol. Py. Mp 165.5°. pK_{a1} 3.54; pK_{a2} 8.60 (25°), pK_a 5.02 (48.9% EtOH). Used as Na salt (Reocyl).

▷ DH3325000.

Me ester: [4892-02-8].
$C_8H_8O_2S$ M 168.216
Oil. Bp_{728} 262-263°, Bp_{11} 123°. Steam-volatile.
▷ DH3500000.

Ph ester: [15570-18-0]. *2-(Phenylthio)benzoic acid. Thiosalol*
$C_{13}H_{10}O_2S$ M 230.287
Cryst. (MeOH). Mp 91°.

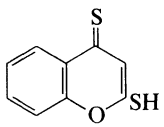
Ac: [55819-78-8]. *Thioaspirin*
$C_9H_8O_3S$ M 196.226
Needles (C_6H_6). Mp 125°.
▷ DH3350000.

Amide: [5697-20-1]. *Thiosalicylamide. 2-Mercaptobenzamide*
C_7H_7NOS M 153.204
Used as a 1% soln. in 20% aq. EtOH for extraction-photometric and gravimetric detn. of Au, Ir, Os, Pt, Rh, Ru, Ta (λ_{max} 460 nm, $CHCl_3$). Cryst. (hot H_2O). Mp 121°.

Schwarzenbach, G. *et al*, *Helv. Chim. Acta*, 1939, **22**, 360.
Org. Synth., Coll. Vol., 2, 1943, 580.
Shona, S.C., *Anal. Chim. Acta*, 1969, **46**, 155 (*detn, Ta*)
Sur, K. *et al*, *Anal. Chim. Acta*, 1969, **48**, 145; 1971, **51**, 201; 1972, **59**, 306 (*detn, Au, Pd, Rh, Ru, Pt, Os*)
Khosla, M.M. *et al*, *Microchem. J.*, 1972, **17**, 388; 1973, **18**, 640 (*detn, Co, Pd*)
Atlas of Physical Constants and Spectral Data of Organic Compounds, CRC Press, 1973, b1053 (*ir, uv, ms, nmr*)
Ray, M.P. *et al*, *J. Indian Chem. Soc.*, 1974, **51**, 515 (*detn, Ir*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 16988.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MCK750.

2-Mercapto-4*H*-1-benzopyran-4-thione, 9CI M-00024

γ-Thiobenzpyrone-α-thiol



$C_9H_6OS_2$ M 194.278

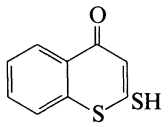
K salt: [53046-93-8].
Used as a 1% aq. soln. for photometric detn. of Ni. Cryst.

Arunachalam, M.K. *et al*, *Indian J. Chem.*, 1974, **12**, 1006 (*detn, Ni*)

2-Mercapto-4*H*-1-benzothiopyran-4-one, 9CI M-00025

2-Mercaptobenzo-γ-thiopyrone

[52164-99-5]



$C_9H_6OS_2$ M 194.278

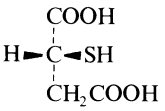
Used as a 1% aq. soln. for extraction-photometric detn. of Co, Mo. Cryst. ($CHCl_3/Et_2O$). Sol. H_2O.

Savariar, C.P. *et al*, *Anal. Chim. Acta*, 1974, **69**, 305 (*synth, detn, Mo*)
Savariar, C.P. *et al*, *J. Indian Chem. Soc.*, 1977, **54**, 274 (*detn, Co*)

Mercaptobutanedioic acid, 9CI M-00026

Mercaptosuccinic acid, 8CI. Thiomalic acid

[70-49-5]



(R)-form

$C_4H_6O_4S$ M 150.155

▷ WM8225000.

(R)-form [20182-99-4]

Mp 152-153°. $[\alpha]_D^{17}$ +64.4° (EtOH).

4-Monoamide:

$C_4H_7NO_3S$ M 149.170

Mp 125°. $[\alpha]_D^{18}$ +82.5° (Me_2CO).

S-*Benzyl:*

$C_{11}H_{12}O_4S$ M 240.279

Mp 182-183°. $[\alpha]_D^{20}$ +124°. Sinters at 175°.

(S)-form

Mp 152-153°. $[\alpha]_D^{17}$ −64.8° (EtOH).

4-Monoamide: Mp 125°. $[\alpha]_D^{18}$ −82.9° (Me_2CO).

S-*Benzyl:* Mp 182-183°. $[\alpha]_D^{20}$ −123° (c, 0.5028 in Me_2CO). Sinters at 175°.

(±)-form [644-87-1]

Used as metallochromic indicator for titrimetric detn. of Cu and for photometric detn. of Mo (0.5*M* HCl medium), Pd, Rh. Cryst. Sol. H_2O, EtOH, Me_2CO. Mp 157° (151°). pK_a 3.28 (25°, H_2O).

Di-Et ester: [23060-11-9].

$C_8H_{14}O_4S$ M 206.262

Oil. Bp *ca.* 246° part. dec.

4-Monoamide: Cryst. (EtOH). Mp 103°.

S-*Benzyl:* [22119-10-4].

Needles (EtOH aq.). Mp 181°.

Anhydride, S-*Ac:* [6953-60-2]. S-*Acetylmercaptosuccinic anhydride*

$C_6H_6O_4S$ M 174.177

Reagent for introduction of SH groups into proteins and polymers. Mp 77°.

Au compd., Na salt: [39377-38-3]. ***Gold sodium thiomalate,*** **USAN, JAN.** *Sodium aurothiomalate, INN. Chrysothios. Kidon. Miocrin. Myochrysin. Myocrisin. Shiosol. Tauredon*

Antirheumatic. Hygroscopic yellowish-white powder. Mixt. of mono- and di-Na salts of gold thiomalic acid.

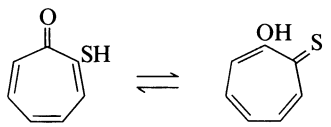
[12244-57-4, 16905-00-3, 41581-85-5]

Billmann, E., *Justus Liebigs Ann. Chem.*, 1905, **339**, 371 (*synth*)
Levene, P.A. *et al*, *J. Biol. Chem.*, 1924, **60**, 685 (*synth*)
U.S. Pat., 1 994 213, (1935) (*synth, Au compd*)
Holmberg, B. *et al*, *CA*, 1941, **35**, 2113 (*synth*)
Wagner, V.L. *et al*, *Talanta*, 1959, **2**, 223, 239 (*detn, Pd, Rh*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1961, **16**, 171 (*detn, Mo*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 13 (*deriv*)
Polyak, L.Y. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 200 (*detn, Mo*)
Yamada, S. *et al*, *Tetrahedron Lett.*, 1968, 1501 (*abs config*)
Patel, N.K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 636 (*use*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 5296.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MCR000.

2-Mercapto-2,4,6-cycloheptatrien-1-one, 9CI M-00027

2-Hydroxy-2,4,6-cycloheptatriene-1-thione. 2-Mercaptotropolone. 2-Hydroxytropothione. Thiotropolone

[1073-38-7]



C_7H_6OS M 138.190

Hydroxythione struct. predominates. Used as 0.01*M* soln. in $CHCl_3$ for simultaneous photometric detn. of Co (λ_{max} 500 nm, ε 19000) and Ni (λ_{max} 580 nm, ε 12000) (pH 6-9). Reddish-orange cryst. Mod. sol. H_2O. Mp 55°. pK_a 5.89. Alkylation gives *S*-alkyl derivs.

S-*Ac:*

$C_9H_8O_2S$ M 180.227

Mp 170°.

S-*Me:*

C_8H_8OS M 152.217

Mp 42.5-44°.

S-*Benzyl:*

$C_{14}H_{12}OS$ M 228.314

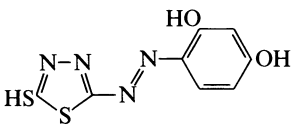
Mp 106°.

Nozoe, T. *et al*, *CA*, 1954, **48**, 5172 (*derivs*)
Nozoe, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1961, **34**, 616, 1382 (*synth, struct, uv, ir, pmr*)
Wilson, J.M. *et al*, *Tetrahedron*, 1963, **19**, 2247 (*ms*)
Srivastava, J.N. *et al*, *Talanta*, 1973, **20**, 1210 (*detn, Co, Ni*)

2-Mercapto-5-(2,4-dihydroxyphenylazo)-1,3,4-thiadiazole M-00028

5-[(2,4-Dihydroxyphenyl)azo]-1,3,4-thiadiazole-2(3H)-thione, 9CI

[60592-98-5]



$C_8H_6N_4O_2S_2$ M 254.293

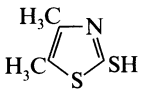
Used as 0.1-0.3m*M* soln. in MeOH or buffer (acetate, borate) to give colour reactions with Co (λ_{max} 514 nm, ε 16700), Cu, Fe (λ_{max} 502 nm, ε 19000), Ni (λ_{max} 516 nm, ε 23600). Dark red amorph. powder. Sol. EtOH. Mp 205-207°. pK_{a1} 4.48; pK_{a2} 7.76; pK_{a3} 10.92.

Domagalina, E., *Chem. Anal. (Warsaw)*, 1976, **21**, 105, 411 (*synth, pKa, use*)

2-Mercapto-4,5-dimethylthiazole M-00029

4,5-Dimethyl-2(3H)-thiazolethione, 9CI

[5351-51-9]



$C_5H_7NS_2$ M 145.249

Used as a 0.6% soln. in 50% EtOH aq. for photometric detn. of Rh (λ_{max} 430 nm). Cryst. (25% EtOH aq.).

Haines, R.L. *et al*, *Can. J. Res.*, 1949, **27**, 72.
Ryan, D.E., *Analyst (London)*, 1950, **75**, 557.
Westland, A.D. *et al*, *Mikrochim. Acta*, 1956, 1474.

3-Mercapto-1,3-diphenyl-2-propen-1-one, 9CI M-00030

3-Hydroxy-1,3-diphenyl-2-propene-1-thione. 1,3-Diphenyl-3-thioxo-1-propanone. Thiodibenzoylmethane

[2276-40-6]

PhC(S)CH_2COPh

$C_{15}H_{12}OS$ M 240.325

Tautomeric with the enol (major) and SH-enone (minor) forms. Used as 1m*M* soln. in C_6H_6, hexane or cyclohexane for extraction-photometric detn. of Ag (λ_{max} 420 nm), Bi (λ_{max} 470 nm, ε 1840, C_6H_6), Co, Cd, Pd, Cl, Zn, Cu (λ_{max} 410 nm, ε 23700, hexane), Hg, Ni (λ_{max} 430 nm), Tl; gravimetric detn. of Co. Red needles (pet. ether). Sol. C_6H_6, hexane, cyclohexane, CCl_4, $CHCl_3$; insol. H_2O. Mp 83-84° (78°). pK_{a1} 6.3.

[1215-43-6, 13302-76-6]

Chaston, S.H.H. *et al*, *Aust. J. Chem.*, 1965, **18**, 673 (*synth*)
Uhlemann, E. *et al*, *Anal. Chim. Acta*, 1969, **48**, 115; 1971, **56**, 185; 1973, **64**, 236; 1974, **69**, 79; 1977, **90**, 173 (*detn, Cu, Co, Ni, Zn, Hg, Tl*)
Schukneckt, B. *et al*, *Anal. Chim. Acta*, 1974, **69**, 329 (*detn, Cd*)
Mulye, R.R. *et al*, *Anal. Chim. Acta*, 1975, **76**, 204 (*detn, Ag*)
Prabhu, B.N. *et al*, *Indian J. Chem., Sect. A*, 1976, **14**, 198 (*detn, Bi*)
Power, L.F. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1976, 249 (*cryst struct*)
Prabhu, B.N. *et al*, *Mikrochim. Acta*, 1977, **1**, 385 (*detn, Zn*)

2-Mercaptoethanol, 9CI M-00031

Ethylene thioglycol. 2-Hydroxy-1-ethanethiol. Thioethylene glycol. Thioglycol

[60-24-2]

HSCH_2CH_2OH

C_2H_6OS M 78.135

Reagent for synth. of ethylenehemithioketals from ketones. Fluorogenic reagent (with *o*-phthaldehyde) for amines. Used as 0.5*M* aq. soln. in 0.1*M* NaOH for photometric detn. of Se (λ_{max} 380 nm, ε 3200). Liq. with faint characteristic odour. Misc. H_2O, org. solvs. d_4^{20} 1.114. Bp_{742} 157-158° slight dec., Bp_{18} 58°. pK_{a1} 9.72 (25°).

▷ Highly toxic. KL5600000.

Hg compd.: Silvery plates (H_2O or EtOH). Sol. Me_2CO, EtOAc. Mp 123°.

O-*Ac:* [5862-40-8].
$C_4H_8O_2S$ M 120.172
Bp_{13} 55°.

S-*Ac:*
$C_4H_8O_2S$ M 120.172
Bp_{15} 95°.

Di-Ac:
$C_6H_{10}O_3S$ M 162.209
Bp_{15} 104°.

S-*Et:* [110-77-0].
$C_4H_{10}OS$ M 106.188
Bp 182-184°.

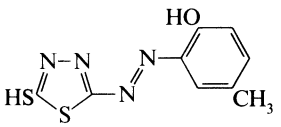
▷ KL1225000.

Bennett, G., *J. Chem. Soc.*, 1921, **119**, 418 (*synth*)
Fromm, E. *et al*, *Ber.*, 1925, **58**, 304 (*synth, derivs*)
Thompson, H.W., *J. Am. Chem. Soc.*, 1939, **61**, 1398 (*ir*)
Tseon, H.F. *et al*, *J. Chin. Chem. Soc. (Peking)*, 1939, **7**, 29.
Woodward, F.N., *J. Chem. Soc.*, 1948, 1892 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 643.
Roth, M., *Anal. Chem.*, 1971, **43**, 880 (*use*)
Benson, J.R. *et al*, *Proc. Natl. Acad. Sci. U.S.A.*, 1975, **72**, 619 (*use*)
Stobaugh, J.B. *et al*, *Anal. Biochem.*, 1983, **135**, 494 (*use*)
Simpson, R.C. *et al*, *J. Chromatogr.*, 1983, **261**, 407 (*use*)
Afsar, H. *et al*, *Analyst (London)*, 1989, **114**, 1315, 1319 (*detn, Se*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EPP500, MCN250.

2-Mercapto-5-(2-hydroxy-5-methylphenylazo)-1,3,4-thiadiazole M-00032

5-[(2-Hydroxy-5-methylphenyl)azo]-1,3,4-thiadiazole-2(3H)-thione, 9CI

[60592-99-6]



$C_9H_8N_4OS_2$ M 252.320

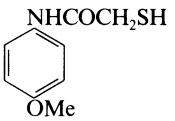
Na salt: Used as 0.1-0.3m*M* soln. in MeOH or buffer (acetate, borate) to give colour reactions with Co, Cu, Fe, Ni. Dark red amorph. powder. Sol. EtOH. Mp 200-202°. pK_{a1} 4.47; pK_{a2} 8.98.

Domagalina, E., *Chem. Anal. (Warsaw)*, 1976, **21**, 105, 411 (*synth, pKa, use*)

2-Mercapto-*N*-(4-methoxyphenyl) acetamide, 9CI M-00033

N-*Mercaptoacetyl*-p-*anisidine*

[34282-29-6]



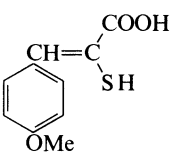
$C_9H_{11}NO_2S$ M 197.257

Used for photometric detn. of Se (λ_{max} 360 nm, ε 1800). Cryst. (MeOH aq.). Sol. MeOH, EtOH. Mp 115-116°.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 360 (*synth, detn, Se*)
Busev, A.I., *Talanta*, 1969, **11**, 485 (*detn, Se*)

2-Mercapto-3-(4-methoxyphenyl)-2-propenoic acid, 9CI M-00034

[5740-35-2]



$C_{10}H_{10}O_3S$ M 210.253

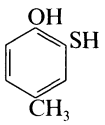
Used as 1% EtOH soln. for extraction-photometric detn. of Ni (λ_{max} 410 nm, ε 9500, isopentanol). Cryst. (C_6H_6). Sol. EtOH, Me_2CO; sl. sol. C_6H_6. Mp 178-179°.

Izquierdo, A. *et al*, *Analyst* (*London*), 1984, **109**, 605 (*synth, detn, Ni*)

2-Mercapto-4-methylphenol, 9CI M-00035

2-Hydroxy-5-methylthiophenol. 4-Hydroxy-3-mercaptotoluene

[60774-07-4]



C_7H_8OS M 140.206

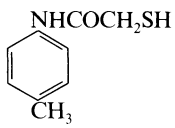
Used as 3m*M* soln. in isobutanol for extraction-photometric detn. of Cu(*II*) (λ_{max} 490 nm, ε 25000). Liq. Sol. many org. solvs.; insol. H_2O.

Karaev, Z.S. *et al*, *Izv. Vyssh. Uchebn. Zaved., Khim. Khim. Tekhnol.*, 1989, **32**, 32; *CA*, **111**, 224415n (*synth, detn, Cu*)

2-Mercapto-*N*-(4-methylphenyl)acetamide, 9CI M-00036

N-(*Mercaptoacetyl*)-p-*toluidine*

[34282-30-9]



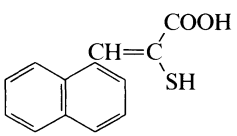
$C_9H_{11}NOS$ M 181.258

Used as 0.2% soln. in EtOH for photometric detn. of Sc (λ_{max} 360 nm, ε 520). Cryst. (MeOH aq.). Sol. EtOH. Mp 125°.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 360 (*synth, detn, Sc*)
Busev, A.I. *et al*, *Talanta*, 1964, **11**, 485 (*detn, Sc*)

2-Mercapto-3-(1-naphthalenyl)-2-propenoic acid, 9CI M-00037

[88220-26-2]



$C_{13}H_{10}O_2S$ M 230.287

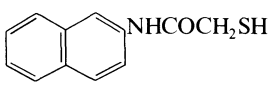
Used as 0.1-1% EtOH solns. to give colour reactions with Ti, Ni, Co, V, Cu. Cryst. (toluene). Sol. EtOH, C_6H_6, toluene; sl. sol. H_2O. Mp 178°. pK_{a1} 4.18; pK_{a2} 9.80 (25%, μ = 0.2*M* EtOH aq.).

Campaigne, E. *et al*, *J. Org. Chem.*, 1956, **21**, 32 (*synth*)
Izquierdo, A. *et al*, *Talanta*, 1984, **31**, 475 (*use*)

2-Mercapto-*N*-2-naphthylacetamide, 8CI M-00038

2-Mercapto-N-*2-naphthalenylacetamide, 9CI.* N-(*Mercaptoacetyl*)-*2-naphthylamine. Thioglycollic β-aminonaphthalide. Thionalide*

[93-42-5]



$C_{12}H_{11}NOS$ M 217.291

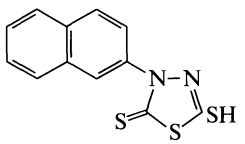
Corrosion inhibitor. Used as 5% soln. in Me_2CO for pptn. separation and gravimetric detn. of Cu, Ag, Hg, Bi, Pb, Sb, Os, Tl. Cryst. Sol. EtOH, Me_2CO, AcOH; sl. sol. H_2O. Mp 111-112°.

U.S.S.R. Pat., 47 296, (1936); *CA*, **33**, 3392 (*synth*)
Berg, R. *et al*, *Fresenius' Z. Anal. Chem.*, 1937, **109**, 305; 1938, **112**, 161 (*detn, Tl, Bi, W, Sb*)
Hoffman, I. *et al*, *Anal. Chem.*, 1953, **25**, 1091 (*detn, Os*)
Cimerman, C. *et al*, *Anal. Chim. Acta*, 1956, **14**, 48; **15**, 213 (*detn, Pb, Tl*)
Nakaya, S., *CA*, 1974, **83**, 104209e (*uv*)

5-Mercapto-3-(2-naphthyl)-1,3,4-thiazole-2-thione M-00039

3-(2-Naphthalenyl)-1,3,4-thiadiazolidine-2,5-dithione, 9CI. Naphthylobismuthiol. Bismuthiol III

[15546-36-8]



$C_{12}H_8N_2S_3$ M 276.407

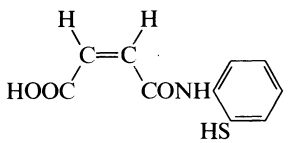
Used as 0.1% aq. soln. for extraction-photometric detn. of Te (λ_{max} 326 nm, ε 30000, $CHCl_3$), amperometric titrn. of Au. Cryst. (C_6H_6). Sol. EtOH, C_6H_6, $CHCl_3$, alkalis; spar. sol. H_2O. Mp 158°.

K salt: Used as a 0.1-1m*M* aq. soln. for extraction-photometric detn. of Bi (λ_{max} 325 nm, ε 29700, $CHCl_3$), Pd (λ_{max} 345 nm, ε 21000, cyclohexane), Te (λ_{max} 326 nm, ε 30000, $CHCl_3$). Yellow cryst. (EtOH). Sol. H_2O.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1850; 1968, **23**, 59; 1972, **27**, 1209; 1974, **29**, 1234 (*synth, detn, Te, Au, Bi, Pd*)
Busev, A.I. *et al*, *CA*, 1970, **72**, 128316m (*detn, Te*)
Nazarenko, I.I. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1389 (*detn, Te*)

4-[(2-Mercaptophenyl)amino]-2-butenoic acid, 9CI M-00040

2′-Mercaptomaleanilic acid



$C_{10}H_9NO_3S$ M 223.252

(Z)-form [90704-68-0]

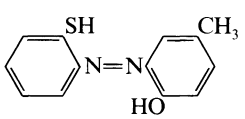
Used as 1% aq. soln. for gravimetric detn. of Zr (pH 5.5-6.8), Th. Cryst. Sol. alkalis; mod. sol. H_2O.

Singh, N. *et al*, *J. Indian Chem. Soc.*, 1984, **61**, 94 (*synth, detn, Zr, Th*)

2-[(3-Mercaptophenyl)azo]-4-methylphenol, 9CI M-00041

2-Hydroxy-2′-mercapto-5-methylazobenzene

[85261-26-3]



$C_{13}H_{12}N_2OS$ M 244.317

Used as $CHCl_3$ soln. for extraction-photometric detn. of Cu(*II*) (λ_{max} 570 nm, ε 35800, $CHCl_3$). Yellow powder. Sol. C_6H_6, $CHCl_3$, EtOH. Mp 121-123°.

S-*Me:* [85261-27-4]. *4-Methyl-2-[[2-(methylthio)phenyl]azo] phenol, 9CI*

$C_{14}H_{14}N_2OS$ M 258.343

Used as EtOH soln. for photometric detn. of Cu(*II*) (λ_{max} 520 nm, ε 14000), Ni. Orange-red needles (MeOH). Sol. EtOH, MeOH, C_6H_6. Mp 103-104°.

S-*Benzyl:* [65568-49-2]. *4-Methyl-2-[[2-[(phenylmethyl)thio] phenyl]azo]phenol, 9CI*

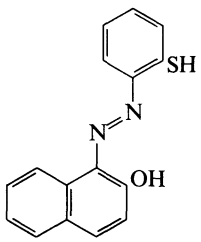
$C_{20}H_{18}N_2OS$ M 334.441

Used as EtOH soln. for photometric detn. of Cu(*II*) (λ_{max} 520 nm, ε 10600), Ni. Orange-red needles (EtOH). Sol. EtOH, MeOH. Mp 101-102°.

Pringle, D.L. *et al, Talanta*, 1982, **29**, 1097 (*synth, detn, Cu*)

1-[(2-Mercaptophenyl)azo]-2-naphthalenol, 9CI M-00042

[81711-02-6]



$C_{16}H_{12}N_2OS$ M 280.350

Used as EtOH soln. for photometric detn. of Fe(*III*) (λ_{max} 525 nm, ε 38300). Reddish-orange powder. Sol. C_6H_6, EtOH. Mp 113-114° (118°).

Pringle, D.L. *et al, Talanta*, 1982, **29**, 1097 (*synth, use*)

2-Mercapto-3-phenyl-2-butenoic acid, 9CI M-00043

[93628-49-0]

$PhC(CH_3)=C(SH)COOH$

$C_{10}H_{10}O_2S$ M 194.254

Used as soln. in 6% EtOH for extraction-photometric detn. of Ti (λ_{max} 439 nm, ε 16500). Cryst. Sol. EtOH, C_6H_6; sl. sol. H_2O.

Izquierdo, A. *et al, An. Quim.*, 1983, **79**, 254 (*synth*)
Izquierdo, A. *et al, Mikrochim. Acta*, 1984, **2**, 331.
Izquierdo, A. *et al, Microchem. J.*, 1985, **31**, 251 (*detn, Ti*)

3-Mercapto-1-phenyl-2-buten-1-one, 9CI M-00044

[4394-99-4]

$PhCOCH=C(SH)CH_3$

$C_{10}H_{10}OS$ M 178.254

Used for extraction-photometric detn. of Ag (λ_{max} 370 nm, ε 12000, C_6H_6/butanol). Sol. EtOH, Me_2CO.

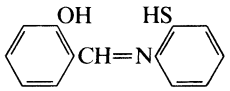
[65581-05-7]

Murti, M.V.R. *et al, Chem. Era*, 1978, **13**, 404; *CA*, **89**, 19041 (*detn, Ag*)

N-[[(2-Mercaptophenyl)imino]methyl] phenol, 9CI M-00045

N-(*2-Hydroxybenzylidene*)-*2-mercaptoaniline. 2-Hydroxybenzaldehyde 2-mercaptoanil. Salicylaldehyde 2-mercaptoanil. 2-Mercapto*-N-*salicylideneaniline*

[3449-05-6]



$C_{13}H_{11}NOS$ M 229.302

Used as a 0.5% soln. in EtOH for photometric detn. of Pt(*IV*) (λ_{max} 725 nm, ε 52600), Sn (*II*), extraction-photometric detn. of Zn (λ_{max} 415 nm, ε 10700). Cryst. (EtOH). Sol. acids, Me_2CO; sl. sol. EtOH, MeOH. Mp 133-136°, Mp 137-139°.

Gregory, G.R. *et al, Analyst (London)*, 1967, **92**, 293 (*synth, detn, Sn*)
Ishii, H. *et al, Bunseki Kagaku (Jpn. Anal.)*, 1971, **20**, 1018 (*detn, Zn*)
Bag, S. *et al, Indian J. Chem., Sect. A*, 1977, **15**, 543 (*detn, Pt*)

2-Mercapto-5-phenyl-2,4-pentadienoic acid, 9CI M-00046

3-Styryl-2-mercaptopropenoic acid

[15289-17-5]

$PhCH=CHCH=C(SH)COOH$

$C_{11}H_{10}O_2S$ M 206.265

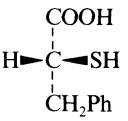
Used as 0.1-1% EtOH solns. for colour reactions with Ti, Ni, Co, V, Cu. Cryst. (toluene). Sol. EtOH, C_6H_6, toluene; sl. sol. H_2O. Mp 159°. pK_{a1} 4.34; pK_{a2} 8.91 (25°, μ = 0.2, EtOH aq.).

Campaigne, E. *et al, J. Org. Chem.*, 1956, **21**, 32 (*synth*)
Izquierdo, A. *et al, Talanta*, 1984, **31**, 475 (*use*)

2-Mercapto-3-phenylpropanoic acid M-00047

α-Mercaptobenzenepropanoic acid, 9CI. α-Mercaptohydrocinnamic acid, 8CI

[90536-15-5]



(R)-form

$C_9H_{10}O_2S$ M 182.243

(R)-form [84800-12-4]

$[\alpha]_D^{20}$ −9.5° (c, 1 in MeOH) (o.p. 93%).

Me ester: [103499-59-8].

$C_{10}H_{12}O_2S$ M 196.270

Bp_2 100-105°.

(±)-form [72772-24-8]

Used as EtOH soln. to give colour reactions with Cu, Pd, Mo, Fe, Co, Ni. Cryst. (pet. ether). Sol. EtOH, C_6H_6, pet. ether. Mp 48-49°, 47-48. Bp_{4-5} 146-150°. pK_{a1} 3.96; pK_{a2} 10.5 (25°, μ = 0.1).

Fischer, E. *et al, Ber.*, 1914, **47**, 2469 (*synth*)
Schöberl, A. *et al, Justus Liebigs Ann. Chem.*, 1936, **522**, 97 (*synth*)
Ravazzoni, C. *et al, Ann. Chim. (Rome)*, 1962, **52**, 305 (*synth*)
Izquierdo, A. *et al, Talanta*, 1985, **32**, 669 (*reactions*)
Strijtveen, B. *et al, J. Org. Chem.*, 1986, **51**, 3664 (*synth*)

3-Mercapto-3-phenylpropanoic acid M-00048

β-Mercaptobenzenepropanoic acid, 9CI. β-Mercaptohydrocinnamic acid, 8CI

[7328-39-4]

PhCH(SH)CH_2COOH

$C_9H_{10}O_2S$ M 182.243

(±)-*form*

Used as a 1m*M* aq. soln. for photometric detn. of Co (λ_{max} 360 nm, ε 7090). Cryst. (H_2O). Mod. sol. H_2O; sol. alkalis. Mp 108°, Mp 111.5-112.5°. pK_{a1} 4.92; pK_{a2} 9.89.

Me ester: [7328-40-7].
$C_{10}H_{12}O_2S$ M 196.270
Used as a 0.5% soln. in EtOH for photometric detn. of Ni (λ_{max} 455 nm, ε 7500, $CHCl_3$), Pd (λ_{max} 412 nm, ε 13700, EtOAc). Sol. common org. solvs. Bp 135-136.5°, Bp_8 124°.

Et ester: [7328-41-8].
$C_{11}H_{14}O_2S$ M 210.296
Used as a 0.5% soln. in EtOH for photometric detn. of Ni (λ_{max} 455 nm, ε 8200, $CHCl_3$), Pd (λ_{max} 412 nm, ε 12600, C_6H_6). Sol. common org. solvs. Bp_6 157°.

Butyl ester: [7328-43-0].
$C_{13}H_{18}O_2S$ M 238.350
Used as a 0.5% soln. in EtOH for photometric detn. of Ni (λ_{max} 455 nm, ε 9200, $CHCl_3$), Pd (λ_{max} 414 nm, ε 17000, C_6H_6). Sol. common org. solvs. $Bp_{0.5}$ 149-150°.

2-Methylpropyl ester: [7328-44-1].
$C_{13}H_{18}O_2S$ M 238.350
Used as a 0.5% soln. in EtOH for photometric detn. of Ni (λ_{max} 455 nm, ε 9000, $CHCl_3$). Sol. common org. solvs.

Pentyl ester: [7328-45-2].
$C_{14}H_{20}O_2S$ M 252.377
Used as a 0.5% soln. in EtOH for photometric detn. of Ni (λ_{max} 455 nm, ε 9500, $CHCl_3$), Pd (λ_{max} 415 nm, ε 14400, C_6H_6). Sol. common org. solvs. $Bp_{0.8}$ 154°.

3-Methylbutyl ester: [7328-46-3].
$C_{14}H_{20}O_2S$ M 252.377
Used as a 0.5% soln. in EtOH for photometric detn. of Ni (λ_{max} 455 nm, ε 9600, $CHCl_3$), Pd (λ_{max} 414 nm, ε 17900, C_6H_6). Sol. common org. solvs. $Bp_{0.5}$ 155°.

Ph ester: [14044-80-5].
$C_{15}H_{14}O_2S$ M 258.340
Used as a 0.5% soln. in EtOH for photometric detn. of Ni (λ_{max} 455 nm, ε 5000, $CHCl_3$), Pd. Sol. common org. solvs.

Fischer, E. *et al*, *Ber.*, 1914, **47**, 2469 (*synth*)
Tanaka, H. *et al*, *Chem. Pharm. Bull.*, 1961, **9**, 66 (*synth*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 976, 1208, 1347; 1966, **21**, 1082, 1311 (*synth, pKa, detn, Ni, Pd, Co*)

2-Mercapto-3-phenyl-2-propenoic acid, 9CI M-00049

α-Mercaptocinnamic acid, 8CI

[5740-34-1]

PhCH=C(SH)COOH

$C_9H_8O_2S$ M 180.227
Used as EtOH soln. to give colour reactions with Cu, Pd, Mo, Fe, Co, Ni, Mn, Ti. Cryst. (C_6H_6). Sol. EtOH, C_6H_6, pet. ether. Mp 133-134°, 134-135°. pK_{a1} 3.77; pK_{a2} 8.98 (25°, μ = 0.1).

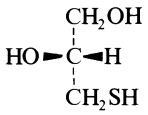
S-*Me:* [4890-72-6].
$C_{10}H_{10}O_2S$ M 194.254
Mp 94-96°.

Campaigne, E. *et al*, *J. Org. Chem.*, 1956, **21**, 32 (*synth*)
Owen, T.C. *et al*, *J. Chem. Soc.*, 1962, 656 (*synth*)
Izquierdo, A. *et al*, *Talanta*, 1985, **32**, 669 (*reactions*)

3-Mercapto-1,2-propanediol, 9CI M-00050

Thiovanol. 1-Thioglycerol

[96-27-5]



(*R*)-*form*

$C_3H_8O_2S$ M 108.161
Used as 1% aq. soln. in indirect alkalimetric detn. of Hg(*II*); as 0.1*M* aq. soln. for photometric detn. of Pd. Liq. Sol. H_2O. d 1.295. Bp_5 118°. n_D^{20} 1.5260.

▷ TY8140000.

(*R*)-*form* [16495-21-9]
$Bp_{0.9}$ 102°. $[\alpha]_D^{25}$ −8° (c, 11 in EtOH).

(*S*)-*form*

S-*Ph: 3-Phenylthio-1,2-propanediol*
$C_9H_{12}O_2S$ M 184.259
Chiral intermediate. Cryst. (C_6H_6). Mp 89-90°. $[\alpha]_D^{23}$ +20.7° (c, 0.996 in EtOH).

(±)-*form* [53023-42-0]
Bp_{15} 136-139°. pK_{a1} 9.46 (25°, 0.1*M* NaCl).

Tri-Ac:
$C_9H_{14}O_5S$ M 234.273
$Bp_{0.01}$ 120-140°.

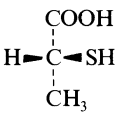
[5149-48-4]

Smith, L. *et al*, *Ber.*, 1936, **69**, 678 (*synth*)
Sjoberg, B., *Ber.*, 1942, **75**, 13 (*synth*)
Burke, R.W. *et al*, *Talanta*, 1963, **10**, 1267 (*detn, Pd*)
Anisuzzaman, A.K.M. *et al*, *J. Chem. Soc. C*, 1967, 1021 (*synth*)
Netherlands Pat., 6 510 637, (1967); *CA*, **67**, 53674n (*synth*)
Fujisawa, T. *et al*, *Tetrahedron Lett.*, 1985, **26**, 771 (*synth, use, deriv*)
Verma, K.K. *et al*, *Talanta*, 1988, **35**, 725 (*detn, Hg*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MRM750.

2-Mercaptopropanoic acid, 9CI M-00051

Thiolactic acid

[79-42-5]



(*R*)-*form*

$C_3H_6O_2S$ M 106.145

▷ UF5250000.

(*R*)-*form* [33178-96-0]
Oil. Bp_{16} 95-100°. $[\alpha]_D^{23}$ +56.4° (c, 5 in EtOAc). Optically pure.

Et ester: [103616-07-5].
$C_5H_{10}O_2S$ M 134.199
Liq. Bp_{15} 75°. $[\alpha]_D^{22}$ +60.5° (c, 3 in $CHCl_3$). >98% e.e.

S-*Benzoyl:* [33179-02-1].
$C_{10}H_{10}O_3S$ M 210.253
Needles (cyclohexane). Mp 62.5-63°. $[\alpha]_D^{23}$ +102.0° (c, 3.5 in $CHCl_3$).

Et ester, S-*Ac:* [78560-77-7].
$C_7H_{12}O_3S$ M 176.236
Oil. Bp_7 50°. $[\alpha]_{578}^{20}$ +137.5° (c, 3 in $CHCl_3$). Optically pure.

(*S*)-*form* [57965-30-7]
Oil. $d^{19.2}$ 1.19. $[\alpha]_D^{15}$ −45.47°.

(±)-*form* [71563-86-5]
Used in depilatory and hair-wave preparations. Used for photometric detn. of Mo (λ_{max} 365 nm, pH 1-1.6). Oil with disagreeable odour. Sol. H_2O, EtOH, Et_2O. d_4^{15} 1.22. Mp *ca.* 10°. Bp_{20} 110-115°, Bp_{14} 98.5-99°. pK_{a1} 3.63; pK_{a2} 10.24 (20°).

Me ester, S-*Me ether:* [61366-76-5].
$C_5H_{10}O_2S$ M 134.199
Mp 272°.

Et ester: [66707-26-4].
Liq. Spar. sol. H_2O.

S-*Ac:* [6431-92-1].
$C_5H_8O_3S$ M 148.182
Bp_3 55°.

Amide:
C_3H_7NOS M 105.160
Mp 123-124°.

S-*Me:* [58809-73-7]. *2-(Methylthio)propanoic acid, 9CI*
$C_4H_8O_2S$ M 120.172
Mp 17.3°. Bp_9 106.5°. Known also in opt. active forms.

Anilide: [67201-68-7]. *2-Mercapto-*N*-phenylpropanamide, 9CI*
$C_9H_{11}NOS$ M 181.258
Used for extraction-photometric detn. of Pd (λ_{max} 405 nm, ε 12500, $CHCl_3$). Cryst.

Billmann, E., *Justus Liebigs Ann. Chem.*, 1906, **348**, 120 (*synth*)
Mellander, A., *Ark. Kemi, Sect. B*, 1936, **12**, 27; *Ark. Kemi, Sect. A*, 1937, **12**, 16 (*deriv*)
Eugster, C.H. *et al*, *Helv. Chim. Acta*, 1962, **45**, 1750 (*synth*)
Solladié-Cavallo, A. *et al*, *Bull. Soc. Chim. Fr.*, 1967, 517 (*synth, ir*)
Scopes, P.M. *et al*, *J. Chem. Soc. C*, 1971, 1671 (*cd, abs config*)
Fritz, J.S. *et al*, *Talanta*, 1972, **19**, 366 (*detn, Mo*)
Nacu, A. *et al*, *Rev. Roum. Chim.*, 1977, **28**, 1091 (*detn, Pd*)
Skiles, J.W. *et al*, *J. Med. Chem.*, 1986, **29**, 784 (*derivs*)
Strijtveen, B. *et al*, *J. Org. Chem.*, 1986, **51**, 3664 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TFK250.

3-Mercaptopropanoic acid, 9CI M-00052

Thiohydracrylic acid

[107-96-0]

$HSCH_2CH_2COOH$

$C_3H_6O_2S$ M 106.145
Used for photometric detn. of Re(*VII*) (λ_{max} 470 nm, ε 13500). Cryst. Sol. H_2O, EtOH, Et_2O. Mp 16.8°. Bp_{13} 114-115.5°, Bp_3 85-86°. pK_{a1} 4.38; pK_{a2} 10.38 (25°).

▷ UF5270000.

Me ester: [2935-90-2].
$C_4H_8O_2S$ M 120.172
Bp_{20} 67-68°.

S-*Me:* [646-01-5]. *3-Methylmercaptopropanoic acid. 3-Methylthiopropionic acid. Methylthiohydracrylic acid*
$C_4H_8O_2S$ M 120.172
$Bp_{0.5}$ 102-104°.

S-*Me, Me ester:* [13532-18-8].
$C_5H_{10}O_2S$ M 134.199
Bp_{11} 69°.

Anilide: [10220-66-3]. *3-Mercapto-*N*-phenylpropanamide, 9CI*
$C_9H_{11}NOS$ M 181.258
Used as a 5% soln. in MeOH for extraction-photometric detn. of Pd (λ_{max} 400 nm, ε 4500, $CHCl_3$). Cryst.

Billmann, E., *Justus Liebigs Ann. Chem.*, 1906, **348**, 120 (*synth*)
Holmberg, B., *Ark. Kemi, Sect. B*, No. 7, 1945, **21** (*deriv*)
Cheney, L.C. *et al*, *J. Am. Chem. Soc.*, 1945, **67**, 731 (*synth*)
Danehy, J.P. *et al*, *J. Org. Chem.*, 1967, **32**, 1491 (*synth*)
Talipova, L.L. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 106 (*detn, Re*)
Nacu, A. *et al*, *Rev. Roum. Chim.*, 1977, **28**, 1091 (*detn, Pd*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MCQ000.

3-Mercapto-1-propanol, 9CI M-00053

[19721-22-3]

$HOCH_2CH_2CH_2SH$

C_3H_8OS M 92.162
Derivatization reagent in hplc. anal. of primary amines.
Bp_{14} 87°, Bp_9 72-73°.

O-*Ac:* [26473-61-0].
$C_5H_{10}O_2S$ M 134.199
Bp_{20} 87°, $Bp_{1.5}$ 58°.

S-*Ac:*
$C_5H_{10}O_2S$ M 134.199
Bp_4 92°, $Bp_{0.3}$ 57°.

Di-Ac:
$C_7H_{12}O_3S$ M 176.236
Bp_{19} 120-121°.

S-*Me:* [505-10-2]. *3-Methylthio-1-propanol. 3-Hydroxypropyl methyl sulfide*
$C_4H_{10}OS$ M 106.188
Aroma constit. of wines etc., fermentation prod. of *Saccharomyces cerevisiae*. Bp_{13} 89-90°, Bp_6 72-72.5°.

S-*Me*, O-*Ac:* [16630-55-0].
$C_6H_{12}O_2S$ M 148.226
Bp_{14} 96°.

O-*Et:* [33441-49-5]. *Ethyl 3-mercaptopropyl ether. 3-Ethoxypropanethiol*
$C_5H_{12}OS$ M 120.215
Bp_{25} 55-57°.

S-*Et:* [18721-61-4]. *3-Ethylthio-1-propanol. Ethyl 3-hydroxypropyl sulfide*
$C_5H_{12}OS$ M 120.215
Bp_{15} 104°, Bp_{10} 98-99°.

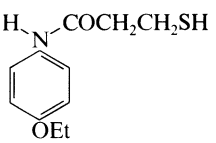
Disulfide: [30453-21-5]. *3,3'-Dithiobis-1-propanol, 9CI. 3,3'-Dithiodipropanol. 3,3'-Dihydroxydipropyl sulfide*
$C_6H_{14}O_2S_2$ M 182.307
$Bp_{0.8}$ 160°.

Sjöberg, B., *Chem. Ber.*, 1942, **75**, 13 (*disulfide*)
Djerassi, C. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 3704 (*synth*)
Harding, J.S. *et al*, *J. Chem. Soc.*, 1954, 1536 (*synth*)
Truce, W.E. *et al*, *J. Org. Chem.*, 1961, **26**, 1463 (*deriv*)
Stobaugh, J.F. *et al*, *Anal. Biochem.*, 1983, **135**, 495 (*use*)
Doi, J.T. *et al*, *J. Org. Chem.*, 1985, **50**, 5716 (*disulfide*)
Evans, B.J. *et al*, *J. Org. Chem.*, 1990, **55**, 2580 (*disulfide*)

3-Mercapto-*p*-propionophenetidide, 8CI M-00054

β-Mercaptopropionic acid p-*phenetidide. β-Merprofen*

[22919-65-9]



$C_{11}H_{15}NO_2S$ M 225.311
Used as 1% aq. soln. for extraction-photometric detn. of Co. Cryst. Sol. H_2O, EtOH. Mp 108°.

Nacu, A. *et al*, *CA*, 1969, **70**, 83943d; 1971, **75**, 44578x (*synth, detn, Co*)

2-Mercapto-*N*-2-pyridinylacetamide, 9CI M-00055

2-(Mercaptoacetamido)pyridine

[66278-86-2]

$C_7H_8N_2OS$ M 168.219

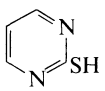
Used as a soln. in 30% EtOH for photometric detn. of Pd (λ_{max} 440 nm, ε 30500); extraction-photometric detn. of Ag (λ_{max} 425 nm, ε 11500, CCl_4). Cryst. (EtOH aq.). Sol. EtOH, Me_2CO.

Mathur, S.P., *Chem. Anal. (Warsaw)*, 1977, **22**, 819; 1979, **24**, 921 (*synth, detn, Pd, Ag*)

2-Mercaptopyrimidine M-00056

2-Pyrimidinethiol, 9CI. 2(1H)-Pyrimidinethione, 9CI

[1450-85-7]



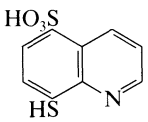
$C_4H_4N_2S$ M 112.155

Gives colour reaction with Pd, Pt. Yellow needles. Mp 230° dec., Mp 218-219° (sealed tube).

Boarland, M.P.V. *et al, J. Chem. Soc.*, 1951, 1218 (*synth*)
Org. Synth., 1963, **43**, 68 (*synth*)
Izquierdo, A. *et al, Inf. Quim. Anal.*, 1971, **25**, 203 (*use*)
Turner, C.J. *et al, Org. Magn. Reson.*, 1976, **8**, 357 (*cmr*)
Rye, R.T.B. *et al, Can. J. Chem.*, 1984, **62**, 2340 (*ms*)
Goel, R.K. *et al, Indian J. Pure Appl. Phys.*, 1985, **23**, 344 (*ir, raman, uv*)

8-Mercapto-5-quinolinesulfonic acid M-00057

[5825-36-5]



$C_9H_7NO_3S_2$ M 241.291

Copper-coloured needles.

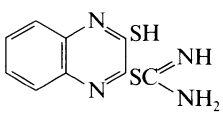
S-*(2-Propenyl)*: [42166-62-1]. *8-(2-Propenylthio)-5-quinolinesulfonic acid, 9CI. 5-Sulfoallthiox*

$C_{12}H_{11}NO_3S_2$ M 281.356

Used as 1-3m*M* soln. in 50% EtOH for photometric detn. of Rh (λ_{max} 430 nm, ε 7400). Cryst. (EtOH) (as Na salt). Sol. EtOH, H_2O.

Vogt, K.H. *et al, J. Prakt. Chem.*, 1966, **31**, 240 (*synth*)
Bankovskis, J. *et al, CA*, 1968, **68**, 114392p (*synth*)
Dedkov, Yu.M. *et al, Zh. Anal. Khim.*, 1973, **28**, 2367 (*synth, deriv, detn, Rh*)

2-(3-Mercapto-2-quinoxalinyl)-2-thiopseudourea, 8CI M-00058



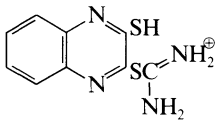
$C_9H_8N_4S_2$ M 236.321

B, HCl: [21659-28-9].

Used as a 0.1% soln. in aq. EtOH for simultaneous photometric detn. of Co, Ni. Golden-yellow cryst. (EtOH). Sl. sol. H_2O, EtOH. Mp 273° dec.

Dalziel, J.A.W. *et al, Talanta*, 1968, **15**, 367 (*synth, use*)

S-(3-Mercapto-2-quinoxalinyl) thiuronium(1+) M-00059



$C_9H_9N_4S_2^{\oplus}$ M 237.329 (ion)

Chloride:

$C_9H_9ClN_4S_2$ M 272.782

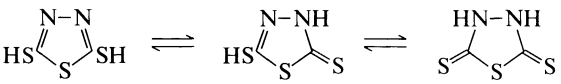
Used as a 0.1% soln. in aq. EtOH for simultaneous photometric detn. of Co (λ_{max} 472 nm, ε 35500) and Ni (λ_{max} 520 nm, ε 20800). Yellow cryst. (EtOH). Spar. sol. H_2O (0.46 g per 100 cm^3, 20°), EtOH (0.34 g per 100 cm^3, 20°). Mp 273° dec.

Dalziel, J.A.W. *et al, Talanta*, 1968, **15**, 367 (*detn, Co, Ni*)

5-Mercapto-1,3,4-thiadiazoline-2-thione M-00060

1,3,4-Thiadiazolidine-2,5-dithione, 9CI. 2,5-Dimercapto-1,3,4-thiadiazole. Bismuthiol I. Bismuthone I

[1072-71-5]



$C_2H_2N_2S_3$ M 150.249

5-Mercapto-2-thione-form predominates in solid phase. Used as 1m*M* aq. soln. for photometric detn. of Pt, Pd, Os, Cu (λ_{max} 428 nm); undergoes colour reactions with and used to ppt. Bi, Se, Te, Au, Pd. Yellow cryst. (MeOH). Sol. H_2O. Mp 168°.

▷ Irritant. XI3850000.

Di-K salt: [4628-94-8].
Cryst. Mp 274-276° dec.

S-*Me:* [6264-40-0]. *5-Methylthio-1,3,4-thiadiazole-2(3H)-thione, 9CI. 2-Mercapto-5-(methylthio)-1,3,4-thiadiazole*
$C_3H_4N_2S_3$ M 164.276
Cryst. (H_2O). Mp 136-137°.

S-*Di-Me:* [7653-69-2]. *2,5-Bis(methylthio)-1,3,4-thiadiazole, 9CI*
$C_4H_6N_2S_3$ M 178.303
$Bp_{0.3}$ 95°.

3-Me: [29546-26-7]. *3-Methyl-1,3,4-thiadiazolidine-2,5-dithione, 9CI*
$C_3H_4N_2S_3$ M 164.276
Cryst. (Et_2O). Mp 65-66°.

N^3,S-*Di-Me:* [33682-80-3]. *3-Methyl-5-(methylthio)-1,3,4-thiadiazole-2(3H)-thione, 9CI*
$C_4H_6N_2S_3$ M 178.303
Cryst. (EtOH). Mp 81-82°.

N^3-*Phenyl:* [17654-88-5]. *Bismuthiol II. 5-Mercapto-3-phenyl-1,3,4-thiadiazole-2-thione. 3-Phenyl-1,3,4-thiadiazolidine-2,5-dithione, 9CI. Bismuthone II*
$C_8H_6N_2S_3$ M 226.347
Used as 0.25% aq. soln. for photometric detn. of Te (λ_{max} 330 nm, ε 36000); also in pptn. and colour reactions with Bi, Fe, Os, Re. Yellow needles. Sol. H_2O, EtOH. Mp 245-247.5°.

N^3-p-*Benzenesulfonic acid:* [100499-11-4]. *Bismuthiol II sulfonic acid. 4-(2,5-Dithioxo-1,3,4-thiadiazolidin-3-yl) benzenesulfonic acid*

$C_8H_6N_2O_3S_4$ M 306.411
Used as dipotassium salt for extraction-chromatographic separation of Se(*IV*) from Se(*VI*). Cryst. (H_2O) (as di-K salt). Sol. H_2O (di-K salt).

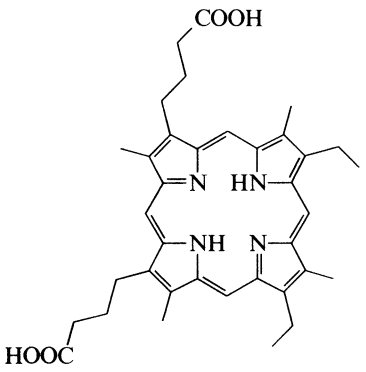
N-(*2-Naphthalenyl*): see *5-Mercapto-3-(2-naphthyl)-1,3,4-thiazole-2-thione*, *M-00039*

[21701-41-7]

Busch, M., *Ber.*, 1894, **27**, 2507 (*synth*)
Busch, M. *et al*, *J. Prakt. Chem.*, 1899, **60**, 25 (*synth, deriv*)
Losanitsch, S.M., *J. Chem. Soc.*, 1922, 2542 (*synth, deriv*)
Majumdar, A.K. *et al*, *Anal. Chim. Acta*, 1958, **19**, 372; 1972, **62**, 223 (*use, Pd, Au*)
Thorn, G.D., *Can. J. Chem.*, 1960, **38**, 1439 (*tautom, deriv*)
Jankovsky, J. *et al*, *Talanta*, 1960, **5**, 238 (*detn, Te*)
Cheng, K.L., *Talanta*, 1961, **8**, 301 (*detn, Te*)
Stanovnik, B. *et al*, *Croat. Chem. Acta*, 1965, **37**, 17 (*tautom, deriv, uv, ir*)
Yoshida, H. *et al*, *Talanta*, 1966, **13**, 185 (*detn, Te*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1850; 1968, **23**, 59; 1970, **25**, 1880; 1974, **29**, 1986 (*use, Bi, Au*)
Gregorowicz, Z. *et al*, *Fresenius' Z. Anal. Chem.*, 1968, **239**, 87 (*detn, Pd, Pt, Os*)
Fogg, A.G. *et al*, *Anal. Chim. Acta*, 1969, **45**, 196; **47**, 151 (*detn, Fe*)
Klima, Z. *et al*, *CA*, 1973, **78**, 118845t (*detn, Cu*)
Bats, J.W., *Acta Crystallogr., Sect. B*, 1976, **32**, 2866 (*cryst struct*)
Bottini, F. *et al*, *Org. Magn. Reson.*, 1981, **16**, 1 (*deriv, synth, struct*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 411 (*use*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 557.
Pappalardo, S. *et al*, *J. Org. Chem.*, 1987, **52**, 405 (*deriv, pmr, cmr, props*)
Nakayama, M. *et al*, *Talanta*, 1987, **34**, 435 (*synth, use, Bismuthiol II sulfonic acid*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MCP500, TES250.

Mesoporphyrin IX M-00061

*7,12-Diethyl-3,8,13,17-tetramethyl-21*H,*23*H-*porphine-2,18-dipropanoic acid*



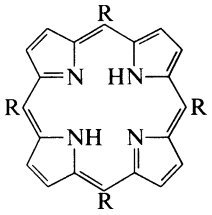
$C_{36}H_{42}N_4O_4$ M 594.752
Used as 0.25m*M* DMF soln. for fluorimetric detn. of Zn (λ_{max} 580 nm, EtOH). Cryst. Sol. DMF, EtOH, Me_2CO, dioxan, $CHCl_3$.

Fakeeva, O.A. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 827 (*synth, detn, Zn*)

Mesotetraethylporphine M-00062

*5,10,15,20-Tetraethyl-21*H,*23*H-*porphine*, *9CI*

[28924-87-0]



R = CH_2CH_3

$C_{28}H_{30}N_4$ M 422.572
Used as 0.25m*M* DMF soln. for fluorimetric detn. of Zn (λ_{max} 612 nm, EtOH). Cryst. Sol. DMF, EtOH, Me_2CO, dioxan, $CHCl_3$.

Fakeeva, O.A. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 827 (*synth, detn, Zn*)

Mesotetraisobutylporphine M-00063

*5,10,15,20-Tetrakis(2-methylpropyl)-21*H,*23*H-*porphine*, *9CI*

[98630-04-7]

As Mesotetraethylporphine, M-00062 with

R = $CH_2CH(CH_3)_2$

$C_{36}H_{46}N_4$ M 534.786
Used as 0.25m*M* DMF soln. for fluorimetric detn. of Zn (λ_{max} 610 nm, EtOH). Cryst. Sol. DMF, EtOH, Me_2CO, dioxan, $CHCl_3$.

Fakeeva, O.A. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 827 (*synth, detn, Zn*)

Mesotetraoctylporphine M-00064

*5,10,15,20-Tetraoctyl-21*H,*23*H-*porphine*, *9CI*

[57134-50-6]

As Mesotetraethylporphine, M-00062 with

R = $(CH_2)_7CH_3$

$C_{52}H_{78}N_4$ M 759.215
Used as 0.25m*M* DMF soln. for fluorimetric detn. of Zn (λ_{max} 618 nm, EtOH). Cryst. Sol. DMF, EtOH, Me_2CO, dioxan, $CHCl_3$.

Fakeeva, O.A. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 827 (*synth, detn, Zn*)

Mesotetrapropylporphine M-00065

*5,10,15,20-Tetrapropyl-21*H,*23*H-*porphine*, *9CI*

[22112-75-0]

As Mesotetraethylporphine, M-00062 with

R = $CH_2CH_2CH_3$

$C_{32}H_{38}N_4$ M 478.679
Used as 0.25m*M* DMF soln. for fluorimetric detn. of Zn (λ_{max} 612 nm, EtOH). Cryst. Sol. DMF, EtOH, Me_2CO, dioxan, $CHCl_3$.

Fakeeva, O.A. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 827 (*synth, detn, Zn*)

Methanesulfonic acid, 9CI, 8CI M-00066

Methylsulfonic acid. Sulfomethane

[75-75-2]

$MeSO_3H$

CH_4O_3S M 96.107

Reagent for ester cleavage and removal of *N*-benzyl protecting groups. Solid or liq. Sol. H_2O, EtOH, Et_2O. d_4^{18} 1.48. Mp 20°. Bp 122°, Bp_{10} 167.0-167.5°. pK_{a1} −1.86 (25°).

▷ Highly irritant, corrosive. PB1140000.

NH_4 salt: Plates. Sol. H_2O.

Me ester: [66-27-3].

$C_2H_6O_3S$ M 110.134

Liq. d_4^{20} 1.29. Bp_{753} 203°, $Bp_{0.6}$ 59°.

▷ PB2625000.

Anhydride: [7143-01-3].

$C_2H_6O_5S_2$ M 174.198

Acylating agent. Prisms (Et_2O). Sol. $CHCl_3$, C_6H_6, hot Et_2O. Mp 71°. Bp_{10} 138°.

Chloride: [124-63-0]. *Mesyl chloride*

CH_3ClO_2S M 114.552

Mesylating agent, synthetic intermed. Anal. reagent for monoglycerides. Insol. H_2O. d_4^{18} 1.48. Bp_{730} 161-161.5°, Bp_{18} 62°.

Amide: [3144-09-0].

CH_5NO_2S M 95.122

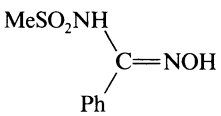
Prisms (H_2O). Mp 88°.

Billeter, O.C., *Ber.*, 1905, **38**, 2015 (*derivs*)
Latimer, P.H. *et al*, *J. Org. Chem.*, 1940, **5**, 24 (*synth*)
McInnes, A.G., *J. Am. Oil Chem. Soc.*, 1960, **37**, 7 (*use, chloride*)
Org. Synth., Coll. Vol., 4, 1963, 571 (*chloride*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 667; **4**, 326; **7**, 225.
Lowe, O.G., *J. Org. Chem.*, 1976, **41**, 2061 (*synth*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 315.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MDR250, MLH500.

N-Methanesulfonylbenzamidoxime M-00067

N-*Hydroxy*-N′-(*methylsulfonyl*)*benzenecarboximidamide*, *9CI.* N-(*Methylsulfonyl*)*benzamidoxime*, *8CI*

[32748-18-8]



$C_8H_{10}N_2O_3S$ M 214.245

Used for extraction-photometric detn. of Ru(*VI*) (λ_{max} 640 nm, ε 3000). Cryst. Sol. Et_2O, EtOH, C_6H_6. pK_{a1} 6.19; pK_{a2} 11.9.

Klimkovich, E.A. *et al*, *Izv. Vyssh. Uchebn. Zaved., Khim. Khim. Tekhnol.*, 1971, **14**, 346; *CA*, **75**, 29560s (*detn, Ru*)
Fedorova, N.G., *Zh. Anal. Khim.*, 1971, **26**, 664 (*use*)

Methanol, 9CI, 8CI M-00068

Methyl alcohol. Hydroxymethane. Wood alcohol

[67-56-1]

MeOH

CH_4O M 32.042

For esters see the relevant acids. Obt. industrially from H_2 + CO and on a lesser scale from H_2 + CO_2, by oxidn. of hydrocarbons etc. Obt. by dist. of wood and possibly first identified by Boyle in 1661. Industrial solvent, raw material for the prep. of Formaldehyde, Me esters etc. Fuel. Used to methylate acids for anal. Important industrial chemical, 21st in order of volume for USA in 1990 (production 3.99 million tons/year). Liq. Misc. H_2O, most org. solvs., part. misc. pet. ether. d_4^{20} 0.79. Mp −97.8°. Bp 64.7°, Bp_{200} 34.8°, Bp_{40} 5°. pK_a 15.5 (25°). n_D^{20} 1.3287. Dissolves many inorg. salts. Combines with $CaCl_2$. Crit. point 242°/78.6 atm. Forms constant-boiling mixts. with nearly all common solvs.

▷ Mod. toxic vapour, can damage eyes. Highly flammable, flash p. 10°. Violent reaction with a range of materials. PC1400000.

Na deriv.: Sodium methoxide

Base for dehydrohalogenations, nucleophilic displacements and condensations. Solid. Sol. pentane.

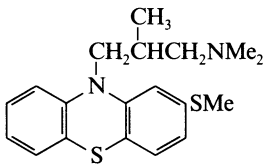
▷ Causes burns.

Rodd's Chem. Carbon Compd. (*2nd Ed.*), 2nd Ed., Vol 1B, 1965, 16 (*rev*)
Ger. Pat., 20 13 297, (1970); *CA*, **75**, 151351 (*manuf*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **15**, 398 (*rev*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 463.
Gesser, H.D. *et al*, *Chem. Rev.*, 1985, **85**, 235 (*rev, manuf*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 386, 479.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MGB150.

Methiomeprazine, INN M-00069

N,N,*β-Trimethyl-2-*(*methylthio*)-*10*H-*phenothiazine-10-propanamine*, *9CI. 10*-[*3*-(*Dimethylamino*)-*2-methylpropyl*]-*2*-(*methylthio*)*phenothiazine*, *8CI*

[13405-77-1]



$C_{19}H_{24}N_2S_2$ M 344.544

(−)-***form*** [1759-09-7] ***Levomethiomeprazine, INN.*** *Phenaceda*

(±)-***form*** [7009-43-0]

SKF 6270. 7238 RP

Used as a 0.2% aq. soln. for photometric detn. of Se (λ_{max} 644 nm, ε 29800). Antiemetic, neuroleptic agent. Yellow cryst. Sol. H_2O. Mp 88-89°. $Bp_{0.1}$ 218-221°.

B,HCl: Cryst. (2-propanol). Mp 173-174°.

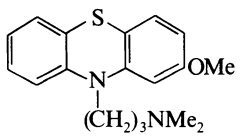
Picrate: Cryst. (EtOH). Mp 145°.

Craig, P.N., *J. Org. Chem.*, 1960, **25**, 944 (*synth, pharmacol*)
De Leenheer, A., *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 105 (*uv*)
Gowda, H.S. *et al*, *Indian J. Chem., Sect. A*, 1980, **19**, 178.

Methopromazine, INN M-00070

2-Methoxy-N,N-*dimethyl-10*H-*phenothiazine-10-propanamine*, *9CI. Methoxypromazine. Vetamozine. Neoproma. CL 22373. FI 5631*

[61-01-8]



$C_{18}H_{22}N_2OS$ M 314.451

Antipsychotic agent. Cryst. Mp 44-48°.

▷ SO7600000.

Maleate: [3403-42-7]. *Tentone. Mopazine*
Used as 0.5% aq. soln. for extraction-photometric detn. of Pt (λ_{max} 665 nm, ε 26000, $CHCl_3$/MeOH). Cryst. Sol. acids. Mp 141-145°. Dec. by light.
▷ SO7700000.

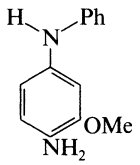
Oxalate: Cryst. Dec. at 178-9°.
Picrate: Reddish cryst. Mp 141-142°.

Charpentier, P. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1952, **235**, 59 (*synth*)
U.K. Pat., 789 276, (1958); *CA*, **52**, 11966 (*synth*)
Marsau, P. *et al*, *Acta Crystallogr., Sect. B*, 1973, **29**, 992 (*cryst struct*)
Kreyenbuehl, B. *et al*, *Pharm. Acta Helv.*, 1979, **54**, 197 (*uv, ir, pmr*)
Kojlo, A. *et al*, *Talanta*, 1983, **30**, 529 (*detn, Pt*)
Thimmegowda, A. *et al*, *Anal. Chem.*, 1984, **56**, 358 (*detn, Pt*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MFK500, MFK750.

3-Methoxy-4-aminodiphenylamine M-00071

2-Methoxy-N'-phenyl-1,4-benzenediamine, 8CI

[5840-10-8]



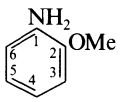
$C_{13}H_{14}N_2O$ M 214.266
Used as redox indicator. Cryst. Sol. AcOH, acids, C_6H_6. E° +0.64 V.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

2-Methoxyaniline M-00072

2-Methoxybenzenamine, 9CI. o-*Anisidine, 8CI.* o-*Aminophenol methyl ether.* o-*Aminoanisole*

[90-04-0]



C_7H_9NO M 123.154
Used for detn. of HCN. Yellowish liq. Sol. acids; insol. H_2O; misc. EtOH, Et_2O, C_6H_6. Mp 5°. Bp 225° (218-222°). pK_a 9.72 (15°). Steam-volatile.

▷ V. highly toxic by inhalation or in contact with skin, TLV 0.5, irritant. BZ5410000.

N-*Ac:* [93-26-5]. *2-Methoxyacetanilide.* o-*Acetanisidide*
$C_9H_{11}NO_2$ M 165.191
Cryst. Mp 87-88°. Bp 303-305°.
▷ AE8280000.

N-*Me:* [10541-78-3]. *2-Methoxy-N-methylaniline*
$C_8H_{11}NO$ M 137.181
Mp 33-33.5°. Bp 218-220°, Bp_{10} 103-105°.

Kozlovskii, M.T. *et al*, *Mikrochemie*, 1936, **21**, 82 (*use*)
Sekiya, M. *et al*, *Chem. Pharm. Bull.*, 1966, **14**, 1007 (*deriv*)
Lalancette, J.M. *et al*, *Can. J. Chem.*, 1971, **49**, 2990 (*synth*)
Rosenkranz, H.J. *et al*, *Helv. Chim. Acta*, 1974, **57**, 887 (*deriv*)
Gould, S.J. *et al*, *J. Am. Chem. Soc.*, 1989, **111**, 7932 (*N-Ac*, synth, pmr, cmr)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 184.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AAR000, AOV900.

4-Methoxyaniline M-00073

4-Methoxybenzenamine, 9CI. p-*Anisidine, 8CI.* p-*Aminophenol methyl ether.* p-*Aminoanisole*

[104-94-9]

C_7H_9NO M 123.154
Used in photometric detn. of Ce(*IV*). Cryst. Sol. acids, EtOH, Et_2O, C_6H_6; insol. H_2O. Mp 57°. Bp 246°. pK_a 8.82 (25°).

▷ V. highly toxic by inhalation and skin contact, TLV (skin) 0.5. BZ5450000.

Thiocyanate salt: Used as a metal indicator for titrimetric detn. of Fe(*III*). Cryst. Sol. H_2O; insol. Et_2O, C_6H_6.
N-*Ac:* [51-66-1]. N-(*4-Methoxyphenyl*)*acetamide, 9CI.* p-*Acetanisidide.* ***Methacetin***
$C_9H_{11}NO_2$ M 165.191
Antipyretic, antineuralgic. Plates (H_2O). Mp 130-132°. $Bp_{0.5}$ 84-89°.
▷ AE8290000.

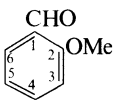
N-*Me:* [5961-59-1]. *4-Methoxy-N-methylaniline*
$C_8H_{11}NO$ M 137.181
Cryst. (pet. ether). Mp 40°. Bp_{19} 135-136°.
N,N-*Di-Me:* [701-56-4]. *4-Methoxy-N,N-dimethylaniline*
$C_9H_{13}NO$ M 151.208
Solid. Mp 37-38°. Bp_{740} 233-234°.

Thomas, D.G. *et al*, *J. Am. Chem. Soc.*, 1946, **68**, 895 (*deriv, synth*)
Mann, F.G. *et al*, *J. Chem. Soc.*, 1957, 3352 (*deriv*)
Grillot, G.F. *et al*, *J. Org. Chem.*, 1959, **24**, 1035 (*deriv*)
Singh, B. *et al*, *Bull. Chem. Soc. Jpn.*, 1964, **37**, 1412 (*thiocyanate, use*)
Staskun, B. *et al*, *J. Chem. Soc. C*, 1966, 531.
Ho, T.L., *Synthesis*, 1974, 45 (*synth*)
Sane, R.I. *et al*, *Indian J. Chem., Sect. A*, 1977, **15**, 160 (*detn, Ce*)
Du Plessis, M.P. *et al*, *J. Org. Chem.*, 1982, **47**, 2313 (*cryst struct*)
Iizuka, K. *et al*, *Chem. Pharm. Bull.*, 1984, **32**, 2560 (*synth, deriv*)
Watanabe, Y. *et al*, *J. Org. Chem.*, 1984, **49**, 4451 (*synth, deriv, ir, pmr*)
Gribble, G.W. *et al*, *Synthesis*, 1987, 709 (*deriv, synth, pmr*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 184.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AAR250, AOW000.

2-Methoxybenzaldehyde, 9CI M-00074

o-*Anisaldehyde, 8CI. Salicylaldehyde methyl ether*

[135-02-4]



$C_8H_8O_2$ M 136.150
Used as 0.2% aq. soln. as an acid-base fluorescent indicator (pH 3.1-4.4). Cryst. Sol. H_2O. Mp 39°. $Bp_{1.5}$ 70-75°.

▷ Mod. toxic orally. BZ2610000.

Semicarbazone: Mp 219°.
(E)-*Oxime:* [54582-20-6].
$C_8H_9NO_2$ M 151.165
Mp 95°.
(Z)-*Oxime:* [54582-27-3].
Mp 101°. Unstable.
2,4-Dinitrophenylhydrazone: Mp 249°.
Hydrate, di-Ac: o-*Methoxybenzylidene diacetate*
$C_{12}H_{14}O_5$ M 238.240
Prisms. Mp 75°.

Brady, O.L. *et al*, *J. Chem. Soc.*, 1927, 894 (*oximes*)
Grammaticakis, P., *Bull. Soc. Chim. Fr.*, 1940, 527 (*synth*)
Kocsis, E.A. *et al*, *Fresenius' Z. Anal. Chem.*, 1942, **124**, 45.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972.
Org. Synth., 1974, **54**, 42 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1979, AOT525.

4-Methoxybenzaldehyde, 9CI M-00075

p-*Anisaldehyde*, *8CI*. *Aubepine*

[123-11-5]

$C_8H_8O_2$ M 136.150

Found in many essential oils. Also found in algae and fungi. Component of scent material from cotton-top tamarin (*Saguinus oedipus*). Used in perfumery. Chromogenic reagent for the detn. of amines. d_4^{15} 1.119. Mp 0°. Bp 248°, Bp_{210} 199-200°, Bp_{12} 134-135°. pK_a 15.96 (hydrate) (25°, 1% EtOH). Steam-volatile.

▷ BZ2625000.

(E)-*Oxime:* [3717-21-3]. *α-Anisaldoxime*
$C_8H_9NO_2$ M 151.165
Leaflets, needles. Mp 45°, Mp 65°.

(Z)-*Oxime:* [3717-22-4]. *β-Anisaldoxime*
$C_8H_9NO_2$ M 151.165
Needles (C_6H_6). Mp 133°.

2,4-Dinitrophenylhydrazone: [1773-49-5].
Red leaflets (xylene). Mp 254°.

Semicarbazone: [6292-71-3].
Needles (EtOH), prisms (Me_2CO). Mp 168°, Mp 209°.

Thiosemicarbazone: [4334-74-1].
$C_9H_{11}N_3OS$ M 209.271
Used for photometric detn. of Pd(*II*) (λ_{max} 370 nm, ε 94000), Cu(*II*). Cryst. (EtOH). Sol. DMF, EtOH.

Hydrazone: [5953-85-5].
$C_8H_{10}N_2O$ M 150.180
Yellow leaflets. Mp 167°.

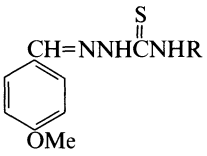
Di-Me acetal: [2186-92-7]. *Dimethoxy(4-methoxyphenyl) methane*
$C_{10}H_{14}O_3$ M 182.219
d^{15} 1.079. Bp 253°.

Tiemann, F. *et al*, *Ber.*, 1877, **10**, 63 (*synth*)
Hinkel, L.E. *et al*, *J. Chem. Soc.*, 1932, 2793 (*synth*)
Niedzielski, E.L. *et al*, *J. Am. Chem. Soc.*, 1941, **63**, 1492 (*synth*)
Birkinshaw, J.H. *et al*, *Biochem. J.*, 1955, **60**, 255 (*isol*)
Kotake, M. *et al*, *Justus Liebigs Ann. Chem.*, 1957, **607**, 153 (*isol*)
v. Es, T. *et al*, *J. Chem. Soc.*, 1965, 5775.
Dhami, K.S. *et al*, *Can. J. Chem.*, 1966, **44**, 2855 (*cmr*)
Bowie, J.H. *et al*, *J. Chem. Soc. B*, 1969, 89 (*ms*)
Org. Synth., 1971, **51**, 20 (*synth*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, no. 392 (*occur*)
Morris, W.W., *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 1037 (*ir*)
Thimmaiah, K.N. *et al*, *Indian J. Chem., Sect. A*, 1983, **22**, 690 (*deriv, detn, Pd, Cu*)
Salem, F.B. *et al*, *Analyst* (*London*), 1985, **110**, 1125 (*use*)
Belcher, A. *et al*, *J. Chem. Ecol.*, 1988, **14**, 1367.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AOT530.

4-Methoxybenzaldehyde phenylthiosemicarbazone M-00076

2-[(4-Methoxyphenyl)methylene]-N-phenylhydrazinecarbothioamide, *9CI*. p-*Anisaldehyde phenylthiosemicarbazone*

[74959-64-1]



R = Ph

$C_{15}H_{15}N_3OS$ M 285.369

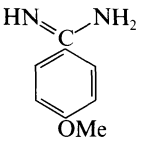
Used as EtOH soln. for extraction-photometric detn. of Au (λ_{max} 365 nm, ε 21200, EtOAc), Cu, Pt. Cryst. Sol. DMF, EtOH.

Prakash, K.M. *et al*, *Analyst* (*London*), 1986, **111**, 1301 (*synth, detn, Au*)
Prakash, K.M. *et al*, *Curr. Sci.*, 1986, **55**, 563 (*detn, Cu*)
Prakash, K.M. *et al*, *Anal. Lett.*, 1987, **20**, 959 (*detn, Pt*)

4-Methoxybenzamidine M-00077

4-Methoxybenzenecarboximidamide, *9CI*. p-*Anisamidine*, *8CI*

[22265-37-8]



$C_8H_{10}N_2O$ M 150.180

Fluorogenic reagent for anal. of reducing carbohydrates. Mp 119°.

Picrate: Mp 212-213°.
B,HCl: [51721-68-7].
Mp 220°.
B,HBr: Cryst. (MeCN). Mp 236-237°.
Benzenesulfonate salt: Mp 212°.
p-*Toluenesulfonate salt:* Mp 206°.

Oxley, P. *et al*, *J. Chem. Soc.*, 1946, 147; 1947, 382; 1949, 449 (*synth*)
Schaefer, F.C. *et al*, *J. Org. Chem.*, 1962, **27**, 1255 (*synth*)
Kai, M. *et al*, *Anal. Sci.*, 1985, **1**, 59 (*use*)

Methoxybenzene, 9CI M-00078

Anisole, *8CI*. *Phenol methyl ether*. *Methyl phenyl ether*

[100-66-3]

PhOMe

C_7H_8O M 108.140

Can be used as solvent, e.g. for hydroborations. Reagent for the spectrophotometric anal. of formic acid. Mp −37.5°. Bp 155°.

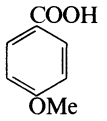
▷ Mod. toxic (oral). Flammable. BZ8050000.

Org. Synth., Coll. Vol., 1, 1932, 58 (*synth*)
Qureshi, M. *et al*, *Anal. Chem.*, 1963, **35**, 1592 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 41.
Brieger, G. *et al*, *J. Chem. Eng. Data*, 1968, **13**, 581 (*props*)
Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1493 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AOX750.

4-Methoxybenzoic acid, 9CI M-00079

p-*Anisic acid, 8CI. Umbellinic acid. Dragonic acid. Badianic acid*

[100-09-4]



$C_8H_8O_3$ M 152.149

Isol. from a few plant sources. Needles or prisms. Mp 184°. Bp 275-280°. pK_a 4.50 (25°).

▷ Highly toxic.

Me ester: [121-98-2].

$C_9H_{10}O_3$ M 166.176

Isol. from plants, eg. *Trametes suaveolens, Ferula jaeschkeana*. Flakes (EtOH or Et_2O). Mp 48°. Bp 256°, Bp_{20} 160°.

▷ BZ4925000.

Et ester: [94-30-4].

$C_{10}H_{12}O_3$ M 180.203

Mp 7-8°. Bp 263°.

▷ BZ4697000.

Ph ester: [4181-97-9].

$C_{14}H_{12}O_3$ M 228.247

Mp 75-76°.

Chloride: [100-07-2]. *Anisoyl chloride*

$C_8H_7ClO_2$ M 170.595

Used to derivatise hexachlorophene for detn. by uv liq. chromatog. Mp 22°. Bp_{35} 160-164°, Bp_{14} 145°.

▷ Highly irritant. Evolves HCl on hydrol. Can explode spont. at r.t.. CA0270000.

Anhydride: [794-94-5].

$C_{16}H_{14}O_5$ M 286.284

Mp 99°.

▷ BZ5300000.

Amide: [3424-93-9]. *Anisamide*

$C_8H_9NO_2$ M 151.165

Needles or tablets (H_2O). Mp 163°. Bp 295°.

Nitrile: [874-90-8]. *4-Methoxybenzonitrile. 1-Cyano-4-methoxybenzene. Anisonitrile*

C_8H_7NO M 133.149

Mp 61-62°. Bp 256-257°, 240°.

Anilide:

$C_{14}H_{13}NO_2$ M 227.262

Leaflets (C_6H_6). Mp 171°.

Rossel, A., *Justus Liebigs Ann. Chem.*, 1869, **151**, 25 (*bibl*)

Gilman, H. *et al, J. Am. Chem. Soc.*, 1940, **62**, 346 (*synth*)

Sah, P.P.T. *et al, J. Chin. Chem. Soc.* (*Taipei*), 1946, **13**, 77; *CA*, **41**, 5869 (*synth*)

Cox, R.H., *Spectrochim. Acta, Part A*, 1969, **25**, 1189 (*nmr*)

Porcaro, P.J. *et al, Anal. Chem.*, 1972, **44**, 1865 (*use, chloride*)

Beistel, D.W. *et al, J. Phys. Chem.*, 1976, **80**, 2023 (*cmr*)

Brunet, J.-J. *et al, Tetrahedron Lett.*, 1981, **22**, 1013 (*synth*)

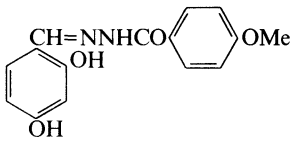
Chatani, N. *et al, J. Org. Chem.*, 1986, **51**, 4714 (*deriv, synth, pmr, ir*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AOV000, AOV750, AOY250.

4-Methoxybenzoic acid [(2,4-dihydroxyphenyl)methylene]hydrazide, 9CI M-00080

Anisic acid resorcylalhydrazide. 2,4-Dihydroxybenzaldehyde 4-methoxybenzoylhydrazone

[73703-09-0]



$C_{15}H_{14}N_2O_4$ M 286.287

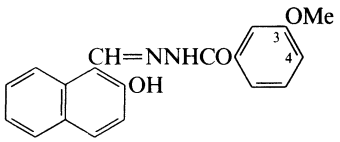
Used as 2m*M* Me_2CO soln. for photometric detn. of V(*V*) (λ_{max} 395 nm, ε 18800, pH ~4). Cryst. (EtOH). Sol. EtOH, Me_2CO; mod. sol. H_2O. pK_{a1} 2.8; pK_{a2} 5.6; pK_{a3} 6.9.

Dudarev, V.I. *et al, Zh. Anal. Khim.*, 1986, **41**, 289 (*synth, detn, V*)

3-Methoxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, 9CI M-00081

2-Hydroxy-1-naphthalenecarboxaldehyde 3-methoxybenzoylhydrazone

[69762-14-7]



$C_{19}H_{16}N_2O_3$ M 320.347

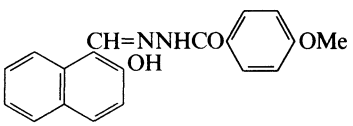
Used as 0.1m*M* Me_2CO soln. for fluorimetric detn. of Al (λ_{max} 475 nm, pH 3-4, 60% Me_2CO). Yellow cryst. (EtOH). Sol. EtOH, Me_2CO; sl. sol. H_2O. pK_{a2} 9.06.

Dolgorev, A.V. *et al, Zh. Anal. Khim.*, 1978, **33**, 2357 (*synth, detn, Al*)

4-Methoxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, 9CI M-00082

Anisic acid hydroxynaphthalhydrazide. 2-Hydroxy-1-naphthaldehyde 4-methoxybenzoylhydrazone

[40111-51-1]



$C_{19}H_{16}N_2O_3$ M 320.347

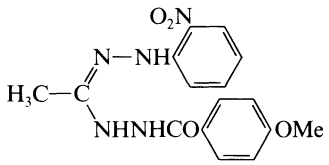
Used as 0.1m*M* soln. in Me_2CO for fluorimetric detn. of Sc (λ_{max} 460 nm, 0.01-0.5 μg/ml, pH ~2), Al (λ_{max} 475 nm, pH 3-4). Yellow cryst. (EtOH). Sol. Me_2CO, EtOH; sl. sol. H_2O. pK_{a2} 9.32.

Dolgorev, A.V. *et al, Zh. Anal. Khim.*, 1978, **33**, 2357; 1979, **34**, 106 (*synth, detn, Sc, Al*)

4-Methoxybenzoic acid [1-[2-(2-nitrophenyl)hydrazino]ethylidene] hydrazide, 9CI M-00083

2-(4-Methoxybenzoyl)-4-(2-nitrophenyl)acetohydrazine

[93245-57-9]



$C_{16}H_{17}N_5O_4$ M 343.341

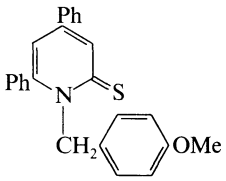
Used as 6m*M* Me_2CO soln. for photometric detn. of Ni (λ_{max} 340 nm, ε 20500, pH 6.9-10, 20% Me_2CO). Red cryst. Sol. Me_2CO, DMF; insol. H_2O, EtOH. Mp 192°. pK_{a1} 4.5; pK_{a2} 9.3.

Dudareva, G.N. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 1285 (*synth, detn, Ni*)

1-(*p*-Methoxybenzyl)-4,6-diphenylpyridine-2-thione M-00084

1-[(4-Methoxyphenyl)methyl]-4,6-diphenyl-2(1H)-pyridinethione, 9CI

[76950-87-3]



$C_{25}H_{21}NOS$ M 383.513

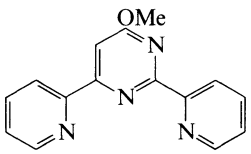
Used as a 0.25m*M* soln. in EtOH for photometric detn. of Hg (λ_{max} 314 nm, ε 47200). Yellow cryst. (EtOH). Sol. EtOH. pK_a 10.68.

Lorenzo, A. *et al*, *Synthesis*, 1980, 853 (*synth*)
Pérez Ruiz, T. *et al*, *Mikrochim. Acta*, 1984, **1**, 183 (*detn, Hg*)

4-Methoxy-2,6-bis(2-pyridyl)pyrimidine M-00085

4-Methoxy-2,6-di-2-pyridylpyrimidine, 8CI

[10198-73-9]



$C_{15}H_{12}N_4O$ M 264.286

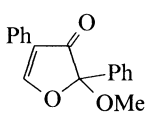
Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Co, Fe(*II*) (λ_{max} 563 nm, ε 10600). Cryst. (Et_2O). Sol. C_6H_6, mod. sol. Me_2CO, Et_2O, EtOH. Mp 139-140°.

Lafferty, J.J. *et al*, *J. Org. Chem.*, 1967, **32**, 1591 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*use*)

2-Methoxy-2,4-diphenyl-3(2*H*)-furanone, 9CI M-00086

MDPF

[50632-57-0]



$C_{17}H_{14}O_3$ M 266.296

Used for fluorimetric detn. of amines and amino acids; derivatising reagent for hplc analysis of primary and secondary amines. Cryst. (MeOH). Mp 93-95°.

Weigele, M. *et al*, *J. Org. Chem.*, 1976, **41**, 388 (*synth*)
Nakamura, H. *et al*, *Anal. Chem.*, 1982, **54**, 2482; 1984, **56**, 919 (*use*)

2-Methoxyethanol, 9CI M-00087

Ethylene glycol monomethyl ether. 2-Hydroxyethyl methyl ether. Methylcellosolve

[109-86-4]

$MeOCH_2CH_2OH$

$C_3H_8O_2$ M 76.095

Used as aq. soln. in flotation sepn. of Zn and Cu or Ag and Cu (with dithizone). Liq. Misc. H_2O, Et_2O, C_6H_6. d 0.975. Fp −86.5°. Bp_{767} 124.9°. pK_a 14.8 (25°).

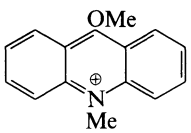
▷ Irritant, TLV 80. Flammable. KL5775000.

Ac: [110-49-6]. *2-Methoxyethyl acetate*
$C_5H_{10}O_3$ M 118.132
Sol. H_2O. Bp 145°.
▷ Mod. toxic by inhalation and skin contact, TLV120. Flammable. KL5950000.

4-Nitrobenzoyl: d^{20} 1.25. Mp 49°. $Bp_{0.07}$ 118-119.5°.

Palomaa, M.H., *Ber.*, 1909, **42**, 3873 (*synth*)
Cretcher, L.H. *et al*, *J. Am. Chem. Soc.*, 1924, **46**, 1503 (*synth*)
Komarova, L.F. *et al*, *Zh. Org. Khim.*, 1971, **7**, 2507 (*props*)
Hiraide, M. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1974, **23**, 522; *CA*, **84**, 68983n (*sepn, Zn, Cu*)
Hiraide, M. *et al*, *Talanta*, 1975, **22**, 539 (*sepn, Ag, Cu*)
Evsikov, G.I. *et al*, *CA*, 1978, **88**, 61926v (*synth*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 387.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EJH500, EJJ500.

9-Methoxy-10-methylacridinium(1+), 9CI M-00088



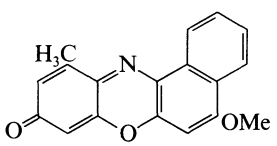
$C_{15}H_{14}NO^{\oplus}$ M 224.282 (ion)

Trifluoromethanesulfonate: [133393-21-2].
$C_{16}H_{14}F_3NO_4S$ M 373.352
Spectrophotometric derivatisation reagent for primary amines. Yellow cryst. Mp 193-195°.

Dunning, J.W. *et al*, *Talanta*, 1991, **38**, 631 (*synth, use, uv, ir, pmr*)

5-Methoxy-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, 8CI M-00089

[17800-00-9]



$C_{18}H_{13}NO_3$ M 291.306

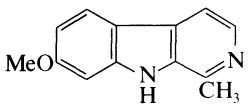
Used as a 0.1m*M* soln. in EtOH as redox indicator for titanometric detn. of Fe, Au, $Cr_2O_7^{2\ominus}$, vanadate and some org. compds. Orange cryst. Sol. C_6H_6, Et_2O; sl. sol. EtOH. pK_{a2} 12.15 (50% EtOH, μ = 0.07). E° +0.350 V (1 *N* HCl, propanol, μ = 0.07).

Ruzička, E. *et al*, *Monatsh. Chem.*, 1968, **99**, 838 (*synth*)
Ruzička, E. *et al*, *Mikrochim. Acta*, 1969, 698 (*redox ind*)

7-Methoxy-1-methyl-β-carboline M-00090

*7-Methoxy-1-methyl-9*H*-pyrido[3,4-*b*]indole*, *9CI*. ***Harmine***. *Telepathine*. *Yageine*. *Banisterine*

[442-51-3]



$C_{13}H_{12}N_2O$ M 212.251

Alkaloid from *Peganum harmala*, several *Banisteriopsis* spp., *Passiflora edulis* and several other spp. (Zygophyllaceae, Malphigiaceae, Passifloraceae). Used as an acid-base fluorescence indicator (pH 7.2-8.9, colour change blue → yellow). Cryst. Mp 264-265° (257-259°).

▷ LD_{50} 243 mg/kg (mouse, s.c.). UV0175000.

B,HCl: Mp 321°.

Picrate: Mp 249-250° dec.

N-*Oxide:* [57498-78-9]. ***Harmine* N-*oxide***

$C_{13}H_{12}N_2O_2$ M 228.250

Alkaloid from *B. caapi* (Malphigiaceae). Needles (MeOH). Mp 226-227° dec.

1-De-Me: ***Norharmine***. *7-Methoxy-9*H*-pyrido[3,4-*b*]indole*, *9CI*. *7-Methoxy-β-carboline*

$C_{12}H_{10}N_2O$ M 198.224

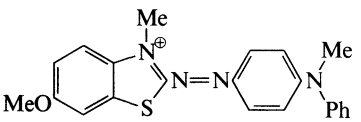
Alkaloid from the seeds of *P. harmala* (Zygophyllaceae). Mp 213-215°.

Späth, E. *et al*, *Ber.*, 1930, **63**, 120 (*synth*)
Ismailov, N.A. *et al*, *Farmaz. Farmakol.*, 1938, **4**, 8 (*use*)
Doig, G.G. *et al*, *J. Chem. Soc.*, 1952, 3912 (*uv*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 695 (*use*)
Hashimoto, Y. *et al*, *Phytochemistry*, 1975, **14**, 1633 (*oxide*)
Shoemaker, D.W. *et al*, *J. Chromatogr.*, 1979, **174**, 159 (*glc, ms*)
Siddiqui, S. *et al*, *Heterocycles*, 1989, **29**, 521 (*isol, uv, ir, pmr, ms, bibl, Norharmine*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HA1500.

6-Methoxy-3-methyl-2-[[4-(methylphenylamino)phenyl]azo]benzothiazolium(1+), 9CI M-00091

*6-Methoxy-3-methyl-2-[4-(*N*-methylanilino)phenylazo]benzothiazolium*, *8CI*. *4-(6-Methoxy-3-methylbenzothiazolylazo)-*N*-methyldiphenylamine*

[27200-96-0]



$C_{22}H_{21}N_4OS^{\oplus}$ M 389.500 (ion)

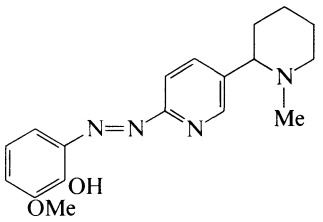
Chloride: [18256-44-5].

Used as a 1m*M* aq. soln. for extraction-photometric detn. of Fe (λ_{max} 643 nm, ε 78000, C_6H_6/$PhNO_2$), Hg, Zn (λ_{max} 640 nm, C_6H_6/tributyl phosphate). Orange cryst. Sol. H_2O.

Kish, P.P. *et al*, *Zavod. Lab.*, 1969, **35**, 541; 1970, **36**, 526; 1972, **38**, 5 (*detn, Hg, Zn*)
Kotelyanskaya, L.I. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 1128 (*detn, Fe*)

2-Methoxy-6-[[5-(1-methyl)-2-piperidinyl-2-pyridyl]azo]phenol, 9CI M-00092

N-*Methylanabasine-α-azoguaiacol*. N-*Methylanabasine-α-azo-2-methoxyphenol*. N-*Methyl-2-(3-pyridyl)piperidine-α-azo-2-methoxyphenol*



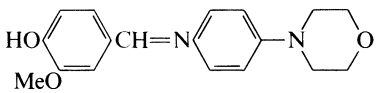
$C_{18}H_{22}N_4O_2$ M 326.397

Used as a 0.2% aq. soln. for photometric detn. of Co, Cu, Ni, Pd (λ_{max} 600 nm, ε 25000); metallochromic indicator for titrimetric detn. of Cu. Orange-red cryst. Sol. H_2O, EtOH.

Kamaeva, G. *et al*, *CA*, 1972, **77**, 172200w, 172203z (*detn, Cu*)
Mansurkhodzhaev, U.M. *et al*, *CA*, 1973, **79**, 61207a; 1974, **81**, 154511b; 1976, **84**, 12024h (*synth, detn, Pd, Ni, Co*)

2-Methoxy-4-[*N*-(*p*-morpholinophenyl)formimidoyl]phenol M-00093

N-(*4-Hydroxy-3-methoxybenzylidene*)-*4-morpholinylaniline*



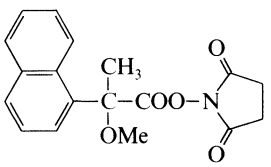
$C_{18}H_{20}N_2O_3$ M 312.368

Used as a 2m*M* soln. in DMF/EtOH for photometric detn. of Os (λ_{max} 615 nm, ε 35000). Flaky yellow cryst. (EtOH). Sol. DMF; sl. sol. H_2O, EtOH. Mp 207-208°.

Ayres, G.H. *et al*, *Anal. Chim. Acta*, 1964, **30**, 40 (*synth, detn, Os*)

1-[2-Methoxy-2-(1-naphthalenyl)-1-oxopropoxy]-2,5-pyrrolidinedione, 9CI M-00094

Succinimide α-methoxy-α-methyl-1-naphthaleneacetate



$C_{18}H_{17}NO_5$ M 327.336

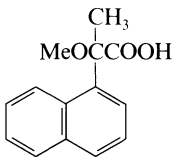
(+)-***form***

Reagent for hplc anal. of enantiomers of amphetamine derivs. Needles (Et_2O). Mp 115-116°. $[\alpha]_D^{25}$ +85.0° (c, 0.1 in $CHCl_3$).

Goto, J. *et al*, *J. Liq. Chromatogr.*, 1979, **2**, 1179 (*synth, use*)

2-Methoxy-2-(1-naphthyl)propanoic acid M-00095

α-Methoxy-α-methyl-1-naphthaleneacetic acid, 9CI



$C_{14}H_{14}O_3$ M 230.263

(−)-***form*** [63628-26-2]

Derivatisation reagent for the resoln. of amino acids by hplc. Plates (Et_2O/hexane). Mp 111-112°. $[\alpha]_D^{13}$ −106.3° (c, 0.16 in $CHCl_3$).

(±)-***form*** [63628-25-1]

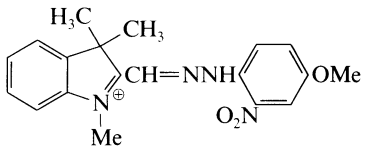
Plates (Me_2CO/hexane). Mp 161-162°.

[102691-93-0]

Goto, J. *et al*, *Chem. Pharm. Bull.*, 1977, **25**, 847 (*synth, use*)
Goto, J. *et al*, *J. Chromatogr.*, 1978, **152**, 413 (*synth*)

2-[[(4-Methoxy-2-nitrophenyl)hydrazono]methyl]-1,3,3-trimethyl-3*H*-indolium(1+), 9CI M-00096

1,3,3-Trimethyl-2-formylindolinium 4-methoxy-2-nitrophenylhydrazone



$C_{19}H_{21}N_4O_3^{\oplus}$ M 353.400 (ion)

Perchlorate: [72386-19-7].

$C_{19}H_{21}ClN_4O_7$ M 452.850

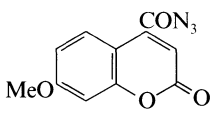
Used as a 0.7m*M* soln. in aq. Me_2CO for extraction-photometric detn. of Sb (λ_{max} 490 nm, toluene). Cryst. Mp 217-219°.

Bagdasarov, K.N. *et al*, *Zavod. Lab.*, 1980, **46**, 583 (*detn, Sb*)

7-Methoxy-2-oxo-2*H*-1-benzopyran-4-carbonyl azide, 9CI M-00097

7-Methoxycoumarin-4-carbonyl azide

[97632-68-3]



$C_{11}H_7N_3O_4$ M 245.194

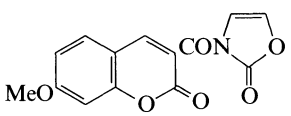
Labelling reagent for alcohols in fluorescence hplc. Yellow needles. Mp 120-121°.

Takadate, A. *et al*, *Chem. Pharm. Bull.*, 1985, **33**, 1164 (*synth, use*)

3-[(7-Methoxy-2-oxo-2*H*-1-benzopyran-3-yl)carbonyl]-2(3*H*)-oxazolone, 9CI M-00098

3-(7-Methoxycoumarin-3-carbonyl)-2-oxazolone

[122607-16-3]



$C_{14}H_9NO_6$ M 287.228

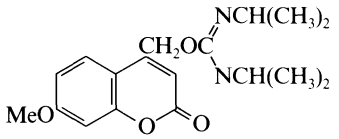
Fluorescent labelling reagent for hplc of amines. Prisms (MeCN). Mp 229-232°.

Takadate, A. *et al*, *Chem. Pharm. Bull.*, 1989, **37**, 373 (*synth, use*)

(7-Methoxy-2-oxo-2*H*-1-benzopyran-4-yl)methyl-*N,N'*-bis(1-methylethyl)carbamimidate, 9CI M-00099

N,N'-*Diisopropyl*-O-(*7-methoxy-4-coumarinyl*)*methylisourea*

[82002-83-3]



$C_{18}H_{24}N_2O_4$ M 332.399

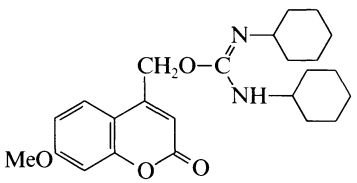
Reagent for fluorescent labelling of α-keto carboxylic acids. Mp 88-89°.

Goya, S. *et al*, *Yakugaku Zasshi*, 1982, **102**, 63; *CA*, **97**, 6108r.

(7-Methoxy-2-oxo-2*H*-1-benzopyran-4-yl)methyl *N,N'*-dicyclohexylcarbamimidate, 9CI M-00100

N,N'-*Dicyclohexyl*-O-(*7-methoxycoumarin-4-yl*)*methylisourea*

[76196-64-0]



$C_{24}H_{32}N_2O_4$ M 412.528

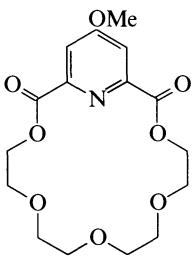
Fluorescent labelling reagent for carboxylic acids. Mp 126-127°.

Goya, S. *et al*, *Yakugaku Zasshi*, 1980, **100**, 744; *CA*, **94**, 47074h (*synth, use*)

19-Methoxy-3,6,9,12,15-pentaoxa-21-azabicyclo[15.3.1]heneicosa-1(21),17,19-triene-2,16-dione, 9CI M-00101

3,17-Diketo-(4-methoxypyridine)-18-crown-6

[71022-77-0]



$C_{16}H_{21}NO_8$ M 355.344

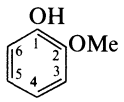
Used as 1m*M* soln. in $CHCl_3$ as carrier in Pb-selective electrode for potentiometry. Cryst. Sol. $CHCl_3$.

Shpigun, L.K. *et al*, *Zh. Anal. Khim.*, 1986, **41**, 617 (*use*)

2-Methoxyphenol, 9CI M-00102

Guaiacol. Catechol methyl ether. o-*Hydroxyanisole*

[90-05-1]



$C_7H_8O_2$ M 124.139

Isol. from plant oils and present in wood distillates and sulfite liquors. Used for photometric detn. of NH_3, Cu. Prisms or needles. $d_4^{21.4}$ 1.13. Fp −3.2° (needles), Fp 28.2°, Mp 32° (prisms). Bp_{24} 106.5°.

▷ Toxic. SL7525000.

Ac: [613-70-7].
$C_9H_{10}O_3$ M 166.176
d_4^{25} 1.13. Bp_{22} 107°, Bp_{13} 123-124°.

Benzoyl: [531-37-3].
$C_{14}H_{12}O_3$ M 228.247
Mp 57-58°.

3,5-Dinitrobenzoyl: Mp 141-142°.

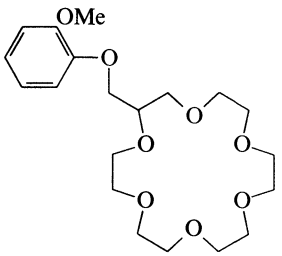
Me ether: see *1,2-Dimethoxybenzene, D-00766*

Hirao, N., *Nippon Kagaku Kaishi*, 1932, **53**, 488; *CA*, **27**, 276.
Briggs, A.I., *Trans. Faraday Soc.*, 1956, **52**, 35.
Vas'kova, A.G. *et al*, *CA*, 1969, **75**, 94294x (*detn, Cu*)
Yamaguchi, R. *et al*, *Yakugaku Zasshi*, 1969, **89**, 804; *CA*, **71**, 108850g (*detn, NH_3*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, no. 180 (*occur*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, GKI000.

2-[(2-Methoxyphenoxy)methyl]-1,4,7,10,13,16-hexaoxacyclooctadecane, 9CI M-00103

(2-Methoxyphenyl)oxymethyl-18-crown-6

[83416-16-4]



$C_{20}H_{32}O_8$ M 400.468

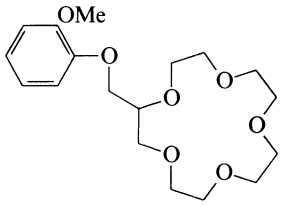
Used as 0.1m*M* soln. in $CHCl_3$ for extraction sepn. of Na, K, Rb and Cs. Viscous oil. Sol. $CHCl_3$, 1,2-dichloroethane. $Bp_{0.0002}$ 175-200°.

Nakamura, H. *et al*, *Anal. Chim. Acta*, 1982, **139**, 219 (*synth*)
Otsuka, H. *et al*, *Anal. Chim. Acta*, 1983, **147**, 227 (*use*)

2-[(2-Methoxyphenoxy)methyl]-1,4,7,10,13-pentaoxacyclopentadecane, 9CI M-00104

(2-Methoxyphenyl)oxymethyl-15-crown-5

[76719-75-0]



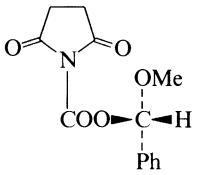
$C_{18}H_{28}O_7$ M 356.415

Used as 0.1m*M* soln. in $CHCl_3$ for extraction sepn. of Na and K. Viscous oil. Sol. $CHCl_3$, 1,2-dichloroethane. $Bp_{0.0008}$ 203°.

Nakamura, H. *et al*, *Anal. Chim. Acta*, 1982, **139**, 219 (*synth*)
Otsuka, H. *et al*, *Anal. Chim. Acta*, 1983, **147**, 227 (*sepn, K*)

1-[(Methoxyphenylacetyl)oxy]-2,5-pyrrolidinedione, 9CI M-00105

N-*Succinimidyl methoxyphenylacetate*



(*S*)-*form*

$C_{13}H_{13}NO_5$ M 263.249

(*S*)-*form* [122607-12-9]

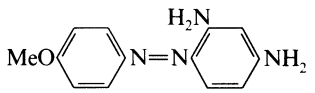
Resolving agent for chiral amines. Cryst. (EtOH). Mp 95.7-96.3°.

Husain, P.A. *et al*, *Anal. Biochem.*, 1989, **178**, 177 (*synth, use*)

4-[(4-Methoxyphenyl)azo]-1,3-benzenediamine, 9CI M-00106

4'-Methoxy-2,4-diaminoazobenzene

[20311-41-5]



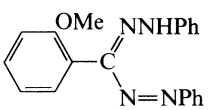
$C_{13}H_{14}N_4O$ M 242.280

Used as acid base indicator (pH range: 4.4-4.6; colour change: red → yellow). Orange cryst. Sol. EtOH, C_6H_6, Et_2O.

Schulek, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1948, **128**, 398 (*use, ind*)

3-(2-Methoxyphenyl)-1,5-diphenylformazan, 9CI M-00107

[62164-45-8]

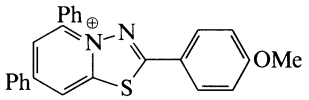


$C_{20}H_{18}N_4O$ M 330.388

Used as 1m*M* EtOH soln. for photometric detn. of Hg(*II*) (λ_{max} 400 nm, ε 39000, pH 5-6, EtOH). Cryst. Sol. EtOH, Me_2CO.

Dubinina, L.V. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 1547 (*synth, detn, Hg*)

2-(4-Methoxyphenyl)-5,7-diphenyl-1,3,4-thiadiazolo[3,2-*a*]pyridin-4-ium(1+), 9CI M-00108



$C_{25}H_{19}N_2OS^{\oplus}$ M 395.504 (ion)

Chloride: [84425-51-4].

$C_{25}H_{19}ClN_2OS$ M 430.957

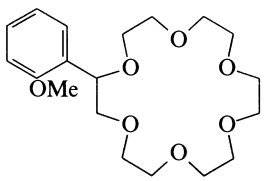
Used as 0.5m*M* soln. in 50% EtOH for extraction-photometric detn. of Au (as $AuCl_4^{\ominus}$, λ_{max} 353 nm, ε 38000, isopentyl acetate), Tl(*III*). Cryst. Sol. EtOH, MeOH.

Molina, P. *et al*, *An. Quim.*, 1978, **74**, 1018 (*synth*)
Perez Ruiz, T. *et al*, *Anal. Chim. Acta*, 1982, **143**, 185 (*detn, Au*)
Peruz Ruiz, T. *et al*, *Mikrochim. Acta*, 1983, **1**, 395 (*detn, Au*)

2-(2-Methoxyphenyl)-1,4,7,10,13,16-hexaoxacyclooctadecane, 9CI M-00109

o-*Methoxyphenyl-18-crown-6*

[85777-05-5]

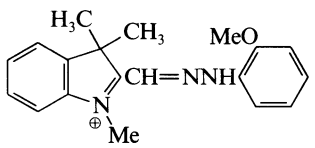


$C_{19}H_{30}O_7$ M 370.442

Used as 0.1m*M* $CHCl_3$ soln. for extraction sepn. of K from Na. Pale yellow viscous oil. Sol. $CHCl_3$, 1,2-dichloroethane. $Bp_{0.004}$ 138-141°.

Otsuka, H. *et al*, *Anal. Chim. Acta*, 1983, **147**, 227 (*synth, sepn, K*)

2-[[(2-Methoxyphenyl)hydrazono]methyl]-1,3,3-trimethyl-3*H*-indolinium(1+), 9CI M-00110



$C_{19}H_{22}N_3O^{\oplus}$ M 308.402 (ion)

Perchlorate: [67509-28-8].

$C_{19}H_{22}ClN_3O_5$ M 407.853

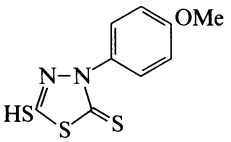
Used as a 0.7m*M* soln. in aq. Me_2CO for extraction-photometric detn. of Tl (λ_{max} 480 nm, ε 31000, C_6H_6). Orange-red cryst. Sol. Me_2CO, EtOH; sl. sol. H_2O.

Bagdasarov, K.N. *et al*, *Khim. Khim. Tekhnol. (Minsk)*, 1978, **21**, 361; *CA*, 1978, **89**, 122515e (*detn, Tl*)
Bagdasarov, K.N. *et al*, *Zavod. Lab.*, 1978, **44**, 392 (*detn, Tl*)

3-(*p*-Methoxyphenyl)-5-mercapto-1,3,4-thiadiazole-2-thione M-00111

2-Mercapto-4-(p-*methoxyphenyl*)-Δ^2-*1,3,4-thiadiazoline-5-thione, 8CI*

[27831-56-7]



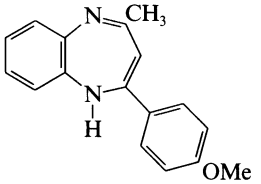
$C_9H_8N_2OS_3$ M 256.373

Used as a 0.05*M* soln. in dil. KOH for extraction-photometric detn. of Bi (λ_{max} 340 nm, ε 19100), Te. Yellow cryst. Sol. hot EtOH, hot C_6H_6; spar. sol. $CHCl_3$, dil. alkalis; insol. H_2O.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 59 (*synth, detn, Bi*)

2-(4-Methoxyphenyl)-4-methyl-1*H*-1,5-benzodiazepine M-00112

[73980-69-5]



$C_{17}H_{16}N_2O$ M 264.326

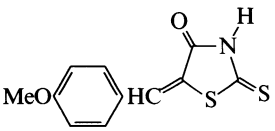
Used as 0.1% MeOH soln. as an acid-base indicator (pH range 5-9; colour change: violet → colourless). Cryst. Sol. MeOH; sl. sol. H_2O. pK_a 6.86 (H_2O).

Omar, N.M., *Indian J. Chem.*, 1974, **12**, 498 (*synth*)
El-Rabbat, N.A. *et al*, *Analyst (London)*, 1980, **105**, 165 (*use*)

5-[(4-Methoxyphenyl)methylene]-2-thioxo-4-thiazolidinone, 9CI M-00113

5-(p-*Methoxybenzylidene)rhodanine*

[5462-97-5]



$C_{11}H_9NO_2S_2$ M 251.330

Several tautomers possible. Used as a 0.01% soln. in EtOH for photometric detn. of Au, Ag, Cu, Hg, Pd, Pt, Tl. Orange-red cryst. Sol. EtOH.

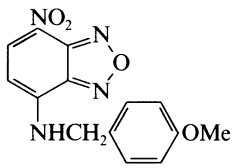
▷ VI8190000.

Kulberg, L.M. *et al*, *Zh. Anal. Khim.*, 1954, **9**, 85 (*use*)
Turkiewicz, N.M., *Zh. Anal. Khim.*, 1956, **11**, 180 (*use*)
V'yunov, K.A. *et al*, *Zh. Org. Khim.*, 1973, **9**, 817 (*use*)

N-[(4-Methoxyphenyl)methyl]-7-nitro-4-benzofurazanamine, 9CI M-00114

7-(p-*Methoxybenzylamino*)-*4-nitrobenzoxadiazole. MBD*

[33984-50-8]



$C_{14}H_{12}N_4O_4$ M 300.273

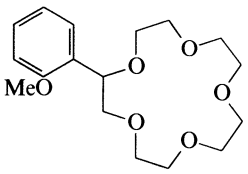
Fluorescent labelling reagent for amino acids, peptides and proteins. Red-brown cryst. (EtOH). Mp 174-177°.

Kenner, R.A. *et al*, *Biochemistry*, 1971, **10**, 4433 (*synth*, *use*)

2-(2-Methoxyphenyl)-1,4,7,10,13-pentaoxacyclopentadecane, 9CI M-00115

2-(*2-Methoxyphenyl*)-*15-crown-5*

[85777-06-6]



$C_{17}H_{26}O_6$ M 326.389

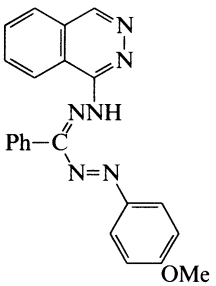
Used as 0.1m*M* $CHCl_3$ soln. for extraction sepn. of K from Na. Pale yellow viscous oil. Sol. $CHCl_3$, 1,2-dichloroethane. $Bp_{0.0004}$ 120-125°.

Otsuka, H. *et al*, *Anal. Chim. Acta*, 1983, **147**, 227 (*synth*, *use*)

1-(4-Methoxyphenyl)-3-phenyl-5-(1-phthalazinyl)formazan M-00116

1(2H)-*Phthalazinone* [[(*4-methoxyphenyl*)*azo*]*phenylmethylene*]*hydrazone*, *9CI*

[67073-42-1]

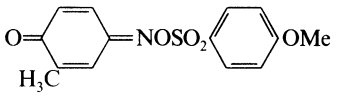


$C_{22}H_{18}N_6O$ M 382.424

Used as 2m*M* soln. in EtOH for extraction-photometric detn. of Hg (λ_{max} 520 nm, ε 40000, $CHCl_3$). Brown cryst. (cyclohexane). Sol. EtOH, cyclohexane, $CHCl_3$, DMF.

Barbina, T.M. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 1222 (*synth*, *detn*, *Hg*)

O-(*p*-Methoxyphenylsulfonyl)-*o*-methylquinone monoxime M-00117

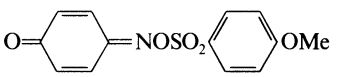


$C_{14}H_{13}NO_5S$ M 307.326

Used as a 0.34m*M* soln. in DMSO for fluorimetric detn. of $CN^{\ominus}$. Yellow cryst. (CCl_4). Sol. EtOH, $CHCl_3$, Me_2CO. Mp 160-161°.

Guilbault, G.G. *et al*, *Anal. Chem.*, 1965, **37**, 1395 (*detn*, $CN^{\ominus}$)

O-(*p*-Methoxyphenylsulfonyl)quinone monoxime M-00118



$C_{13}H_{11}NO_5S$ M 293.300

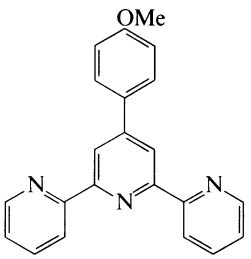
Used as a 0.034m*M* soln. in DMSO for fluorimetric detn. of $CN^{\ominus}$. Yellow cryst. (CCl_4). Sol. EtOH, $CHCl_3$, Me_2CO. Mp 170-171°.

Guilbault, G.G. *et al*, *Anal. Chem.*, 1965, **37**, 1395 (*detn*, $CN^{\ominus}$)

4′-(4-Methoxyphenyl)-2,2′:6′,2″-terpyridine, 9CI M-00119

2,6-Di-(*2-pyridyl*)-*4*-(*4-methoxyphenyl*)*pyridine*

[13104-56-8]



$C_{22}H_{17}N_3O$ M 339.396

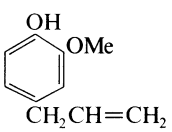
Used as a 0.04% soln. in dil. HCl for photometric detn. of Co, Fe; as 0.5m*M* EtOH soln. for photometric detn. of Fe(*II*) (λ_{max} 570 nm, ε 26900). Cryst. Sol. Me_2CO, EtOH, Et_2O, C_6H_6, dil. acids; insol. H_2O.

Deggau, E. *et al*, *Z. Klin. Chem.*, 1965, **3**, 102 (*detn*, *Fe*)
Stamm, D. *et al*, *Z. Klin. Chem.*, 1966, **4**, 222 (*detn*, *Fe*)
Schmidt, R. *et al*, *Z. Klin. Chem.*, 1967, **5**, 304 (*detn*, *Fe*)
Stanchev, P., *Chem. Anal.* (*Warsaw*), 1971, **16**, 243.
Nagahiro, T. *et al*, *Analyst* (*London*), 1984, **109**, 163 (*detn*, *Co*)

2-Methoxy-4-(2-propenyl)phenol, 9CI M-00120

1-Allyl-4-hydroxy-3-methoxybenzene. 4-Allyl-2-methoxyphenol. 5-Allylguaiacol. ***Eugenol,*** **USAN**

[97-53-0]



$C_{10}H_{12}O_2$ M 164.204

Very widespread occurrence in essential oils. Major component of clove oil. Also found in those of *Cinnamomum* spp., *Cistus* spp., *Camellia* spp., *Pelargonium* spp., and *Thymus* spp. Used in dental cement preparations, insect attractants and extensively

in the perfumery and flavour industries. Dental analgesic. Used for the photometric detn. of ozone. Oil. Spar. sol. H_2O. Fp −9°. Bp 248°, Bp_{15} 128-130°. Bp also given as 254°.

▷ LD_{50} 500 mg/kg (mouse, i.p.). SJ4375000.

Ac: [93-28-7]. *Aceteugenol*
$C_{12}H_{14}O_3$ M 206.241
Found in oil from *Eugenia caryophyllata* and *Cinnamomum zeylanica*. Liq. or plates (EtOH). Mp 30-31°. Bp_{752} 280-281°, Bp_{13} 163-164°.
▷ SJ4550000.

3-Methylbutanoyl:
$C_{15}H_{20}O_3$ M 248.321
Constit. of *Felicia wrightii*. Oil.

O-*Hexadecanoyl:* ***Oryzarol.*** *Eugenol palmitate*
$C_{26}H_{42}O_3$ M 402.616
Isol. from rice (*Oryza sativa*). Needles (EtOH). Mp 39-40°.

O-*β-D-Glucopyranoside:* [18604-50-7]. ***Citrusin C***
$C_{16}H_{22}O_7$ M 326.346
Constit. of *Perilla frutescens*. Powder. Mp 130-131°. $[\alpha]_D^{22}$ −50.7° (c, 0.13 in MeOH).

Erdmann, F. *et al*, *J. Prakt. Chem.*, 1897, **56**, 143 (*synth*)
Naves, Y.-R., *Helv. Chim. Acta*, 1948, **31**, 378 (*isol*)
Tamari, K. *et al*, *CA*, 1963, **59**, 6717 (*Oryzarol*)
Sachdev, S.L. *et al*, *Anal. Chim. Acta*, 1972, **58**, 141 (*detn, O_3*)
Popa, G. *et al*, *Rev. Chim. (Bucharest)*, 1973, **24**, 635; *CA*, **80**, 103486u.
Manito, P. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1974, 1727; 1975, 1548 (*biosynth*)
Yamaguchi, H. *et al*, *Chem. Pharm. Bull.*, 1975, **23**, 1169 (*pmr*)
Khischies, M. *et al*, *J. Chem. Soc., Chem. Commun.*, 1975, 879 (*biosynth*)
Massow, F. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1976, 977 (*cmr*)
Bohlmann, F. *et al*, *Phytochemistry*, 1976, **15**, 1318 (*isol*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 4645.
Wenkert, E. *et al*, *Synthesis*, 1983, 701 (*synth*)
Fujita, T. *et al*, *Phytochemistry*, 1992, **31**, 3265 (*Citrusin C*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EQR500, EQS000.

8-Methoxy-5-quinolinesulfonyl chloride, 9CI M-00121

[90429-62-2]

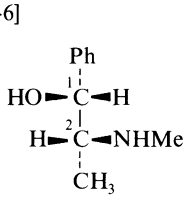
$C_{10}H_8ClNO_3S$ M 257.697
Fluorogenic reagent for the detn. of amines and amino acids.

Tochilkin, A.T. *et al*, *Bioorg. Khim.*, 1990, **16**, 956; *CA*, **113**, 164723r (*synth, use*)

2-Methylamino-1-phenyl-1-propanol M-00122

α-[*1-(Methylamino)ethyl*]*benzenemethanol, 9CI*

[53214-57-6]



(1*R*,2*R*)-*form* Absolute configuration

$C_{10}H_{15}NO$ M 165.235
▷ Highly toxic orally. DO9500000.

(***1R,2R*)-*form*** [321-97-1]
(−)-*ψ-Ephedrine*
Synthetic. Mp 118-118.5°. $[\alpha]_D^{20}$ −52° (EtOH).

(***1R,2S*)-*form*** [299-42-3] ***Ephedrine***
Main alkaloid from the Chinese drug "Ma-Huang", and from many *Ephedra* spp., also in *Aconitum napellus*, *Catha edulis*, *Taxus baccata*, *Sida cordifolia*, *Roemeria refracta* and some other spp. (Ephedraceae, Ranunculaceae, Celastraceae, Taxaceae, Malvaceae, Papaveraceae). Sympathomimetic agent active by mouth. Weaker but longer-acting than adrenaline. Hypertensive, cardiac stimulant, bronchodilator, hyperglycaemic agent. Low toxicity. Has been used clinically against bronchial asthma, hay fever, whooping cough, myasthenia gravis, dysmenorrhea and heart block (Stokes-Adam syndrome). Resolving agent for aldehydes and ketones *via* chiral oxazolidine formn. Used as 0.2% soln. in $CHCl_3$ for photometric detn. of As. Sol. $CHCl_3$. Mp 40°. Bp 225°. $[\alpha]_D$ −6.3° (EtOH).
▷ LD_{50} 350 mg/kg (mouse, i.p.). KB0700000.

B,HCl: [50-98-6]. *Ephedrine hydrochloride, USAN*
Mp 218°. $[\alpha]_D^{20}$ −37° (H_2O). Component of Amesec, Bronkotabs, Primatene M, Primatene P, Quadrinal, Quibron Plus and Tedral.
▷ KB1750000.

B,H_2SO_4: Ephedrine sulfate, USAN. Isofedrol
Component of Wyanoids.

N-*Ac:*
$C_{12}H_{17}NO_2$ M 207.272
Mp 85-86°. $[\alpha]_D^{20}$ +8° (EtOH), $[\alpha]_D^{20}$ −63° ($CHCl_3$).

(***1S,2S*)-*form*** [90-82-4] ***ψ-Ephedrine.*** *Pseudoephedrine, INN, BAN. Isoephedrine*
Alkaloid from *E. vulgaris* var. *helvetica* and many other *E.* spp., and from *R. refracta* and *S. cordifolia* (Ephedraceae, Papaveraceae, Malvaceae). Shows somewhat similar pharmacol. activity to Ephedrine but is less potent. Mp 117-118°. $[\alpha]_D$ +52° (EtOH).
▷ LD_{50} 500 mg/kg (mouse, oral). UL5800000.

B,HCl: [345-78-8]. *Pseudoephedrine hydrochloride, USAN. Dorrol. Novafed. Sudafed*
Adrenergic (vasoconstrictor). Mp 182-182.5°. $[\alpha]_D^{20}$ −62° (H_2O). Component of Actifed, Phenergan and numerous proprietary cpds.
▷ LD_{50} 202 mg/kg (mouse, i.p.). UL5950000.

B,H_2SO_4: [7460-12-0]. *Pseudoephedrine sulfate, USAN. Afrinol. D-Isoephedrine sulfate, JAN*
Component of Disophrol, Drixoral and Trinalin.

(***1S,2R*)-*form*** [321-98-2]
(+)-*Ephedrine*
Synthetic. Resolving agent for aldehydes and ketones. Shows about $\frac{1}{3}$ the pharmacol. activity of (−)-ephedrine. Mp 40-40.5°.
▷ KB0600000.

B,HCl: [24221-86-1].
Mp 217-218°. $[\alpha]_D^{20}$ +34° (H_2O).
▷ KB1925000.

(***1RS,2RS*)-*form*** [4125-58-0]
(±)-*ψ-Ephedrine*
Synthetic. Mp 118°.

(***1RS,2SR*)-*form*** [90-81-3]
(±)-*Ephedrine*
Mp 76°.

B,HCl: [134-71-4].
Mp 188-189.5°.

▷ KB1575000.

N-*Ac:*
$C_{12}H_{17}NO_2$ M 207.272
Mp 77-78.5°.

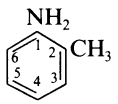
[670-40-6, 50906-05-3, 56979-55-6]

Emde, H., *Helv. Chim. Acta*, 1929, **12**, 365, 405 (*struct, rel config*)
Freudenberg, K. *et al*, *J. Am. Chem. Soc.*, 1932, **54**, 234.
Freudenberg, K. *et al*, *Justus Liebigs Ann. Chem.*, 1934, **510**, 223 (*abs config*)
Phillips, D.C. *et al*, *Acta Crystallogr.*, 1954, **7**, 159 (*rel config*)
Kopp, J.F., *Anal. Chem.*, 1973, **45**, 1786 (*use, ephedrine*)
Milne, J.W.A. *et al*, *Anal. Chem.*, 1973, **45**, 1952 (*ms*)
Yamasaki, K. *et al*, *Phytochemistry*, 1973, **12**, 2877 (*biosynth*)
Furlei, R.R. *et al*, *CA*, 1974, **80**, 144 913z (*ms*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 289.
Ghosal, S. *et al*, *Phytochemistry*, 1975, **14**, 830 (*isol*)
Lovgren, K. *et al*, *Acta Pharm. Suec.*, 1977, **14**, 30 (*pmr*)
Smith, T.A., *Phytochemistry*, 1977, **16**, 9 (*occur*)
Benzezra, S.A. *et al*, *Anal. Profiles Drug Subst.*, 1979, **8**, 489 (*rev, uv, ir, pmr, ms, anal, pseudoephedrine*)
Baudet, M. *et al*, *Analyst (London)*, 1979, **12**, 641 (*cmr*)
Ali, S.L., *Anal. Profiles Drug Subst.*, 1986, **15**, 255 (*rev, uv, ir, ms, pmr, anal*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EAW000, EAW500, EAX000, EAX500, EAY000, POH000, POH250, POH500.

2-Methylaniline M-00123

2-Methylbenzenamine, 9CI. o-*Toluidine, 8CI. 2-Aminotoluene.* o-*Tolylamine*

[95-53-4]



C_7H_9N M 107.155
Colorimetric reagent for glucose anal. Colourless liq. d_{20}^{20} 1.005. Mp *ca.* −21°, Mp *ca.* −15.5° (dimorph.). Bp_{18} 92°, Bp 200-202°. n_D^{20} 1.5688. Steam-volatile.

▷ Toxic by inhalation and skin absorption, TLV 22. Ignites with fuming HNO_3. XU2975000.

B,HCl: Mp 215°. Bp 242.2°.

N-*Ac:* [120-66-1]. *Acet-o-toluidide.* N-(*2-Methylphenyl*) *acetamide, 9CI*
$C_9H_{11}NO$ M 149.192
Used as 0.2*M* soln. in C_6H_6 for extraction-photometric detn. of Au(*III*) (λ_{max} 400 nm, ε 4600, $Br^{\ominus}$/5*M* HCl), W (λ_{max} 405 nm, ε 14300, $SCN^{\ominus}$). Needles. Sol. C_6H_6, $CHCl_3$. Mp 110°. Bp 296°.

▷ AN2900000.

Shriner, R.L. *et al*, *Chem. Rev.*, 1944, **35**, 351 (*synth*)
Dubowski, K.M., *Clin. Chem. (Winston-Salem, N.C.)*, 1962, **8**, 215 (*use*)
Stepanova, T.F. *et al*, *CA*, 1970, **72**, 31343 (*synth*)
Yamamoto, O. *et al*, *Anal. Chem.*, 1972, **44**, 1794 (*pmr*)
Watanabe, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1975, **48**, 1478 (*synth*)
Cameron, T.S. *et al*, *Cryst. Struct. Commun.*, 1976, **5**, 927 (*cryst struct*)
Yoder, C.H. *et al*, *J. Org. Chem.*, 1976, **41**, 1511 (*cmr*)
Patel, K.S. *et al*, *Anal. Chem.*, 1986, **58**, 1547 (*detn, Au*)
Mishra, N. *et al*, *Analyst (London)*, 1987, **112**, 1131 (*detn, W*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 509.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ABJ000, TGQ750.

4-Methylaniline M-00124

4-Methylbenzenamine, 9CI. p-*Toluidine, 8CI.* p-*Tolylamine. 4-Aminotoluene*

[106-49-0]

C_7H_9N M 107.155
Used as 0.1-0.01*M* aq. soln. for photometric detn. of Tl(*III*) (redox reaction). Cryst. + $1H_2O$ (H_2O or EtOH aq.). Sol. H_2O, acids. Mp 42°, Mp 45° (anhyd.). Bp_{10} 82.2°. pK_a 8.83 (25°). Steam-volatile.

▷ Toxic by inhalation and skin absorption. Ignites on contact with fuming HNO_3. XU3150000.

B,HCl: [540-23-8].
Cryst. ($AcOH/Et_2O$). Mp 243°. Bp 257.5°.

Picrate: Mp 180-181° dec.

N-*Formyl:* [3085-54-9].
C_8H_9NO M 135.165
Needles. Sol. H_2O. Mp 53°.

N-*Ac:* [103-89-9].
$C_9H_{11}NO$ M 149.192
Used as 0.2*M* soln. in C_6H_6 for extraction-photometric detn. of Au(*III*) (λ_{max} 400 mn, ε 4500, $Br^{\ominus}$/5*M* HCl), W (λ_{max} 405 nm, ε 12000, $SCN^{\ominus}$). Cryst. (EtOH aq.). Mp 146°. Bp 307°. Sublimes.

▷ Mod. oral toxicity.

N-*Di-Ac:* [7472-91-5].
$C_{11}H_{13}NO_2$ M 191.229
Mp 48°. Bp_{15} 160-161°.

N-*Benzoyl:* [582-78-5].
$C_{14}H_{13}NO$ M 211.263
Cryst. (EtOH). Mp 158°. Bp 232°.

N-*Dibenzoyl:* [77930-24-6].
$C_{21}H_{17}NO_2$ M 315.371
Cryst. (EtOH). Mp 142-144°.

N-(*4-Methylbenzenesulfonyl*): Mp 193-194.5°.

N-*Ethoxycarbonyl:* [5255-66-3].
$C_{10}H_{13}NO_2$ M 179.218
Mp 51°. Bp 243°, Bp_{12} 128°.

N-*Et:* [622-57-1].
$C_9H_{13}N$ M 135.208
Bp 217°.

▷ XU6450000.

N-*Di-Et:* [613-48-9].
$C_{11}H_{17}N$ M 163.262
Bp 229°.

N-*Benzyl:* [5405-15-2].
$C_{14}H_{15}N$ M 197.279
Leaflets. Mp 19-20°. Bp 312-313°, Bp_{10} 181°.

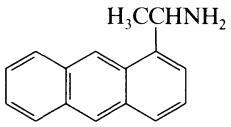
N-*Ph:* see *4-Methyldiphenylamine, M-00162*

N-*Benzylidene:* [2272-45-9].
$C_{14}H_{13}N$ M 195.263
Yellowish cryst. Mp 35°. Bp_{11} 178°.

Shriner, R.L., *Chem. Rev.*, 1944, **35**, 351 (*synth, N-Ac*)
Pfrepper, G., *Fresenius' Z. Anal. Chem.*, 1963, **193**, 179 (*detn, Tl*)
Yamamoto, O. *et al*, *Anal. Chem.*, 1972, **44**, 1794 (*pmr*)
Osmon, M.A., *Z. Naturforsch., B*, 1976, **31**, 801 (*synth*)
Miyata, T. *et al*, *Synthesis*, 1978, 834 (*synth*)
Patel, K.S. *et al*, *Anal. Chem.*, 1986, **58**, 1547 (*detn, Au*)
Mishra, N. *et al*, *Analyst (London)*, 1987, **112**, 1131 (*detn, W*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 509.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ABJ250, TGR000, TGS750.

α-Methyl-1-anthracenemethanamine, 9CI M-00125

1-(1-Anthryl)ethylamine



$C_{16}H_{15}N$ M 221.301

Reagent for optical resolution of carboxylic acids by hplc.

(+)-*form* [102691-90-7]

B,HCl: Needles. Mp 235-238° dec. $[\alpha]_D^{25}$ +34.0° (c, 0.30 in MeOH).

(−)-*form* [102691-89-4]

B,HCl: Needles. Mp 236-238° dec. $[\alpha]_D^{25}$ −33.2° (c, 0.20 in MeOH).

(±)-*form* [102691-92-9]

B,HCl: Needles (EtOAc/EtOH). Mp 235-238° dec.

Goto, J. *et al*, *J. Liq. Chromatogr.*, 1986, **9**, 683 (*synth, use*)

α-Methyl-2-anthracenemethanamine, 9CI M-00126

1-(2-Anthryl)ethylamine

$C_{16}H_{15}N$ M 221.301

Reagent for the optical resolution of carboxylic acids by hplc.

(+)-*form* [102819-15-8]

B,HCl: Needles. Mp 277-279° dec. $[\alpha]_D^{25}$ +25.8° (c, 0.4 in MeOH).

(−)-*form* [102691-91-8]

B,HCl: Needles. Mp 278-280° dec. $[\alpha]_D^{25}$ −27.4° (c, 0.9 in MeOH).

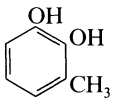
(±)-*form* [102691-87-2]

B,HCl: Needles (EtOAc/EtOH). Mp 278-280° dec.

Goto, J. *et al*, *J. Liq. Chromatogr.*, 1986, **9**, 683 (*synth, use*)

3-Methyl-1,2-benzenediol, 9CI M-00127

3-Methylpyrocatechol, 8CI. 2,3-Dihydroxytoluene. 3-Methylcatechol. Isohomopyrocatechol



$C_7H_8O_2$ M 124.139

Used as 2m*M* aq. soln. for extraction-photometric detn. of V; extraction separation of Nb. Leaflets (C_6H_6). Mp 68°. Bp 241°, Bp_{14} 136-137°. pK_{a1} 9.51; pK_{a2} 10.90 (20°).

Dibenzoyl:

$C_{21}H_{16}O_4$ M 332.355

Mp 121°.

2-Me ether: [18102-31-3]. *2-Methoxy-3-methylphenol. 6-Methylguaiacol*

$C_8H_{10}O_2$ M 138.166

Mp 39°. Bp 209°.

Di-Me ether: [4463-33-6]. *1,2-Dimethoxy-3-methylbenzene, 9CI. 2,3-Dimethoxytoluene, 8CI. o-Homoveratrole. 3-Methylveratrole. Isohomoveratrole*

$C_9H_{12}O_2$ M 152.193

Oil. Bp 202-203°, Bp_8 92-93°. Bp also given as 214°.

[35236-40-9]

Perkin, W., *J. Chem. Soc.*, 1916, **109**, 920.
Wasserman, D. *et al*, *J. Org. Chem.*, 1943, **8**, 73 (*deriv*)
Hornbacher, E.D. *et al*, *J. Am. Chem. Soc.*, 1959, **77**, 5314 (*deriv*)
Birkofer, L. *et al*, *Chem. Ber.*, 1962, **95**, 183.
Nardillo, A.M. *et al*, *Anal. Chim. Acta*, 1973, **66**, 359; 1975, **74**, 85; 1976, **86**, 299 (*detn, V, Nb*)
Popoff, T. *et al*, *Carbohydr. Res.*, 1976, **48**, 13.
Tsuchiya, T. *et al*, *Nippon Kagaku Kaishi*, 1979, 370; *CA*, **90**, 203616 (*synth*)

5-Methyl-1,3-benzenediol, 9CI M-00128

5-Methylresorcinol, 8CI. 3,5-Dihydroxytoluene. Orcinol. Orcin

[504-15-4]

$C_7H_8O_2$ M 124.139

Prod. by *Aspergillus fumigatus* and *Gliocladium roseum*. Present in trace amts. in lichens. Reagent for the detn. of aromatic aldehydes and of carbohydrates. Cryst. + $1H_2O$ (H_2O), leaflets ($CHCl_3$). Mp 107.5°. Bp 287-290°. pK_{a1} 9.48; pK_{a2} 11.20 (20°). Used as 0.55% soln. in acidified EtOH with 0.9% ferric chloride, Bial's reagent, for detn. of sugars, glycosides and sulfolipids.

▷ VH2100000.

Di-Ac:

$C_{11}H_{12}O_4$ M 208.213

Mp 25°.

Dibenzoyl:

$C_{21}H_{16}O_4$ M 332.355

Mp 88°.

Mono-Me ether: [4179-19-5]. *3-Methoxy-5-methylphenol*

$C_8H_{10}O_2$ M 138.166

Found in lichens. Mp 61-62°. Bp 259°, $Bp_{6.5}$ 130°.

Di-Me ether: 1,3-Dimethoxy-5-methylbenzene. 3,5-Dimethoxytoluene

$C_9H_{12}O_2$ M 152.193

Found in lichens. Bp 244°, Bp_8 102°.

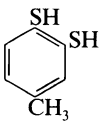
[20982-28-9]

Anger, V. *et al*, *Fresenius' Z. Anal. Chem.*, 1964, **203**, 422 (*use*)
Marmor, R.S. *et al*, *J. Org. Chem.*, 1972, **37**, 2901 (*synth, pmr*)
Org. Synth., 1973, **53**, 90 (*deriv*)
Voelter, W. *et al*, *J. Chromatogr.*, 1976, **126**, 693 (*use*)
Evans, G.E. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1988, 755 (*deriv*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MPH500.

4-Methyl-1,2-benzenedithiol, 9CI M-00129

Toluene-3,4-dithiol, 8CI. 3,4-Dimercaptotoluene. 1,2-Dimercapto-4-methylbenzene. Dithiol

[496-74-2]



$C_7H_8S_2$ M 156.272

Used as 0.2% alkal. soln. (stabilised by $SnCl_2$ or ascorbic acid) in extraction separation of Se; photometric detn. of Sn (ε 5800), Mo (ε 21000), W, Re, Ag. Cryst. Sol. alkalis, $CHCl_3$, pentyl acetate. Mp 35°. $Bp_{0.84}$ 185-187°, $Bp_{0.17}$ 135-137°. pK_{a1} 5.34; pK_{a2} 11.0 (H_2O, 25°). Readily oxidised by atm. oxygen.

▷ XT2275000.

Di-Ac: Acetyl dithiol. Toluene-3,4-dithiol diacetate

$C_{11}H_{12}O_2S_2$ M 240.347

Used as 0.2% soln. in EtOH for precipitation separation of Mo, Pd, Re, Se, Te, W. Cryst. (cyclohexane). Sol. EtOH, C_6H_6; insol. H_2O. Mp 48°.

Dibenzoyl: Benzoyl dithiol

$C_{21}H_{16}O_2S_2$ M 364.488

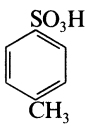
Used as soln. in EtOH for photometric detn. of Pd(*II*). Cryst. (EtOH). Sol. EtOH, Me_2CO, C_6H_6; spar. sol. H_2O. Mp 92°.

Aldrich Library of IR Spectra, 3rd Ed., 709D (*ir*)
Aldrich Library of NMR Spectra, 2nd Ed., **1**, 980D (*pmr*)
Mills, W.H. *et al*, *J. Chem. Soc.*, 1936, 175 (*synth*)
Onishi, H. *et al*, *Anal. Chim. Acta*, 1956, **14**, 153 (*detn, Sn*)
Clark, R.E.D., *Analyst (London)*, 1957, **82**, 182; 1958, **83**, 103 (*synth, detn, Pd, Re, Se, Te, Mo, W*)
Gilbert, T.W. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 1087 (*detn, Mo*)
Kreimer, S.E. *et al*, *Zh. Anal. Khim.*, 1962, **17**, 674 (*detn, Ag*)
Gagliardi, E. *et al*, *Monatsh. Chem.*, 1971, **102**, 308 (*use*)
Landsberger, S. *et al*, *Anal. Chim. Acta*, 1979, **89**, 281 (*use, Se*)
Hobart, E.W. *et al*, *Anal. Chim. Acta*, 1982, **27**, 144.
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 403 (*use*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 384, 605.
Onishi, H., *Photometric Determination of Traces of Metals, Part IIb: Individual Metals. Magnesium to Zinc*, John Wiley, New York, 4th Ed, 1989, 96, 502.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TGN000.

4-Methylbenzenesulfonic acid, 9CI M-00130

p-*Toluenesulfonic acid, 8CI*

[104-15-4]



$C_7H_8O_3S$ M 172.204

Acid catalyst for many reactions, can be used for selective cleavage of *t*-BOC protecting group. Used as Na salt. Hygroscopic plates + $1H_2O$ (H_2O). Mp 104-105° (92°). pK_a −6.62 (H_2SO_4).

▷ Irritant, causes burns. XT6300000.

Me ester: [80-48-8].
$C_8H_{10}O_3S$ M 186.231
Mp 28°.
▷ Vesicant and skin sensitizer. XT7000000.

Et ester: [80-40-0].
$C_9H_{12}O_3S$ M 200.258
Cryst. (EtOAc). Mp 33-34°. Bp_{15} 173°.
▷ Exp. carcinogen. XT6825000.

Ph ester: [640-60-8].
$C_{13}H_{12}O_3S$ M 248.302
Needles (EtOH). Mp 95-96°.

Chloride: [98-59-9]. *Tosyl chloride*
$C_7H_7ClO_2S$ M 190.650
Tosylating reagent. Plates (Et_2O). Mp 71°. Bp_{15} 145-146°, Bp_{20} 151.6°.

Fluoride: [455-16-3].
$C_7H_7FO_2S$ M 174.195
Needles (pet. ether). Mp 43-44°. Bp_{16} 112.5°.
▷ XT8050000.

Anhydride: [4124-41-8].
$C_{14}H_{14}O_5S_2$ M 326.394
Cryst. (Et_2O). Mp 122-125°.

Amide: [70-55-3].
$C_7H_9NO_2S$ M 171.220
Leaflets (EtOH), plates + $2H_2O$ (H_2O). Mp 138° (anhyd.), Mp 105° (hydrate). pK_{a1} 10.17 (20°, 0.1*M* KCl).
▷ Highly toxic orally. XT5075000.

Amide, N-*chloro:* [127-65-1]. *Chloramine T.* N-*Chloro-4-methylbenzenesulfonamide, 9CI.* N-*Chloro*-p-*toluenesulfonamide*
$C_7H_8ClNO_2S$ M 205.664
Used as Na salt. Oxidizing agent in photometric detn. of NH_3, $CN^{\ominus}$, $SCN^{\ominus}$. Faintly yellow cryst. powder (as Na salt). Mod. sol. H_2O; insol. C_6H_6, $CHCl_3$; dec. in EtOH (Na salt). Mp 167-170° (as Na salt).
▷ May dec. violently if heated above 130°. XT5617000.

Amide, N-*bromo:* [41085-71-6]. N-*Bromo-4-methylbenzenesulfonamide, 9CI. Bromamine T*
$C_7H_8BrNO_2S$ M 250.116
Used as a 0.05*M* aq. soln. of Na salt as an oxidimetric titrant; detn. of As(*III*), Sb(*III*), Fe(*II*). Pale yellow cryst. Sol. H_2O, EtOH. CA no. refers to Na salt.

Anilide: [68-34-8].
$C_{13}H_{13}NO_2S$ M 247.317
Needles (Et_2O/EtOH). Mp 103°.

Dipropylamide: [723-42-2]. *4-Methyl*-N,N-*dipropylbenzenesulfonamide, 9CI.* N,N-*Dipropyl*-p-*toluenesulfonamide.* ***Ditolamide*, INN.** *A17624*
$C_{13}H_{21}NO_2S$ M 255.380
Uricosuric agent. Mp 36-37°. $Bp_{0.5}$ 154-156°.

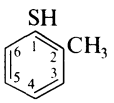
Hydrazide: [1576-35-8]. p-*Toluenesulfonylhydrazine. Tosylhydrazine*
$C_7H_{10}N_2O_2S$ M 186.234
Reagent for characterisation of alcohols and sugars, dehydrations and epoxy ketone fragmentations. Mp 108-110°.
▷ MW0210000.

Aldrich Library of IR Spectra, 844H, 1024B (*ir*)
Aldrich Library of NMR Spectra, **10**, 27B, 49B (*pmr*)
Sadtler Standard C-13 NMR Spectra, 1556 (*cmr*)
Sadtler Standard Ultraviolet Spectra, 9703 (*uv*)
Holleman, A.F. *et al*, *Ber.*, 1911, **44**, 2504.
Einstein, J., *Anal. Chem.*, 1947, **19**, 272 (*Chloramine T, use*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1948, **4**, 316 (*Chloramine T, use*)
Org. Synth., 1960, **40**, 93 (*deriv*)
Klibus, A.K., *Zh. Anal. Khim.*, 1961, **16**, 79 (*detn, NH_3*)
Fr. Pat., M2587, (1964); *CA*, **62**, 489f (*synth, pharmacol, Ditolamide*)
Wiley, R.H., *Org. Mass Spectrom.*, (Suppl.), 1970, **4**, 55 (*ms*)
Singer, G.M. *et al*, *Org. Mass Spectrom.*, 1975, **10**, 473 (*ms, Ditolamide*)
Campbell, M.M. *et al*, *Chem. Rev.*, 1978, **78**, 65 (*synth, rev*)
Nair, C.G.R. *et al*, *Talanta*, 1978, **25**, 525 (*Bromamine T, synth, use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 3314.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 489.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, CDP000, EPW500, MLL250, SFV550, TGN500, TGO000, TGO250, TGO500, THE250.

2-Methylbenzenethiol, 9CI M-00131

o-*Toluenethiol, 8CI.* o-*Thiocresol.* o-*Mercaptotoluene*

[137-06-4]



C_7H_8S M 124.206

Used for photometric detn. of Te. Leaves or liq. Insol. H_2O; sol. common org. solvs. Mp 15°. Bp 194.3°, Bp_{50} 106°. pK_a 6.64 (26°).

▷ XT8750000.

S-*Et: 1-(Ethylthio)-2-methylbenzene. Ethyl* o-*tolyl sulfide*
$C_9H_{12}S$ M 152.260
Bp 120°.

[34878-60-9]

Aldrich Library of IR Spectra, 524E (*ir*)
Hirota, M. *et al*, *Tetrahedron*, 1969, 5953 (*pmr*)
Jones, I.W. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1973, 1125 (*uv*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*detn, Te*)
Schroth, W. *et al*, *Z. Chem.*, 1977, **17**, 411 (*synth*)
Shagun, L.G. *et al*, *Zh. Org. Khim.*, 1978, **14**, 187 (*synth*)
Shaw, J.E. *et al*, *J. Org. Chem.*, 1991, **56**, 3728 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TGP000.

3-Methylbenzenethiol, 9CI M-00132

m-*Toluenethiol*, *8CI*. m-*Thiocresol*. m-*Mercaptotoluene*

[108-40-7]

C_7H_8S M 124.206
Used for photometric detn. of Te. Liq. Insol. H_2O; sol. common org. solvs. d_4^0 1.063. Bp 195-200°, Bp_{50} 107.5°. Steam-volatile.

[51679-09-5]

Aldrich Library of IR Spectra, 524F (*ir*)
Aldrich Library of NMR Spectra, **5**, 28A (*pmr*)
Sadtler Standard C-13 NMR Spectra, 2006 (*cmr*)
Org. Synth., Coll. Vol., 3, 1955, 809 (*synth*)
Jones, I.W. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1973, 1125 (*uv*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*detn, Te*)
Shagun, L.G. *et al*, *Zh. Org. Khim.*, 1978, **14**, 187 (*synth*)

4-Methylbenzenethiol, 9CI M-00133

p-*Toluenethiol*, *8CI*. p-*Thiocresol*. p-*Mercaptotoluene*

[106-45-6]

C_7H_8S M 124.206
Used as 5% soln. in glac. AcOH for photometric detn. of Re, Te. Leaflets (EtOH aq.). Sol. AcOH. Mp 43-44°. Bp 195°, Bp_{35} 101°.

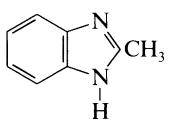
▷ XT8925000.

S-*Et: 1-Methyl-4-(ethylthio)benzene*. *Ethyl* p-*tolyl sulfide*
$C_9H_{12}S$ M 152.260
Bp 220-221°, Bp_{15} 105°.

Aldrich Library of IR Spectra, 524H (*ir*)
Aldrich Library of NMR Spectra, **5**, 28C (*pmr*)
Lawesson, S.O. *et al*, *Acta Chem. Scand.*, 1960, **20**, 2325 (*ms*)
Miller, S.I. *et al*, *J. Org. Chem.*, 1962, **27**, 645 (*uv*)
Al-Kayssi, M. *et al*, *Talanta*, 1963, **10**, 1047 (*detn, Re*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976.
Shapiro, M.J. *et al*, *J. Org. Chem.*, 1978, **43**, 212 (*cmr*)
Shagun, L.G. *et al*, *Zh. Org. Khim.*, 1978, **14**, 187 (*synth*)
Shaw, J.E. *et al*, *J. Org. Chem.*, 1991, **56**, 3728 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TGP250.

2-Methylbenzimidazole, 9CI, 8CI M-00134

[615-15-6]



$C_8H_8N_2$ M 132.165
Has bactericidal, fungicidal props. Reference material used in elemental microanalysis. Sol. H_2O. Mp 176-177°. pK_{a1} 6.15; pK_{a2} 11.48 (25°).

▷ DD9100000.

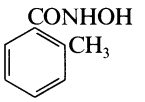
N-*Ac:* [14678-81-0].
$C_{10}H_{10}N_2O$ M 174.202
Needles (C_6H_6/pet. ether). Mp 85-86°.

Phillips, M.A., *J. Chem. Soc.*, 1928, 2393 (*synth*)
Jasinska, J., *Pol. J. Chem.* (*Rocz. Chem.*), 1966, **40**, 1429 (*uv*)
Kjeldgaard, K. *et al*, *Arzneim.-Forsch.*, 1967, **17**, 767 (*pharmacol*)
Joeckle, R. *et al*, *Z. Naturforsch., A*, 1967, **22**, 755 (*ir*)
Lawesson, S.O. *et al*, *Tetrahedron*, 1968, **24**, 1875 (*ms*)
Analyst (*London*), 1972, **97**, 740 (*microanal*)
Cohen, V. *et al*, *J. Heterocycl. Chem.*, 1977, **14**, 1321 (*nmr*)
Catalán, J. *et al*, *J. Heterocycl. Chem.*, 1984, **21**, 269 (*basicity*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MHC250.

2-Methylbenzohydroxamic acid M-00135

N-*Hydroxy-2-methylbenzamide*, *9CI*

[17512-73-1]



$C_8H_9NO_2$ M 151.165
Cryst. (EtOAc). Mp 130.5-131°.

N-(*2-Methylphenyl*): [33284-30-9]. N-*Hydroxy-2-methyl*-N-(*2-methylphenyl*)*benzamide*, *9CI*
$C_{15}H_{15}NO_2$ M 241.289
Used as 5m*M* $CHCl_3$ soln. for extraction photometric detn. of V(*V*) (λ_{max} 510 nm, ε 4500, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

N-(*3-Methylphenyl*): [33405-93-5]. N-*Hydroxy-2-methyl*-N-(*3-methylphenyl*)*benzamide*, *9CI*
$C_{15}H_{15}NO_2$ M 241.289
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 530 nm, ε 4700, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Indian Chem. Soc.*, 1969, **46**, 831; 1971, **48**, 753 (*synth, derivs*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)
Berndt, D.C. *et al*, *J. Org. Chem.*, 1974, **39**, 841 (*synth*)
Bittner, S. *et al*, *Tetrahedron Lett.*, 1974, **23**, 1965.

4-Methylbenzohydroxamic acid M-00136

N-*Hydroxy-4-methylbenzamide*, *9CI*

$C_8H_9NO_2$ M 151.165

N-(*3-Methylphenyl*): [33284-35-4]. N-*Hydroxy-4-methyl*-N-(*3-methylphenyl*)*benzamide*, *9CI*
$C_{15}H_{15}NO_2$ M 241.289
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 520 nm, ε 5350, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

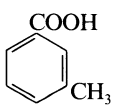
N-(*4-Methylphenyl*): [33284-34-3]. N-*Hydroxy-4-methyl*-N-(*4-methylphenyl*)*benzamide*, *9CI*
Used for extraction-photometric detn. of V(*V*) (λ_{max} 510 nm, ε 5500).

Gupta, V.K. *et al*, *J. Indian Chem. Soc.*, 1971, **48**, 753 (*synth, deriv*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

3-Methylbenzoic acid M-00137

m-*Toluic acid*

[99-04-7]



$C_8H_8O_2$ M 136.150
Prisms (MeOH or H_2O). Mod. sol. hot H_2O. Mp 111°. Bp 263°. pK_a 4.25 (25°). Sublimes, steam-volatile.

▷ XU1200000.

Me ester: [99-36-5].
$C_9H_{10}O_2$ M 150.177
Oil. d^{15} 1.066. Bp 215°.
Et ester: [120-33-2].
$C_{10}H_{12}O_2$ M 164.204
Bp 227°, Bp_{10} 103-105°.
Ph ester: [41998-14-5].
$C_{14}H_{12}O_2$ M 212.248
Mp 61°.
Anhydride:
$C_{16}H_{14}O_3$ M 254.285
Cryst. (pet. ether). Mp 71°. Bp_{17} 230°.
Chloride: [1711-06-4].
C_8H_7ClO M 154.595
Reagent for the hplc anal. of polyfunctional amines. d_4^{20} 1.173. Mp −23°. Bp_{773} 219-220°, Bp_{15} 109°.
Amide: [618-47-3]. m-*Toluamide*
C_8H_9NO M 135.165
Needles (Et_2O). Mp 97°.
Dimethylamide: [6935-65-5].
$C_{10}H_{13}NO$ M 163.219
Bp_{12} 148°.
Diethylamide: [134-62-3]. ***Diethyltoluamide*, USAN.** *Metadelphene. Detamide*
$C_{12}H_{17}NO$ M 191.272
Isol. from the female pink bollworm moth *Pectinophora gossypiella*. Insect repellent. Liq. d_4^{20} 0.996. Bp_{19} 160°.
▷ XS3675000.
Nitrile: [620-22-4]. *1-Cyano-3-methylbenzene.* m-*Cyanotoluene*
C_8H_7N M 117.150
Liq. d^{20} 1.032. Mp −23.5° to −23°. Bp 210-212°, Bp_{10} 84.5°.
▷ XV0525000.

McCabe, E.T. *et al, J. Org. Chem.*, 1954, **19**, 493 (*deriv*)
Hay, A.S. *et al, J. Org. Chem.*, 1960, **25**, 616 (*synth*)
Jones, W.A. *et al, Science (Washington, D.C.)*, 1968, **159**, 99 (*isol, deriv*)
Yamamoto, O. *et al, Anal. Chem.*, 1972, **44**, 1794 (*pmr*)
Benkeser, R.A. *et al, J. Org. Chem.*, 1973, **38**, 3660 (*synth*)
Wellons, S.L. *et al, J. Chromatogr.*, 1978, **154**, 219 (*use, chloride*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DKC800, TGP750, TGT250.

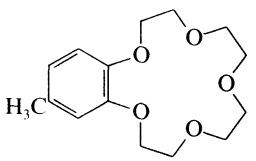
4-Methylbenzoic acid, 9CI M-00138

p-*Toluic acid. Crithmic acid*
[99-94-5]
$C_8H_8O_2$ M 136.150
Isol. from horseradish. Spar. sol. H_2O. Mp 181°. Bp 274-275°. pK_a 4.37. Sublimes. Steam-volatile.
▷ XU1575000.
Me ester: [99-75-2].
$C_9H_{10}O_2$ M 150.177
Cryst. with intense unpleasant odour (MeOH aq.). Mp 33°. Bp 217°.
▷ XU2150000.
Et ester: [94-08-6].
$C_{10}H_{12}O_2$ M 164.204
Bp 228°, Bp_{12} 110°.
Ph ester: [1900-85-2].
$C_{14}H_{12}O_2$ M 212.248
Mp 83°.
Anhydride: [13222-85-0].
$C_{16}H_{14}O_3$ M 254.285
Mp 95°. Stable to boiling H_2O.
Chloride: [874-60-2].
C_8H_7ClO M 154.595
Mp −2° to −1.5°. Bp 214-216°.
▷ XV1660000.
Bromide: [874-58-8].
C_8H_7BrO M 199.047
Bp_{42} 145°.
Amide: [619-55-6].
C_8H_9NO M 135.165
Cryst. (H_2O). Mp 155°, Mp 165°.
Amide, oxime: [19227-13-5]. N-*Hydroxy-4-methylbenzenecarboximidamide, 9CI.* p-*Toluamidoxime*
$C_8H_{10}N_2O$ M 150.180
Used for extraction-photometric detn. of Co (λ_{max} 580 nm, e 4000). Cryst. (H_2O). Mp 145-146°. pK_{a1} 5.15; pK_{a2} 12.23.
Methylamide: [18370-11-1].
$C_9H_{11}NO$ M 149.192
Mp 145.5-146.5°.
Dimethylamide: [14062-78-3].
$C_{10}H_{13}NO$ M 163.219
Mp 41°.
Anilide: [6833-18-7].
$C_{14}H_{13}NO$ M 211.263
Mp 147-148°.
Nitrile: [104-85-8]. p-*Tolunitrile.* p-*Cyanotoluene*
C_8H_7N M 117.150
Needles (EtOH). Mp 25°. Bp 217.6°.
▷ XV0700000.
Hydrazide: [3619-22-5].
$C_8H_{10}N_2O$ M 150.180
Mp 117°.

Org. Synth., Coll. Vol., 1, 1932, 500 (*nitrile*)
Org. Synth., Coll. Vol., 3, 1955, 822 (*synth*)
Kaiser, E.M. *et al, J. Org. Chem.*, 1970, **36**, 1198 (*synth*)
Takwale, M.G. *et al, Acta Crystallogr., Sect. B*, 1971, **27**, 1152 (*cryst struct*)
Org. Synth., 1971, **51**, 96 (*synth*)
Busev, A.I. *et al, Zh. Anal. Khim.*, 1971, **26**, 1133 (*amidoxime, detn, Co*)
Yamamoto, O. *et al, Anal. Chem.*, 1972, **44**, 1794 (*pmr*)
Brunet, J.J. *et al, J. Org. Chem.*, 1979, **44**, 2199 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MPX850, TGQ250, TGT750, TGU000.

15-Methyl-1,4,7,10,13-benzopentaoxacyclopentadecin, 9CI M-00139

4-Methylbenzo-15-crown-5
[32702-27-5]

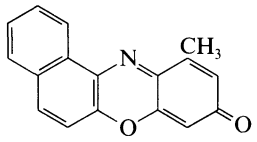


$C_{15}H_{22}O_5$ M 282.336
Used as 1% soln. in dipentyl phthalate in K-selective electrode (PVC membrane). Cryst. (C_6H_6/Et_2O). Sol. C_6H_6, Et_2O. Mp 46.5-49°.

Pedersen, C.J., *J. Am. Chem. Soc.*, 1969, **89**, 7017 (*synth*)
Petranek, J. *et al, Anal. Chim. Acta*, 1974, **72**, 375 (*use*)

11-Methyl-9*H*-benzo[*a*]phenoxazin-9-one, 8CI M-00140

[17799-73-4]



$C_{17}H_{11}NO_2$ M 261.279

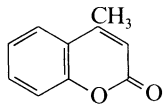
Used as a 0.1m*M* soln. in 96% EtOH as redox indicator for titanometric detn. of Fe(*III*), Au(*III*), Ce(*IV*), $Cr_2O_7^{2\ominus}$, $VO_4^{3\ominus}$ and organic compounds. Needles. Spar. sol. C_6H_6. pK_{a1} 5.33; pK_{a2} 10.96 (20% EtOH, μ = 0.07). E° +0.445 V (1*N* HCl, 50% EtOH, μ = 0.07).

Ruzička, E. *et al*, *Mikrochim. Acta*, 1968, 1299; 1969, 698 (*use*)
Ruzička, E. *et al*, *Monatsh. Chem.*, 1968, **99**, 838 (*synth*)

4-Methyl-2*H*-1-benzopyran-2-one, 9CI M-00141

4-Methylcoumarin, 8CI. β-Methylcoumarin

[607-71-6]



$C_{10}H_8O_2$ M 160.172

Used as a 0.1% aq. soln. as metal fluorescent indicator for detn. of Ca, Cu. Needles (H_2O), prisms (C_6H_6). Sl. sol. H_2O; sol. Me_2CO, EtOH. Mp 182°. pK_{a1} 7.8.

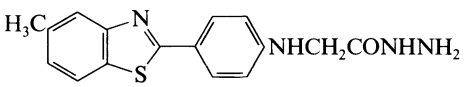
▷ GN7791000.

Ghosh, B.N., *J. Chem. Soc.*, 1915, **107**, 1600.
Org. Synth., 1941, **21**, 23; 1944, **24**, 69.
Huitnik, G.M. *et al*, *Talanta*, 1974, **21**, 1193, 1221 (*synth, use, detn, Ca, Cu*)
Cussans, N.J. *et al*, *Tetrahedron*, 1975, **31**, 2591 (*cmr*)
Ahluwalia, V.K. *et al*, *Indian J. Chem., Sect. B*, 1977, **15**, 816 (*ms*)
Mali, R.S. *et al*, *Synthesis*, 1977, 464.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MIP500.

[[4-(5-Methyl-2-benzothiazolyl)phenyl]amino]acetohydrazide M-00142

N-[*4-(5-Methyl-2-benzothiazolyl)phenyl*]*glycine hydrazide, 9CI. Apmayl hydrazide*

[100343-95-1]



$C_{16}H_{16}N_4OS$ M 312.395

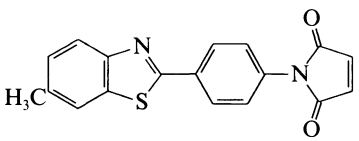
Fluorescent reagent for hplc anal. of carbonyl compds.

Anderson, J.M., *Anal. Biochem.*, 1986, **152**, 146 (*use*)

1-[4-(6-Methyl-2-benzothiazolyl)phenyl]-1*H*-pyrrole-2,5-dione, 9CI M-00143

2-(4-Maleimidophenyl)-6-methylbenzothiazole

[19735-68-3]



$C_{18}H_{12}N_2O_2S$ M 320.371

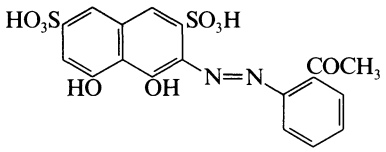
Reagent for fluorescence derivatisation of thiols and alcohols. Mp 221°.

Nicholson, B.H. *et al*, *Eur. J. Biochem.*, 1973, **37**, 575 (*synth, use*)

[2-(*o*-Methylbenzoyl)azo]-1,8-dihydroxynaphthalene-3,6-disulfonic acid M-00144

3-[(2-Acetylphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI

[34373-38-1]



$C_{18}H_{14}N_2O_9S_2$ M 466.449

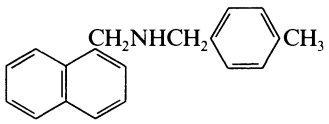
Gives colour reactions with Ba, Ca, Mg, Sr. Orange cryst. Sol. H_2O.

Katayama, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1971, **44**, 2712 (*use*)

N-(4-Methylbenzyl)-1-naphthylmethylamine M-00145

N-[(*4-Methyphenyl*)*methyl*]-*1-naphthalenemethanamine*

[14393-23-8]



$C_{19}H_{19}N$ M 261.366

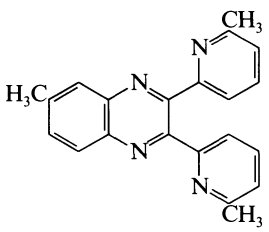
Used as a 1% soln. in dil. HCl for gravimetric detn. of $NO_3^{\ominus}$.

B, HCl: Cryst. Mp 176°.

Hutton, R.C. *et al*, *J. Chem. Soc. A*, 1966, 1573 (*synth, detn, $NO_3^{\ominus}$*)

6-Methyl-2,3-bis(6-methyl-2-pyridinyl) quinoxaline, 9CI M-00146

[17401-63-7]



$C_{21}H_{18}N_4$ M 326.400

Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 521 nm, ε 6040, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 109°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)

3-Methyl-1-butanol, 9CI M-00147

Isopentyl alcohol, 8CI. Isoamyl alcohol

[123-51-3]

$(H_3C)_2CHCH_2CH_2OH$

$C_5H_{12}O$ M 88.149

Major component of fusel oil and coml. amyl alcohol.

Also a common constit. of plant oils, free and as esters. Volatile component of faeces of wild male mouse *Mus musculus*. Solvent for fats, resins etc. Used to esterify amino acids for glc. Freq. used as solvent in extraction-photometric methods, e.g. in detn. of Zr with chlorophosphonazo(*III*) (λ_{max} 675 nm, ε 210000). Pungent liq. Spar. sol. H_2O. d_4^{15} 0.813. Mp −117.2°. Bp 132°. n_D^{20} 1.4075.

▷ Mod. toxic. An exp. carcinogen. EL5425000.

Ac: [123-92-2]. *Isopentyl acetate. Isoamyl acetate*
$C_7H_{14}O_2$ M 130.186
d_4^{15} 0.876. Bp 142°. n_D^{21} 1.3999.

3,5-Dinitrobenzoyl: Mp 60-62°.

1-Naphthylurethane: Mp 76°.

Me ether: [626-91-5]. *1-Methoxy-3-methylbutane, 9CI*
$C_6H_{14}O$ M 102.176
d_4^{11} 0.687. Bp 91°.

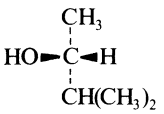
Et ether: [628-04-6]. *1-Ethoxy-3-methylbutane, 9CI. Ethyl 3-methylbutyl ether. Ethyl isopentyl ether*
$C_7H_{16}O$ M 116.203
Liq. d^{18} 0.764. Bp 112°.

Peter, A.H., *Ber.*, 1899, **32**, 1419 (*deriv*)
Cerchez, V., *Bull. Soc. Chim. Fr.*, 1928, **43**, 766 (*deriv*)
Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 1504 (*synth*)
Zanetta, J.P. *et al*, *J. Chromatogr.*, 1973, **76**, 91 (*use*)
Felker, P. *et al*, *Anal. Biochem.*, 1975, **67**, 245 (*use*)
Blackburn, T.F. *et al*, *Tetrahedron Lett.*, 1975, 3041 (*synth*)
Debal, A. *et al*, *Synthesis*, 1976, 391 (*synth*)
Yamamoto, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1977, **26**, 515; *CA*, **88**, 181841k (*detn, Zr*)
Bieber, H., *Encycl. Chem. Process. Des.*, 1977, **3**, 278 (*rev*)
Sandell, E.B. *et al*, *Photometric Determination of Traces of Metals, General Aspects*, Wiley, N.Y., 1978.
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **2**, 570 (*rev*)
Goodrich, B.S. *et al*, *J. Chem. Ecol.*, 1990, **16**, 2091, 2107.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IHO850, IHP000.

3-Methyl-2-butanol, 9CI M-00148

sec-*Isoamyl alcohol. Isopropylmethylcarbinol*

[598-75-4]



(*R*)-*form*
Absolute configuration

$C_5H_{12}O$ M 88.149

(*R*)-*form* [1572-93-6]
$[\alpha]_D^{25}$ −1.91° (36% opt. purity).

(*S*)-*form* [1517-66-4]
Reagent for gc sepn. of amino acid diastereoisomers. Bp 110-112°. $[\alpha]_D^{20}$ +5.34° (EtOH).

Ac: [56640-64-3].
$C_7H_{14}O_2$ M 130.186
Bp 128.5-129°.

(±)-*form*
Bp 112.9-123.9°.

Me ether:
$C_6H_{14}O$ M 102.176
Bp 81.2-81.5°.

Stevens, P.G., *J. Am. Chem. Soc.*, 1932, **54**, 3732; 1933, **55**, 4237 (*abs config*)
Org. Synth., Coll. Vol., 2, 1943, 406 (*synth*)
Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1959, **81**, 6423 (*synth*)
Cook, P.L., *J. Org. Chem.*, 1962, **27**, 3873 (*synth*)
Giacomelli, G. *et al*, *J. Org. Chem.*, 1974, **39**, 1757 (*synth*)
Rahn, W. *et al*, *Hoppe Seyler's Z. Physiol. Chem.*, 1976, **357**, 1223 (*use*)
Meek, A.G. *et al*, *J. Org. Chem.*, 1976, **41**, 323 (*synth*)
Koenig, W.A. *et al*, *J. Chromatogr.*, 1977, **133**, 141 (*use*)
Krishnamurphy, S. *et al*, *J. Org. Chem.*, 1977, **47**, 2534 (*synth*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **2**, 570 (*rev*)
White, J.D. *et al*, *J. Org. Chem.*, 1988, **53**, 5909 (*synth, ir, pmr, cmr, ms*)

2-Methyl-1-buten-3-yne, 9CI M-00149

Isopropenylacetylene

[78-80-8]

$H_2C{=}C(CH_3)C{\equiv}CH$

C_5H_6 M 66.102
Used as 10% soln. in CH_2Cl_2 for extraction-photometric detn. of Pd (λ_{max} 317 nm). Liq. Sol. Me_2CO. Bp 34°.

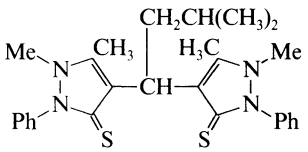
▷ Extremely flammable, flash p. < −7°. EN0960000.

Alder, K. *et al*, *Justus Liebigs Ann. Chem.*, 1957, **608**, 195 (*synth*)
Nazarov, I.N. *et al*, *CA*, 1958, **52**, 12751 (*synth*)
Chini, P. *et al*, *Chim. Ind.* (*Milan*), 1964, **46**, 1049; *CA*, **62**, 1553 (*synth*)
Ziegler, M. *et al*, *Fresenius' Z. Anal. Chem.*, 1965, **210**, 344 (*detn, Pd*)
Guittet, E. *et al*, *Bull. Soc. Chim. Fr.*, 1986, 325 (*pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MHU250.

4,4′-(3-Methylbutylidene)bis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], 9CI M-00150

Isobutyldithiopyrylmethane

[73429-89-7]



$C_{27}H_{32}N_4S_2$ M 476.709
Used as 0.02% soln. in dil. H_2SO_4 for photometric detn. of Te (λ_{max} 358 nm, ε 51000). Powder. Sol. $CHCl_3$, C_6H_6, EtOH; insol. H_2O. Mp 209°.

Dolgorev, A.V. *et al*, *Zavod. Lab.*, 1980, **46**, 17 (*detn, Te*)
Dolgorev, A.V. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 854 (*synth*)

3-Methyl-1-butyl nitrite M-00151

Nitrous acid 3-methylbutyl ester, 9CI. Amyl nitrite. Isopentyl nitrite. Other proprietary names

[110-46-3]

$(H_3C)_2CHCH_2CH_2ONO$

$C_5H_{11}NO_2$ M 117.147
Coronary vasodilator, spasmolytic. Anal. reagent for primary amines. Liq. d_4^{20} 0.871. Bp 99°. n_D^{20} 1.3871.

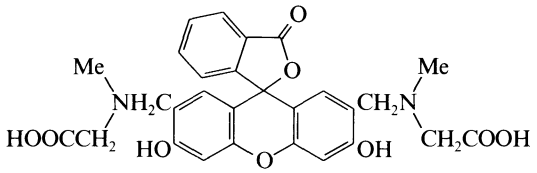
▷ NT0187500.

Von Oettingen, W.F., *Natl. Inst. Health Bull.*, 1946, **186** (*rev, pharmacol*)
Olah, G. *et al*, *Chem. Ber.*, 1956, **89**, 2374 (*synth*)
Bevillard, P. *et al*, *Bull. Soc. Chim. Fr.*, 1957, 337 (*synth*)
Kainz, G. *et al*, *Mikrochim. Acta*, 1968, 71, 92 (*use*)
Das, R.C. *et al*, *Bull. Chem. Soc. Jpn.*, 1979, **52**, 65 (*ms*)
Sugawara, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1979, **52**, 3391 (*O-17 nmr*)
Haley, T.J. *et al*, *Clin. Toxicol.*, 1980, **16**, 317 (*rev*)
True, N.S. *et al*, *J. Phys. Chem.*, 1982, **86**, 2327 (*conformn*)

Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 9205.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 343.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IMB000.

Methylcalcein M-00152

N,N′-[(*3′,6′-Dihydroxy-3-oxospiro*[*isobenzofuran-1-*(*3*H),*9′-*[*9*H]*xanthene*]-*2′,7′-diyl*)*bis*(*methylene*)]*bis*(N-*methylglycine*)
[000000-00-0]

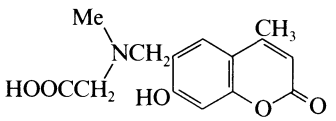


$C_{28}H_{26}N_2O_9$ M 534.521
Sol. alkalis; sl. sol. H_2O.
Di-Na salt: [136132-74-6].
Used as 0.1% aq. soln. as metal fluorescent indicator in titrimetric detn. of Cu, Mn. Orange cryst.

Lassner, E. *et al*, *Chemist-Analyst*, 1962, **51**, 49 (*use, ind*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

Methylcalcein blue M-00153

N-(*7-Hydroxy-4-methyl-2-oxo-2*H-*1-benzopyran-8-yl*)-N-*methylglycine. 4-Methylumbelliferone-8-methylenesarcosine*
[54696-41-2]



$C_{14}H_{15}NO_5$ M 277.276
Used as a 0.1% aq. soln. as metal fluorescent indicator in titrimetric detn. of Ca. Yellow cryst. (aq. HCl). Sol. alkalis; sl. sol. H_2O. Mp >300°. pK_{a1} 6.7.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*detn, Ca*)
Huitink, G.M. *et al*, *Talanta*, 1974, **21**, 1196 (*synth, nmr*)

Methylcarbamothioic acid, 9CI M-00154

Methylthiocarbamic acid, 8CI
[36887-74-8]

MeNHCSOH

C_2H_5NOS M 91.134
O-*Et ester:* [817-73-2]. *Ethyl* N-*methylthiocarbamate*
C_4H_9NOS M 119.187
Liq. Bp_{10} 93°, $Bp_{1.4}$ 60-62°.
O-*Isopropyl ester:* [20753-31-5]. *Isopropyl* N-*methylthiocarbamate*
$C_5H_{11}NOS$ M 133.214
Used as 0.05*M* soln. in $CHCl_3$ for extraction separation of Ag (from HNO_3, H_2SO_4 or $HClO_4$). Liq. Sol. $CHCl_3$, CCl_4, toluene.

Zolotov, Yu.A. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 1720.
Vall, G.A. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 260 (*use*)
Zolotov, Yu.A. *et al*, *Mikrochim. Acta*, 1985, **I**, 281 (*use*)
Scully, F.E. *et al*, *J. Org. Chem.*, 1989, **54**, 2978 (*synth, pmr*)

Methyl chloroformate M-00155

Carbonochlorididic acid methyl ester, 9CI
[79-22-1]

ClCOOMe

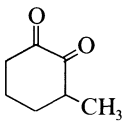
$C_2H_3ClO_2$ M 94.497
Reagent for *N*-demethylations and other reactions. Derivatisation reagent for catecholamines in aq. soln. for quantitative anal. Liq. d_4^{20} 1.223. Bp 72-73°. n_D^{20} 1.3868.

▷ Toxic vapour, highly irritant. Highly flammable, flash p. 12°. FG3675000.

Kirk-Othmer Encycl. Chem. Technol., 2nd Ed., Wiley, N.Y., 1963-1971, **4**, 386 (*rev*)
Barlos, K. *et al*, *Chem. Ber.*, 1977, **110**, 2774 (*nmr*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 376; **7**, 236.
Shen, Q., *Acta Chem. Scand., Ser. A*, 1978, **32**, 245 (*struct*)
De Jong, A.P.J.M. *et al*, *J. Chromatogr.*, 1983, **276**, 267 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 392.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MIG000.

3-Methyl-1,2-cyclohexanedione, 9CI M-00156

2-Hydroxy-3-methyl-2-cyclohexen-1-one
[3008-43-3]



$C_7H_{10}O_2$ M 126.155
Enolised α-diketone. Constit. of coffee. Cryst. (pet. ether). Sol. H_2O. Mp 64-65°. Bp 160-162°, Bp_{12} 80-85°.
1-Oxime: [24863-57-8].
$C_7H_{11}NO_2$ M 141.169
Mp 78-80°.
Dioxime: [18310-18-4]. *3-Methylnioxime*
$C_7H_{12}N_2O_2$ M 156.184
Used as EtOH soln. for extraction-photometric detn. of Ni ($CHCl_3$); gravimetric detn. of Bi, Ni, Pd. Cryst. (EtOH or C_6H_6). Sol. EtOH, C_6H_6; spar. sol. H_2O. Mp 165°. pK_{a1} 10.6 (25°).
1-Phenylhydrazone: [14192-51-9].
Mp 190-191°.

Banks, C.V. *et al*, *J. Org. Chem.*, 1956, **21**, 547 (*synth*)
Giammarino, A.S. *et al*, *Tetrahedron*, 1963, **19**, 2051 (*isol*)
Cumper, C.W.N. *et al*, *J. Chem. Soc.*, 1965, 2067 (*synth*)
Giammarino, A.S. *et al*, *Nature (London)*, 1966, **210**, 1358 (*isol*)
Bassett, J. *et al*, *Analyst (London)*, 1967, **92**, 279 (*detn, Bi, Ni, Pd*)
Bassett, J. *et al*, *J. Chem. Soc. A*, 1969, 2873 (*synth*)
Plekhanov, N.A. *et al*, *Vestn. Mosk. Univ., Ser. 2: Khim.*, 1974, **15**, 492; *CA*, **82**, 77689g (*detn, Ni*)
Moriuchi, C.A. *et al*, *Synthesis*, 1989, 785 (*synth, ir, pmr, cmr*)
Matsurnoto, K. *et al*, *J. Am. Chem. Soc.*, 1990, **112**, 9614 (*synth*)

4-Methyl-1,2-cyclohexanedione, 9CI M-00157

[3008-42-2]
$C_7H_{10}O_2$ M 126.155
(±)-***form***
Needles. Sol. H_2O. Mp 35°. Bp 167°, Bp_{16} 90-95°.
1-Oxime: [24858-31-9].
$C_7H_{11}NO_2$ M 141.169
Mp 161°.
2-Oxime: [24858-29-5].
$C_7H_{11}NO_2$ M 141.169

Mp 118°.

Dioxime: [18310-19-5]. *4-Methylnioxime*

$C_7H_{12}N_2O_2$ M 156.184

Used as a satd. aq. soln. for photometric detn. of Re (λ_{max} 436 nm, ε 69000); extraction-photometric detn. of Pd (λ_{max} 280 nm, $CHCl_3$); gravimetric detn. of Bi, Ni, Pd. Cryst. (MeOH). Sol. EtOH; spar. sol. H_2O. Mp 180°, Mp 181-182° (dec.).

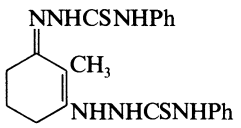
▷ GV0750000.

Banks, C.V. *et al*, *Anal. Chem.*, 1956, **28**, 79 (*grav. detn, Ni, Pd*)
Banks, C.V. *et al*, *J. Org. Chem.*, 1956, **21**, 547 (*synth*)
Banks, C.V. *et al*, *Anal. Chim. Acta*, 1959, **21**, 308 (*photom. detn, Pd*)
Kassner, J.L. *et al*, *Talanta*, 1961, **7**, 269 (*detn, Re*)
Bassett, J. *et al*, *J. Chem. Soc. A*, 1969, 2873 (*synth*)

2-Methyl-1,3-cyclohexanedione bis(phenylthiosemicarbazone) M-00158

2-[2-Methyl-3-[2-[(phenylamino)thioxomethyl]hydrazino]-2-cyclohexen-1-ylidene]-N-phenylhydrazinecarbothioamide, 9CI

[77783-18-7]



$C_{21}H_{24}N_6S_2$ M 424.593

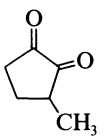
Used as 0.1% soln. in DMF for kinetic photometric detn. of Cu(*II*) (pH <2). Yellow cryst. (EtOH). Sol. DMF, EtOH. Mp 214-216°.

Rodriguez, J. *et al*, *Talanta*, 1981, **28**, 131 (*synth*)
Rodriguez, J. *et al*, *Anal. Chim. Acta*, 1984, **156**, 319 (*detn, Cu*)

3-Methyl-1,2-cyclopentanedione, 9CI M-00159

2-Hydroxy-3-methyl-2-cyclopenten-1-one

[765-70-8]



$C_6H_8O_2$ M 112.128

Enolised β-diketone. Constit. of coffee. Important flavouring ingredient. Cryst. + $2H_2O$. Mp 78-79° (hydrate), Mp 106.5-107° (anhyd.).

Dihydrazone:

$C_6H_{12}N_4$ M 140.188

Mp 143°.

Dioxime: [41330-47-6].

$C_6H_{10}N_2O_2$ M 142.157

Mp 148-149° dec.

Disemicarbazone: Mp 280°.

Bis(thiosemicarbazone): [15899-61-3]. *2,2′-(3-Methyl-1,2-cyclopentanediylidene)bishydrazinecarbothioamide, 9CI*

$C_8H_{14}N_6S_2$ M 258.371

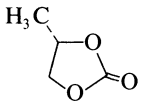
Used as 0.06% soln. in DMF/Me_2CO for photometric detn. of Zn (λ_{max} 415 nm, ε 10000), Bi (λ_{max} 420 nm, ε 11000), Cd, Hg, Cu, Co; as soln. in EtOH for photometric detn. of Pb and Ag (λ_{max} 430 nm, ε 10000, pH8). Yellow cryst. Sol. EtOH, $CHCl_3$, DMF, Me_2CO. Mp 240°.

Sato, K. *et al*, *J. Org. Chem.*, 1967, **32**, 339 (*synth, bibl*)
Rojas, J. *et al*, *Microchem. J.*, 1982, **27**, 433, 445 (*synth, use*)
Salim, R. *et al*, *Spectrosc. Lett.*, 1985, **18**, 583, 593; *CA*, **104**, 14178s (*detn, Ag, Pb*)

4-Methyl-1,3-dioxolan-2-one, 9CI M-00160

Carbonic acid cyclic propylene ester. Methylethylene carbonate. 1,2-Propylene carbonate

[108-32-7]



(S)-form

$C_4H_6O_3$ M 102.090

▷ FF9650000.

(S)-form [51260-39-0]

Bp_{25} 100-105°. $[\alpha]_D^{25}$ −1.7° (c, 0.92 in EtOH).

(±)-form

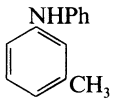
Much-patented industrial intermed. for polymerisations, etc. Used as an extraction solvent with $CHCl_3$. Liq. d^{23} 1.21. $Bp_{4.5}$ 92°, $Bp_{0.08}$ 79-80°.

Chabrier, P. *et al*, *Bull. Soc. Chim. Fr.*, 1954, 1142 (*synth, props*)
Trudell, L.A. *et al*, *Anal. Chim. Acta*, 1970, **52**, 343.
Jakubiec, R.J. *et al*, *Mikrochim. Acta*, 1970, 1199 (*use*)
Usieli, V. *et al*, *J. Org. Chem.*, 1974, **39**, 2073 (*synth, ir, uv, pmr*)
Mizuno, T. *et al*, *Synthesis*, 1989, 636 (*synth, ir, pmr, ms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CBW500.

3-Methyldiphenylamine M-00161

3-Methyl-N-phenylbenzenamine, 9CI. N-*Phenyl*-m-*toluidine, 8CI. Phenyl*-m-*tolylamine*

[1205-64-7]



$C_{13}H_{13}N$ M 183.252

Used as redox indicator. Cryst. Sol. Me_2CO, Et_2O, CS_2. Mp 29-30°. Bp_{725} 315°.

Ullmann, F., *Justus Liebigs Ann. Chem.*, 1907, **355**, 312.
Zarosov, V.A. *et al*, *CA*, 1945, **39**, 4412.
Scardiglia, F. *et al*, *J. Org. Chem.*, 1958, **23**, 629.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

4-Methyldiphenylamine M-00162

4-Methyl-N-phenylbenzenamine, 9CI. N-*Phenyl*-p-*toluidine, 8CI. Phenyl*-p-*tolylamine*

[620-84-8]

$C_{13}H_{13}N$ M 183.252

Used as a redox indicator. Cryst. Sol. Me_2CO, Et_2O, CS_2. Mp 89°. Bp_{727} 318°. pK_a 23.1 (25°, DMSO aq.).

N-*Ac:*

$C_{15}H_{15}NO$ M 225.290

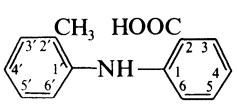
Cryst. (EtOH). Mp 52°.

Merz, V. *et al*, *J. Prakt. Chem.*, 1893, **48**, 454.
Goldberg, I. *et al*, *Ber.*, 1907, **40**, 4541.
Ullmann, F., *Justus Liebigs Ann. Chem.*, 1907, **355**, 312.
Scardiglia, F. *et al*, *J. Org. Chem.*, 1958, **23**, 629.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)
Cox, R.A. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 488.

2′-Methyldiphenylamine-2-carboxylic acid M-00163

2-[(2-Methylphenyl)amino]benzoic acid, 9CI. N-o-*Tolylanthranilic acid, 8CI. 2*-o-*Toluidinobenzoic acid*

[16610-44-9]



$C_{14}H_{13}NO_2$ M 227.262
Used as a redox indicator for titrimetric detn. of Fe(*II*). Leaflets (C_6H_6). Sol. alkalis, EtOH, Et_2O, C_6H_6; insol. H_2O. Mp 189°. $Bp_{0.01}$ 200°. E° + 1.11V.

▷ CB4172000.

Locher, J., *Justus Liebigs Ann. Chem.*, 1894, **279**, 275.
Lehmstedt, K. *et al*, *Ber.*, 1936, **69**, 2399.
Lederer, M. *et al*, *Anal. Chim. Acta*, 1952, **6** (*detn, Fe*)
Massie, S.P. *et al*, *J. Org. Chem.*, 1956, **21**, 347.

3′-Methyldiphenylamine-2-carboxylic acid M-00164

2-[(3-Methylphenyl)amino]benzoic acid, 9CI. N-m-*Tolylanthranilic acid, 8CI. 2-*m-*Toluidinobenzoic acid*

[16524-22-4]

$C_{14}H_{13}NO_2$ M 227.262
Used as a redox indicator for titrimetric detn. of Fe(*II*). Leaflets (C_6H_6). Sol. alkalis, EtOH, Et_2O, C_6H_6; insol. H_2O. Mp 139°. E° + 0.84 - 0.86V.

▷ CB4170000.

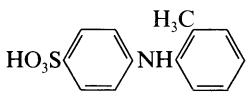
[23554-55-4]

Ullmann, F., *Justus Liebigs Ann. Chem.*, 1907, **355**, 312.
Lederer, M. *et al*, *Anal. Chim. Acta*, 1952, **6**, 1 (*detn, Fe*)

2-Methyldiphenylamine-4-sulfonic acid M-00165

4-(2-Methylphenylamino)benzenesulfonic acid, 9CI. o-*Tolylphenylamine monosulfonic acid*

[6052-39-7]

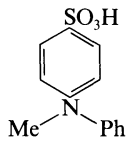


$C_{13}H_{13}NO_3S$ M 263.317
Used as redox indicator. Cryst. Sol. H_2O.

Cohen, S. *et al*, *Ind. Eng. Chem., Anal. Ed.*, 1936, **8**, 364 (*use, ind*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

N-Methyldiphenylamine-4-sulfonic acid M-00166

*4-(N-Methyl-*N*-phenylamino)benzenesulfonic acid*



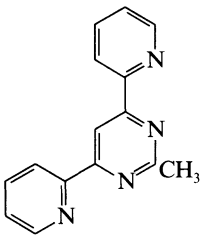
$C_{13}H_{13}NO_3S$ M 263.317
Used as 0.1% aq. soln. for photometric detn. of V (λ_{max} 522 nm, ε 26400); redox indicator. E° + 0.80 V; λ_{max} 520-525 nm.

Ba salt: Plates (H_2O).
Na salt: Cryst. (H_2O). Sol. H_2O.

Knop, J. *et al*, *Fresenius' Z. Anal. Chem.*, 1941, **122**, 183 (*synth*)
Bishop, E. *et al*, *Talanta*, 1969, **16**, 138 (*detn, V*)
Frumina, N.S. *et al*, *Analyst (London)*, 1971, **96**, 26 (*ind*)

2-Methyl-4,6-di-2-pyridinylpyrimidine, 9CI M-00167

[61097-51-6]



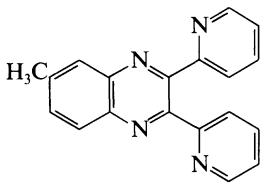
$C_{15}H_{12}N_4$ M 248.287
Used for photometric detn. of Cu(*I*) (λ_{max} 495 nm, ε 8800, pH 7, 50% EtOH). Cryst. (MeOH). Sol. MeOH, EtOH. Mp 138°.

Schilt, A.A. *et al*, *Talanta*, 1976, **23**, 543 (*synth, detn, Cu*)

6-Methyl-2,3-di-2-pyridylquinoxaline, 8CI M-00168

2,3-Bis(2-pyridyl)-6-methylquinoxaline

[17401-62-6]



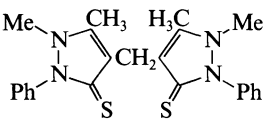
$C_{19}H_{14}N_4$ M 298.346
Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 515 nm, ε 3950, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 138°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)

4,4′-Methylenebis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-thione], 9CI M-00169

Bis(thioantipyryl)methane

[53799-78-3]



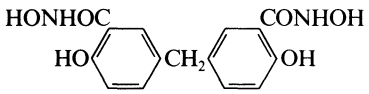
$C_{23}H_{24}N_4S_2$ M 420.601
Used as a 0.01*M* soln. in AcOH to give colour reactions with Au, Mo, Sb, Os, Sn, Re; used for extraction-photometric detn. of Bi (in the presence of $SCN^{\ominus}$; dichloroethane), and photometric detn. of Pd (λ_{max} 500 nm, ε 29000), Te (λ_{max} 360 nm, ε 52000), Os (λ_{max} 680 nm, ε 3100). Cryst. (EtOH). Sol. acids, alcohols, EtOH, Me_2CO, $CHCl_3$; insol. H_2O. Mp 237.5°.

Dologorev, A.V. *et al*, *Zavod. Lab.*, 1974, **40**, 146, 247, 1182; 1978, **44**, 1050 (*colour reactions, detn, Pd, Bi*)
Dolgorev, A.V. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1766; 1979, **34**, 2192 (*synth, detn, Te*)
Akimov, V.K. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 1004 (*synth, use*)

3,3′-Methylenebis[*N*,6-dihydroxybenzamide], 9CI M-00170

5,5′-Methylenebis(salicylohydroxamic acid)

[82085-22-1]



$C_{15}H_{14}N_2O_6$ M 318.285

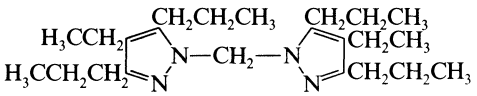
Used as a 1m*M* soln. in EtOH for photometric detn. of V(*V*) (λ_{max} 495 nm, ε 5100). Cryst.

Salinas, F. *et al*, *Microchem. J.*, 1982, **27**, 188 (*detn, V*)

1,1′-Methylenebis[4-ethyl-3,5-dipropyl-1*H*-pyrazole], 9CI M-00171

Bis(4-ethyl-3,5-dipropyl-1-pyrazolyl)methane

[40012-16-6]



$C_{23}H_{40}N_4$ M 372.596

Used as 0.1*M* $CHCl_3$ soln. for extraction-separation of Zn (from Cd, halide or $SCN^{\ominus}$). Cryst. Sol. $CHCl_3$.

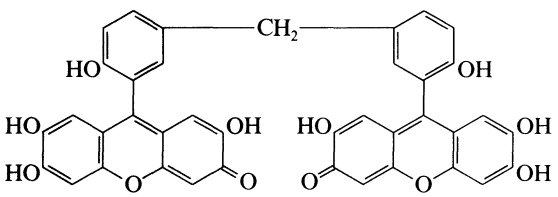
Dziomko, V.M., *Zh. Neorg. Khim.*, 1974, **19**, 1051 (*synth*)

Sukhanovskaya, A.I. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 1539 (*sepn, Zn*)

9,9′-[Methylenebis(6-hydroxy-3,1-phenylene)]bis-[2,6,7-trihydroxy-3*H*-xanthen-3-one], 9CI M-00172

5,5-Methylenebissalicylfluorone

[54703-61-6]



$C_{39}H_{24}O_{12}$ M 684.611

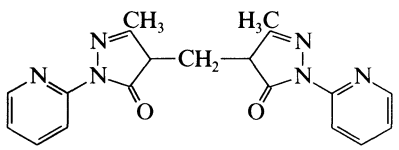
Used as 1m*M* soln. in EtOH for photometric detn. of Te (λ_{max} 530 nm, ε 35000). Cryst. (EtOH). Sol. EtOH, MeOH.

Nazerenko, V.A. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1850 (*synth, detn, Te*)

Antonovich, V.A. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 2341 (*synth*)

4,4′-Methylenebis[3-methyl-1-(2-pyridyl)-5-pyrazol-ol], 8CI M-00173

Bis[1-(2-pyridyl)-3-methyl-5-pyrazolon-4-yl]methane



$C_{19}H_{18}N_6O_2$ M 362.390

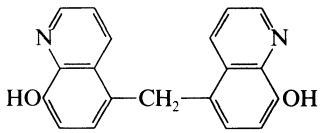
Used as a 0.3% soln. in aq. NH_3 for fluorimetric detn. of Dy, Tl. Cryst. Mp 213° dec.

Butter, E. *et al*, *Talanta*, 1968, **15**, 901 (*synth, uv, ir, nmr, use*)

5,5′-Methylenebis[8-quinolinol], 9CI M-00174

8,8′-Dihydroxy-5,5′-biquinolylmethane

[2536-71-2]



$C_{19}H_{14}N_2O_2$ M 302.332

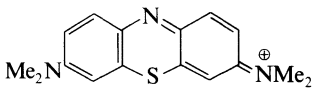
Used as a satd. soln. in dil. HCl for extraction-photometric detn. of Al, Cu, Fe, Ni, Zn. Cryst. powder. Sol. EtOH; spar. sol. H_2O, HCl aq. (0.76mg per 100cm^3). pK_{a1} 4.2; pK_{a2} 10.0 (20% EtOH).

Schüller, J., *J. Prakt. Chem.*, 1913, **88**, 180 (*synth*)

Philips, J.P. *et al*, *Anal. Chim. Acta*, 1960, **23**, 131 (*use*)

Methylene blue, USAN M-00175

3,7-Bis(dimethylamino)phenothiazin-5-ium(1+), 9CI. Swiss blue. Calcozine blue ZF. C.I. Basic blue 9. C.I. 52015. Other proprietary names



$C_{16}H_{18}N_3S^{\oplus}$ M 284.404 (ion)

Chloride: [61-73-4]. *Methylthioninium chloride, INN*

$C_{16}H_{18}ClN_3S$ M 319.857

Bacteriological stain, redox indicator, antiseptic. Antimethaemoglobinaemic, cyanide antidote. Used as 0.05% aq. soln. for extraction-photometric detn. of many elements as anionic complexes, e.g. B (as $BF_4^{\ominus}$, λ_{max} 665 nm, ε 82000, 1,2-dichloroethane), Sb, Ga, In, Au, Pd, Os, Ta, Tl(*III*), Ge, P(*V*), Si(*IV*), $SCN^{\ominus}$, $ClO_4^{\ominus}$. Dark bronze-green cryst. with bronze lustre + ca. $3H_2O$ (HCl aq.). Sol. H_2O, EtOH. Blue soln. in H_2O, λ_{max} 668, 609 nm. Bleached reversibly by Zn/HCl or $Na_2S_2O_4$. A mixt. with Lauth's violet, L-00003 is sometimes mistakenly referred to as Azure II.

▷ LD_{50} 82mg/kg (mouse, iv). SO5600000.

[7220-79-3]

Bernthsen, A., *Justus Liebigs Ann. Chem.*, 1885, **230**, 73, 137; 1888, **251**, 1 (*synth, props*)

Fierz-David, H.E. *et al*, *Fundamental Processes of Dye Chemistry*, Interscience, N.Y., 1949, 311 (*rev*)

Serge, G. *et al*, *Angew. Chem.*, 1956, **68**, 486 (*use*)

Ducret, L., *Anal. Chim. Acta*, 1957, **17**, 213 (*detn, B*)

Iwasaki, I. *et al*, *Bull. Chem. Soc. Jpn.*, 1963, **36**, 325 (*detn, $ClO_4^{\ominus}$*)

Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 128 (*detn, Ge*)

Marczenko, Z. *et al*, *Analyst (London)*, 1981, **106**, 751 (*detn, Os*)

Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1042.

Köthe, J. *et al*, *Fresenius' Z. Anal. Chem.*, 1985, **320**, 545 (*detn, B*)

Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 183.

Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 4021.

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BJI250.

2-Methylenebutanedioic acid, 9CI M-00176

Methylenesuccinic acid, 8CI. 2-Propene-1,2-dicarboxylic acid. Itaconic acid

[97-65-4]

$H_2C{=}C(COOH)CH_2COOH$

$C_5H_6O_4$ M 130.100

Prod. comly. by fermentation of molasses, glucose etc.

with *Aspergillus terreus*. Pyrol. prod. of citric acid. Prod. by various microorganisms and isol. from plants, e.g. roots of *Vicia faba*. Speciality monomer imparting performance advantages to surface coating polymers etc. Hygroscopic cryst. Mod. sol. H_2O, EtOH; spar. sol. Et_2O, C_6H_6. Mp 167-168° (162-164° dec.). pK_{a1} 3.68; pK_{a2} 5.14 (25°, 0.1*M* $NaClO_4$). V. low toxicity. Interconverts with citraconic and mesaconic acids under strongly basic conds. or on htg.

4-Mono-Me ester: [7338-27-4].
$C_6H_8O_4$ M 144.127
Mp 70°. Bp_{12} 149°.

Di-Me ester: [617-52-7].
$C_7H_{10}O_4$ M 158.154
Mp 38°. Bp 208°, Bp_{11} 108°.

Di-Et ester: [2409-52-1].
$C_9H_{14}O_4$ M 186.207
$Bp_{0.3}$ 81°. n_D^{30} 1.4355.

Dibutyl ester: [2155-60-4].
$C_{13}H_{22}O_4$ M 242.314
$Bp_{1.3}$ 145°. n_D^{25} 1.442.

Diamide: [3786-29-6].
$C_5H_8N_2O_2$ M 128.130
Mp 192°.

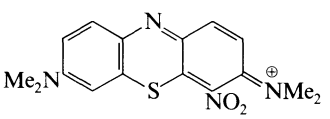
Dichloride: [1931-60-8].
$C_5H_4Cl_2O_2$ M 166.991
Bp_{17} 89°.
▷ WN4950000.

Anhydride: [2170-03-8].
$C_5H_4O_3$ M 112.085
Used for detn. of tertiary amines. Mp 68°. Bp_{30} 139-140°.

Org. Synth., Coll. Vol., 2, 1943, 368 (*synth*)
Pfeifer, V.F. *et al, Ind. Eng. Chem.*, 1952, **44**, 2975 (*manuf*)
Jones, E.R.H., *J. Chem. Soc.*, 1954, 1865 (*synth*)
Chiusoli, G.P., *Angew. Chem.*, 1960, **72**, 74 (*synth*)
Coïc, Y. *et al, C. R. Hebd. Seances Acad. Sci.*, 1960, **250**, 914 (*isol*)
Org. Synth., Coll. Vol., 4, 1963, 554 (*chloride*)
Wroński, M., *Chem. Anal. (Warsaw)*, 1966, **11**, 799; *CA*, **66**, 8157n (*anhydride, use*)
Harlow, R.L. *et al, Acta Crystallogr., Sect. B*, 1973, **29**, 2965 (*cryst struct*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **13**, 865 (*rev, bibl*)
Kita, Y. *et al, Tetrahedron Lett.*, 1984, **25**, 6027 (*deriv*)
Kita, Y. *et al, J. Org. Chem.*, 1986, **51**, 4150 (*deriv, synth, ir, pmr*)

Methylene green M-00177

3,7-Bis(dimethylamino)-4-nitrophenothiazin-5-ium(1+), 9CI. C.I. Basic green 5. C.I. 52020



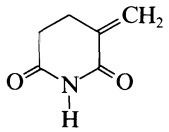
$C_{16}H_{17}N_4O_2S^{\oplus}$ M 329.402 (ion)
Strictly, the name Methylene green apples to the chloride.

Chloride: [2679-01-8].
$C_{16}H_{17}ClN_4O_2S$ M 364.855
Used as 1m*M* aq. soln. for extraction-photometric detn. of B (as $BF_4^{\ominus}$), Si, Ta, Tl(*III*). Bluish-green cryst. powder. Sol. H_2O; sl. sol. EtOH.
▷ SP5775000.

Pasztor, V.M. *et al, Anal. Chim. Acta*, 1961, **24**, 467 (*detn, B*)
Tarayan, V.M. *et al, Zavod. Lab.*, 1969, **35**, 1435 (*detn, Tl*)
Tarayan, V.M. *et al, Khim. Khim. Tekhnol. (Minsk)*, 1970, **13**, 1573 (*detn, Ta*)
Mirzoyan, F.V. *et al, Zh. Anal. Khim.*, 1980, **35**, 1293 (*detn, Si*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MJU250.

3-Methylene-2,6-piperidinedione M-00178

α-Methyleneglutarimide
[34573-74-5]



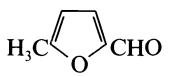
$C_6H_7NO_2$ M 125.127
Cryst. (CH_2Cl_2/Et_2O). Mp 116-117°.

Dioxime: [79162-60-0]. *2,6-Dihydroxyimine-3-methylenepiperidine*
$C_6H_9N_3O_2$ M 155.156
Used as a 0.25% soln. in glycol for photometric detn. of Fe(*III*) (λ_{max} 475 nm). Cryst. Sol. EtOH, Me_2CO, glycol. pK_{a1} 11.28.

Ruis, J. *et al, Afinidad*, 1981, **38**, 235; *CA*, **95**, 143425q (*detn, Fe*)
Wanner, M.J. *et al, Synthesis*, 1988, 325 (*synth, ir, pmr*)

5-Methyl-2-furancarboxaldehyde, 9CI M-00179

5-Methylfurfural. 2-Formyl-5-methylfuran
[620-02-0]



$C_6H_6O_2$ M 110.112
Isol. from brown algae and other plant sources, doubtless as a secondary prod. from saccharides. Oil. d_4^{18} 1.1072. Bp 187°, Bp_{12} 79-81°.
▷ LT7032500.

Oxime, (E-): [57784-58-4].
$C_6H_7NO_2$ M 125.127
Prisms (ligroin). Mp 51-52°.

Oxime, (Z-): [57784-53-9].
$C_6H_7NO_2$ M 125.127
Needles (ligroin). Mp 112°.

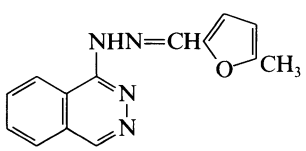
Phenylhydrazone: Mp 147-148°.

Thiosemicarbazone: [6823-95-6]. *5-Methyl-2-furancarboxaldehyde thiosemicarbazone*
$C_7H_9N_3OS$ M 183.234
Used as a 0.4m*M* soln. in EtOH to give colour reaction with Pd (λ_{max} 393 nm, ε 44000). Cryst.

Fromherz, K. *et al, Ber.*, 1907, **40**, 404.
Reichstein, T., *Helv. Chim. Acta*, 1930, **13**, 346.
Org. Synth., 1934, **14**, 62.
Grigg, R. *et al, Tetrahedron*, 1965, **21**, 3441 (*ms*)
Mas'ko, L.I. *et al, Zh. Anal. Khim.*, 1975, **30**, 315 (*detn, Pd*)
Comins, D.L. *et al, J. Org. Chem.*, 1987, **52**, 104 (*synth, pmr*)

5-Methyl-2-furancarboxaldehyde 1-phthalazinylhydrazone, 9CI M-00180

5-Methylfurfural 1-phthalazinehydrazone
[83728-76-1]



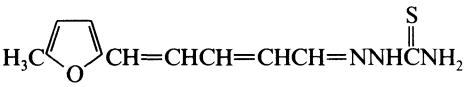
$C_{14}H_{12}N_4O$ M 252.275
Used as 0.01*M* soln. in 10% Triton X-100 soln. for photometric detn. of Ni. Cryst. Sol. EtOH, $CHCl_3$; insol. H_2O, C_6H_6. Mp 239-241°.

Ishii, H. *et al, Analyst (London)*, 1982, **107**, 885 (*detn, Ni*)

5-(5-Methyl-2-furanyl)-2,4-pentadienal thiosemicarbazone M-00181

2-[5-(5-Methyl-2-furanyl)-2,4-pentadienylidene] hydrazinecarbothioamide, 9CI

[53652-14-5]



$C_{11}H_{13}N_3OS$ M 235.309

Used as a 0.4m*M* soln. in EtOH for photometric detn. of Pd (λ_{max} 442 nm, ε 86000). Cryst.

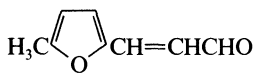
[53652-22-5]

Mas'ko, L.I. *et al, Zh. Anal. Khim.*, 1974, **29**, 1490; 1975, **30**, 315 (*uv, detn, Pd*)

3-(5-Methyl-2-furanyl)-2-propenal M-00182

3-(5-Methyl-2-furyl)acrolein

[5555-90-8]



$C_8H_8O_2$ M 136.150

Liq. d_{20} 1.1006. Bp_5 100-102°. n_D^{20} 1.6089.

Thiosemicarbazone: [34161-38-1].

$C_9H_{11}N_3OS$ M 209.271

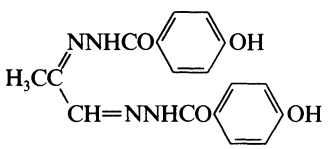
Used as a 0.4m*M* soln. in EtOH for photometric detn. of Pd (λ_{max} 400 nm, ε 38000), Pt (λ_{max} 400 nm, ε 46000). Cryst. (EtOH). Mp 141-142°. pK_{a1} 0.56; pK_{a2} 11.56.

[108576-22-3]

Ponomarev, A.A. *et al, Zh. Obshch. Khim.*, 1953, **23**, 1719; *CA*, **48**, 13677i (*synth*)
Kallinich, G., *Arch. Pharm.* (*Weinheim, Ger.*), 1961, **294**, 90 (*synth*)
Kerentseva, V.P. *et al, Zh. Anal. Khim.*, 1971, **26**, 1144; 1972, **27**, 719 (*deriv, synth, pKa, detn, Pd, Pt*)

Methylglyoxal bis(4-hydroxybenzoylhydrazone) M-00183

4-Hydroxybenzoic acid (1-methyl-1,2-ethanediylidene) dihydrazide, 9CI



$C_{17}H_{16}N_4O_4$ M 340.338

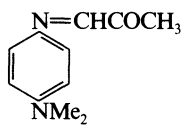
Used as a 1m*M* soln. in 0.01*M* NaOH for photometric detn. of Bi, Ca, Cd, La. Cryst. (EtOH). Sol. EtOH, DMF, alkalis.

Lever, M., *Anal. Chim. Acta*, 1973, **65**, 311 (*use*)

Methylglyoxal 4-dimethylaminoanil M-00184

[p-(*Dimethylaminophenyl*)]*formimidoylacetaldehyde*

[27794-05-4]



$C_{11}H_{14}N_2O$ M 190.244

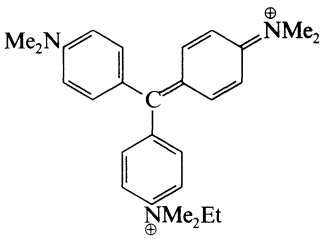
Used as complexing agent for Cd, Hg, Zn. Cryst.

Saxena, R.C. *et al, CA*, 1969, **71**, 74806e (*use*)
Saxena, R.C. *et al, Indian J. Appl. Chem.*, 1969, **32**, 117, 328 (*use*)

Methyl green M-00185

4-[[4-(Dimethylamino)phenyl][4-(dimethylimino)-2,5-cyclohexadien-1-ylidene]methyl]-N-ethyl-N,N-dimethylbenzenaminium(2+), 9CI. C.I. 42590

[22244-13-9]



$C_{27}H_{35}N_3^{2\oplus}$ M 401.594 (ion)

Basic dye. Strictly the name Methyl green applies to the bromide chloride salt and is also applied to the trimethyl analogue.

Bromide chloride: [14855-76-6].

$C_{27}H_{35}BrClN_3$ M 516.950

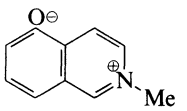
Used as aq. soln. for extraction-photometric detn. of Bi, Sb, Ga, Tl(*III*), Ta, Hg(*II*), Pt (ε 145000, 1,2-dichloroethane), Re (λ_{max} 640 nm, ε 120000, C_6H_6). Used as biological stain, and in dyeing and printing textiles. Commercially available as double salt with $ZnCl_2$. Green cryst. Sol. H_2O.

[7114-03-6]

Shestidesyatnaya, P.P. *et al, Zh. Anal. Khim.*, 1970, **25**, 1547 (*detn, Bi*)
Tarayan, V.N. *et al, Zh. Anal. Khim.*, 1971, **26**, 1745; 1972, **27**, 19; 1977, **32**, 1456 (*detn, Ta, Tl*)
Ovsepyan, E.N. *et al, Zh. Anal. Khim.*, 1983, **38**, 1277 (*detn, Pt*)

2-Methyl-5-hydroxyisoquinolinium betaine M-00186

5-Hydroxy-2-methylisoquinolinium hydroxide inner salt



$C_{10}H_9NO$ M 159.187

Used for photometric detn. of H_2O in organic solvs. (EtOH, 2-propanol, Me_2CO, MeCN, dioxan). Orange cryst. ($CHCl_3/C_6H_6$). Sol. common org. solvs.

Kumoi, S. *et al, Talanta*, 1970, **17**, 319 (*use*)

O-Methylhydroxylamine, 9CI M-00187

Methoxylamine. Hydroxylamine methyl ether. Methoxyamine

[67-62-9]

CH_5NO M 47.057

Reagent for introducing the methoxyimino group for ketones, esp. steroids. Derivatisation reagent for anal. of steroid and prostaglandin ketones. Mp −86.4°. Bp 48.1°. Reduces $AgNO_3.NH_3$ but not Fehling's soln.

▷ Highly irritant. NC3850000.

B,HCl: [593-56-6].

Prisms. Mp 149°.

▷ NC3980000.

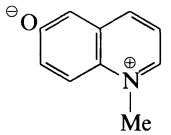
Picrate: Mp 175°.

Traube, W. *et al, Ber.*, 1920, **53**, 1477 (*synth*)
Goldfarb, A.R., *J. Am. Chem. Soc.*, 1945, **67**, 1852 (*synth*)
Theilacker, W. *et al, Angew. Chem.*, 1956, **68**, 303 (*synth*)
Bissot, T.C. *et al, J. Am. Chem. Soc.*, 1957, **79**, 796 (*synth, props*)

Davies, M. *et al*, *J. Chem. Soc.*, 1959, 3971 (*ir*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 670.
Green, K., *Chem. Phys. Lipids*, 1969, **3**, 254 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MKQ880, MNG500.

1-Methyl-6-hydroxyquinolinium betaine M-00188

6-Hydroxy-1-methylquinolinium hydroxide inner salt



$C_{10}H_9NO$ M 159.187

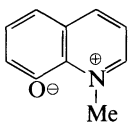
Used for photometric detn. of H_2O in organic solvents (EtOH, 2-propanol, Me_2CO, MeCN, dioxan). Orange cryst. ($CHCl_3/C_6H_6$). Sol. common org. solvents.

Prince, A.K., *Arch. Biochem. Biophys.*, 1966, **113**, 195 (*synth*)
Kumoi, S. *et al*, *Talanta*, 1970, **17**, 319 (*use, detn, H_2O*)

1-Methyl-8-hydroxyquinolinium betaine M-00189

8-Hydroxy-1-methylquinolinium hydroxide inner salt, 9CI

[22544-89-4]



$C_{10}H_9NO$ M 159.187

Used for photometric detn. of H_2O in organic solvs. (EtOH, 2-propanol, Me_2CO, MeCN, dioxan). Orange cryst. ($CHCl_3$/pet. ether). Sol. common org. solvs.

[90142-20-4]

Saxena, J.P. *et al*, *J. Chem. Soc.*, 1959, 1579 (*synth*)
Foye, W.O. *et al*, *J. Pharm. Sci.*, 1966, **53**, 1338 (*synth*)
Kumoi, S. *et al*, *Talanta*, 1970, **17**, 319 (*use*)

1-Methylimidazole, 9CI M-00190

[616-47-7]

$C_4H_6N_2$ M 82.105

Reagent for phosphorylation of alcohols, in conjunction with $HgCl_2$ and H_3PO_4. Catalyst for acetylation of hydroxy compds. for gc. anal. Misc. H_2O. d^{10} 1.036. Fp −6°. Bp 195-196°, $Bp_{14\text{-}15}$ 94-95°. pK_a 6.95 (25°, H_2O).

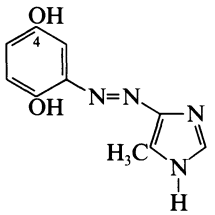
▷ NI7000000.

Picrate: Yellow needles. Mp 158-159°.
B,MeI: Cryst. Very hygroscopic.

Wohl, A. *et al*, *Ber.*, 1889, **22**, 1353.
Sarasin, J., *Helv. Chim. Acta*, 1923, **6**, 370.
v. Auwers, K. *et al*, *Ber.*, 1926, **59**, 539.
Kohlrausch, K.W.F. *et al*, *Ber.*, 1938, **71**, 985.
v. Thuijl, J. *et al*, *Org. Mass Spectrom.*, 1973, **7**, 1165 (*ms*)
Sattler, H.J. *et al*, *Arch. Pharm. (Weinheim, Ger.)*, 1975, **308**, 795 (*cmr*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 447.
Wachowiak, R. *et al*, *Anal. Chem.*, 1979, **51**, 27 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MKT500.

2-(4-Methyl-3-imidazolylazo)-1,4-benzenediol M-00191

4-(2,5-Dihydroxyphenylazo)-5-methylimidazole



$C_{10}H_{10}N_4O_2$ M 218.215

4-Me ether: [13182-98-4]. *4-Methoxy-2-[(5-methylimidazol-4-yl)azo]phenol, 9CI. 4-(2-Hydroxy-5-methoxyphenylazo)-5-methylimidazole*

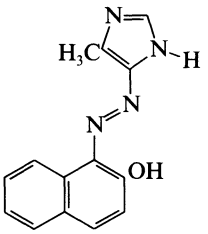
$C_{11}H_{12}N_4O_2$ M 232.241

Used as metallochromic indicator for titrimetric detn. of Cd, Co, Cu, Ni, Zn. Yellowish-brown powder (EtOH). Mp 232-233° dec. pK_{a1} 3.9; pK_{a2} 11.0 (50% dioxan, 25°).

Yamauchi, O. *et al*, *Chem. Pharm. Bull.*, 1966, **14**, 948 (*synth, deriv*)
Yamauchi, O. *et al*, *Talanta*, 1968, **15**, 177, 459 (*use*)

1-[(5-Methylimidazol-4-yl)azo]-2-naphthol, 8CI M-00192

[3932-14-7]



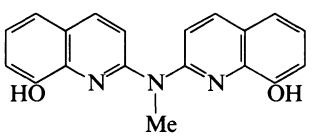
$C_{14}H_{12}N_4O$ M 252.275

Used as a 0.1% soln. in EtOH as a metallochromic indicator for titrimetric detn. of Cu, Cd, Co, Ni, Zn. Orange-red cryst. Sol. Et_2O, EtOH. pK_{a1} 3.8; pK_{a2} 11.6 (50% dioxan, 25°).

Tanaka, H. *et al*, *Chem. Pharm. Bull.*, 1964, **12**, 1268 (*detn, Cu*)
Yamauchi, O. *et al*, *Talanta*, 1968, **15**, 177, 459 (*use, detn, Cd, Co, Ni, Zn*)

2,2′-(Methylimino)bis-8-quinolinol, 9CI M-00193

[65165-14-2]



$C_{19}H_{15}N_3O_2$ M 317.346

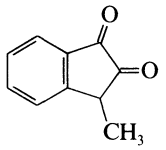
Used as 0.05m*M* EtOH soln. for fluorimetric detn. of Y (pH ~ 9, in the presence of excess Al), La, Lu. Cryst. Sol. EtOH, DMF.

Golovina, A.P. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 1816 (*synth, detn, Y*)
Kachin, S.V. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 1390 (*synth, use*)

3-Methyl-1,2-indandione, 8CI M-00194

*3-Methyl-1*H*-indene-1,2(3*H*)-dione, 9CI*

[80070-43-5]



$C_{10}H_8O_2$ M 160.172

Viscous red oil.

2-Oxime: [24273-33-4].

Needles (C_6H_6 or EtOH). Mp 138-139°, Mp 98°. Dimorphic.

Dioxime: [24273-34-5].

$C_{10}H_{10}N_2O_2$ M 190.201

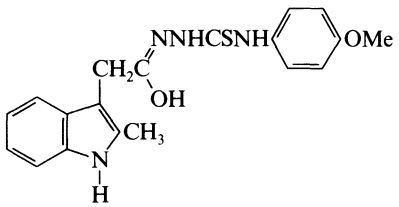
Used for pptn. of Au, Co, Cu, Fe(*II*), Pd. Cryst.

Von Braun, J. *et al*, *Ber.*, 1913, **46**, 3041 (*synth*)
Bark, L.S. *et al*, *Talanta*, 1969, **16**, 497 (*dioxime, use*)
Chatterjea, J.N. *et al*, *Justus Liebigs Ann. Chem.*, 1981, 52 (*synth, oxime*)

1-(2-Methylindol-3-ylacetyl)-4-(*p*-methoxyphenyl)thiosemicarbazide M-00195

*2-Methyl-1*H*-indole-3-acetic acid 2-[[(4-methoxyphenyl) amino]thioxomethyl]hydrazide*

[54686-44-1]



$C_{19}H_{20}N_4O_2S$ M 368.459

Used as a 0.01*M* soln. in MeOH for photometric and gravimetric detn. of Co, Cu, Hg, Zn. Cryst.

Barsoum, B.N. *et al*, *J. Chin. Chem. Soc.* (*Peking*), 1985, **32**, 117; *CA*, **103**, 205016b (*use*)

Methyl isothiocyanate M-00196

Isothiocyanatomethane, 9CI. Methyl mustard oil

[556-61-6]

MeNCS

Isol. from seeds of *Cleome spinosa*. Isol. from mustard oil, present as glucoside in Capparidaceae. Reagent used in amino acid sequence anal. Cryst. Mp 36°. Bp 119°. n_D 1.5258.

▷ Highly irritant. PA9625000.

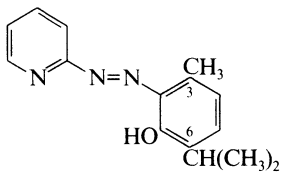
[49582-15-2]

Delépine, M., *Bull. Soc. Chim. Fr.*, 1908, **3**, 642 (*synth*)
Kjaer, A. *et al*, *Acta Chem. Scand.*, 1955, **9**, 857; 1963, **17**, 2143 (*isol, ms*)
Org. Synth., Coll. Vol., 3, 1955, 599 (*synth*)
Mathias, A. *et al*, *Tetrahedron*, 1965, **21**, 1073 (*pmr*)
Attril, J.E. *et al*, *Anal. Lett.*, 1970, **3**, 59 (*use*)
Waterfield, M. *et al*, *Biochemistry*, 1970, **9**, 832 (*use*)
Anderson, D.W.W. *et al*, *J. Mol. Struct.*, 1972, **14**, 385 (*struct*)
Fairwell, T. *et al*, *Anal. Biochem.*, 1973, **53**, 115 (*use*)
Molina, P. *et al*, *Synthesis*, 1982, 596 (*synth*)
Durig, J.R. *et al*, *J. Mol. Struct.*, 1983, **100**, 241 (*ir, raman*)
Giffard, M. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1985, 157 (*pmr, cmr, N-15 nmr*)
Giesselmann, G. *et al*, *Chem.-Ztg.*, 1990, **114**, 215 (*rev, synth, use, props*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ISE000.

3-Methyl-6-(1-methylethyl)-2-(2-pyridinylazo)phenol, 9CI M-00197

6-Isopropyl-3-methyl-2-(2-pyridinylazo)phenol. 2-(2-Hydroxy-3-isopropyl-6-methylphenylazo)pyridine

[67520-57-4]



$C_{15}H_{17}N_3O$ M 255.319

Used as 1m*M* EtOH soln. for extraction-photometric detn. of Pd, Co, Ni (λ_{max} 600 nm, ε 23000, 0.02-2*M* NH_3, $CHCl_3$). Cryst. (EtOH aq.). Sol. pet. ether, EtOH. Mp 180°.

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 734 (*synth, use*)

5-Methyl-2-(1-methylethyl)-4-(2-pyridinylazo)phenol, 9CI M-00198

6-(2-Pyridylazo)thymol, 8CI. 2-Isopropyl-5-methyl-4-(2-pyridinylazo)phenol

[24114-27-0]

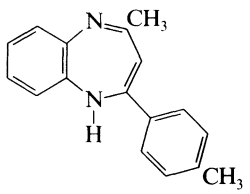
$C_{15}H_{17}N_3O$ M 255.319

Used as 0.2% EtOH soln. for extraction-photometric detn. of V (λ_{max} 640 nm, ε 3700, $CHCl_3$), Pd (λ_{max} 590 nm, ε 16500, pH 4.2-7, $CHCl_3$). Cryst. Sol. EtOH. Mp 70°.

Mirzakasimov, T.M. *et al*, *Uzb. Khim. Zh.*, 1968, **12**, 29; 1970, **14**, 15; *CA*, **70**, 73927n; **74**, 71346f (*synth, detn, V*)
Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 734 (*synth, use*)

4-Methyl-2-(4-methylphenyl)-1*H*-1,5-benzodiazepine M-00199

[73980-68-4]



$C_{17}H_{16}N_2$ M 248.327

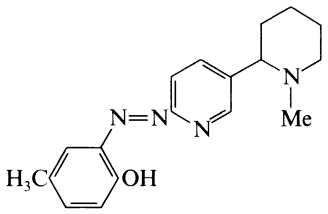
Used as 0.1% MeOH soln. as an acid-base indicator (colour change: violet → colourless). Cryst. Sol. MeOH; sl. sol. H_2O. pK_a 6.70 (H_2O).

Omar, N.M., *Indian J. Chem.*, 1974, **12**, 498 (*synth*)
El-Rabbat, N.A. *et al*, *Analyst* (*London*), 1980, **105**, 165 (*use*)

4-Methyl-2-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]phenol, 9CI M-00200

N-*Methylanabasine-α'-azo*-p-*cresol*

[25356-40-5]



$C_{18}H_{22}N_4O$ M 310.398

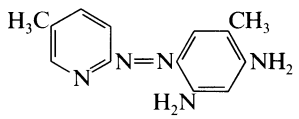
Used as 1.5m*M* aq. soln. for photometric detn. of V (λ_{max} 550 nm, ε 7400; in the prescence of H_2O_2). Cryst. Sol. H_2O, EtOH.

Krukovskaya, E.L. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 446 (*detn, V*)

4-Methyl-6-[(5-methyl-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, 9CI M-00201

2-(2,4-Diamino-5-methylphenylazo)-5-methylpyridine. 5-(5-Methyl-2-pyridylazo)-2,4-diaminotoluene. 5-Me-PADAT

[54776-49-7]



$C_{13}H_{15}N_5$ M 241.295

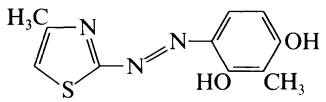
Used as a 0.1% soln. in EtOH for extraction-photometric detn. of Co (λ_{max} 573.5 nm, ε 107000). Reddish brown needles (EtOH aq.). Sol. C_6H_6, $CHCl_3$, EtOH, Me_2CO; spar. sol. H_2O.

Shibata, S. *et al*, *Anal. Chim. Acta*, 1974, **73**, 107 (*detn, Co*)

2-Methyl-4-[(4-methyl-2-thiazolyl)azo]-1,3-benzenediol, 9CI M-00202

4-(4-Methyl-2-thiazolylazo)-2-methylresorcinol. 2-(2,4-Dihydroxy-3-methylphenylazo)-4-methylthiazole

[75757-69-6]



$C_{11}H_{11}N_3O_2S$ M 249.293

Used as 0.1% EtOH soln. for photometric detn. of V (λ_{max} 560 nm, ε 25000), Ga. Cryst. Sol. EtOH.

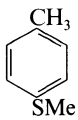
Garcia Montelongo, F. *et al*, *Microchem. J.*, 1980, **25**, 410 (*synth, detn, V*)

Jimenez, A.I. *et al*, *Collect. Czech. Chem. Commun.*, 1990, **55**, 1500 (*detn, Ga*)

1-Methyl-4-(methylthio)benzene, 9CI M-00203

Methyl p-*tolyl sulfide*, *8CI. p-Thiocresol methyl ether. 1-Methyl-4-methylmercaptobenzene*

[623-13-2]



$C_8H_{10}S$ M 138.233

Reagent for the glc anal. of peracids. d_4^{16} 1.03. Bp_{747} 209°, Bp_{20} 104-105°.

S-*Dioxide:* [3185-99-7]. *1-Methyl-4-(methylsulfonyl)benzene, 9CI. Methyl* p-*tolyl sulfone*, *8CI*

$C_8H_{10}O_2S$ M 170.232

Prisms (EtOH). Mp 88°.

Kehrmann, F. *et al*, *Ber.*, 1912, **45**, 2891.

Gilman, H. *et al*, *J. Am. Chem. Soc.*, 1925, **47**, 1499; 1949, **71**, 4002.

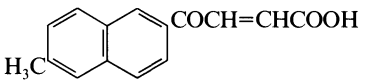
Gilbert, E.E. *et al*, *J. Org. Chem.*, 1963, **28**, 1945 (*sulphone*)

Org. Synth., Coll. Vol., 4, 1963, 674 (*sulphone*)

Di Furio, F. *et al*, *Analyst* (*London*), 1984, **109**, 985 (*use*)

4-(6-Methyl-2-naphthalenyl)-4-oxo-2-butenoic acid, 9CI M-00204

[108011-98-9]



$C_{15}H_{12}O_3$ M 240.258

Reagent for the spectrometric and fluorimetric anal. of thiols. Golden-yellow needles (AcOH or $C_6H_6/CHCl_3$). Mp 169-170°.

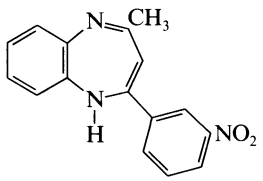
Makar, S.M. *et al*, *J. Chem. Soc.*, 1958, 2437 (*synth*)

Cavrini, V. *et al*, *Analyst* (*London*), 1988, **113**, 1447 (*use*)

Cavrini, V. *et al*, *Chromatographia*, 1989, **27**, 185 (*use*)

4-Methyl-2-(3-nitrophenyl)-1*H*-1,5-benzodiazepine M-00205

[73980-70-8]



$C_{16}H_{13}N_3O_2$ M 279.298

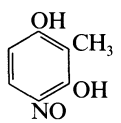
Used as 0.1% MeOH soln. as an acid-base indicator (pH range: 5-9; colour change: pink → pale yellow). Cryst. Sol. MeOH; sl. sol. H_2O. pK_a 5.53 (H_2O).

Omar, N.M., *Indian J. Chem.*, 1974, **12**, 498 (*synth*)

El-Rabbat, N.A. *et al*, *Analyst* (*London*), 1980, **105**, 165 (*use*)

2-Methyl-4-nitroso-1,3-benzenediol, 9CI M-00206

[65882-00-0]



$C_7H_7NO_3$ M 153.137

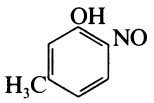
Used for photometric detn. of Co (λ_{max} 400 nm, ε 37500). Yellow cryst. (H_2O). Sol. H_2O, Me_2CO, EtOH, Et_2O. pK_{a1} 4.03; pK_{a2} 8.70.

Gonzalez Diaz, V. *et al*, *An. Quim.*, 1977, **73**, 1300.

5-Methyl-2-nitrosophenol, 9CI M-00207

1-Methyl-3-hydroxy-4-nitrosobenzene

[24542-06-1]



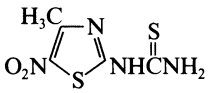
$C_7H_7NO_2$ M 137.138

Used for extraction-photometric detn. of Co (ligroin). Yellow needles. Sol. EtOH, Me_2CO; spar. sol. H_2O.

Ellis, G.H. *et al*, *Ind. Eng. Chem., Anal. Ed.*, 1945, **17**, 254 (*detn, Co*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, N.Y., 1947, **3**, 296 (*synth, use*)
Korenaga, T. *et al*, *Nippon Kagaku Kaishi*, 1972, 2445 (*synth, detn, Co, Fe*)

(4-Methyl-5-nitro-2-thiazolyl)thiourea, 9CI M-00208

[86107-96-2]



$C_5H_6N_4O_2S_2$ M 218.260

Used as a 2m*M* soln. in Me_2CO for extraction-photometric detn. of Pd ($CHCl_3$). Orange needles (Me_2CO/cyclohexane). Sol. Me_2CO, EtOH, $CHCl_3$, cyclohexane; spar. sol. H_2O. Mp 242°.

N-Me: [86107-97-3]. *N-Methyl-N′-(4-methyl-5-nitro-2-thiazolyl)thiourea, 9CI*

$C_6H_8N_4O_2S_2$ M 232.287

Used as 1m*M* MeOH soln. for extraction-photometric detn. of Pd (λ_{max} 401 nm, ε 24300, $CHCl_3$). Orange cryst. Sol. MeOH, $CHCl_3$.

Yoda, R. *et al*, *Mikrochim. Acta*, 1983, **2**, 75 (*detn, Pd*)

7-Methyl-2,4-octanedione, 9CI M-00209

[999-05-3]

$H_3CCOCH_2COCH_2CH_2CH(CH_3)_2$

$C_9H_{16}O_2$ M 156.224

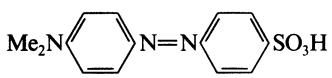
Used for extraction of Ag, Co, Hg, In, Sc, Th, Zn. Liq. Sol. EtOH, Me_2CO. Bp_4 88°. pK_a 9.72. n_D^{24} 1.4611.

Cu salt: Cryst. Mp 122-123°.

Schweitzer, G.K. *et al*, *Anal. Chim. Acta*, 1966, **36**, 77 (*synth, use*)

Methyl orange M-00210

4-[[4-(Dimethylamino)phenyl]azo]benzenesulfonic acid, 9CI. Acid orange 52. C.I. 13025



$C_{14}H_{15}N_3O_3S$ M 305.357

Strictly, the name Methyl orange applies to the sodium salt.

Na salt: [547-58-0].

Used as 0.1% aq. soln. as an acid-base indicator. (pH range: 3.1-4.4; colour change: red → yellow); indicator in bromatometry; photometric detn. of Cl_2 (ε 40000) Br_2, extraction-photometric detn. of Fe(*II*). Biological stain. Orange-yellow cryst. powder. Sol. H_2O; insol. EtOH.

▷ DB6327000.

Chloride: [56512-49-3]. *4′-Dimethylaminoazobenzene-4-sulfonyl chloride. Dabsyl chloride*

$C_{14}H_{14}ClN_3O_2S$ M 323.802

Fluorogenic reagent for amines, amino acids and alcohols. Deep red cryst. Mp 186-188°.

Hydrazide: [72565-41-4]. *Dabsyl hydrazine. DABS-hydrazide*

$C_{14}H_{17}N_5O_2S$ M 319.387

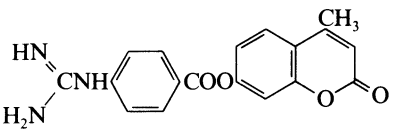
Reagent for the hplc anal. of monosaccharides and aldehydes. Orange cryst. (EtOH). Mp 163-164°.

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1948, **4**, 531 (*synth*)
Vogel, A.I., *A Textbook of Quantitative Inorganic Analysis*, Longmans, London, 1961 (*use*)
Athavale, V.T. *et al*, *Analyst (London)*, 1962, **87**, 707 (*detn, Cl_2*)
Laitinen, H.A. *et al*, *Anal. Chem.*, 1972, **44**, 920 (*detn, Cl_2, Br_2*)
Hulanicki, A. *et al*, *Talanta*, 1974, **21**, 896 (*detn, Fe*)
Lin, J.K. *et al*, *Anal. Chem.*, 1975, **47**, 1634; 1980, **52**, 630; 1987, **59**, 1320 (*synth, use*)
Knecht, R. *et al*, *Anal. Chem.*, 1986, **58**, 2375 (*use, chloride*)
Vendrell, J. *et al*, *J. Chromatogr.*, 1986, **358**, 401 (*use, chloride*)
Wolski, T. *et al*, *J. Chromatogr.*, 1986, **362**, 217 (*use, chloride*)
Muramoto, K. *et al*, *Anal. Biochem.*, 1987, **162**, 435 (*synth, use*)
Koizumi, H. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1988, **37**, 190; *CA*, **109**, 162639m (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MND600.

4-Methyl-2-oxo-2*H*-1-benzopyran-7-yl 4-[(aminoiminomethyl)amino]benzoate M-00211

4-Methylumbelliferyl p-guanidinobenzoate

[57817-70-6]



$C_{18}H_{15}N_3O_4$ M 337.334

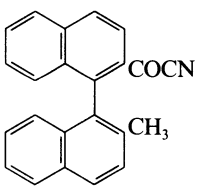
B, HCl: [34197-46-1]. *MUGB*

Fluorescent substrate for the detn. of trypsin and related enzymes. Light yellow cryst. ($AcOH/Et_2O$). Mp 219-221°.

Jameson, G.W. *et al*, *Biochem. J.*, 1973, **131**, 107 (*synth, use*)

2′-Methyl-α-oxo-[1,1′-binaphthalene]-2-acetonitrile, 9CI M-00212

2-Methyl-1,1′-binaphthalene-2′-carbonyl nitrile



$C_{23}H_{15}NO$ M 321.378

Derivatisation reagent for hplc sepn. of enantiomeric alcohols.

(+)-*form* [85464-95-5]

$[\alpha]_D^{20}$ +35.8° (c, 1.90 in $CHCl_3$).

(−)-*form* [85464-96-6]

$[\alpha]_D^{20}$ −42.8° (c, 1.05 in $CHCl_3$).

(±)-*form* [85464-94-4]

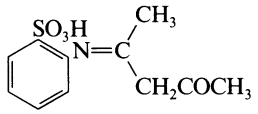
Mp 110°.

Goto, J. *et al*, *Chem. Pharm. Bull.*, 1982, **30**, 4597 (*synth, use*)
Goto, J. *et al*, *Anal. Sci.*, 1990, **6**, 261 (*use*)

2-[(1-Methyl-3-oxobutylidene)amino] benzenesulfonic acid M-00213

o-(*Imine*-N-*acetylacetone*)*benzenesulfonic acid*

[58943-48-9]



$C_{11}H_{13}NO_4S$ M 255.294

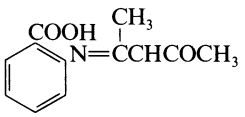
Used as a 5% soln. in aq. EtOH for gravimetric detn. of Co, Cu, Ni. Cryst.

Ozha, D.D. *et al*, *J. Indian Chem. Soc.*, 1975, **52**, 1104.
Mali, M.R. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 696 (*use*)

2-[(1-Methyl-3-oxobutylidene)amino] benzoic acid, 9CI M-00214

N-*Acetylacetoneanthranilic acid*

[34283-37-9]



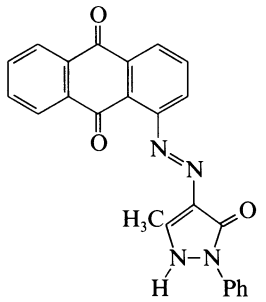
$C_{12}H_{13}NO_3$ M 219.240

Used as 10% soln. in aq. EtOH for gravimetric detn. of Cu. Yellow cryst. (MeOH). Sol. alcohols.

Mehta, R.K. *et al*, *Talanta*, 1972, **19**, 687 (*synth*, *use*)

1-[(3-Methyl-5-oxo-1-phenyl-3-pyrazolin-4-yl)azo]anthraquinone, 8CI M-00215

[86444-19-1]



$C_{24}H_{16}N_4O_3$ M 408.415

Used for photometric detn. of Na. Orange cryst. (DMF). Sol. DMF; spar. sol. Me_2CO, $CHCl_3$. Mp 239-240°.

[21736-60-7]

Markovich, I.S. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1097 (*detn*, *Na*)

2-Methyl-2,4-pentanediol, 9CI M-00217

Hexylene glycol

[107-41-5]

$(H_3C)_2C(OH)CH_2CH(OH)CH_3$

$C_6H_{14}O_2$ M 118.175

▷ Irritant, TLV 125. SA0810000.

(±)-***form***

Reagent for characterisation of aldehydes as the cyclic acetals. Used as 20% soln. in 4-methyl-2-pentanone for extraction separation of B. Liq. Sol. 4-methyl-2-pentanone, EtOH. d 0.925. Mp −40°. Bp 198°.

Di-Ac:

$C_{10}H_{18}O_4$ M 202.250

Bp_{18} 92°.

Bis-4-nitrobenzoyl: Pale-yellow flakes (EtOH aq.). Mp 155-157°.

Sullivan, W.J. *et al*, *J. Org. Chem.*, 1960, **25**, 2128 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 693.
Pihlaja, K. *et al*, *Acta Chem. Scand.*, 1969, **23**, 715 (*synth*)
Kirmse, W. *et al*, *Chem. Ber.*, 1976, **109**, 2296 (*synth*)
Aznarez, J. *et al*, *An. Quim.*, 1978, **74**, 756.
Aznarez, J. *et al*, *Analyst* (*London*), 1983, **108**, 368 (*detn*, *B*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 349.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HFP875.

4-Methyl-2-pentanone, 9CI M-00218

Isobutyl methyl ketone. Isopropylacetone. Hexone. MIBK

[108-10-1]

$(H_3C)_2CHCH_2COCH_3$

$C_6H_{12}O$ M 100.160

Solv. for cellulose esters and other coating system. Frequently used in adhesives. Used as extractant in extraction-separation and extraction-photometric detns., e.g. extraction of Fe(*III*), Mo, W, Nb, Au(*III*) (from halide and $SCN^{\ominus}$ media). Misc. organic solvs.; Sol. H_2O (2%). d_4^{20} 0.801. Bp 116.8°. n_D^{17} 1.3969.

▷ Irritant, TLV 410. Highly flammable, flash pt. 17°. SA9275000.

Semicarbazone: Mp 134°.
2,4-Dinitrophenylhydrazone: Mp 95°.

Law, H.O., *J. Chem. Soc.*, 1912, **101**, 1547 (*synth*)
Grignard, V. *et al*, *Ann. Chim.* (*Paris*), 1928, **9**, 13 (*synth*)
Fuge, E.T.J. *et al*, *J. Phys. Chem.*, 1952, **56**, 1013 (*synth*)
Morrison, G.H. *et al*, *Solvent Extr. Anal. Chem.*, Wiley, New York, 1957 (*use*)
Zolotov, Y.A. *et al*, *Extraction of Halide Metal Complexes* (*in Russian*), Izdat.Nauka, Moscow, 1973 (*use*)
Sandell, E.B. *et al*, *Photometric Determination of Traces of Metals, General Aspects*, Wiley, New York, 1978 (*use*)
Ejchart, A., *Org. Magn. Reson.*, 1980, **13**, 368 (*cmr*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 601.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 401.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HFG500.

4-Methyl-3-penten-2-one, 9CI M-00219

Mesityl oxide

[141-79-7]

$(H_3C)_2C{=}CHCOCH_3$

$C_6H_{10}O$ M 98.144

Solv. for nitrocellulose and vinyl resins. Intermed. for heterocyclic synth. Used as a solvent in extraction-separation of elements, e.g. Cr(*VI*), Ga, Ge, Mo, W, U, V, Zn, Cd, Pb (from HCl or KI/H_2SO_4 media). Liq. with odour of honey. Spar. sol. H_2O. d_4^{25} 0.851. Mp −41.5° (−59°). Bp 130-131°, Bp_{37} 50°. n_D^{13} 1.4484.

▷ Mod. toxic by inhalation and skin absorption, TLV 60. Flammable. SB4200000.

Oxime:
$C_6H_{11}NO$ M 113.159
Bp_{11} 84°. (*E*-) and (*Z*-)-forms separated with difficulty.

4-Nitrophenylhydrazone: Orange needles (EtOH aq.). Mp 207°.

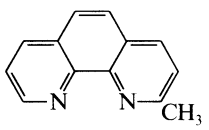
2,4-Dinitrophenylhydrazone: [964-83-0].
Carmine cryst. (EtOH). Mp 200°.

[28052-09-7, 28052-10-0]

Wilson, F.J.W. *et al*, *J. Chem. Soc.*, 1923, **123**, 394 (*deriv*)
v. Auwers, K. *et al*, *Ber.*, 1924, **57**, 446.
Allen, C.F.H., *J. Am. Chem. Soc.*, 1930, **52**, 2958 (*deriv*)
Org. Synth., Coll. Vol., 1, 1932, 345 (*synth*)
Klein, F.G. *et al*, *Ind. Eng. Chem.*, 1956, **48**, 1278 (*synth*)
Dhara, S.C. *et al*, *Mikrochim. Acta*, 1965, 931 (*detn, U*)
Dhond, P.V. *et al*, *Anal. Chim. Acta*, 1972, **59**, 161 (*detn, Ge*)
Sato, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1972, **45**, 1176 (*oxime*)
Sandell, E.B. *et al*, *Photometric Determination of Traces of Metals*, Wiley, New York, 1977 (*use*)
Rao, T.P. *et al*, *Talanta*, 1982, **29**, 227 (*detn, Zn, Cd, Pd*)
Baeckström, P. *et al*, *Acta Chem. Scand., Ser. B*, 1987, **41**, 442 (*purifn*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 401.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MDJ750.

2-Methyl-1,10-phenanthroline, 9CI M-00220

[3002-77-5]



$C_{13}H_{10}N_2$ M 194.235
Used as redox indicator. Pale yellow cryst. (pet. ether). Sol. Me_2CO, EtOH, C_6H_6. Mp 84-85°.

Majeda, K., *J. Prakt. Chem.*, 1962, **17**, 97 (*synth*)
Heindel, N.D. *et al*, *J. Heterocycl. Chem.*, 1968, **5**, 869 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

5-Methyl-1,10-phenanthroline, 9CI M-00221

[3002-78-6]

$C_{13}H_{10}N_2$ M 194.235
Used as redox indicator. Forms complexes with transition metals. Bactericide. Cryst. (C_6H_6/pet. ether). Sol. Me_2CO, EtOH, C_6H_6. Mp 114°.

Picrate: Fine yellow needles (EtOH). Mp 203-204°.

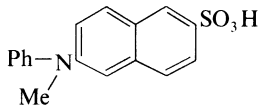
[61626-14-0]

Richter, F. *et al*, *J. Am. Chem. Soc.*, 1944, **66**, 396 (*synth*)
Carman, R.M. *et al*, *Aust. J. Chem.*, 1964, **17**, 1354 (*pmr*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)
Lahiri, S.C., *Z. Phys. Chem. (Leipzig)*, 1974, **255**, 23 (*uv*)
Rollick, K.L. *et al*, *J. Org. Chem.*, 1982, **47**, 435 (*synth, pmr, cmr*)

6-(Methylphenylamino)-2-naphthalenesulfonic acid, 9CI M-00222

6-(Methylanilino)-2-naphthalenesulfonic acid. 2,6-Mansic acid

[23731-35-3]



$C_{17}H_{15}NO_3S$ M 313.376
Cryst.

Na salt: Cryst. (H_2O).

Chloride: [18392-55-7]. *2,6-Mansyl chloride*
$C_{17}H_{14}ClNO_2S$ M 331.822
Used for fluorescent labelling of proteins. Lemon-yellow needles and prisms (C_6H_6/pet. ether). Mp 137-137.5° (128-133°).

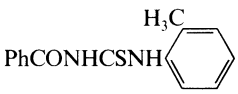
Hydrazide: [55141-44-1]. *Mansylhydrazine*
$C_{17}H_{17}N_3O_2S$ M 327.406
Reagent for the fluorimetric detn. of carbonyl compds. Long needles. Mp 150-151° dec.

Cory, R.P. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 1643 (*synth, use*)
Zeitler, H., *Anal. Biochem.*, 1978, **88**, 649 (*synth, uv, use*)

N-[[(2-Methylphenyl)amino]thioxomethyl] benzamide, 9CI M-00223

β-Benzoyl-α-(o-tolyl)thiourea

[4949-88-6]



$C_{15}H_{14}N_2OS$ M 270.354
Used as a 0.5% soln. in EtOH for photometric detn. of Os (λ_{max} 400 nm, ε 6800/$CHCl_3$). Cryst. (EtOH). Sol. EtOH, Me_2CO; spar. sol. H_2O.

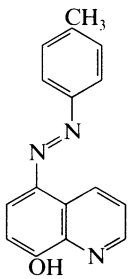
▷ YS1575000.

Bhoval, S.K., *Curr. Sci.*, 1975, **44**, 157 (*detn, Os*)

5-[(4-Methylphenyl)azo]-8-quinolinol M-00224

8-Hydroxy-5-p-tolylazoquinoline

[32903-07-4]



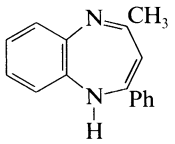
$C_{16}H_{13}N_3O$ M 263.298
Chocolate brown needles. Mp 174°. λ_{max} 405 nm (EtOH).

1-Oxide: [63319-29-9].
$C_{16}H_{13}N_3O_2$ M 279.298
Used as a soln. in NH_3 aq. for photometric detn. of Al, Co, Cu, Pb, Pd, Zn. Dark yellow cryst. powder. Sol. alkalis; insol. H_2O; spar. sol. EtOH (0.052 g per 100 cm^3); sl. sol. Me_2CO (0.49 g per 100 cm^3). Mp 178-179°.

Fox, J.J., *J. Chem. Soc.*, 1910, **97**, 1337 (*synth*)
Nemodruk, A.A. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 457 (*1-oxide, use*)

4-Methyl-2-phenyl-1*H*-1,5-benzodiazepine, 9CI M-00225

[73980-65-1]



$C_{16}H_{14}N_2$ M 234.300

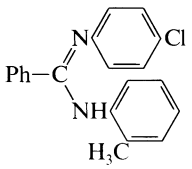
Used as 0.1% MeOH soln. as an acid-base indicator (pH range 5-9; colour change: violet → yellow). Cryst. Sol. MeOH; sl. sol. H_2O. pK_a 6.50 (H_2O).

Omar, N.M., *Indian J. Chem.*, 1974, **12**, 498 (*synth*)
El-Rabbat, N.A., *Analyst (London)*, 1980, **105**, 165 (*use*)

N-(2-Methylphenyl)-*N'*-(4-chlorophenyl) benzamidine M-00226

N-(*4-Chlorophenyl*)-N'-(*2-methylphenyl*) *benzenecarboximidamide, 9CI*

[117001-32-8]



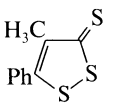
$C_{20}H_{17}ClN_2$ M 320.820

Used as 0.3% C_6H_6 soln. (10% 1-pentanol) for extraction-photometric detn. of W(*V*) (λ_{max} 405 nm, ε 15800, in the presence of $SCN^{\ominus}$). Cryst. Sol. C_6H_6, toluene.

Shukla, A. *et al*, *Anal. Chim. Acta*, 1988, **208**, 91 (*synth, detn, W*)

4-Methyl-5-phenyl-3*H*-1,2-dithiole-3-thione, 9CI M-00227

[10269-25-7]



$C_{10}H_8S_3$ M 224.371

Used as a 0.3% soln. in CCl_4 for extraction-photometric detn. of Pd (λ_{max} 470 nm, ε 15000, $CHCl_3$), pptn. of Ag, Au, Cu, Hg, Pd, Sn. Orange-red cryst. (Me_2CO). Sol. Me_2CO, hot EtOH, $CHCl_3$, C_6H_6, CCl_4; insol. H_2O. Mp 104.8°. $Bp_{1.5}$ 208-209°.

Voronkov, M.G. *et al*, *Zh. Org. Khim.*, 1949, **19**, 1927 (*synth*)
Voronkov, M.G. *et al*, *Zh. Anal. Khim.*, 1951, **6**, 331 (*pptn*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1951, **6**, 331; 1970, **25**, 953 (*synth, detn, Pd*)

1-Methyl-1-phenylethyl hydroperoxide, 9CI M-00228

α,α-*Dimethylbenzyl hydroperoxide, 8CI. Isopropylbenzene hydroperoxide. Cumene hydroperoxide. 2-Hydroperoxy-2-phenylpropane*

[80-15-9]

$(H_3C)_2C(Ph)OOH$

$C_9H_{12}O_2$ M 152.193

Formed by autoxidation of cumene. Strong oxidizing agent. Used in phenol manuf. Polymerization initiator. End point indicator in the titration of bases by catalytic thermometric titrimetry. Liq. Bp 153°. n_D^{20} 1.5242.

▷ Toxic. May dec. explosively. MX2450000.

Budinger, P.A. *et al*, *Anal. Chem.*, 1981, **53**, 884 (*spectra*)
Pryor, W.A. *et al*, *J. Am. Chem. Soc.*, 1983, **105**, 3614 (*pmr, cmr*)
Dangerous Prop. Ind. Mater. Rep., 1985, **5**, 20 (*rev, hazards*)
Sotelo, J.L. *et al*, *Ind. Eng. Chem. Prod. Res. Dev.*, 1985, **24**, 650 (*synth*)
Godinho, O.E.S. *et al*, *Analyst (London)*, 1990, **115**, 761 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IOB000.

1-Methyl-1-phenylhydrazine, 9CI, 8CI M-00229

[618-40-6]

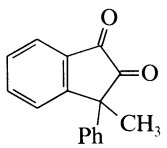
$PhNMeNH_2$

$C_7H_{10}N_2$ M 122.169

Reagent for pptn. and characterisation of sugars. Oil which darkens on standing. Misc. EtOH, Et_2O, $CHCl_3$, C_6H_6, spar. sol. H_2O. Bp_{13} 106-109°. n_D^{22} 1.5824. Reduces Fehling's soln.

Org. Synth., Coll. Vol., 2, 1943, 418 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 694.
Hayes, B.T. *et al*, *J. Chem. Soc. C*, 1970, 1088 (*synth*)
Lerch, U. *et al*, *Synthesis*, 1983, 157 (*synth*)
Smith, R.F. *et al*, *Synth. Commun.*, 1986, **16**, 585 (*synth, pmr*)
Gonzalez, A., *Synth. Commun.*, 1988, **18**, 1225 (*synth*)

3-Methyl-3-phenyl-1,2-indanedione M-00230



$C_{16}H_{12}O_2$ M 236.270

(±)-*form*

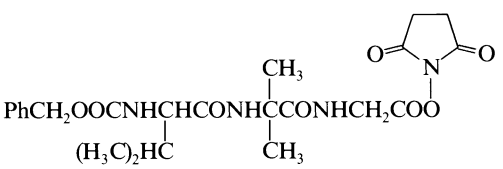
Orange plates (EtOH). Mp 115-116°.

Dioxime: [24273-39-0].
$C_{16}H_{14}N_2O_2$ M 266.299
Used for pptn. of Au, Co, Cu, Fe(*II*), Ni, Os, Pd, Pr. Cryst. (EtOH).

Koelsch, C.F. *et al*, *J. Am. Chem. Soc.*, 1943, **65**, 59 (*synth*)
Bark, L.S. *et al*, *Talanta*, 1969, **16**, 497 (*deriv, use*)

1-[[*N*-[2-Methyl-*N*-[*N*-[(phenylmethoxy) carbonyl]-L-valyl]alanyl]glycyl]oxy]-2,5-pyrrolidinedione, 9CI M-00231

[131716-71-7]



$C_{23}H_{30}N_4O_8$ M 490.512

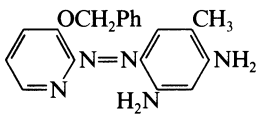
Reagent for enantiomeric analysis of amino acids. Cryst. (EtOAc). Mp 120-121°. $[\alpha]_D^{25}$ +3.8°.

Yamada, T. *et al*, *J. Chromatogr.*, 1990, **515**, 475 (*synth, use*)

4-Methyl-6-[[2-(phenylmethoxy)-2-pyridinyl]azo]-1,3-benzenediamine, 9CI M-00232

5-(3-Benzyloxy-2-pyridylazo)-2,4-diaminotoluene

[51833-07-9]



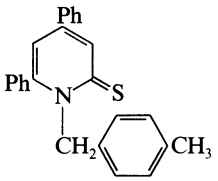
$C_{19}H_{19}N_5O$ M 333.392

Used as a 0.1% soln. in EtOH for extraction-photometric detn. of Co (λ_{max} 591 nm, ε 110000). Light brown needles (EtOH aq.). Sol. EtOH; spar. sol. H_2O.

Shibata, S. *et al*, *Anal. Chim. Acta*, 1974, **73**, 107 (*??, detn, Co*)

1-[(4-Methylphenyl)methyl]-4,6-diphenyl-2(1*H*)-pyridinethione, 9CI M-00233

[76950-85-1]



$C_{25}H_{21}NS$ M 367.514

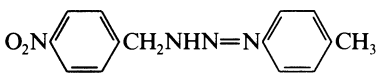
Used as a 0.25m*M* soln. in EtOH for photometric detn. of Hg (λ_{max} 314 nm, ε 47500). Yellow cryst. (EtOH). Sol. EtOH. pK_a 10.73.

Lorenzo, A. *et al*, *Synthesis*, 1980, 853 (*synth*)
Pérez Ruiz, T. *et al*, *Mikrochim. Acta*, 1984, **2**, 183 (*detn, Hg*)

1-(4-Methylphenyl)-3-[(4-nitrophenyl)methyl]-1-triazene, 9CI M-00234

1-p-Nitrobenzyl-3-p-tolyltriazene. PNBTT

[60259-80-5]



$C_{14}H_{14}N_4O_2$ M 270.290

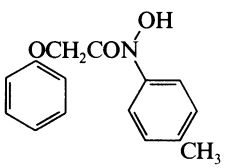
Reagent for the derivatisation of bile acids for gc sepn.

Okuyama, S. *et al*, *Chem. Lett.*, 1976, 679 (*use*)
Takade, D.Y. *et al*, *J. Agric. Food Chem.*, 1979, **27**, 746 (*use*)

N-(4-Methylphenyl)-2-phenoxyacetohydroxamic acid M-00235

*2-Phenoxy-*N-p-*tolylacetohydroxamic acid, 8CI.* N-p-*Tolylphenoxyacetohydroxamic acid*

[25310-24-1]



$C_{15}H_{15}NO_3$ M 257.288

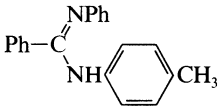
Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 495 nm, ε 4230, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Indian Chem. Soc.*, 1969, **46**, 831 (*synth*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

N-(4-Methylphenyl)-*N'*-phenylbenzenecarboximidamide, 9CI M-00236

N-*Phenyl*-N'-p-*tolylbenzamidine*

[52806-50-5]



$C_{20}H_{18}N_2$ M 286.376

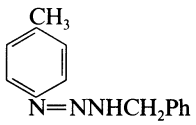
Used as 0.1% soln. in C_6H_6 for extraction-photometric detn. of Mo (λ_{max} 470 nm, ε 17500, 1.2-5.4*M* HCl, in the presence of $SCN^{\ominus}$). Cryst. (EtOH + HCl). Sol. EtOH, C_6H_6, $CHCl_3$.

Patel, K.S. *et al*, *Anal. Chem.*, 1982, **54**, 52 (*synth, detn, Mo*)

1-(4-Methylphenyl)-3-(phenylmethyl)-1-triazene, 9CI M-00237

*3-Benzyl-1-*p-*tolyltriazene, 8CI*

[17683-09-9]



$C_{14}H_{15}N_3$ M 225.293

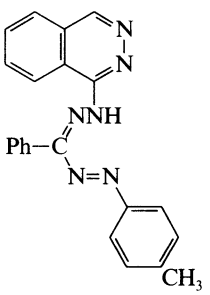
Used as benzylation derivatisation reagent for hplc analysis of fatty acids. Mp 76-77°.

Goldschmidt, G. *et al*, *Ber.*, 1888, **21**, 106 (*synth*)
Terent'ev, A.P. *et al*, *Zh. Org. Khim.*, 1968, **4**, 125 (*synth*)
Politzer, I.R. *et al*, *Anal. Lett.*, 1973, **6**, 539 (*use*)
Jones, C.C. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1982, 1655 (*synth*)

1-(4-Methylphenyl)-3-phenyl-5-(1-phthalazinyl)formazan M-00238

1(2H)-Phthalazinone [[(4-methylphenyl)azo]phenylmethylene] hydrazone, 9CI

[67073-41-0]



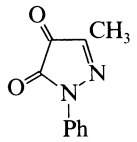
$C_{22}H_{18}N_6$ M 366.424

Used as 2m*M* soln. in EtOH for extraction-photometric detn. of Hg (λ_{max} 520 nm, ε 41000, $CHCl_3$). Brown cryst. (cyclohexane). Sol. EtOH, cyclohexane, $CHCl_3$, DMF.

Barbina, T.M. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 1222 (*synth, detn, Hg*)

3-Methyl-1-phenyl-1*H*-pyrazole-4,5-dione M-00239

[881-05-0]



$C_{10}H_8N_2O_2$ M 188.185
Deep red cryst. (Et_2O). Mp 120-121°.

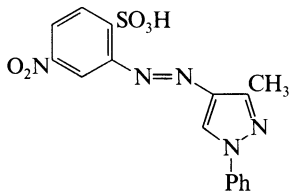
4-Oxime: Methylphenylpyrazolone oxime
$C_{10}H_9N_3O_2$ M 203.200
Used as 1% soln. in EtOH for detn. of Sb, Bi, Co, Cu, Fe (colour pptn.); gravimetric detn. of Cu. Orange cryst. (AcOH). Sol. AcOH, EtOH, alkalis; sl. sol. H_2O. Mp 157°.

[62349-60-4, 62386-05-4]

Welcher, F.J., *Organic Analytical Reagents*, Vol. 3, Van Nostrand, New York, 1947 (*synth, use, oxime*)
Popa, G. *et al*, *CA*, 1967, **67**, 78674a (*detn, Cu*)
Youssef, M.S.K. *et al*, *J. Heterocycl. Chem.*, 1984, **21**, 1747 (*synth, oxime*)
El-Zohry, M.F. *et al*, *Synthesis*, 1984, 972 (*synth*)

2-[(3-Methyl-1-phenyl-4-pyrazolyl)azo]-4-nitrobenzenesulfonic acid M-00240

3-Methyl-4-(4-nitro-2-sulfophenylazo)-1-phenylpyrazole

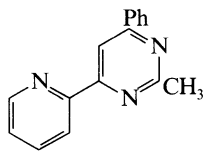


$C_{16}H_{13}N_5O_5S$ M 387.375
Used as a 4m*M* soln. in DMF for photometric detn. of Na. Orange cryst. Sol. DMF; spar sol. H_2O.

Markovich, I.S. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 227 (*synth, detn, Na*)

2-Methyl-4-phenyl-6-(2-pyridinyl) pyrimidine, 9CI M-00241

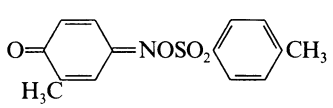
[61097-50-5]



$C_{16}H_{13}N_3$ M 247.299
Used for photometric detn. of Cu(*I*) (λ_{max} 484 nm, ε 8700, pH ~ 7, 50% EtOH). Cryst. (MeOH). Sol. MeOH, EtOH. Mp 90°.

Schilt, A.A. *et al*, *Talanta*, 1976, **23**, 543 (*synth, detn, Cu*)

O-(*p*-Methylphenylsulfonyl)-*o*-methylquinone monoxime M-00242

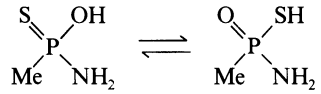


$C_{14}H_{13}NO_4S$ M 291.327

Used as a 0.34m*M* soln. in DMSO for fluorimetric detn. of $CN^{\ominus}$. Yellow cryst. (CCl_4). Sol. EtOH, $CHCl_3$, Me_2CO. Mp 156-157°.

Guilbault, G.G. *et al*, *Anal. Chem.*, 1965, **37**, 1395 (*detn, $CN^{\ominus}$*)

P-Methylphosphonamidothioic acid, 9CI M-00243



CH_6NOPS M 111.104

S-*Me ester:* [67242-52-8]. S-*Methyl* P-*methylphosphonamidothioate*
C_2H_8NOPS M 125.131
Solid. Mp 76-78°.

O-*Me ester:* [40334-37-0]. O-*Methyl* P-*methylphosphonamidothioate*
C_2H_8NOPS M 125.131
No phys. props. reported.

S-*Et ester:* [65331-55-7]. S-*Ethyl* P-*methylphosphonamidothioate*
$C_3H_{10}NOPS$ M 139.158
Solid. Mp 44-45°.

O-*Et ester:* [34255-89-5]. O-*Ethyl* P-*methylphosphonamidothioate*
$C_3H_{10}NOPS$ M 139.158
Liq. d_4^{25} 1.14. $Bp_{0.4}$ 90-91°. n_D^{25} 1.5170.

O-*Ph ester:* [58324-47-3].
$C_7H_{10}NOPS$ M 187.202
Used as 0.1*M* $CHCl_3$ soln. for extraction-photometric detn. of Pd (λ_{max} 400 nm, ε 4000). Cryst. Sol. $CHCl_3$, C_6H_6.

Fluoride: [21693-81-2].
CH_5FNPS M 113.095
Liq. d_4^{20} 1.33. $Bp_{0.02}$ 44-46°. n_D^{20} 1.5110.

Roesky, H.W., *Z. Naturforsch., B*, 1969, **24**, 5 (*fluoride, synth, ir, pmr, F nmr*)
Razvodovskaja, L.V. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1452), 1971, **41**, 1446 (*ester, synth, props*)
Danilova, V.N. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1975, **41**, 1209 (*synth*)
Hammock, B.D. *et al*, *Pestic. Biochem. Physiol.*, 1977, **7**, 517 (*esters, tox*)
Wustner, D.A. *et al*, *J. Agric. Food Chem.*, 1978, **26**, 1104 (*S*-alkyl esters, synth, tox)
Pilipenko, A.T. *et al*, *Zavod. Lab.*, 1978, **44**, 927 (*O-Ph ester, detn, Pd*)

Methylphosphonic acid, 9CI M-00244

Methanephosphonic acid

[993-13-5]

$MeP(O)(OH)_2$

CH_5O_3P M 96.022
Hygroscopic cryst. Sol. H_2O, EtOH, Et_2O. Mp 105°. pK_{a1} 2.41; pK_{a2} 7.35 (25°), pK_{a1} 2.38; pK_{a2} 7.74 (H_2O, 25°).

▷ Highly irritant. Corrosive.

Anilinium salt: Cryst. (propanol). Mp 149-150°.

Monopropyl ester: [4546-11-6]. *Propyl hydrogen methylphosphonate*
$C_4H_{11}O_3P$ M 138.103
Liq. $Bp_{0.05}$ 106°. n_D^{25} 1.4259.

Dipropyl ester: [6410-56-6]. *Dipropyl methylphosphonate*
$C_7H_{17}O_3P$ M 180.183

Liq. d_4^{20} 1.01. Bp_9 93-96°, $Bp_{0.25}$ 115.5°. n_D^{20} 1.4210.

Di-2-propenyl ester: Di-2-propenyl methylphosphonate. Diallyl methylphosphonate
$C_7H_{13}O_3P$ M 176.152
Liq. d_{25}^{25} 1.04. $Bp_{0.5}$ 77-85°. n_D^{25} 1.4468.

Diisopropyl ester: [1445-75-6]. *Diisopropyl methylphosphonate*
$C_7H_{17}O_3P$ M 180.183
Forms complexes with many metal salts. Bp_3 66°. $n_D^{16.5}$ 1.4120. Nontoxic; nonmutagenic when pure.
▷ SZ9090000.

Dibutyl ester: [2404-73-1]. *Dibutyl methylphosphonate*
$C_9H_{21}O_3P$ M 208.237
Extractant for metals. Liq. d_4^{20} 0.95. Bp_{15} 132-135°, $Bp_{1.5}$ 86-91°. n_D^{20} 1.4240.

*Di-*tert*-butyl ester:* [17123-05-6]. *Di-*tert*-butyl methylphosphonate*
$C_9H_{21}O_3P$ M 208.237
Oil.

Monocyclohexyl ester: [1932-60-1]. *Cyclohexyl hydrogen methylphosphonate*
$C_7H_{15}O_3P$ M 178.167
Mp 45-48°.

Bis(trimethylsilyl) ester: [18279-83-9].
$C_7H_{21}O_3PSi_2$ M 240.386
Liq. Bp_{27} 105-107.5°.

Dichloride: see *Methylphosphonic dichloride, M-00245*

Dibromide: [19430-64-9].
CH_3Br_2OP M 221.816
Liq. d_4^{20} 2.43. Bp_{728} 191-195°, $Bp_{0.5}$ 58°. n_D^{20} 1.5829.

Dicyanide: [31641-59-5].
$C_3H_3N_2OP$ M 114.043
No phys. props. reported.

Diisocyanate: [1068-20-8].
$C_3H_3N_2O_3P$ M 146.042
Liq. d_4^{20} 1.33. Bp_2 71°. n_D^{20} 1.4680.

Diisothiocyanate: [4519-65-7].
$C_3H_3N_2OPS_2$ M 178.175
Liq. d^{20} 1.37. Bp_{18} 148°, $Bp_{0.05}$ 99-102°. n_D^{20} 1.6215.

Diazide: [33078-24-9].
CH_3N_6OP M 146.048
Liq. d_4^{20} 1.38. $Bp_{0.03}$ 49-50°. n_D^{20} 1.4980.

Bis(3-methylbutyl) ester: [2452-70-2].
$C_{11}H_{25}O_3P$ M 236.290
Used in extractive separation of rare earth elements of the Ce subgroup (xylene) from 0.1-0.2*M* HNO_3. Liq. Sol. xylene.

Ford-Moore, A.H. *et al*, *J. Chem. Soc.*, 1947, 1465 (*synth, esters*)
Crofts, P.C. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 3379 (*synth, esters*)
Maier, L., *Helv. Chim. Acta*, 1963, **46**, 2667 (*dibromide, ir, P nmr*)
Rabinowitz, R., *J. Org. Chem.*, 1963, **28**, 2975 (*silyl ester, synth*)
Mark, V. *et al*, *J. Org. Chem.*, 1964, **29**, 1006 (*di-*tert*-butyl ester, synth, pmr, ir*)
Petrov, K.A. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 2608), 1964, **34**, 2586 (*dipropyl ester*)
Bai, L.I. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 3656), 1964, **34**, 3609 (*diisocyanate*)
Mikhlin, E.B. *et al*, *Zh. Neorg. Khim.*, 1965, **10**, 2787 (*use*)
Petrov, K.A. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 723), 1965, **35**, 723 (*monocyclohexyl ester*)
Cadogan, J.I.G. *et al*, *J. Chem. Soc. B*, 1971, 1988 (*monoalkyl esters*)
Shokol, V.A. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 539), 1971, **41**, 545 (*diazide, synth, ir*)
Riess, J.G. *et al*, *Bull. Soc. Chim. Fr.*, 1972, 3700 (*dibromide, diisothiocyanate, synth, ir, pmr*)
Harvey, D.J. *et al*, *Org. Mass Spectrom.*, 1974, **9**, 111 (*silyl ester, ms*)
Tebby, J.C. *et al*, *Phosphorus Relat. Group V Elem.*, 1975, **5**, 273 (*ms*)
Rueppel, M.L. *et al*, *Org. Magn. Reson.*, 1976, **8**, 19 (*P nmr, pmr*)
Kodolov, V.I. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 142), 1977, 165 (*pe*)
Sass, S. *et al*, *Org. Mass Spectrom.*, 1979, **14**, 257 (*diisopropyl ester, ms*)
Pudovik, A.N. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1248), 1979, **49**, 1425 (*diisothiocyanate*)
Holtzclaw, J.R. *et al*, *Org. Mass Spectrom.*, 1985, **20**, 90 (*dimethyl ester, ms, struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DNQ875.

Methylphosphonic dichloride, 9CI M-00245

[676-97-1]

$MeP(O)Cl_2$

CH_3Cl_2OP M 132.913
Dehydrating agent, synthetic intermediate. Reagent for detn. of enantiomeric excess in chiral thiols. Low melting solid with pungent odour. Easily hydrolysed. Mp 32°. Bp 162°, Bp_{53} 98°, Bp_{17} 55°.
▷ TA1840000.

Durig, J.R. *et al*, *Spectrochim. Acta*, 1965, **21**, 1105 (*ir, raman*)
Geiseler, G. *et al*, *Ber. Bunsen-Ges. Phys. Chem.*, 1967, **71**, 478 (*ir, raman*)
Maier, L., *Helv. Chim. Acta*, 1973, **56**, 492 (*synth, pmr, P nmr*)
Bel'skii, V.E. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 260), 1974, **215**, 355 (*ir, nqr*)
Moedritzer, K. *et al*, *Synth. React. Inorg. Met.-Org. Chem.*, 1974, **4**, 417 (*synth, pmr, P nmr*)
Quast, H. *et al*, *Synthesis*, 1974, 490 (*synth*)
Elbel, S. *et al*, *J. Chem. Soc., Dalton Trans.*, 1976, 1762 (*pe*)
Griffiths, W.R. *et al*, *Phosphorus Sulfur Relat. Elem.*, 1978, **4**, 341 (*ms*)
Zverev, V.V. *et al*, *Zh. Obshch. Khim.*, 1979, **49**, 1737; (*Engl. transl.* pp. 1522, 2172), 1980, **50**, 2690 (*pe, struct*)
Morita, T. *et al*, *Chem. Lett.*, 1980, 435 (*synth*)
Stritjtven, B. *et al*, *Tetrahedron*, 1987, **43**, 123 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MOB399.

Methylphosphonothioic dichloride, 9CI M-00246

Methylthiophosphonic dichloride

[676-98-2]

$MeP(S)Cl_2$

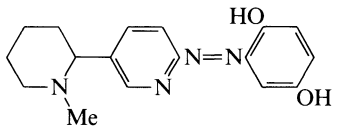
CH_3Cl_2PS M 148.980
Reagent for detn. of enantiomeric excess in chiral amines. Liq. with pungent odour. d_4^{20} 1.35-1.43. Bp 177-178°, Bp_{19} 49-51°. n_D^{20} 1.5428.
▷ TB2100000.

Hoffmann, F.W. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 3945 (*synth*)
Christol, C. *et al*, *J. Chim. Phys. Phys.-Chim. Biol.*, 1965, **62**, 246 (*ir, raman*)
Kavavanov, K.V. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 76), 1965, **35**, 78 (*synth*)
Nesterov, L.V. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1228), 1970, **40**, 1237 (*ir, pmr, P nmr*)
Shagidullin, R.R. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 564), 1975, **222**, 897 (*uv*)
Elbel, S. *et al*, *J. Chem. Soc., Dalton Trans.*, 1976, 1762 (*pe*)
Khairullin, V.K. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1813), 1978, **48**, 1993 (*synth*)
Feringa, B.L. *et al*, *J. Org. Chem.*, 1986, **51**, 5484 (*use*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 830.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MOC000.

2-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-1,4-benzenediol M-00247

6′-[(2,5-Dihydroxyphenyl)azo]-1-methylanabasine, *8CI*. *2-[(2,5-Dihydroxyphenyl)azo]-5-(1-methyl-2-piperidinyl) pyridine*

[24595-19-5]



$C_{17}H_{20}N_4O_2$ M 312.371

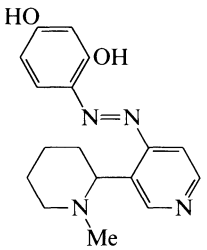
Gives colour reactions with Cd, Co, Cu, Ga, Ni, Pd, U, Zn. Orange-red cryst. Sol. EtOH, Me_2CO.

Kagramanova, N.G. *et al*, *CA*, 1969, **71**, 56314p (*use*)

4-[[3-(1-Methyl-2-piperidinyl)-4-pyridinyl] azo]-1,3-benzenediol, 9CI M-00248

4-(2,4-Dihydroxyphenylazo)-3-(1-methyl-2-piperidinyl) pyridine. *4-(N-Methyl-2-anabasinazo)resorcinol*

[6098-88-0]



$C_{17}H_{20}N_4O_2$ M 312.371

Used as a 1-10m*M* aq. soln. for photometric detn. of Sb (λ_{max} 540 nm, ε 10600); metallochromic indicator in titrimetric detn. of Bi, In. Brown red cryst. (EtOH). Sol. H_2O, EtOH, Me_2CO; spar. sol. $CHCl_3$, CCl_4, Et_2O. Mp >105° (dec.). pK_{a1} 5.2; pK_{a2} 12.1.

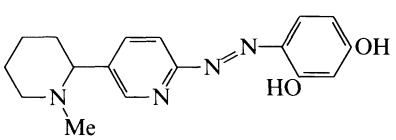
Talipov, S.T. *et al*, *Uzb. Khim. Zh.*, 1964, **8**, 18; 1965, **9**, 34; *CA*, **62**, 9779; **63**, 2365 (*detn, In, pKa*)

Talipov, S.T. *et al*, *Zh. Anal. Khim.*, 1964, **19**, 851; 1972, **27**, 1550 (*detn, Bi, Sb*)

4-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-1,3-benzenediol, 9CI M-00249

2-[(2,4-Dihydroxyphenyl)azo]-1-methylanabasine, *8CI*. *2-(2,4-Dihydroxyphenylazo)-5-(1-methyl-2-piperidinyl)pyridine*. *4-(2-N-Methylanabasinazo)resorcinol*

[20212-96-8]



$C_{17}H_{20}N_4O_2$ M 312.371

Used as metallochromic indicator for titrimetric detn. of Cu; photometric detn. of Cu, Pd. Cryst.

[21495-00-1]

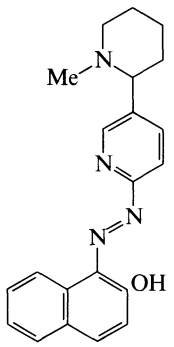
Kamaeva, G. *et al*, *Uzb. Khim. Zh.*, 1967, **11(4)**, 14; *CA*, **68**, 111062v; 1967, **11(5)**, 14; *CA*, **68**, 111064x (*phot detn, Cu*)

Talipov, S.T. *et al*, *CA*, 1968, **69**, 8152w (*detn, Pd*)

1-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-2-naphthalenol M-00250

6′-[(2-Hydroxy-1-naphthyl)azo]-1-methylanabasine, *8CI*. *N-Methylanabasine-α-azo-β-naphthol*

[23300-91-6]



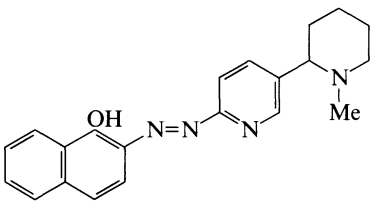
$C_{21}H_{22}N_4O$ M 346.431

Used as a 4m*M* soln. in EtOH for extraction-photometric detn. of Pd (λ_{max} 640 nm, ε 9420, $CHCl_3$); photometric detn. of In. Orange-red cryst. Sol. EtOH.

Chaprasova, L.V. *et al*, *CA*, 1968, **69**, 56784a; 1971, **74**, 134590d (*detn, Pd, In*)

2-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-1-naphthalenol, 9CI M-00251

[20229-81-6]



$C_{21}H_{22}N_4O$ M 346.431

Used as a 0.2% soln. in EtOH for extraction-photometric detn. of Cd (λ_{max} 582 nm, ε 21000, $CHCl_3$), Co, U, In (λ_{max} 570 nm); metallochromic indicator for titrimetric detn. of Bi, Ni. Red cryst. Sol. EtOH, Me_2CO.

[27215-66-3, 28518-02-7]

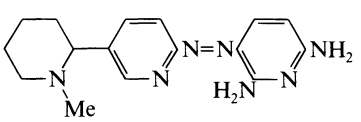
Podgornova, V.S. *et al*, *Uzb. Khim. Zh.*, 1967, **11**, 25 (*detn, In*)

Amirkhanova, T.B. *et al*, *CA*, 1968, **68**, 119113h; **69**, 8086c, 73649c, 8171b (*detn, Cd, Bi, Ni, Co*)

3-[(5-(1-Methyl-2-piperidinyl)-2-pyridinyl) azo]-2,6-pyridinediamine M-00252

6′-[(2,6-Diamino-3-pyridyl)azo]-1-methylanabasine, *8CI*. *2-[(2,6-Diamino-3-pyridinyl)azo]-5-(1-methyl-2-piperidinyl) pyridine*

[24613-90-9]



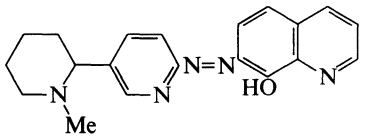
$C_{16}H_{21}N_7$ M 311.389

Used as a 0.05% aq. soln. for photometric detn. of Co. Orange red cryst. Sol. H_2O, acids.

Podgrornova, S. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 945 (*synth, detn, Co*)

7-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-8-quinolinol M-00253

6'-(8-Hydroxy-7-quinolinyl)azo-1-methylanabasine, 8CI. 2-[(8-Hydroxy-7-quinolinyl)azo]-5-(1-methyl-2-piperidinyl) pyridine



$C_{20}H_{21}N_5O$ M 347.419

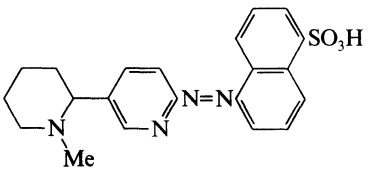
Used as a 0.2% aq. soln. for photometric detn. of Cd, Tl (λ_{max} 570 nm, ε 13100). Orange red cryst. V. sol. EtOH, common org. solvs.; sl. sol. H_2O. pK_a 7.5.

Yusupov, M. *et al*, *CA*, 1968, **69**, 8080w, 83154b; 1970, **70**, 5210y (*detn, Cd, Tl, synth*)

5-[[5-(1-Methyl-2-piperidinyl)-2-pyridyl] azo]-1-naphthalenesulfonic acid, 8CI M-00254

α'-(N-Methylanabasinazo)-1-naphthalene-5-sulfonic acid

[20229-82-7]



$C_{21}H_{22}N_4O_3S$ M 410.496

Used for photometric detn. of Pd. Orange red cryst. Sol. H_2O, EtOH.

Sharipova, S.T. *et al*, *CA*, 1969, **68**, 119170z (*detn, Pd*)

2-Methyl-1-propanol M-00255

Isobutanol. Isobutyl alcohol

[78-83-1]

$(H_3C)_2CHCH_2OH$

$C_4H_{10}O$ M 74.122

Present in fusel oil and produced by fermentation of carbohydrates. Used as a varnish remover and in the manufacture of flavouring essences. Used to esterify carboxylic acids and amino acids for gc anal. Colourless, refractive liq. Flammable. Misc. EtOH, Et_2O, spar. sol. H_2O. Fp −108°. Bp 108.1°.

▷ Mod. toxic, eye irritant. TLV 150. NP9625000.

3,5-Dinitrobenzoyl: [10478-01-0]. *Isobutyl 3,5-dinitrobenzoate*
Mp 86°.

Acid phthalate: [30833-53-5].
Mp 65°.

▷ TI2550000.

U.K. Pat., 324 897, (1928); *CA*, **24**, 3802 (*manuf*)
Hückel, W. *et al*, *J. Prakt. Chem.*, 1933, **136**, 15.
Mackenzie, S.L. *et al*, *J. Chromatogr.*, 1975, **111**, 413 (*use*)
Harrison, A.G. *et al*, *Can. J. Chem.*, 1976, **54**, 2029 (*ms*)
Loeffler, C.E. *et al*, *Encycl. Chem. Process. Des.*, (McKetta, J.J. *et al*, Eds.), Dekker, N.Y., 1977, 358 (*rev*)
Siezen, R.J. *et al*, *J. Chromatogr.*, 1977, **130**, 151 (*use*)
Molnar-Perl, I. *et al*, *Chromatographia*, 1983, **17**, 493 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 368.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IIL000, MRI775.

2-Methyl-2-propenoic acid, 9CI M-00256

2-Methylacrylic acid, 8CI. Methacrylic acid

[79-41-4]

$H_2C{=}C(CH_3)COOH$

$C_4H_6O_2$ M 86.090

Isol. from *Scarites subterraneus*. Polymers used as synthetic resins. Long prisms or liq. Sol. H_2O, EtOH, Et_2O. d_4^{20} 1.02. Mp 15-16°. Bp 160.5°, Bp_{14} 72°. pK_{a1} 4.65. n_D^{20} 1.4314. Polymerises on repeated dist. or on heating under press. with HCl.

▷ Highly irritant, causes burns. OZ2975000.

Me ester: [80-62-6]. *Methyl methacrylate*
$C_5H_8O_2$ M 100.117
Monomer for prodn. of synthetic resins (perspex). Used for extraction-separation of Se and Au. Liq. Sol. Me_2CO. Bp 100-101°. Polymerises on exp. to light or on heating in air.
▷ Irritant, TLV 410. Highly flammable, flash p. −10°. OZ5075000.

Et ester: [97-63-2]. *Ethyl methacrylate*
$C_6H_{10}O_2$ M 114.144
Monomer. Bp 115-120°, Bp_{18} 30°.

Chloride: [920-46-7].
C_4H_5ClO M 104.536
Bp 95-96°, Bp_{135} 50-52°.
▷ OZ5791000.

Amide: [79-39-0]. *Methacrylamide*
C_4H_7NO M 85.105
Mp 105-107°. Polymerises on heating in solid state or soln.
▷ UC6475000.

Nitrile: [126-98-7]. *2-Cyanopropene. Methacrylonitrile*
C_4H_5N M 67.090
Insol. H_2O. d_4^{20} 0.80. Bp 90-92°.
▷ Highly toxic by inhalation and skin absorption, TLV 3. UD1400000.

Burns, R. *et al*, *J. Chem. Soc.*, 1935, 714 (*synth*)
Porter, R.W., *CA*, 1947, **41**, 4673.
Mowry, D.T. *et al*, *J. Am. Chem. Soc.*, 1947, **69**, 1831 (*nitrile*)
Org. Synth., Coll. Vol., 3, 1955, 30 (*synth*)
Org. Synth., Coll. Vol., 3, 1955, 560 (*amide*)
Rodd's Chem. Carbon Compd. (2nd Ed.), 2nd Ed., Vol ID, 1965, 232 (*synth, manuf, bibl*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **15**, 346 (*rev*)
Futekov, L. *et al*, *Fresenius' Z. Anal. Chem.*, 1981, **306**, 378, 381 (*Me ester, detn, Se, Au*)
Attygalle, A.B. *et al*, *Tetrahedron Lett.*, 1991, **32**, 4849 (*biosynth*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 532.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 384, 385, 389.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EMF000, MDN250, MDN500, MDN899, MGA750, MLH750.

2-Methylpropyl acetate, 9CI M-00257

Isobutyl acetate, 8CI

[110-19-0]

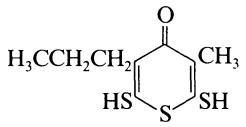
$H_3CCOOCH_2CH(CH_3)_2$

$C_6H_{12}O_2$ M 116.160
Found in wines, cider, apples, figs and melons. Used as solvent, and in flavouring agents. Alarm pheromone of the honeybee. Used for extraction separation of Zn and Cd from iodide-H_2SO_4 media. Liq. Sol. EtOH, prac. insol. H_2O. Fp −98.85°. Bp 118°.

▷ AI4025000.

Hückel, W. *et al*, *J. Prakt. Chem.*, 1933, **136**, 15 (*synth*)
Birkinshaw, J.H. *et al*, *Biochem. J.*, 1950, **47**, 55 (*isol*)
Karpov, O.N. *et al*, *CA*, 1969, **70**, 114 556 (*synth*)
Shikhmamedbekova, A.Z. *et al*, *CA*, 1972, **76**, 13306 (*ms*)
Scrivener, H.W., *Encycl. Chem. Process. Des.*, (McKetta, J.J. *et al*, Eds.), Dekker, N.Y., 1977, 317 (*rev*)
Sandell, E.B. *et al*, *Photometric Determination of Traces of Metals*, Wiley, New York, 1977 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IIJ000.

3-Methyl-5-propyl-2,6-dimercapto-4*H*-thiopyran-4-one, 9CI M-00258



$C_9H_{12}OS_3$ M 232.391
Used as a 0.1m*M* aq. soln. for photometric detn. of Bi (λ_{max} 430 nm, ε 25200), Sn (λ_{max} 420 nm, ε 25400). Cryst.

Usatenko, Y.I. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 462; 1967, **22**, 1823 (*detn, Bi, Sn*)

O-(1-Methylpropyl)hydroxylamine, 9CI M-00259

Hydroxylamine sec-*butyl ether*. O-sec-*Butylhydroxylamine*. sec-*Butoxyamine*

[41109-12-0]

$H_2NOCH(CH_3)CH_2CH_3$

$C_4H_{11}NO$ M 89.137
Derivatisation reagent for gc anal. of keto steroids. Bp 103-104°.

B,HCl: [6084-59-9].
Cryst. (THF/Et_2O). Mp 68-70°.

[83153-73-5]

Theilacker, W. *et al*, *Angew. Chem.*, 1956, **68**, 303 (*synth*)
Baillie, T.A. *et al*, *Anal. Lett.*, 1972, **5**, 351 (*use*)
Grochowski, E. *et al*, *Synthesis*, 1976, 682 (*synth*)

O-(2-Methylpropyl)hydroxylamine, 9CI M-00260

Hydroxylamine isobutyl ether. O-*Isobutylhydroxylamine*. *Isobutoxyamine*

[5618-62-2]

$H_2NOCH_2CH(CH_3)_2$

$C_4H_{11}NO$ M 89.137
Derivatisation reagent for gc anal. of keto steroids. Oil. Bp 95-97°.

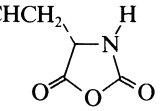
B,HCl: [6084-58-8].
Leaflets (EtOAc). Mp 134-135°.

Theilacker, W. *et al*, *Angew. Chem.*, 1956, **68**, 303 (*synth*)
Mamalis, P. *et al*, *J. Chem. Soc.*, 1960, 229 (*synth*)
Baillie, T.A. *et al*, *Anal. Lett.*, 1972, **5**, 351 (*use*)

4-(2-Methylpropyl)-2,5-oxazolidinedione, 9CI M-00261

4-Isobutyl-2,5-oxazolidinedione, *8CI*. *Leucine* N-*carboxyanhydride*

[51248-35-2]



(*S*)-*form*

$C_7H_{11}NO_3$ M 157.169

(***S*)-*form*** [3190-70-3]
L-*form*
Polymerizes rapidly. Used in peptide synthesis and in detn. of optical purity of amino acids by hplc. Cryst. (Et_2O/pet. ether). Mp 76-77°.

[26334-33-8, 51018-87-2]

Coleman, D., *J. Chem. Soc.*, 1950, 3222 (*synth*)
Konopinska, D. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1967, **6**, 248 (*synth*)
Manning, J.M. *et al*, *J. Biol. Chem.*, 1968, **243**, 5591 (*use*)
Fuller, W.D. *et al*, *Biopolymers*, 1976, **15**, 1869 (*synth*)
Kanazawa, H. *et al*, *Bull. Chem. Soc. Jpn.*, 1978, **51**, 2205 (*cryst struct*)
Takaya, T. *et al*, *CA*, 1980, **93**, 88144d (*use*)
Kircher, K. *et al*, *Justus Liebigs Ann. Chem.*, 1980, 275 (*use*)
Kricheldorf, H.R. *et al*, *Org. Magn. Reson.*, 1980, **14**, 198 (*cmr, N-15 nmr*)
Daly, W.H. *et al*, *Tetrahedron Lett.*, 1988, **29**, 5859 (*synth*)

(2-Methylpropyl)phosphonic acid, 9CI M-00262

Isobutylphosphonic acid

[4721-34-0]

$(H_3C)_2CHCH_2P(O)(OH)_2$

$C_4H_{11}O_3P$ M 138.103
Cryst. (cyclohexane). Mp 125-126°. pK_{a1} 2.70; pK_{a2} 8.43 (H_2O, 25°).

Di-Et ester: [50655-63-5]. *Diethyl (2-methylpropyl) phosphonate. Diethyl isobutylphosphonate*
$C_8H_{19}O_3P$ M 194.210
Liq. Bp_{13} 86-93°, Bp_3 83°.

Bis(2-methylpropyl) ester: [52928-43-5]. *Bis(2-methylpropyl) (2-methylpropyl)phosphonate. Diisobutyl isobutylphosphonate*
$C_{12}H_{27}O_3P$ M 250.317
Extractant for Cd and Zn from aq. soln. Liq. Bp_{10} 133-134°.

Di-Ph ester: [53235-71-5]. *Diphenyl (2-methylpropyl) phosphonate. Diphenyl isobutylphosphonate*
$C_{16}H_{19}O_3P$ M 290.298
Characterised spectroscopically.

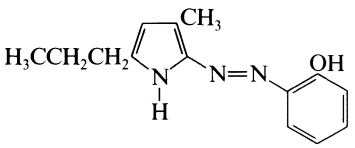
Dichloride: [5021-98-7].
$C_4H_9Cl_2OP$ M 174.994
Liq. d_4^{20} 1.25. Bp_{20} 90-92°. n_D^{20} 1.4641.

Arbuzov, A.E. *et al*, *Zh. Fiz. Khim.*, 1913, **45**, 690; *CA*, **7**, 3599 (*synth, deriv*)
Fields, E.K. *et al*, *Chem. Ind. (London)*, 1960, 999 (*ester*)
Jason, E.F. *et al*, *J. Org. Chem.*, 1962, **27**, 1402 (*ester*)
Tsvetkov, E.N. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1967, 2375; *Bull. Acad. Sci. USSR, Div. Chem. Sci. (Engl. Transl.)*, 2267 (*dichloride*)
Hudson, H.R. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1974, 982 (*ester, P nmr*)
Ernst, L., *Org. Magn. Reson.*, 1977, **9**, 35 (*ester, cmr, P nmr*)

2-[(3-Methyl-5-propyl-2-pyrrolidinyl)azo] phenol M-00263

2-(2-Hydroxyphenylazo)-3-methyl-5-propylpyrrolidine

[10418-07-2]



$C_{14}H_{17}N_3O$ M 243.308

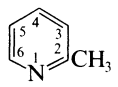
Used as 1m*M* soln. in aq. dioxan for photometric detn. of Co (λ_{max} 560 nm, ε 40000). Cryst. Sol. dioxan, EtOH.

Cherepakhin, A.I., *Zh. Anal. Khim.*, 1966, **21**, 502 (*synth, detn, Co*)

2-Methylpyridine, 9CI M-00264

α-Picoline

[109-06-8]



C_6H_7N M 93.128

Isol. from leaves of *Rumex obtusifolius* (Polygonaceae). Found in coal tar oil. Oil with strong unpleasant odour. d_4^{15} 0.950. Mp −70°. Bp 129°. pK_a 7.98 (25°). n_D^{17} 1.5029.

▷ Toxic, irritant. Flammable. TJ4900000.

B,HCl: Hygroscopic cryst. + $\frac{1}{2}H_2O$. Mp 200° (anhyd.).

B,HBr,Br$_2$ addn. compd.: Red cryst. Mp 76°.

B,MeI: [872-73-1]. *2-Picoline methiodide*

$C_7H_{10}IN$ M 235.067

Reagent for the detn. of aromatic aldehydes (forms 2-stilbazole methiodide). Needles (EtOH). Mp 229-231°.

B,EtBr: Mp 97°.

B,EtI: Mp 123°.

Picrate: Needles. Mp 169-171°.

[18241-33-3]

Heap, T. *et al, J. Am. Chem. Soc.*, 1921, **43**, 1936.
Wilkie, K. *et al, J. Soc. Chem. Ind., London*, 1927, **46**, 469.
Cartwright, C.H. *et al, C. R. Hebd. Seances Acad. Sci.*, 1935, **200**, 914.
Cullinane, N.M. *et al, J. Soc. Chem. Ind., London*, 1948, **67**, 142.
Coulson, E.A. *et al, J. Chem. Soc.*, 1954, 1957.
Kosower, E.M. *et al, J. Am. Chem. Soc.*, 1956, **78**, 3493 (*synth, methiodide*)
Wilkinson, S., *Nature (London)*, 1958, **181**, 636 (*isol*)
Weissberger, A., *Chem. Heterocycl. Compd.*, 1960, **14**, 99.
Salsmans, R. *et al, Org. Mass Spectrom.*, 1974, **8**, 357 (*ms*)
Tarek, M. *et al, Anal. Lett.*, 1987, **20**, 2049; 1989, **22**, 3091 (*use, methiodide*)
Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1493 (*cmr*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 403.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MOY000.

4-Methylpyridine, 9CI M-00265

γ-Picoline

[108-89-4]

C_6H_7N M 93.128

Used as mixture with barbituric acid for photometric detn. of $CN^{\ominus}$ (λ_{max} 605 nm). Used as 5% aq. soln. for extraction-photometric detn. of Fe with α-benzildioxime (λ_{max} 559 nm, $CHCl_3$). Liq. Sol. H_2O, EtOH, Et_2O. d_4^{15} 0.957. Bp 143.1°. pK_a 7.96 (25°). n_D^{19} 1.5064.

▷ Toxic, irritant, flammable. UT5425000.

B,MeI: Flat prisms (Me_2CO). Mp 149-150°.

Picrate: Mp 167°.

N-*Oxide:* [1003-67-4].

C_6H_7NO M 109.127

$Bp_{0.05}$ 101-102°.

▷ Emits highly toxic fumes on heating.

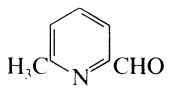
[1333-41-1]

Meisenheimer, J., *Justus Liebigs Ann. Chem.*, 1920, **420**, 197.
U.K. Pat., 283 163, (1928); *CA*, **22**, 3892.
Bailey, C.F. *et al, J. Am. Chem. Soc.*, 1930, **52**, 1633.
Clemo, G.R. *et al, J. Chem. Soc.*, 1938, 478.
Coulson, E.A., *J. Chem. Soc.*, 1954, 1957.
Weissberger, A., *Chem. Heterocycl. Compd.*, 1960, **14/1**, 99 (*bibl*)
Einaga, H., *Mikrochim. Acta*, 1976, **1**, 67 (*detn, Fe*)
Nagashima, S., *Anal. Chim. Acta*, 1977, **91**, 303 (*detn, CN*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 403.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MOY250.

6-Methyl-2-pyridinecarboxaldehyde, 9CI M-00266

6-Methylpicolinaldehyde, 8CI. 2-Formyl-6-methylpyridine

[1122-72-1]



C_7H_7NO M 121.138

Cryst. Mp 33°. Bp_{12} 77-78°. pK_a 4.55.

B, HCl: Cryst. Mp 146-147°.

(E)-*Oxime:* [1195-40-0].

$C_7H_8N_2O$ M 136.153

Cryst. (EtOH aq.). Mp 170-171° (168-169.5°).

1-Oxide:

$C_7H_7NO_2$ M 137.138

Yellow cryst. (C_6H_6). Mp 84°.

Dimethylhydrazone:

$C_9H_{13}N_3$ M 163.222

Cryst. Mp 51-53°.

Phenylhydrazone: Yellow cryst. (EtOH). Mp 203-205°.

2,4-Dinitrophenylhydrazone: Mp 231-233° dec.

Semicarbazone: Mp 218°.

Thiosemicarbazone: [6853-69-6].

$C_8H_{10}N_4S$ M 194.260

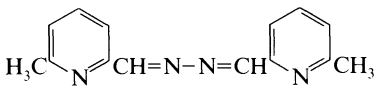
Used as 1% EtOH soln. for photometric detn. of Hg(*II*) (λ_{max} 363 nm, ε 23800). Yellow cryst. Sol. EtOH, DMF; spar. sol. H_2O.

Mathes, W. *et al, Chem. Ber.*, 1951, **84**, 452 (*synth*)
Furukawa, S. *et al, Chem. Pharm. Bull.*, 1955, **3**, 232 (*synth*)
Ginsburg, S. *et al, J. Am. Chem. Soc.*, 1957, **79**, 481 (*oxime*)
Wiley, R.H. *et al, J. Org. Chem.*, 1957, **22**, 204 (*dimethylhydrazone*)
Tirouflet, J. *et al, C. R. Hebd. Seances Acad. Sci.*, 1958, **247**, 217 (*props*)
Baker, W. *et al, J. Chem. Soc.*, 1958, 3594 (*uv*)
Mathes, W. *et al, Justus Liebigs Ann. Chem.*, 1958, **618**, 152 (*oxide*)
Callighan, R.H. *et al, J. Org. Chem.*, 1961, **26**, 4912 (*synth*)
Kasuga, S. *et al, Chem. Pharm. Bull.*, 1965, **13**, 233 (*synth*)
Papadopoulos, E.P. *et al, J. Org. Chem.*, 1966, **31**, 615 (*synth*)
Kowalewski, V. *et al, J. Magn. Reson.*, 1972, **8**, 101 (*pmr*)
Gallardo Cespedes, A. *et al, Microchem. J.*, 1984, **30**, 105 (*synth, detn, Hg*)

6-Methyl-2-pyridinecarboxaldehyde azine M-00267

6-Methyl-2-pyridinecarboxaldehyde [(6-methyl-2-pyridinyl) methylene]hydrazone, 9CI. 6-Methylpicolinaldehyde azine

[6955-47-1]



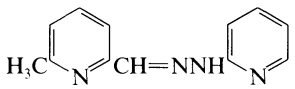
$C_{14}H_{14}N_4$ M 238.291

Used for indirect extraction-photometric detn. of $ClO_4^{\ominus}$ (λ_{max} 480 nm, ε 3250, $CHCl_3$; λ_{max} 480 nm, ε 41400, butanol). Cryst.

Valcarcel, M. *et al*, *An. Quim.*, 1972, **68**, 382 (*detn, $ClO_4^{\ominus}$*)

6-Methyl-2-pyridinecarboxaldehyde 2-pyridinylhydrazone M-00268

[58333-11-2]

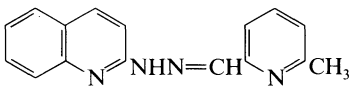


$C_{12}H_{12}N_4$ M 212.254

Used as complexing agent for Zn. Needles. Mp 208-210°.

Geldard, J.F. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 2262 (*synth, detn, Zn*)

6-Methyl-2-pyridinecarboxaldehyde 2-quinolinylhydrazone M-00269



$C_{16}H_{14}N_4$ M 262.313

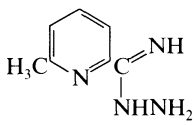
Used for photometric detn. of Pd. Cryst.

Capitan Garcia, F. *et al*, *Afinidad*, 1977, **34**, 214 (*detn, Pd*)
Singh, R.B. *et al*, *Talanta*, 1982, **29**, 77 (*rev*)

6-Methyl-2-pyridinecarboximidic acid hydrazide, 9CI M-00270

6-Methylpicolinimidic acid hydrazide, 8CI

[18895-94-8]



$C_7H_{10}N_4$ M 150.183

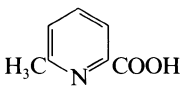
Used as a 0.6% soln. in 2-propanol for photometric detn. of Cu (λ_{max} 426 nm, ε 700). Plates (2-propanol or C_6H_6). Sol. EtOH, Me_2CO. Mp 115°, Mp 112-113°.

Case, F.H., *J. Heterocycl. Chem.*, 1968, **5**, 413 (*synth*)
Stookey, L.L., *Talanta*, 1970, **17**, 644.
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

6-Methyl-2-pyridinecarboxylic acid, 9CI M-00271

6-Methylpicolinic acid. α-Picoline-6-carboxylic acid

[934-60-1]



$C_7H_7NO_2$ M 137.138

Needles. Mp 124-128°. pK_{a1} 0.9; pK_{a2} 5.77 (20°, 0.5*M* NaCl).

1-Oxide: [1125-34-4].
$C_7H_7NO_3$ M 153.137
Mp 174-176° dec.

Me ester: [13602-11-4].
$C_8H_9NO_2$ M 151.165
Bp_4 96-97°.

Thioamide: [5933-30-2]. *6-Methylthiopicolinamide, 8CI*
$C_7H_8N_2S$ M 152.220
Used as 1m*M* soln. in pentanol for extraction-photometric detn. of Cu(*I*) (λ_{max} 495 nm, in the presence of ascorbic acid). Cryst. Sol. pentanol.

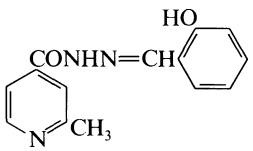
Amide, oxime: [24283-36-1]. *6-Methyl-2-pyridinecarboxamidoxime, 9CI. 6-Methylpicolinamidoxime, 8CI*
$C_7H_9N_3O$ M 151.168
Used as a 0.1% aq. soln. for photometric detn. of Cu (λ_{max} 405 nm, ε 7200, 2-pentanol). Cryst. (C_6H_6). Sol. H_2O, EtOH, Me_2CO; mod. sol. C_6H_6. Mp 138°.

Szafran, M., *Bull. Acad. Pol. Sci., Ser. Sci. Chim.*, 1965, **13**, 245 (*ir*)
Wawschinek, O., *Mikrochim. Acta*, 1965, 860 (*detn, Cu*)
Pemberton, J.R. *et al*, *Talanta*, 1969, **16**, 542 (*synth, use, nmr*)
Campbell, A.D. *et al*, *Aust. J. Chem.*, 1971, **24**, 377 (*synth*)
Deady, L.W. *et al*, *Org. Magn. Reson.*, 1975, **7**, 41 (*nmr*)
Deady, L.W. *et al*, *Spectrochim. Acta, Part A*, 1975, **31**, 1671 (*uv*)

2-Methyl-4-pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, 9CI M-00272

2-Methylisonicotinic acid salicylhydrazide

[50366-17-1]



$C_{14}H_{13}N_3O_2$ M 255.276

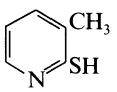
Used as a 0.5% soln. in EtOH for photometric detn. of Ti; extraction-photometric detn. of Fe, Ti, V. Cryst. (EtOH aq.). Sol. EtOH. Mp 181°.

Dolgorev, A.V. *et al*, *Fresenius' Z. Anal. Chem.*, 1973, **28**, 1093 (*use*)

3-Methyl-2-pyridinethiol M-00273

3-Methyl-2(1H)-pyridinethione

[18368-66-6]



C_6H_7NS M 125.194

Cryst. (C_6H_6). Mp 172-173°.

N-*Oxide:* [55154-51-3].
C_6H_7NOS M 141.193
Used for photometric detn. of Fe, Hg, Pd. Cryst. Spar. sol. H_2O. Mp 70-72°.

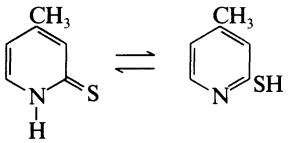
N-*Oxide, Na salt:* Mp 242-244°. pK_{a1} 5.3 (25°).

Bell, C.L. *et al*, *J. Heterocycl. Chem.*, 1965, **2**, 420; 1968, **5**, 647 (*synth, nmr, ms*)
Edrissi, M. *et al*, *Microchem. J.*, 1971, **16**, 538 (*use, deriv*)

4-Methyl-2(1*H*)-pyridinethione, 8CI M-00274

4-Methyl-2-pyridinethiol

[18368-65-5]



C_6H_7NS M 125.194

Cryst. (C_6H_6). Mp 178-180°.

N-*Oxide:* [34341-26-9]. *1-Hydroxy-4-methyl-2(1H)-pyridinethione. 4-Methyl-2-pyridinethiol 1-oxide*

C_6H_7NOS M 141.193

Used for photometric detn. of Fe, Hg, Pd, Cu; gravimetric detn. of Fe. Cryst. Spar. sol. H_2O. Mp 58-60°. pK_{a1} 4.93 (25°).

N-*Oxide, Na salt:* [55154-52-4].

Cryst. (Me_2CO aq.). Mp 238-240°. pK_a 4.93 (25°).

N-*Oxide, tris Fe*(III) *complex:* [34387-32-1].

$C_{18}H_{18}FeN_3O_3S_3$ M 476.403

Used for photometric detn. of Hg. Purple cryst. Dec. at 180-181°.

N-*Ac:* [34317-06-1]. *1-Acetoxy-4-methyl-2(1H)-pyridinethione, 8CI*

C_8H_9NOS M 167.231

Used for gravimetric detn. of Cu. Cryst. (EtOH). Mp 84-86°.

[3354-06-1, 25363-69-3]

Shaw, E. *et al, J. Am. Chem. Soc.*, 1950, **72**, 4362 (*synth*)
Bell, C.L. *et al, J. Heterocycl. Chem.*, 1965, **2**, 420; 1968, **5**, 647 (*synth, nmr, ms*)
Delarge, J., *Farmaco, Ed. Sci.*, 1967, **22**, 1069 (*synth*)
Edrissi, M. *et al, Microchem. J.*, 1971, **16**, 526, 538; 1973, **18**, 59 (*synth, use*)

5-Methyl-2(1*H*)-pyridinethione M-00275

5-Methyl-2-pyridinethiol

[18368-58-6]

C_6H_7NS M 125.194

Cryst. (C_6H_6). Mp 199-200°.

N-*Oxide:* [40313-38-0].

C_6H_7NOS M 141.193

Used for photometric detn. of Fe, Hg, Pd. Cryst. Spar. sol. H_2O. Mp 100-102°.

N-*Oxide, Na salt:* Mp 246-248°. pK_{a1} 4.71 (25°).

Bell, C.L. *et al, J. Heterocycl. Chem.*, 1965, **2**, 420; 1968, **5**, 647 (*synth, nmr, ms*)
Edrissi, M. *et al, Microchem. J.*, 1971, **16**, 538 (*use, deriv*)

6-Methyl-2(1*H*)-pyridinethione M-00276

6-Methyl-2-pyridinethiol

[18368-57-5]

C_6H_7NS M 125.194

Cryst. (C_6H_6). Mp 154-156°.

N-*Oxide:* [51583-70-1].

C_6H_7NOS M 141.193

Used for photometric detn. of Fe, Hg, Pd. Cryst. Spar. sol. H_2O. Mp 50-52°.

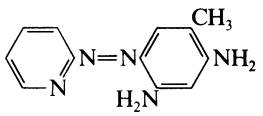
N-*Oxide, Na salt:* Mp 233-235°. pK_{a1} 5.18 (25°).

Bell, C.L. *et al, J. Heterocycl. Chem.*, 1965, **2**, 420; 1968, **5**, 647 (*synth, nmr, ms*)
Edrissi, M. *et al, Microchem. J.*, 1971, **16**, 538 (*use, deriv*)

4-Methyl-6-(2-pyridinylazo)-1,3-benzenediamine, 9CI M-00277

5-(2-Pyridylazo)-2,4-diaminotoluene. 2-(4,6-Diamino-3-methylphenylazo)pyridine. PADAT

[51833-06-8]



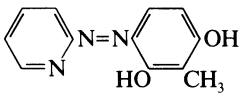
$C_{12}H_{13}N_5$ M 227.268

Used as 0.1% EtOH soln. for photometric detn. of Co (λ_{max} 561 nm, ε 116000). Red needles (EtOH aq.). Sol. EtOH. Mp 188°.

Shibata, S. *et al, Bunseki Kagaku (Jpn. Anal.)*, 1973, **22**, 1077 (*synth*)
Shibata, S. *et al, Anal. Chim. Acta*, 1974, **73**, 107 (*detn, Co*)

2-Methyl-4-(2-pyridinylazo)-1,3-benzenediol M-00278

2-(2,4-Dihydroxy-3-methylphenylazo)pyridine



$C_{12}H_{11}N_3O_2$ M 229.238

1-Me ether: [77350-03-9]. *3-Methoxy-2-methyl-6-(2-pyridinylazo)phenol, 9CI*

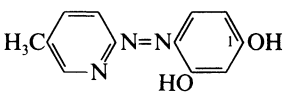
$C_{13}H_{13}N_3O_2$ M 243.265

Used as 0.2% MeOH soln. for extraction-photometric detn. of Ni (λ_{max} 545 nm, ε 95000, $CHCl_3$), Cu, Co. Cryst. Sol. MeOH, EtOH, dioxan; sl. sol. H_2O. Mp 190°. pK_{a1} 3.00; pK_{a2} 8.15 (aq. dioxan, 25°, 0.1*M* KNO_3).

Ohshita, K. *et al, Anal. Chim. Acta*, 1981, **124**, 193 (*synth, use*)

4-[(5-Methyl-2-pyridinyl)azo]-1,3-benzenediol M-00279

[17091-07-5]



$C_{12}H_{11}N_3O_2$ M 229.238

1-Me ether: [77350-00-6]. *5-Methoxy-2-[(5-methyl-2-pyridinyl)azo]phenol, 9CI. 2-(2-Hydroxy-4-methoxyphenylazo)-5-methylpyridine*

$C_{13}H_{13}N_3O_2$ M 243.265

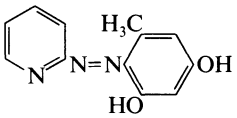
Used as 0.2% MeOH soln. for extraction-photometric detn. of Ni (λ_{max} 565 nm, ε 42000, $CHCl_3$), Cu, Co. Colour cryst. Sol. MeOH, EtOH, dioxan; sl. sol. H_2O. Mp 267°. pK_{a1} 2.95; pK_{a2} 9.55 (aq. dioxan, 25°, 0.1*M* KNO_3).

Geary, W.J. *et al, Talanta*, 1967, **15**, 537.
Ohshita, K. *et al, Anal. Chim. Acta*, 1981, **124**, 193 (*synth, detn, Ni*)

5-Methyl-4-(2-pyridinylazo)-1,3-benzenediol M-00280

(5-Methyl-2-pyridylazo)resorcinol, 8CI. 2-(2,4-Dihydroxy-6-methylphenylazo)pyridine

[29660-56-8]



$C_{12}H_{11}N_3O_2$ M 229.238

Used as a 0.1% aq. soln. to give colour reactions with transition metals; indicator for titrimetric detn. of Cd, Co, Pb. Sol. alkalis, EtOH, Et_2O; insol. H_2O.

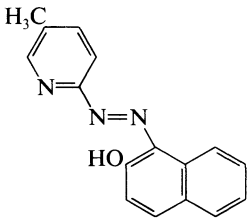
Hnilickova, M. *et al*, *Fresenius' Z. Anal. Chem.*, 1960, **117**, 425 (*synth, detn, Cu*)

Carducci, C.N., *CA*, 1967, **66**, 61454k (*reactions*)

1-[(5-Methyl-2-pyridinyl)azo]-2-naphthalenol, 9CI M-00281

1-(5-Methyl-2-pyridylazo)-2-naphthol. 5-Methyl-β-PAN

[39484-77-0]



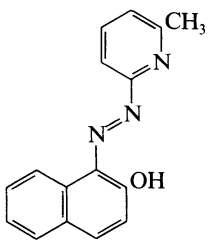
$C_{16}H_{13}N_3O$ M 263.298

Used a 0.1% soln. in MeOH for photometric detn. of Y (λ_{max} 530 nm, ε 64000), U (λ_{max} 560 nm, ε 21000). Cryst. (MeOH). Sol. EtOH, MeOH.

Shibata, S. *et al*, *Mikrochim. Acta*, 1973, 325; 1974, 129 (*detn, Y, U*)

1-[(6-Methyl-2-pyridinyl)azo]-2-naphthalenol M-00282

[112828-31-6]



$C_{16}H_{13}N_3O$ M 263.298

N-Oxide: [74108-95-5].

$C_{16}H_{13}N_3O_2$ M 279.298

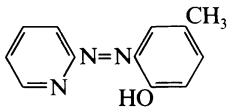
Used as 0.05% EtOH soln. for extraction-photometric detn. of V(*V*) (λ_{max} 562 nm, 3*M* HCl, $CHCl_3$). Deep crimson needles (EtOH). Sol. EtOH. Mp 225-227°.

Beaupré, P.W. *et al*, *Mikrochim. Acta*, 1980, **1**, 371 (*synth, detn, V*)

4-Methyl-2-(2-pyridinylazo)phenol, 9CI M-00283

2-(2-Hydroxy-5-methylphenylazo)pyridine

[19406-16-7]



$C_{12}H_{11}N_3O$ M 213.238

Used as a 0.1% soln. in propan-1-ol for photometric detn. of Ir (λ_{max} 570 nm, ε 28000), Rh (λ_{max} 590 nm, ε 85000). Orange cryst.

Goroshko, G.G. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 1114 (*detn, Ir, Rh*)

Goroshko, G.G. *et al*, *Zavod. Lab.*, 1984, **50**, 11 (*detn, Ir, Rh*)

5-Methyl-2-(2-pyridinylazo)phenol, 9CI M-00284

[101645-04-9]

$C_{12}H_{11}N_3O$ M 213.238

Used as 1.7m*M* soln. in 0.08*M* HCl for extraction-photometric detn. of Ni (λ_{max} 555 nm, ε 25500), Zn, Cd, Cu. Cryst. Sol. acids, EtOH.

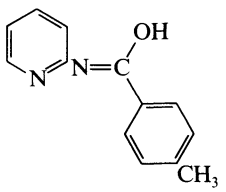
Kawamorita, S. *et al*, *Anal. Sci.*, 1985, **1**, 41 (*use*)

Watanabe, H. *et al*, *Anal. Sci.*, 1987, **3**, 433 (*use*)

4-Methyl-*N*-2-pyridinylbenzamide, 9CI M-00285

2-(p-Tolylamido)pyridine

[14547-80-9]



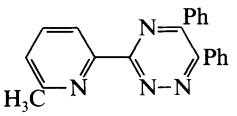
$C_{13}H_{12}N_2O$ M 212.251

Used as 1% C_6H_6 soln. for extraction-photometric detn. of Mo (λ_{max} 470 nm, ε 18800, 1.5-6.6*M* HCl). Cryst. Sol. C_6H_6, $CHCl_3$, CCl_4, acids, alkalis; insol. H_2O.

Patel, K.S. *et al*, *Talanta*, 1982, **29**, 791 (*detn, Mo*)

3-(6-Methyl-2-pyridinyl)-5,6-diphenyl-1,2,4-triazine, 9CI M-00286

[18895-96-0]



$C_{21}H_{16}N_4$ M 324.384

Used as a 0.65% soln. in hot MeOH or 5m*M* soln. in EtOH for photometric detn. of Cu (λ_{max} 492 nm, ε 950). Yellow cryst. (C_6H_6/pet. ether). Sol. EtOH, C_6H_6. Mp 179°, Mp 154-155°.

Case, F.H., *J. Heterocycl. Chem.*, 1968, **5**, 413 (*synth*)

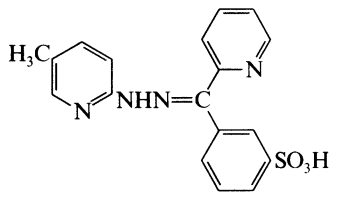
Stookey, L.L., *Talanta*, 1970, **17**, 644.

Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*detn, Cu*)

3-[[(5-Methyl-2-pyridinyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, 9CI M-00287

(2-Pyridyl)(3-sulfophenyl)methanone 2-(5-methylpyridyl) hydrazone

[106288-59-9]



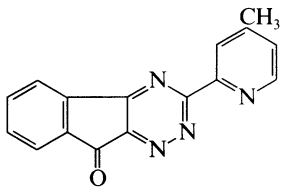
$C_{18}H_{16}N_4O_3S$ M 368.415

Used as 2m*M* soln. in 0.01*M* NaOH for photometric detn. of Co (λ_{max} 488 nm, ε 31000, pH 4), Fe(*II,III*), Pd, V, Zn. Cryst. (EtOH aq.). Sol. alkalis, H_2O, EtOH. pK_{a1} 3.75; pK_{a2} 6.24 (μ = 0.2, 25°).

Odashima, T. *et al*, *Analyst* (*London*), 1986, **111**, 1383 (*synth, use*)

3-(4-Methyl-2-pyridinyl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, 9CI M-00288

[37004-79-8]



$C_{16}H_{10}N_4O$ M 274.281

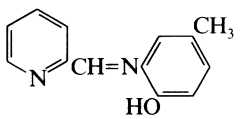
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 481 nm, ε 7000), Fe(*II*) (λ_{max} 585 nm, ε 24900). Cryst. (EtOH). Sol. common org. solvents. Mp 200°.

Case, F.H., *J. Heterocycl. Chem.*, 1972, **9**, 457 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Cu, Fe*)

4-Methyl-2-[(2-pyridinylmethylene)amino]phenol, 9CI M-00289

Picolinaldehyde 2-hydroxy-5-methylanil

[20211-19-2]



$C_{13}H_{12}N_2O$ M 212.251

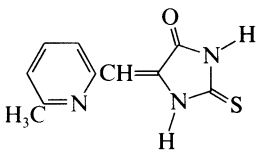
Used as 1m*M* $CHCl_3$ soln. for extraction-photometric detn. of Pd (λ_{max} 620 nm, ε 4620). Yellow-orange needles (pet. ether). Sol. $CHCl_3$, 1,2-dichloroethane, 1,2-dichlorobenzene.

Otomo, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1973, **46**, 2421 (*synth, use*)
Otomo, M. *et al*, *Anal. Chim. Acta*, 1976, **83**, 275 (*detn, Pd*)

5-[(6-Methyl-2-pyridinyl)methylene]-4-imidazolidinone, 9CI M-00290

5-(6-Methyl-2-pyridyl)-2-thiohydantoin

[69580-22-9]



$C_{10}H_9N_3OS$ M 219.267

(E)-form

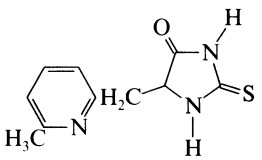
Used as 4m*M* DMF soln. for photometric detn. of Au(*III*), Cu(*II*), Pt (λ_{max} 420 nm, ε 20000). Yellow cryst. (EtOH). Sol. EtOH, DMF. Mp 245-247°.

Montana Gonzalez, M.T. *et al*, *Talanta*, 1978, **25**, 331 (*synth, use*)

5-[(6-Methyl-2-pyridinyl)methylene]-2-thioxo-4-imidazolidinone, 9CI M-00291

5-(6-Methyl-2-pyridyl)methylene-2-thiohydantoin

[76748-66-8]



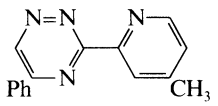
$C_{10}H_{11}N_3OS$ M 221.282

Used as 0.1% soln. in EtOH for photometric detn. of Hg (λ_{max} 444 nm, ε 16000). Cryst. (EtOH). Sol. EtOH, Me_2CO. Mp 245-247°.

Barragan de la Rosa, F. *et al*, *Microchem. J.*, 1980, **25**, 524 (*synth, detn, Hg*)

3-(4-Methyl-2-pyridinyl)-5-phenyl-1,2,4-triazine, 9CI M-00292

[42838-33-5]



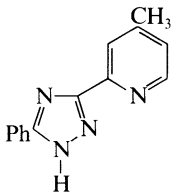
$C_{15}H_{12}N_4$ M 248.287

Used as 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 525 nm, ε 1360), Cu(*I*) (λ_{max} 495 nm, ε 8900), Fe(*II*) (λ_{max} 560 nm, ε 29800). Cryst. (C_6H_6/pet. ether). Sol. common org. solvs. Mp 111-112°.

Case, F.H., *J. Heterocycl. Chem.*, 1973, **10**, 353 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Co, Cu, Fe*)

3-(4-Methyl-2-pyridinyl)-5-phenyl-1,2,4-triazole M-00293

4-Methyl-2-(5-phenyl-1,2,4-triazol-3-yl)pyridine. 2-(5-Phenyl-1,2,4-triazol-3-yl)-4-picoline



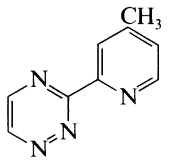
$C_{14}H_{12}N_4$ M 236.276

Used as a 5m*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 470 nm, ε 2600). Cryst. (EtOH). Sol. common org. solvs. Mp 221-222°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

3-(4-Methyl-2-pyridinyl)-1,2,4-triazine, 9CI M-00294

[30091-55-5]



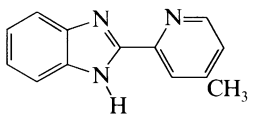
$C_9H_8N_4$ M 172.189

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 460 nm, ε 5200), Fe(*II*) (λ_{max} 531 nm, ε 12100). Cryst. (C_6H_6). Sol. common org. solvs. Mp 106-107°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Cu, Fe*)

2-(4-Methyl-2-pyridyl)benzimidazole, 8CI M-00295

[14044-47-4]



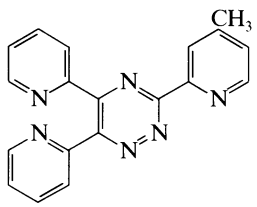
$C_{13}H_{11}N_3$ M 209.250

Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*) (λ_{max} 502 nm, 525 nm, ε 2200). Cryst. (C_6H_6). Sol. common org. solvs. Mp 224-225°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*detn, Fe*)

3-(4-Methyl-2-pyridyl)-5,6-bis(2-pyridyl)-1,2,4-triazine M-00296

3-(4-Methyl-2-pyridyl)-5,6-di-2-pyridyl-as-*triazine*



$C_{19}H_{14}N_6$ M 326.360

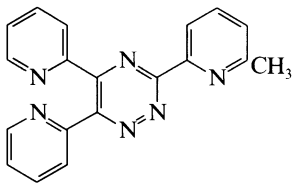
Used as 0.01*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 570 nm, ε 22600), Cu(*I*) (λ_{max} 505 nm, ε 5100). Cryst. (2-methoxyethanol aq.). Sol. 2-methoxyethanol, EtOH. Mp 204-205°.

Case, F.H., *J. Org. Chem.*, 1965, **30**, 931 (*synth*)
Schilt, A.A., *Talanta*, 1966, **13**, 895 (*use*)

3-(6-Methyl-2-pyridyl)-5,6-bis(2-pyridyl)-1,2,4-triazine M-00297

3-(6-Methyl-2-pyridyl)-5,6-di-2-pyridyl-as-*triazine*, 8CI

[18895-98-2]

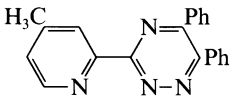


$C_{19}H_{14}N_6$ M 326.360

Used as a 5m*M* soln. in aq. EtOH to give colour reactions with Co, Cu(*I*), Fe(*II*). Cryst. (C_6H_6/pet. ether). Sol. common org. solvs. Mp 139-140°.

Case, F.H., *J. Heterocycl. Chem.*, 1968, **5**, 413 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

3-(4-Methyl-2-pyridyl)-5,6-diphenyl-1,2,4-triazine M-00298



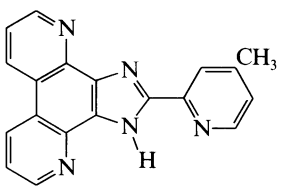
$C_{21}H_{16}N_4$ M 324.384

Used as 0.01*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 564 nm, ε 24600), Cu(*I*) (λ_{max} 478 nm, ε 5700). Cryst. (2-methoxyethanol). Sol. 2-methoxyethanol, EtOH. Mp 169-170°.

Case, F.H., *J. Org. Chem.*, 1965, **30**, 931 (*synth*)
Schilt, A.A., *Talanta*, 1966, **13**, 895 (*detn, Fe, Cu*)

2-(4-Methyl-2-pyridyl)-1*H*-imidazo[4,5-*f*][4,7]phenanthroline, 8CI M-00299

[14040-61-0]



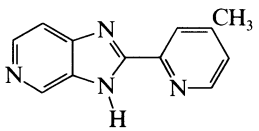
$C_{19}H_{13}N_5$ M 311.345

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*). Cryst. (EtOH). Sol. common org. solvs., dil. HCl. Mp 251-252°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*detn, Fe*)

2-(4-Methyl-2-pyridyl)-1*H*-imidazo[4,5-*c*]pyridine, 8CI M-00300

[14060-63-0]



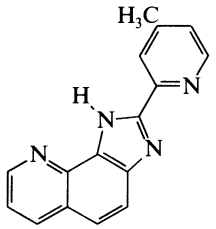
$C_{12}H_{10}N_4$ M 210.238

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 548 nm, ε 2800). Cryst. (H_2O). Sol. common org. solvs., dil. HCl. Mp 289-290°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*detn, Fe*)

2-(4-Methyl-2-pyridyl)-2*H*-imidazo[4,5-*h*]quinoline, 8CI M-00301

[14060-60-7]

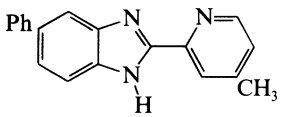


$C_{16}H_{12}N_4$ M 260.298
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*). Cryst. (C_6H_6). Sol. dil. HCl. Mp 173-174°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*detn, Fe*)

2-(4-Methyl-2-pyridyl)-5-phenylbenzimidazole, 8CI M-00302

[14040-57-4]

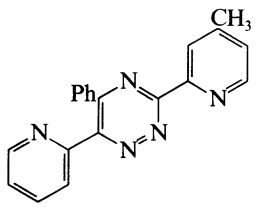


$C_{19}H_{15}N_3$ M 285.348
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 520 nm, ε 2500). Cryst. (C_6H_6). Sol. common org. solvs. Mp 171-172°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*detn, Fe*)

3-(4-Methyl-2-pyridyl)-5-phenyl-6-(2-pyridyl)-1,2,4-triazine M-00303

[18895-92-6]

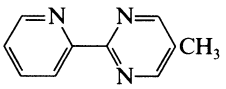


$C_{20}H_{15}N_5$ M 325.372
Used as a 5m*M* soln. in aq. EtOH to give colour reactions with Co, Cu(*I*); for photometric detn. of Fe(*II*) (λ_{max} 564 nm, ε 2330). Cryst. (EtOH). Sol. common org. solvs. Mp 205-206°.

Case, F.H., *J. Heterocycl. Chem.*, 1968, **5**, 413 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*detn, Co, Cu, Fe*)

5-Methyl-2-(2-pyridyl)pyrimidine, 8CI M-00304

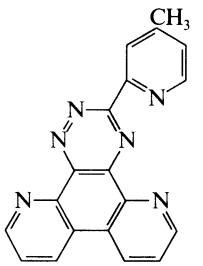
[10198-79-5]



$C_{10}H_9N_3$ M 171.201
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 488 nm, ε 2700), Fe(*II*) (λ_{max} 423 nm, ε 6800). Cryst. (hexane). Sol. C_6H_6, Me_2CO, EtOH, dil. HCl. Mp 79-80°.

Lafferty, J.J. *et al*, *J. Org. Chem.*, 1967, **32**, 1591 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn, Cu, Fe*)

(4-Methyl-2-pyridyl)-1,2,4-triazino[5,6-*f*][4,7]-phenanthroline M-00305



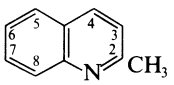
$C_{19}H_{12}N_6$ M 324.344
Used as a 0.01*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 601 nm, ε 20000), Cu(*I*) (λ_{max} 516 nm, ε 7700). Cryst. (DMF). Sol. EtOH, DMF. Mp 321-322°.

Case, F.H., *J. Org. Chem.*, 1965, **30**, 931 (*synth*)
Schilt, A.A., *Talanta*, 1966, **13**, 895 (*detn, Fe, Cu*)

2-Methylquinoline, 9CI M-00306

Quinaldine, 8CI

[91-63-4]



$C_{10}H_9N$ M 143.188
Present in coal tar and shale oil. Chemical scent constituent of the urine of *Vulpes vulpes* (red fox). Used as soln. in dil. H_2SO_4 for gravimetric detn. of Bi. Oil; turns reddish brown in air. Insol. H_2O; sol. Et_2O, $CHCl_3$. d_4^{20} 1.059. Mp −2° to −1°. Bp 248°, Bp_{100} 171.5°. n_D^{20} 1.6126.

▷ Mod. toxic. UZ9625000.

B,HCl: Needles (EtOH/Et_2O). Mp 224°.
B,MeI: see *1,2-Dimethylquinolinium(1+), D-00913*
Picrate: [1773-07-5].
Yellow needles. Spar. sol. H_2O, EtOH. Mp 193-194°.
N-*Oxide:* [1076-28-4].
$C_{10}H_9NO$ M 159.187
Needles (H_2O) (hydrated). Sol. dil. acids. Mp 77-78°.

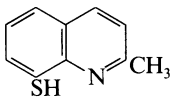
Doebner, O. *et al*, *Ber.*, 1883, **16**, 2464 (*synth*)
Mills, W.H. *et al*, *J. Chem. Soc.*, 1921, 1294 (*synth*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **3**, 62 (*detn, Bi*)
Cervinka, O. *et al*, *Collect. Czech. Chem. Commun.*, 1963, **28**, 535 (*synth*)
Draper, P.M. *et al*, *Can. J. Chem.*, 1968, **46**, 1487 (*ms*)
Ghersetti, S. *et al*, *Spectrosc. Lett.*, 1973, **6**, 167 (*ir*)
Johns, S.R. *et al*, *Aust. J. Chem.*, 1976, **29**, 1617 (*cmr*)
Jorgenson, J.W. *et al*, *Science (Washington, D.C.)*, 1978, **199**, 796.

Whitten, W.K. *et al*, *J. Chem. Ecol.*, 1980, **6**, 49.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, QEJ000.

2-Methyl-8-quinolinethiol, 9CI M-00307

2-Methyl-8-mercaptoquinoline

[10222-10-3]



$C_{10}H_9NS$ M 175.254

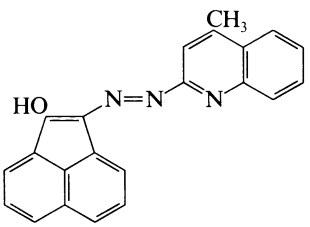
Gives colour reactions with Bi, Cd, Co, Fe, Ga, Hg, In, Ni, Pb, Pd, Pt, Zn. Unstable orange cryst. Sol. $CHCl_3$, hexane. pK_{a1} 2.28; pK_{a2} 9.15. Stored as hydrochloride.

[10222-11-4, 20335-18-6]

Sturis, A. *et al*, *CA*, 1968, **69**, 27205y (*synth*)
Bankovskis, J. *et al*, *CA*, 1971, **74**, 57843j; **75**, 117657j (*use, ir*)

2-[(4-Methyl-2-quinolinyl)azo]-1-acenaphthylenol, 9CI M-00308

[71034-55-4]



$C_{22}H_{15}N_3O$ M 337.380

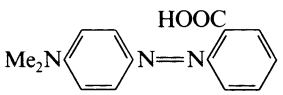
Used for extraction-photometric detn. of Cd, Co, Cu, Ni. Cryst. (MeOH). Sol. EtOH, C_6H_6, Et_2O. Mp 248°.

Singh, I. *et al*, *J. Chin. Chem. Soc.* (*Peking*), 1979, **26**, 121 (*synth, use*)

Methyl red M-00309

2-[[4-(Dimethylamino)phenyl]azo]benzoic acid, 9CI. 4'-Dimethylamino-2-azobenzenecarboxylic acid. C.I. Acid red 2. C.I. 13020

[493-52-7]



$C_{15}H_{15}N_3O_2$ M 269.302

Strictly, the name Methyl red applies to the sodium salt.

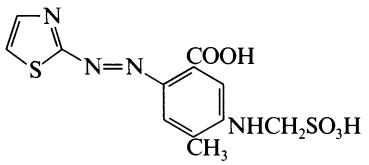
▷ DG8960000.

Na salt: Used as 0.0005% soln. in 1*M* H_2SO_4 or 0.1% in EtOH as an acid-base indicator (pH range: 4.4-6.2; colour change: red → yellow); photometric detn. of Cl_2, Ce, Pd. Orange cryst. powder. Sol. H_2O, EtOH. Mp 179°.

Org. Synth., Coll. Vol., 1, 1932, 366 (*synth*)
Popa, G. *et al*, *Zh. Anal. Khim.*, 1959, **14**, 322 (*detn, Pd*)
Vogel, A.I., *A Textbook of Quantitative Inorganic Analysis*, Longmans, London, 1961 (*use, ind*)
Cherkesov, A.I. *et al*, *Zh. Anal. Khim.*, 1961, **16**, 364 (*detn, Ce*)
Marczenko, Z. *et al*, *Chem. Anal.* (*Warsaw*), 1966, **11**, 1221 (*detn, Cl_2*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CCE500.

4-Methyl-5-[(sulfomethyl)amino]-2-(2-thiazolylazo)benzoic acid, 9CI M-00310

[82138-69-0]



$C_{12}H_{12}N_4O_5S_2$ M 356.383

Used as a 5m*M* aq. soln. for photometric detn. of Co (λ_{max} 655 nm, ε 110000). Orange-red cryst. Sol. H_2O. Mp 240° (dec.).

Wada, H. *et al*, *Anal. Chim. Acta*, 1982, **135**, 333 (*detn, Co*)
Wada, H. *et al*, *Mikrochim. Acta*, 1983, **2**, 139 (*detn, Co*)

N-Methyl-*N*-sulfopropylaniline M-00311

3-(Methylphenylamino)-1-propanesulfonic acid, 9CI

[40567-66-6]

$C_{10}H_{15}NO_3S$ M 229.299

Mp 200-202° dec.

Na salt: [82611-84-5].

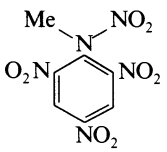
Used as a 0.01*M* aq. soln. for photometric detn. of H_2O_2. Cryst. (EtOH/Me_2CO). Sol. H_2O.

Tamaoku, K. *et al*, *Anal. Chim. Acta*, 1982, **136**, 121 (*synth, ir, use*)

N-Methyl-*N*,2,4,6-tetranitroaniline, 8CI M-00312

N-*Methyl*-N,*2,4,6-tetranitrobenzenamine, 9CI. Tetryl. Methylpicrylnitramine. Picrylmethylnitramine. Tetralite. Picoylnitromethylamine*

[479-45-8]



$C_7H_5N_5O_8$ M 287.145

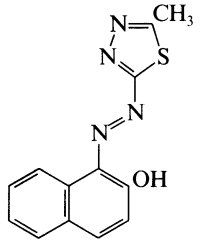
Used in high explosives. Used as 0.1% soln. in 70% EtOH as an acid-base indicator (pH range 10.8-13; colour change: colourless → brown). Yellow prisms (EtOH). Spar. sol. EtOH. Mp 131-132°. pK_a 11.9.

▷ Explosive (powerful oxidant). Irritant, sensitizer, TLV (skin) 1.5. BY6300000.

Blanksma, J.J., *Chem. Weekbl.*, 1948, **44**, 46 (*rev*)
Lamberton, A.H. *et al*, *J. Chem. Soc. B*, 1968, 6 (*pmr*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)
Bulusu, S. *et al*, *J. Chem. Soc., Chem. Commun.*, 1973, 602 (*nmr*)
Zitrin, S. *et al*, *Org. Mass Spectrom.*, 1976, **11**, 388 (*ms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TEG250.

1-[(5-Methyl-1,3,4-thiadiazol-2-yl)azo]-2-naphthalenol, 9CI M-00313

[79606-13-6]



$C_{13}H_{10}N_4OS$ M 270.314

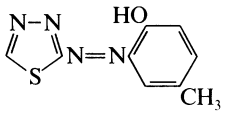
Used as 0.06% EtOH soln. for extraction-photometric detn. of Zn (λ_{max} 568 nm, ε 59000, $CHCl_3$), Cd. Cryst. Sol. $CHCl_3$, EtOH, Me_2CO; insol. H_2O. pK_a 8.19.

Cacho, P.J. *et al*, *Afinidad*, 1981, **38**, 345 (*synth, detn, Cd*)
Cacho, P.J. *et al*, *Collect. Czech. Chem. Commun.*, 1983, **48**, 464 (*detn, Zn*)

4-Methyl-2-(1,3,4-thiadiazol-2-ylazo) phenol, 9CI M-00314

2-(2-Hydroxy-5-methylphenylazo)-1,3,4-thiadiazole

[14151-96-3]



$C_9H_8N_4OS$ M 220.254

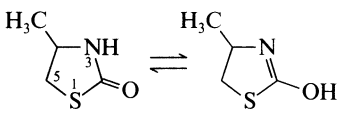
Used as a 0.1-0.3m*M* soln. in MeOH or acetate or borate buffer. Gives colour reactions with Fe, Ru, Co, Cu, Ni. Orange cryst. (MeOH). Sol. EtOH. Mp 183-185°. pK_{a1} 8.71.

Pollard, F.H. *et al*, *Talanta*, 1967, **14**, 123 (*use*)
Domagalina, E., *Chem. Anal. (Warsaw)*, 1976, **21**, 105, 411 (*synth, pKa, use*)

4-Methyl-2-thiazolidinone, 9CI M-00315

2-Hydroxy-4-methylthiazole

[15223-44-6]



C_4H_7NOS M 117.171

(±)-*form*

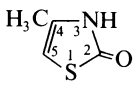
Used for photometric detn. of Pb (λ_{max} 385 nm). Sol. EtOH, C_6H_6, $CHCl_3$, Et_2O. Bp_{10} 165°.

Crawhall, J.C. *et al*, *J. Chem. Soc.*, 1952, 3094.
Joshi, S.R. *et al*, *Indian J. Chem.*, 1973, **11**, 590 (*detn, Pd*)

4-Methyl-2(3*H*)-thiazolone, 9CI M-00316

4-Methyl-2(3H)-thiazolinone, 8CI. 4-Methyl-4-thiazolin-2-one

[32497-10-2]



C_4H_5NOS M 115.156

Used for photometric detn. of Pd (λ_{max} 385 nm). Needles (H_2O). Mp 102-103°.

N-Me: [32497-11-3].

C_5H_7NOS M 129.182

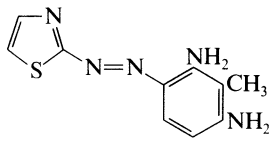
Cryst. (H_2O). Mp 49-50°.

Hantzsch, A., *Ber.*, 1887, **20**, 3127.
Dahlbom, R. *et al*, *Acta Chem. Scand.*, 1963, **17**, 2479.
Zaionts, V.I. *et al*, *CA*, 1973, **78**, 71207u (*props*)
Joshii, S.R. *et al*, *Indian J. Chem.*, 1973, **11**, 248, 590 (*detn, Pd, pKa*)

2-Methyl-4-(2-thiazolylazo)-1,3-benzenediamine, 9CI M-00317

2-(2,4-Diamino-3-methylphenylazo)thiazole

[72815-91-9]



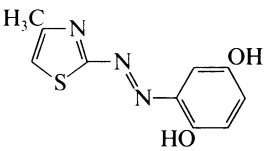
$C_{10}H_{11}N_5S$ M 233.296

Used as a 1m*M* soln. in $HClO_4$ for photometric detn. of Co (λ_{max} 590 nm, ε 97000), Pd (λ_{max} 590 nm, ε 53500). Orange-red cryst. Sol. acids; mod. sol. EtOH; spar. sol. H_2O. Mp 186-187°.

Garcia Montelongo, F. *et al*, *Analyst (London)*, 1979, **104**, 1091; 1980, **105**, 762 (*detn, Pd, Co*)

2-[(4-Methyl-2-thiazolyl)azo]-1,4-benzenediol M-00318

2-(2,5-Dihydroxyphenylazo)-4-methylthiazole



$C_{10}H_9N_3O_2S$ M 235.266

5-Me ether: [16002-17-8]. *4-Methoxy-2-[(4-methyl-2-thiazolyl)azo]phenol, 9CI. 2-(2-Hydroxy-5-methoxyphenylazo)-4-methylthiazole*

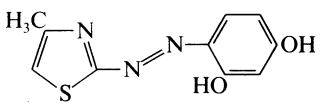
$C_{11}H_{11}N_3O_2S$ M 249.293

Used as metallochromic indicator in titrimetric detn. of Cu, Zn; used as 0.05% soln. in 0.5*M* NaOH in 50% EtOH for photometric detn. of Fe(*II*) (λ_{max} 794 nm, ε 15200, pH 3.5-9). Orange cryst. Sol. Me_2CO, EtOH, Et_2O, $CHCl_3$, H_2O. Mp 116.3°. pK_{a1} 0.77; pK_{a2} 7.98.

Yanagikara, T. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1958, **7**, 496, 500; 1959, **8**, 10, 14 (*synth, deriv, pKa, detn, Cu, Zn*)
Kamada, H. *et al*, *CA*, 1967, **66**, 120585d (*deriv, nmr*)
Ueda, K. *et al*, *Mikrochim. Acta*, 1984, **3**, 103 (*synth, detn, Fe*)

4-[(4-Methyl-2-thiazolyl)azo]-1,3-benzenediol M-00319

2-(2,4-Dihydroxyphenylazo)-4-methylthiazole



$C_{10}H_9N_3O_2S$ M 235.266

Used as 0.05% soln. in 0.5*M* NaOH in EtOH for photometric detn. of Fe(*II*) (λ_{max} 735 nm, ε 24900, pH 8.9-11.6). Red cryst. Sol. EtOH, alkalis.

Ueda, K. *et al*, *Mikrochim. Acta*, 1984, **3**, 103 (*detn, synth, Fe*)

4-[(5-Methyl-2-thiazolyl)azo]-1,3-benzenediol M-00320

2-(2,4-Dihydroxyphenylazo)-5-methylthiazole

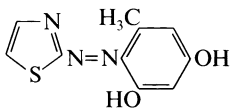
$C_{10}H_9N_3O_2S$ M 235.266

Used as EtOH soln. for photometric detn. of Pd and Rh(*III*) (EtOH aq.). Cryst. (EtOH). Sol. EtOH. Incorrectly registered in CA.

Pilipenko, A.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1988, **54**, 160; *CA*, **109**, 85162w (*detn, Rh*)

5-Methyl-4-(2-thiazolylazo)-1,3-benzenediol M-00321

5-Methyl-6-(2-thiazolylazo)resorcinol. 2-(2,4-Dihydroxy-6-methylphenylazo)thiazole



$C_{10}H_9N_3O_2S$ M 235.266

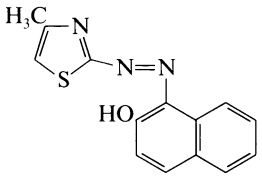
Used as a 0.1% soln. in MeOH as metallochromic indicator for titrimetric detn. of Ca, Cd, Mg, Mn(*II*), Pb, Zn. Cryst. Sol. H_2O. Mp 250° dec.

Skytte Jensen, B., *Acta Chem. Scand.*, 1960, **14**, 927 (*use, ind*)

1-[(4-Methyl-2-thiazolyl)azo]-2-naphthalenol, 9CI M-00322

4-Methyl-2-(2-hydroxy-1-naphthylazo)thiazole

[3012-48-4]



$C_{14}H_{11}N_3OS$ M 269.326

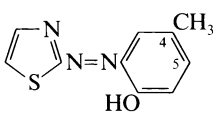
Used as 1m*M* soln. in EtOH for extraction-photometric detn. of Zn (λ_{max} 590 nm, ε 75000, $CHCl_3$), Cu (λ_{max} 585 nm, ε 78000, $CHCl_3$). Cryst. Sol. EtOH, MeOH.

Pilipenko, A.T. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1471; 1977, **32**, 1116; 1983, **38**, 1787 (*synth, detn, Zu, Cu,*)

4-Methyl-2-(2-thiazolylazo)phenol, 9CI M-00323

*2-Thiazolylazo-*p*-cresol. 2-(2-Hydroxy-5-methylphenylazo)thiazole*

[1823-44-5]



$C_{10}H_9N_3OS$ M 219.267

Used as a 0.1% soln. in MeOH as metallochromic indicator for titrimetric detn. of Ca, Co, Ni; photometric detn. of Cu, Fe(*II*) (λ_{max} 762 nm, ε 13700); complexing agent for Co, Mn, Ni, Zn. Red cryst. Sol. EtOH, alkalis. pK_{a1} 8.95.

Skytte Jensen, B., *Acta Chem. Scand.*, 1960, **14**, 927 (*detn, Co, Cu, Ni*)

Douglas, W.R., *Anal. Chim. Acta*, 1965, **33**, 567 (*detn, Ca*)

Nicless, G. *et al*, *Anal. Chim. Acta*, 1967, **39**, 37 (*pKa, detn, Co, Cu, Mn, Ni, Zn*)

Sommer, L. *et al*, *Collect. Czech. Chem. Commun.*, 1976, **41**, 1317 (*detn, Cu*)

Ueda, K. *et al*, *Nippon Kagaku Kaishi*, 1980, 1713 (*synth*)

Ueda, K. *et al*, *Mikrochim. Acta*, 1984, **3**, 103 (*synth, detn, Fe*)

5-Methyl-2-(2-thiazolylazo)phenol M-00324

2-(2-Hydroxy-4-methylphenylazo)thiazole

$C_{10}H_9N_3OS$ M 219.267

Me ether: 2-(2-Methoxy-4-methylphenylazo)thiazole. 5-Methyl-2-(2′-thiazolylazo)anisole

$C_{11}H_{11}N_3OS$ M 233.293

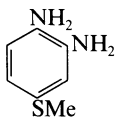
Used as 4m*M* soln. in AcOH for photometric detn. of Pd (λ_{max} 520 nm, ε 11300, pH 3-4). Yellow-orange cryst. (EtOH). Sol. EtOH. Mp 97-98°.

Sutthivaiyakit, P. *et al*, *Fresenius' Z. Anal. Chem.*, 1985, **320**, 769 (*synth, detn, Pd*)

4-(Methylthio)-1,2-benzenediamine, 9CI M-00325

*5-Methylthio-*o*-phenylenediamine*

[67469-02-7]



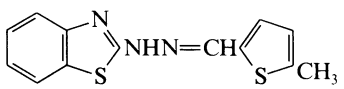
$C_7H_{10}N_2S$ M 154.235

Used for photometric detn. of Se. Cryst. Sol. C_6H_6, dil. acids.

Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982 (*detn, Se*)

5-Methyl-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, 9CI M-00326

[61293-49-0]



$C_{13}H_{11}N_3S_2$ M 273.382

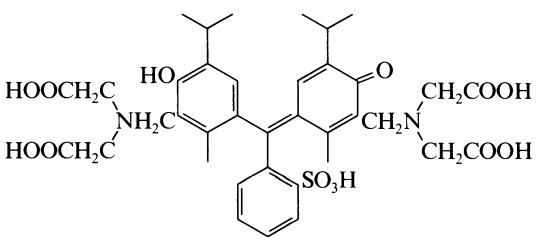
Used as a 0.25m*M* soln. in C_6H_6 for extraction-photometric detn. of Cu (λ_{max} 424 nm, C_6H_6, ε 49000). Cryst. (EtOH). Sol. EtOH, C_6H_6. pK_{a2} 11.4.

Odashima, T. *et al*, *Anal. Chim. Acta*, 1976, **86**, 231.

Methylthymol blue M-00327

N,N′-[3H-2,1-Benzoxathiol-3-ylidenebis[[6-hydroxy-2-methyl-5-(1-methylethyl)-3,1-phenylene]methylene]]bis[N-(carboxymethyl)]glycine, 9CI. 3,3′-Bis[N,N-di(carboxymethyl)aminomethyl]thymolsulfonephthalein. Thymolphthalexon S

[1945-77-3]



$C_{37}H_{44}N_2O_{13}S$ M 756.826

The CA name refers to the ring-closed form. Used as 0.5m*M* soln. in dil. formic acid for photometric detn. of Be, Al, Sb, Bi, Ga, In, Fe(*III*), Cr(*III*), Cd, La, Sc, Ti,

V, Nb, Th (λ_{max} 580 nm, ε 5000), $SO_4^{2\ominus}$. Dark violet cryst. powder. Sol. H_2O; insol. EtOH and other common org. solvs. pK_{a5} 2.6; pK_{a6} 3.2; pK_{a7} 7.2; pK_{a8} 11.2 (μ = 0.2).

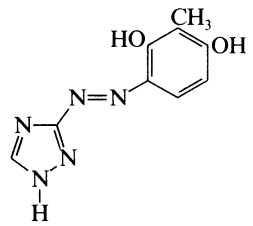
[3778-22-1]

Tikhonov, V.M. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 359 (*detn, V*)
Karadakov, B. *et al*, *Talanta*, 1968, **15**, 525 (*detn, Fe*)
Adam, J. *et al*, *Talanta*, 1969, **16**, 1596 (*detn, Th*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 829 (*detn, Ga*)
Cheng, K.L., *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 231 (*use*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood , Chichester, 1986 (*use*)

2-Methyl-4-(1*H*-1,2,4-triazol-3-ylazo)-1,3-benzenediol, 9CI M-00328

3-(2,4-Dihydroxy-3-methylphenylazo)-1,2,4-triazole

[87147-65-7]



$C_9H_9N_5O_2$ M 219.202

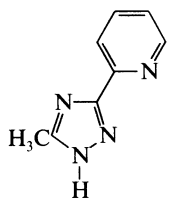
Used as 1m*M* soln. in MeOH for photometric detn. of V (λ_{max} 525 nm, ε 25500). Orange-red cryst. (EtOH aq.). Sol. alkalis, acids, DMF, EtOH; spar. sol. $CHCl_3$, CCl_4, CS_2. Mp 236-238° (subl.).

Montelongo, F.G. *et al*, *Mikrochim. Acta*, 1983, **2**, 349 (*synth, use*)

2-(5-Methyl-1*H*-1,2,4-triazol-3-yl) pyridine, 9CI M-00329

3-(2-Pyridyl)-5-methyl-1,2,4-triazole

[25433-36-7]



$C_8H_8N_4$ M 160.178

Used as 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 480 nm, ε 3100, EtOH aq.). Cryst. (C_6H_6). Sol. common org. solvs. Mp 165°.

*4,5-Dihydro: 2-(4,5-Dihydro-5-methyl-1*H*-1,2,4-triazol-3-yl) pyridine. 2-(5-Methyl-Δ²-1,2,4-triazolin-3-yl)pyridine, 8CI. 4,5-Dihydro-3-(2-pyridyl)-5-methyl-1,2,4-triazole*

$C_8H_{10}N_4$ M 162.194

Used as 5m*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 506 nm, ε 7300). Cryst. (Et_2O/pet. ether). Sol. common org. solvs. Mp 50°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*use*)

N-Methyl-*N*-(trimethylsilyl)acetamide, 9CI M-00330

Trimethyl(N-methylacetamido)silane

[7449-74-3]

$Me_3SiNMeAc$

$C_6H_{15}NOSi$ M 145.276

Reagent for preparing trimethylsilyl derivs. of org. compds. for gc anal. Liq. d_4^{20} 0.90. Bp_{770} 154°. n_D^{20} 1.4382.

Frainnet, E. *et al*, *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1966, **262**, 1693 (*synth*)
Birkhofer, L. *et al*, *J. Chromatogr.*, 1967, **26**, 270 (*use*)
Birkhofer, L. *et al*, *Chem. Ber.*, 1968, **101**, 3579 (*ir*)
Lutsenko, I.F. *et al*, *J. Organomet. Chem.*, 1969, **17**, 241 (*ir, nmr*)
Fedotov, N.S. *et al*, *Zh. Obshch. Khim.*, 1972, **42**, 358; *CA*, **77**, 48560 (*synth*)

N-Methyl-*N*-(trimethylsilyl)formamide, 9CI M-00331

[13889-02-6]

$HCONMeSiMe_3$

$C_5H_{13}NOSi$ M 131.249

Silylation reagent for preparing derivs. for gc. Liq. Bp_{20} 75°, Bp_{10} 61°. n_D^{20} 1.4408.

Birkhofer, L. *et al*, *J. Chromatogr.*, 1967, **26**, 270 (*use*)
Birkhofer, L. *et al*, *Chem. Ber.*, 1968, **101**, 3579 (*synth*)

N-Methyl-*N*-(trimethylsilyl) trifluoroacetamide M-00332

2,2,2-Trifluoro-N-methyl-N-(trimethylsilyl)acetamide. MSTFA

[24589-78-4]

$F_3CCONMeSiMe_3$

$C_6H_{12}F_3NOSi$ M 199.248

Exists as a tautomeric mixture with the imidate. Silylation reagent for gc anal. of amines and alcohols. Liq. Bp_{760} 131.5°.

▷ AC9800000.

Donicke, M., *J. Chromatogr.*, 1969, **42**, 103; 1975, **115**, 591 (*use*)
Birkofer, L. *et al*, *Chem. Ber.*, 1971, **104**, 3831 (*synth*)
Donicke, M., *Fresenius' Z. Anal. Chem.*, 1976, **279**, 128 (*use, rev*)
Bassindale, A.R. *et al*, *J. Organomet. Chem.*, 1979, **175**, 273 (*tautomerism*)
Ende, M. *et al*, *Tetrahedron*, 1984, **40**, 5167 (*props*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MQG750.

Methyltrioctylammonium(1+) M-00333

N-*Methyl*-N,N-*dioctyl-1-octanaminium(1+), 9CI. Tricaprylylmethylammonium*

$[H_3C(CH_2)_7]_3N^{\oplus}Me$

$C_{25}H_{54}N^{\oplus}$ M 368.708 (ion)

Phase-transfer catalyst.

Chloride: Aliquat 336

$C_{25}H_{54}ClN$ M 404.161

Liq. ion-exchanger. Used for extraction-separation of Be, Cr(*VI*), Mo, U, V, Pt, Au. Yellowish oil. Sol. $CHCl_3$, C_6H_6. A commercially available reagent called Aliquat 336 is usually a mixture of methyl tri-*n*-alkylammonium chloride (C_{27}-C_{33}).

Woodward, C. *et al*, *Talanta*, 1968, **15**, 321.
Adam, J. *et al*, *Talanta*, 1971, **18**, 91.
Hartmann, K. *et al*, *Mikrochim. Acta*, 1978, **2**, 235 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 380 (*use, bibl*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 479 (*use*)
Minczewski, J. *et al*, *Separation and Preconcentration Methods in Inorganic Trace Analysis*, Horwood, Chichester, 1982.
Rao, R.R. *et al*, *Anal. Chem.*, 1983, **55**, 2320.

Methyltriphenylarsonium(1+), 9CI M-00334

$MePh_3As^{\oplus}$

$C_{19}H_{18}As^{\oplus}$ M 321.273 (ion)
Treatment of salts with $NaNH_3$ in liq. NH_3 or THF, or NaH/THF, yield the ylide.

Chloride: [6596-93-6].
$C_{19}H_{18}AsCl$ M 356.725
Used as a 0.5% aq. soln. for extraction-photometric detn. of Co, Cu, Ni (λ_{max} 505 nm, $CHCl_3$/acetophenone). Cryst. + $1H_2O$. Mp 184-186°. The anhydrous salt has Mp 121°, but is v. hygroscopic.

Bromide: [14002-59-6].
$C_{19}H_{18}AsBr$ M 401.177
Cryst. + $1H_2O$. Mp 200-202°, Mp 194-195°.

Iodide: [1499-33-8].
$C_{19}H_{18}AsI$ M 448.177
Pale yellow-brown cryst. ($CHCl_3/Et_2O$ or H_2O). Mp 175-176°, Mp 162-164°.

Triiodide: [42350-74-3].
$C_{19}H_{18}AsI_3$ M 701.986
Solid. Mp 108-109°.

Tetrafluoroborate: [36252-53-6].
$C_{19}H_{18}AsBF_4$ M 408.077
Solid. Mp 132-134°.

Tetraphenylborate: [42568-58-1].
Cryst. ($CHCl_3/C_6H_6$/MeOH). Mp 186-188°.

Thiocyanate:
$C_{20}H_{18}AsNS$ M 379.356
Used for extraction-photometric detn. of Fe (λ_{max} 478 nm).

Hydroxide:
$C_{19}H_{19}AsO$ M 338.280
Solid. Mp 125-126°.

2,4-Dinitrobenzenesulfonate: Crsyt. (EtOH). Mp 191-192.5°.

Picrate: Solid. Mp 142-144°.

[22903-88-4]

Goddard, A.E., *Textbook of Inorg. Chem.*, Vol. XI, *Organometallic Compds.*, pt. II, Charles Griffin and Co., London, 1930, 87.
Blicke, F.F. *et al*, *J. Am. Chem. Soc.*, 1938, **60**, 423.
Dwyer, F.P. *et al*, *Analyst (London)*, 1951, **76**, 548 (*detn, Fe*)
Ellis, K.W. *et al*, *Anal. Chim. Acta*, 1953, **9**, 275, 368 (*detn, Co, Cu*)
Henry, M.C. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 563.
Cameron, A.J. *et al*, *Anal. Chim. Acta*, 1961, **24**, 360 (*detn, Ni*)
Deacon, G.B. *et al*, *Aust. J. Chem.*, 1963, **16**, 499.
Mallion, K.B. *et al*, *J. Chem. Soc.*, 1964, 5716.
Loach, K.W., *Anal. Chim. Acta*, 1969, **44**, 323 (*synth, props*)
Zykova, T.V. *et al*, *Zh. Obshch. Khim.*, 1971, **41**, 1044; 1977, **47**, 621; *J. Gen. Chem. USSR (Engl. Transl.)*, 1971, **41**, 1049; 1977, **47**, 566.
Schiemenz, G.P., *J. Organomet. Chem.*, 1973, **52**, 349 (*synth, pmr*)
Gavrilov, V.I. *et al*, *Zh. Obshch. Khim.*, 1982, **52**, 1131; *J. Gen. Chem. USSR (Engl. Transl.)*, 1982, **52**, 989 (*iodide, synth*)
Watkins, C.L. *et al*, *Magn. Reson. Chem.*, 1989, **27**, 616 (*iodide, pmr, cmr*)

Methyltriphenylphosphonium(1+), 9CI M-00335

[15912-74-0]

$Ph_3P^{\oplus}Me$

$C_{19}H_{18}P^{\oplus}$ M 277.325 (ion)
With PhLi, butyllithium, $NaNH_2$, NaH or $NaN(SiMe_3)_2$, salts yield the ylide.

Chloride: [1031-15-8].
$C_{19}H_{18}ClP$ M 312.778
Used as 1% aq. soln. for extraction-sepn. of Ir and Ru from Rh ($CHCl_3$). Cryst. ($EtOH/Et_2O$). Sol. H_2O. Mp 221-223°.

Bromide: [1779-49-3].
$C_{19}H_{18}BrP$ M 357.229
Cryst. ($MeOH/Et_2O$). Mp 234-235°.

Iodide: [2065-66-9].
$C_{19}H_{18}IP$ M 404.229
Cryst. (H_2O). Mp 185-187°.

Perchlorate: [20920-23-4].
$C_{19}H_{18}ClO_4P$ M 376.775
Cryst. (CH_2Cl_2/Et_2O). Mp 157-158°.

Tetrafluoroborate:
$C_{19}H_{18}BF_4P$ M 364.129
Cryst. (CH_2Cl_2/Et_2O). Mp 122-123°.

Permanganate:
$C_{19}H_{18}MnO_4P$ M 396.260
Violet powder.
▷ Explodes at 70°.

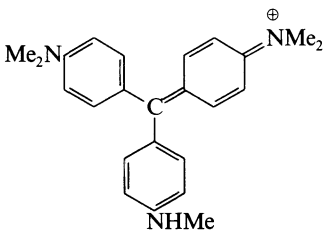
Tetraphenylborate:
$C_{43}H_{38}BP$ M 596.558
Mp 195-196°.

Wittig, G. *et al*, *Justus Liebigs Ann. Chem.*, 1958, **619**, 10 (*iodide*)
Horner, L. *et al*, *Justus Liebigs Ann. Chem.*, 1961, **646**, 65 (*bromide*)
Mallion, K. *et al*, *J. Chem. Soc.*, 1963, 1327 (*iodide, ir*)
Hendrickson, J. *et al*, *Tetrahedron*, 1964, **20**, 449 (*iodide, pmr*)
Ashy, M.A. *et al*, *Analyst (London)*, 1974, **99**, 285 (*chloride, use*)
Albright, T.A. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 940, 2942 (*cmr, nmr*)
Starzewski, K.A.O. *et al*, *Phosphorus Relat. Group V Elem.*, 1976, **6**, 177 (*cmr*)
Richter, W. *et al*, *Chem. Ber.*, 1977, **110**, 1312 (*chloride*)
Grim, S.O. *et al*, *J. Org. Chem.*, 1977, **42**, 1236 (*nmr*)
Nesterov, L.V. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1161), 1977, **47**, 1259 (*perchlorate, tetrafluoroborate*)
Reischl, W. *et al*, *Tetrahedron*, 1979, **35**, 1109 (*permanganate, use*)
Vedejs, E. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 2823 (*bromide, synth, props*)
Doleschall, G., *Synthesis*, 1981, 478 (*iodide, synth, use*)
Willcockson, W.S. *et al*, *Comp. Biochem. Physiol., C: Comp. Pharmacol.*, 1982, **72**, 101 (*pharmacol*)

Methyl violet M-00336

Basic violet 1, 9CI. C.I. 42535. Paris violet R. Violet powder H 2503

[8004-87-3]



$C_{24}H_{28}N_3^{\oplus}$ M 358.505 (ion)
Obt. as a mixture of chloride and hydrochlorides. Exact composition unspecified. Used as 0.1% soln. in 0.2*M* HF for extraction-photometric detn. of As(*V*), Cr(*VI*), Au(*III*) (λ_{max} 600 nm, ε 115000, trichloroethylene), $I^{\ominus}$, Hg(*II*), Re(*VII*), Tl(*III*), Ta (λ_{max} 605 nm, ε 75000, C_6H_6); acid-base indicator (pH range: 0.1-2.0). Bluish-violet powder. Sol. H_2O, EtOH. Mp 137° dec.

▷ Toxic by ingestion. Dec. on heating emitting acrid smoke and irritating fumes.

[4353-72-4]

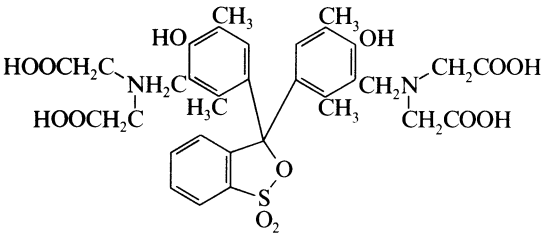
Pilipenko, A.T. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1958, **24**, 506; 1960, **26**, 99 (*detn, Re*)
Ducret, L. *et al*, *Anal. Chim. Acta*, 1959, **21**, 74 (*detn, Au*)
Fujinaga, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1967, **40**, 817 (*detn, Re*)

Gantscheva, A., *Mikrochim. Acta*, 1967, 601 (*detn, $I^{\ominus}$*)
Vadasdi, K. *et al, Anal. Chem.*, 1971, **43**, 318 (*detn, Tl*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 551.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MQN025.

Methyl xylenol blue M-00337

N,N′-[*3H-2,1-Benzoxathiol-3-ylidenebis*[(*6-hydroxy-2,5-dimethyl-3,1-phenylene*)*methylene*]]*bis*[N-(*carboxymethyl*) *glycine*] S,S-*dioxide*, *9CI. 3,3′-Bis*[N,N-*di*(*carboxymethyl*) *aminomethyl*]-p-*xylenolsulfonephthalein*

[35501-54-3]



$C_{33}H_{36}N_2O_{13}S$ M 700.719

Strictly the name Methyl xylenol blue applies to the sodium salt. Violet cryst. powder. pK_{a1} −2.8; pK_{a2} 1.9; pK_{a3} 0.08; pK_{a4} 2.0; pK_{a5} 3.4; pK_{a6} 4.3; pK_{a7} 7.0; pK_{a8} 10.6; pK_{a9} 12.5 (μ = 0.2, 25°).

Na salt: [29412-85-9].
Used for photometric detn. of Sc, Y, lanthanides, extraction-photometric detn. of Al, Be, Bi, Ca, Ce, Fe, Hg. Grey brownish cryst. Sol. alkalis; sl. sol. H_2O.

Epstein, J., *Acta Chim. Hung.*, 1947, **19**, 272 (*detn, $CN^{\ominus}$*)
Yoshino, T. *et al, Talanta*, 1969, **16**, 151 (*detn, Be*)
Deguchi, M. *et al, Bunseki Kagaku (Jpn. Anal.)*, 1970, **19**, 241, 836; 1971, **20**, 891 (*detn, Bi, Fe*)
Ueda, J., *Nippon Kagaku Kaishi*, 1973, 724, 1467 (*lanthanides, Sc, Y*)
Cheng, K.L. *et al, Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1983.

Monobutyl phosphate, 9CI, 8CI M-00338

Butyl dihydrogen phosphate. Butyl phosphoric acid

[1623-15-0]

$H_3C(CH_2)_3OP(O)(OH)_2$

$C_4H_{11}O_4P$ M 154.102

Isol. as amine salt. Extractant for transuranic and rare earth elements. Metab. of Tributyl phosphate, T-00211. pK_{a1} 1.89; pK_{a2} 6.84 (H_2O, 25°).

Monoanilinium salt: Cryst. (EtOH). Mp 144-148° (138-140°).

Monocyclohexylammonium salt: [14703-66-3].
Solid. Mp 181-182°.

Obata, T. *et al, J. Org. Chem.*, 1967, **32**, 1063 (*synth*)
Zwierzak, A. *et al, Tetrahedron*, 1971, **27**, 3163 (*synth, ir, pmr*)
Markowska, A. *et al, Phosphorus Sulfur Relat. Elem.*, 1981, **10**, 245 (*synth*)
Solovkin, A.S., *Radiokhimiya*, 1982, **24**, 56; *Sov. Radiochem. (Engl. Transl.)*, 1982, **24**, 49 (*props, use, rev*)
Suzuki, T. *et al, J. Agric. Food Chem.*, 1984, **32**, 603.

Mono(2-ethylhexyl) phosphate, 9CI, 8CI M-00339

2-Ethylhexyl dihydrogen phosphate. 2-Ethylhexyl phosphoric acid. Phosphoric acid mono(2-ethylhexyl) ester, 9CI

[1070-03-7]

$H_3CCH_2CH_2CH_2CH(CH_2CH_3)CH_2OP(O)(OH)_2$

$C_8H_{19}O_4P$ M 210.209

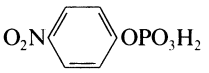
Extractant for many metals incl. U, Mo, rare earths, and transplutonium. Liq. Sol. H_2O, C_6H_6.

Levin, I.S. *et al, Dokl. Akad. Nauk SSSR, Ser. Khim.*, 1961, **139**, 158; *CA*, **56**, 11285 (*use*)
Kletenik, Y.B. *et al, Zh. Anal. Khim.*, 1969, **24**, 707 (*use*)
Kuzin, I.A. *et al, Zh. Anal. Khim.*, 1969, **24**, 800; *CA*, **71**, 56464 (*purifn*)
Lee, Te.-Wei. *et al, Sep. Sci. Technol.*, 1981, **16**, 943 (*purifn, use*)

Mono(4-nitrophenyl) phosphate, 9CI M-00340

4-Nitrophenyl dihydrogen phosphate. 4-Nitrophenyl phosphoric acid. PNPP

[330-13-2]



$C_6H_6NO_6P$ M 219.090

Substrate for phosphatase enzymes. Yellow-white needles ($CHCl_3/Et_2O$). Insol. cold H_2O, sol. EtOH, $CHCl_3$, C_6H_6. Mp 154-156°. pK_{a1} 0.30; pK_{a2} 4.96 (H_2O, 25°).

Di-Na salt: [4264-83-9].
Substrate for alkaline and acid phosphatase assays. White to pale-yellow cryst. $+6H_2O$.

Monoanilinium salt: Solid. Mp 180-182°.

Bis(cyclohexylammonium) salt: [52483-84-8].
Cryst. (Me_2CO). Mp 165-167°. Forms a dihydrate.

Difluoride: 4-Nitrophenyl phosphorodifluoridate. 4-Nitrophenyl phosphoryl difluoride. 4-Nitrophenyl difluorophosphate
$C_6H_4F_2NO_4P$ M 223.072
Liq. $Bp_{0.01}$ 72-75°.

Dianilide: 4-Nitrophenyl N,N′-diphenylphosphorodiamidate
$C_{18}H_{16}N_3O_4P$ M 369.316
Solid. Mp 169-170°.

Hoeflake, J.M.A., *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1916, **36**, 24 (*synth*)
Desjobert, A., *Bull. Soc. Chim. Fr.*, 1963, 683 (*synth*)
Neil, M.W. *et al, Biochem. J.*, 1964, **92**, 217 (*synth*)
Mitsunobu, O. *et al, Bull. Chem. Soc. Jpn.*, 1965, **38**, 2100 (*synth*)
Williams, A. *et al, J. Chem. Soc. B*, 1971, 1973 (*synth, derivs, uv, ms*)
Boyer, P.D., *The Enzymes*, 3rd Ed., Academic, New York, 1971, **4**, 373, 417, 449.
Bel'skii, V.E. *et al, Izv. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 1510), 1979, 1633 (*derivs*)
Effenberger, F. *et al, Synthesis*, 1981, 70 (*difluoride, synth, ir, nmr*)
Jones, P.G. *et al, Acta Crystallogr., Sect. C*, 1984, **40**, 550 (*cryst struct*)
Bourne, N. *et al, J. Org. Chem.*, 1984, **49**, 1200 (*props*)
Beltran, A.M. *et al, Tetrahedron Lett.*, 1985, **26**, 1711 (*props*)

Monosulfiram, BAN M-00341

Tetraethylthiodicarbonic acid diamide, 9CI.
Bis(diethylthiocarbamoyl) sulfide, 8CI. ***Sulfiram,*** **INN.**
Kutkasin. Sanigal. Sarcocide B. Tetmosol. Tetrucid. Thiocid. Thiasan. Thioscabin

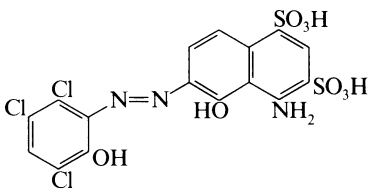
[95-05-6]

$C_{10}H_{20}N_2S_3$ M 264.479
Parasiticide, fungicide. Used as a 5% soln. in Me_2CO for detn. of Bi, Fe(*II*). Cryst. (C_6H_6/pet. ether). Mp 30-32°. $Bp_{0.5}$ 170°. Component of Oterna.
▷ WQ1660000.

Gordon, R.M. *et al*, *Ann. Trop. Med. Parasitol.*, 1943, **37**, 195 (*pharmacol*)
Davies, W.H. *et al*, *Biochem. J.*, 1946, **40**, 331 (*synth, pharmacol*)
Zsolnai, T., *Biochem. Pharmacol.*, 1962, **11**, 271 (*synth, pharmacol*)
U.K. Pat., 910 071, (1962); *CA*, **58**, 3840h.
Marquardt, F.-H., *Helv. Chim. Acta*, 1966, **49**, 1716 (*synth*)
Johar, G.S., *Talanta*, 1972, **19**, 1231 (*detn, Bi, Fe*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 3595.

Mordant blue 44 M-00342

4-Amino-5-hydroxy-6-[(2,3,5-trichloro-6-hydroxyphenyl)azo]-1,3-naphthalenedisulfonic acid, 9CI. Chrome fast blue FB. Diamond fast blue FB. Hydron I. Omega chrome fast blue 2G. C.I. 17250



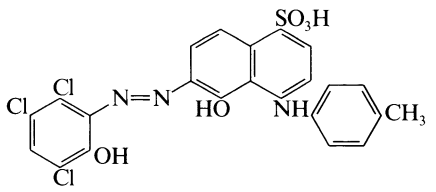
$C_{16}H_{10}Cl_3N_3O_8S_2$ M 542.760
Strictly, the name Mordant blue 44 applies to the disodium salt.

Di-Na salt: [6222-49-7].
Used as a 0.1% aq. soln. as metallochromic indicator in titrimetric detn. of Ca, Mg, Mn(*II*), Ni. Dark brown reddish cryst. Sol. H_2O, EtOH, conc. H_2SO_4.

Abd El Raheem, A.A. *et al*, *Fresenius' Z. Anal. Chem.*, 1959, **167**, 98 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

Mordant green 34 M-00343

5-Hydroxy-4-[(4-methylphenyl)amino]-6-[(2,3,5-trichloro-6-hydroxyphenyl)azo]-1-naphthalenesulfonic acid. 8-p-Toluidino-2-(3,5,6-trichloro-2-hydroxyphenylazo)-1-naphthol-5-sulfonic acid. Omega chrome blue green BL. Metomega chrome blue green BL. C.I. 17650



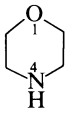
$C_{23}H_{16}Cl_3N_3O_5S$ M 552.821
Strictly, the name Mordant green 34 applies to the sodium salt.

Na salt: Used as a 0.1% soln. in EtOH as metallochromic indicator in titrimetric detn. of Ca, Mg. Orange red cryst. Sol. EtOH, Me_2CO, spar. sol. H_2O.

Abd El Raheem, A.A. *et al*, *Anal. Chim. Acta*, 1959, **21**, 379 (*use*)
Abd El Raheem, A.A. *et al*, *Fresenius' Z. Anal. Chem.*, 1959, **167**, 98 (*use*)

Morpholine, 9CI M-00344

Tetrahydro-1,4-oxazine
[110-91-8]



C_4H_9NO M 87.121
Solvent for resins, waxes and dyes. Synthetic reagent. Anal. reagent for α, β-unsatd. compds. and for anhydrides. Hygroscopic oil with ammoniacal odour and caustic props. Misc. H_2O. d_4^{20} 0.999. Mp −4.9°. Bp 128.9°, Bp_6 20°. n_D^{20} 1.4545. Steam-volatile.
▷ Skin and eye irritant. TLV 70. Mod. toxic by inhalation. QD6475000.

B,HCl: [10024-89-2].
Cryst. (HCl aq.). Mp 175-176°.
▷ QE5075000.

N-*Formyl:* [4394-85-8]. *4-Morpholinecarboxaldehyde*
$C_5H_9NO_2$ M 115.132
Formylating reagent. Liq. Mp 17.5°. Bp 234°.
▷ QD9694000.

N-*Me:* [109-02-4].
$C_5H_{11}NO$ M 101.148
Base used in mixed anhydride peptide synth. which minimises racemisation. Bp 116-117°.
▷ QE5775000.

N-*Me*, N-*Oxide:* [7529-22-8].
$C_5H_{11}NO_2$ M 117.147
Catalyst for oxidn. of alcohols. Dipolar aprotic solvent used in the manuf. of Tencel from celluloase (Courtaulds). Monohydrate. Mp 73-76°.

N-*Et:* [100-74-3].
$C_6H_{13}NO$ M 115.175
Solvent. Dissolves $LiAlH_4$. Bp 138-139°.
▷ QE4025000.

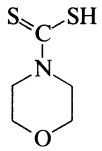
N-*Ph:* [92-53-5].
$C_{10}H_{13}NO$ M 163.219
Dehydrohalogenating reagent. Mp 57°. Bp 270°.
▷ Highly toxic by skin absorption. QE8575000.

Jones, L.W. *et al*, *J. Am. Chem. Soc.*, 1925, **47**, 2966 (*synth*)
Medard, M.L., *Bull. Soc. Chim. Fr.*, 1936, 1343 (*deriv, synth*)
Hampton, B.L. *et al*, *J. Am. Chem. Soc.*, 1936, **58**, 2338 (*synth*)
Johnson, J.B. *et al*, *Anal. Chem.*, 1955, **27**, 1464 (*use*)
Critchfield, F.E. *et al*, *Anal. Chem.*, 1956, **28**, 76 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 383, 705; **2**, 278; **7**, 244.
Potnis, S.P. *et al*, *Chem. Process. Eng.* (*Bombay*), 1969, **3**, 27 (*rev*)
Bark, L.S. *et al*, *Analyst* (*London*), 1972, **97**, 783 (*use*)
Takeuchi, Y., *J. Chem. Soc., Perkin Trans. 2*, 1974, 1927 (*cmr*)
Org. Synth., 1978, **58**, 43 (*deriv*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **2**, 295 (*rev*)
Olah, G.A. *et al*, *J. Org. Chem.*, 1984, **49**, 3856 (*deriv, use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 406.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ACR750, ENL000, MMA250, MRP750, MRQ600, NKZ000, PFS750.

4-Morpholinecarbodithioic acid M-00345

4-Morpholinedithioformic acid

[3581-30-4]



$C_5H_9NOS_2$ M 163.264

Used as a 0.1-1% aq. soln. for photometric detn. of Cu; extraction-photometric detn. of Bi (λ_{max} 365 nm), as complexing agent for Ir, Pd, Pt, Rh; as a titrant in amperometric detn. of As, Sb, Pd. Ivory needles (MeOH aq.). Subl. 180-182°.

Compd. with morpholine: [5327-10-6].

$C_9H_{18}N_2O_2S_2$ M 250.385

Used as 0.2% soln. in 0.01*M* NaOH for photometric detn. of Cu, Co, Pb, Mn, Au, Re; primary substance for standardization of acids. Cryst. (MeOH). Sol. H_2O, MeOH, alkalis. Mp 227° (sealed tube). Subl. unchanged at ~200°.

Me ester: [62604-08-4].

$C_6H_{11}NOS_2$ M 177.291

Cryst. (MeOH aq.). Mp 82.5-83.5°.

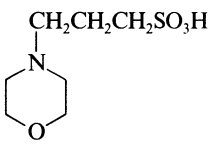
[873-58-5, 49791-54-0]

McMillan, F.H. *et al*, *J. Am. Chem. Soc.*, 1948, **70**, 4143 (*deriv, synth*)
Cook, A.H. *et al*, *J. Chem. Soc.*, 1950, 642 (*synth, deriv*)
Haas, W., *Mikrochim. Acta*, 1962, 738.
Beyer, W. *et al*, *Mikrochim. Acta*, 1965, 1130; 1967, 233, 721; 1971, 610 (*detn*)
Hoffmeister, E.H. *et al*, *Tetrahedron*, 1965, **21**, 2857 (*synth*)
Likussar, W. *et al*, *Mikrochim. Acta*, 1969, 974 (*props*)
Aravamudan, G. *et al*, *J. Chem. Soc. A*, 1971, 2744 (*synth*)
Marcotrigiano, G. *et al*, *Bull. Chem. Soc. Jpn.*, 1975, **48**, 1018 (*detn, Ir, Pd, Pt, Rh*)
Puri, B.K. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 1024; 1985, **40**, 2165 (*detn, Bi*)
Rao, A.L. *et al*, *Bull. Chem. Soc. Jpn.*, 1982, **55**, 598 (*detn, As, Sb, Pd*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SIN650.

4-Morpholinepropanesulfonic acid, 9CI M-00346

3-(N-Morpholino)propanesulfonic acid. MOPS

[1132-61-2]



$C_7H_{15}NO_4S$ M 209.266

Good's buffer with pH range 6.5-7.9. Hygroscopic cryst. powder. V. sol. H_2O. Mp 283.5-284.5°. pK_a 7.2 (20°).

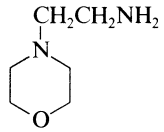
[71119-22-7]

Allen, C.F.H. *et al*, *Anal. Chem.*, 1965, **37**, 156 (*synth*)
Morris, J.E. *et al*, *Biochem. Biophys. Res. Commun.*, 1971, **43**, 1436 (*use*)
Sankar, M. *et al*, *Anal. Chem.*, 1978, **50**, 1922 (*props*)
Thomas, J.M. *et al*, *Anal. Biochem.*, 1981, **118**, 194 (*use*)
Roy, R.N. *et al*, *Cryobiology*, 1985, **22**, 578 (*use*)

4-Morpholinethanamine, 9CI M-00347

2-Morpholinoethylamine

[2038-03-1]



$C_6H_{14}N_2O$ M 130.189

Reagent for the characterisation of esters. Liq. Bp_{768} 204.5°, Bp_{68} 121-123°. n_D^{25} 1.4742.

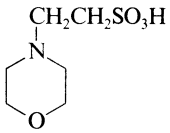
▷ QD7350000.

Hultquist, M.E. *et al*, *J. Am. Chem. Soc.*, 1940, **62**, 447 (*synth*)
Mason, J.P. *et al*, *J. Am. Chem. Soc.*, 1940, **62**, 1448 (*synth*)
Bost, R.W. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 1967 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AKA750.

2-(*N*-Morpholino)ethanesulfonic acid M-00348

4-Morpholineethanesulfonic acid. MES

[4432-31-9]



$C_6H_{13}NO_4S$ M 195.239

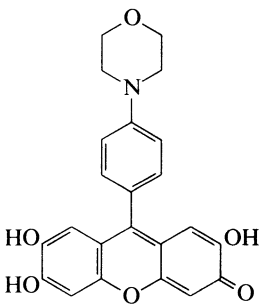
Commercially available as monohydrate. Good's buffer with pH range 5.5-7.0. Cryst. $+1H_2O$ (EtOH aq.). Sol. H_2O. Mp >300° dec. pK_a 6.15 (20°).

Good, N.E. *et al*, *Biochemistry*, 1966, **5**, 467 (*synth, use*)
Le Berre, A. *et al*, *Bull. Soc. Chim. Fr.*, 1970, 946; 1975, 2531 (*synth*)
Amaralis Vega, C. *et al*, *Anal. Chem.*, 1976, **48**, 1293 (*props*)
McConnell, B. *et al*, *Biophys. Chem.*, 1984, **20**, 135 (*use*)
Wehr, J.D. *et al*, *J. Phycol.*, 1986, **22**, 88 (*use*)

4-(*N*-Morpholinophenyl)fluorone M-00349

2,6,7-Trihydroxy-9-[4-(4-morpholinyl)phenyl]-3H-xanthen-3-one, 9CI

[72027-95-3]



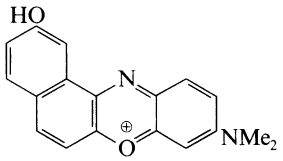
$C_{23}H_{19}NO_6$ M 405.406

Used as 0.02m*M* MeOH soln. for photometric detn. of Ge, Sn(*IV*), Ti, Pb, Cu, U(*VI*). Cryst. Sol. MeOH, EtOH; sl. sol. H_2O.

Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1979, **298**, 150 (*synth, use*)

Muscarine† M-00350

9-(Dimethylamino)-2-hydroxybenzo[a]*phenoxazin-7-ium(1+). C.I. 51205 Basic dye*



$C_{18}H_{15}N_2O_2^{\oplus}$ M 291.329 (ion)

Strictly, the name Muscarine applies to the chloride.

Chloride: [6363-82-2].

$C_{18}H_{15}ClN_2O_2$ M 326.781

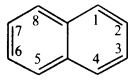
Used as redox indicator. Cryst. Sol. H_2O. E° +0.05 V.

Letort, M., *C. R. Hebd. Seances Acad. Sci.*, 1932, **194**, 711.
Colour Index, 3rd Edn., 1971, **4**, 4466 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

N

Naphthalene N-00001

[91-20-3]



$C_{10}H_8$ M 128.173

Most abundant single hydrocarbon in coal tar (ca. 11% of dry wt.). Formerly an important starting material for dyestuffs synth., now less so. Catalytic air oxidn. on industrial scale yields Phthalic anhydride. Reference material used in elemental microanalysis. Plates (EtOH) with characteristic odour. Spar. sol. pet. ether, insol. H_2O. Mp 80.3°. Bp 218°. Steam-volatile. Sublimes readily.

▷ QJ0525000.

Picrate: Mp 149.5°.

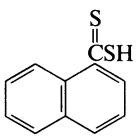
▷ TLV 50. Reacts explosively with N_2O_5.

Almenningene, A. *et al*, *Acta Crystallogr.*, 1961, **14**, 1056 (*cryst struct*)
Alger, T.D. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 5397 (*cmr*)
Hathaway, C.E. *et al*, *Spectrochim. Acta, Part A*, 1967, **23**, 881 (*raman*)
Momicchioli, F. *et al*, *J. Chem. Soc. B*, 1970, 1353 (*uv*)
Crecely, R.W. *et al*, *Org. Magn. Reson.*, 1970, **2**, 613 (*nmr*)
Defay, N. *et al*, *Tetrahedron Lett.*, 1971, 1871 (*cmr*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Sakurai, H. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 955 (*esr*)
Evans, A.G. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1973, 2091 (*esr*)
Palmer, M.H. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1974, 1893 (*struct*)
Obenland, S. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 6633.
Dowdy, D. *et al*, *Chem. Ind. (London)*, 1985, 338 (*purifn*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 685.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 406.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NAJ500.
Franklin, R.B., *Ethel Browning's Toxicity and Metabolism of Industrial Solvents*, (Snyder, R., Ed.), 2nd Ed., Elsevier, 1987, **1**, 153 (*rev, tox*)

1-Naphthalenecarbodithioic acid, 9CI N-00002

1-Naphthalenedithiocarboxylic acid

[3682-49-3]



$C_{11}H_8S_2$ M 204.316

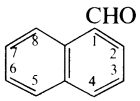
Me_4N salt: Used as a 0.01*M* aq. soln. for extraction-photometric detn. of Tl (λ_{max} 310 nm, ε 11800, $CHCl_3$), As(*III*) (λ_{max} 392 nm, ε 17000, $CHCl_3$). Cryst. Sol. H_2O.

Gertners, M. *et al*, *CA*, 1971, **76**, 117904h; 1974, **81**, 85504m; 1977, **87**, 126587m.
Jansons, E. *et al*, *CA*, 1977, **87**, 145259x (*detn, Tl*)

1-Naphthalenecarboxaldehyde, 9CI N-00003

1-Naphthaldehyde. 1-Formylnaphthalene

[66-77-3]



$C_{11}H_8O$ M 156.184

Pale-yellow viscous oil. Bp 292°, Bp_9 150°.

▷ QJ0190000.

Oxime: [13504-46-6].
$C_{11}H_9NO$ M 171.198
Used as 1% soln. in EtOH for gravimetric detn. of Pd. Needles (MeOH aq.). Sol. common org. solvs. Mp 98°.

Semicarbazone: [7510-44-3].
Needles (EtOH). Mp 221°.

Thiosemicarbazone: [5351-81-5].
Needles (EtOH). Mp 217°.

Hydrazone: [16430-29-8].
$C_{11}H_{10}N_2$ M 170.213
Mp 92-93°.

Phenylhydrazone: [24090-98-0].
Light-yellow needles (Et_2O). Mp 82°.

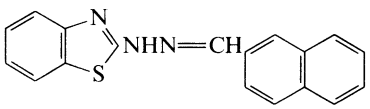
2,4-Dinitrophenylhydrazone: [1773-51-9].
Deep-yellow needles (AcOH). Mp 254°.

[51873-97-3]

Hunsberger, I.M., *J. Am. Chem. Soc.*, 1950, **72**, 5626 (*ir*)
Jensen, K.A. *et al*, *Acta Chem. Scand.*, 1952, **6**, 180 (*synth*)
Org. Synth., Coll. Vol., 4, 1963, 690 (*synth, bibl*)
Emsley, J.W. *et al*, *J. Chem. Soc. B*, 1970, 1513 (*nmr*)
Naidu, R.S. *et al*, *Indian J. Chem., Sect. A*, 1977, **15**, 69 (*oxime, detn, Pd*)
Seita, J. *et al*, *Org. Magn. Reson.*, 1978, **11**, 239 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NAJ000.

2-Naphthalenecarboxaldehyde 2-benzothiazolylhydrazone, 9CI N-00004

[6298-14-2]



$C_{18}H_{13}N_3S$ M 303.387

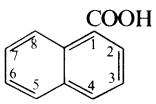
Used for extraction-photometric detn. of Cu (C_6H_6, λ_{max} 422 nm, ε 48000). Orange-red cryst. Sol. C_6H_6.

Odashima, T. *et al*, *CA*, 1975, **82**, 132546k (*detn, Cu*)

1-Naphthalenecarboxylic acid, 9CI N-00005

1-Naphthoic acid

[86-55-5]



$C_{11}H_8O_2$ M 172.183

Aq. solns. of salts used as acid-base fluorescent indicators (pH 2.5-3.5). Cryst. (AcOH aq.). Spar. sol. H_2O. Mp 161°. pK_a 3.7.

▷ Mod. toxic orally.

Et ester: [3007-97-4].
$C_{13}H_{12}O_2$ M 200.237
Bp 309°, Bp_{741} 220.5°.

Chloride: [879-18-5].
$C_{11}H_7ClO$ M 190.628
Mp 20°. Bp 297.5°, Bp_{10} 163°.

Amide: [2243-81-4].
$C_{11}H_9NO$ M 171.198
Mp 202°.

Amide, oxime: [40019-43-0]. N-*Hydroxy-1-naphthalenecarboximidamide, 9CI*
$C_{11}H_{10}N_2O$ M 186.213
Used for extraction-photometric detn. of Co (λ_{max} 581 nm, ε 4400, 2-methyl-1-propanol). Cryst. Sol. common org. solvs.

Anhydride: [64985-86-0].
$C_{22}H_{14}O_3$ M 326.351
Mp 145°.

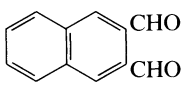
Nitrile: [86-53-3]. *1-Cyanonaphthalene*
$C_{11}H_7N$ M 153.183
Needles (pet. ether). Mp 37.5°. Bp 299°.

Org. Synth., 1931, **11**, 80.
Gilman, H. *et al*, *J. Am. Chem. Soc.*, 1934, **56**, 745.
Org. Synth., 1941, **21**, 89 (*nitrile*)
Buu-Hoï, Ng.Ph. *et al*, *Bull. Soc. Chim. Fr.*, 1942, 725.
McCrone, W., *Anal. Chem.*, 1953, **25**, 1126 (*struct*)
Shimizu, N. *et al*, *Bull. Chem. Soc. Jpn.*, 1971, **44**, 3175 (*pmr*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)
Ho, T.-L., *Synthesis*, 1972, 560 (*synth*)
Motekov, N. *et al*, *Fresenius' Z. Anal. Chem.*, 1974, **272**, 48 (*synth, detn, Co*)
Adcock, W. *et al*, *J. Org. Chem.*, 1977, **42**, 2411 (*cmr*)
Hansen, P.E. *et al*, *Org. Magn. Reson.*, 1977, **9**, 649 (*cmr*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 844.

2,3-Naphthalenedicarboxaldehyde, 9CI N-00006

2,3-Diformylnaphthalene

[7149-49-7]



$C_{12}H_8O_2$ M 184.194
Used for fluorimetric detn. of $CN^{\ominus}$. Needles (H_2O, pet. ether or by subl.). Mp 131-132°.

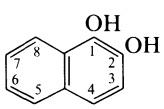
Bis-2,4-dinitrophenylhydrazone: Orange microcryst. powder. Mp 300° dec.

Carlson, R.G. *et al*, *J. Org. Chem.*, 1886, **51**, 3978 (*synth*)
Cook, J.W. *et al*, *J. Chem. Soc.*, 1949, 5228 (*synth*)
Weygand, F. *et al*, *Chem. Ber.*, 1950, **83**, 394 (*synth*)
Ried, W. *et al*, *Chem. Ber.*, 1956, **89**, 708 (*synth*)
Wilcox, C.F. *et al*, *J. Org. Chem.*, 1986, **51**, 1088 (*synth, pmr, ms*)
Carlson, R.G. *et al*, *J. Org. Chem.*, 1986, **51**, 3978 (*synth*)
Sano, A. *et al*, *Talanta*, 1987, **34**, 743 (*detn, $CN^{\ominus}$*)
Man, Y.-M. *et al*, *J. Org. Chem.*, 1990, **55**, 3214 (*synth*)

1,2-Naphthalenediol, 9CI N-00007

1,2-Dihydroxynaphthalene

[574-00-5]



$C_{10}H_8O_2$ M 160.172
Gives colour reaction with Nb. Needles (CS_2), leaflets + $1H_2O$ (H_2O). Sol. alkalis, Et_2O. Sol. H_2O. Mp 108° (anhyd.). Readily oxid. in air.

▷ Sternutator, severe irritant.

Di-Ac: [6336-79-4].
$C_{14}H_{12}O_4$ M 244.246
Mp 109.5° (104-106°).

1-Me ether: [18515-10-1]. *1-Methoxy-2-naphthol*
$C_{11}H_{10}O_2$ M 174.199
Cryst. (pet. ether). Mp 92°.

1-Me ether, benzoyl: Cryst. (MeOH). Mp 107°.

Di-Me ether: 1,2-Dimethoxynaphthalene
$C_{12}H_{12}O_2$ M 188.226
Mp 31°. Bp 278-280°.

Di-Me ether, picrate: Red needles. Mp 97°.

Fieser, L.F. *et al*, *J. Am. Chem. Soc.*, 1934, **56**, 1565, 1575 (*synth*)
Bell, K.H. *et al*, *Aust. J. Chem.*, 1963, **16**, 101 (*deriv*)
Gibalo, I.M., *Anal. Khim. Niobiya i Tantala*, Moscow, Nauka, 1967 (*use*)
Hewgill, F.R. *et al*, *J. Chem. Soc. C*, 1967, 2316 (*deriv*)
Wilson, H.W. *et al*, *Appl. Spectrosc.*, 1974, **28**, 418 (*ir*)
Dixon, W. *et al*, *Tetrahedron Lett.*, 1976, **8**, 623 (*esr*)

1,3-Naphthalenediol, 9CI N-00008

1,3-Dihydroxynaphthalene. Naphthoresorcinol

[132-86-5]

$C_{10}H_8O_2$ M 160.172
Potent inhibitor of prostaglandin synthetase. Reagent for the detn. of aromatic aldehydes and of carbohydrates. Leaflets (H_2O). Sol. H_2O. Mp 124°.

▷ Toxic. QJ4725000.

Di-Ac: [59335-80-7].
$C_{14}H_{12}O_4$ M 244.246
Prisms (AcOH aq.). Mp 56°.

1-Me ether: 4-Methoxy-2-naphthol
$C_{11}H_{10}O_2$ M 174.199
Cryst. (pet. ether). Mp 55-56°.

Soliman, G. *et al*, *J. Chem. Soc.*, 1944, 53 (*synth*)
Org. Synth., Coll. Vol., 3, 1955, 637 (*synth*)
Anger, V. *et al*, *Fresenius' Z. Anal. Chem.*, 1964, **203**, 422 (*use*)
Iksander, G.M. *et al*, *J. Chem. Soc. C*, 1970, 1701 (*deriv*)
Wilson, H.W. *et al*, *Appl. Spectrosc.*, 1974, **28**, 418 (*ir*)
Granger, P. *et al*, *J. Magn. Reson.*, 1976, **22**, 405 (*cmr, pmr*)
Dixon, W. *et al*, *Tetrahedron Lett.*, 1976, 623 (*esr*)
Papin, J.P., *J. Chromatogr.*, 1977, **132**, 339 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NAN000.

1,8-Naphthalenediol, 9CI N-00009

1,8-Dihydroxynaphthalene

[569-42-6]

$C_{10}H_8O_2$ M 160.172
Used in photometric detn. of Ti. Leaflets (H_2O). Sol. hot H_2O. Mp 140°.

Di-Ac: [6566-25-2].
$C_{14}H_{12}O_4$ M 244.246
Mp 147-148°.

Mono-Me ether: [3588-75-8]. *8-Methoxy-1-naphthol*
$C_{11}H_{10}O_2$ M 174.199
Isol. from a strain of *Daldinia concentrica*. Cryst. (pet. ether or EtOH). Mp 55-56° (47°).

Di-Me ether: 1,8-Dimethoxynaphthalene
$C_{12}H_{12}O_2$ M 188.226
Produced by *Daldinia concentrica*. Leaflets (Et_2O or EtOH aq.). Mp 158-161°.

Buu-Hoï, Ng.Ph. *et al*, *J. Chem. Soc.*, 1956, 2412 (*synth*)
Allport, D.C. *et al*, *J. Chem. Soc.*, 1960, 654 (*isol, derivs*)

v. Gemert, J.T., *Aust. J. Chem.*, 1968, **21**, 2203 (*ir*)
Ashworth, P. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1974, 739 (*esr*)
Granger, P. *et al*, *J. Magn. Reson.*, 1976, **22**, 405 (*cmr, pmr*)
Eremenko, M.V. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 1955 (*detn, Ti*)
Snieckus, V. *et al*, *J. Org. Chem.*, 1986, **57**, 271 (*deriv*)

2,3-Naphthalenediol, 9CI N-00010

2,3-Dihydroxynaphthalene

[92-44-4]

$C_{10}H_8O_2$ M 160.172

Used in manuf. of dyes for reprographic processes. Gives colour reaction with Fe(*III*), Co, Ni, Ti, Th, U(*VI*). Used as 0.02*M* soln. in C_6H_6 for extraction-photometric detn. of Fe(*III*), V(*V*), Ti, Mo (in the presence of tributylamine, $CHCl_3$), extraction-photometric detn. of B. Leaflets (H_2O). Sol. hot H_2O, C_6H_6, $CHCl_3$. Mp 162°.

▷ QJ4750000.

Mono-Me ether: 3-Methoxy-2-naphthol
$C_{11}H_{10}O_2$ M 174.199
Needles. Mp 108°.

Di-Me ether: [10103-06-7]. *2,3-Dimethoxynaphthalene, 9CI*
$C_{12}H_{12}O_2$ M 188.226
Mp 115-116°.

Buu-Hoi, N.P., *J. Org. Chem.*, 1956, **21**, 21 (*deriv*)
v. Gemert, J.T., *Aust. J. Chem.*, 1965, **21**, 2203 (*ir*)
Hewgill, F.R. *et al*, *J. Chem. Soc. C*, 1967, 2316 (*deriv*)
Patrovsky, V., *Collect. Czech. Chem. Commun.*, 1970, **35**, 1599 (*use*)
Ashworth, P. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1974, 739 (*esr*)
Granger, P. *et al*, *J. Magn. Reson.*, 1976, **22**, 405 (*cmr, pmr*)
Arcole, A. *et al*, *Chem. Ind. (London)*, 1977, 128 (*synth*)
Prajer-Janczewska, L., *Pol. J. Chem. (Rocz. Chem.)*, 1978, **52**, 1675 (*ms*)
Sato, S. *et al*, *Anal. Chim. Acta*, 1982, **143**, 283 (*detn, B*)

2,7-Naphthalenediol, 9CI N-00011

2,7-Dihydroxynaphthalene

[582-17-2]

$C_{10}H_8O_2$ M 160.172

Reagent for colorimetric detn. of glycolic acid. Needles (H_2O). Sol. hot H_2O. Mp 190°.

▷ QJ4780000.

Di-Ac: [22472-26-0].
$C_{14}H_{12}O_4$ M 244.246
Mp 136°.

Mono-Me ether: [5060-82-2]. *7-Methoxy-2-naphthol*
$C_{11}H_{10}O_2$ M 174.199
Needles (EtOH or pet. ether). Mp 122-124°, Mp 103-105°. $Bp_{0.01}$ 145-148°.

Di-Me ether: 2,7-Dimethoxynaphthalene
$C_{12}H_{12}O_2$ M 188.226
Plates (EtOH). Mp 138°. Bp_{731} 39°. Mod. steam volatile.

Di-Me ether, 1,3,5-trinitrobenzene complex: Orange-yellow needles. Mp 111.5°.

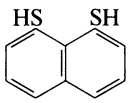
Di-Et ether: 2,7-Diethoxynaphthalene
$C_{14}H_{16}O_2$ M 216.279
Mp 104°.

Fieser, L.F. *et al*, *J. Am. Chem. Soc.*, 1949, **71**, 3615 (*deriv*)
Weissburger, A. *et al*, *J. Am. Chem. Soc.*, 1961, **83**, 5015 (*deriv*)
Thompson, R.J. *et al*, *Tetrahedron*, 1963, **19**, 1919 (*deriv*)
v. Gemert, J.T., *Aust. J. Chem.*, 1968, **21**, 2203 (*ir*)
Takahashi, K., *J. Biochem. (Tokyo)*, 1972, **71**, 563 (*use*)
Brignac, P.J., *Anal. Lett.*, 1974, **7**, 195 (*props, uv*)
Granger, P. *et al*, *J. Magn. Reson.*, 1976, **22**, 405 (*cmr, pmr*)
Prajer-Janczewska, L., *Pol. J. Chem. (Rocz. Chem.)*, 1978, **52**, 1675 (*ms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NAO500.

1,8-Naphthalenedithiol, 9CI, 8CI N-00012

1,8-Dimercaptonaphthalene

[25079-77-0]



$C_{10}H_8S_2$ M 192.305

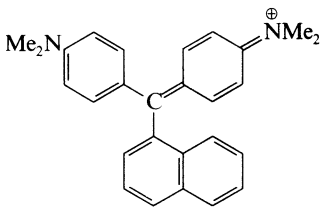
Used as 0.1% EtOH soln. for photometric detn. of Pd (λ_{max} 450 nm, ε 12500). Yellow plates (EtOH/HCl). Sol. EtOH. Mp 113-114°.

Di-Me thioether: [7343-31-9]. *1,8-Bis(methylthio) naphthalene*
$C_{12}H_{12}S_2$ M 220.359
Yellow solid (Et_2O/pentane). Mp 83-85°.

Price, W.B. *et al*, *J. Chem. Soc.*, 1928, 2373 (*synth*)
Pacault, A. *et al*, *Bull. Soc. Chim. Fr.*, 1952, 141 (*struct*)
Desai, H.S. *et al*, *J. Sci. Ind. Res., Sect. B*, 1960, **19**, 390 (*synth*)
Sugimoto, M. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1974, **23**, 1078; *CA*, **82**, 10771j (*detn, Pd*)
Yui, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1988, **61**, 953 (*synth, ir, pmr*)
Glass, R.S. *et al*, *J. Am. Chem. Soc.*, 1989, **111**, 4036 (*Di-Me thioether, cryst struct*)
Gamage, S.A. *et al*, *Tetrahedron*, 1990, **46**, 2111 (*synth*)

Naphthalene green N-00013

N-[*4*-[[*4*-(*Dimethylamino*)*phenyl*]-*1-naphthalenylmethylene*]-*2,5-cyclohexadien-1-ylidene*]-N-*methylmethanaminium*(*1+*), *9CI*



$C_{27}H_{27}N_2^{\oplus}$ M 379.524 (ion)

Strictly, the name Naphthalene green applies to the chloride salt.

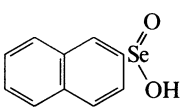
Chloride: [13158-69-5].
$C_{27}H_{27}ClN_2$ M 414.976
Used as a 0.1% aq. soln. for extraction-photometric detn. of Au (λ_{max} 645 nm, C_6H_6). Cryst.

Baloin, L.M. *et al*, *Rev. Chim. (Bucharest)*, 1980, **31**, 298; *CA*, **93**, 106366j (*use*)

2-Naphthaleneselenic acid, 9CI N-00014

2-Naphthaleneseleninic acid, 8CI

[17932-21-7]



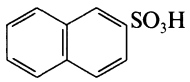
$C_{10}H_8O_2Se$ M 239.132

NH_4 salt: Used as a 0.5% aq. soln. for gravimetric detn. of Zr. Cryst.

Alimarin, I.P. *et al*, *Zh. Anal. Khim.*, 1958, **13**, 332 (*detn*)

2-Naphthalenesulfonic acid N-00015

[120-18-3]



$C_{10}H_8O_3S$ M 208.237

Catalyst for dehydrations. Used for the characterization of amino acids. V. hygroscopic cryst. V. sol. org. solvs. Mp 91°. pK_a 2.6. Forms a trihydrate, Mp 83°, and a monohydrate, Mp 124°.

▷ QK1225000.

Me ester: [5138-53-4].
$C_{11}H_{10}O_3S$ M 222.264
Mp 56°. Bp_{15} 224-225°.

Et ester: [7619-65-0].
$C_{12}H_{12}O_3S$ M 236.291
Mp 11-12°. Bp 134° (high vac.).

Fluoride: [325-12-2].
$C_{10}H_7FO_2S$ M 210.228
Mp 87-88°.

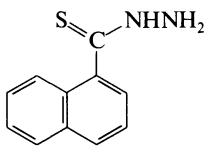
Chloride: [93-11-8].
$C_{10}H_7ClO_2S$ M 226.683
Derivatisation reagent for hplc of amines e.g. spectinomycin and neomycin. Mp 66°, Mp 79°. $Bp_{0.6}$ 148°.

Amide: [1576-47-2].
$C_{10}H_9NO_2S$ M 207.253
Mp 212°, Mp 217°.

Bergmann, M. *et al*, *J. Biol. Chem.*, 1939, **129**, 609 (*use*)
Fierz-David, H.E. *et al*, *Helv. Chim. Acta*, 1945, **28**, 257 (*synth, bibl*)
Spryskov, A.A., *J. Gen. Chem. USSR* (*Engl. Transl.*), 1946, **16**, 2126 (*synth, bibl*)
Daglish, C., *J. Am. Chem. Soc.*, 1950, **72**, 4859 (*uv*)
Spryskov, A.A. *et al*, *Zh. Obshch. Khim.*, 1953, **23**, 1712.
Detoni, S. *et al*, *Spectrochim. Acta*, 1957, 601 (*ir*)
Vaĭnshteĭn, F.M. *et al*, *Zh. Obshch. Khim.*, 1957, **27**, 2559.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 712.
Šnobl, D. *et al*, *Collect. Czech. Chem. Commun.*, 1985, **50**, 1852 (*cmr*)
Tsugi, K. *et al*, *J. Chromatogr.*, 1985, **333**, 365; 1986, **369**, 105 (*use, chloride*)
Hamada, T. *et al*, *Synthesis*, 1986, 852 (*deriv, synth, pmr, ms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NAP000.

1-Naphthalenethiocarboxhydrazide N-00016

[68062-20-4]



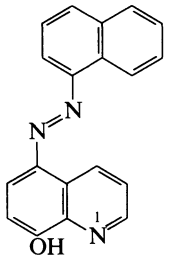
$C_{11}H_{10}N_2S$ M 202.279

Used as 0.01*M* EtOH soln. for extraction-photometric detn. of Pt(*IV*), Ru(*III*), Os(*VI,VIII*) (λ_{max} 475 nm, pH 3.3-8.2, $CHCl_3$). Cryst. (C_6H_6/pet. ether). Sol. C_6H_6, pet. ether, EtOH. Mp 97-98°.

[85908-62-9]

Shome, S.C. *et al*, *Mikrochim. Acta*, 1978, **2**, 343 (*synth, use*)

5-(1-Naphthalenylazo)-8-quinolinol N-00017



$C_{19}H_{13}N_3O$ M 299.331

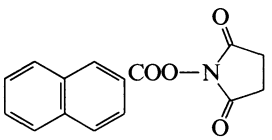
N^1-*Oxide:* [63319-32-4].
$C_{19}H_{13}N_3O_2$ M 315.331
Used as a soln. in aq. NH_3 for photometric detn. of Al, Co, Cu, Pb, Pd, Zn. Orange cryst. powder. Sol. alkalis; v. spar. sol. EtOH, Me_2CO; insol. H_2O. λ_{max} 425 nm (EtOH).

Nemodruk, A.A. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 457 (*use*)

1-[(2-Naphthalenylcarbonyl)oxy]-2,5-pyrrolidinedione N-00018

Succimimido β-naphthoate

[56374-47-1]

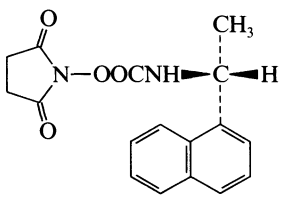


$C_{15}H_{11}NO_4$ M 269.256

Reagent used for ms sequence anal. of peptides.

Falter, H. *et al*, *Anal. Biochem.*, 1975, **67**, 359 (*use*)

1-[[[[1-(1-Naphthalenyl)ethyl]amino]carbonyl]oxy]-2,5-pyrrolidinedione, 9CI N-00019



(*R*)-*form*

$C_{17}H_{16}N_2O_4$ M 312.324

Reagent for the optical resolution of enantiomeric amines.

(***R*)-*form*** [113701-20-5]
Cryst. (C_6H_6/Me_2CO). Mp 182°. $[\alpha]_D$ +62.53° (c, 0.43 in MeCN).

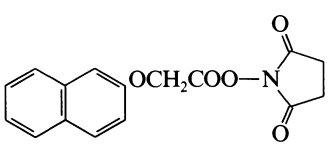
(***S*)-*form*** [113701-21-6]
Cryst. (C_6H_6/Me_2CO). Mp 180-182°. $[\alpha]_D$ −61.99° (c, 0.42 in MeCN).

Iwaki, K. *et al*, *Chromatographia*, 1987, **23**, 899 (*synth, use*)

1-[[(2-Naphthalenyloxy)acetyl]oxy]-2,5-pyrrolidinedione N-00020

Succinimido 2-naphthoxyacetate

[81012-92-2]



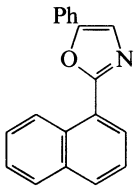
$C_{16}H_{13}NO_5$ M 299.282
Used for fluorimetric detn. of aminophospholipids and for amino acid sequencing in peptides. Mp 150-152°.

Falter, H. *et al*, *Anal. Biochem.*, 1975, **67**, 359 (*use*)
Chen, S.S. *et al*, *J. Chromatogr.*, 1983, **276**, 37 (*use*)

2-(1-Naphthalenyl)-5-phenyloxazole, 9CI N-00021

α-NPO

[846-63-9]

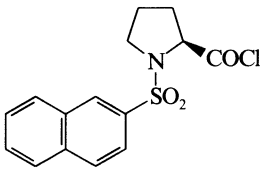


$C_{19}H_{13}NO$ M 271.318
Used in liquid scintillation spectrometry. Light green cryst. Mp 110-111°.

Hayes, F.N. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 1850 (*synth*)
Lidholt, L.R. *et al*, *Opto-electronics* (*London*), 1970, **2**, 21 (*props*)
Pavlopoulos, T.G. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 6568 (*spectra*)
Fouassier, J.P. *et al*, *J. Photochem.*, 1977, **7**, 17 (*use*)

1-(2-Naphthalenylsulfonyl)-2-pyrrolidinecarbonyl chloride, 9CI N-00022

[100331-92-8]



(*S*)-*form*

$C_{15}H_{14}ClNO_3S$ M 323.799

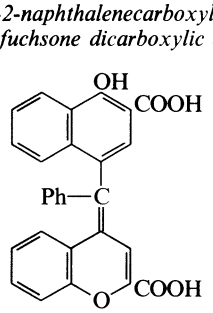
(***S*)-*form*** [91872-31-0]
Reagent for resolution of enantiomers of diltiazem hydrochloride. Cryst. (C_6H_6/hexane). Mp 107-109°. $[\alpha]_D^{20}$ −81.6° (c, 1 in $CHCl_3$).

[103129-97-1]

Shimizu, R. *et al*, *J. Chromatogr.*, 1986, **357**, 119 (*synth*, *use*)
Nishi, H. *et al*, *Chromatographia*, 1989, **27**, 301 (*use*)

Naphthochrome green G N-00023

4-[(3-Carboxy-4-hydroxy-1-naphthalenyl)phenylmethylene]-1,4-dihydro-1-oxo-2-naphthalenecarboxylic acid, *9CI*. *Phenoxydinaphthofuchsone dicarboxylic acid*

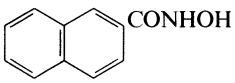


$C_{28}H_{18}O_6$ M 450.447
Strictly, the name Naphthochrome green G applies to the disodium salt.

Di-Na salt: [5715-76-4].
Used as 1.5m*M* aq. soln. or 0.5m*M* EtOH soln. for photometric detn. of Be (λ_{max} 640 nm, pH 11.5-13), Al; complexing agent for Ca. Red-brown cryst. (EtOH aq.). Sol. H_2O, EtOH. Mp 150-151°.

Aldridge, W. *et al*, *Analyst* (*London*), 1948, **73**, 607 (*detn*, *Be*)
Adamovich, L.P. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 420; 1969, **24**, 1816 (*synth*, *detn*, *Be*)
Adamovich, L.P. *et al*, *Zavod. Lab.*, 1969, **35**, 781 (*detn*, *Al*)
Chaplin, A.J. *et al*, *Histochemistry*, 1976, **47**, 263 (*detn*, *Ca*)

2-Naphthohydroxamic acid N-00024



$C_{11}H_9NO_2$ M 187.198
Used for photometric detn. of V(*V*) (λ_{max} 450 nm). Pale pink cryst. Sl. sol. H_2O; sol. common org. solvs.

N-*Ph:* [34251-29-1]. N-*Hydroxy*-N-*phenyl-2-naphthalenecarboxamide*, *9CI*. N-*Phenyl-2-naphthohydroxamic acid*
$C_{17}H_{13}NO_2$ M 263.295
Used as 0.1% EtOH soln. for extraction-photometric detn. of V(*V*) (λ_{max} 545 nm, ε 7100), U. Cryst. Sol. $CHCl_3$, EtOH. Mp 156°.

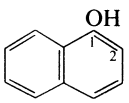
N-*Benzyl:* [85407-79-0]. N-*Benzyl-2-naphthohydroxamic acid*. N-*Hydroxy*-N-*phenylmethyl-2-naphthalenecarboxamide*
$C_{18}H_{15}NO_2$ M 277.322
Used as a 0.1% soln. in EtOH-free $CHCl_3$ for extraction-photometric detn. of V. Cryst. Sol. EtOH, $CHCl_3$, Me_2CO; insol. H_2O. Mp 130°.

Bass, V.C. *et al*, *Anal. Chim. Acta*, 1966, **35**, 337 (*detn*, *V*)
Agrawal, Y.K., *Sep. Sci.*, 1973, **8**, 709 (*deriv*, *detn*, *U*)
Agrawal, Y.K., *Anal. Chem.*, 1975, **47**, 940 (*synth*, *deriv*, *detn*, *V*)
Sahu, B. *et al*, *Talanta*, 1987, **34**, 653 (*N-benzyl*, *use*)

1-Naphthol N-00025

1-Naphthalenol, *9CI*. *1-Hydroxynaphthalene*. *α-Naphthol*

[90-15-3]



$C_{10}H_8O$ M 144.173
Used in manuf. of dyestuffs. Used as 1m*M* isopentanol soln. for photometric detn. of Tl(*III*). Prisms with phenolic odour. Sol. isopentanol; spar. sol. H_2O. Mp 94°, Fp 96.1°. Bp 282.5°. Steam-volatile, sublimes. Reduces $AgNO_3.NH_3$. Darkens in light.

▷ Mod. toxic. QL2800000.

Ac: [830-81-9].
$C_{12}H_{10}O_2$ M 186.210
Mp 48-49°.

Benzoyl: [607-55-6].
$C_{17}H_{12}O_2$ M 248.281
Mp 56°.

3,5-Dinitrobenzoyl: Mp 217.4°.

Franzen, H. *et al*, *Ber.*, 1917, **50**, 103.
Vendelshtein, Y.G. *et al*, *CA*, 1933, **27**, 5320.
U.S. Pat., 1 962 137, (1934); *CA*, **28**, 4798.
Kreshkov, A.P. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 415 (*detn*, *Tl*)
Ernst, L., *Chem. Ber.*, 1975, **108**, 2030 (*pmr*)
Lewis, N.J. *et al*, *J. Org. Chem.*, 1977, **42**, 1479 (*synth*)

Seita, J. *et al*, *Org. Magn. Reson.*, 1978, **11**, 239 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NAW500.

2-Naphthol N-00026

2-Naphthalenol, 9CI. 2-Hydroxynaphthalene. β-Naphthol

[135-19-3]

$C_{10}H_8O$ M 144.173

Used in manuf. of dyestuffs and antioxidants. Acid-base indicator (pH 8.5-9.5). Used for the photometric detn. of malic acid and tartaric acid. Plates by subl. Sol. EtOH, Et_2O; v. spar. sol. H_2O. Mp 123°. Bp 285-286°. Reduces $AgNO_3.NH_3$. Volatile in steam, EtOH and Et_2O.

▷ Mod. toxic orally. QL2975000.

Ac: [1523-11-1].
$C_{12}H_{10}O_2$ M 186.210
Mp 70°.

Benzoyl: [93-44-7].
$C_{17}H_{12}O_2$ M 248.281
Mp 107°.

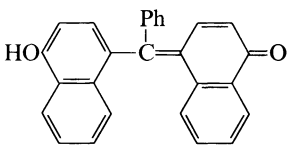
3,5-Dinitrobenzoyl: Mp 210-212°.

Franzen, H. *et al*, *Ber.*, 1917, **50**, 104.
Christian, G.D. *et al*, *Anal. Chim. Acta*, 1968, **41**, 269 (*use*)
Christian, G.D. *et al*, *Talanta*, 1969, **16**, 255 (*use*)
Brown, R.F.C. *et al*, *Aust. J. Chem.*, 1974, **27**, 2385 (*synth*)
Ernst, L., *Chem. Ber.*, 1975, **108**, 2030 (*pmr*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*use, ind*)
Rusek, G. *et al*, *Spectrosc. Lett.*, 1978, **17**, 381 (*uv*)
Pant, V.C. *et al*, *Rev. Roum. Chim.*, 1979, **24**, 471 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NAX000.

α-Naphtholbenzein N-00027

4-[(4-Hydroxy-1-naphthalenyl)phenylmethylene]-1-(4H)-naphthalenone, 9CI

[145-50-6]



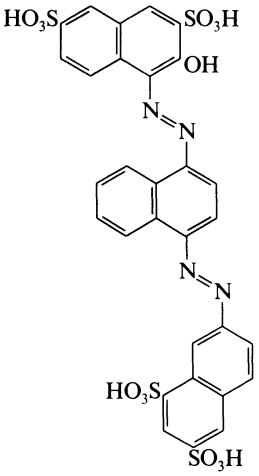
$C_{27}H_{18}O_2$ M 374.438

Used as a 0.1% soln. in EtOH as acid-base indicator (pH range: 9.8-11; colour change: brownish → green-blue). Dark red cryst. Sol. Me_2CO, Et_2O; insol. H_2O.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

Naphthol black 3B N-00028

1-[4-(6,8-Disulfo-2-naphthalenylazo)-1-naphthalenylazo]-2-hydroxy-3,6-naphthalenedisulfonic acid, 9CI. C.I. Acid black 3. C.I. 27260



$C_{30}H_{20}N_4O_{13}S_4$ M 772.771

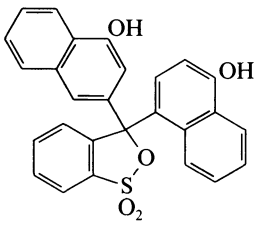
Strictly, the name Naphthol black 3B applies to the tetrasodium salt.

Tetra-Na salt: [4197-00-6].
Used as a 1% aq. soln. as metallochromic indicator in titrimetric detn. of Cu, photometric detn. of Mg (λ_{max} 570 nm). Cryst. Sol. H_2O, EtOH.

Goyal, S.S. *et al*, *Bull. Chem. Soc. Jpn.*, 1967, **40**, 994 (*detn, Mg*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*detn, Cu*)

α-Naphtholsulfonephthalein N-00029

4,4'-(3H-2,1-Benzoxathiol-3-ylidiene)bis(1-naphthol) S,S-dioxide



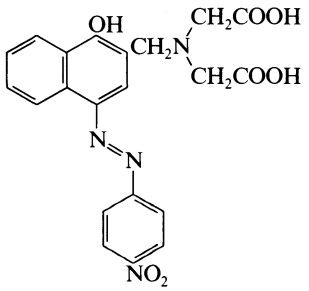
$C_{27}H_{18}O_5S$ M 454.502

Used as an acid-base indicator (colour change: yellow → blue; pH range: 6.0-7.6). Dark red cryst. powder. Sol. EtOH, Me_2CO, EtOAc, alkalis; spar. sol. H_2O.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

Naphthol violet N-00030

2-(Aminomethyl)-4-(4-nitrophenylazo)-1-naphthol-N,N-diacetic acid



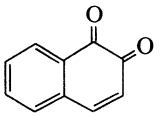
$C_{21}H_{18}N_4O_7$ M 438.396
Used as a 1:100 mixture with NaCl as metallochromic indicator in titrimetric detn. of Bi, Cd, Co, Cu, Mg, Mn, Zn. Cryst.

Budesinsky, B. *et al*, *Collect. Czech. Chem. Commun.*, 1957, **22**, 1579 (*use*)

1,2-Naphthoquinone, 8CI N-00031

1,2-Naphthalenedione, 9CI. β-Naphthoquinone

[524-42-5]



$C_{10}H_6O_2$ M 158.156
Red needles (Et_2O), orange leaflets (C_6H_6) or golden yellow needles. Mp 115-120° dec., Mp 145-147° dec. (golden yellow-form). Not steam-volatile. Dec. → bluish-black col. on standing.

▷ Highly toxic orally, exp. carcinogen. QL7000000.

2-Oxime: see *2-Nitroso-1-naphthol, N-00161*

Dioxime (1Z,2E): [64360-72-1].
$C_{10}H_8N_2O_2$ M 188.185
Used as a 1m*M* soln. in EtOH for extraction-photometric detn. of Ni (λ_{max} 464 nm, ε 16500) in the presence of Zephiramine; Co, Fe(*II*). Yellow needles (EtOH). Mp 169°.

1-p-Nitrophenylhydrazone: [6410-10-2]. *1-(4-Nitrophenylazo)-2-naphthol. Paranitraniline red. Para red*
$C_{16}H_{11}N_3O_3$ M 293.281
Dyestuff. Orange-brown plates (toluene). Insol. EtOH; mod. sol. hot AcOH. Mp 250-251°, Mp 246°. Tautomeric.

▷ QL4510000.

2-Thiosemicarbazone: [22051-53-2]. *2-(1-Oxo-2(1H)-naphthalenylidene)hydrazinecarbothioamide, 9CI*
$C_{11}H_9N_3OS$ M 231.278
Used for extraction separation of Zn, Cd; photometric detn. of Hg(*II*) (λ_{max} 540 nm, ε 10300). Yellow cryst. Sol. DMF.

[14140-03-5]

Org. Synth., Coll. Vol., 2, 1943, 430 (*synth*)
Oliver, R.W.A. *et al*, *J. Chem. Soc. B*, 1968, 1141 (*ms*)
Ueda, T. *et al*, *CA*, 1972, **76**, 53993b (*thiosemicarbazone, synth, detn, Cu*)
Kuse, S. *et al*, *Anal. Chim. Acta*, 1974, **70**, 65 (*synth, detn, Ni, Co, Fe(II)*)
Tôei, K. *et al*, *Anal. Chim. Acta*, 1975, **75**, 323 (*synth, detn, Ni*)
Kuboyama, A. *et al*, *Bull. Chem. Soc. Jpn.*, 1976, **49**, 1401 (*uv*)
Nasakkala, M. *et al*, *Acta Chem. Scand., Ser. A*, 1977, **31**, 469, 512 (*cryst struct, oxime*)
Luque de Castro, M.D., *An. Quim.*, 1979, **75**, 861; *CA*, **92**, 225936j (*use*)
Silva, M. *et al*, *Mikrochim. Acta*, 1983, **1**, 315 (*sepn, Zn, Cd*)
Gallardo Cespedes, A. *et al*, *Microchem. J.*, 1984, **30**, 105 (*thiosemicarbazone, detn, Hg*)
Pilipenko, A.T. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1987, **53**, 294 (*2-thiosemicarbazone, use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NBA000.

1,4-Naphthoquinone, 8CI N-00032

1,4-Naphthalenedione, 9CI. α-Naphthoquinone

[130-15-4]

$C_{10}H_6O_2$ M 158.156
Oxidn. prod. of naphthalene. Used for fluorimetric detn. of $CN^{\ominus}$. Yellow needles (EtOH or pet. ether). Spar. sol. H_2O, pet. ether; sol. most org. solvs. Mp 125°. Steam-volatile. Red-brown soln. in alkali.

▷ Highly irritant and vesicant. QL7175000.

4-Nitrophenylhydrazone: 4-p-Nitrobenzeneazo-1-naphthol
$C_{16}H_{11}N_3O_3$ M 293.281
Reagent for Mg. Brown needles with blue reflex ($PhNO_2$). Spar. sol. most solvs. Mp 277-279°.

2,4-Dinitrophenylhydrazone: Mp 278° dec.

Dioxime: [14140-02-4].
$C_{10}H_8N_2O_2$ M 188.185
Needles (EtOH aq.). Mp 207° dec.

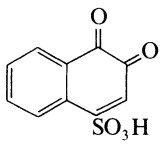
Semicarbazone: Greenish-yellow cryst. (AcOH). Mp 247° dec.

Brown, T.L., *Spectrochim. Acta*, 1962, **18**, 1065 (*ir*)
Org. Synth., Coll. Vol., 4, 1963, 148, 698 (*synth*)
Gaultier, J. *et al*, *Acta Crystallogr.*, 1965, **18**, 179 (*cryst struct*)
Guilbault, G.G. *et al*, *Anal. Chem.*, 1965, **37**, 1395.
Bowie, J.H. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 5094 (*ms*)
Hill, R.K. *et al*, *J. Org. Chem.*, 1965, **30**, 2414 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 714 (*purifn, tox*)
Singh, I. *et al*, *Tetrahedron*, 1968, **24**, 6053 (*uv*)
Kobayashi, M. *et al*, *Tetrahedron Lett.*, 1976, 619 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NBA500.

1,2-Naphthoquinone-4-sulfonic acid N-00033

3,4-Dihydro-3,4-dioxo-1-naphthalenesulfonic acid, 9CI

[2066-93-5]



$C_{10}H_6O_5S$ M 238.220
Colorimetric reagent for primary and secondary amines; has other anal. uses. Bright-orange needles.

▷ Toxic.

Na salt: [521-24-4].
Golden-yellow needles (EtOH aq.) or orange powder. Sol. H_2O; mod. sol. Me_2CO; insol. C_6H_6.

▷ QK1490000.

K salt: [5908-27-0].
Yellow or bright-orange needles (H_2O). Mp *ca.* 240° dec.

2-Semicarbazone: [36307-95-6].
$C_{11}H_9N_3O_5S$ M 295.275
Gives colour reactions with Cd, Co, Cu, Hg(*II*), Ni, Zn. Cryst. Sol. H_2O.

2-(Thiosemicarbazone): [59558-95-1].
$C_{11}H_9N_3O_4S_2$ M 311.342
Used as metallochromic indicator for titrimetric detn. of Cd, Cu, Pb, Zn. Cryst. Sol. H_2O. pK_a 8.36 (25°).

Dioxime: [43146-51-6].
$C_{10}H_8N_2O_5S$ M 268.250
Used as 1-10m*M* aq. soln. for extraction-photometric detn. of Ni (λ_{max} 480 nm, ε 20300, $CHCl_3$), Co, Fe, Cu. Cryst. Sol. H_2O, EtOH. Mp 244-246°.

[34947-97-2, 59558-96-2, 59558-97-3]

Elsevier's Encycl. Org. Chem., **12B**, 5619 (*bibl*)
Fieser, L.F. *et al*, *J. Am. Chem. Soc.*, 1935, **57**, 491 (*synth*)

Bartos, J. *et al*, *Bull. Soc. Chim. Fr.*, 1970, 1627 (*use*)
Kuse, S. *et al*, *Anal. Chim. Acta*, 1974, **70**, 65 (*synth, detn, Co, Fe, Cu*)
Tôei, K. *et al*, *Anal. Chim. Acta*, 1975, **75**, 323 (*synth, detn, Ni*)
Vajgand, V., *Chem. Anal. (Warsaw)*, 1975, **20**, 1125 (*synth, use, thiosemicarbazone*)
Mukherjee, S. *et al*, *CA*, 1984, **100**, 220822q (*use, semicarbazone*)
Asahi, Y. *et al*, *Chem. Pharm. Bull.*, 1984, **32**, 3093 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DLK000.

1,2-Naphthoquinone-5-sulfonic acid N-00034

5,6-Dihydro-5,6-dioxo-1-naphthalenesulfonic acid

[53130-54-4]

$C_{10}H_6O_5S$ M 238.220
Gold orange cryst. Sol. H_2O.

Dioxime: [56496-20-9]. *5,6-Dihydro-5,6-bis(hydroxyimino)-1-naphthalenesulfonic acid, 9CI*
$C_{10}H_8N_2O_5S$ M 268.250
Used as 1m*M* aq. soln. for extraction-photometric detn. of Ni (λ_{max} 468 nm, ε 20600, $CHCl_3$). Cryst. Sol. H_2O.

Langenbeck, W. *et al*, *Chem. Ber.*, 1954, **87**, 496 (*synth*)
Tôei, K. *et al*, *Anal. Chim. Acta*, 1975, **75**, 323 (*dioxime, synth, detn, Ni*)

1,2-Naphthoquinone-6-sulfonic acid N-00035

5,6-Dihydro-5,6-dioxo-2-naphthalenesulfonic acid

$C_{10}H_6O_5S$ M 238.220
Gold-orange cryst. Sol. H_2O.

Dioxime: [56496-21-0]. *5,6-Dihydro-5,6-bis(hydroxyimino)-2-naphthalenesulfonic acid, 9CI*
$C_{10}H_8N_2O_5S$ M 268.250
Used as 1m*M* aq. soln. for extraction-photometric detn. of Ni (λ_{max} 468 nm, ε 21900, $CHCl_3$). Cryst. Sol. H_2O.

Lougenbeck, W. *et al*, *Chem. Ber.*, 1954, **87**, 496 (*synth*)
Tôei, K. *et al*, *Anal. Chim. Acta*, 1975, **75**, 323 (*synth, detn, Ni*)

1,2-Naphthoquinone-7-sulfonic acid N-00036

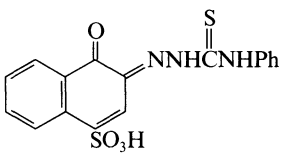
7,8-Dihydro-7,8-dioxo-2-naphthalenesulfonic acid

$C_{10}H_6O_5S$ M 238.220
Orange yellow cryst. Sol. H_2O.

Dioxime: [56496-22-1]. *7,8-Dihydro-7,8-bis(hydroxyimino)-2-naphthalenesulfonic acid, 9CI*
$C_{10}H_8N_2O_5S$ M 268.250
Used as 1m*M* aq. soln. for extraction-photometric detn. of Ni. Cryst. Sol. H_2O.

Langenbeck, W. *et al*, *Chem. Ber.*, 1954, **87**, 496 (*synth*)
Tôei, K. *et al*, *Anal. Chim. Acta*, 1975, **75**, 323 (*dioxime, synth, detn, Ni*)

1,2-Naphthoquinone-4-sulfonic acid 2-(phenylthiosemicarbazone) N-00037



$C_{17}H_{13}N_3O_4S_2$ M 387.439

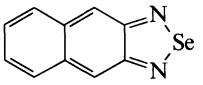
Na salt: [110484-52-1].
Used as 0.1% soln. in aq. DMF as an indicator in complexiметric (EDTA) titration of Pb, Cd, Bi and Zn (colour change: raspberry → yellow). Dark red cryst. Sol. H_2O, DMF.

Pilipenko, A.T. *et al*, *Zh. Anal. Khim.*, 1987, **42**, 422 (*synth, use*)

Naphtho[2,3-*c*][1,2,5]selenadiazole, 9CI N-00038

Naphthoselenadiazole

[269-20-5]

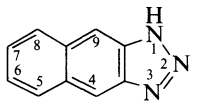


$C_{10}H_6N_2Se$ M 233.131
Used as 1m*M* soln. in EtOH for gravimetric and photometric detn. of Pd (λ_{max} 380 nm). Cryst. (pet. ether). Sol. EtOH. Mp 270° dec.

Cukor, P. *et al*, *Anal. Chim. Acta*, 1964, **30**, 473 (*props*)
Lau, H.K. *et al*, *Talanta*, 1970, **17**, 717 (*synth, detn, Pd*)

1*H*-Naphtho[2,3-*d*]triazole N-00039

[269-12-5]



$C_{10}H_7N_3$ M 169.185
Used as 2.5% soln. in dil. NH_3 for gravimetric, fluorimetric and photometric detn. of Ag. Yellow needles. Sol. NH_3. Mp 187°.

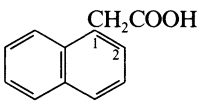
1-Amino: [15300-56-8].
$C_{10}H_8N_4$ M 184.200
Cryst. (EtOH). Mp 207-208° dec.

Friedländer, P. *et al*, *Ber.*, 1894, **27**, 761.
Barton, J.W. *et al*, *J. Chem. Soc. C*, 1967, 1276 (*1-amino*)
Wheeler, G.L. *et al*, *Anal. Chim. Acta*, 1969, **46**, 239 (*synth, detn, Ag*)
Rees, C.W. *et al*, *J. Chem. Soc. C*, 1969, 756 (*1-amino*)

(1-Naphthyl)acetic acid N-00040

1-Naphthaleneacetic acid, 8CI. Planofix. Phyomone. Fruitone N. Rootone. Regenasol. Tre-Hold

[86-87-3]



$C_{12}H_{10}O_2$ M 186.210
Used to promote rooting of plant cuttings. Rhinitic and choleretic. Used as 2% soln. of K salt for gravimetric detn. of Th, Zr. Needles (H_2O). Mod. sol. alkalis; spar. sol. H_2O; v. sol. Me_2CO, EtOH. Mp 134.5-135.5°, Mp 131°. Dec. on dist.

▷ Mod. irritant. QJ0875000.

Me ester: [2876-78-0].
$C_{13}H_{12}O_2$ M 200.237
Root growth promotor. Oil. Bp_{11} 162-165°. $n_D^{25.5}$ 1.5939.
▷ QJ1225000.

Et ester: [2122-70-5].
$C_{14}H_{14}O_2$ M 214.263
Used to promote root growth and to prevent sprouting from tree trunks. Oil. Bp_{20} 220-225°, $Bp_{0.1\text{-}0.2}$ 100-105°.
▷ QJ0948000.

Chloride: [5121-00-6].
$C_{12}H_9ClO$ M 204.655
Yellow oil. Bp_{23} 188°, $Bp_{0.05}$ 148-155°.

Amide: [86-86-2].
$C_{12}H_{11}NO$ M 185.225
Needles. Subl. 181-183°.
▷ QJ0590000.

Nitrile: [132-75-2]. *1-(Cyanomethyl)naphthalene*

$C_{12}H_9N$ M 167.210
Waxy solid. Mp 32-33°. Bp 162-164°, Bp_{18} 191-194°. n_D^{20} 1.6192.
▷ AM1240000.

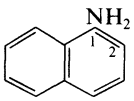
[61-31-4, 15165-79-4]

Gardiner, F.E. *et al*, *Science* (*Washington, D.C.*), 1939, **90**, 208 (*use*)
Ogata, Y. *et al*, *J. Am. Chem. Soc.*, 1950, **72**, 4302 (*synth*)
Hitzenberger, G. *et al*, *Wien. Med. Wochenschr.*, 1958, **108**, 504; 1959, **109**, 707 (*pharmacol*)
Org. Synth., 1970, **50**, 77 (*synth, ester*)
Gore, R.C. *et al*, *J. Assoc. Off. Anal. Chem.*, 1971, **54**, 1040 (*uv, ir*)
Pande, C.S. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **262**, 365; 1973, **265**, 31 (*detn, Zr, Th*)
Rajan, S.S., *Acta Crystallogr., Sect. B*, 1978, **34**, 998 (*cryst struct*)
Pesticide Manual, 6th Ed., 1979, 376.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NAK000, NAK500, NBD500.

1-Naphthylamine, 8CI N-00041

1-Naphthalenamine, 9CI. α-Naphthylamine. 1-Aminonaphthalene

[134-32-7]



$C_{10}H_9N$ M 143.188
Coupling agent for manuf. of azo dyestuffs. Used as aq. soln. for photometric detn. of $NO_2^{\ominus}$ (λ_{max} 520 nm, ε 40000) (Griess method). Reagent for the hplc detn. of fatty acids. Needles (EtOH aq. or Et_2O). V. sol. EtOH, Et_2O, v. spar. sol. H_2O. Mp 50°. Bp 300.8°. pK_a 10.00. Sublimes, steam-volatile.

▷ Toxic by inhalation or skin absorption. Possible carcinogen; samples often contaminated with the highly carcinogenic 2-isomer. Use controlled in the U.K. by the Carcinogenic Substances Regulations 1967. QM1400000.

B,HCl: Sol. EtOH, sl. sol. H_2O. Sublimes.
Picrate: Greenish-yellow prisms (EtOH). Mp 182° dec.
Ac: [575-36-0]. N-*1-Naphthylacetamide*. N-*1-Naphthalenylacetamide, 9CI*
$C_{12}H_{11}NO$ M 185.225
Used as 0.15*M* soln. in $CHCl_3$ for extraction-photometric detn. of Au(*III*) (λ_{max} 395 nm, ε 4100, $Br^{\ominus}$/5*M* HCl). Cryst. (EtOH). Sol. $CHCl_3$. V. sol. EtOH; mod. sol. hot H_2O. Mp 160°.
N-*Me:* Oil. Bp 293-296°, Bp_{16} 175-176°. Darkens in air.
N-*Et:*
$C_{12}H_{13}N$ M 171.241
Bp 325-330°, Bp_{10} 159.5-160.5°.
N-*Et; B,HCl:* [36101-15-2].
Mp 193°.
N-*Di-Et:* [84-95-7].
d_{20}^{20} 1.015. Bp 285°, Bp 290°, Bp_{30} 155-165°. Darkens in air.
N-*Ph:* see N-*Phenyl-1-naphthylamine, P-00151*
Benzoyl:
$C_{17}H_{13}NO$ M 247.296
Needles (EtOH or AcOH). Sol. AcOH; spar. sol. EtOH. Mp 162°.
N-(*4-Methylbenzenesulfonyl*): Prisms (EtOH). Mp 147°.
N-*2,4-Dinitrophenyl:* Orange-red needles (EtOH). Mp 190.5°.

West, R.W., *J. Chem. Soc.*, 1925, **127**, 494 (*synth*)
Emerson, W.S. *et al*, *J. Am. Chem. Soc.*, 1941, **63**, 749 (*deriv*)
Ahriner, R.L. *et al*, *Chem. Rev.*, 1944, **35**, 351 (*synth*)
Vogel, A.I., *Practical Organic Chemistry*, Longmans Green, N.Y., 1948, 546 (*synth*)
Barnes, H. *et al*, *Analyst* (*London*), 1951, **79**, 599 (*detn, $NO_2^{\ominus}$*)
Snyder, H.R., *J. Am. Chem. Soc.*, 1953, **75**, 2014 (*detn, synth*)
Albert, F.M. *et al*, *Fresenius' Z. Anal. Chem.*, 1964, **202**, 420 (*detn, V*)
CRC Atlas of Spectral Data and Physical Constants, 1973 (*ir, uv, ms, nmr*)
Fox, J.B., *Anal. Chem.*, 1979, **51**, 1493 (*detn, $NO_2^{\ominus}$*)
Ikeda, M. *et al*, *J. Chromatogr.*, 1983, **272**, 251 (*use*)
Patel, K.S. *et al*, *Anal. Chem.*, 1986, **58**, 1547 (*detn, Au*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 407.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NBE000.

2-Naphthylamine, 8CI N-00042

2-Naphthalenamine, 9CI. β-Naphthylamine. 2-Aminonaphthalene

[91-59-8]

$C_{10}H_9N$ M 143.188
Formerly used as a coupling agent for the prep. of azo dyestuffs and in rubber manuf. Manuf. and use now banned owing to carcinogenic properties. Acid-base fluorescent indicator (pH range: 2.8-4.4). Leaflets (H_2O). Sol. H_2O. Mp 113°. Bp 294°. pK_a 9.69. Steam-volatile.

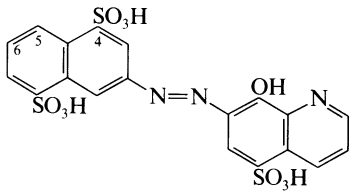
▷ Human carcinogen. Use in the UK prohibited under the Carcinogenic Substances Regulations 1967. QM2100000.

B,HCl: [612-52-2].
Sol. H_2O, EtOH, insol. C_6H_6. Mp 254°.
Picrate: [20717-84-4].
Yellow needles (H_2O). Mp 195° dec.
Ac: [581-97-5].
$C_{12}H_{11}NO$ M 185.225
Leaflets (H_2O or EtOH). Mp 134°.
▷ AC6482700.
Benzoyl: [18271-22-2].
$C_{17}H_{13}NO$ M 247.296
Mp 163°.
4-Methylbenzenesulfonyl: Needles and leaflets (EtOH). Mp 133°.
N-*Me:* [2216-67-3].
$C_{11}H_{11}N$ M 157.215
Oil. Bp 317°, Bp_{12} 165-170°.
N-*Me; B,HCl:* Mp 182-183°.
N-*Et:* [2437-03-8].
$C_{12}H_{13}N$ M 171.241
Mp 26-28°. Bp 316-317°, $Bp_{0.1}$ 102-103°.
N-*Et; B,HCl:* Plates. Mp 138°.
N-*Di-Et:* [13672-17-8].
$C_{14}H_{17}N$ M 199.295
Oil. d_{20}^{20} 1.022. Bp_{717} 316°, $Bp_{0.2}$ 122-128°.
N-*Di-Et; B,HCl:* Mp 177-178°.

Ger. Pat., 117 471, (1901); *Chem. Zentralbl.*, 1901, **1**, 349 (*synth*)
Vogel, A.I., *Practical Organic Chemistry*, Longmans Green, N.Y., 1948, 547 (*synth*)
Snyder, H.R. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 2014 (*synth*)
Ainsworth, C., *J. Am. Chem. Soc.*, 1956, **78**, 1635 (*derivs*)
Parfitt, R.T., *J. Chem. Soc. C*, 1967, 140 (*deriv*)
CRC Atlas of Spectral Data and Physical Constants, 1973 (*ir, uv*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*use, ind*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 407.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NBE500.

Naphthylazoxine 4S N-00043

8-Hydroxy-7-[(4-sulfo-2-naphthalenyl)azo]-5-quinolinesulfonic acid. 7-(4-Sulfo-2-naphthylazo)-8-hydroxy-5-quinolinesulfonic acid



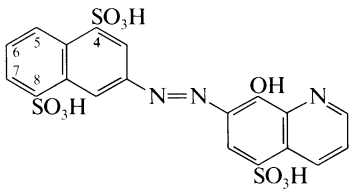
$C_{19}H_{13}N_3O_7S_2$ M 459.460

Used as a 0.1% aq. soln. as metallochromic indicator for titrimetric detn. of Ga, In. Dark red cryst. powder. Sol. H_2O.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*detn, Ga, In*)

Naphthylazoxine 4,8S N-00044

3-[(8-Hydroxy-5-sulfo-7-quinolinyl)azo]-1,5-naphthalenedisulfonic acid. 7-(4,8-Disulfo-2-naphthylazo)-8-hydroxy-5-quinolinesulfonic acid



$C_{19}H_{13}N_3O_{10}S_3$ M 539.524

Used as a 0.5-50m*M* aq. soln. as metallochromic indicator for titrimetric detn. of Ga, In; photometric detn. of Sc (λ_{max} 420 nm, ε 14500). Dark red cryst. Sol. H_2O, alkalis, conc. acids, DMF; spar. sol. EtOH; insol. C_6H_6.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1962, **17**, 447, 831; 1965, **20**, 1069 (*synth, detn, Ga, Sc, In*)

Naphthylazoxine 5S N-00045

8-Hydroxy-7-[(5-sulfo-2-naphthalenyl)azo]-5-quinolinesulfonic acid. 7-(5-Sulfo-2-naphthylazo)-8-hydroquinoline-5-sulfonic acid

$C_{19}H_{13}N_3O_7S_2$ M 459.460

Used as 0.5-50m*M* aq. soln. as metallochromic indicator for titrimetric detn. of Ga, In; photometric detn. of Sc (λ_{max} 420 nm, ε 14100). Dark red cryst. Sol. H_2O.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1962, **17**, 447, 831; 1965, **20**, 1069 (*synth, detn, In, Ga, Sc*)

Naphthylazoxine 5,7S N-00046

6-[(8-Hydroxy-5-sulfo-7-quinolinyl)azo]-1,3-naphthalenedisulfonic acid, 9CI. 7-(5,7-Disulfo-2-naphthylazo)-8-hydroxy-5-quinolinesulfonic acid

[6098-94-8]

$C_{19}H_{13}N_3O_{10}S_3$ M 539.524

Used as a 0.5-50m*M* aq. soln. as metallochromic indicator for titrimetric detn. of Ga, In, Tl. Dark red cryst. Sol. H_2O.

Busev, A.I. *et al*, *Uzb. Khim. Zh.*, 1962, **6**, 24; *CA*, **57**, 15799 (*detn, Tl*)

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1962, **17**, 447, 831 (*synth, detn, Ga, In*)

Naphthylazoxine 6S N-00047

8-Hydroxy-7-[(6-sulfo-2-naphthalenyl)azo]-5-quinolinesulfonic acid, 9CI. 7-(6-Sulfo-2-naphthylazo)-8-hydroxyquinoline-5-sulfonic acid. Naphthylazoxine S

[56932-43-5]

$C_{19}H_{13}N_3O_7S_2$ M 459.460

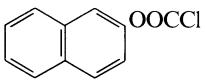
Used as a 0.5% aq. soln. as metallochromic indicator for titrimetric detn. of Ca, Cd, Cu, Hg, Zn. Orange-red cryst. Sol. H_2O.

Fritz, J.S. *et al*, *Anal. Chem.*, 1961, **33**, 1381 (*use*)
Vytras, K. *et al*, *Talanta*, 1975, **22**, 529 (*use*)

2-Naphthyl chloroformate N-00048

2-Naphthalenyl carbonochloridate, 9CI

[7693-50-7]



$C_{11}H_7ClO_2$ M 206.628

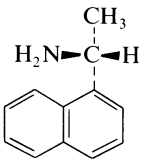
Reagent for the hplc resoln. of pharmaceutical amines. Cryst. (pet. ether). Mp 66°. Bp_9 150-152°.

Wolf, G. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 2080 (*synth*)
Guebitz, G. *et al*, *J. Chromatogr.*, 1981, **218**, 51 (*use*)
Doyle, T.D. *et al*, *J. Liq. Chromatogr.*, 1986, **9**, 455 (*use*)

1-(1-Naphthyl)ethylamine N-00049

α-Methyl-1-naphthalenemethanamine, 9CI. 1-α-Aminoethylnaphthalene. 1-Methyl-α-naphthylmethylamine. 1-Amino-1-(1-naphthyl)ethene

[3309-13-5]



(*R*)-*form*

$C_{12}H_{13}N$ M 171.241

(R)-form [3886-70-2]

Used to determine the enantiomeric purity of org. acids. Bp_{11} 153°. $[\alpha]_D^{17}$ +82.8°, $[\alpha]_D^{19}$ +61.6° (EtOH).

Oxalate: Mp 240°.

(S)-form [10420-89-0]

Resolving agent. $[\alpha]_D^{25}$ −80.8°, $[\alpha]_D^{25}$ −60.8° (EtOH).

B,HCl: Cryst. (H_2O). $[\alpha]_D^{18}$ +3.9° (c, 3 in H_2O).

Oxalate: Mp 232° dec.

(±)-form [42882-31-5]

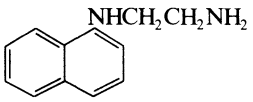
Bp_{15} 156°.

Oxalate: Mp 221° dec.

Samuelsson, E., *CA*, 1924, **18**, 1833.
Blicke, F.F. *et al*, *J. Am. Chem. Soc.*, 1939, **61**, 1780.
Warren, M.E. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 1757 (*abs config*)
Halpern, B. *et al*, *J. Chem. Soc., Chem. Commun.*, 1966, 34 (*resoln*)
Murano, A. *et al*, *Agric. Biol. Chem.*, 1973, **76**, 437 (*resoln*)
Menicagli, R. *et al*, *Chem. Ind. (London)*, 1974, 920 (*abs config*)
Smith, H.E. *et al*, *J. Org. Chem.*, 1974, **39**, 2309.
Pirkle, W.H. *et al*, *J. Org. Chem.*, 1974, **39**, 3904 (*nmr*)
Eberhardt, R. *et al*, *Tetrahedron Lett.*, 1974, 4365 (*use*)
Org. Synth., 1976, **55**, 80 (*synth*)
Westley, J.W. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 6057 (*resoln*)
Trost, B.M. *et al*, *J. Chem. Soc., Chem. Commun.*, 1978, 436.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 355.

N-(1-Naphthyl)ethylenediamine, 8CI N-00050

N-*1-Naphthalenyl-1,2-ethanediamine*, *9CI*. *1-Amino-2-(α-naphthylamino)ethane*



$C_{12}H_{14}N_2$ M 186.256

Used in photography. Used as 0.1% aq. soln. for extraction-photometric detn. of $NO_2^{\ominus}$ (λ_{max} 545 nm, ε 60400) (formation of azo dye). Viscous, straw-yellow liq. Sol. H_2O. d_4^{25} 1.114. Bp *ca.* 320° dec., Bp_9 204°.

▷ Carcinogen.

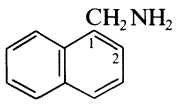
B,2HCl: [1465-25-4].
Mp 188-190°, Mp 209-210°.
▷ KV5330000.

Bratton, A.C. *et al*, *J. Biol. Chem.*, 1939, **128**, 537 (*synth*)
Natetskaya, G. *et al*, *CA*, 1969, **71**, 12867s (*use*)
East Ger. Pat., 69 131, (1969); *CA*, **72**, 78764h (*synth*)
Chaube, A. *et al*, *Talanta*, 1984, **31**, 391 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NBH500.

1-Naphthylmethylamine N-00051

1-Naphthalenemethanamine, *9CI*. *1-Naphthalenemethylamine*, *8CI*. *1-(Aminomethyl)naphthalene*

[118-31-0]



$C_{11}H_{11}N$ M 157.215

Liq. d 1.073. Bp 290-293°, $Bp_{0.3}$ 135°. n_D^{20} 1.6429.

B,HCl: [39110-74-2].
Mp 262-264°.

N-*Ac:* [19351-91-8].
$C_{13}H_{13}NO$ M 199.252
Needles (ligroin). Mp 134°.

N-*Methyl:* [14489-75-9].
Used as fluorescent reagent for hplc analysis of isocyanates. Liq. $Bp_{0.3}$ 90°, $Bp_{0.02}$ 71-81°.

N-*Methyl, B,HCl:* [65473-13-4].
Cryst. ($EtOH/Et_2O$). Mp 189.5-190°.

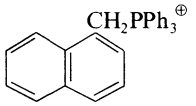
N-*Benzyl:* [14393-12-5]. N-*Benzyl-1-naphthalenemethylamine*, *8CI*
$C_{18}H_{17}N$ M 247.339
Used for gravimetric detn. of $NO_3^{\ominus}$. Mp 167° (as hydrochloride).

[17018-72-3]

Blicke, F.F. *et al*, *J. Am. Chem. Soc.*, 1939, **61**, 1780.
Baltzly, R. *et al*, *J. Am. Chem. Soc.*, 1943, **65**, 1984 (*synth, N-methyl*)
Dahn, H. *et al*, *Helv. Chim. Acta*, 1952, **35**, 1348 (*synth, N-methyl*)
Chapman, N.B. *et al*, *J. Chem. Soc.*, 1953, 1865 (*synth, N-methyl*)
Mandel, L. *et al*, *Bull. Soc. Chim. Fr.*, 1959, 352.
Najer, H. *et al*, *J. Org. Chem.*, 1963, **28**, 574 (*synth, bibl*)
Hutton, R.C. *et al*, *J. Chem. Soc. A*, 1966, 1573 (*N-benzyl, use*)
Kormos, L.H. *et al*, *Anal. Chem.*, 1981, **53**, 1122 (*synth, use, N-methyl*)
Ebmeyer, F. *et al*, *Chem. Ber.*, 1989, **122**, 1725 (*synth, nmr*)

(1-Naphthylmethyl) triphenylphosphonium(1+) N-00052

(*1-Naphthalenylmethyl*)*triphenylphosphonium*(*1+*), *9CI*



$C_{29}H_{24}P^{\oplus}$ M 403.482 (ion)

Chloride: [23277-00-1].
$C_{29}H_{24}ClP$ M 438.935
Source of ylide. Used as 0.5% aq. soln. for extraction-photometric detn. of Cr(*VI*) (λ_{max} 355 nm, ε 2900, 1,2-dichlorobenzene) and Bi (as $BiI_4^{\ominus}$). Plates (EtOH). Sol. H_2O. Mp 291-301°. NaOMe → ylide.

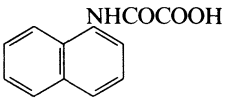
Bromide: [39171-65-8].
$C_{29}H_{24}BrP$ M 483.386
Source of ylide. Cryst. Mp 286-288°. NaOMe → ylide.

Ylide: [60824-80-8]. *1-Naphthalenylmethylenetriphenylphosphorane*. (*1-Naphthylmethylene*)*triphenylphosphorane*
$C_{29}H_{23}P$ M 402.474
Used in Wittig reactions.

Francis, G.W., *Acta Chem. Scand.*, 1972, **26**, 2969 (*ylide, use*)
Yasuhara, A. *et al*, *Bull. Chem. Soc. Jpn.*, 1972, **45**, 3638 (*chloride, synth, detn, Bi, Cr*)
Tinnemans, A.H.A. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1976, 1104 (*bromide, use*)
Reid, W. *et al*, *Justus Liebigs Ann. Chem.*, 1976, 1415 (*ylide, use*)
Burns, D.T. *et al*, *Anal. Chim. Acta*, 1985, **177**, 253; 1988, **244**, 305 (*detn, Cr, Bi*)

1-Naphthyloxamic acid, 8CI N-00053

[21660-76-4]



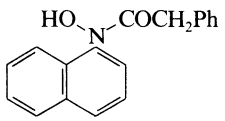
$C_{12}H_9NO_3$ M 215.208

Used for gravimetric detn. of Cu; complexing agent for Cu. Cryst.

Tandon, J.P. *et al*, *Indian J. Chem.*, 1968, **6**, 334 (*detn, Cu*)
Prakash, O. *et al*, *CA*, 1969, **70**, 33964r (*use*)

N-1-Naphthylphenylacetohydroxamic acid N-00054

[36237-38-4]



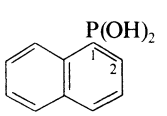
$C_{18}H_{15}NO_2$ M 277.322

Used as 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 505 nm, ε 4000, 4*M* HCl). Cryst. Sol. $CHCl_3$, C_6H_6.

Gupta, V.K. *et al*, *J. Chem. Eng. Data*, 1972, **17**, 248 (*synth*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)

1-Naphthylphosphonous acid N-00055

1-Naphthalenylphosphonous acid, *9CI*



$C_{10}H_9O_2P$ M 192.154

Free acid exists as the phosphoryl tautomer.

Di-Me ester: Dimethyl 1-naphthylphosphonite
$C_{12}H_{13}O_2P$ M 220.207
Liq. d_0^{20} 1.16. n_D^{20} 1.6096.

Di-Et ester: [84372-47-4]. *Diethyl 1-naphthylphosphonite*
$C_{14}H_{17}O_2P$ M 248.261
Liq. d_0^{20} 1.10. Bp_{10} 167-168°. n_D^{20} 1.5848.

Diisopropyl ester: Diisopropyl 1-naphthylphosphonite
$C_{16}H_{21}O_2P$ M 276.314
Liq. d_0^{20} 1.07. Bp_{12} 176-178°. n_D^{20} 1.5648.

Di-Ph ester: Diphenyl 1-naphthylphosphonite
$C_{22}H_{17}O_2P$ M 344.349
Liq. d_0^{15} 1.19. Bp_{10} 245-247°. n_D^{15} 1.6178.

Dichloride: [36043-00-2]. *Dichloro-1-naphthylphosphine*
$C_{10}H_7Cl_2P$ M 229.044
Used as a complexing reagent for Ir(*III*), Rh(*III*). Solid. Sol. C_6H_6, $CHCl_3$. Mp 55°. Bp_{10} 180°, $Bp_{0.5}$ 135-137°.

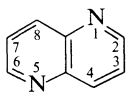
Dibromide: [32186-90-6]. *Dibromo-1-naphthylphosphine*
$C_{10}H_7Br_2P$ M 317.947
Solid. Mp 65-68°.

Kamai, G. *et al*, *CA*, 1957, **51**, 11273 (*ester*)
Green, M. *et al*, *J. Chem. Soc.*, 1958, 3129 (*dichloride, ester, synth*)
Kamai, G. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 3311), 1961, **31**, 3550 (*esters*)
Duff, J.M. *et al*, *J. Chem. Soc., Dalton Trans.*, 1972, 2219 (*dichloride, synth, pmr*)
Weinberg, K.G., *J. Org. Chem.*, 1975, **40**, 3586 (*dichloride*)

1,5-Naphthyridine, 9CI N-00056

Pyrido[3,2-b]pyridine. 1,5-Diazanaphthalene

[254-79-5]



$C_8H_6N_2$ M 130.149
Used as a 0.75*M* soln. in 1*M* HCl for microcryst. detn. of Au and Pt group metals. Yellow needles (pet. ether). V. sol. all solvs. Mp 75°. Bp_{15} 112°. Readily subl. Steam-volatile.

B,H$_2$SO$_4$: Sol. H_2O, EtOH. Mp *ca.* 218° dec.
Picrate: Sol. H_2O, EtOH. Mp 200°.
1-Oxide: [27305-48-2].
$C_8H_6N_2O$ M 146.148
Cryst. (cyclohexane). Mp 125-127°.
1,5-Dioxide: [27305-49-3].
$C_8H_6N_2O_2$ M 162.148
Yellow clusters (EtOH). Mp 299-301°.

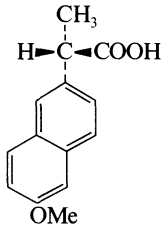
[38710-24-6]

Allan, C.F.H., *Chem. Rev.*, 1950, **47**, 275 (*rev*)
Schaeffer, H.E. *et al*, *Microchem. J.*, 1969, **14**, 415 (*use*)
Paudler, W.W., *Adv. Heterocycl. Chem.*, 1973, **11**, 123 (*rev*)

Naproxen, BAN, USAN, INN, JAN N-00057

6-Methoxy-α-methyl-2-naphthaleneacetic acid, 9CI, 8CI. 2-(6-Methoxy-2-naphthyl)propanoic acid. Naprosyn. Methoxypropriocin. Equiproxen. Numerous proprietary names

[23981-80-8]



$C_{14}H_{14}O_3$ M 230.263

(S)-form [22204-53-1]
Antiinflammatory, analgesic, antipyretic. Used as derivatisation reagent for gc resolution of amino acid methyl esters. Mp 155.3°. $[\alpha]_D$ +65.5° (c, 1 in $CHCl_3$).
▷ UF5275000.

Na salt: [26159-34-2]. *Naproxen Sodium, USAN. Anaprox. Other synonyms*
▷ QJ1047000.

(±)-form [26159-31-9]
Mp 150-151°.

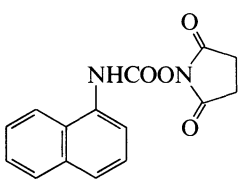
[70981-66-7]

Harrison, I.T. *et al*, *J. Med. Chem.*, 1970, **13**, 203 (*synth*)
Riegl, J. *et al*, *J. Med. Chem.*, 1974, **17**, 377 (*abs config*)
Dorfman, R.I., *Arzneim.-Forsch.*, 1975, **25**, 281 (*rev*)
Lombardino, J.G. *et al*, *Arzneim.-Forsch.*, 1975, **25**, 1629 (*props*)
Elden, F. *et al*, *Pharm. Ztg.*, 1978, **123**, 1796 (*uv, ir, pmr*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2672, 2673.
Arai, N. *et al*, *Tetrahedron Lett.*, 1983, **24**, 1531 (*synth*)
Ravikumar, K. *et al*, *Acta Crystallogr., Sect. C*, 1985, **41**, 280 (*cryst struct*)
Gu, Q.-M. *et al*, *Tetrahedron Lett.*, 1986, **27**, 1763 (*synth*)
Piccolo, O. *et al*, *J. Org. Chem.*, 1987, **52**, 10 (*synth*)
Castaldi, G. *et al*, *J. Org. Chem.*, 1987, **52**, 3018 (*synth*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 3107.
Buyuktimkin, N. *et al*, *Chromatographia*, 1988, **25**, 927 (*use*)
Shishido, K. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1990, 469 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MFA500, NBO550.

1-[[(1-Napthalenylamino)carbonyl]oxy]-2,5-pyrrolidinedione, 9CI N-00058

Succinimide α-naphthylcarbamate. SINC

[103835-64-9]



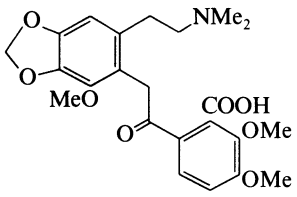
$C_{15}H_{12}N_2O_4$ M 284.271
Reagent for fluorimetric anal. of amines and amino acids. Cryst. (C_6H_6/Me_2CO).

Nimura, N. *et al*, *Anal. Chem.*, 1986, **58**, 2372 (*synth, use*)
Iwaki, K. *et al*, *J. Chromatogr.*, 1987, **407**, 273 (*use*)

Narceine N-00059

6-[[6-[2-(Dimethylamino)ethyl]-4-methoxy-1,3-benzodioxol-5-yl]acetyl]-2,3-dimethoxybenzoic acid, 9CI

[131-28-2]



$C_{23}H_{27}NO_8$ M 445.468

Alkaloid from *Papaver somniferum* (Papaveraceae). Respiratory stimulant, antitussive agent. Shows no analgesic activity. Antihypertensive agent. Intestinal smooth muscle stimulant. Reagent for I_2. Cryst. (MeOH/Et_2O or H_2O). Mp 176-178° (trihydrate), Mp 145° (anhyd.).

B,HCl: Mp 192-193°.

Picrate: Mp 195°.

B,MeI: Mp 207°.

N-*De-Me:* [483-89-6]. ***Nornarceine***

$C_{22}H_{25}NO_8$ M 431.441

Alkaloid from *P. somniferum* (Papaveraceae). Mp 229° (223-225°).

Rabe, P. *et al*, *Justus Liebigs Ann. Chem.*, 1910, **377**, 223 (*struct, bibl*)

Addinall, C.R. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 1202, 2153 (*isol, synth*)

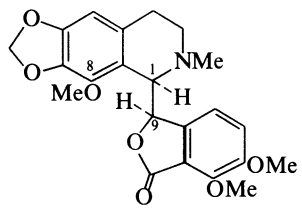
Briggs, L.H. *et al*, *Anal. Chem.*, 1957, **29**, 904 (*ir*)

Klötzer, W. *et al*, *Monatsh. Chem.*, 1972, **103**, 1210 (*synth, uv, ir, pmr*)

Blaskó, G. *et al*, *J. Org. Chem.*, 1982, **47**, 880 (*synth, uv, pmr*)

Narcotine N-00060

6,7-Dimethoxy-3-(5,6,7,8-tetrahydro-4-methoxy-6-methyl-1,3-dioxolo[4,5-g]isoquinolin-5-yl)-1(3H)-isobenzofuranone, 9CI. ***Noscapine,*** **BAN, INN.** *Gnoscopine. Opianine. Numerous proprietary names*



(*1R,9R*)-*form*

$C_{22}H_{23}NO_7$ M 413.426

(1R,9R)-form [3860-46-6]

(−) *β-Narcotine*

Synthetic. Mp 181-182° (176°). $[\alpha]_D^{22}$ −100° (c, 1 in dioxan), $[\alpha]_D^{20}$ −87.5° (c, 1 in $CHCl_3$).

▷ NP7224500.

(1R,9S)-form [128-62-1]

(−)-α-*Narcotine*

Alkaloid from *Corydalis cava* (*C. tuberosa*), *Papaver fugax*, *P. paeoniflorum*, *P. persicum* and *P. somniferum*. By prod. in extraction of morphine from opium. One of the first alkaloids to be isol. (Fumariaceae, Papaveraceae). Antitussive agent, of similar potency to and poss. with some advantages over codeine. Mod. effective smooth muscle relaxant. Reference material used in elemental microanalysis. Stout needles (EtOH). Mp 176°. $[\alpha]_D$ −200° ($CHCl_3$). Polymorphic. This is prob. the only nat. occurring stereoisomer but it readily epimerises to (−) β-Narcotine which may be isol. as an artifact. Opt. rotn. highly solv. and concn. dependent.

▷ RD2625000.

[912-60-7]

Robiquet, M., *Ann. Chim.* (*Paris*), 1817, **5**, 275 (*isol*)

Perkin, W.H. *et al*, *J. Chem. Soc.*, 1911, **99**, 775 (*synth, resoln*)

Ohta, M. *et al*, *Tetrahedron Lett.*, 1963, 859 (*abs config*)

Ohta, M. *et al*, *Chem. Pharm. Bull.*, 1964, **12**, 1080 (*isol*)

Battersby, A.R. *et al*, *J. Chem. Soc.*, 1965, 1087 (*abs config*)

Snatzke, G. *et al*, *Tetrahedron*, 1969, **25**, 5059 (*ord*)

Analyst (*London*), 1972, **97**, 740 (*microanal*)

Kametani, T. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1977, 374 (*synth*)

Shono, T. *et al*, *J. Org. Chem.*, 1983, **48**, 1621 (*synth*)

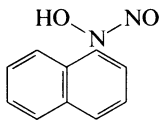
Moss, D.S. *et al*, *Acta Crystallogr., Sect. C*, 1984, **40**, 1960 (*cryst struct*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NBP275, NOA000, NOA500.

Neocupferron N-00061

N-*Hydroxy*-N-*nitroso-1-naphthylamine, 9CI. Nitrosonaphthylhydroxylamine*

[5487-14-9]



$C_{10}H_8N_2O_2$ M 188.185

Strictly, the name Neocupferron applies to the ammonium salt. Cryst. Mp 55°.

NH_4 salt: [1013-20-3].

Used as 0.2*M* aq. soln. for gravimetric detn. of Cu, Fe Al, rare earth elements. Yellowish cryst. Sol. H_2O (6.0 g per 100 cm^3 at 25°). Mp 125-126° dec.

▷ NC4375000.

Baudisch, O. *et al*, *Fresenius' Z. Anal. Chem.*, 1940, **119**, 241 (*synth, detn, Cu, Al, Fe*)

Popov, A.I. *et al*, *Anal. Chem.*, 1954, **26**, 883 (*detn, rare earth elements*)

Wendlandt, W.W. *et al*, *Anal. Chim. Acta*, 1955, **13**, 550 (*thermolysis*)

Minisci, F. *et al*, *Chim. Ind.* (*Milan*), 1964, **46**, 423 (*synth*)

Neocuprizone N-00062

Ethanedione bis[(3-ethoxy-1-methyl-3-oxopropylidene) hydrazide], 9CI

[20260-35-9]

$C_{14}H_{22}N_4O_6$ M 342.351

Used as a 0.5% soln. in 50% MeOH for photometric detn. of Cu (λ_{max} 585 nm; ε 13900). Cryst. Hydrolyses on heating with alkalis and acids.

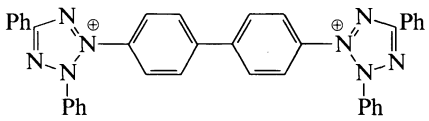
Ackermann, G. *et al*, *Fresenius' Z. Anal. Chem.*, 1968, **234**, 409.

Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976.

Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982.

Neotetrazolium(2+) N-00063

3,3'-[1,1'-Biphenyl]-4,4'-diylbis[2,5-diphenyl-2H-tetrazolium] (2+), 9CI



$C_{38}H_{28}N_8^{2\oplus}$ M 596.693 (ion)

Dichloride: [298-95-3].

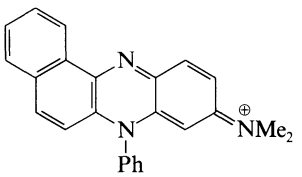
$C_{38}H_{28}Cl_2N_8$ M 667.598

Used as 0.4% soln. in aq. EtOH for extraction-photometric detn. of Co (λ_{max} 620 nm, ε 64000), Mo (λ_{max} 420 nm, ε 14300). Cryst. Sol. EtOH. Mp 230° dec.

Singh, A.K. *et al*, *Anal. Chim. Acta*, 1985, **172**, 303 (*detn, Co*)
Singh, A.K. *et al*, *Analyst (London)*, 1985, **110**, 751 (*detn, Mo*)

Neutral blue N-00064

9-(Dimethylamino)-7-phenylbenzo[a]*phenazinium(1+), 9CI. C.I. 50150 basic dye*



$C_{24}H_{20}N_3^{\oplus}$ M 350.442 (ion)

Strictly the name Neutral blue applies to the chloride.

Chloride: [6363-69-5].

$C_{24}H_{20}ClN_3$ M 385.895

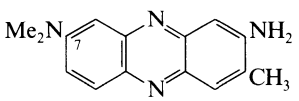
Used as redox indicator. Cryst. (ethylene dibromide). Sol. H_2O, EtOH, conc. H_2SO_4. E° +0.170 V (30°).

Stiehler, R.D. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 4097 (*props*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

Neutral red N-00065

N^8,N^8,3-Trimethyl-2,8-phenazinediamine, 9CI. C.I. Basic red 5. Toluylene red. C.I. 50040. Nuclear fast red (basic dye)

[366-13-2]



$C_{15}H_{16}N_4$ M 252.318

Strictly, the name Neutral red applies to the hydrochloride.

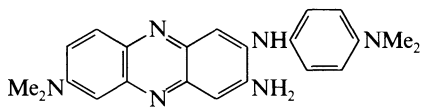
B,HCl: [553-24-2].

Histological stain used as 0.1% aq. soln. as indicator in bromatometric titrimetric detn. of As(*III*); acid-base indicator (pH range: 6.8-8.0; colour change: orange → yellow); photometric detn. of $Cl^{\ominus}$, Hg(*II*), $SCN^{\ominus}$, $ClO_4^{\ominus}$, $I^{\ominus}$ (λ_{max} 552 nm, ε 3300, $CHCl_3$). Black or v. dark green powder. Sol. H_2O, EtOH. Mp 290° dec. λ_{max} 540 nm. E° −0.34V (pH 7).

Tsubouchi, M., *Anal. Chim. Acta*, 1971, **54**, 143 (*detn, $SCN^{\ominus}$, $ClO_4^{\ominus}$, Hg*)
Colour Index, 3rd Ed., 1971, **4**, 4446 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*detn, $I^{\ominus}$, ind*)
Venkateswara Rao, N. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **285**, 125 (*detn, As*)
Ramana, P.V. *et al*, *J. Indian Chem. Soc.*, 1980, **57**, 235 (*detn, As*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AJQ250.

Neutral violet N-00066

N^2-[4-(Dimethylamino)phenyl]-N^7,N^7-dimethyl-2,3,7-phenazinetriamine. 3-Amino-7-(dimethylamino)-2-[4-(dimethylamino)anilino]phenazine. C.I. 50030



$C_{22}H_{24}N_6$ M 372.472

Azine dye. Strictly, the name Neutral violet applies to the hydrochloride.

B,HCl: [3562-46-7].

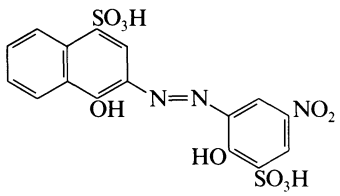
Used as an indicator (0.1% aq. soln.) in bromatometric titrimetric detn. of As(*III*). Dark reddish blue cryst. powder. Sol. H_2O.

Venkateswara Rao, N. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **285**, 125 (*use*)
Ramana, P.V. *et al*, *J. Indian Chem. Soc.*, 1980, **57**, 235 (*use*)

Nevazol NS N-00067

4-Hydroxy-3-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-1-naphthalenesulfonic acid, 8CI

[24801-50-1]



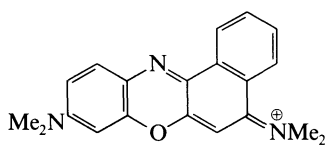
$C_{16}H_{11}N_3O_{10}S_2$ M 469.409

Used as 0.3% aq. soln. for photometric detn. of V(*IV*) (λ_{max} 565 nm, ε 15000); as a 0.6m*M* aq. soln. for photometric detn. of Ga (λ_{max} 540 nm, ε 15400); as 0.1% aq. soln. for photometric detn. of Al (λ_{max} 540 nm, ε 10800, pH 2.5-4). Red-brown cryst. Sol. H_2O, EtOH. pK_{a2} 3.46; pK_{a3} 9.1.

Basargin, N.N. *et al*, *Zavod. Lab.*, 1969, **35**, 411 (*synth, use, detn, V*)
Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2350 (*detn, Ga*)
Ermolenko, L.V. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 1030 (*synth, detn, Al*)

New methylene blue NCG N-00068

5,9-Bis(dimethylamino)benzo[a]*phenoxazin-7-ium(1+). N-[9-(Dimethylamino)-5H-benzo*[a]*phenoxazin-5-ylidene]-N-methylmethanaminium(1+). C.I. 51195*



$C_{20}H_{20}N_3O^{\oplus}$ M 318.397 (ion)

Basic dye.

Chloride: [62770-30-3].

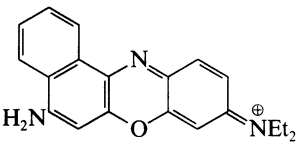
$C_{20}H_{20}ClN_3O$ M 353.850

Used as redox indicator (pH range: 3.85-8.50). Cryst. Sol. H_2O, EtOH.

Lefort, M., *C. R. Seances Soc. Biol. Ses Fil.*, 1932, **194**, 711.
Colour Index, 3rd Edn., 1971, **4**, 4465 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

Nile blue A N-00069

5-Amino-9-(diethylamino)benzo[a]*phenoxazin-7-ium(1+), 9CI. C.I. Basic blue 12. C.I. 51180. Nile blue*



$C_{20}H_{20}N_3O^{\oplus}$ M 318.397 (ion)

Basic dye. Strictly the name Nile Blue A applies to the chloride salt.

Chloride: [2381-85-3].

$C_{20}H_{20}ClN_3O$ M 353.850

Used as a 0.005% soln. in 0.12*M* H_2SO_4 for extraction-photometric detn. of B (as $BF_4^{\ominus}$), Ge (λ_{max} 626 nm, ε 130000, $CHCl_3$), $ReO_4^{\ominus}$, As, Ta, Sn, Ag, Br. Bright blue cryst. Sol. H_2O, EtOH. Mp >300° dec.

Sulfate (2:1): [3625-57-8].

$C_{40}H_{40}N_6O_6S$ M 732.859

Biological stain.

▷ Poison.

5-N-Benzyl: Nile blue 2B. 9-(Diethylamino)-5-[(phenylmethyl)amino]benzo[a]*phenoxazin-7-ium(1+), 9CI. C.I. 51185*

$C_{27}H_{26}N_3O^{\oplus}$ M 408.522 (ion)

Strictly, the name Nile blue 2B applies to the chloride.

5-N-Benzyl, chloride: [4451-88-1].

$C_{27}H_{26}ClN_3O$ M 443.975

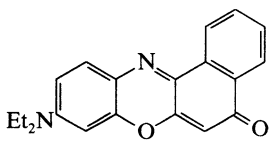
Used as a redox indicator. Cryst. Sol. H_2O, EtOH.

Gagliardi, E. *et al*, *Mikrochim. Acta*, 1968, 140; 1969, 888; 1972, 385 (*detn, B, Ta, Re*)
Likussar, W. *et al*, *Anal. Chim. Acta*, 1970, **49**, 97; **50**, 173 (*detn, $Br^{\ominus}$*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 502 (*use*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 128.
Nazarenko, V.A. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1977, **43**, 1325 (*detn, Ge, Sn*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AJN250.

Nile red N-00070

9-(Diethylamino)-5H-benzo[a]phenoxazin-5-one. Nile blue A oxazone

[7385-67-3]



$C_{20}H_{18}N_2O_2$ M 318.374

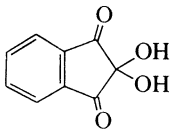
Fluorescent probe for intracellular lipids and hydrophobic domains of proteins. Mp 203-205°.

Greenspan, P. *et al*, *J. Cell Biochem.*, 1985, **100**, 965 (*detn, lipids*)
Sackett, D.L. *et al*, *Anal. Biochem.*, 1987, **167**, 228 (*use*)

Ninhydrin N-00071

2,2-Dihydroxy-1H-indene-1,3(2H)-dione, 9CI. 2,2-Dihydroxy-1,3-indanedione. 1,2,3-Indantrione hydrate. Triketohydrindene hydrate

[485-47-2]



$C_9H_6O_4$ M 178.144

Covalent hydrate of 1,2,3-Indanetrione, I-00025. Sensitive reagent for detn. of amino acids and related substances. Pale-yellow prisms + $1H_2O$ (H_2O). Sol. H_2O. Mp 241-243° (becomes anhyd. with reddening at 125-130°). pK_{a1} 8.82 (30°, 0.1*M* KCl).

▷ Highly toxic orally. NK5425000.

Bisphenylhydrazone: Cryst. (EtOH). Mp 180°.

Di-Me ether: [65299-21-0]. *2,2-Dimethoxy-1,3-indanedione*

$C_{11}H_{10}O_4$ M 206.198

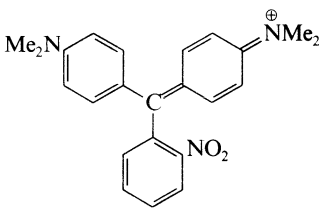
Solid (MeOH). Mp 70.5°.

Ruhemann, S., *J. Chem. Soc.*, 1910, **97**, 2025 (*synth*)
Teeters, W.O. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 3026 (*synth*)
Wanag, G. *et al*, *Ber.*, 1938, **71**, 1267 (*synth*)
Polonovski, M. *et al*, *Bull. Soc. Chim. Fr.*, 1939, 1557 (*uv*)
McCaldin, D.J., *Chem. Rev.*, 1960, **60**, 39 (*rev*)
Becker, H.-D. *et al*, *J. Org. Chem.*, 1963, **28**, 1896 (*synth*)
Schipper, E. *et al*, *Tetrahedron Lett.*, 1968, 6201 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 356.
Bischof, P. *et al*, *Helv. Chim. Acta*, 1975, **58**, 2130.
Schönberg, A. *et al*, *Chem. Ber.*, 1977, **110**, 3954 (*deriv*)
Gelb, R.I. *et al*, *J. Phys. Chem.*, 1977, **81**, 1268 (*nmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DMV200.

o-Nitral green N-00072

Bis[4-(dimethylamino)phenyl](2-nitrophenyl)methylium(1+), 9CI

[34074-14-1]



$C_{23}H_{24}N_3O_2^{\oplus}$ M 374.461 (ion)

Strictly, the name *o*-Nitral green applies to the chloride.

Chloride:

$C_{23}H_{24}ClN_3O_2$ M 409.914

Used as a 1m*M* aq. soln. for extraction-photometric detn. of Al (λ_{max} 635 nm, ε 81000, C_6H_6). Cryst.

Constantinescu, G.C. *et al*, *Rev. Roum. Chim.*, 1980, **25**, 1259 (*synth, detn, Al*)

p-Nitral green N-00073

Bis[4-(dimethylamino)phenyl](4-nitrophenyl)methylium(1+), 9CI

[16044-05-6]

$C_{23}H_{24}N_3O_2^{\oplus}$ M 374.461 (ion)

Strictly, the name *p*-Nitral green applies to the chloride.

Chloride:

$C_{23}H_{24}ClN_3O_2$ M 409.914

Used as a 1m*M* aq. soln. for extraction-photometric detn. of Al (λ_{max} 640 nm, ε 100000, C_6H_6). Cryst.

Ritchie, C.D. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 1589; 1973, **95**, 1882 (*props*)
Constantinescu, G.C. *et al*, *Rev. Roum. Chim.*, 1980, **25**, 1259 (*synth, detn, Al*)

Nitrilotriacetic acid, 8CI N-00074

N,N-*Bis*(*carboxymethyl*)*glycine*, *9CI*. *Triglycolamidic acid*. *Trimethylamine-1,1′,1″-tricarboxylic acid*. *Tris*(*carboxymethyl*)*amine*. *Complexone I*. *NTA*

[139-13-9]

$N(CH_2COOH)_3$

$C_6H_9NO_6$ M 191.140

Chelating and sequestering agent; builder in synthetic detergents. Aq. soln. of salts used as masking agent for many metals; extraction separation of Cr(*III*) (as complex with NTA); photometric detn. of Co. Prismatic cryst. (H_2O). Sl. sol. H_2O. Mp 242° dec. Bp_{13} 167°. pK_{a1} 0.8; pK_{a2} 1.65; pK_{a3} 2.94; pK_{a4} 10.33 (20°).

▷ AJ0175000.

Monoamide: [26239-55-4]. N-*Acetamidoiminodiacetic acid*. N-(*2-Amino-2-oxoethyl*)-N-(*carboxymethyl*)*glycine*, *9CI*. [(*Carbamoylmethyl*)*imino*]*diacetic acid*, *8CI*. *ADA*

$C_6H_{10}N_2O_5$ M 190.155

Commercially available. Good's buffer with pH range 5.8-7.4. Used as 0.05% aq. soln. for photometric detn. of Bi. Cryst. powder. Sol. H_2O, EtOH. Mp 219° dec. pK_a 6.60 (20°).

Monoamide, di-Me ester:

$C_8H_{14}N_2O_5$ M 218.209

Cryst. Mp 104°.

Tri-Me ester: [22241-07-2].

$C_9H_{15}NO_6$ M 233.221

Bp_{13} 167°.

Triamide:

$C_6H_{12}N_4O_3$ M 188.186

Plates (EtOH/NH_3). Mp 205-206° dec.

Trinitrile: [7327-60-8]. *Nitrilotriacetonitrile*. *Tricyanotrimethylamine*

$C_6H_6N_4$ M 134.140

Manuf. by reacn. of NH_4 salts with HCHO and HCN. Needles (EtOH). Mp 125-126°.

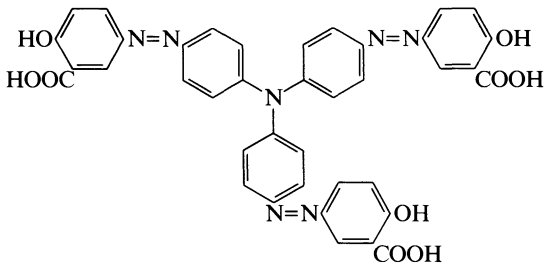
[98241-37-3]

Martell, A.E. *et al*, *J. Org. Chem.*, 1950, **15**, 46 (*synth*)
Schwarzenbach, G. *et al*, *Helv. Chim. Acta*, 1955, **38**, 1147 (*monoamide, synth*)
Good, N.E. *et al*, *Biochemistry*, 1966, **5**, 467 (*monoamide, synth, buffer*)
Rahim, S.A. *et al*, *Talanta*, 1970, **17**, 851.
Irving, H.M. *et al*, *Anal. Chim. Acta*, 1972, **60**, 345 (*detn, Cr*)
Epstein, S.S., *CA*, 1972, **76**, 117232 (*rev*)
McGlothlin, C.D. *et al*, *Anal. Lett.*, 1976, **9**, 245 (*monoamide, props*)
Fu Chung Chang, *et al*, *Mikrochim. Acta*, 1979, **2**, 219 (*detn, Co*)
Koch, S. *et al*, *Talanta*, 1981, **28**, 915.
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982.
Gonzalez-Portal, A. *et al*, *Microchem. J.*, 1985, **31**, 368 (*monoamide, use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AMT500.

3,3′,3″-[Nitrilotris(4,1-phenyleneazo)]tris[6-hydroxybenzoic acid], 9CI N-00075

Triphenylaminetrisazosalicylic acid

[79566-16-8]



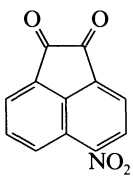
$C_{39}H_{27}N_7O_9$ M 737.684

Used as 0.05% EtOH soln. for photometric detn. of Be (λ_{max} 521 nm, ε 12800, pH 10). Red cryst. Sol. EtOH; insol. H_2O.

Khalifa, M.E., *Analyst* (*London*), 1982, **107**, 446 (*synth, detn, Be*)

5-Nitro-1,2-acenaphthylenedione, 9CI N-00076

5-Nitro-1,2-acenaphthenequinone



$C_{12}H_5NO_4$ M 227.176

Dioxime: [43084-67-9].

$C_{12}H_7N_3O_4$ M 257.205

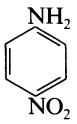
Used as 1m*M* EtOH soln. for extraction-photometric detn. of Co (λ_{max} 490 nm, ε 6700, $PhNO_2$), Fe(*II*), Cu. Cryst. Sol. EtOH. Mp 205-209°.

Kuse, S. *et al*, *Anal. Chim. Acta*, 1974, **70**, 65 (*synth, use*)

4-Nitroaniline N-00077

4-Nitrobenzenamine, *9CI*

[100-01-6]



$C_6H_6N_2O_2$ M 138.126

Used in manuf. of azo dyes. Used as 1m*M* soln. in aq. EtOH for photometric detn. of Cl_2 (ε 19000), SO_2. Reference material used in elemental microanalysis. Pale-yellow needles (H_2O). Mod. sol. hot H_2O. Mp 148°. pK_a 11.96. Not steam-volatile.

▷ Highly toxic by inhalation and skin absorption, TLV 6. The *N*-chloro deriv. is explosive at r.t.. BY7000000.

B,HCl: [15873-51-5].

Leaflets.

N-*Ac:* [104-04-1]. N-(*2-Nitrophenyl*)*acetamide*, *9CI*. *4-Nitroacetanilide*

$C_8H_8N_2O_3$ M 180.163

Prisms. Mp 207°, Mp 215-216°.

▷ AE5075000.

N-*Benzylidene:* [785-81-9]. *4-Nitro*-N-(*phenylmethylene*)*benzenamide*, *9CI*

$C_{13}H_{10}N_2O_2$ M 226.234

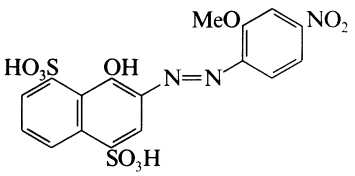
Yellow needles. Mp 117-118°.

N-*Me:* [100-15-2].
$C_7H_8N_2O_2$ M 152.152
Brownish-yellow prisms with violet reflex (EtOH). Mp 152°.
N-*Di-Me:* [100-23-2].
$C_8H_{10}N_2O_2$ M 166.179
Yellow needles with blue reflex (EtOH). Mp 163-166°.
N-*Et:* [3665-80-3].
$C_8H_{10}N_2O_2$ M 166.179
Yellow cryst. with blue-violet lustre (EtOH). Mp 96°.
N-*Di-Et:* [2216-15-1].
$C_{10}H_{14}N_2O_2$ M 194.233
Yellow needles (ligroin), plates (EtOH). Mp 77-78°.
N-*Ph:* see *4-Nitrodiphenylamine, N-00105*

Votoček, E. *et al, Ber.*, 1915, **48**, 1002.
Shriner, G. *et al, J. Am. Chem. Soc.*, 1931, **53**, 1604.
Org. Synth., 1947, **27**, 63.
Bethge, P.O. *et al, Talanta*, 1969, **16**, 144 (*detn, SO_2*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Aldrich Library of NMR Spectra, 1974, **5**, 155B (*nmr*)
Aldrich Library of IR Spectra, 1975, 711D (*ir*)
Gabbay, J. *et al, Analyst (London)*, 1976, **101**, 128 (*detn, Cl_2*)
Krasnska, E. *et al, J. Chromatogr.*, 1978, **147**, 470 (*glc*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 570.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 409.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MMF800, NEK000, NEO500.

Nitroanisole blue N-00078

2-(2-Methoxy-4-nitrophenylazo)-1-naphthol-4,8-disulfonic acid. 4-Hydroxy-3-[(2-methoxy-4-nitrophenyl)azo]-1,5-naphthalenedisulfonic acid

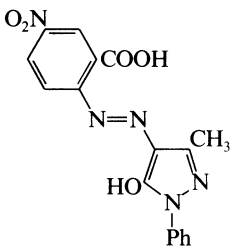


$C_{17}H_{13}N_3O_{10}S_2$ M 483.436
Used as acid-base indicator (pH_t 10; colour change: pink → purple). Dark red cryst. Sol. H_2O.

Ferber, K.H., *Ind. Eng. Chem., Anal. Ed.*, 1946, **18**, 631 (*use, ind*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

Nitroanthranilazo N-00079

2-[(3-Methyl-5-oxo-1-phenyl-2-pyrazolin-4-yl)-azo]-5-nitrobenzoic acid, 8CI
[20307-76-0]

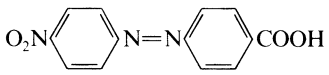


$C_{17}H_{13}N_5O_5$ M 367.320
Used as 2m*M* soln. in DMF for photometric detn. of Li (λ_{max} 530 nm; ε 16500, Me_2CO aq.), Na (λ_{max} 540 nm, ε 14000, DMF/Me_2CO aq.). Cryst. Sol. DMF.

Dziomko, V.M. *et al, Zh. Anal. Khim.*, 1968, **23**, 170 (*synth, detn, Li*)
Markovich, I.S. *et al, Zh. Anal. Khim.*, 1971, **26**, 1097 (*detn, Na*)

4′-Nitro-4-azobenzenecarboxylic acid N-00080

4-[(4-Nitrophenyl)azo]benzoic acid, 9CI

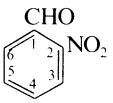


$C_{13}H_9N_3O_4$ M 271.232
Mp 318°.
Me ester: [15510-04-0].
$C_{14}H_{11}N_3O_4$ M 285.259
Mp 190-191°.
Et ester: [5852-50-6].
$C_{15}H_{13}N_3O_4$ M 299.285
Mp 164-165°.
Chloride: [22286-74-4].
$C_{13}H_8ClN_3O_3$ M 289.677
Chromogenic reagent for isolation and characterisation of alcohols. Anal. reagent for alcohols and amines. Mp 163-165°.
Amide: [39138-50-6].
$C_{13}H_{10}N_4O_3$ M 270.247
Mp 318°.
Anilide: Mp 270°.

Hecker, E., *Chem. Ber.*, 1955, **88**, 1666 (*synth, deriv*)
Neurath, G. *et al, J. Chromatogr.*, 1968, **34**, 253; **37**, 205 (*chloride, use*)
Nutting, W.H. *et al, J. Org. Chem.*, 1970, **35**, 505 (*use, deriv*)
Bartos, J. *et al, Pure Appl. Chem.*, 1984, **56**, 467 (*chloride, use*)

2-Nitrobenzaldehyde N-00081

[552-89-6]



$C_7H_5NO_3$ M 151.121
Anal. reagent for methyl ketones. Bright-yellow needles (H_2O). Mp 43-44°. Bp_{23} 153°. Steam-volatile.
▷ CU7300000.
(E)-*Oxime:* [4836-00-4].
$C_7H_6N_2O_3$ M 166.136
Mp 102-103°. On irradiation → (*Z*)-form.
(Z)-*Oxime:* [3717-25-7].
Cryst. (C_6H_6). Mp 154°. On boiling in C_6H_6 → (*E*)-form.
Semicarbazone: [5346-31-6].
Yellow needles (H_2O). Mp 256° dec.
Phenylhydrazone: [610-64-0].
Mp 154°.
Di-Me acetal: [20627-73-0]. *1-(Dimethoxymethyl)-2-nitrobenzene, 9CI*
$C_9H_{11}NO_4$ M 197.190
Bp 274-276°, Bp_{11} 138-139°.
Di-Et acetal:
$C_{11}H_{15}NO_4$ M 225.244
Bp_{18} 154-156°, Bp_{11} 148°.
Acetal di-Ac: [6345-63-7]. *(2-Nitrophenyl)methanediol diacetate, 9CI.* o-*Nitrobenzylidene diacetate.* α,α-*Diacetoxy-2-nitrotoluene*
Prisms (ligroin). Mp 90°.
Hydrazone: o-*Nitrobenzylidenehydrazine*
$C_7H_7N_3O_2$ M 165.151
Yellow prisms (EtOH). Mp 76°.
Anil:

$C_{13}H_{10}N_2O_2$ M 226.234
Yellow leaflets (EtOH aq.). Mp 69.5°. Bp_{15} 220°.

Aldrich Library of IR Spectra, 798G (*ir*)
Aldrich Library of NMR Spectra, **6**, 81A (*nmr*)
Chattaway, K. *et al*, *J. Chem. Soc.*, 1923, **123**, 3041.
Org. Synth., 1956, **36**, 58; 1966, **46**, 81.
Kramer, D.N. *et al*, *Anal. Chem.*, 1972, **44**, 2243 (*use*)
Freeman, D.J. *et al*, *Aust. J. Chem.*, 1976, **29**, 33.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NEU500.

4-Nitrobenzaldehyde N-00082

[555-16-8]

$C_7H_5NO_3$ M 151.121
Used for photometric detn. of $CN^{\ominus}$. Prisms (H_2O). Sol. Et_2O; sl. sol. H_2O, EtOH. Mp 106°. pK_a 12.79 (hydrate) (25°, 1% EtOH). Subl. Spar. steam-volatile.

▷ CU7350000.

(E)-*Oxime:* [3717-19-9].
$C_7H_6N_2O_3$ M 166.136
Needles (H_2O). Mp 182-184°. Irradiation in C_6H_6 → (*Z*)-form.

(Z)-*Oxime:* [3717-20-2].
Plates (pentanol). Mp 133°. Fusion → (*E*)-form.

Semicarbazone: [5315-87-7].
Needles (H_2O). Mp 211°. Dihydrate Mp 220°.

Phenylhydrazone: [2829-27-8].
Dark-red cryst. with metallic lustre (EtOH). Mp 153-154°.

2,4-Dinitrophenylhydrazone: Orange needles (xylene or quinoline). Mp 320°.

Di-Me acetal: [881-67-4]. *1-(Dimethoxymethyl)-4-nitrobenzene*, *9CI*
$C_9H_{11}NO_4$ M 197.190
Mp 23-25°. Bp 294-296°.

Di-Me thioacetal:
$C_9H_{11}NO_3S$ M 213.257
Mp 77-78.5°.

Chattaway, K., *J. Chem. Soc.*, 1923, **123**, 3041.
Org. Synth., 1956, **36**, 58.
Kondo, T. *et al*, *CA*, 1967, **68**, 75643z (*detn*, $CN^{\ominus}$)
Brehm, L. *et al*, *Acta Crystallogr., Sect. B*, 1972, **28**, 3646.
Bachechi, F. *et al*, *Acta Crystallogr., Sect. B*, 1973, **29**, 2598.
Aldrich Library of NMR Spectra, 1974, **6**, 85C (*nmr*)
Aldrich Library of IR Spectra, 1975, 801F (*ir*)
Freeman, D.J. *et al*, *Aust. J. Chem.*, 1976, **29**, 33.
Jackisch, M.A. *et al*, *Acta Crystallogr., Sect. C*, 1989, **45**, 2016 (*cryst struct*)
Penner, G.H. *et al*, *Can. J. Chem.*, 1989, **67**, 525 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NEV500.

Nitrobenzene N-00083

[98-95-3]

$PhNO_2$

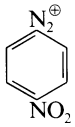
$C_6H_5NO_2$ M 123.111
Reference material used in elemental microanalysis. Pale-yellow or colourless liq. with almond-like odour. V. spar. sol. H_2O. d_4^{20} 1.205. Mp 6°. Bp 210.8°, Bp_1 53.1°. n_D^{20} 1.5529. Steam-volatile.

▷ Toxic, hazardous vapour. Absorbed through skin. Causes cyanosis. Fire and explosion hazard. DA6475000.

Analyst (*London*), 1972, **97**, 740 (*microanal*)
Vogel, A.I. *et al*, *Practical Organic Chemistry*, 4th Ed., Longman, London, 1978, 624, 996 (*synth*, *ir*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **15**, 916 (*rev*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 358.
Ritchie, J.P., *Tetrahedron*, 1988, **24**, 7465 (*struct*)
Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1493 (*cmr*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 574-5.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 410.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NEX000.

4-Nitrobenzenediazonium(1+), 9CI N-00084

[14368-49-1]



$C_6H_4N_3O_2^{\oplus}$ M 150.116 (ion)

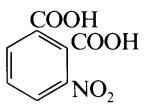
Tetrafluoroborate: [456-27-9].
$C_6H_4BF_4N_3O_2$ M 236.921
Photometric reagent for aromatic amines and phenols. Cryst.(H_2O). Mp 153-155° dec.

Starkey, E.B., *Org. Synth.*, 1939, **19**, 40 (*synth*)
Leibnitz, E. *et al*, *J. Prakt. Chem.*, 1960, **11**, 25 (*use*)
Bugg, C. *et al*, *Acta Crystallogr.*, 1964, **17**, 767 (*cryst struct*)
Doyle, M.P. *et al*, *J. Org. Chem.*, 1979, **44**, 1572 (*synth*)
Bartos, J. *et al*, *Pure Appl. Chem.*, 1984, **56**, 467 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NFA625.

3-Nitro-1,2-benzenedicarboxylic acid N-00085

3-Nitrophthalic acid

[603-11-2]



$C_8H_5NO_6$ M 211.131
Used as a 5% aq. soln. for gravimetric detn. of Zr. Pale-yellow cryst. (H_2O). Sol. H_2O. Mp 218°, Mp 213-216°. pK_{a1} 2.11; pK_{a2} 4.48 (30°).

1-Me ester: [21606-04-2].
$C_9H_7NO_6$ M 225.157
Pale-yellow cryst. (H_2O). Mp 160-162°. pK_{a1} 1.78 (25°).

2-Me ester: [6744-85-0].
$C_9H_7NO_6$ M 225.157
Mp 152-153°. pK_{a1} 2.68 (25°). Forms a monohydrate.

Di-Me ester: [13365-26-9].
$C_{10}H_9NO_6$ M 239.184
Pale-yellow cryst. (MeOH aq.). Mp 68-69°.

Di-Et ester: [62351-79-5].
$C_{12}H_{13}NO_6$ M 267.238
Prisms or needles (EtOH or pet. ether). Mp 46°.

1-Amide: [65911-46-8].
$C_8H_6N_2O_5$ M 210.146
Plates (H_2O). Mp 150-156°. At 214-5° converts to imide.

Diamide:
$C_8H_7N_3O_4$ M 209.161
Cryst. Mp 200-201°.

Imide: [603-62-3]. *4-Nitro-1H-isoindole-1,3(2H)-dione*, *9CI*
$C_8H_4N_2O_4$ M 192.131
Pale-yellow cryst. (EtOH or Me_2CO). Mp 217-218°. Sublimes.

Anhydride: [641-70-3]. *4-Nitro-1,3-isobenzofurandione, 9CI*
$C_8H_3NO_5$ M 193.115
Protecting reagent for $-NH_2$ group in solid-phase peptide synth. Reagent for characterisation of alcohols.
N-*Phenylimide:* [19065-85-1]. *4-Nitro-2-phenyl-1H-isoindole-1,3(2H)-dione, 9CI. 3-Nitrophthalanil*
$C_{14}H_8N_2O_4$ M 268.228
Yellow needles (EtOH/Me_2CO). Mp 138°. λ_{max} 223 nm.
1-Nitrile: 2-Cyano-6-nitrobenzoic acid
$C_8H_4N_2O_4$ M 192.131
Needles. Mp 99-100° (resolidifies and remelts at 214-215°).
Me ester, nitrile: [77326-46-6]. *Methyl 2-cyano-3-nitrobenzoate*
$C_9H_6N_2O_4$ M 206.157
Powder. Mp 140-142°.

Chapman, E. *et al, J. Chem. Soc.*, 1925, 1795.
Org. Synth., Coll. Vol., 1, 1932, 408, 410.
De Graef, H. *et al, Bull. Soc. Chim. Belg.*, 1948, **57**, 307 (*use, anhydride*)
Fr. Pat., 1 470 052, (1968); *CA*, **69**, 10295 (*derivs*)
Geetha, S. *et al, Indian J. Chem.*, 1968, **6**, 169 (*use*)
Aldrich Library of NMR Spectra, 1974, **6**, 159; 1974, **7**, 51A.
Nagai, U. *et al, Tetrahedron*, 1974, **30**, 25 (*derivs*)
Aldrich Library of IR Spectra, 1975, 847D, 919H (*ir*)
Griffiths, J. *et al, J. Chem. Soc., Perkin Trans. 1*, 1976, 42.
Harris, N.V. *et al, J. Med. Chem.*, 1990, **33**, 434 (*deriv*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NMJ500.

4-Nitro-1,2-benzenedicarboxylic acid N-00086

4-Nitrophthalic acid

[610-27-5]

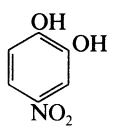
$C_8H_5NO_6$ M 211.131
Spray reagent for the detn. of indoles in chromatog. Pale-yellow needles (Et_2O). Sol. H_2O. Mp 165°. pK_{a1} 2.02; pK_{a2} 4.44 (30°).
1-Me ester:
$C_9H_7NO_6$ M 225.157
Cryst. + $1H_2O$ (H_2O). Mp 131-132°. pK_{a1} 2.34 (25°).
2-Me ester:
$C_9H_7NO_6$ M 225.157
Mp 140-142°.
Di-Me ester: [610-22-0].
$C_{10}H_9NO_6$ M 239.184
Cryst. (EtOH aq.). Mp 65-66°.

Bogert, *et al, J. Am. Chem. Soc.*, 1901, **23**, 752.
Chapman, E. *et al, J. Chem. Soc.*, 1925, 1796.
Hutzinger, O., *J. Chromatogr.*, 1969, **40**, 117 (*use*)
Blumenthal, T., *Aust. J. Chem.*, 1971, **24**, 1853 (*ms, deriv*)
Aldrich Library of NMR Spectra, 1974, **6**, 173A (*nmr*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 855e (*ir*)
Griffiths, J. *et al, J. Chem. Soc., Perkin Trans. 1*, 1976, 42 (*deriv*)

4-Nitro-1,2-benzenediol, 9CI N-00087

4-Nitropyrocatechol, 8CI. 4-Nitrocatechol. 1,2-Dihydroxy-4-nitrobenzene

[3316-09-4]



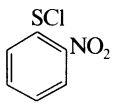
$C_6H_5NO_4$ M 155.110
Used as EtOH soln. for extraction-photometric detn. of As(*V*) (as anionic complex associated with Brilliant Green, toluene, λ_{max} 637 nm, ε 110000). Yellow needles (H_2O). Sol. EtOH. Mp 176°. pK_{a1} 6.78; pK_{a2} 10.90 (25°, 0.1*M* KCl).
1-Me ether: [636-93-1]. *2-Methoxy-5-nitrophenol. 4-Nitroguaiacol*
$C_7H_7NO_4$ M 169.137
Pale-yellow needles (H_2O). Mp 105°. pK_a 8.00 (20°).
2-Me ether: [3251-56-7]. *2-Methoxy-4-nitrophenol. 5-Nitroguaiacol*
$C_7H_7NO_4$ M 169.137
Yellow needles (H_2O). Mp 103-104°. pK_a 6.63 (20°).
▷ SL7800000.
Di-Me ether: [709-09-1]. *1,2-Dimethoxy-4-nitrobenzene. 4-Nitroveratrole*
$C_8H_9NO_4$ M 183.163
Yellow needles (EtOH aq.). Mp 96°. Bp_{15-20} 230°.
Di-Ac: [36383-33-2].
$C_{10}H_9NO_6$ M 239.184
Mp 98°.

Allan, J. *et al, J. Chem. Soc.*, 1926, 376.
Rosenblatt, D.M. *et al, J. Am. Chem. Soc.*, 1953, **75**, 3277 (*synth*)
Yoshimura, H. *et al, Chem. Pharm. Bull.*, 1966, **14**, 939.
Kuwada, K. *et al, Bunseki Kagaku (Jpn. Anal.)*, 1977, **26**, 609; *CA*, **88**, 163268z (*detn, As*)
Castelló, A. *et al, Tetrahedron Lett.*, 1985, **26**, 2489 (*derivs*)
Stuart, J.G. *et al, J. Heterocycl. Chem.*, 1987, **24**, 1589 (*synth, pmr, deriv*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NHA000.

2-Nitrobenzenesulfenyl chloride, 9CI N-00088

2-Nitrophenylsulfenyl chloride. Benzene-o-nitrosulfenyl chloride

[7669-54-7]



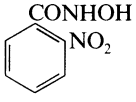
$C_6H_4ClNO_2S$ M 189.622
Reagent for protection of amino acid $-NH_2$ groups. Anal. reagent for amines. Mp 74.5-75°.
▷ Explodes at ~170°, reacts vigorously with oxidising agents.

Org. Synth., Coll. Vol., 2, 1943, 455 (*synth*)
Chamberlain, D.L. *et al, J. Org. Chem.*, 1958, **23**, 381 (*uv*)
Obtemperanskaya, S.I. *et al, Zh. Anal. Khim.*, 1971, **26**, 2252; *CA*, **76**, 679245 (*use*)
Aldrich Library of NMR Spectra, 1974, **5**, 147A (*pmr*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 359; **8**, 360 (*use*)
Aldrich Library of Infrared Spectra, 2nd Ed., 1975, 706B (*ir*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 405 (*haz*)

2-Nitrobenzohydroxamic acid N-00089

N-*Hydroxy-2-nitrobenzamide, 9CI*

[17512-68-4]



$C_7H_6N_2O_4$ M 182.135
Used for extraction-photometric detn. of Mo (λ_{max} 325 nm, ε 5250). Yellow needles (H_2O). Mp 131-133°.

N-(*3-Methylphenyl*): [32939-61-0]. N-*Hydroxy*-N-(*3-methylphenyl*)-*2-nitrobenzamide*, *9CI*
$C_{14}H_{12}N_2O_4$ M 272.260
Used as a 0.01*M* soln. in EtOH for gravimetric detn. and pptn. sepn. of Ce, Gd, La, Nd, Pr, Sm. Cryst. Mp 118°.

Stolberg, M.A. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 2615 (*synth*)
Molot, L.A., *Khim. Khim. Tekhnol.* (*Minsk*), 1970, **13**, 628 (*detn, Mo*)
Agrawal, Y.K. *et al*, *J. Chem. Eng. Data*, 1972, **19**, 495 (*synth, deriv*)
Agrawal, Y.K. *et al*, *Talanta*, 1975, **22**, 193; 1976, **23**, 235 (*detn, Ce, La, Gd, Nd, Pr, Sm*)

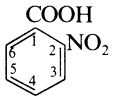
3-Nitrobenzohydroxamic acid N-00090

N-*Hydroxy-3-nitrobenzamide*, *9CI*
[7335-34-4]
$C_7H_6N_2O_4$ M 182.135
N-*Ph*: [17120-18-2]. N-*Hydroxy-3-nitro*-N-*phenylbenzamide*, *9CI*
$C_{13}H_{10}N_2O_4$ M 258.233
Used as a 0.5% soln. in 3-methyl-1-butanol for extraction-photometric detn. of V(*V*) (λ_{max} 435 nm, ε 3230).
N-(*3-Methylphenyl*): [32919-54-3]. N-*Hydroxy*-N-(*3-methylphenyl*)-*3-nitrobenzamide*. N-m-*Tolyl-3-nitrobenzohydroxamic acid*
$C_{14}H_{12}N_2O_4$ M 272.260
Used as a 0.01*M* soln. in EtOH for gravimetric detn. of Ba, Sm; extraction-photometric detn. of U (λ_{max} 510 nm, $CHCl_3$); pptn. sepn. and gravimetric detn. of rare earth elements. Cryst. Mp 118°. pK_{a1} 10.33 (25°, 50% dioxan).
N-(*4-Methylphenyl*): [34661-26-2]. N-*Hydroxy*-N-(*4-methylphenyl*)-*3-nitrobenzamide*
Used as a 5m*M* $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 515 nm). Cryst.

Ghosh, N.N. *et al*, *J. Indian Chem. Soc.*, 1968, **45**, 1049 (*N-Ph, synth*)
Ghosh, N.N. *et al*, *Fresenius' Z. Anal. Chem.*, 1971, **253**, 207 (*N-Ph, detn, V*)
Agrawal, Y.K. *et al*, *J. Chem. Eng. Data*, 1971, **16**, 371 (*synth*)
Gupta, V.K. *et al*, *J. Indian Chem. Soc.*, 1971, **48**, 753 (*synth*)
Gupta, V.K. *et al*, *Anal. Chim. Acta*, 1973, **66**, 39 (*detn, V*)
Agrawal, Y.K. *et al*, *Analusis*, 1975, 424 (*detn, Sm*)
Verma, P.C. *et al*, *J. Indian Chem. Soc.*, 1975, **52**, 176 (*detn, Ba*)
Agrawal, Y.K. *et al*, *Pol. J. Chem.* (*Rocz. Chem.*), 1975, **49**, 1431 (*pK*)
Kapoor, H.L. *et al*, *Talanta*, 1975, **22**, 193 (*detn, La, Ce*)
Agrawal, Y.K. *et al*, *Talanta*, 1976, **23**, 235 (*detn, rare earths*)
Agrawal, Y.K. *et al*, *Ann. Chim.* (*Rome*), 1977, **66**, 371 (*detn, U*)

2-Nitrobenzoic acid, 9CI N-00091

[552-16-9]



$C_7H_5NO_4$ M 167.121
Reagent for protection of NH_2 groups. Used as a 1.5% aq. soln. for gravimetric detn. of Hf, Zr. Needles (H_2O). Sol. alkalis. Mp 147-148°. pK_a 2.10 (H_2O, 25°).
▷ DH5050000.
Me ester: [606-27-9].
$C_8H_7NO_4$ M 181.148
d^{20} 1.286. Mp −13°. Bp 275°, Bp_{19} 169°.
Et ester: [610-34-4].
$C_9H_9NO_4$ M 195.174
Mp 30°. Bp_{18} 173°.
Anhydride: [49619-45-6].
$C_{14}H_8N_2O_7$ M 316.226
Mp 135°.
▷ Explodes on rapid heating.
Chloride: [610-14-0]. *2-Nitrobenzoyl chloride*
$C_7H_4ClNO_3$ M 185.566
Mp 25°. Bp_{18} 152°.
▷ Distillation residue can explode.
Amide: [610-15-1].
$C_7H_6N_2O_3$ M 166.136
Needles (EtOH aq.). Mp 174-176°. Bp 317°.
▷ CV5600000.
Nitrile: [612-24-8]. *1-Cyano-2-nitrobenzene*
$C_7H_4N_2O_2$ M 148.121
Needles (H_2O or AcOH). Mp 111°.
▷ Can explode. DI4903000.
Azide: [1134-10-7].
$C_7H_4N_4O_3$ M 192.134
Mp 36-38°.
Anilide:
$C_{13}H_{10}N_2O_3$ M 242.234
Leaflets (EtOH). Mp 153-154°.

Sah, P.T., *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1940, **59**, 238.
Yukawa, Y. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 6346 (*deriv*)
Kuleva, V.M. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 46 (*detn, Hf, Zr*)
Fujimori, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1972, **45**, 1564.
Tavale, S.S. *et al*, *Acta Crystallogr., Sect. B*, 1973, **29**, 2979 (*cryst struct*)
Koul, A.K., *Tetrahedron*, 1973, **29**, 625.
Aldrich Library of NMR Spectra, 1974, **6**, 145 (*pmr*)
Aldrich Library of IR Spectra, 1975, 839B (*ir*)
Niazi, M.K., *Bull. Chem. Soc. Jpn.*, 1989, **62**, 1253 (*pKa*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 617, 619.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 411.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NFG500, NFI000, NFL000.

3-Nitrobenzoic acid N-00092

[121-92-6]
$C_7H_5NO_4$ M 167.121
Used as a 0.4% aq. soln. for pptn. separation of Ce, Hf, Hg, Th, Zr. Prisms. Mp 139-142°. pK_a 3.46 (25°). Known in two labile and one stable modifications.
▷ DH5000000.
Me ester: [618-95-1].
$C_8H_7NO_4$ M 181.148
Needles. Mp 78°. Bp 279°.
Et ester: [618-98-4].
$C_9H_9NO_4$ M 195.174
Mp 41°, Mp 47°. Bp_{10} 156°.
Anhydride:
$C_{14}H_8N_2O_7$ M 316.226
Cryst. (C_6H_6). Mp 163°.
Chloride: [121-90-4].
$C_7H_4ClNO_3$ M 185.566
Mp 33°, Mp 37°. Bp_{25} 164°.
▷ Mod. toxic. Can be explosive. DM6650000.
Amide: [645-09-0].
$C_7H_6N_2O_3$ M 166.136
Needles (H_2O). Mp 141-143°. Bp 310-315°.
Nitrile: [619-24-9]. *1-Cyano-3-nitrobenzene*
$C_7H_4N_2O_2$ M 148.121
Needles (H_2O). Mp 117-118°.
▷ DI4900000.

Anilide:
$C_{13}H_{10}N_2O_3$ M 242.234
Leaflets (EtOH). Mp 153-154°.
Azide: [3532-31-8].
$C_7H_4N_4O_3$ M 192.134
Cryst. (C_6H_6/pet. ether) or plates (EtOH). Mp 68-69°.

Org. Synth., Coll. Vol., 1, 1932, 391 (*synth*)
Osborn, G.H., *Analyst (London)*, 1948, **73**, 381 (*use*)
Org. Synth., Coll. Vol., 4, 1963, 715 (*synth*)
Aldrich Library of NMR Spectra, 1974, **6**, 148B (*pmr*)
Dhaneswar, N.N. *et al*, *Acta Crystallogr., Sect. B*, 1975, **31**, 1978 (*cryst struct*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 840F (*ir*)
Niazi, M.S.K., *Bull. Chem. Soc. Jpn.*, 1989, **62**, 1253 (*pKa*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NFG000, NFH500, NFK500.

4-Nitrobenzoic acid N-00093

[62-23-7]
$C_7H_5NO_4$ M 167.121
Leaflets (H_2O). Mp 241.5°, Mp 236-239°. pK_a 3.45 (25°, H_2O). Sublimes.
▷ DH5075000.

Me ester: [619-50-1].
$C_8H_7NO_4$ M 181.148
Mp 96°.
▷ DH5775000.

Et ester: [99-77-4].
$C_9H_9NO_4$ M 195.174
Leaflets (EtOH). Mp 57°.
▷ DH5600000.

Anhydride: [902-47-6].
$C_{14}H_8N_2O_7$ M 316.226
Yellowish leaflets (EtOAc). Mp 195°.

Chloride: [122-04-3].
$C_7H_4ClNO_3$ M 185.566
Reagent for characterisation of alcohols and amines and prepn. of highly cryst. *p*-benzoylaminobenzoyl esters of sugars. Used to derivatise sugars for hplc with uv detn. Used as a 0.15*M* soln. in Py for photometric detn. of H_2O in organic solvents. Yellow needles (CCl_4 or C_6H_6). Sol. Py, toluene. Mp 75°. Bp_{73} 197°.
▷ Irritant, causes burns.

Amide: [619-80-7].
$C_7H_6N_2O_3$ M 166.136
Needles (H_2O). Mp 206°.

Amide, N-hydroxy: [1613-76-9]. p-*Nitrobenzohydroxamic acid, 8CI.* N-*Hydroxy-4-nitrobenzamide, 9CI*
$C_7H_6N_2O_4$ M 182.135
Used as EtOH soln. for photometric detn. of V(*V*) (λ_{max} 450 nm). Cryst. Sol. EtOH, Me_2CO, $CHCl_3$.

Nitrile: [619-72-7]. *1-Cyano-4-nitrobenzene*
$C_7H_4N_2O_2$ M 148.121
Leaflets (EtOH). Mp 149°.
▷ DI4903500.

Anilide:
$C_{13}H_{10}N_2O_3$ M 242.234
Leaflets (Et_2O). Mp 211°.

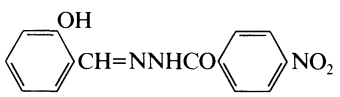
Azide: [2733-41-7].
$C_7H_4N_4O_3$ M 192.134
Cryst. (C_6H_6/pet. ether) or plates (EtOH aq.). Mp 71-72° (69°).

Hydrazide: [636-97-5]. p-*Nitrobenzhydrazide*
$C_7H_7N_3O_3$ M 181.151
Used as 1% soln. in Me_2CO as acid-base indicator (pH range: 8.2-9.5, colour change: colourless → yellow). Cryst. (EtOH). Sol. Me_2CO, EtOH, C_6H_6. Mp 211-212°.

Org. Synth., Coll. Vol., 1, 1932, 389.
Org. Synth., Coll. Vol., 4, 1963, 715.
Papariello, G.J. *et al*, *Anal. Chem.*, 1964, **36**, 1028 (*use, hydrazide*)
Bass, V.C. *et al*, *Talanta*, 1966, **13**, 735 (*detn, V*)
Litvinenko, L.M., *Zh. Anal. Khim.*, 1966, **21**, 200 (*use, chloride*)
Koehergin, P.M. *et al*, *CA*, 1967, **66**, 10702w (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 736.
Tavale, S.S. *et al*, *Acta Crystallogr., Sect. B*, 1971, **27**, 1479.
Aldrich Library of NMR Spectra, 1974, **6**, 152B (*pmr*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 842G (*ir*)
Nachtmann, F. *et al*, *J. Chromatogr.*, 1976, **122**, 293; 1977, **136**, 279 (*use, chloride*)
Di Rienzo, F. *et al*, *Acta Crystallogr., Sect. B*, 1977, **33**, 3854 (*cryst struct*)
Niazi, M.S.K., *Bull. Chem. Soc. Jpn.*, 1989, **62**, 1253 (*pKa*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 857.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 411.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CCI250, ENO000, MMI000, NFH000, NFK100.

4-Nitrobenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, 9CI N-00094

4-Nitrobenzoic acid salicylhydrazide. 2-Hydroxybenzaldehyde 4-nitrobenzoylhydrazone
[50366-20-6]

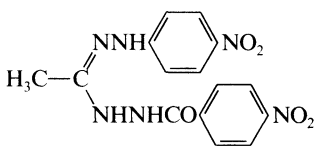


$C_{14}H_{11}N_3O_4$ M 285.259
Used as a 0.5% soln. in EtOH for photometric detn. of Ti (λ_{max} 238 nm, ε 18400); extraction-photometric detn. of Fe, Ti, V. Cryst. (EtOH aq.). Sol. EtOH. Mp 272°.

Dolgorev, A.V. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1093 (*detn, Ti, Fe, V*)

4-Nitrobenzoic acid [1-[2-(4-nitrophenyl) hydrazino]ethylidene]hydrazide, 9CI N-00095

2-(4-Nitrobenzoyl)-4-(4-nitrophenyl)acetohydrazidine
[54928-45-9]

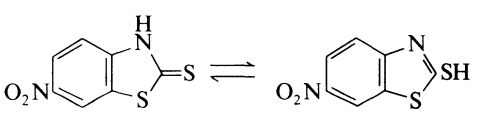


$C_{15}H_{14}N_6O_5$ M 358.313
Used as 6m*M* Me_2CO soln. for photometric detn. of Ni (λ_{max} 405 nm, ε 12800, pH 8.0-10.7, 20% Me_2CO). Orange cryst. Sol. Me_2CO, DMF; insol. H_2O. Mp 234°. pK_{a1} 1.1; pK_{a2} 9.8.

Dudareva, G.N. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 1285 (*synth, detn, Ni*)

6-Nitro-2(3*H*)-benzothiazolethione, 9CI N-00096

6-Nitro-2-benzothiazolethiol. 2-Mercapto-6-nitrobenzothiazole
[4845-58-3]



NH-form *SH-form*

$C_7H_4N_2O_2S_2$ M 212.253
Reagent for the identification of alkyl halides.

▷ DL6600000.

NH-form
Yellow needles (AcOH). Mp 255-257°.

SH-form
Minor tautomer.

S-*Me:* [3621-99-6].
$C_8H_6N_2O_2S_2$ M 226.280
Pale-yellow needles. Mp 128°.

S-*Et:* [65611-80-5].
$C_9H_8N_2O_2S_2$ M 240.306
Pale-yellow needles. Mp 106-108°.

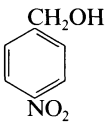
Disulfide:
$C_{14}H_6N_4O_4S_4$ M 422.490
Pale-yellow needles. Mp 229-231°.

Sebrell, L.B. *et al, J. Am. Chem. Soc.*, 1927, **49**, 1780; *U.S. Pat.*, 1 958 770; *CA*, **28**, 4632.
Fr. Pat., 741 910, (1933); *CA*, **27**, 3642.
Takahashi, T. *et al, Yakugaku Zasshi*, 1946, **66**, 24; *CA*, **45**, 8532.
Cutter, H.B. *et al, J. Am. Chem. Soc.*, 1947, **69**, 831 (*use*)
Faure, R. *et al, Org. Magn. Reson.*, 1978, **11**, 617 (*cmr, tautom*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MCP250.

4-Nitrobenzyl alcohol N-00097

4-Nitrobenzenemethanol, 9CI. 1-Hydroxymethyl-4-nitrobenzene. α-Hydroxy-4-nitrotoluene

[619-73-8]



$C_7H_7NO_3$ M 153.137
Cryst. (H_2O). Mp 92-93°. Bp_{12} 185°.

O-*Benzoyl:* [4457-41-4].
$C_{14}H_{11}NO_4$ M 257.245
Mp 94-95°.

4-Methylbenzenesulfonyl: [4450-68-4].
Protecting reagent for peptides. Uv labelling reagent for carboxylic acids. Mp 103°.

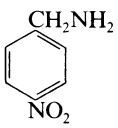
Ph ether: [3048-12-2]. *1-Nitro-4-(phenoxymethyl)benzene. 4-Nitrobenzyl phenyl ether*
$C_{13}H_{11}NO_3$ M 229.235
Cryst. (EtOH aq.). Mp 89-91°.

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 737.
Koizumi, T. *et al, Chem. Pharm. Bull.*, 1973, **21**, 312 (*synth*)
Lane, C.F. *et al, J. Org. Chem.*, 1974, **39**, 3052 (*synth*)
Maslak, P. *et al, J. Am. Chem. Soc.*, 1986, **108**, 2628 (*deriv, synth, pmr, ms*)
Funazo, K. *et al, J. Chromatogr.*, 1989, **481**, 211 (*use, tosylate*)

4-Nitrobenzylamine N-00098

1-(Aminomethyl)-4-nitrobenzene. 4-Nitrobenzenemethanamine

[7409-30-5]



$C_7H_8N_2O_2$ M 152.152
Needles. Mp 39-40°.

B,HCl: [18600-42-5].
Mp 256° dec.

▷ DP6705000.

N-*Ac:* [56222-10-7].
$C_9H_{10}N_2O_3$ M 194.190
Needles (H_2O). Mp 133°.

N-*Benzoyl:* [34907-24-9].
$C_{14}H_{12}N_2O_3$ M 256.260
Needles (EtOH). Mp 155-156°.

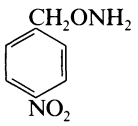
N-*Propyl:* [62869-74-3].
Used for photometric detn. of isocyanates, reagent for tlc of isocyanates. Mp 230-232° (as hydrochloride).

Feuer, M. *et al, J. Org. Chem.*, 1969, **34**, 1817 (*synth*)
Keller, J. *et al, Anal. Chem.*, 1974, **46**, 184; 1979, **51**, 1868 (*synth, N-propyl, use*)
Hastings, V. *et al, J. Chromatogr.*, 1977, **134**, 451 (*synth, N-propyl, use*)
Bagon, D.A. *et al, J. Chromatogr.*, 1980, **190**, 175 (*N-propyl, use*)
Graham, J.D., *J. Chromatogr. Sci.*, 1980, **18**, 384 (*N-propyl, use*)

O-(*p*-Nitrobenzyl)hydroxylamine, 8CI N-00099

O-[(*4-Nitrophenyl)methyl]hydroxylamine, 9CI.* p-*Nitrobenzyloxyamine*

[1944-96-3]

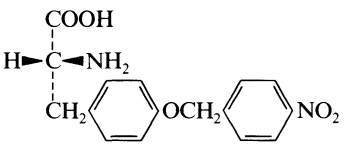


$C_7H_8N_2O_3$ M 168.152
Derivatisation reagent for carbonyl compds. used in gc and hplc sugars and for prostaglandin esters. Prisms (pet. ether). Mp 56°. Bp 130°.

B, HCl: [2086-26-2].
Leaflets (2*N* HCl). Mp 217° dec.

Brady, O.L. *et al, J. Chem. Soc.*, 1927, 874 (*synth*)
Fitzpatrick, F.A. *et al, Anal. Chem.*, 1977, **49**, 1032 (*use*)
Magin, D.F., *J. Chromatogr.*, 1979, **178**, 219 (*use*)
Lawson, M.A. *et al, J. Food Sci.*, 1980, **45**, 1256 (*use*)
Baldwin, J.E. *et al, Tetrahedron*, 1985, **41**, 5241 (*synth*)

O-(4-Nitrobenzyl)tyrosine, 9CI N-00100



(*R*)-*form*

$C_{16}H_{16}N_2O_5$ M 316.313

(R)-form
D-*form*

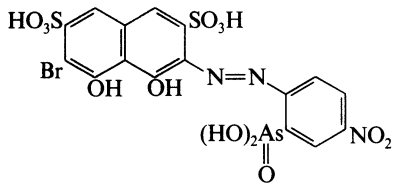
Me ester: [102937-83-7].
$C_{17}H_{18}N_2O_5$ M 330.340
Derivatisation reagent for detn. of optical purity of *N*-protected amino acids. Cryst. (as hydrochloride). Mp 174-176° (as hydrochloride). $[\alpha]_D^{20}$ +9.0° (c, 1 in MeOH).

[102937-82-6]

Gorog, S. *et al, J. Chromatogr.*, 1986, **353**, 417.

Nitrobromoarsenazo N-00101

3-[(2-Arsono-4-nitrophenyl)azo]-6-bromo-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 8CI



$C_{16}H_{11}AsBrN_3O_{13}S_2$ M 672.233

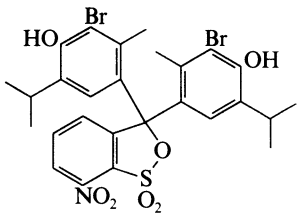
Strictly, the name Nitrobromoarsenazo applies to the disodium salt.

Di-Na salt: [4369-89-5].

Used as 0.1m*M* aq. soln. for photometric detn. of Sc (λ_{max} 580 nm, ε 12000, pH 4.5-5.5). Red cryst. powder. Sol. H_2O.

Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 1414 (*synth, use*)

Nitrobromothymol blue N-00102

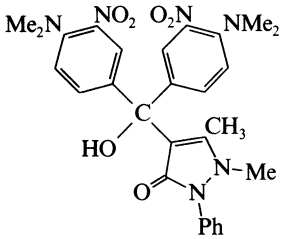


$C_{27}H_{27}Br_2NO_7S$ M 669.387

Used as acid-base indicator (pH range 7.5-9.5; colour change: yellow → blue). Used attached to amino groups on the surface of poly(methylmethacrylate) fibre. Pink cryst. powder. Sol. EtOH, alkalis; insol. H_2O. pK_{a1} 8.5.

Puschett, J.B. *et al*, *Talanta*, 1991, **38**, 335 (*synth, use*)

Nitrochromopyrazole N-00103



$C_{28}H_{30}N_6O_6$ M 546.582

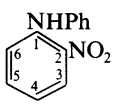
Antipyrine basic dye. Used as 0.1% soln. in 1*M* H_2SO_4 for extraction-photometric detn. of Ta (λ_{max} 550 nm, ε 83000, C_6H_6). Cryst. Sol. acids.

Podchainova, V.N. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 1312 (*detn, Ta*)

2-Nitrodiphenylamine, 8CI N-00104

2-Nitro-N-phenylbenzenamine, 9CI

[119-75-5]



$C_{12}H_{10}N_2O_2$ M 214.223

Used as a 5m*M* soln. in dil. H_2SO_4 as redox indicator for titrimetric detn.of Fe(*II*). Orange plates (EtOH aq.). Mp 75.5°. E∘ +1.09 V (0.5-2.0*M* H_2SO_4).

N-*Me:* [52997-62-3].

$C_{13}H_{12}N_2O_2$ M 228.250

Red oil. Bp_{15} 205°.

Ullmann, F. *et al*, *Ber.*, 1908, **41**, 1872 (*synth*)
Storrie, F.R., *J. Chem. Soc.*, 1931, 2261 (*deriv*)
Gandikota, M. *et al*, *Anal. Chim. Acta*, 1974, **72**, 163 (*use*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 859.

4-Nitrodiphenylamine, 8CI N-00105

4-Nitro-N-phenylbenzenamine, 9CI

[836-30-6]

$C_{12}H_{10}N_2O_2$ M 214.223

Used as EtOH soln. as a redox indicator. Yellow needles (EtOH). Mp 134°. E° +1.03V.

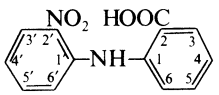
▷ JJ9600000.

Ullmann, F. *et al*, *Ber.*, 1908, **41**, 3744 (*synth*)
Walden, G.H. *et al*, *Chem. Rev.*, 1935, **16**, 81 (*use, indicator*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 580 (*use, indicator*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NFY000.

2′-Nitrodiphenylamine-2-carboxylic acid N-00106

2-(2-Nitrophenylamino)benzoic acid, 9CI

[5933-35-7]



$C_{13}H_{10}N_2O_4$ M 258.233

Used for photometric detn. of V(*V*) (λ_{max} 595nm, ε 18500); redox indicator. Cryst. (EtOH). Sol. alkalis, conc. H_2SO_4, EtOH, Et_2O, hot C_6H_6. Mp 219°, Mp 218-219°. E° + 0.90V (9*M* H_2SO_4).

▷ CB3710000.

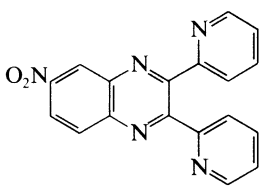
N-*Me:* Deep-red prisms (EtOH). Mp 136-137°.

Ullmann, F. *et al*, *Justus Liebigs Ann. Chem.*, 1907, **355**, 323 (*synth*)
Gibson, C.S. *et al*, *J. Chem. Soc.*, 1924, 2502 (*deriv*)
Bowden, K. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 947 (*synth*)
Frumina, N.S. *et al*, *Talanta*, 1969, **16**, 138 (*use*)

6-Nitro-2,3-di-2-pyridylquinoxaline, 8CI N-00107

2,3-Bis(2-pyridyl)-6-nitroquinoxaline

[17401-64-8]



$C_{18}H_{11}N_5O_2$ M 329.317

Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 549 nm, ε 2040, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 184°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)

Nitroethane, 9CI N-00108

[79-24-3]

$$H_3CCH_2NO_2 \rightleftharpoons H_3CCH{=}N^{\oplus}(OH)O^{\ominus}$$

$C_2H_5NO_2$ M 75.067

Exists as mixt. of nitro- and *aci*-nitro-forms. Metallic derivs. of *aci*-form are known. Found in cigarette smoke. Used as a liq. propellant in rockets, and in explosives. Solvent, esp. for Friedel-Crafts acylations. Used as an extraction solvent in separation of Ce(*IV*). Oily liq. with pleasant but slightly irritating odour. Misc. MeOH, EtOH, Et_2O, $CHCl_3$, sl. sol. hot, insol. cold H_2O. d_{25}^{25} 1.046. Mp −90°. Bp 114°. pK_a 8.60 (25°).

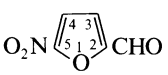
▷ Mod. toxic, TLV 310. Flammable. KI5600000.

McCombie, H. *et al*, *J. Chem. Soc.*, 1944, 24 (*synth*)
Reidel, J.C., *Oil Gas J.*, 1956, **54**, 110 (*manuf*)
Marsh, S.F. *et al*, *Anal. Chem.*, 1962, **34**, 1406 (*use*)
Fraser, R.T.M. *et al*, *J. Chem. Soc. B*, 1968, 1407 (*ms*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 357.
Starski, L. *et al*, *CA*, 1975, **82**, 113752 (*hazard*)
Barnes, M.W. *et al*, *J. Org. Chem.*, 1976, **41**, 733 (*synth*)
Fetell, A.I. *et al*, *J. Org. Chem.*, 1978, **43**, 1238 (*synth, ir, pmr*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 412.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NFY500.

5-Nitro-2-furancarboxaldehyde, 9CI N-00109

2-Formyl-5-nitrofuran. 5-Nitrofurfuraldehyde

[698-63-5]



$C_5H_3NO_4$ M 141.083

Cryst. (pet. ether). Mod. sol. H_2O. Mp 35-36°. Bp_{10} 128-132°. Extensively hydrated in aq. soln.

▷ LT7200000.

(E)-*Oxime:* [7197-93-5].
$C_5H_4N_2O_4$ M 156.098
Cryst. (EtOH). Mp 159-161°.

(Z)-*Oxime:* [6236-05-1]. ***Nifuroxime*, INN.** *Micofur*
Pale yellow or greenish cryst. (EtOH). Mp 163-164°. Darkens on exp. to light.

Semicarbazone: [59-87-0]. ***Nitrofurazone*, BAN, USAN.** *Nitrofural, INN. Furacin. Eldezol. Amifur. Furaciline*
$C_6H_6N_4O_4$ M 198.138
Bactericide, topical antiinfective. Used as a 0.5% aq. soln. for photometric detn. of Hg (λ_{max} 420 nm); for extraction-photometric detn. of Pd (λ_{max} 450 nm, ε 1400, butanol). Pale yellow needles. Sol. H_2O. Mp 236-240° dec. Component of Furacort, Furadex, Furea, Bifuran, Dermobion, Neovagon, Vagifurin.

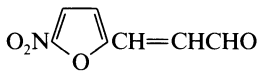
▷ LT7700000.

Gilman, H. *et al*, *J. Am. Chem. Soc.*, 1930, **52**, 2552 (*synth*)
U.S. Pat., 2 319 481, (1943); *CA*, **37**, 6413 (*Nifuroxime*)
Raffauf, R.F. *et al*, *J. Am. Chem. Soc.*, 1946, **68**, 1765 (*uv*)
U.S. Pat., 2 416 234, (1947); *CA*, **41**, 3488 (*Nitrofurazone*)
U.S. Pat., 2 927 110, (1960); *CA*, **54**, 12158 (*Nitrofurazone*)
Bagdasarov, K.N. *et al*, *Zavod. Lab.*, 1968, **34**, 390 (*detn, Hg*)
Bagdasarov, K.N. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 1002 (*synth, detn, Hg*)
Howarth, G.A. *et al*, *Talanta*, 1969, **16**, 967 (*Nifuroxime*)
Chamberlain, R.E., *J. Antimicrob. Chemother.*, 1976, **2**, 325 (*Nitrofurazone, rev*)
Gadzhieva, M.D., *CA*, 1977, **87**, 161226g (*detn, Pd*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1626, 2594.
Csaszar, J., *Acta Phys. Chem.*, 1984, **30**, 71 (*Nitrofurazone*)
Busker, R.W. *et al*, *Heterocycles*, 1987, **26**, 5 (*props*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 417 (*Nitrofurazone*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NGE500, NGE775.

3-(5-Nitro-2-furanyl)-2-propenal, 9CI N-00110

5-Nitro-2-furanacrolein, 8CI

[1874-22-2]



$C_7H_5NO_4$ M 167.121

Bactericide. Red-brown needles (EtOH). Mp 117-118°.

Thiosemicarbazone: [18854-93-8].
$C_8H_8N_4O_3S$ M 240.242
Used as a 0.4m*M* soln. in EtOH for photometric detn. of Pd (λ_{max} 485 nm, ε 23500), Pt (λ_{max} 500 nm, ε 17000). Cryst. (EtOH). Mp 216°. pK_{a1} 0.22; pK_{a2} 10.86.

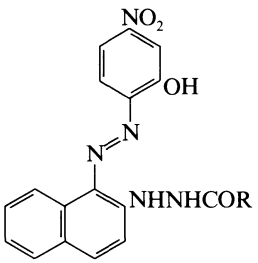
[52661-56-0]

Takahashi, T. *et al*, *Yakugaku Zasshi*, 1949, **69**, 284 (*synth*)
Saikachi, H. *et al*, *Yakugaku Zasshi*, 1953, **73**, 716 (*synth*)
Kerentseva, V.P. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1144; 1972, **27**, 719 (*synth, pKa, detn, Pd, Pt*)
Dandarova, M. *et al*, *Collect. Czech. Chem. Commun.*, 1986, **51**, 889 (*pmr, cmr*)

1-(4-Nitro-2-hydroxybenzeneazo)-2-(β-acetylhydrazino)naphthalene N-00111

Acetic acid 2-[1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenyl]hydrazide, 9CI

[17560-30-4]



R = CH_3

$C_{18}H_{15}N_5O_4$ M 365.348

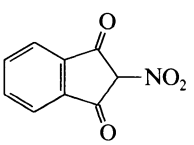
Used as 0.2m*M* Me_2CO soln. for photometric detn. of Zn (λ_{max} 646 nm, ε 38000, Me_2CO aq.). Red cryst. (DMF aq.). Sol. H_2O, DMF, Me_2CO. Mp 223°.

Dziomko, V.M., *CA*, 1968, **68**, 104801g (*synth, detn, Zn*)
Kamaeva, L.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 1718; 1972, **27**, 1687 (*synth, Zn, detn*)

2-Nitro-1,3-indanedione N-00112

2-Nitro-1H-indene-1,3(2H)-dione, 9CI

[3674-33-7]



$C_9H_5NO_4$ M 191.143

Exists as the enol form in soln. Reagent for the identification of amines. Used in the photometric anal. of isoniazid. Pale yellow powder. Mp 131°.

Dihydrate: [64887-75-8].
Yellow cryst. (H_2O). Mp 113°, Mp 119° dec.

Vonags, G., *Ber.*, 1936, **69**, 1066; 1937, **70**, 547 (*synth, use*)
Cristensen, B.E. *et al*, *Anal. Chem.*, 1949, **21**, 1573 (*use*)
Alexander, R.G. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1977, 1191 (*synth*)
Petrenko, V.V. *et al*, *CA*, 1988, **108**, 10501e (*use*)

Nitromethane, 9CI, 8CI N-00113

[75-52-5]

H_3CNO_2

CH_3NO_2 M 61.040
Occurs in tobacco smoke. Used as a solvent and as a fuel for rockets and specialised internal combusion engines. Has bactericidal props. Polar solv., used in synthesis. Used as an extraction solvent in separation of actinides. Poisonous, oily liq. with mod. disagreeable odour. Sol. EtOH, Et_2O, DMF, sl. sol. H_2O. d_4^{25} 1.1322 (1.1297). Fp −28.5° (−17°). Bp 101-101.5°, Bp_{100} 46.6°. Aq. soln. reacts acid to litmus.

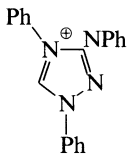
▷ Mod. toxic vapour, TLV 250. Flammable, explosive. Forms an explosive Na salt which inflames on contact with H_2O. PA9800000.

Org. Synth., Coll. Vol., 1, 1932, 401 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 357.
Meyerson, S. *et al*, *Org. Mass Spectrom.*, 1974, **9**, 485 (*ms*)
Vennestra, G.E. *et al*, *Synthesis*, 1975, 519 (*synth*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976.
Fridman, A.L. *et al*, *Khim.-Farm. Zh.*, 1976, **10**, 53 (*pharmacol*)
Parrett, F.W. *et al*, *J. Chem. Educ.*, 1977, **54**, 448 (*purifn*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 414.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NHM500.

Nitron N-00114

1,4-Diphenyl-3-(phenylimino)-1,2,4-triazolidine mesoionic didehydro deriv., 8CI

[487-88-7]



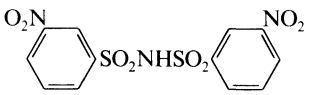
$C_{20}H_{16}N_4$ M 312.373
Used as 10% soln. in AcOH for gravimetric detn. of $NO_3^{\ominus}$, $ReO_4^{\ominus}$, $ClO_4^{\ominus}$, B (as $BF_4^{\ominus}$), W(*VI*); extraction separation of Au (as ion pair with $AuCl_4^{\ominus}$), $I^{\ominus}$; extraction-photometric detn. of Mo (as thiocyanate), V (in the presence of PAR). Yellow leaflets. Sol. EtOH, Me_2CO, $CHCl_3$; insol. H_2O. Mp 189°.

Cope, W.C. *et al*, *J. Am. Chem. Soc.*, 1917, **39**, 504 (*synth*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **3**, 138 (*synth, use*)
Lucchesi, C.A. *et al*, *Anal. Chem.*, 1957, **29**, 1169 (*detn, B*)
Evans, G.W. *et al*, *Aust. J. Chem.*, 1967, **20**, 1779 (*nmr*)
Gantchev, N. *et al*, *Mikrochim. Acta*, 1971, 476; 1972, 889 (*detn, I, Au*)
Pogranichnaya, R.M. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 180 (*detn, V*)
Koralewski, T.J. *et al*, *Anal. Chim. Acta*, 1980, **113**, 389 (*detn, Mo*)

3-Nitro-*N*-[(3-nitrophenyl)sulfonyl] benzenesulfonamide, 9CI N-00115

Bis(3-nitrophenyl)disulfimide

[23847-23-6]

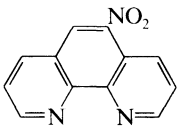


$C_{12}H_9N_3O_8S_2$ M 387.350
Used as acidimetric standard. Cryst. Sol. H_2O.

Runge, F. *et al*, *Fresenius' Z. Anal. Chem.*, 1957, **158**, 266 (*use*)

5-Nitro-1,10-phenanthroline, 9CI N-00116

[4199-88-6]



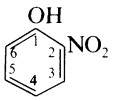
$C_{12}H_7N_3O_2$ M 225.206
Pale yellow needles (pet. ether). Mp 202°.

B,HCl: [23484-56-2].
Used as redox indicator. Pale yellow cryst. Sol. EtOH, $CHCl_3$, C_6H_6.

Harcrow, B.E. *et al*, *J. Chem. Soc.*, 1946, 155 (*synth*)
Smith, G.F. *et al*, *J. Org. Chem.*, 1947, **12**, 781 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

2-Nitrophenol, 9CI N-00117

[88-75-5]



$C_6H_5NO_3$ M 139.110
Reagent for prepn. of *O*-nitrophenyl esters used in peptide synth. Used as EtOH soln. as an acid-base indicator (pH range: 5.0-7.0; colourless → yellow). Yellow needles or prisms (EtOH or Et_2O). Sol. EtOH, C_6H_6; spar. sol. H_2O. Mp 44.9°. Bp 216°. pK_a 7.23 (25°).

▷ Mod. toxic by inhalation and skin absorption. SM2100000.

Me ether: [91-23-6]. *1-Methoxy-2-nitrobenzene, 9CI.* o-*Nitroanisole*
$C_7H_7NO_3$ M 153.137
Mp 10°. Bp 272°, Bp_9 134°. Steam-volatile.
▷ BZ8790000.

Et ether: [610-67-3]. *1-Ethoxy-2-nitrobenzene, 9CI.* o-*Nitrophenetole*
$C_8H_9NO_3$ M 167.164
Yellow-green oil. Mp 2.1°. Bp 267°, Bp_{16} 149°.
▷ SI7942000.

O-*Ac:* [610-69-5]. *2-Nitrophenyl acetate, 9CI*
$C_8H_7NO_4$ M 181.148
Needles or prisms (ligroin). Mp 40-41°. Bp 253° dec.

O-*Benzoyl:* [1523-12-2]. *Benzoic acid 2-nitrophenyl ester, 9CI*
$C_{13}H_9NO_4$ M 243.218
Prisms (ligroin). Mp 59°.

O-*4-Methylbenzenesulfonyl:* Mp 81°.

Hart, R.S., *J. Am. Chem. Soc.*, 1910, **32**, 1105 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 91 (*use, indicator*)

Tomasik, P. *et al*, *Bull. Acad. Pol. Sci., Ser. Sci. Chim.*, 1974, **22**, 1065 (*uv*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 477.
Bhave, M.D. *et al*, *J. Appl. Chem. Biotechnol.*, 1976, **26**, 167 (*synth*)
Smith, W.B. *et al*, *Org. Magn. Reson.*, 1976, **8**, 205 (*nmr*)
Bogolyubov, G.M. *et al*, *Zh. Obshch. Khim.*, 1976, **46**, 336 (*ms*)
Iwasaki, F. *et al*, *Acta Crystallogr., Sect. B*, 1978, **34**, 1286 (*cryst struct*)
Lutskii, A.E. *et al*, *Zh. Obshch. Khim.*, 1979, **49**, 1369 (*ir*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 560.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 415.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NER000, NIE500.

3-Nitrophenol, 9CI N-00118

[554-84-7]

$C_6H_5NO_3$ M 139.110

Used as 0.08% aq. soln. or 0.3% EtOH soln. as an acid-base indicator (pH range: 6.8-8.6; colourless → orange-yellow). Cryst. (HCl aq.). Sol. EtOH; spar. sol. H_2O. Mp 97°. Bp_{70} 194°. pK_a 8.36 (25°). Triboluminescent.

▷ Mod. toxic by inhalation and skin absorption.
SM1925000.

Me ether: [555-03-3]. *1-Methoxy-3-nitrobenzene, 9CI.* m-*Nitroanisole*
$C_7H_7NO_3$ M 153.137
Needles (EtOH), plates (C_6H_6/ligroin). Mp 38-39°. Bp 258°. Steam-volatile.
▷ BZ8787000.

Et ether: [621-52-3]. *1-Ethoxy-3-nitrobenzene, 9CI.* m-*Nitrophenetole*
$C_8H_9NO_3$ M 167.164
Yellow cryst. Mp 34°. Bp 284°.

O-*Ac:* [1523-06-4].
$C_8H_7NO_4$ M 181.148
Needles (pet. ether). Mp 55-56°.

O-*Benzoyl:* [1523-13-3].
$C_{13}H_9NO_4$ M 243.218
Mp 95°.

O-*4-Methylbenzenesulfonyl:* Prisms (EtOH). Mp 112-113°.

Org. Synth., Coll. Vol., 1, 1932, 396 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 91 (*use, indicator*)
Brasem, P. *et al*, *Tetrahedron Lett.*, 1972, 685 (*synth*)
Granzhan, V.A. *et al*, *Zh. Fiz. Khim.*, 1973, **47**, 515 (*ir*)
Fujio, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1975, **48**, 2127 (*nmr*)
Izmail'skii, V.A. *et al*, *Dokl. Akad. Nauk SSSR*, 1975, **221**, 103 (*uv*)
Vasudevan, P. *et al*, *J. Phys. Chem.*, 1976, **80**, 651 (*cryst struct*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 415.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NIE000.

4-Nitrophenol N-00119

[100-02-7]

$C_6H_5NO_3$ M 139.110

Reagent used in peptide synth. Used as EtOH soln. as an acid-base indicator (orange → yellow). Mp 114°. pK_a 7.15 (25°). Dimorphous. The metastable α-form is obt., by cryst. from toluene >63° and is light-stable. The β-form is obt. as yellow prisms from toluene <63° and gradually turns red in light. Normally obt. as a mixt. of both forms.

▷ Mod. toxic by inhalation and skin absorption.
SM2275000.

O-*Ac:* [830-03-5].
$C_8H_7NO_4$ M 181.148
Leaflets (EtOH aq.). Mp 81-82°.
▷ AJ1150000.

O-*Benzoyl:* [959-22-8].
$C_{13}H_9NO_4$ M 243.218
Needles. Mp 142.5°.

O-*4-Methylbenzenesulfonyl:* Mp 97°.

Me ether: [100-17-4]. *1-Methoxy-4-nitrobenzene, 9CI.* p-*Nitroanisole*
$C_7H_7NO_3$ M 153.137
Prisms (EtOH). Mp 54°. Bp 274°.
▷ BZ8800000.

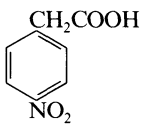
Et ether: [100-29-8]. *1-Ethoxy-4-nitrobenzene, 9CI.* p-*Nitrophenetole*
$C_8H_9NO_3$ M 167.164
Prisms (Et_2O or EtOH aq.). Mp 60°. Bp 283°.
▷ DA0600000.

Hart, R.S., *J. Am. Chem. Soc.*, 1910, **32**, 1105 (*synth*)
Michaelis, L. *et al*, *Biochem. Z.*, 1920, **109**, 165.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 297.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 91 (*use, indicator*)
Granzhan, V.A. *et al*, *Zh. Fiz. Khim.*, 1973, **47**, 515 (*ir*)
Fujio, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1975, **48**, 2127 (*nmr*)
Yurchenko, R.I. *et al*, *Zh. Obshch. Khim.*, 1975, **45**, 1735 (*uv*)
Karasek, F.W. *et al*, *Anal. Chem.*, 1976, **48**, 1133 (*ms*)
Bhave, M.D. *et al*, *J. Appl. Chem. Biotechnol.*, 1976, **26**, 167 (*synth*)
Penner, G.H. *et al*, *Can. J. Chem.*, 1989, **67**, 525 (*cmr, 4-nitroanisole*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 415.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ABS750, NER500, NID000, NIF000.

(4-Nitrophenyl)acetic acid N-00120

4-Nitrobenzeneacetic acid, 9CI

[104-03-0]



$C_8H_7NO_4$ M 181.148

Yellow needles (H_2O). Mp 153° (150°). pK_{a1} 3.92 (25°).

▷ AJ1130010.

Me ester: [2945-08-6].
$C_9H_9NO_4$ M 195.174
Needles (pet. ether). Mp 54°.

Et ester: [5445-26-1].
$C_{10}H_{11}NO_4$ M 209.201
Leaflets (pet. ether). Mp 65.5-66°. Bp_{20} 196-197°.

Chloride: [50434-36-1].
$C_8H_6ClNO_3$ M 199.593
Pale-yellow plates (pet. ether). Mp 46-47°.

Amide: [6321-12-6].
$C_8H_8N_2O_3$ M 180.163
Prisms. Mp 197-198° (191°).

Nitrile: [555-21-5]. *1-(Cyanomethyl)-4-nitrobenzene.* p-*Nitrobenzyl cyanide. 4-Nitrobenzeneacetonitrile, 9CI*
$C_8H_6N_2O_2$ M 162.148
Acid-base indicator (pH range: 11.4-12.9; colour change: orange → red). Plates. Mp 116-117°.
▷ AM1250000.

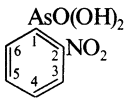
Azide:
$C_8H_6N_4O_3$ M 206.160
Mp 45° dec.
▷ Explodes on rapid heating.

Org. Synth., Coll. Vol., 1, 1932, 396, 406 (*synth*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **3** (*synth, use, oxime*)
Naidan, U.M. *et al*, *J. Gen. Chem. USSR* (*Engl. Transl.*), 1963, **34**, 1474 (*synth*)
Issa, R.M. *et al*, *Spectrochim. Acta, Part A*, 1975, **31**, 199 (*ir, uv*)
Bowie, J.H. *et al*, *Org. Mass Spectrom.*, 1977, **12**, 436 (*ms*)
Kalir, A. *et al*, *Synthesis*, 1987, 514 (*nitrile, synth, pmr*)
Grabowski, S.J. *et al*, *Acta Crystallogr., Sect. C*, 1990, **46**, 428 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NIJ000.

2-Nitrophenylarsonic acid, 9CI N-00121

o-Nitrobenzenearsonic acid, 8CI

[5410-29-7]



$C_6H_6AsNO_5$ M 247.039

Fungicide, wood preservative, reagent for quantitative precipitation of metal ions. Light-yellow needles. Sol. H_2O. Mp 235°, Mp 224-225° dec. pK_{a1} 3.37; pK_{a2} 8.54 (22°).

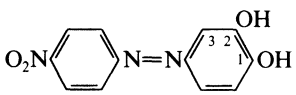
▷ CY5950000.

Goddard, A.E., *Textbook of Inorg. Chem.*, Vol XI, *Organometallic Compds.*, pt II, Charles Griffin and Co., London, 1930, 170.
Pressman, D. *et al*, *J. Am. Chem. Soc.*, 1943, **65**, 540 (*pKa*)
Margeerum, D.W. *et al*, *Anal. Chem.*, 1953, **25**, 1219 (*synth*)
U.S. Pat., 2 726 189, (1955); *CA*, **50**, 6793 (*use*)
Freeman, L.D. *et al*, *J. Org. Chem.*, 1959, **24**, 1590 (*synth*)
Nakata, H. *et al*, *Bull. Chem. Soc. Jpn.*, 1962, **35**, 1611 (*use*)
Tsetovskii, V.M. *et al*, *Zh. Obshch. Khim.*, 1972, **42**, 2702 (*pKa*)
Tszchach, A. *et al*, *J. Organomet. Chem.*, 1973, **60**, 95 (*props*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NEX500.

4-[(4-Nitrophenyl)azo]-1,2-benzenediol, 9CI N-00122

3,4-Dihydroxy-4'-nitroazobenzene. 4-(p-Nitrophenylazo) pyrocatechol, 8CI. p-*Nitrobenzeneazopyrocatechol*

[843-33-4]



$C_{12}H_9N_3O_4$ M 259.221

Used as 0.1% soln. in EtOH or $CHCl_3$ as metallochromic indicator in titrimetric detn. of Bi, Cu, Hf, Th, Zr; extraction-photometric detn. of Zr (λ_{max} 540 nm, $CHCl_3$), Ti(*IV*) (λ_{max} 520 nm, ε 54000), W (λ_{max} 470 nm, ε 40000); acid-base indicator (pH range: 10.4-11.7; colour change: orange-red → purple). Red cryst. Mp 188-190°.

Di-Na salt: [35033-46-6].

Orange-red cryst. Sol. EtOH, Me_2CO, alkalis.

Körbl, J. *et al*, *Collect. Czech. Chem. Commun.*, 1957, **22**, 1416 (*detn, Bi, Cu, Th*)
Poluektov, N.S. *et al*, *Zavod. Lab.*, 1957, **23**, 660 (*detn, Hf, Zr*)
Kokkinos, K. *et al*, *Helv. Chim. Acta*, 1971, **54**, 335 (*props*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.
Pvatnitskii, I.V. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1975, **41**, 1090 (*detn, Zr*)
Myasoedova, A.S. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 2398 (*detn, W*)
Vilkova, O.M. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 716 (*synth, detn, Zr*)
Ivanov, V.M. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 2124 (*detn, Ti*)

4-[(4-Nitrophenyl)azo]-1,3-benzenediol, 9CI N-00123

4-[(4-Nitrophenyl)azo]resorcinol, 8CI. 2,4-Dihydroxy-4'-nitroazobenzene. Azo violet. Magneson I

[74-39-5]

$C_{12}H_9N_3O_4$ M 259.221

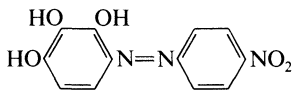
Used as 0.5% soln. in 1% NaOH as an acid-base indicator in non-aq. media; as 0.004% soln. in 50% EtOH for photometric detn. of Mg (λ_{max} 550 nm; pH ~ 13); gives colour reaction with Pd; used as a 0.01% soln. in EtOH as an indicator in bromatometric detn. of As, Sb. Dark red cryst. powder (MeOH). Sol. alkalis, EtOH, C_6H_6; insol. H_2O, acids, common org. solvs. Mp 199-200°.

Kul'berg, L.M. *et al*, *Zh. Obshch. Khim.*, 1947, **17**, 601 (*synth*)
Rusconi, Y. *et al*, *Helv. Chim. Acta*, 1948, **31**, 1549 (*detn, Mg*)
Budanova, L.M. *et al*, *Zavod. Lab.*, 1956, **22**, 1419 (*detn, Mg*)
Popa, G. *et al*, *Zh. Anal. Khim.*, 1959, **14**, 322 (*detn, Pd*)
Cundiff, R.H. *et al*, *Anal. Chem.*, 1961, **33**, 1028.
Marple, L.W. *et al*, *Anal. Chem.*, 1963, **35**, 1305.
Fritz, J.S. *et al*, *Talanta*, 1966, **13**, 939.
Bognar, J. *et al*, *CA*, 1976, **85**, 40406y (*detn, As, Sb*)

4-[(4-Nitrophenyl)azo]-1,2,3-benzenetriol, 9CI N-00124

2,3,4-Trihydroxy-4'-nitroazobenzene

[6370-37-2]

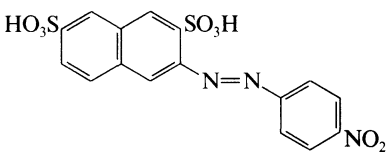


$C_{12}H_9N_3O_5$ M 275.220

Used as 1m*M* Me_2CO soln. for photometric detn. of Mo(*VI*) (λ_{max} 540 nm, ε 9000, 0.01-0.05*M* HCl). Dark brown powder. Sol. Me_2CO, EtOH.

Gambarov, D.G. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 2190 (*synth, detn, Mo*)

3-[(4-Nitrophenyl)azo]-2,7-naphthalenedisulfonic acid N-00125



$C_{16}H_{11}N_3O_8S_2$ M 437.410

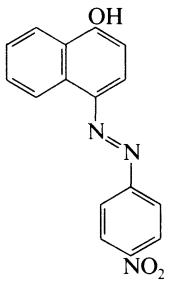
Used as 0.1% aq. soln. for photometric detn. of Pd (λ_{max} 684 nm, ε 14000). Dark red cryst. Sol. H_2O.

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 558 (*detn, Pd*)

4-[(4-Nitrophenyl)azo]-1-naphthalenol, 9CI N-00126

Magneson II

[5290-62-0]



$C_{16}H_{11}N_3O_3$ M 293.281

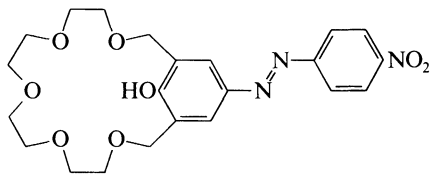
Used as an aq. soln. for photometric detn. of Mg; adsorption indicator. Red cryst. powder. Sol. EtOH; spar. sol. H_2O. Mp >300°.

Meldola, R., *J. Chem. Soc.*, 1885, **47**, 661 (*synth*)
Babko, A.K. *et al*, *Zh. Anal. Khim.*, 1962, **17**, 416, 922; 1969, **24**, 786 (*use*)
Legradi, L., *Acta Chim. Acad. Sci. Hung.*, 1968, **57**, 247 (*use*)
Legradi, L., *Hung. Acta Chim.*, 1968, **57**, 241 (*ind, use*)
Babko, A.K. *et al*, *Zavod. Lab.*, 1968, **34**, 1435 (*detn, Mg*)

19-[(4-Nitrophenyl)azo]-3,6,9,12,15-pentaoxabicyclo[15,3,1]heneicosa-1(21),17,19-trien-21-ol, 9CI N-00127

2-Hydroxy-4-nitrophenylazo-1,3-xylyl-18-crown-5

[110518-92-8]



$C_{22}H_{27}N_3O_8$ M 461.471

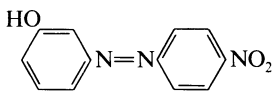
Used as 0.1% MeOH soln. for photometric detn. of K (λ_{max} 557 nm, pH 7-8) (optical sensor for K). Orange cryst. (EtOH). Sol. EtOH, MeOH. Mp 107-110°.

Alder, J.F. *et al*, *Analyst (London)*, 1987, **112**, 1191 (*synth, detn, K*)
Al-Amir, S.M. *et al*, *Talanta*, 1989, **36**, 645 (*detn, K*)

2-[(4-Nitrophenyl)azo]phenol, 9CI N-00128

4-(3-Hydroxyphenylazo)nitrobenzene

[15331-60-9]



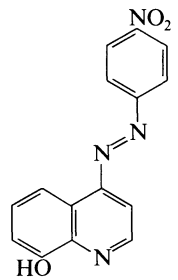
$C_{12}H_9N_3O_3$ M 243.221

Used as 0.1% soln. in EtOH for titrimetric detn. of Cu. Orange cryst. (EtOH). Sol. EtOH, Me_2CO.

Pribyl, R., *Komplexometrie*, V.II, VEB Deutscher Verlag für Grundstoffindustrie, Leipzig, 1962 (*detn, Cu*)

5-[(4-Nitrophenyl)azo]-8-quinolinol N-00129

[4341-11-1]



$C_{15}H_{10}N_4O_3$ M 294.269

Brown needles ($CHCl_3$). Mp 281°.

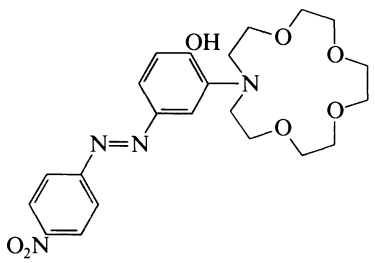
1-Oxide: [63319-31-3].
$C_{15}H_{10}N_4O_4$ M 310.268

Used as a soln. in NH_3 aq. for photometric detn. of Al, Co, Cu, Pb, Pd, Zn. Yellow-brown cryst. powder. Sol. alkalis, H_2O; spar. sol. EtOH (0.005 g per 100 cm^3), Me_2CO (0.01 g per 100 cm^3). Mp 243°. λ_{max} 420 nm (EtOH).

Fox, J.J., *J. Chem. Soc.*, 1910, **97**, 1337 (*synth*)
Nemodruk, A.A. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 457 (*use*)

4-[(4-Nitrophenyl)azo]-2-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-yl)phenol, 9CI N-00130

[100852-76-4]



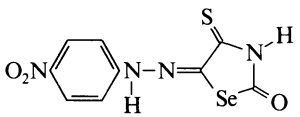
$C_{22}H_{28}N_4O_7$ M 460.486

Used as 1,2-dichloroethane soln. for extraction sepn. of Li and Na from K. Yellow cryst. Sol. $CHCl_3$, 1,2-dichloroethane. pK_a 8.97 (25°, μ = 0.1, 10% dioxan).

Katayama, Y. *et al*, *Anal. Sci.*, 1985, **1**, 393 (*synth, use*)

5-[(4-Nitrophenyl)azo]-4-thioxo-2-selenazolidinone N-00131

p-*Nitrobenzeneazoselenoisorhodanine*



$C_9H_6N_4O_3SSe$ M 329.197

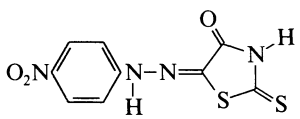
Various tautomers possible. Used as EtOH soln. for photometric detn. of noble metals. Brown cryst. powder. Sol. EtOH, H_2O.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*use*)

5-[(4-Nitrophenyl)azo]-2-thioxo-4-thiazolidinone, 9CI N-00132

p-*Nitrobenzeneazorhodanine*

[959-43-3]



$C_9H_6N_4O_3S_2$ M 282.303

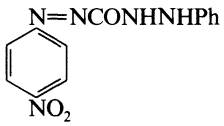
Various tautomers possible. Used for photometric detn. of Ag, Cd, Co, Ni, Pb, Zn. Orange cryst. powder. Sol. Me_2CO, EtOH.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*use*)

(4-Nitrophenyl)diazenecarboxylic acid 2-phenylhydrazide N-00133

5-(4-Nitrophenyl)-1-phenylcarbazone

[29639-09-6]

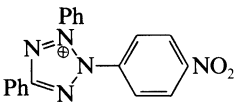


$C_{13}H_{11}N_5O_3$ M 285.262

Used as 5m*M* EtOH soln. for photometric detn. of Cu(*II*) (λ_{max} 490 nm, ε 38000), Hg(*II*) (λ_{max} 596 nm, ε 12000). Brown cryst. (EtOH). Sol. EtOH. Mp 153°. pK_a 6.2.

Czech, N. *et al*, *Anal. Chim. Acta*, 1980, **121**, 275 (*synth, use*)

2-(4-Nitrophenyl)-3,5-diphenyl-2*H*-tetrazolium(1+) N-00134



$C_{19}H_{14}N_5O_2^{\oplus}$ M 344.352 (ion)

Chloride: [20829-03-2].

$C_{19}H_{14}ClN_5O_2$ M 379.805

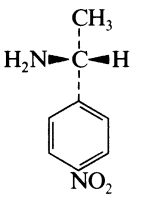
Used as 3m*M* soln. in 2-propanol for photometric detn. of As (λ_{max} 620 nm). Cryst. Sol. 2-propanol, Me_2CO.

Kolesnikova, A.M. *et al*, *Zh. Anal. Khim.*, 1987, **42**, 1270 (*detn, As*)

1-(4-Nitrophenyl)ethylamine N-00135

α-Methyl-4-nitrobenzenemethanamine, 9CI

[42142-15-4]



(*R*)-*form*

$C_8H_{10}N_2O_2$ M 166.179

(***R*)-*form*** [22038-87-5]

Resolving agent for carboxylic acids. Liq. $Bp_{0.5}$ 119-120°. $[\alpha]_D^{24}$ +16.9° (c, 3.8 in $CHCl_3$).

B, HCl: [57233-86-0].

Cryst. (EtOH). Mp 243-245°.

(***S*)-*form*** [4187-53-5]

Liq. $Bp_{1.1}$ 127°. $[\alpha]_D^{25}$ −20.3° (c, 4.5 in $CHCl_3$).

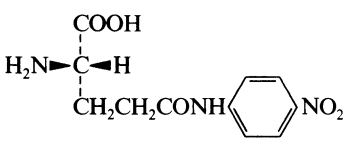
(±)-***form*** [73069-55-3]

pK_a 8.50. n_D^{20} 1.5680.

Cope, A.C. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 1243 (*synth*)
Scott, C.G. *et al*, *J. Chromatogr.*, 1976, **125**, 157 (*use*)
Valentine, D. *et al*, *J. Org. Chem.*, 1976, **41**, 62 (*use*)
Perry, C.W. *et al*, *Synthesis*, 1977, **7**, 492 (*synth, use*)

N-(4-Nitrophenyl)glutamine, 9CI N-00136

2-Amino-4'-nitroglutaranilic acid, 8CI. γ-Glutamyl-p-nitroanilide



$C_{11}H_{13}N_3O_5$ M 267.241

(***S*)-*form*** [7300-59-6]

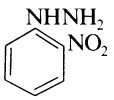
L-form

Substrate for the detn. of γ-glutamyltranspeptidase activity in serum and tissues. White to pale yellow cryst. (+ H_2O).

Szasz, G., *Clin. Chem.* (*Winston-Salem, N.C.*), 1969, **15**, 124 (*use*)
Tate, S.S. *et al*, *J. Biol. Chem.*, 1974, **249**, 7593 (*use*)
Lindsay, H. *et al*, *Org. Prep. Proced. Int.*, 1975, **7**, 89 (*synth*)
Selvaraj, P. *et al*, *Clin. Chim. Acta*, 1982, **121**, 291 (*use*)

(2-Nitrophenyl)hydrazine, 9CI N-00137

[3034-19-3]



$C_6H_7N_3O_2$ M 153.140

Occasionally used to characterise carbonyl compds., esp. sugars. Anal. reagent for carboxylic acids, anhydrides and acid chlorides. Dark-red needles (C_6H_6). Mp 90°.

▷ MV8210000.

B,HCl: [56413-75-3].

Mp 200-201° dec. (rapid heating).

Ac:

$C_8H_9N_3O_3$ M 195.177

Yellow needles (EtOH). Mp 140-141°.

Di-Ac:

$C_{10}H_{11}N_3O_4$ M 237.215

Prisms (EtOH). Mp 57-58°.

Benzoyl:

$C_{13}H_{11}N_3O_3$ M 257.248

Yellow needles (EtOH). Mp 166°.

Bischler, A., *Ber.*, 1889, **22**, 2801 (*synth*)
Müller, H. *et al*, *Helv. Chim. Acta*, 1937, **20**, 1468 (*synth*)
Atkinson, C.M. *et al*, *J. Chem. Soc.*, 1954, 165 (*synth*)
Skripkina, V.T. *et al*, *CA*, 1966, **65**, 7081 (*synth*)
Rappoport, Z. *et al*, *J. Chem. Soc. B*, 1968, 277 (*uv*)
Benoit, F. *et al*, *Can. J. Chem.*, 1969, **47**, 3611 (*ms*)
Legradi, L., *Mikrochim. Acta*, 1970, 463; 1971, **1**, 380 (*use*)
Munsen, J.W., *J. Pharm. Sci.*, 1974, **63**, 252 (*use*)
Miwa, M. *et al*, *Chem. Pharm. Bull.*, 1980, **28**, 599 (*use*)
Horikawa, R. *et al*, *Anal. Lett.*, 1982, **15**, 1629 (*use*)
Miwa, H. *et al*, *J. Chromatogr.*, 1985, **321**, 165; 1987, **416**, 237; 1987, **421**, 33 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NIQ800.

(4-Nitrophenyl)hydrazine, 9CI N-00138

[100-16-3]

$C_6H_7N_3O_2$ M 153.140

Reagent for the detn. of carbonyl compds. Used as 0.3% soln. in EtOH as acid-base indicator (pH range: 2.5-3.0; colour change: colourless → yellow). Orange-red leaflets or needles (EtOH). Sol. Et_2O, $CHCl_3$; mod. sol. EtOH. Mp 157°. pK_{a1} 2.7.

▷ Irritant, mod. toxic by skin absorption. MV8225000.

B,HCl: [56413-74-2].

Mp 196-197°, Mp 212°.

Picrate: Red needles (H_2O). Mp 119-120°.

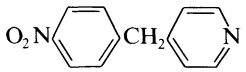
Bamberger, E. *et al*, *Ber.*, 1896, **29**, 1834 (*synth*)
Kindlmann, L., *CA*, 1939, **33**, 4211 (*synth*)
Skripkina, V.T. *et al*, *CA*, 1966, **65**, 7081 (*synth*)
Rappoport, Z. *et al*, *J. Chem. Soc. B*, 1968, 277 (*uv*)
Benoit, F. *et al*, *Can. J. Chem.*, 1969, **47**, 3611 (*ms*)
Exner, O. *et al*, *Collect. Czech. Chem. Commun.*, 1972, **73**, 2156 (*ir*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 416.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NIR000.

4-[(4-Nitrophenyl)methyl]pyridine, 9CI N-00139

4-(p-Nitrobenzyl)pyridine

[1083-48-3]



$C_{12}H_{10}N_2O_2$ M 214.223

Chromogenic reagent for determination of relative alkylating potential of alkylating agents e.g. carcinogens and mutagens. Used for photometric detn. of organophosphorus pesticides. Used as a 3% soln. in 2*M* HCl for detn. of platinum group metals. Cryst. (cyclohexane). Mp 70-71°.

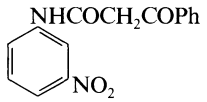
[35466-40-1]

Koenigs, E. *et al*, *Ber.*, 1925, **58**, 933.
Epstein, J. *et al*, *Anal. Chem.*, 1955, **27**, 1435 (*use*)
Friedman, O.M. *et al*, *Anal. Chem.*, 1961, **33**, 906 (*use*)
Schaeffer, H.F. *et al*, *Anal. Chem.*, 1964, **36**, 169 (*use*)
Wheeler, G.P. *et al*, *J. Med. Chem.*, 1967, **10**, 259 (*use*)
Turner, C.R., *Analyst (London)*, 1974, **99**, 431 (*detn, pesticides*)
Agarwal, S.G., *Bull. Environ. Contam. Toxicol.*, 1979, **23**, 825; *CA*, **92**, 35257r (*use*)
Kawazoe, Y. *et al*, *Chem. Pharm. Bull.*, 1982, **30**, 2077 (*use*)

N-(3-Nitrophenyl)-β-oxobenzenepropenamide, 9CI N-00140

N-(*Benzoylacetyl*)-m-*nitroaniline*

[1734-36-7]



$C_{15}H_{12}N_2O_4$ M 284.271

Used as a 1% soln. in EtOH for gravimetric detn. of Hg, Ti, V(*IV*). Cryst. (C_6H_6). Sol. EtOH, Me_2CO, C_6H_6; insol. H_2O.

Chandhuri, N. *et al*, *J. Indian Chem. Soc.*, 1971, **48**, 525; 1973, **50**, 446 (*synth, detn, Ti, Hg*)
Mandal, S.K. *et al*, *J. Indian Chem. Soc.*, 1975, **52**, 1146 (*detn, V*)

1-(4-Nitrophenyl)-5-phenylcarbazone N-00141

Diazenecarboxylic acid 2-(4-nitrophenyl)hydrazide, 9CI

[76789-98-5]

$C_{13}H_{11}N_5O_3$ M 285.262

Used as 5m*M* EtOH soln. for photometric detn. of Cu(*II*) (λ_{max} 462 nm, ε 28000), Hg(*II*) (λ_{max} 600 nm, ε 16000). Dark red cryst. Sol. EtOH. Mp 137°. pK_a 6.4.

Czech, N. *et al*, *Anal. Chim. Acta*, 1980, **121**, 275 (*synth, detn, Cu, Hg*)

(4-Nitrophenyl)phenylethanedione, 9CI N-00142

4-Nitrobenzil, 8CI. α-4-Nitrophenyl-β-phenylglyoxal

[22711-24-6]

$C_{14}H_9NO_4$ M 255.229

Yellow plates or needles (EtOH). Mp 142°.

Monoxime: [31390-84-8].
$C_{14}H_{10}N_2O_4$ M 270.244
Mp 140°.

Dioxime: [43084-62-4].
$C_{14}H_{11}N_3O_4$ M 285.259
Used as 1m*M* EtOH soln. for extraction-photometric detn. of Ni (λ_{max} 412 nm, ε 13300, $CHCl_3$), Cu. Two forms known. Mp 225° dec. (228-230°), Mp 185° (dimorph.).

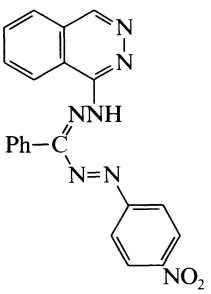
Phenylhydrazone: Two forms, yellow plates or orange plates. Mp 200° (yellow form), Mp 162° (orange form).

Womack, E. *et al*, *J. Chem. Soc.*, 1938, 1402.
McKillop, A. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 1296 (*synth*)
Kuse, S. *et al*, *Anal. Chim. Acta*, 1974, **70**, 65 (*dioxime, synth, detn, Ni, Cu*)
Dillard, J.G. *et al*, *Org. Mass Spectrom.*, 1975, **10**, 728 (*ms*)
Tatsugi, J. *et al*, *J. Chem. Res., Synop.*, 1988, 356 (*synth*)

1-(4-Nitrophenyl)-3-phenyl-5-(1-phthalazinyl)formazan N-00143

1(2H)-Phthalazinone [[(4-nitrophenyl)azo]phenylmethylene] hydrazone, 9CI

[67073-45-4]

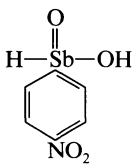


$C_{21}H_{15}N_7O_2$ M 397.395

Used as 2m*M* soln. in EtOH for extraction-photometric detn. of Hg (λ_{max} 570 nm, ε 26000, $CHCl_3$). Brown cryst. (cyclohexane). Sol. EtOH, cyclohexane, $CHCl_3$, DMF.

Barbina, T.M. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 1222 (*synth, detn, Hg*)

4-Nitrophenylstibinic acid N-00144

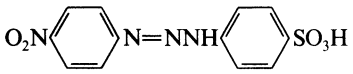


$C_6H_6NO_4Sb$ M 277.868

Used as a 0.15% aq. soln. to give colour reaction with Mg. Cryst.

Pligin, S.G., *Zh. Anal. Khim.*, 1966, **21**, 373 (*use*)

4-[3-(4-Nitrophenyl)-1-triazenyl] benzenesulfonic acid, 9CI N-00145



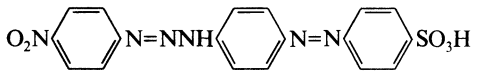
$C_{12}H_{10}N_4O_5S$ M 322.301

Na salt: [71369-42-1].

Used as a 0.1% soln. in aq. EtOH for photometric detn. of Hg. Cryst. pK_{a1} 2.69; pK_{a2} 10.48.

Danet, A.F. *et al*, *Rev. Chim. (Bucharest)*, 1979, **30**, 376 (*synth, use*)

4-[[4-[3-(4-Nitrophenyl)-2-triazenyl]phenyl] azo]benzenesulfonic acid, 8CI N-00146



$C_{18}H_{14}N_6O_5S$ M 426.412

Na salt: [18824-38-9].

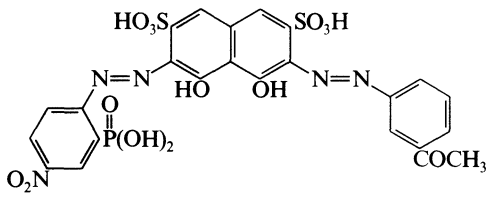
Used as a 0.05% aq. soln. for photometric detn. of Pb, Hg. Orange-red cryst. Mod. sol. H_2O.

Lukin, A.M. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 295 (*detn, Pb*)
Lukin, A.M. *et al*, *CA*, 1968, **68**, 18242u (*detn, Hg*)

Nitrophosphonazo-mA N-00147

3-[(3-Acetylphenyl)azo]-4,5-dihydroxy-6-[(4-nitro-2-phosphonophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI

[87454-39-5]



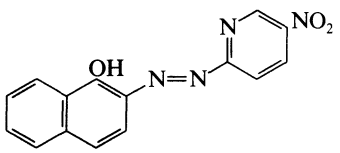
$C_{24}H_{18}N_5O_{14}PS_2$ M 695.537

Used as aq. soln. for photometric detn. of Ce (λ_{max} 600 nm, ε 75000). Cryst. Sol. H_2O.

Liu Heng-chuan, *et al*, *Fenxi Huaxue*, 1983, **11**, 418; *CA*, **99**, 168584m (*detn, Ce*)

2-[(5-Nitro-2-pyridinyl)azo]-1-naphthalenol, 9CI N-00148

[18824-41-4]



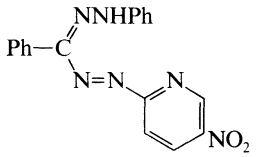
$C_{15}H_{10}N_4O_3$ M 294.269

Used as 2m*M* soln. in dioxan for photometric detn. of Cu (λ_{max} 598 nm, ε 86000), Ni (λ_{max} 632 nm, ε 74000, Triton X-100). Brown-red cryst. (dioxan). Sol. dioxan, EtOH, Me_2CO, $CHCl_3$; insol. H_2O. Mp 245-246°.

Dahl, I., *Anal. Chim. Acta*, 1972, **62**, 145 (*synth, detn, Cu*)
Sakai, Y., *Bunseki Kagaku (Jpn. Anal.)*, 1979, **28**, 10 (*detn, Ni*)

1-(5-Nitro-2-pyridinyl)-3,5-diphenylformazan, 9CI N-00149

[21542-40-5]



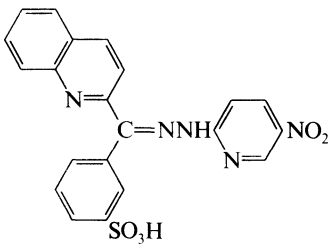
$C_{18}H_{14}N_6O_2$ M 346.348

Used for photometric detn. of Cu (λ_{max} 630 nm), Zn (λ_{max} 630 nm, ε 11000). Metallochromic indicator for titrimetric detn. of Cu, Ni; acid-base indicator. Violet cryst. (MeOH). Sol. Me_2CO, EtOH. pK_{a2} 11.83 (50% dioxan).

Kiyokawa, M. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1972, **21**, 244.
Tanaka, A. *et al*, *CA*, 1982, **96**, 177289j; 1984, **101**, 187270g (*detn, Cu, Zn*)

3-[[(5-Nitro-2-pyridinyl)hydrazono]-3-isoquinolinylmethyl]benzenesulfonic acid, 9CI N-00150

[133303-51-2]



$C_{21}H_{15}N_5O_5S$ M 449.446

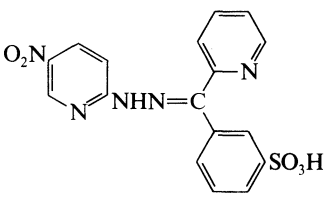
Used as 1m*M* soln. in 0.01*M* NaOH for photometric detn. of Cd, Co (λ_{max} 530 nm, ε 47000), Cu(*II*) (λ_{max} 507 nm, ε 65500, pH ~ 7), Fe(*II*), Hg(*II*), Ni, Zn. Cryst. Sol. H_2O, EtOH, DMF, alkalis. Mp 320° dec. pK_{a4} 4.38; pK_{a5} 11.5.

Kohata, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1990, **63**, 3398 (*synth, use*)
Ishii, H. *et al*, *Anal. Chim. Acta*, 1991, **244**, 223 (*detn, Co*)

3-[[(5-Nitro-2-pyridinyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, 9CI N-00151

(2-Pyridyl)(3-sulfophenyl)methanone 2-(5-nitropyridyl) hydrazone

[106288-60-2]



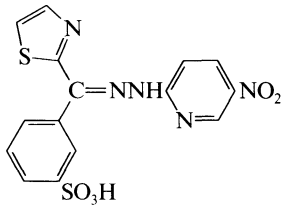
$C_{17}H_{13}N_5O_5S$ M 399.386

Used as 2m*M* soln. in 0.01*M* NaOH for photometric detn. of Co (λ_{max} 496 nm, ε 56000, pH 4), Fe(*II,III*), Pd, V, Zn. Cryst. (EtOH aq.). Sol. alkalis, H_2O, EtOH. pK_{a1} 0.92; pK_{a2} 4.37; pK_{a3} 11.5 (μ = 0.2, 25°).

Odashima, T. *et al*, *Analyst (London)*, 1986, **111**, 1383 (*synth, use*)

3-[[(5-Nitro-2-pyridinyl)hydrazono]-2-thiazolylmethyl]benzenesulfonic acid, 9CI N-00152

[132499-95-7]



$C_{15}H_{11}N_5O_5S_2$ M 405.414

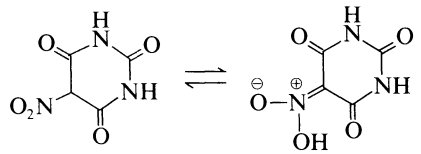
Used as 1m*M* soln. in 0.01*M* NaOH for photometric detn. of Co (λ_{max} 522 nm, ε 36000), Cu(*II*), Fe(*II*), Hg(*II*), Ni, Pd (pH ~ 7). Cryst. Sol. H_2O, EtOH, DMF, alkalis. Mp 320° dec. pK_{a4} 1.72; pK_{a5} 10.7.

Kohata, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1990, **63**, 3398 (*synth, use*)
Ishii, H. *et al*, *Anal. Chim. Acta*, 1991, **244**, 223 (*detn, Co*)

5-Nitro-2,4,6(1*H*,3*H*,5*H*)-pyrimidinetrione, 9CI N-00153

5-Nitrobarbituric acid, 8CI. Dilituric acid. Nitromalonylurea. 2,6-Dioxo-4-hydroxy-5-nitrotetrahydropyrimidine

[480-68-2]



$C_4H_3N_3O_5$ M 173.085

Used in making electrophotographic papers, as a plant growth stimulator. Used in photometric, gravimetric detn. of K and photometric detn. of Sr. Prisms and leaflets + $3H_2O$ (H_2O). Sol. hot H_2O, mod. sol. EtOH, alkalis, insol. Et_2O. Mp 176° dec. (anhyd.).

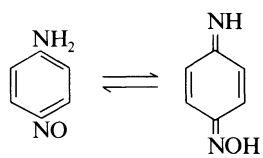
▷ CQ7300000.

Org. Synth., Coll. Vol., 2, 1943, 440 (*synth*)
Palouš, R. *et al*, *Collect. Czech. Chem. Commun.*, 1959, **24**, 3910 (*detn, K*)
Palouš, R. *et al*, *Anal. Chem.*, 1961, **24**, 96 (*detn, Sr*)
Bolton, W., *Acta Crystallogr.*, 1963, **16**, 950 (*cryst struct*)
Francis, C.V., *Microchem. J.*, 1963, **7**, 375 (*use*)
Mihai, Fr. *et al*, *Rev. Roum. Chim.*, 1968, **13**, 39 (*ir, uv*)
U.S.S.R. Pat., 503 571, (1976); *CA*, **84**, 146142 (*use*)
Sedor, F.A. *et al*, *Biochem. Biophys. Res. Commun.*, 1977, **75**, 406 (*pharmacol*)

4-Nitrosoaniline N-00154

4-Nitrosobenzenamine, 9CI. 1,4-Benzoquinoneimine oxime

[659-49-4]



$C_6H_6N_2O$ M 122.126

Steel-blue needles (C_6H_6). Mp 173-174°.

Monopicrate: Mp 166° dec.

N-*Ac:* [67661-55-6]. p-*Nitrosoacetanilide*
$C_8H_8N_2O_2$ M 164.163
Green plates or prisms (EtOH). Mp 174-175° dec.

N-*Me:* [10595-51-4].
$C_7H_8N_2O$ M 136.153
Bluish plates (C_6H_6). Mp 118°. Amphoteric.

N,N-*Dibenzyl:* N,N-*Diphenylmethyl-4-nitrosobenzenamine*
$C_{20}H_{18}N_2O$ M 302.375
Used as 0.05% aq. soln. for extraction-photometric detn. of Pd (λ_{max} 522 nm, ε 110000, $CHCl_3$). Yellow cryst.

Fischer, O. *et al*, *Ber.*, 1886, **19**, 2991; 1887, **20**, 2471 (*synth*)
Willenz, J., *J. Chem. Soc.*, 1955, 2049 (*synth*)
Walker, L.A. *et al*, *J. Org. Chem.*, 1962, **27**, 2762 (*deriv*)
Tabei, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1965, **38**, 965 (*uv*)
Potts, K.T. *et al*, *Rubber Chem. Technol.*, 1974, **47**, 289 (*deriv, pmr, ms*)
Kothny, E.L., *Mikrochim. Acta*, 1978, **1**, 425 (*synth, use, deriv*)

Nitrosobenzene, 9CI, 8CI N-00155

[586-96-9]

$$PhNO \rightleftharpoons PhN(O)=N(O)Ph$$

C_6H_5NO M 107.112

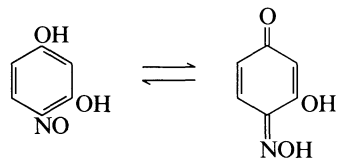
Used for catalytic detn. of Hg. White cryst. (dimer) forming turquoise monomer in soln. or liq. state. Mp 67.5-68°. Bp_{18} 57-59°. V. volatile, characteristic pungent odour.

Org. Synth., Coll. Vol., 3, 1955, 668 (*synth*)
Carmichael, P.J. *et al*, *Int. J. Chem. Kinet.*, 1972, **4**, 339 (*ms*)
Mauser, H. *et al*, *Z. Phys. Chem.*, 1972, **80**, 21 (*uv*)
Dieterich, D.A. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 6372 (*cryst struct*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 478.
Bradley, G.M. *et al*, *J. Phys. Chem.*, 1975, **79**, 1953 (*ir*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*detn, Hg*)
Cox, R.H. *et al*, *Org. Mass Spectrom.*, 1979, **12**, 322 (*nmr*)

4-Nitroso-1,3-benzenediol N-00156

1,3-Dihydroxy-4-nitrosobenzene. 4-Nitrosoresorcinol. 2-Hydroxy-1,4-benzoquinone 1-oxime

[698-31-7]



$C_6H_5NO_3$ M 139.110

Used for photometric detn. of Ag. Yellow cryst. ($CHCl_3$), yellow cryst. + H_2O (H_2O). Begins to dec. at 110° and turns black at 145°.

▷ VH2820000.

1-Me ether: [39501-58-1]. *5-Methoxy-2-nitrosophenol*
$C_7H_7NO_3$ M 153.137
Yellow-brown cryst., metastable green dichroic plates (two forms). Mp 158-159°. Green form passes over into yellow form at 140°.

3-Me ether: [13895-38-0]. *3-Methoxy-4-nitrosophenol*
$C_7H_7NO_3$ M 153.137
Used as a 0.4% soln. in AcOH or Me_2CO for photometric detn. of Co (λ_{max} 389 nm), Fe (λ_{max} 710 nm). Yellow leaflets (AcOH). Sol. $CHCl_3$, C_6H_6, CCl_4, alkalis; sl. sol. H_2O, glac. AcOH. Dec. at 160-170°.

▷ SL7805000.

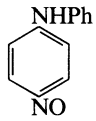
Di-Me ether: [39501-57-0]. *2,4-Dimethoxy-1-nitrosobenzene*
$C_8H_9NO_3$ M 167.164
Pale-yellow cryst. (pet. ether). Mp 115-117°.

Di-Et ether: 2,4-Diethoxy-1-nitrosobenzene
$C_{10}H_{13}NO_3$ M 195.218
Pale-orange cryst. (C_6H_6/pet. ether). Mp 91°.

Heinrich, F. *et al*, *Ber.*, 1902, **35**, 1478, 4191 (*synth*)
Heinrich, F., *J. Prakt. Chem.*, 1904, **70**, 317 (*synth*)
Iimura, F., *Bunseki Kagaku (Jpn. Anal.)*, 1955, **4**, 177.
Torii, T. *et al*, *Nippon Kagaku Kaishi*, 1955, **76**, 825.
Reach, S.M., *Analyst (London)*, 1956, **81**, 371 (*synth, detn, Co, Fe*)
Boll, P.M., *Acta Chem. Scand.*, 1958, **12**, 1777 (*synth*)
Lazarev, A.I. *et al*, *CA*, 1972, **77**, 28558b (*detn, Ag*)
Peshkov, *et al*, *Oximes*, Nauka, Moscow, 1980.

4-Nitrosodiphenylamine, 8CI N-00157

4-Nitroso-N-phenylbenzenamine
[156-10-5]

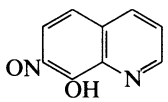


$C_{12}H_{10}N_2O$ M 198.224
Used as 0.005% soln. in EtOH for extraction-photometric detn. of Pd, Rh (λ_{max} 520 nm, diethyl oxalate). Dark green cryst. (EtOH). Sol. EtOH, $CHCl_3$. Mp 144-145°.
▷ JK0175000.

Yoe, J.H. *et al*, *J. Am. Chem. Soc.*, 1939, **61**, 2058 (*detn, Pd*)
Marhenke, E.R. *et al*, *Anal. Chim. Acta*, 1963, **28**, 259 (*detn, Pd*)
Stokeley, J.R. *et al*, *Talanta*, 1963, **10**, 43 (*detn, Rh*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NKB500.

7-Nitroso-8-hydroxyquinoline N-00158

7-Nitroso-8-quinolinol, 9CI. 7-Nitrosooxine
[26015-96-3]

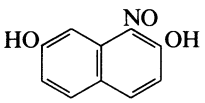


$C_9H_6N_2O_2$ M 174.159
Used for photometric detn. of Hg (λ_{max} 485 nm). Yellowish green cryst. Mod. sol. H_2O.

Cherkesov, A.I. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1301 (*synth, detn, Hg*)

1-Nitroso-2,7-naphthalenediol, 9CI N-00159

[27428-79-1]

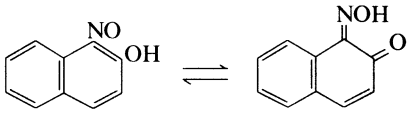


$C_{10}H_7NO_3$ M 189.170
Used as a 2m*M* aq. soln. for photometric detn. of Co (λ_{max} 450 nm, ε 27000, $PhNO_2$). Cryst. Sol. alkalis; mod. sol. H_2O.

Motomizu, S., *Bunseki Kagaku (Jpn. Anal.)*, 1971, **20**, 590 (*detn, Co*)

1-Nitroso-2-naphthol N-00160

1-Nitroso-2-naphthalenol, 9CI. 1,2-Naphthoquinone 1-oxime. Cobaltone
[131-91-9]



$C_{10}H_7NO_2$ M 173.171
Complexing agent for transition and rare-earth metals. Used as 0.5% soln. in AcOH for gravimetric detn. of Co; extraction-photometric detn. of Co (λ_{max} 415 nm, ε 29000, $CHCl_3$), Fe, Mo, U; separation of U (in the presence of EDTA). Orange prisms or plates (EtOH or C_6H_6). Sol. AcOH. Mp 109.5°.
▷ Irritant. QL4725000.

Benzoyl: [72771-47-2].
$C_{17}H_{11}NO_3$ M 277.279
Yellow. Mp 114°.
Benzenesulfonyl: Yellow prisms (Me_2CO). Mp 124-125° dec.
Me ether: [53711-03-8]. *2-Methoxy-1-nitrosonapthalene*
$C_{11}H_9NO_2$ M 187.198
Yellow prisms (ligroin). Mp 75°.
Et ether: 2-Ethoxy-1-nitrosonaphthalene
$C_{12}H_{11}NO_2$ M 201.224
Needles (EtOH aq. or ligroin). Mp 50-60°.
Benzyl ether:
$C_{17}H_{13}NO_2$ M 263.295
Pale-yellow. Mp 101° (98°).

Lagodzinski, K. *et al*, *Ber.*, 1894, **27**, 3075 (*synth*)
Org. Synth., Coll. Vol., 1, 1932, 411 (*synth*)
Bevillard, P. *et al*, *Bull. Soc. Chim. Fr.*, 1957, 337 (*synth*)
Tedder, J.M. *et al*, *J. Chem. Soc.*, 1958, 2573 (*synth*)
Graue, G. *et al*, *Angew. Chem.*, 1959, **71**, 28 (*detn, Co*)
Titov, V.I. *et al*, *Zh. Anal. Khim.*, 1962, **17**, 129 (*detn, U*)
Erdey, L., *Theorie und Praxis der Gravimetrischen Analyse*, Akademiai Kiado, Budapest, 1964, **2**, 419 (*use*)
Kesser, G. *et al*, *Anal. Chem.*, 1966, **38**, 221 (*detn, Ru*)
Blank, A.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 978, 1367 (*detn, Fe*)
Shono, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1977, **44**, 3179 (*nmr*)
Peshkova, B.M. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 486 (*detn, Mo*)
Suzuki, J. *et al*, *Chem. Pharm. Bull.*, 1988, **36**, 2204 (*pmr, ms*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 417.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NLB000.

2-Nitroso-1-naphthol N-00161

2-Nitroso-1-naphthalenol, 9CI. 1,2-Naphthoquinone 2-oxime
[132-53-6]

$C_{10}H_7NO_2$ M 173.171
Complexing agent for transition metals. Used as 0.5% soln. in AcOH for extraction-photometric detn. of Co (λ_{max} 365 nm, ε 37000, isopentyl acetate), Ni, Pd, Ru. Yellow needles (H_2O or C_6H_6). Sol. AcOH, EtOH, alkalis. Mp 162-164°. Steam-volatile. Conc. H_2SO_4 → intense red soln.
▷ Exp. carcinogen. QL4550000.

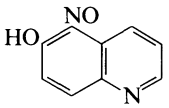
Benzoyl: [72771-48-3].
$C_{17}H_{11}NO_3$ M 277.279
Yellow needles ($Me_2CO/CHCl_3$ or EtOAc). Mp 189-190°, Mp 162°.
Me ether: [53711-02-7]. *1-Methoxy-2-nitrosonaphthalene*
$C_{11}H_9NO_2$ M 187.198
Yellowish-green needles (EtOH aq.). Mp 95°.
Et ether: 1-Ethoxy-2-nitrosonaphthalene

$C_{12}H_{11}NO_2$ M 201.224
Greenish-yellow needles. Mp 101°.

Meisenheimer, J. *et al*, *Ber.*, 1903, **36**, 4164 (*synth*)
Cheng, K.L., *Anal. Chem.*, 1954, **26**, 1894 (*detn, Pd*)
Claassen, A. *et al*, *Anal. Chim. Acta*, 1955, **12**, 28 (*detn, Co*)
Bevillard, P. *et al*, *Bull. Soc. Chim. Fr.*, 1957, 337 (*synth*)
Clark, L.J., *Anal. Chem.*, 1958, **30**, 1153 (*detn, Co*)
Nielsch, W., *Mikrochim. Acta*, 1959, 725 (*detn, Co*)
Menis, O. *et al*, *Anal. Chem.*, 1962, **34**, 166 (*detn, Ru*)
Benson, W.R. *et al*, *J. Org. Chem.*, 1966, **31**, 2498 (*synth*)
Manson, D., *J. Chem. Soc., Perkin Trans. 1*, 1974, 192 (*synth*)
Shono, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1977, **44**, 3179 (*nmr*)
Motomizu, S. *et al*, *Anal. Chim. Acta*, 1978, **97**, 335 (*detn, Ni*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, New York, 4th Ed., 1986, 459; *Part IIb: Individual Metals. Magnesium to Zinc*, John Wiley, New York, 4th Ed., 1989, 226.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NLB500.

5-Nitroso-6-quinolinol, 9CI N-00162

6-Hydroxy-5-nitrosoquinoline
[19732-53-7]

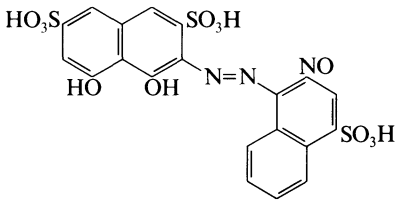


$C_9H_6N_2O_2$ M 174.159
Used for gravimetric detn. of Co; pptn. of transition metals. Cryst.

Travagli, G., *Ann. Chim.*, 1968, **58**, 625, 631 (*detn, Co*)

3-(2-Nitroso-4-sulfo-1-naphthalenylazo)-4,5-dihydroxynaphthalene-2,7-disulfonic acid N-00163

2-(2-Nitroso-4-sulfo-1-naphthylazo)chromotropic acid. 2'-Nitroso-SNADNS

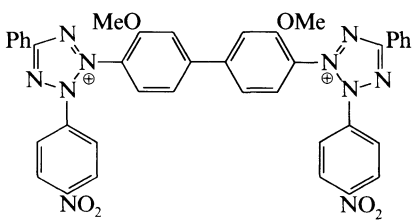


$C_{20}H_{13}N_3O_{12}S_3$ M 583.534
Used as metallochromic indicator for titrimetric detn. of Zr. Dark red cryst. Sol. H_2O.

Datta, S.K., *Chim. Anal. (Paris)*, 1960, **42**, 562.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 312.

Nitrotetrazolium blue N-00164

3,3'-(3,3'-Dimethoxy[1,1'-biphenyl]-4,4'-diyl)bis[2-(4-nitrophenyl)-5-phenyl-2H-tetrazolium](2+)

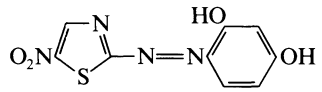


$C_{40}H_{30}N_{10}O_6^{2\oplus}$ M 746.740 (ion)
Dichloride: [298-83-9]. *Nitro TB*
$C_{40}H_{30}Cl_2N_{10}O_6$ M 817.646
Used as a 1% aq. soln. for photometric detn. of various dehydrogenases; as 4m*M* soln. for extraction-photometric detn. of Re(*VII*) (ε 60000, $CHCl_3$). Pale yellow cryst. (MeOH). Sol. EtOH, H_2O. Mp 222-223°.

Nachlas, M.M. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 6139 (*synth*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1983 (*detn, dehydrogenases*)
Plastinina, E.I. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 2211 (*detn, Re*)

4-[(5-Nitro-2-thiazolyl)azo]-1,3-benzenediol, 9CI N-00165

4-(5-Nitrothiazolyl-2-azo)resorcinol. 2-(2,4-Dihydroxyphenylazo)-5-nitrothiazole. Nitro-TAR
[58874-05-8]

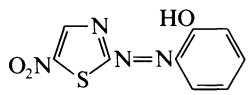


$C_9H_6N_4O_4S$ M 266.237
Used as 0.015 m*M* aq. soln. for photometric detn. of Ni (λ_{max} 540 nm, ε 10000, pH 4-6); as 0.02m*M* soln. in dioxan for photometric detn. of Pd (λ_{max} 645 nm, ε 21300). Red cryst. (EtOH). Spar. sol. H_2O; sol. EtOH, dioxan. pK_{a2} 5.97; pK_{a3} 12.8.

Yusupov, M.Yu. *et al*, *Zh. Anal. Khim.*, 1985, **40**, 844 (*synth, detn, Pd*)
Alikhodzhaev, A.K. *et al*, *Zh. Anal. Khim.*, 1985, **40**, 2021 (*synth, detn, Ni*)

2-[(5-Nitro-2-thiazolyl)azo]phenol, 9CI N-00166

1-(5-Nitrothiazolyl-2-azo)phenol. 2-(2-Hydroxyphenylazo)-5-nitrothiazole
[76845-78-8]

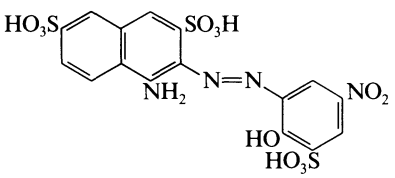


$C_9H_6N_4O_3S$ M 250.237
Used as 0.02m*M* soln. in dioxan for photometric detn. of Pd (λ_{max} 590 nm, ε 35400). Green cryst. (HCOOH). Sol. dioxan, HCOOH, EtOH.

Yusupov, M.Yu. *et al*, *Zh. Anal. Khim.*, 1985, **40**, 844 (*synth, detn, Pd*)

Nitroxaminazo N-00167

4-Amino-3-[(2-hydroxy-5-nitro-3-sulfophenyl)-azo]-2,7-naphthalenedisulfonic acid, 9CI
[24322-63-2]



$C_{16}H_{12}N_4O_{12}S_3$ M 548.488
Used as 0.2% aq. soln. for photometric detn. of Co (λ_{max} 662 nm, ε 33000), Ni (λ_{max} 585 nm, ε 25000), Cu, Ga, Pd. Orange-red cryst. Sol. H_2O.

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 558; 1974, **29**, 1374; 1978, **33**, 2338 (*synth, detn, Pd, Co, Cu*)
Dedkov, Y.M. *et al*, *Zavod. Lab.*, 1974, **40**, 1325 (*detn, Ni*)
Tyutunnikova, P.D. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 470 (*detn, Ga*)

4,6-Nonanedione, 9CI N-00168

[14090-88-1]

$H_3CCH_2CH_2COCH_2COCH_2CH_2CH_3$

$C_9H_{16}O_2$ M 156.224

Used as soln. in C_6H_6 for extraction-separation of Cu(*II*), Fe(*III*). Sol. common org. solvs. Bp 101-102°, Bp 207-208°, Bp_8 81°.

Dioxime:

$C_9H_{18}N_2O_2$ M 186.253

Mp 77°.

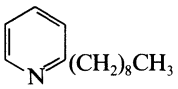
Bis-2,4-dinitrophenylhydrazone: [51300-82-4].

Cryst. (EtOH). Mp 121°.

Sadtler Standard C-13 NMR Spectra, 5358 (*cmr*)
Sadtler Standard Infrared Spectra, 31567 (*ir*)
Adams, J.T. *et al*, *J. Am. Chem. Soc.*, 1944, **66**, 1220 (*synth*)
Schamp, N. *et al*, *Bull. Soc. Chim. Belg.*, 1966, **75**, 539 (*ms*)
Nonhebel, D.C., *Tetrahedron*, 1968, **24**, 1869 (*pmr*)
Koshimura, H. *et al*, *Anal. Chim. Acta*, 1971, **55**, 163 (*use*)

2-Nonylpyridine, 9CI N-00169

[10523-35-0]



$C_{14}H_{23}N$ M 205.342

Liq. $Bp_{3.5}$ 128°. n_D^{20} 1.4829.

N-*Oxide:* [3535-72-6].

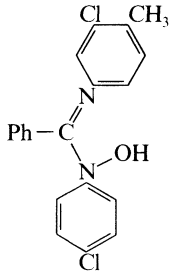
$C_{14}H_{23}NO$ M 221.342

Used as 0.1*M* soln. in 1,2-dichloroethane for extraction separation of Au(*III*) (from 3*M* HCl). Cryst. powder. Sol. EtOH, 1,2-dichloroethane, $CHCl_3$. Mp 39-40°.

Birchenough, M.J., *J. Chem. Soc.*, 1951, 1263 (*synth*)
Kotlyarevskii, I.L. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1966, 1224; *CA*, **65**, 16932h (*synth*)
Pronin, V.A. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 1508 (*use*)

N′-(3-Chloro-4-methylphenyl)-*N*-(4-chlorophenyl)-*N*-hydroxybenzenecarboximidamide N-00170

N′-(*3-Chloro-4-methylphenyl*)-N-(*4-chlorophenyl*)-N-*hydroxy-4-toluamidine*



$C_{20}H_{16}Cl_2N_2O$ M 371.265

Used as 0.1% $CHCl_3$ soln. for extraction-photometric detn. of V(*V*) (λ_{max} 615 nm, ε 5700, pH 0.5-3.5). Yellow cryst. (C_6H_6/pet. ether). Sol. $CHCl_3$, C_6H_6.

Kharsan, R.S. *et al*, *Talanta*, 1979, **26**, 50 (*synth, detn, V*)

O

Octadecanoic acid O-00001

Stearic acid. Talgic acid. Stearophanic acid. Bassinic acid. Lactaric acid

[57-11-4]

$H_3C(CH_2)_{16}COOH$

$C_{18}H_{36}O_2$ M 284.481

Constit. of most vegetable and animal fats. Acid and derivatives widely used as additives to industrial preparations. Used as EtOH soln. for nephelometric detn. of Ca. Used (with heptadecanoic acid) for amino acid sequencing in peptides. Leaflets. Sol. EtOH, C_6H_6, $CHCl_3$; sl. sol. H_2O. Mp 69.7°. Bp_5 213°.

▷ WI2800000.

Me ester: [112-61-8].
$C_{19}H_{38}O_2$ M 298.508
Mp 39.1°. Bp_{15} 215°.
▷ WI4460000.

Et ester: [111-61-5].
$C_{20}H_{40}O_2$ M 312.535
Mp 33.4°, Mp 30.9°. Bp_{10} 199°.
▷ WI3600000.

Chloride: [112-76-5].
$C_{18}H_{35}ClO$ M 302.927
Mp 23°. Bp_6 202-203°.

Amide: [124-26-5].
$C_{18}H_{37}NO$ M 283.496
Mp 109°. Bp_{12} 250-251°.
▷ RG0182000.

Anhydride:
$C_{36}H_{70}O_3$ M 550.947
Reagent for anal. detn. of alcohols and phenols.

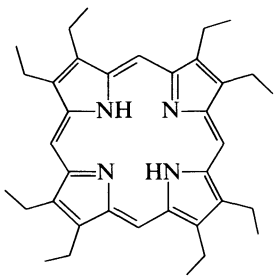
Nitrile: [638-65-3].
$C_{18}H_{35}N$ M 265.481
Mp 41°. Bp_{10} 193°.
▷ WI5500000.

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, NY, 1947, **2**, 82 (*use*)
Bricas, E. *et al*, *Biochemistry*, 1965, **4**, 2254 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 1117.
Malta, V. *et al*, *J. Chem. Soc. B*, 1971, 548 (*cryst struct*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, no. 705 (*occur*)
Gunstone, F.D. *et al*, *Chem. Phys. Lipids*, 1976, **17**, 1 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MJW000, OAR000, SLK000, SLL500.

Octaethylporphyrin O-00002

2,3,7,8,12,13,17,18-Octaethyl-21H,23H-porphine, 9CI

[2683-82-1]



$C_{36}H_{46}N_4$ M 534.786

Used as 0.25m*M* DMF soln. for fluorimetric detn. of Zn (λ_{max} 578 nm, EtOH). Violet cryst. (toluene). Sol. DMF, EtOH, Me_2CO, dioxan, $CHCl_3$. Mp 324-325°.

N-*Oxide:* [67514-01-6].
$C_{36}H_{46}N_4O$ M 550.786
Purple-black microcryst. (Me_2CO/MeOH). Mp >250°.

Eisner, U. *et al*, *J. Chem. Soc.*, 1957, 733.
Lauber, J.W. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 5148 (*cryst struct*)
Fuhrhop, J.-H. *et al*, *Laboratory Methods in Porphyrin and Metalloporphyrin Research*, Elsevier, Amsterdam, 1975, 10 (*synth*)
Paine, J.B. *et al*, *J. Org. Chem.*, 1976, **41**, 3857.
Cheng, D.O. *et al*, *Tetrahedron Lett.*, 1977, 1469 (*synth*)
Janson, T.R. *et al*, *The Porphyrins*, (Dolphin, D., Ed.), Academic Press, N.Y., Vol. IV, 1979, 1 (*nmr*)
Andrews, L.E. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1983, 103 (*oxide, synth, ir, pmr, uv, ms*)
Balch, A.L. *et al*, *J. Am. Chem. Soc.*, 1985, **107**, 2393 (*cryst struct*)
Fakeeva, A.O. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 827 (*synth, detn, Zn*)
Ono, N. *et al*, *Tetrahedron*, 1990, **46**, 7483 (*synth*)

1,1,1,5,5,6,6,6-Octafluoro-2,4-hexanedione, 9CI O-00003

[20825-07-4]

$F_3CCF_2COCH_2COCF_3$

$C_6H_2F_8O_2$ M 258.068

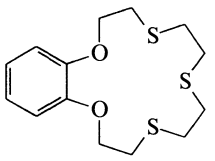
Used as a soln. in $CHCl_3$ for extraction of Co, Zn. Liq. Sol. common org. solvs. d_4^{23} 1.538. Bp 85-86°.

Scribner, W.G. *et al*, *CA*, 1968, **69**, 62005p; *CA*, 1970, **73**, 92153k (*synth, nmr, ir, detn, Co, Zn*)
Scribner, W.G. *et al*, *J. Org. Chem.*, 1970, **35**, 1696 (*synth*)
Sievers, R.E., *NMR Shift Reagents*, Academic Press, New York, 1973.

2,3,5,6,8,9,11,12-Octahydro-1,13,4,7,10-benzodioxatrithiacyclopentadecine, 9CI O-00004

Benzothiacrown ether

[114896-72-9]



$C_{14}H_{20}O_2S_3$ M 316.509

Used as 0.005m*M* soln. in CH_2Cl_2 for extraction-fluorimetric detn. of Ag (λ_{max} 559 nm). Cryst. Sol. CH_2Cl_2, $CHCl_3$, 1,2-dichloroethane. Mp 98.5-100°.

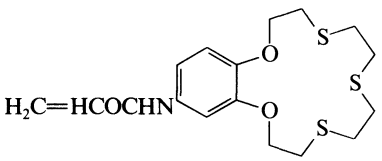
Oue, M. *et al*, *J. Polym. Sci., Polym. Chem. Ed.*, 1985, **23**, 2033 (*synth*)

Oue, M. *et al*, *Analyst* (*London*), 1988, **113**, 551 (*detn, Ag*)

***N*-(2,3,5,6,8,9,11,12-Octahydro-1,13,4,7,10-benzodioxatrithiacyclopentadecin-15-yl)-2-propenamide, 9CI** O-00005

2,3-(4-Acryloylaminobenzo)-1,4-dioxa-7,10,13-trithiacyclopentadec-2-ene

[81810-60-8]



$C_{17}H_{23}NO_3S_3$ M 385.572

Used as 0.05m*M* soln. in $CHCl_3$ for selective extraction-separation of Ag from Cu, Hg, Pb, Co, Zn, Cd. Cryst. Sol. $CHCl_3$.

Homopolymer: [81833-45-6]. *Poly[2,3-(4'-acryloylaminobenzo)-1,4-dioxa-7,10,13-trithiacyclopentadeca-2-ene]*

Used as 0.05m*M* $CHCl_3$ soln. for extraction separation of Ag. Sol. $CHCl_3$.

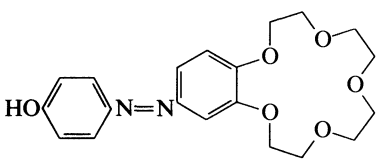
Oue, M. *et al*, *J. Polym. Sci., Polym. Chem. Ed.*, 1985, **23**, 2033 (*synth*)

Oue, M. *et al*, *Anal. Chim. Acta*, 1987, **194**, 293 (*sepn, Ag*)

4-[(2,3,5,6,8,9,11,12-Octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl)azo]phenol, 9CI O-00006

2-(p-Hydroxyphenylazo)benzo-15-crown-5

[74567-68-3]



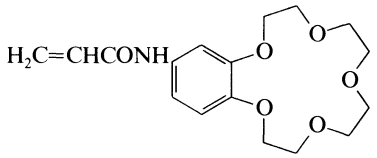
$C_{20}H_{24}N_2O_6$ M 388.419

Used for extraction of K. Cryst. Sol. $CHCl_3$.

Yamashita, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1550 (*synth, sepn, K*)

***N*-(2,3,5,6,8,9,11,12-Octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl)-2-propenamide, 9CI** O-00007

[68865-30-5]



$C_{17}H_{23}NO_6$ M 337.372

Used as 0.02m*M* $CHCl_3$ soln. for extraction of Ag, Tl(*I*), alkali and alkaline earth metals (in the presence of picrate). Cryst. Sol. $CHCl_3$, DMF.

Homopolymer: [68865-31-6].

Used for extraction separation of Mg, Ca, Sr, Ba. Cryst. Sol. $CHCl_3$. Exact formulation unknown.

Kimura, K. *et al*, *Anal. Lett.*, 1978, **A11**, 821 (*synth*)

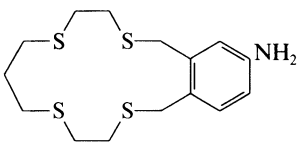
Maeda, T. *et al*, *Fresenius' Z. Anal. Chem.*, 1979, **298**, 363; 1982, **313**, 407 (*detn, Ag, Tl, alkaline earths*)

Kimura, K. *et al*, *Talanta*, 1979, **26**, 945 (*detn, alkali*)

1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-amine, 9CI O-00008

4'-Aminobenzo-1,4,8,11-tetrathiacyclopentadec-13-ene

[98701-62-3]



$C_{15}H_{23}NS_4$ M 345.617

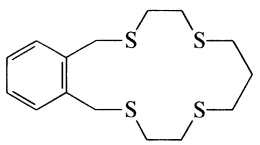
Used as 0.05m*M* soln. in 1,2-dichloroethane for extraction-separation of Ag, Cu(*I*), Hg(*II*), Pd(*II*). Needles (EtOH). Sol. EtOH, 1,2-dichloroethane, dioxan. Mp 122-123°.

Sekido, E. *et al*, *Talanta*, 1985, **32**, 797 (*synth, use*)

1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecine, 9CI O-00009

13,14-Benzo-1,4,8,11-tetrathiacyclotetradecane

[25676-64-6]



$C_{15}H_{22}S_4$ M 330.603

Used as 5m*M* soln. in 1,2-dichloroethane for extraction-separation of Cu(*I*), Ag, Hg(*II*), Au. Cryst. ($CHCl_3$/EtOH). Sol. Et_2O, 1,2-dichloroethane, C_6H_6, $CHCl_3$, CCl_4, toluene; insol. H_2O. Mp 84-86°. Bp_{15} 65°.

Rosen, W. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 4694 (*synth*)

Ohki, A. *et al*, *Anal. Chim. Acta*, 1984, **159**, 245.

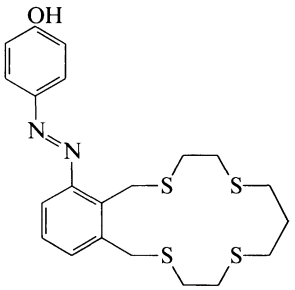
Sekido, E. *et al*, *Anal. Sci.*, 1987, **3**, 505 (*detn, Ag*)

Chayama, K. *et al*, *Anal. Sci.*, 1987, **3**, 535 (*use*)

4-[(1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-yl)azo]phenol, 9CI O-00010

4'-(p-Hydroxyphenylazo)benzo-1,4,8,11-tetrathiacyclopentadec-13-ene

[104951-60-2]



$C_{21}H_{26}N_2OS_4$ M 450.713

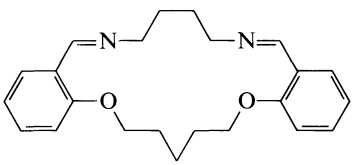
Used as a 0.06m*M* soln. in 1,2-dichloroethane for extraction of Ag, Cu(*I*). Yellow cryst. ($MeNO_2$). Sol. EtOH, C_6H_6. Mp 133-134°.

Muroi, M. *et al*, *Anal. Sci.*, 1986, **2**, 351 (*synth, ir, nmr, ms, use*)

7,8,9,10,18,19,20,21-Octahydro-6*H*-dibenzo[*b,l*]-[1,14,5,10]dioxadiazacyclononadecine, 9CI O-00011

8,9:18,19-Dibenzo-1,7-dioxa-11,16-diazacyclononadeca-10,16-diene

[94194-73-7]



$C_{23}H_{28}N_2O_2$ M 364.486

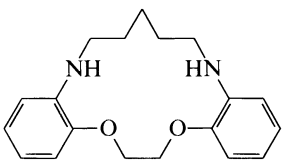
Used as 1m*M* $CHCl_3$ soln. for selective extraction separation of Ag(*I*). Cryst. (octane). Sol. $CHCl_3$, 1,2-dichloroethane, 1,2-dimethylbenzene, $PhNO_2$. Mp 158°.

Zolotov, Yu.A. *et al*, *Mikrochim. Acta*, 1984, **3**, 399 (*synth, sepn, Ag*)

6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e,n*][1,4,7,13]dioxadiazacyclopentadecine, 9CI O-00012

2,3:8,9-Dibenzo-4,7-dioxa-1,10-diazacyclopentadecane

[96656-74-5]



$C_{19}H_{24}N_2O_2$ M 312.411

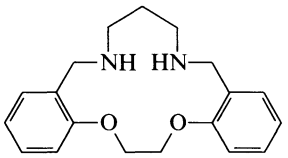
Used as 1m*M* soln. in $CHCl_3$ for selective extraction of Hg(*II*). Cryst. Sol. $CHCl_3$.

Zolotov, Yu.A. *et al*, *Zh. Anal. Khim.*, 1986, **41**, 1046 (*sepn, Hg*)

6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e,n*][1,4,8,12]dioxadiazacyclopentadecine, 9CI O-00013

5,6:14,15-Dibenzo-1,4-dioxa-8,12-diazacyclopentadecane

[65639-43-2]



$C_{19}H_{24}N_2O_2$ M 312.411

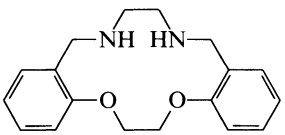
Used as 0.5m*M* soln. in $CHCl_3$ for extraction sepn. of Ag, Hg, Cu, Pd. Cryst. Sol. $CHCl_3$, 1,2-dichloroethane, 1,2-dimethylbenzene, $PhNO_2$.

Grimsley, P.G. *et al*, *Aust. J. Chem.*, 1977, **30**, 2095 (*synth*)
Morosanova, E.I. *et al*, *Mikrochim. Acta*, 1984, **3**, 389 (*use*)

5,6,7,8,9,10,16,17-Octahydrodibenzo[*e,m*][1,4,8,11]dioxadiazacyclotetradecine, 9CI O-00014

3,4:9,10-Dibenzo-1,12-diaza-5,8-dioxacyclotetradecane

[65639-47-6]



$C_{18}H_{22}N_2O_2$ M 298.384

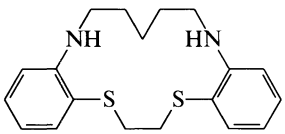
Used as 1m*M* soln. in $CHCl_3$ for extraction separation of Ag, Hg, Pd. Cryst. Sol. org. solvs. Mp 168-169°.

Adam, K.R. *et al*, *Inorg. Chem.*, 1981, **20**, 4048 (*synth*)
Morosanova, E.I. *et al*, *Dokl. Akad. Nauk SSSR*, 1984, **277**, 1151 (*use*)

6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e,n*][1,4,7,13]dithiadiazacyclopentadecine, 9CI O-00015

2,3:8,9-Dibenzo-4,7-dithia-1,10-diazacyclopentadecane

[104184-03-4]



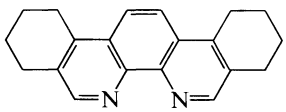
$C_{19}H_{24}N_2S_2$ M 344.544

Used as 1m*M* soln. in $CHCl_3$ for selective extraction of Hg(*II*) and Ag. Cryst. Sol. $CHCl_3$.

Zolotov, Yu.A. *et al*, *Zh. Anal. Khim.*, 1986, **41**, 1046 (*detn, Hg*)
Poddubnykh, L.P. *et al*, *Zh. Neorg. Khim.*, 1986, **31**, 1812 (*detn, Hg, Ag*)

1,2,3,4,9,10,11,12-Octahydrodibenzo[*c,i*][1,10]phenanthroline O-00016

(3,4),(7,8)-Dicyclohexeno-1,10-phenanthroline



$C_{20}H_{20}N_2$ M 288.391

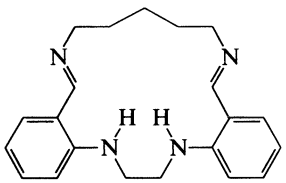
Used as redox indicator. Cryst. (C_6H_6). Sol. EtOH, C_6H_6; insol. H_2O. Mp 259-260°. pK_{a1} 6.23 (25°).

Case, F.H. *et al*, *J. Org. Chem.*, 1956, **21**, 1069 (*synth*)
Schilt, A.A. *et al*, *J. Phys. Chem.*, 1956, **60**, 1546 (*pKa, use, ind*)

8,9,10,11,18,19,20,21-Octahydro-7*H*-dibenzo[*e,p*][1,4,8,14]tetraazacycloheptadecine, 9CI O-00017

Macrocyclic schiff's base III

[77037-27-5]



$C_{21}H_{26}N_4$ M 334.463

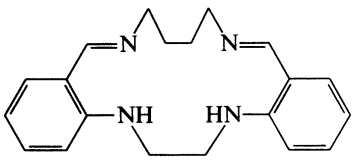
Used as 1m*M* soln. in $CHCl_3$ for selective extraction-separation of Cu(*II*) (pH 7.5-9). Cryst. Sol. $CHCl_3$.

Owston, P.G. *et al*, *J. Chem. Soc., Chem. Commun.*, 1980, 1218 (*synth*)
Zolotov, Yu.A. *et al*, *Dokl. Akad. Nauk SSSR*, 1984, **277**, 1145 (*sepn, Cu*)
Isakova, N.V. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 859 (*sepn, Cu*)

7,8,9,10,17,18,19,20-Octahydrodibenzo[*e,o*][1,4,8,13]tetraazacyclohexadecine, 9CI O-00018

Macrocyclic schiff's base II

[33419-91-9]



$C_{20}H_{24}N_4$ M 320.436

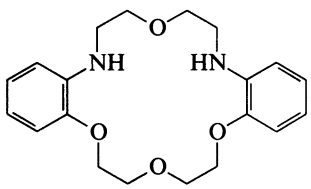
Used as 0.3m*M* soln. in $CHCl_3$ for selective extraction-separation and photometric detn. of Cu(*II*) (λ_{max} 455 nm, ε 12500, pH 5-5.9). Cryst. Sol. $CHCl_3$.

Owston, P.G. *et al*, *J. Chem. Soc., Chem. Commun.*, 1980, 1218 (*synth*)
Zolotov, Yu.A. *et al*, *Dokl. Akad. Nauk SSSR*, 1984, **277**, 1145 (*sepn, Cu*)
Isakova, N.V. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 859 (*detn, Cu*)

6,7,9,10,17,18,21,22-Octahydro-16*H*,20*H*-dibenzo-[*h,q*][1,4,7,13,10,16]tetraoxadiazacyclooctadecine, 9CI O-00019

Diazadibenzo-18-crown-6

[54533-72-1]



$C_{20}H_{26}N_2O_4$ M 358.436

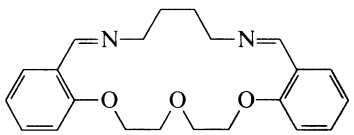
Used as 1m*M* soln. in $CHCl_3$ as a carrier in Pb-selective electrode for potentiometry. Used as 1m*M* 1,2-dichloroethane or $CHCl_3$ soln. for extraction-kinetic detn. of Os(*IV*) (pH 3.8); extraction-x-ray fluorescence detn. of Tl(*I*)(pH 11). Cryst. Sol. $CHCl_3$, 1,2-dichloroethane, CCl_4.

Shpigun, L.K. *et al*, *Zh. Anal. Khim.*, 1986, **41**, 617 (*use*)
Beklemishev, M.K. *et al*, *Zh. Neorg. Khim.*, 1986, **31**, 2617 (*synth*)
Beklemiskev, M.K. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 356, 1058 (*detn, Os, Tl*)

6,7,9,10,18,19,20,21-Octahydrodibenzo[*h,r*][1,4,7,11,16]-trioxadiazacyclononadecine, 9CI O-00020

8,9:18,19-Dibenzo-1,3,7-trioxa-11,16-diazacyclononadeca-10,16-diene

[75909-10-3]



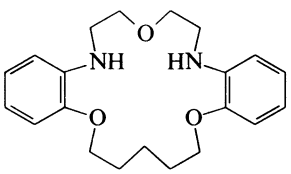
$C_{22}H_{26}N_2O_3$ M 366.459

Used as 1m*M* $CHCl_3$ soln. for selective extraction sepn. of Ag(*I*). Cryst. Sol. $CHCl_3$, 1,2-dichloroethane,1,2-dimethylbenzene, $PhNO_2$.

Battaglia, L.P. *et al*, *Inorg. Chim. Acta*, 1980, **42**, 191 (*synth*)
Zolotov, Yu.A. *et al*, *Mikrochim. Acta*, 1984, **3**, 399 (*sepn, Ag*)

6,7,10,11,18,19,20,21-Octahydro-5*H*,9*H*,17*H*-dibenzo[*b,k*][1,7,13,4,10]trioxadiazacyclooctadecine, 9CI O-00021

[109888-83-7]



$C_{21}H_{28}N_2O_3$ M 356.464

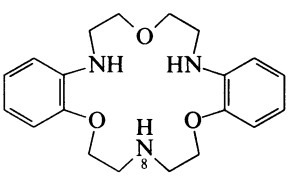
Used as 1m*M* 1,2-dichloroethane soln. for extraction-kinetic detn. of Os(*IV*) (pH 3.8). Cryst. Sol. $CHCl_3$, 1,2-dichloroethane, CCl_4.

Beklemishev, M.K. *et al*, *Zh. Neorg. Khim.*, 1986, **31**, 2617 (*synth*)
Beklemishev, M.K. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 356 (*detn, Os*)

7,8,9,10,17,18,21,22-Octahydro-6*H*,16*H*,20*H*-dibenzo-[*b,k*][1,7,13,4,10,16]trioxatriazacyclooctadecine, 9CI O-00022

Dibenzotriaza-18-crown-6

[54533-75-4]



$C_{20}H_{27}N_3O_3$ M 357.452

Used as 1m*M* 1,2-dichloroethane or $CHCl_3$ soln. for extraction-kinetic detn. of Os(*IV*) (pH 3.8); extraction-X-ray fluorescence detn. of Tl(*I*) (pH 11). Cryst. Sol. $CHCl_3$, 1,2-dichloroethane, CCl_4.

8-(4-Methylbenzenesulfonyl): [109888-82-6]. *7,8,9,10,17,18,21,22-Octahydro-8-[(4-methylphenyl) sulfonyl]-6H,16H,20H-dibenzo*[b,k][*1,7,13,4,10,16*] *trioxatriazacyclooctadecine, 9CI*

$C_{27}H_{33}N_3O_5S$ M 511.641

Used as 1m*M* 1,2-dichloroethane or $CHCl_3$ soln. for extraction-kinetic detn. of Os(*IV*) (pH 3.8); extraction-X-ray fluorescence detn. of Tl(*I*) (pH 11). Cryst. Sol. $CHCl_3$, 1,2-dichloroethane, CCl_4.

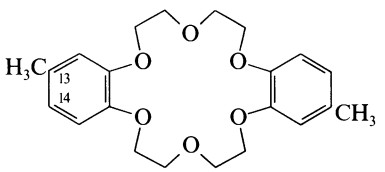
Beklemishev, M.K. *et al*, *Zh. Neorg. Khim.*, 1986, **31**, 2617, 2618 (*synth*)

Beklemishev, M.K. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 356, 1058 (*detn, Os, Tl*)

6,7,9,10,17,18,20,21-Octahydro-2,13-dimethyldibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecine, 9CI O-00023

Dimethyldibenzo-18-crown-6

[34368-73-5]



$C_{22}H_{28}O_6$ M 388.460

Obt. as an undefined isomer or regioisomeric mixt. with the 2,14 isomer. CAS registry no. applies to this prepn. of undefined composition. Used as 1% soln. in dipentyl phthalate in K-selective electrode (PVC membrane). Cryst. (C_6H_6/Et_2O). Sol. C_6H_6, hexane. Mp 126-127°.

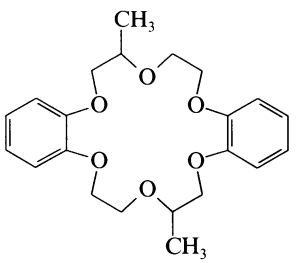
Pedersen, C.J., *J. Am. Chem. Soc.*, 1967, **89**, 7017 (*synth*)

Petranek, J. *et al*, *Anal. Chim. Acta*, 1974, **72**, 375 (*use*)

6,7,9,10,17,18,20,21-Octahydro-7,18-dimethyldibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecine, 9CI O-00024

7,18-Dimethyldibenzo-18-crown-6

[87834-21-7]



$C_{22}H_{28}O_6$ M 388.460

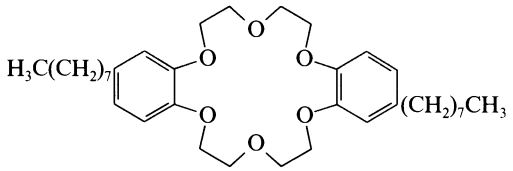
Used as 0.2m*M* $CHCl_3$ soln. for extraction separation of Li, Na, K (pH 8-9). Cryst. Sol. $CHCl_3$.

Mamedova, Yu.G. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 1578 (*synth, use*)

6,7,9,10,17,18,20,21-Octahydro-2,13-dioctyldibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecine, 9CI O-00025

2,13-Dioctyldibenzo-18-crown-6

[68725-72-4]



$C_{36}H_{56}O_6$ M 584.835

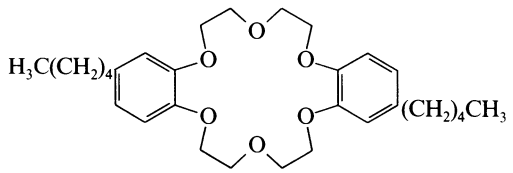
Used for detn. of K (membrane ion-selective electrode). Cryst. Sol. $CHCl_3$.

Norov, S.K. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 613; 1987, **42**, 429 (*synth, detn, K*)

6,7,9,10,17,18,20,21-Octahydro-2,13-dipentyldibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecine, 9CI O-00026

2,13-Dipentyldibenzo-18-crown-6

[68725-69-9]



$C_{30}H_{44}O_6$ M 500.674

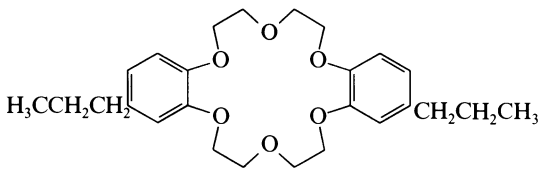
Used for detn. of K (membrane ion-selective electrode). Cryst. Sol. $CHCl_3$.

Norov, S.K. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 613; 1987, **42**, 429 (*synth, use*)

6,7,9,10,17,18,20,21-Octahydro-2,13-dipropyldibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecine, 9CI O-00027

Dipropyldibenzo-18-crown-6

[41376-27-6]



$C_{26}H_{36}O_6$ M 444.567

Exact struct. unknown; may be 2,13 or 2,14 isomer or regioisomeric mixt. of the two. Used as 1% soln. in dipentyl phthalate in K-selective electrode (PVC membrane). Cryst. (C_6H_6/Et_2O). Sol. C_6H_6, Et_2O. Mp 109-112°.

Dodecahydro: [41376-29-8]. *Dipropyldicyclohexyl-18-crown-6. Eicosahydro-2,13(or 2,14)-dipropyldibenzo*[b,k]-[*1,4,7,10,13,16*]*hexaoxacyclooctadecin, 9CI*

$C_{26}H_{48}O_6$ M 456.662

Used as 1% soln. in dipentyl phthalate in K-selective electrode (PVC membrane). Cryst. (hexane/Et_2O). Sol. hexane, Et_2O. Mp 45-60°.

[68726-13-6]

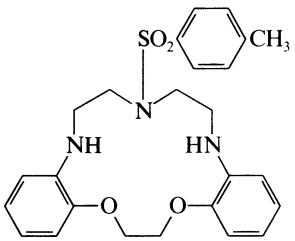
Pedersen, C.J., *J. Am. Chem. Soc.*, 1967, **89**, 7017 (*synth*)

Petranek, J. *et al*, *Collect. Czech. Chem. Commun.*, 1973, **38**, 497 (*use*)
Petranek, J. *et al*, *Anal. Chim. Acta*, 1974, **72**, 375 (*use*)
Norov, S.K. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 613; 1987, **42**, 429 (*synth, use*)

6,7,8,9,10,11,17,18-Octahydro-8-[(4-methylphenyl)sulfonyl]-5*H*-dibenzo[*e,n*][1,4,7,10,13]dioxatriazacyclopentadecine, 9CI O-00028

2,3:8,9-Dibenzo-13-tosylo-4,7-dioxa-1,10,13-triazacyclopentadecane

[104700-27-8]



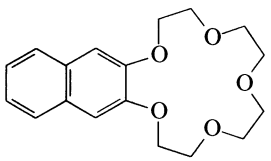
$C_{25}H_{29}N_3O_4S$ M 467.588
Used as 1m*M* in $CHCl_3$ for selective extraction sepn. of Hg(*II*). Cryst. Sol. $CHCl_3$.

Zolotov, Yu.A. *et al*, *Zh. Anal. Khim.*, 1986, **41**, 1046 (*sepn, Hg*)

2,3,5,6,8,9,11,12-Octahydronaphtho[2,3-*b*]-1,4,7,10,13-pentaoxacyclopentadecine, 9CI O-00029

Naphtho-15-crown-5

[17454-47-6]



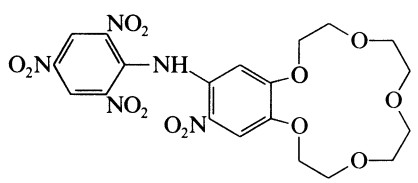
$C_{18}H_{22}O_5$ M 318.369
Used as an ionophore in ion-selective electrodes (high selectivity for K over Na). Cryst. Mp 117.5-118.5°.

Yamauchi, M. *et al*, *Anal. Chim. Acta*, 1982, **136**, 399 (*synth, detn, K*)
Blair, T.L. *et al*, *Anal. Chim. Acta*, 1989, **222**, 252 (*detn, K*)

2,3,5,6,8,9,11,12-Octahydro-16-nitro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, 9CI O-00030

4'-Picrylamino-16-nitrobenzo-15-crown-5

[70758-89-3]



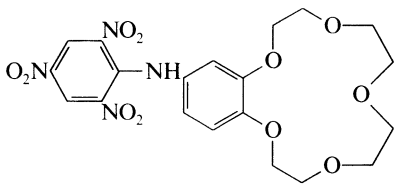
$C_{20}H_{21}N_5O_{13}$ M 539.412
Used as 2m*M* $CHCl_3$ soln. for extraction-photometric detn. of K; extraction of K, Na, Rb, Cs. Orange cryst. (MeOH aq.). Sol. $CHCl_3$, MeOH. Mp 208-209°.

Nakamura, H. *et al*, *Talanta*, 1979, **26**, 921 (*synth, use*)

2,3,5,6,8,9,11,12-Octahydro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, 9CI O-00031

4'-Picrylaminobenzo-15-crown-5

[65932-68-5]



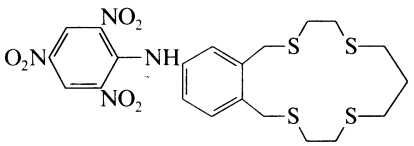
$C_{20}H_{22}N_4O_{11}$ M 494.414
Used as 2 m*M* $CHCl_3$ soln. for extraction-photometric detn. of K; extraction of K, Na, Rb, Cs. Deep red cryst. (MeOH). Sol. $CHCl_3$, MeOH. Mp 155°. pK_a 10.5 (10% dioxan, 25°).

Nakamura, H. *et al*, *Talanta*, 1979, **26**, 921 (*synth, use*)

1,3,4,7,8,10,11,13-Octahydro-*N*-(2,4,6-trinitrophenyl)-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-amine, 9CI O-00032

4'-Picrylaminobenzo-1,4,8,11-tetrathiacyclopentadec-13-ene

[98701-60-1]



$C_{21}H_{24}N_4O_6S_4$ M 556.708
Used as 0.5m*M* soln. in 1,2-dichloroethane for extraction-photometric detn. of Ag (pH 8.3), Cu(*I*) (λ_{max} 510 nm, pH 7.4). Yellow cryst. (C_6H_6/EtOH). Sol. 1,2-dichloroethane, $CHCl_3$, C_6H_6; insol. H_2O. Mp 161-162°.

Sekido, E. *et al*, *Talanta*, 1985, **32**, 797 (*synth*)

4,5-Octanedione, 9CI O-00033

[5455-24-3]

$H_3CCH_2CH_2COCOCH_2CH_2CH_3$

$C_8H_{14}O_2$ M 142.197
Yellow oil. Bp 168°, Bp_{12} 60°.

Oxime:
$C_8H_{15}NO_2$ M 157.212
Bp_{12} 117-120°.

Dioxime: [61050-68-8]. *Dipropylglyoxime*
$C_8H_{16}N_2O_2$ M 172.227
Gives colour reactions with Ni, Pd. Needles. Sol. EtOH, Me_2CO, $CHCl_3$. Mp 186-187°.

Snell, J.M. *et al*, *J. Am. Chem. Soc.*, 1931, **53**, 750 (*synth*)
Banks, C.V. *et al*, *Inorg. Chem.*, 1963, **2**, 112 (*use*)
DeBorgen, L. *et al*, *Bull. Soc. Chim. Belg.*, 1964, **73**, 73 (*synth*)
Bowie, J.H. *et al*, *Aust. J. Chem.*, 1968, **21**, 1799; 1968, **21**, 1247 (*nmr, ms*)

1-Octanesulfonic acid, 9CI O-00034

1-Octylsulfonic acid

[3944-72-7]

$H_3C(CH_2)_6CH_2SO_3H$

$C_8H_{18}O_3S$ M 194.294
Na salt: [5324-84-5].
Ion-pairing reagent used in hplc. Hygroscopic cryst. (EtOH). Mp > 300°.
Me ester: [10307-28-5].
$C_9H_{20}O_3S$ M 208.321
Liq. $Bp_{0.3}$ 103°.
Et ester: [5455-54-9].
$C_{10}H_{22}O_3S$ M 222.348
Liq. d_4^{25} 1.0009. Bp_1 113°. n_D^{25} 1.4382.
Chloride: [7795-95-1].
$C_8H_{17}ClO_2S$ M 212.740
d_4^{25} 1.4570. Mp 15.5-16.5°. Bp_1 94°. n_D^{20} 1.4591.

Reed, R.M. *et al*, *J. Am. Chem. Soc.*, 1935, **57**, 570 (*synth*)
Scott, R.B. *et al*, *J. Org. Chem.*, 1954, **19**, 830 (*synth, derivs*)
Bidlingmeyer, B.A. *et al*, *Adv. Chromatogr. (Houston) 19th 1984*, 1974, **14**, 435; *CA*, **91**, 217413a (*use*)
Hancock, W.S. *et al*, *J. Chromatogr.*, 1978, **161**, 291 (*use*)
Johnson, T.J. *et al*, *Tetrahedron*, 1978, **34**, 547 (*synth*)
Walker, T.A. *et al*, *J. Liq. Chromatogr.*, 1987, **10**, 161 (*use*)

2,4,5,7-Octanetetrone O-00035

[1114-91-6]

$H_3CCOCH_2COCOCH_2COCH_3$.

$C_8H_{10}O_4$ M 170.165
Used as a 0.072*M* soln. in butyl acetate for extraction-photometric detn. of Fe(*III*) (λ_{max} 500 nm, ε 2410).

Sugimoto, M. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1977, **26**, 257 (*use, detn, Fe*)

Octanoic acid, 9CI O-00036

n-*Caprylic acid*
[124-07-2]

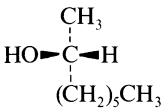
$H_3C(CH_2)_6COOH$

$C_8H_{16}O_2$ M 144.213
Widespread in plant oils, free and as glycerides. Used in perfume and dye manuf. Simple esters have flavour use. Antifungal agent. Used as a soln. in $CHCl_3$/butanol for extraction-separation of Co, Fe, Rh, Ti, Al, Ga, In. Liq. or cryst. Sol. alkalis, EtOH, $CHCl_3$; spar. sol. hot H_2O. Mp 16°. Bp 239.7°, Bp_{10} 124°.
▷ Irritant vapour. RH0175000.
Cu salt: Mp 264-266°.
Me ester: [111-11-5].
$C_9H_{18}O_2$ M 158.240
Bp 193-194°, Bp_{15} 83°.
4-Bromophenacyl ester: Mp 67.4°.
Chloride: [111-64-8].
$C_8H_{15}ClO$ M 162.659
Bp 195-196°, Bp_{15} 83°.
Anhydride: [623-66-5].
$C_{16}H_{30}O_3$ M 270.411
Mp −1°. Bp 280-285°, Bp_{15} 186°.
Amide: [629-01-6].
$C_8H_{17}NO$ M 143.228
Mp 110°.
Nitrile: [124-12-9]. *Octanenitrile, 9CI. Caprylonitrile. 1-Cyanoheptane. Heptyl cyanide*
$C_8H_{15}N$ M 125.213
Bp 198-200°. n_D^{20} 1.4200.
▷ RG9700300.

Langenbeck, W. *et al*, *Chem. Ber.*, 1956, **89**, 202 (*synth*)
Markley, K.S., *Fatty Acids*, Part 1, Interscience, N.Y., 2nd Ed., 1960 (*rev*)
Tripett, S. *et al*, *J. Chem. Soc.*, 1960, 2976 (*deriv*)
Nakagawa, K. *et al*, *Chem. Pharm. Bull.*, 1963, **11**, 296 (*deriv*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, no. 694 (*occur*)
U.S. Pat., 3 770 782, (1973); *CA*, **80**, 14572 (*synth*)
Cahiez, G. *et al*, *J. Organomet. Chem.*, 1975, **94**, 463 (*synth*)
Baer, T.A. *et al*, *Tetrahedron Lett.*, 1976, 4697 (*synth*)
Dinizo, S.E. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 182 (*synth*)
Belova, V.V. *et al*, *CA*, 1979, **90**, 128252j (*detn, Rh*)
Muehl, P. *et al*, *Talanta*, 1979, **26**, 227 (*detn, Fe*)
Kopacz, S. *et al*, *Zh. Neorg. Khim.*, 1981, **26**, 1625; *CA*, **95**, 50325s (*detn, Co*)
Sokhan, V.F. *et al*, *Zh. Prikl. Khim. (Leningrad)*, 1981, **54**, 1023; *CA*, **95**, 100983c (*detn, Ti*)
Kolomiets, L.L. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1982, **48**, 51 (*detn, Al, In, Ga*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2597.
Pyatnitskii, I.V. *et al*, *Zh. Anal. Khim.*, 1985, **40**, 115 (*detn, Ga*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, OCY000, ODE200.

2-Octanol, 9CI O-00037

Capryl alcohol
[123-96-6]


(*R*)-*form*

$C_8H_{18}O$ M 130.230
Isol. from geranium oil. Used as fragrance ingredient. Reagent for the chromatographic sepn. of amino acids.

(R)-form
Bp_{20} 86°. $[\alpha]_D^{17}$ −9.9°.
Hydrogen phthalate: Needles (pet. ether). Mp 75°. $[\alpha]_D^{24}$ −48.4°.
Benzoyl: [78687-05-5].
$C_{15}H_{22}O_2$ M 234.338
$Bp_{0.6}$ 90°. $[\alpha]_D$ −34.3° (c, 1.5 in CH_2Cl_2).

(S)-form [6169-06-8]
Bp_{20} 86°. $[\alpha]_D^{17}$ +9.9°.
Benzoyl: [34881-29-3].
$Bp_{0.6}$ 90°. $[\alpha]_D^{18}$ +33.5° (MeCl).

(±)-form [4128-31-8]
Used in manuf. of perfumes and disinfectant soaps. Antifoaming agent, solv. for waxes and fats. Oily refractive liq. with aromatic yet unpleasant odour. d_4^{25} 0.819. n_D^{20} 1.4203.
Ac: [2051-50-5].
$C_{10}H_{20}O_2$ M 172.267
Bp_{744} 194.5°, Bp_{15} 84°.
Me ether: [1541-09-9].
$C_9H_{20}O$ M 144.256
Bp_{44} 76-77°.

Kenyon, J. *et al*, *J. Chem. Soc.*, 1923, **123**, 18.
Org. Synth., 1926, **6**, 68 (*synth*)
Bohnsack, H., *Ber.*, 1942, **75**, 502 (*isol*)
Doering von E., W. *et al*, *J. Am. Chem. Soc.*, 1952, **74**, 2997 (*abs config*)
Cristol, S.J., *J. Am. Chem. Soc.*, 1955, **77**, 2512.
Goering, H.L., *J. Am. Chem. Soc.*, 1956, **78**, 2270.
Gil-Av, E., *J. Chromatogr.*, 1965, **17**, 408 (*use*)
Fruwert, J., *Z. Phys. Chem. (Leipzig)*, 1968, **238**, 262 (*ir*)
Whitney, T.A. *et al*, *Polym. Prepr., (Am. Chem. Soc., Div. Polym. Chem.)*, 1971, **13**, 688 (*synth*)
Morris, W.W., *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 1037 (*ir*)
Keinan, E. *et al*, *J. Am. Chem. Soc.*, 1986, **108**, 162 (*synth*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 467.

N-Octylaniline O-00038

N-*Octylbenzenamine, 9CI*

[3007-71-4]

$PhNH(CH_2)_7CH_3$

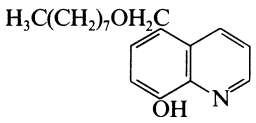
$C_{14}H_{23}N$ M 205.342

Used as 2*M* soln. in toluene for extraction separation of Pt, Pd, Ir, Rh, Ru, Ag, Au. Cryst. Sol. acids, toluene, $CHCl_3$.

Vasilyeva, A.A. *et al*, *Talanta*, 1975, **22**, 745 (*use*)

5-[(Octyloxy)methyl]-8-quinolinol, 9CI O-00039

[102269-68-1]



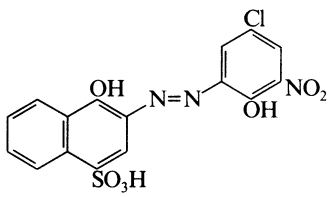
$C_{18}H_{25}NO_2$ M 287.401

Used as 0.01*M* $CHCl_3$ soln. for extraction-photometric detn. of Cu(*II*), Mo (λ_{max} 380 nm, ε 11400). Cryst. (EtOH). Sol. $CHCl_3$. Mp 43.4-44.0°.

Ohashi, K. *et al*, *Anal. Sci.*, 1985, **1**, 467; 1986, **2**, 439 (*synth, detn, Cu, Mo*)

Omega chrome blue 35 O-00040

3-[(5-Chloro-2-hydroxy-3-nitrophenyl)azo]-4-hydroxy-1-naphthalenesulfonic acid



$C_{16}H_{10}ClN_3O_7S$ M 423.790

Used for titrimetric detn. of Fe(*II*), In. Sol. H_2O.

Belcher, R. *et al*, *Chemist-Analyst*, 1958, **47**, 2 (*detn, Fe, In*)

OP 7 O-00041

α-(*Isooctylphenyl*)-ω-*hydroxypoly*(*oxy-1,2-ethanediyl*), *9CI. Polyhydroxyethylated alkylphenol*

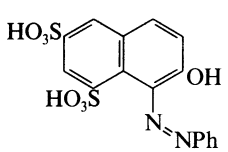
[9004-87-9]

Non-ionic surfactant. Used as a 1% aq. soln. for photometric detn. of Al, Be. Sol. H_2O.

Kudryavtseva, L.M. *et al*, *Zavod. Lab.*, 1978, **44**, 522 (*detn, Be*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 2127 (*detn, Al*)

Orange G O-00042

7-Hydroxy-8-phenylazo-1,3-naphthalenedisulfonic acid. C.I. 16230. C.I. Acid orange 10. Wool orange 2G. Hispacid fast orange 2G



$C_{16}H_{12}N_2O_7S_2$ M 408.412

Deep red cryst. with green reflex.

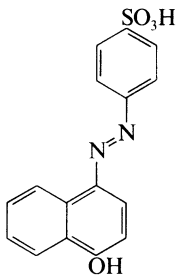
Di-Na salt: [1936-15-8].

Biological stain. Hygroscopic. Orange powder. Sol. H_2O; sl. sol. EtOH.

King, A.T., *J. Chem. Soc.*, 1927, 2639 (*synth*)
Drew, H.D.K. *et al*, *J. Chem. Soc.*, 1938, 298 (*use*)
Colour Index, 3rd Edn, 1971, **4**, 4094 (*synth*)
Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 2655D.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HGC000.

Orange I O-00043

4-[(4-Hydroxy-1-naphthalenyl)azo]benzenesulfonic acid, 9CI. 4-(4-Sulfophenylazo)-1-naphthol



$C_{16}H_{12}N_2O_4S$ M 328.348

Strictly, the name Orange I applies to the sodium salt.

Na salt: [523-44-4]. *C.I. Acid orange 20. α-Naphthol orange. Tropaeolin 000. 1-Naphthol orange. C.I. 14600*

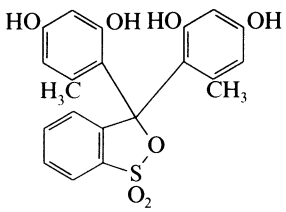
Dye. Used as acid-base indicator (pH range: 7.6-8.9). Reddish-brown powder giving orange soln. Sol. H_2O; sl. sol. EtOH; insol. common org. solvs. Banned by the FDA for food use.

▷ DB7085000.

Whitmore, W.F. *et al*, *J. Am. Chem. Soc.*, 1937, **59**, 1501.
Fierz-David, H.E. *et al*, *Helv. Chim. Acta*, 1946, **29**, 1718.
Colour Index, 3rd Ed., 1971, **4**, 4065 (*rev*)
Holzbecher, Z., *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*use, ind*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FAG010.

Orcinsulfonephthalein O-00044

4,4'-(3H-2,1-Benzoxathiol-3-ylidene)bis(5-methyl-1,3-benzenediol) S,S-*dioxide*



$C_{21}H_{18}O_7S$ M 414.435

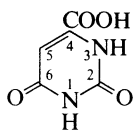
Used as acid-base fluorescent indicator (colour change: no fluoresc. → yellow; pH range: 8.6-10.0). Dark red cryst. powder. Sol. EtOH, Me_2CO, EtOAc, alkalis; sl. sol. H_2O.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 99.

Orotic acid, INN O-00045

1,2,3,6-Tetrahydro-2,6-dioxo-4-pyrimidinecarboxylic acid, 9CI. Uracilcarboxylic acid. Vitamin B_{13}. Whey factor. Other proprietary names

[65-86-1]



$C_5H_4N_2O_4$ M 156.098
Occurs in milk and other biol. systems. Key compd. involved in biosynth. of nucleic acid pyrimidine bases. Shows bacteriostatic and cytostatic props. Forms metal complexes. Uricosuric agent. Used in photometric detn. of Zn. Cryst. (H_2O). Mp 322-325°, Mp 345-346°. pK_{a1} 1.8; pK_{a2} 9.55 (25°).
▷ RM3180000.

Me ester:
$C_6H_6N_2O_4$ M 170.124
Cryst. Mp 240-242°, Mp 249°. pK_{a1} 7.93 (25°).

Et ester:
$C_7H_8N_2O_4$ M 184.151
Cryst. Mp 207-208°.

1,3-Di-Me:
$C_7H_8N_2O_4$ M 184.151
Cryst. Mp 153-154°.

1,3-Di-Me, Me ester:
$C_8H_{10}N_2O_4$ M 198.178
Cryst. Mp 77-78°.

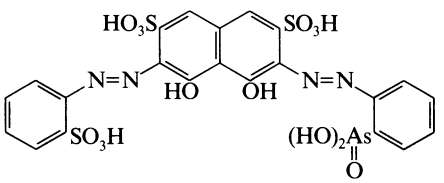
Choline ester: [24381-49-5]. ***Choline orotate.*** *Cholergol. Rufai B*
$C_{10}H_{17}N_3O_5$ M 259.261
Used in treatment of liver disorders.

Dimethylamide: [3687-44-3]. ***Orotic acid dimethylamide.*** *Orotonsan S*
$C_7H_9N_3O_3$ M 183.166
Used to treat liver disorders. Cryst. (EtOH). Mp 249°.

Deghenghi, R. *et al*, *Can. J. Chem.*, 1960, **38**, 1255 (*synth*)
Kokko, J.P. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 1042 (*pmr*)
Japan. Pat., 63 23 180, (1963); *CA*, **60**, 2964f (*Dimethylamide*)
Capitan, F. *et al*, *CA*, 1967, **68**, 26706p (*detn, Zn*)
Rambacher, P. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1968, **7**, 383 (*synth*)
Takusagawa, F. *et al*, *Bull. Chem. Soc. Jpn.*, 1973, **46**, 2011 (*cryst struct*)
Ivin, B.A. *et al*, *Zh. Org. Khim.*, 1976, **12**, 1836; *CA*, **85**, 160221 (*synth*)
Wyrzykiewicz, E. *et al*, *Pol. J. Chem.* (*Rocz. Chem.*), 1977, **51**, 673 (*ms*)
Walther, H. *et al*, *Pharmazie*, 1979, **34**, 309 (*pharmacol*)
Cihak, A. *et al*, *Orotic Acid*, MTP: Lancaster, U.K., 1980 (*book*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 13045.
Falk, M., *Pharmazie*, 1985, **40**, 377 (*rev, props*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 261.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, OJV500.

Orthanil A O-00046

3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI. Orthanilic A
[14044-85-0]

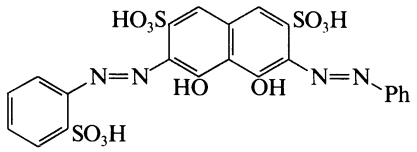


$C_{22}H_{17}AsN_4O_{14}S_3$ M 732.514
Used as a 0.05% aq. soln. for photometric detn. of Ba, Be, Pb, Sc, Sr, Th, Zr, rare earth elements; titrimetric detn. of $SO_4^{2\ominus}$. Dark red cryst. powder. Mod. sol. H_2O.

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1962, **17**, 43 (*use*)
Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*use*)

Orthanil B O-00047

4,5-Dihydroxy-3-(phenylazo)-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI
[4568-02-9]



$C_{22}H_{16}N_4O_{11}S_3$ M 608.587
Used as a 0.05% aq. soln. for photometric detn. of $SeO_3^{2\ominus}$, $SeO_4^{2\ominus}$, $TeO_3^{2\ominus}$, $TeO_4^{2\ominus}$; gives colour reactions with Ce, La, Nd, Pr; indicator in titrimetric detn. of $SO_4^{2\ominus}$. Dark red cryst. Mod. sol. H_2O. pK_{a4} 9.94; pK_{a5} 14.72.

Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 226 (*pKa*)
Nikolic, V.N. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1677 (*pKa*)
Kirillov, A.T. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 62 (*detn, Ce, La, Nd, Pr*)
Tumanov, A.A. *et al*, *CA*, 1975, **83**, 187878w (*detn, Se, Te*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 120 (*detn, $SO_4^{2\ominus}$*)

Oxalic acid, 8CI O-00048

Ethanedioic acid, 9CI. Clover acid
[144-62-7]

HOOCCOOH

$C_2H_2O_4$ M 90.035
Occurs in many plants and vegetables, e.g. rhubarb leaves. Widespread uses including metal treatment and cleaning and textile finishing, dye and paint industries and in polymers. Reagent for dehydrations and condensations. Used in pptn. separation of Ca, Sr, Ba, lanthanides; gravimetric detn. of Ca, Th, Pb, Ce; indirect manganometric detn. of Ca; masking agent for many metals in photometric detns. and as a reducing agent. Cryst. + $2H_2O$ (H_2O). V. sol. H_2O; mod. sol. EtOH; spar. sol. Et_2O. $d_4^{18.5}$ 1.65. Mp 101.5° (anhyd. 189.5°). pK_{a1} 1.23; pK_{a2} 3.85 (H_2O, 25°). Hydrate dehydrates on heating and sublimes at 150-60°.
▷ Highly toxic by oral or skin absorption routes, TLV 1. Salts are highly toxic. Hg and Ag salts are explosive. RO2450000.

Mono-Me ester: [600-23-7].
$C_3H_4O_4$ M 104.062
Bp 108-109°.

Di-Me ester: [553-90-2]. *Dimethyl oxalate*
$C_4H_6O_4$ M 118.089
Monoclinic prisms. Mp 54°. Bp 163.5°.

Dibromide: [15219-34-8]. *Oxalyl bromide*
$C_2Br_2O_2$ M 215.829
Brominating agent. Green liq. Mp −19.3°. Bp_{720} 102-103°, Bp_{10} 16-17°.
▷ Highly irritant. Mixtures with K or Na/K alloy are explosive.

Diamide: [471-46-5]. *Oxamide. Ethanediamide*
$C_2H_4N_2O_2$ M 88.066
Triclinic needles. Spar. sol. EtOH, hot H_2O. Dec. >320°.
▷ RO4900000.

Diamide, dioxime: [2580-79-2]. *Oxamidoxime.* N,N′-*Dihydroxyethanediimidamide, 9CI. Niccolox*
$C_2H_6N_4O_2$ M 118.095
Used as 0.1*M* aq. soln. for gravimetric and extraction-photometric detn. of Ni (λ_{max} 347 nm, ε 13000, $CHCl_3$), Co, Cu. Cryst. (H_2O). Sol. H_2O, EtOH. Mp 202-203°.

Monoanilide: Oxanilic acid
$C_8H_7NO_3$ M 165.148
Needles (C_6H_6). Sol. EtOH, Et_2O, $CHCl_3$, mod. sol. hot H_2O, spar. sol. C_6H_6.
Monoanilide, Et ester: [1457-85-8]. *Ethyl oxanilate*
$C_{10}H_{11}NO_3$ M 193.202
Reagent for the identification of primary alkyl amines. Cryst. (EtOH). Mp 66-67°.
Dihydrazide: [996-98-5].
$C_2H_6N_4O_2$ M 118.095
Used as complexing agent for Cu; used as 0.1% aq. soln. for photometric detn. of Cu(*II*). Cryst. Sol. common org. solvs. Mp 241° dec.
▷ RO2840000.

Johnson, E.I. *et al*, *J. Chem. Soc.*, 1930, 1510 (*synth*)
Rakuzin, M.A., *Chem.-Ztg.*, 1931, **55**, 128.
Sah, P.P.T. *et al*, *J. Am. Chem. Soc.*, 1931, **53**, 3901.
Org. Synth., Coll. Vol., 1, 1932, 259 (*ester*)
U.S. Pat., 1 948 441, (1934); *CA*, **28**, 2728 (*synth*)
Kuras, M., *Collect. Czech. Chem. Commun.*, 1947, **12**, 198 (*detn, Ni*)
Voter, R.C. *et al*, *Anal. Chem.*, 1949, **21**, 1320 (*detn, Ni*)
Pearse, G.A. *et al*, *Anal. Chem.*, 1960, **32**, 213 (*synth, detn, Ni*)
Nivière, P., *Anal. Abstr.*, 1967, **14**, 668 (*detn, Cu*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 767; 1975, **5**, 487.
Jankovic, S., *Anal. Abstr.*, 1968, **15**, 3626 (*detn, Cu*)
Kolthoff, I.M. *et al*, *Quant. Chem. Anal.*, 4th Edn., MacMillan, New York, 1971 (*use*)
Hagen, K. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 4796 (*bromide*)
Denissen, J.L. *et al*, *Acta Crystallogr., Sect. B*, 1974, **30**, 2240 (*cryst struct*)
Kuse, S. *et al*, *Anal. Chim. Acta*, 1974, **70**, 65 (*use*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*use*)
Clark, G.R. *et al*, *J. Chem. Soc., Dalton Trans.*, 1976, 1528 (*detn, Cu*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 383, 423, 472.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, OLA000, OLO000.

Oxalohydroxamic acid, 8CI O-00049

N,N′-Dihydroxyethanediamide, 9CI. N,N′-Dihydroxyoxamide. Oxalodihydroxamic acid. Oxalylhydroxamic acid. Dihydroxyglyoxime. Ethanedihydroxamic acid
[1687-60-1]

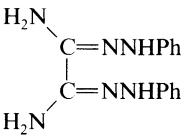
HON=C(OH)C(OH)=NOH ⇌ HONHCOCONHOH

$C_2H_4N_2O_4$ M 120.065
Diketo tautomer predominates in cryst. state. Propellant. Forms metal complexes, used in anal. for metals. Cryst. (H_2O). V. spar. sol. cold H_2O. Mp 165° (deflagrates). pK_{a1} 6.68; pK_{a2} 8.49; pK_{a3} 10.97, pK_{a1} 6.55; pK_{a2} 8.63 (30%, H_2O).
▷ Salts are explosive.

Lossen, W. *et al*, *Ber.*, 1894, **27**, 1105 (*synth*)
Ponzio, G., *Gazz. Chim. Ital.*, 1926, **56**, 709; *CA*, **21**, 1097 (*synth, haz*)
Przyborowski, L. *et al*, *CA*, 1975, **83**, 125675u (*synth, props*)
Lowe-Ma, C.K. *et al*, *Acta Crystallogr., Sect. C*, 1986, **42**, 1648 (*cryst struct*)

Oxamide bisphenylhydrazone O-00050

Bis(phenylhydrazono)oxamide. Oxamide osazone. Oxalimidic acid bis(2-phenylhydrazide)
[3449-06-7]



$C_{14}H_{16}N_6$ M 268.321
Used as a 0.1-0.2% soln. in EtOH for extraction-photometric detn. of Fe, Hg. Yellow cryst. (C_6H_6). Sol. EtOH, $CHCl_3$, C_6H_6, CCl_4; spar. sol. H_2O. Mp 196-197° (dec.). Bp P230°.

Koshkin, N.V., *Zh. Anal. Khim.*, 1965, **20**, 534 (*synth, use*)

1,4-Oxathiane, 9CI O-00051

Thioxan
[15980-15-1]

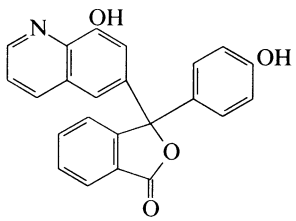
C_4H_8OS M 104.173
Used as a 10% soln. in conc. HCl for extraction-photometric detn. of Pd (λ_{max} 315 nm). Liq. Spar. sol. H_2O. d_4^{20} 1.12. Mp −17°. Bp 147°, Bp_{47} 69.9°. n_D^{20} 1.5081.
▷ Highly toxic orally. Flammable. RP4200000.

B,EtI: Yellow cryst. (EtOH). Mp 85°.

Clarke, H.T., *J. Chem. Soc.*, 1912, **101**, 1806 (*synth*)
Fromm, E. *et al*, *Ber.*, 1923, **56**, 2288.
Johnson, J.D.A., *J. Chem. Soc.*, 1933, 1530.
Ziegler, M. *et al*, *Fresenius' Z. Anal. Chem.*, 1967, **226**, 405 (*detn, Pd*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, OLY000.

Oxine blue† O-00052

3-(4-Hydroxyphenyl)-3-(8-hydroxy-5-quinolinyl)-1(3H)-isobenzofuranone, 9CI. 3-(p-Hydroxyphenyl)-3-(8-hydroxy-5-quinolyl)phthalide



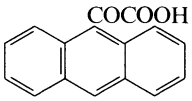
$C_{23}H_{15}NO_4$ M 369.376
Used as a 0.1% soln. in EtOH for titrimetric detn. of Cd, Co, Cu, Mg, Pb, Zn. Yellow cryst. (EtOH). Sol. EtOH; insol. H_2O. Mp 215-217°. The name Oxine blue is also used for 8-Oxo-5-(*p*-diethylaminophenylimino)-5,8-dihydroquinoline, O-00062.

Wroński, M., *Chem. Anal. (Warsaw)*, 1959, **4**, 641; *CA*, **54**, 9842 (*synth, use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 342 (*use*)

α-Oxo-9-anthraceneacetic acid O-00053

9-Anthraceneglyoxylic acid. 9-Oxaloanthracene

[85985-44-0]



$C_{16}H_{10}O_3$ M 250.253
Orange cryst. (toluene). Mp 186° dec.

Me ester: [123230-61-5].
$C_{17}H_{12}O_3$ M 264.280
Yellow cryst. Mp 103-105°.

Et ester:
$C_{18}H_{14}O_3$ M 278.307
Orange plates (pet. ether). Mp 90°.

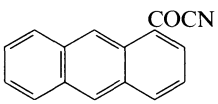
Nitrile: α-Oxo-9-anthraceneacetonitrile, 9CI. 9-Anthroylnitrile
$C_{16}H_9NO$ M 231.253
Used to derivatise hydroxy steroids for hplc with fluorescence detn. Orange-yellow needles (hexane/CH_2Cl_2). Mp 143-144°.

Bradley, W. *et al*, *J. Chem. Soc.*, 1956, 1622 (*synth*)
Goto, J. *et al*, *Anal. Chim. Acta*, 1983, **147**, 397 (*synth, use, nitrile*)
Becker, H.-D. *et al*, *Tetrahedron Lett.*, 1989, **30**, 989 (*synth, Me ester*)

α-Oxo-1-anthraceneacetonitrile, 9CI O-00054

1-Anthroyl nitrile

[85985-43-9]



$C_{16}H_9NO$ M 231.253
Used to derivatise hydroxysteroids for hplc with fluorescence detn. Orange-yellow needles (hexane/CH_2Cl_2). Mp 164-165°.

Goto, J. *et al*, *Anal. Chim. Acta*, 1983, **147**, 397 (*synth, use*)
Goto, J. *et al*, *J. Chromatogr.*, 1983, **276**, 289.

α-Oxobenzeneacetic acid, 9CI O-00055

Phenylglyoxylic acid. Benzoylformic acid

[611-73-4]

PhCOCOOH

$C_8H_6O_3$ M 150.134
Mp 66°. Bp_{12} 147.5°. Dec. on dist. at atm. press.

▷ DA1480000.

Oxime: Isonitrosophenylacetic acid
$C_8H_7NO_3$ M 165.148
Mp 127°, Mp 145°. The form Mp 127° is metastable.

2,4-Dinitrophenylhydrazone: Yellow. Mp 196-197° dec.

Me ester: [15206-55-0].
$C_9H_8O_3$ M 164.160
Oil. Bp_{14} 137°.

Chloride: [25726-04-9].
$C_8H_5ClO_2$ M 168.579
Oil. Bp_9 125°.

Amide: [7505-92-2].
$C_8H_7NO_2$ M 149.149
Mp 91°.

Nitrile: [613-90-1]. *Benzoyl cyanide*
C_8H_5NO M 131.134
Constit. of defensive secretions of millipedes. Reagent for selective benzoylation of sugars. Mp 32-33°. Bp 206-208°.

Thiosemicarbazone: [18465-40-2].
$C_9H_9N_3O_2S$ M 223.255
Used as 0.5m*M* aq. soln. for catalytic detn. of Rh(*III*). Cryst. Sol. H_2O, EtOH.

[25327-35-9, 25327-36-0]

Org. Synth., Coll. Vol., 3, 1955, 114 (*synth*)
Gross, H. *et al*, *Chem. Ber.*, 1967, **100**, 3777 (*synth*)
Paap, R., *Tetrahedron Lett.*, 1969, 3493 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 35.
Duffey, S.S. *et al*, *J. Chem. Ecol.*, 1977, **3**, 101.
Ando, T. *et al*, *Synthesis*, 1983, 637 (*deriv*)
Murahashi, S. *et al*, *Tetrahedron Lett.*, 1985, 925 (*synth, nitrile*)
Ezerskaya, N.A. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 846 (*synth. deriv, detn, Rh*)

β-Oxobenzenepropanethioamide O-00056

$PhCOCH_2C(S)NH_2$

C_9H_9NOS M 179.242

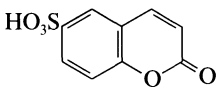
N-*Ph:* [13196-40-2]. *β-Oxo-N-phenylbenzenepropanethioamide, 9CI. 2-Benzoylthioacetanilide*
$C_{15}H_{13}NOS$ M 255.340
Used as 5m*M* soln. in 0.1*M* NaOH for extraction-separation of Ir(*III* or *IV*) and Ru(*III*) ($CHCl_3$). Cryst. (EtOH). Sol. alkalis, EtOH.

N,N-*Dibutyl:* [53354-71-5]. *N,N-Dibutyl-β-oxobenzenepropanethioamide, 9CI*
$C_{17}H_{25}NOS$ M 291.457
Used as a 0.5m*M* soln. in 0.1*M* NaOH for extraction-separation of Ir(*III,IV*). Cryst. (EtOH). Sol. alkalis, EtOH.

Schroth, W. *et al*, *Z. Chem.*, 1974, **14**, 93 (*N,N*-dibutyl, synth)
Ludwig, E. *et al*, *Z. Chem.*, 1975, **15**, 234 (*synth*)
Röbisch, G. *et al*, *Anal. Chim. Acta*, 1983, **151**, 255 (*detn, Ir, Ru*)

2-Oxo-2*H*-1-benzopyran-6-sulfonic acid O-00057

Coumarin-6-sulfonic acid



$C_9H_6O_5S$ M 226.209

Chloride: [10543-42-7]. *2-Oxo-2H-1-benzopyran-6-sulfonyl chloride, 9CI. 6-(Chlorosulfonyl)coumarin, 8CI. Coumarin-6-sulfonyl chloride*
$C_9H_5ClO_4S$ M 244.655
Fluorescent label for amines, phenols and proteins. Cryst. (C_6H_6). Mp 119-120°.

Merchant, J.R. *et al*, *J. Indian Chem. Soc.*, 1957, **34**, 35 (*synth*)
Akusoba, E.U., *Fresenius' Z. Anal. Chem.*, 1985, **320**, 182 (*use*)
Al-Kindy, S.M. *et al*, *Anal. Chim. Acta*, 1989, **227**, 145; 1989, **227**, 155 (*synth, use*)

2-Oxo-3-butynoic acid, 9CI O-00058

[56842-75-2]

HC≡CCOCOOH

$C_4H_2O_3$ M 98.058
Unstable. Reactive alkylating agent *in vivo*.

▷ Possible mutagen.

Et ester: [20286-36-6].
$C_6H_6O_3$ M 126.112

Reagent for detn. of amines.

Isopropyl ester: [20286-37-7].

$C_7H_8O_3$ M 140.138

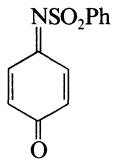
Reagent for detn. of amines.

Lapkin, I.I. *et al*, *CA*, 1968, **68**, 65474f (*use*)
Kaczorowski, G. *et al*, *Biochemistry*, 1975, **14**, 3903.
Pompon, D. *et al*, *Eur. J. Biochem.*, 1982, **129**, 143 (*synth, purifn*)

N-(4-Oxo-2,5-cyclohexadien-1-ylidene) benzenesulfonamide, 9CI O-00059

N-*Phenylsulfonyl*-p-*quinone imine*. p-*Quinone monobenzenesulfonimide*

[4056-56-8]



$C_{12}H_9NO_3S$ M 247.274

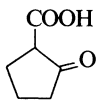
Reagent for the kinetic detn. of phenols. Orange-yellow cryst. (cyclohexane/$CHCl_3$). Mp 134° dec.

Adams, R. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 1145 (*synth*)
Guilbault, G.G. *et al*, *Anal. Chem.*, 1966, **38**, 1897 (*use*)

2-Oxocyclopentanecarboxylic acid, 9CI O-00060

Cyclopentanone-2-carboxylic acid

[50882-16-1]



$C_6H_8O_3$ M 128.127

(±)-*form*

Me ester: [10472-24-9].

$C_7H_{10}O_3$ M 142.154

Bp_{19} 105°.

Me ester, semicarbazone: Cryst. Mp 167°.

Et ester: [53229-92-8]. *2-Ethoxycarbonylcyclopentanone. Dieckmann ester*

$C_8H_{12}O_3$ M 156.181

Bp_6 86-87°.

Nitrile: [2941-29-9]. *2-Cyanocyclopentanone*

C_6H_7NO M 109.127

$Bp_{1.0}$ 93°.

Anilide: [4874-65-1]. *2-Oxo-N-phenylcyclopentanecarboxamide, 9CI*

$C_{12}H_{13}NO_2$ M 203.240

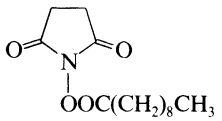
Used as 0.3% soln. in 50% EtOH for gravimetric detn. of Be, Hg, V, U. Cryst. (EtOH). Sol. EtOH, Me_2CO.

Org. Synth., Coll. Vol., 2, 1943, 116.
Rhoads, S.J. *et al*, *Tetrahedron*, 1963, **19**, 1625.
Bloomfield, J.J. *et al*, *Tetrahedron Lett.*, 1964, 2273.
Zupancic, B.G. *et al*, *Monatsh. Chem.*, 1967, **98**, 369.
Chaudhuri, N.K. *et al*, *Anal. Chim. Acta*, 1971, **57**, 193 (*synth, anilide*)
Mandal, S.K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 134 (*detn, V*)
Korobitsyna, I.K. *et al*, *Zh. Org. Khim.*, 1976, **12**, 1251; *CA*, **85**, 142560.
Coates, R.M. *et al*, *J. Am. Chem. Soc.*, 1987, **109**, 1160 (*nitrile*)

1-[(1-Oxodecyl)oxy]-2,5-pyrrolidinedione, 9CI O-00061

N-(*Decanoyloxy*)*succinimide, 8CI. Succinimido decanoate*

[22102-66-5]



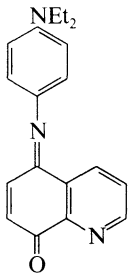
$C_{14}H_{23}NO_4$ M 269.340

Reagent for peptide sequence detn. by ms. Solid. Mp 69-70°.

Wulfson, N.S. *et al*, *Tetrahedron Lett.*, 1966, 39 (*use*)
Vinogradova, E.I. *et al*, *Zh. Obshch. Khim.*, 1968, **38**, 777 (*synth*)
Paquet, A., *Can. J. Chem.*, 1979, **57**, 2775 (*synth*)
Higuchi, K. *et al*, *Yukagaku*, 1987, **36**, 16; *CA*, **107**, 197844k (*synth*)

8-Oxo-5-(*p*-diethylaminophenylimino)-5,8-dihydroquinoline O-00062

Oxine blue†

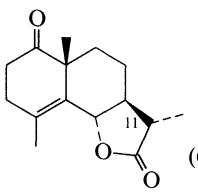


$C_{19}H_{19}N_3O$ M 305.379

Used as a 0.25% soln. in EtOH as acid-base indicator (pH range: 3.9-5.5; colour change: blue → orange). Orange cryst. (EtOH). Sol. EtOH. Mp 134-135°. The name Oxine blue is also used for Oxine blue†, O-00052.

Lev, L.E. *et al*, *Zh. Anal. Khim.*, 1956, **11**, 359 (*synth, use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 127.

1-Oxo-4-eudesmen-12,6-olide O-00063



(6α,11α)-*form*

$C_{15}H_{20}O_3$ M 248.321

(6α,11α)-*form* [23522-05-6] ***Taurin***

Constit. of *Artemisia granatensis*, *A. taurica* and *A. hanseniana*. Used as 0.6m*M* aq. soln. for fluorimetric detn. of $CN^{\ominus}$ (λ_{max} 460 nm). Cryst. (EtOH). Mp 118-119° (109-110°). $[\alpha]_D^{19}$ −120° (c, 5 in EtOH).

(6α,11β)-*form*

11-Epitaurin. *11*-epi-*Taurin*

Constit. of *A. herba-alba*. Oil. $[\alpha]_D^{23}$ −45° (c, 0.9 in $CHCl_3$).

(6β,11α)-*form* [54192-33-5] ***Finitin***

Constit. of *A.* spp. Mp 153-155°. $[\alpha]_D$ −167.7° (c, 1.7 in $CHCl_3$).

(6β,11β)-*form*

Deoxy-ψ-santonin. *Deoxypseudosantonin*

Isol. from *A.* spp. Mp 101-102°. $[\alpha]_D^{25}$ −207° (EtOH).

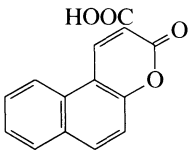
[52918-33-9]

Dauben, W. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 2239 (*Finitin*)
Kechatova, N.A. *et al*, *Khim. Prir. Soedin.*, 1968, 205 (*Taurin*)
Gonzalez, A.G. *et al*, *An. Quim.*, 1974, **70**, 231; 1975, **71**, 437 (*isol, pmr*)
Serkerov, S.V. *et al*, *Khim. Prir. Soedin.*, 1976, 665 (*Taurin*)
Calleri, M. *et al*, *Acta Crystallogr., Sect. C*, 1983, **39**, 1115 (*cryst struct, 11-Epitaurin*)
Sano, A. *et al*, *Talanta*, 1985, **34**, 743 (*detn, $CN^{\ominus}$*)
Sano, A. *et al*, *Anal. Sci.*, 1986, **2**, 491 (*detn, $CN^{\ominus}$*)
Sanz, J.F. *et al*, *Phytochemistry*, 1990, **29**, 541 (*11-Epitaurin*)

3-Oxo-3*H*-naphtho[2,1-*b*]pyran-2-carboxylic acid, 9CI O-00064

5,6-Benzocoumarin-3-carboxylic acid

[4361-00-6]



$C_{14}H_8O_4$ M 240.215
Cryst. (AcOH). Mp 234°.

Me ester: [25816-60-8].
$C_{15}H_{10}O_4$ M 254.242
Cryst. (EtOH aq.). Mp 165°.

Et ester: [734-88-3].
$C_{16}H_{12}O_4$ M 268.268
Needles (EtOH aq.). Mp 115°.

Chloride: [71942-38-6].
$C_{14}H_7ClO_3$ M 258.660
Used for fluorimetric detn. of prostaglandins.

Knoevenagel, E. *et al*, *Ber.*, 1904, **37**, 4486 (*synth*)
Junek, H. *et al*, *Monatsh. Chem.*, 1971, **102**, 1096 (*synth*)
Wolfbeis, O.S. *et al*, *Monatsh. Chem.*, 1980, **111**, 93 (*synth*)
Wintersteiger, R. *et al*, *Prostaglandins, Leukotrienes Med.*, 1984, **14**, 25 (*use, chloride*)

3-Oxo-*N*-phenylbutanethioamide, 9CI O-00065

Acetythioacetanilide

[10374-66-0]

$H_3CCOCH_2CSNHPh$

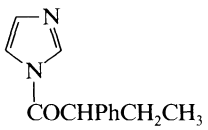
$C_{10}H_{11}NOS$ M 193.269
Used as soln. in 40% EtOH in extraction-photometric detn. of Se; as 0.05m*M* soln. in 0.1*M* NaOH for extraction-separation of Ir(*III* or *IV*) ($CHCl_3$, sl. acidic media). Cryst. (EtOH). Sol. EtOH; spar. sol. H_2O. Mp 64°.

Ludwig, E. *et al*, *Z. Chem.*, 1975, **15**, 234 (*synth*)
Pal, T. *et al*, *J. Indian Chem. Soc.*, 1979, **56**, 791 (*detn, Se*)
Röbisch, G. *et al*, *Anal. Chim. Acta*, 1983, **151**, 255 (*sepn, Ir*)

1-(1-Oxo-2-phenylbutyl)-1*H*-imidazole, 9CI O-00066

N-(α-*Phenylbutyryl*)*imidazole*

[52699-46-4]



$C_{13}H_{14}N_2O$ M 214.266

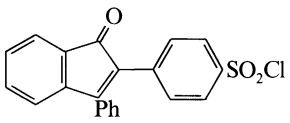
(+)-*form*
Reagent for determining chirality of amines, alcohols and carboxylic acids. $[\alpha]_{578}^{22}$ +13.4° (C_6H_6).

Brockmann, H.J. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1974, **86**, 665 (*synth, use*)

4-[1-Oxo-3-phenyl-1*H*-inden-2-yl] benzenesulfonyl chloride, 9CI O-00067

2-(4-Chlorosulfophenyl)-3-phenylindone. Sulfoindonyl chloride

[13951-60-5]



$C_{21}H_{13}ClO_3S$ M 380.851
Reagent for fluorescence detn. of amino acids and hexosamines. Orange-red cryst. (C_6H_6). Mp 193-194°.

Ivanov, T.P., *Monatsh. Chem.*, 1966, **97**, 1499 (*synth*)
Ivanov, C. *et al*, *Biochim. Biophys. Acta*, 1969, **194**, 345 (*use*)
Ivanov, C.P. *et al*, *J. Chromatogr.*, 1972, **71**, 117; 1974, **90**, 181 (*use*)

2-Oxo-3-phenylpropanoic acid O-00068

α-*Oxobenzenepropanoic acid, 9CI. Phenylpyruvic acid*

[156-06-9]

$PhCH_2COCOOH$

$C_9H_8O_3$ M 164.160
Occurs in plants, prod. by *Pseudomonas* and other microorganisms. Plates ($CHCl_3$). Spar. sol. hot H_2O. Mp 157° dec. Oxidises in air. Reduces boiling Fehling's soln.

Na salt: [114-76-1].
Cryst. + $1H_2O$. Insol. EtOH. Stable in air. H_2O of cryst. remains at 100°.

Et ester: [6613-41-8].
$C_{11}H_{12}O_3$ M 192.214
Needles. Insol. H_2O. Mp 45°. Bp_{15} 154.5°. Oxidises in air. Enolic Et esters (*E*)- and (*Z*-) are also known.

Et ester, oxime:
$C_{11}H_{13}NO_3$ M 207.229
Prisms or needles (ligroin). Mp 57-58°.

Et ester, phenylhydrazone: Mp 89°.

Et ester, semicarbazone: Plates (EtOH aq.). Mp 167°.

Amide: [6362-62-5].
$C_9H_9NO_2$ M 163.176
Sol. hot EtOH, insol. H_2O, Et_2O, C_6H_6. Mp 190°.

Amide, oxime: [13942-61-5].
$C_9H_{10}N_2O_2$ M 178.190
Needles (H_2O). Mp 147°.

Oxime: [3682-17-5]. α-(*Hydroxyimino*)*benzenepropanoic acid, 9CI*
$C_9H_9NO_3$ M 179.175
Used as a 3% soln. in EtOH for gravimetric detn. of Cu; pptn. of heavy metals. Needles (EtOH aq. or H_2O). Mp 159° dec.

Semicarbazone: Mp 180° dec.

4-Nitrophenylhydrazone: Cryst. (EtOH aq.). Mp 187-188° dec.

2-Quinolylhydrazone: see α-(*2-Quinolinylhydrazono*) *benzenepropanoic acid, Q-00035*

Org. Synth., Coll. Vol., 2, 1943, 519 (*synth*)
Katyal, M. *et al*, *Curr. Sci.*, 1962, **31**, 373 (*oxime, detn, Cu*)
Weygand, F. *et al*, *Justus Liebigs Ann. Chem.*, 1962, **658**, 128 (*synth*)
Katyal, M. *et al*, *J. Indian Chem. Soc.*, 1963, **40**, 491 (*pptn*)

Kretovich, V.L., *Dokl. Akad. Nauk SSSR, Ser. Khim.*, 1964, **158**, 471 (*occur*)
Igarashi, M. *et al*, *J. Org. Chem.*, 1967, **32**, 3399 (*synth*)
Anatol, J. *et al*, *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1971, **272**, 1159 (*synth*)
Kulkarni, B.D. *et al*, *Indian J. Chem.*, 1975, **13**, 1097 (*synth*)
Haider, Q., *J. Indian Chem. Soc.*, 1975, **552**, 881 (*oxime, detn, Cu*)
Ramage, R. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1984, 1531 (*synth, ir*)
Fujita, Y. *et al*, *Chem. Pharm. Bull.*, 1985, **33**, 242 (*anal*)

3-Oxo-3-phenylpropanoic acid O-00069

β-Oxobenzenepropanoic acid, 9CI. Benzoylacetic acid

[614-20-0]

$PhCOCH_2COOH$

$C_9H_8O_3$ M 164.160
Spar. sol. H_2O, ligroin. Mp 103-104° dec.

Me ester: [614-27-7].
$C_{10}H_{10}O_3$ M 178.187
Oil. Bp_{15} 152°.

Amide: [3446-58-0].
$C_9H_9NO_2$ M 163.176
Mp 113°.

Anilide: [959-66-0]. *2-Benzoylacetanilide, 9CI. β-Oxo-N-phenylbenzenepropanamide*
$C_{15}H_{13}NO_2$ M 239.273
Used as a 1% soln. in EtOH for extraction-photometric, gravimetric detn. of Be, Hg, Re, Ti, U, V. Cryst. (C_6H_6, toluene). Sol. EtOH, Me_2CO, C_6H_6. Mp 107-108°.

Di-Et acetal: 3,3-Diethoxy-3-phenylpropanoic acid
$C_{13}H_{18}O_4$ M 238.283
Mp 68° dec.

Dorsch, J.B. *et al*, *J. Am. Chem. Soc.*, 1932, **54**, 2960 (*synth*)
Org. Synth., Coll. Vol., 4, 1963, 80, 415 (*deriv*)
Sarkar, A.K. *et al*, *Anal. Chem.*, 1967, **39**, 1608 (*detn, Be, Ti*)
Sarkar, A.K. *et al*, *Anal. Lett.*, 1968, **1**, 323 (*detn, Hg, V*)
Mandal, S.K. *et al*, *J. Indian Chem. Soc.*, 1973, **50**, 424 (*detn, U*)
Das, J., *J. Indian Chem. Soc.*, 1977, **54**, 278 (*detn, Re*)

2-Oxopropanedial, 9CI O-00070

Mesoxalic dialdehyde, 8CI. Mesoxaldehyde

[497-16-5]

$OHCCOCHO$

$C_3H_2O_3$ M 86.047
Known in hydrated form.

Hydrate: [4464-20-4]. *Dihydroxypropanedial, 9CI. Dihydroxymalonaldehyde, 8CI*
Viscous syrup. Sol. H_2O. Polymerises on standing.

1,3-Dioxime: [41886-31-1]. *Diisonitrosacetone*
$C_3H_4N_2O_3$ M 116.076
Gives colour reaction with Fe(*III*). Prisms or flakes (MeOH). Spar. sol. H_2O. Mp 206-212° dec.
▷ UA1600000.

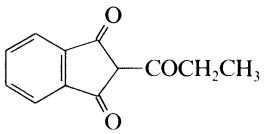
1,2-Bisphenylhydrazone: Yellow-orange cryst. Mp 198° dec.
2-p-Nitrophenylhydrazone: Brown plates (EtOH). Mp 178°.

Harries, C. *et al*, *Ber.*, 1905, **38**, 1630 (*synth*)
Dubsky, J.V. *et al*, *Chem. Listy*, 1929, **23**, 496; *CA*, 1930, **24**, 801.
Von Euler, H. *et al*, *Justus Liebigs Ann. Chem.*, 1933, **505**, 73 (*synth*)
Geissman, T.A. *et al*, *J. Org. Chem.*, 1946, **11**, 736 (*dioxime*)
Mosher, W.A. *et al*, *J. Org. Chem.*, 1970, **35**, 3689 (*dioxime*)

2-(1-Oxopropyl)-1*H*-indene-1,3(2*H*)-dione, 9CI O-00071

2-Propionyl-1,3-indanedione

[2740-25-2]



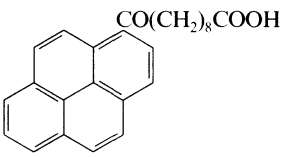
$C_{12}H_{10}O_3$ M 202.209
Used as 5m*M* aq. alkaline soln. for extraction-photometric detn. of Fe(*III*) (λ_{max} 520 nm, $CHCl_3$); as 0.01*M* soln. in Me_2CO for fluorimetric detn. of Eu (λ_{max} 610 nm, pH 3-5). Cryst. (EtOH). Sol. EtOH, Me_2CO, alkalis. Mp 103°.
▷ NK6650000.

Apsitis, A., *CA*, 1973, **86**, 50195p (*detn, Fe*)
Bel'tynkova, S.V. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 1103 (*synth, detn, Eu*)

ι-Oxo-1-pyrenedecanoic acid, 9CI O-00072

9-Oxo-9-(1-pyrenyl)decanoic acid

[104180-30-5]



$C_{26}H_{26}O_3$ M 386.490
Fluorescent probe.

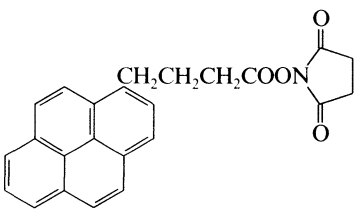
Et ester: [70700-34-4].
$C_{28}H_{30}O_3$ M 414.543
Cryst. (MeOH). Mp 46-48°.

Galla, H.J. *et al*, *Chem. Phys. Lipids*, 1979, **23**, 239 (*synth, deriv*)
Sunamoto, J. *et al*, *J. Am. Chem. Soc.*, 1980, **102**, 1146 (*synth, ir, pmr, deriv*)

1-[1-Oxo-4-(1-pyrenyl)butoxy]-2,5-pyrrolidinedione, 9CI O-00073

Succinimido 4-(1-pyrenyl)butanoate

[114932-60-4]



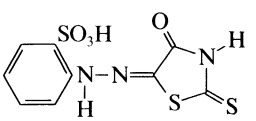
$C_{24}H_{19}NO_4$ M 385.418
Fluorescent label.

Morrison, L.E., *Anal. Biochem.*, 1988, **174**, 101; 1989, **183**, 231 (*use*)

2-[(4-Oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid, 9CI O-00074

o-Sulfobenzeneazorhodanine

[51327-63-0]



$C_9H_7N_3O_4S_3$ M 317.370
Several tautomers possible. Used as 0.1% soln. in 50% EtOH for photometric detn. of Ag, Au, Pd, Pt. Red cryst. powder. Sol. H_2O, EtOH, DMF.

Propistsova, detn... R.F. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 250 (*tautom*)
Gur'eva, R.F. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 660 (*detn, Ag*)
Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*synth, use*)

3-[(4-Oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, 9CI O-00075

m-*Sulfobenzeneazorhodanine*

[51327-62-9]

$C_9H_7N_3O_4S_3$ M 317.370
Several tautomers possible. Used as 0.1% soln. in 50% EtOH for photometric detn. of Ag, Au, Pd, Pt. Red cryst. powder. Sol. H_2O, EtOH, DMF.

N-*Amino: 3-[(3-Amino-4-oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid*
$C_9H_8N_4O_4S_3$ M 332.385
Used as an EtOH soln. for photometric detn. of Ag, Au, Pd, Pt.

Propistsova, R.F. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 250 (*tautom*)
Gur'eva, R.F. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 660 (*detn, Ag*)
Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*synth, use*)

4-[(4-Oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, 9CI O-00076

p-*Sulfobenzeneazorhodanine*

[42167-63-5]

$C_9H_7N_3O_4S_3$ M 317.370
Several tautomers possible. Used as 0.1% soln. in 50% EtOH for photometeric detn. of Ag, Au, Pd, Pt. Red cryst. powder. Sol. H_2O, EtOH, DMF.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*rev*)

1,1′-Oxybis(2-chloroethane), 9CI O-00077

Di-2-chloroethyl ether. 2,2′-Dichlorodiethyl ether. Bis(2-chloroethyl) ether. Chlorex

[111-44-4]

$ClCH_2CH_2OCH_2CH_2Cl$

$C_4H_8Cl_2O$ M 143.012
Use in the purifn. of oils, as a soil fumigant and to assist in scouring of textiles, also as an extraction solvent, e.g. for Fe(*III*) from 6 *M* HCl medium. Liq. Misc. Et_2O, MeOH, C_6H_6. d_{20}^{20} 1.213. Fp −51.9°. Bp 177-178°, Bp_{12} 66°.

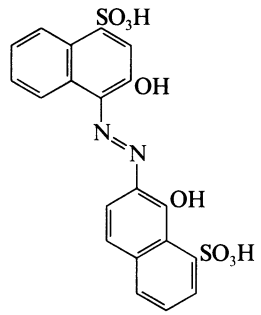
▷ Highly toxic and irritant by inhalation and skin absorption, TLV 30. KN0875000.

Aldrich Library of IR Spectra, 2nd Ed., 116F (*ir*)
Aldrich Library of NMR Spectra, **1**, 134C (*pmr*)
Registry of Mass Spectral Data, Wiley-Interscience, 300 (*ms*)
Sadtler Standard C-13 NMR Spectra, 20 (*cmr*)
Kamm, O. *et al*, *J. Am. Chem. Soc.*, 1921, **43**, 2223 (*synth*)
Sandell, E.B. *et al*, *Photometric Determination of Traces of Metals*, Wiley, New York, 1978 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 200.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DFJ050.

P

Palatine fast blue GGNA CF P-00001

3-Hydroxy-4-[(1-hydroxy-8-sulfo-2-naphthalenyl)azo]-1-naphthalenesulfonic acid. C.I. Acid blue 158. Palatine fast blue GGN. Pilote fast blue GGN. C.I. 14880



$C_{20}H_{14}N_2O_8S_2$ M 474.471

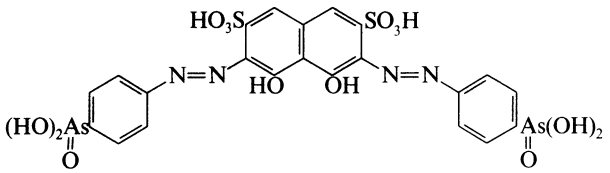
Used as metallochromic indicator in titrimetric detn. of Ca. Cryst. Sol. H_2O, EtOH. pK_{a1} 9.9; pK_{a2} 12.9.

Reilley, C.N. *et al*, *Anal. Chem.*, 1959, **31**, 887 (*pKa*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

Palladiazo P-00002

3,6-Bis[(4-arsonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI

[16088-85-0]



$C_{22}H_{18}As_2N_4O_{14}S_2$ M 776.378

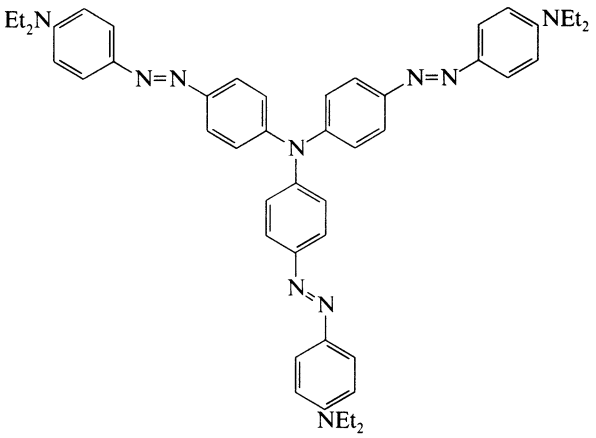
Used as 0.1% aq. soln. for photometric detn. of Pd (λ_{max} 540 nm, ε 33000); gives colour reactions with Co, Cu, Dy, Fe(*III*), Lu, Mn, Th, Y, Zn. Dark red cryst. powder. Sol. H_2O; sl sol. EtOH. Mp >300° dec.

Perez-Bustamante, J.A. *et al*, *Anal. Chim. Acta*, 1967, **37**, 49; 1969, **44**, 95; 1970, **51**, 277 (*synth*, *detn*, *Pd*)
Perez-Bustamante, J.A. *et al*, *Talanta*, 1971, **18**, 183, 717 (*props*)
Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 722 (*detn*, *Dy*, *Lu*, *Th*, *Y*)
Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1888 (*detn*, *Co*, *Cu*, *Fe*, *Mn*, *Zn*)

Pallatriazo P-00003

4-[[4-(Diethylamino)phenyl]azo]-N,N-bis[4-[[4-(diethylamino)phenyl]azo]phenyl]benzenamine, 9CI. 4,4',4''-Tris(4-diethylaminophenylazo)triphenylamine

[93638-57-4]



$C_{48}H_{54}N_{10}$ M 771.022

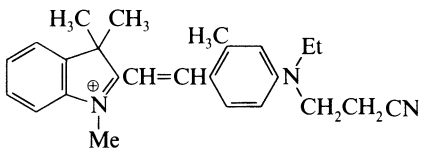
Used as 0.05% DMF soln. for photometric detn. of Pd (λ_{max} 570 nm). Dark blue cryst. Sol. DMF.

Khalifa, M.E. *et al*, *Mikrochim. Acta*, 1984, **2**, 169 (*synth*, *detn*, *Pd*)

Panacryl brilliant red P-00004

2-[2-[4-[(2-Cyanoethyl)ethylamino]-2-methylphenyl]ethyl]-1,3,3-trimethyl-3H-indolium(1+), 9CI

[72208-19-6]



$C_{25}H_{30}N_3^{\oplus}$ M 372.532 (ion)

Chloride:

$C_{25}H_{30}ClN_3$ M 407.985

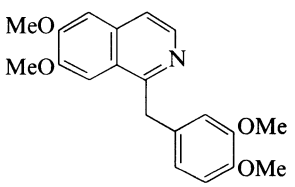
Used as 1m*M* aq. soln. for extraction-photometric detn. of Tl(*III*) (λ_{max} 565 nm, ε 61000, toluene). Brown red cryst. Sol. H_2O.

Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 1636 (*detn*, *Tl*)

Papaverine P-00005

6,7-Dimethoxy-1-(3,4-dimethoxybenzyl)isoquinoline. Papaveroline tetramethyl ether. NSC 35443

[58-74-2]



$C_{20}H_{21}NO_4$ M 339.390
Alkaloid from *Papaver somniferum* and *Rauwolfia serpentina* (Papaveraceae, Apocynaceae). Smooth muscle relaxant, vasodilator, antiasthmatic agent. Oral antispasmodic agent which has been used for treating gastrointestinal spasm. Used as 0.05 *M* soln. in $CHCl_3$ for extraction-photometric detn. of Zr (λ_{max} 580 nm, ε 51000); flotation-photometric detn. of Te (with bromide). Prisms ($EtOH/Et_2O$). Mp 147-148°.

▷ LD_{50} 25mg/kg (mouse, i.v.). NW8450000.

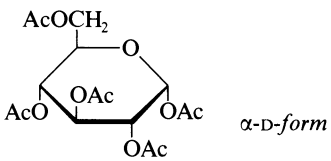
B,HCl: [61-25-6]. *Papaverine hydrochloride, USAN. Cerespan. Pavabid*
Rods (H_2O). Mp 221-222° dec. Component of Copavin.
▷ NW8575000.

B,MeI: Mp 60-65° (hydrate), Mp 195° (anhyd.).
▷ Highly toxic orally.

$O^{3'}$-*De-Me:* [18694-10-5]. ***Palaudine***
$C_{19}H_{19}NO_4$ M 325.363
Minor alkaloid from opium (Papaveraceae). Prisms (EtOH). Mp 175-176°.

Hofmann, A., *Helv. Chim. Acta*, 1954, **37**, 849 (*uv*)
Guthrie, D.A. *et al*, *Can. J. Chem.*, 1955, **33**, 729 (*synth*)
Popp, F.D. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 3773 (*synth*)
Brochmann-Hanssen, E. *et al*, *J. Pharm. Sci.*, 1968, **57**, 940 (*Palaudine*)
Saferstein, R., *CA*, 1974, **80**, 44458m (*ms*)
Brochmann-Hanssen, E. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1975, 1531 (*biosynth*)
Manske, R.H.F., *The Alkaloids*, Ed., Academic Press, N.Y., 1975, 209 (*pharmacol, tox*)
Neuman, M., *Med. Actual.*, Ed., *The Alkaloids*, Academic Press, N.Y., 1976, **12**, 278 (*rev*)
Shtokalo, M.I. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 2366 (*detn, Zr*)
Whipple, G.H., *Angiology*, 1977, **28**, 737 (*rev*)
Tomimatsu, T. *et al*, *CA*, 1977, **87**, 23573z (*pmr*)
Marsaioli, A.J. *et al*, *Phytochemistry*, 1978, **17**, 1655 (*cmr*)
Wilen, G. *et al*, *J. Pharm. Pharmacol.*, 1982, **34**, 264 (*metab*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 5221-5224.
Skripchuk, V.G. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 2198 (*detn, Te*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 5642 (*synonyms*)
Hifnawy, M.S. *et al*, *Anal. Profiles Drug Subst.*, 1988, **17**, 367 (*rev*)
Janssen, R.H.A.M. *et al*, *Phytochemistry*, 1989, **28**, 2833 (*pmr, cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PAH000, PAH250.

1,2,3,4,6-Penta-*O*-acetylglucopyranose P-00006



α-D-*form*

$C_{16}H_{22}O_{11}$ M 390.343

α-D-form [604-68-2]
Reference material used in elemental microanalysis. Mp 112-114°. $[\alpha]_D^{20}$ +102° ($CHCl_3$).

β-D-form [604-69-3]
Mp 132-135°. $[\alpha]_D^{20}$ +4° ($CHCl_3$).

Wolfrom, M.L. *et al*, *Methods Carbohydr. Chem.*, 1963, **2**, 211 (*synth*)
Stanek, J. *et al*, *The Monosaccharides*, Academic Press, N.Y. and London, 1963, 190 (*rev*)
Horton, D. *et al*, *J. Org. Chem.*, 1967, **32**, 1073 (*synth, pmr*)
Lichtenthaler, F.W. *et al*, *Chem. Ber.*, 1969, **102**, 994 (*config*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Vignon, M.R. *et al*, *Tetrahedron Lett.*, 1976, 2445 (*cmr*)

Pentadecafluoroctanal, 9CI P-00007

Perfluorooctanal
[335-60-4]

$FC_3(CF_2)_6CHO$

$C_8HF_{15}O$ M 398.071
Used to derivatise primary amines for gc analysis. Liq. Bp 122°. n_D^{20} 1.2913.

Pierce, O.R. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 300 (*synth*)
Moffat, A.C. *et al*, *Anal. Lett.*, 1970, **3**, 205 (*use*)
Lang, R.W., *Helv. Chim. Acta*, 1988, **71**, 369 (*synth*)

Pentadecafluorooctanoic acid, 9CI P-00008

Perfluorooctanoic acid
[335-67-1]

$F_3C(CF_2)_6COOH$

$C_8HF_{15}O_2$ M 414.071
Emulsifier, surfactant. Cryst. (CCl_4). Mp 54.9-55.6°.

▷ RH0781000.

Na salt: [335-95-5].
Surfactant. Solid.

NH_4 salt: [3825-26-1].
Surfactant. Solid.
▷ RH0782000.

Me ester: [376-27-2].
$C_9H_3F_{15}O_2$ M 428.097
Liq. d_4^{27} 1.68. Bp_8 158-159°.

Et ester: [3108-24-5].
$C_{10}H_5F_{15}O_2$ M 442.124
Liq. Bp_{18} 74-76°.

Fluoride: [335-66-0].
$C_8F_{16}O$ M 416.062
Source of Pentadecafluorooctanoic acid, P-00008. Liq.

Chloride: [335-64-8].
$C_8ClF_{15}O$ M 432.516
Derivatisation reagent used in gc anal. of testosterone. Liq. Bp_{744} 129-130°.

Amide: [423-54-1].
$C_8H_2F_{15}NO$ M 413.086
Solid. Mp 137-139°.

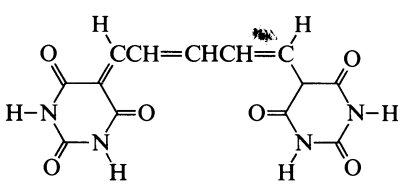
Anhydride: [33496-48-9].
$C_{16}F_{30}O_3$ M 810.126
Derivatisation reageant used in gc anal. of agricultural chemicals. Bp_{15} 100°.

Nitrile: [647-12-1].
$C_8F_{15}N$ M 395.071
Liq. Bp_{705} 100-102°.

Kauk, E.A. *et al*, *Ind. Eng. Chem.*, 1951, **43**, 2332 (*synth, use*)
Gunther, R.A. *et al*, *Ind. Eng. Chem. Prod. Res. Dev.*, 1962, **1**, 165 (*use, rev*)
Nakagawa, K. *et al*, *Steroids*, 1966, **7**, 329 (*use, chloride*)
Ryan, J.J. *et al*, *J. Chromatogr.*, 1977, **135**, 117 (*use, anhydride*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ANP625.

5,5′-(1,3-Pentadien-1-yl-5-ylidene) dibarbituric acid, 8CI P-00009

Bisbarbiturylpentamethylenecyanine
[26134-70-3]



$C_{13}H_{10}N_4O_6$ M 318.245
Polymethine dye. Used as a 0.01% soln. in NaOH for photometric detn. of Mg. Grey powder. Insol. H_2O, EtOH, Et_2O, Me_2CO, C_6H_6; sol. DMF. Mp 284°.

▷ CQ7370000.

Anger, V., *Mikrochim. Acta*, 1961, 512 (*synth, detn, Mg*)
Schüller, H. *et al, Landwirtsch. Forsch.*, 1968, **21**, 366; *CA*, **71**, 57441q (*detn, Mg*)

Pentafluorobenzaldehyde P-00010

[653-37-2]

C_6F_5CHO

C_7HF_5O M 196.076
Reagent for anal. of primary amines. Mp 20°. Bp 168-170°.

Hydrazone: [19161-27-4].
$C_7H_3F_5N_2$ M 210.106
Mp 68°.

Oxime: [19292-27-4].
$C_7H_2F_5NO$ M 211.091
Mp 131-132°.

2,4-Dinitrophenylhydrazone: Mp 229-230°.

Di-Et acetal: [19161-33-2].
$C_{11}H_{11}F_5O_2$ M 270.199
Bp_{12} 81-82°.

[27318-28-1]

Barbour, A.K. *et al, J. Chem. Soc.*, 1961, 808 (*synth*)
Aroskar, E.V. *et al, J. Chem. Soc.*, 1968, 1569 (*deriv, synth, ir, props*)
Gorfinkel, M.I. *et al, Zh. Obshch. Khim.*, 1968, **38**, 1815; *CA*, **69**, 105706n (*ms*)
Dean, R.R. *et al, J. Chem. Soc. B*, 1969, 509 (*F nmr*)
Lhuguenot, J.C. *et al, J. Chromatogr. Sci.*, 1974, **12**, 411 (*use*)
Hoshika, Y., *Anal. Chem.*, 1977, **49**, 541 (*use*)
Avery, M.J. *et al, Anal. Chem.*, 1985, **57**, 790 (*use*)

Pentafluorobenzenesulfonyl chloride, 9CI P-00011

[832-53-1]

$(C_6F_5)SO_2Cl$

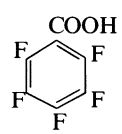
$C_6ClF_5O_2S$ M 266.576
Reagent for gc anal. of carbamate pesticides and of phenylethylamine. Liq. Bp 210-211°.

Robson, P. *et al, J. Chem. Soc.*, 1963, 3692 (*synth*)
Moye, H.A., *J. Agric. Food Chem.*, 1975, **23**, 415 (*use*)
Baker, G.B. *et al, J. Chromatogr.*, 1986, **381**, 211 (*use*)

Pentafluorobenzoic acid P-00012

Perfluorobenzoic acid

[602-94-8]



$C_7HF_5O_2$ M 212.076
Mp 99-101°. Bp 220°. pK_a 1.75 (25°).

▷ DH6195000.

Et ester: [4522-93-4].
$C_9H_5F_5O_2$ M 210.129
Liq. $Bp_{0.01}$ 31-33°.

Chloride: [2251-50-5].
C_7ClF_5O M 230.521
Liq. Bp_{23} 60-67°.

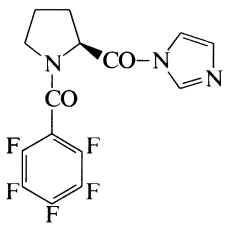
Amide: [652-31-3].
$C_7H_2F_5NO$ M 211.091
Cryst. (C_6H_6). Mp 150.5°.

Nitrile: [773-82-0]. *Pentafluorobenzonitrile, 9CI. 1-Cyano-2,3,4,5,6-pentafluorobenzene*
C_7F_5N M 193.076
Liq. Bp_{757} 162.5°.

Anhydride: [15989-99-8].
$C_{14}F_{10}O_3$ M 406.136
Used to derivatise testosterone for gc anal. Cryst. (hexane). Mp 69-69.5°. $Bp_{0.01}$ 104°.

Belf, L.J. *et al, J. Chem. Soc.*, 1965, 3372 (*synth*)
Dehennin, L. *et al, J. Chromatogr. Sci.*, 1972, **10**, 224 (*anhydride, use*)
Pearson, D.E. *et al, Synthesis*, 1978, 127 (*synth*)
Abdel-Baky, S. *et al, J. Org. Chem.*, 1986, **51**, 3390 (*synth, anhydride*)

1-[[1-(Pentafluorobenzoyl)-2-pyrrolidinyl] carbonyl]-1*H*-imidazole, 9CI P-00013



$C_{15}H_{10}F_5N_3O_2$ M 359.255

(*S*)-*form* [40550-30-9]
Electron-capture sensitive reagent for detn. of enantiomeric composition of amines. Mp 175-178°. $[\alpha]_D$ −34° (c, 0.1 in EtOAc).

Martin, S.B. *et al, J. Pharm. Sci.*, 1973, **62**, 821 (*synth, use*)

2,3,4,5,6-Pentafluorobenzyl alcohol, 8CI P-00014

2,3,4,5,6-Pentafluorobenzenemethanol, 9CI

[440-60-8]

$C_6F_5CH_2OH$

$C_7H_3F_5O$ M 198.092
Mp 30-32°. Bp 180-182°, Bp_{60} 114-115°.

p-*Tosylate:* [32974-36-0]. *Pentafluorobenzyl* p-*toluenesulfonate*
$C_{14}H_9F_5O_3S$ M 352.281
Reagent for gc detn. of carboxylic acids, phenols and mercaptans. Blades (hexane). Mp 77-78°.

Barbour, A.K. *et al, J. Chem. Soc.*, 1961, 808 (*synth*)
White, W.L. *et al, J. Chem. Soc. C*, 1971, 2062 (*synth, deriv*)
Funazo, K. *et al, Anal. Sci.*, 1987, **3**, 257 (*use*)

Pentafluorobenzyl chloroformate P-00015

(*Pentafluorophenyl*)*methyl carbonochloridate, 9CI*

[53526-74-2]

$(C_6F_5)CH_2OCOCl$

$C_8H_2ClF_5O_2$ M 260.547
Used as derivatising reagent for tertiary amines (electron capture gc).

Hartvig, P. *et al, Anal. Lett.*, 1974, **7**, 223 (*synth, use*)
Hartvig, P. *et al, J. Chromatogr. Sci.*, 1974, **12**, 722 (*use*)
Sternson, L.A. *et al, J. Chromatogr.*, 1978, **150**, 257 (*use*)

O-(Pentafluorobenzyl)hydroxylamine P-00016

O-[(*Pentafluorophenyl*)*methyl*]*hydroxylamine*, *9CI*

[72915-12-9]

$(C_6F_5)CH_2ONH_2$

$C_7H_4F_5NO$ M 213.107

B, *HCl:* [57981-02-9].

Derivatisation reagent for carbonyl compds. used in gc anal. Plates (EtOH). Mp 115-116°. Subl. 215°.

Nambara, T. *et al*, *J. Chromatogr.*, 1975, **114**, 81 (*synth*, *use*)
Youngdale, G.A., *J. Pharm. Sci.*, 1976, **65**, 625 (*synth*)
Kobayashi, K. *et al*, *J. Chromatogr.*, 1980, **187**, 413; 1980, **202**, 93 (*use*)
Hoffmann, G. *et al*, *J. Chromatogr.*, 1987, **421**, 336 (*use*)

1,1,1,2,2-Pentafluoro-6,6-dimethyl-3,5-heptanedione, 9CI P-00017

[2145-68-8]

$F_3CCF_2COCH_2COC(CH_3)_3$

$C_9H_{11}F_5O_2$ M 246.177

Used as a 1% soln. in DMF for fluorimetric detn. of Eu, Tb; extraction of Co, Zn. Sol. common org. solvs.

Belcher, R. *et al*, *Analyst* (*London*), 1969, **94**, 26 (*detn*, *Eu*, *Tb*)
Scribner, W.G., *CA*, 1970, **73**, 92153k (*detn*, *Co*, *Zn*)

Pentafluoroisothiocyanatobenzene, 9CI P-00018

Pentafluorophenyl isothiocyanate

[35923-79-6]

C_6F_5NCS

C_7F_5NS M 225.142

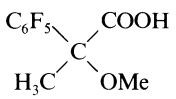
Anal. reagent for amino acids. Liq. Bp_{10} 71°.

Lequin, R.M. *et al*, *Biochim. Biophys. Acta*, 1972, **257**, 76 (*use*)
Robertson, B.H. *et al*, *Proc. Soc. Exp. Biol. Med.*, 1977, **155**, 287 (*use*)
Herkes, F.E. *et al*, *J. Fluorine Chem.*, 1979, **13**, 1 (*synth*, *F nmr*, *props*)

2,3,4,5,6-Pentafluoro-α-methoxy-α-methylbenzeneacetic acid, 9CI P-00019

α-Methyl-α-methoxypentafluorophenylacetic acid

[42011-74-5]



$C_{10}H_7F_5O_3$ M 270.155

(S)-form [50502-39-1]

Reagent for detn. of enantiomeric purity in arylethylamines. $[\alpha]_D^{22}$ +44°.

(±)-form [50505-49-2]

Me ester: [50505-47-0]. *Methyl 2,3,4,5,6-pentafluoro-α-methoxy-α-methylbenzeneacetate*, *9CI*

$C_{11}H_9F_5O_3$ M 284.182

Yellow oil. $Bp_{0.3}$ 74-77°.

[50502-38-0]

Pohl, L.R. *et al*, *J. Med. Chem.*, 1973, **16**, 475 (*synth*, *use*)
Valente, E.J. *et al*, *J. Org. Chem.*, 1980, **45**, 543 (*abs config*)

(Pentafluorophenyl)hydrazine, 9CI P-00020

[828-73-9]

$(C_6F_5)NHNH_2$

$C_6H_3F_5N_2$ M 198.095

Derivatisation reagent for carbonyl compounds. Plates (pet. ether). Mp 77-78°. Dec. at 180°.

▷ MV8325000.

B, *HCl:* Cryst. ($EtOH/Et_2O$). Mp 289-241°.
Benzylidene: Cryst. (EtOH aq.). Mp 130-131°.

Brooke, G.M. *et al*, *J. Chem. Soc.*, 1960, 1768 (*synth*)
Birchall, J.M. *et al*, *J. Chem. Soc.*, 1962, 4966 (*synth*, *ir*)
Holland, D.G. *et al*, *J. Org. Chem.*, 1964, **29**, 1562 (*synth*)
Bruce, M.I., *J. Chem. Soc. A*, 1968, 1459 (*F-19 nmr*)
Lanthier, G.F. *et al*, *Org. Mass Spectrom.*, 1972, **6**, 89 (*ms*)
Kobayashi, K. *et al*, *J. Chromatogr.*, 1979, **176**, 118; 1980, **187**, 413 (*use*)
Rezvukhin, A.I. *et al*, *Izv. Akad. Nauk SSSR*, *Ser. Khim.*, 1982, 94; *CA*, **98**, 16213f (*cmr*)

Pentafluoropropanoic acid P-00021

Perfluoropropionic acid

[422-64-0]

F_3CCF_2COOH

$C_3HF_5O_2$ M 164.032

Liq. Sol. H_2O, EtOH, Me_2CO, CCl_4, C_6H_6, Et_2O. d_4^{20} 1.561. Bp 96-97°. n_D^{20} 1.2840. Hygroscopic. Fumes in air.

Me ester: [378-75-6].
$C_4H_3F_5O_2$ M 178.058
Liq. d_4^{20} 1.393. Bp 61°. n_D^{20} 1.2884.

Et ester: [426-65-3].
$C_5H_5F_5O_2$ M 192.085
Liq. d_4^{20} 1.299. Bp 76.5°. n_D^{20} 1.3002.

Chloride: [422-59-3].
C_3ClF_5O M 182.477
Bp 9.4°.

Anhydride: [356-42-3].
$C_6F_{10}O_3$ M 310.048
Reagent for the prepn. of volatile derivs. for gc and ms.
Liq. d_4^{25} 1.571. Bp 71.5-72°. n_D^{25} 1.2721.

Amide: [354-76-7].
$C_3H_2F_5NO$ M 163.047
Cryst. (MeOH). Mp 96°.

Nitrile: [422-04-8].
C_3F_5N M 145.032
Bp −35°.

Husted, D.R. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 1605 (*synth*, *anhydride*)
Clark, R.F. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 6305 (*synth*)
Haszeldine, R.N. *et al*, *J. Chem. Soc.*, 1953, 1548 (*synth*)
King, G.S. *et al*, *Clin. Chim. Acta*, 1973, **49**, 295 (*use*, *anhydride*)
Ovenall, D.W. *et al*, *J. Magn. Reson.*, 1977, **25**, 301 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PBF000.

2,2,3,3,3-Pentafluoro-1-propanol, 9CI P-00022

[422-05-9]

$F_3CCF_2CH_2OH$

$C_3H_3F_5O$ M 150.048

Derivatisation reagent for gc anal. of acids. d_4^{20} 1.505. Bp_{748} 80°. n_D^{25} 1.2882.

▷ UB8800000.

3,5-Dinitrobenzoate: Cryst. Mp 96-96.5°.
Methanesulfonate:
$C_4H_5F_5O_3S$ M 228.140

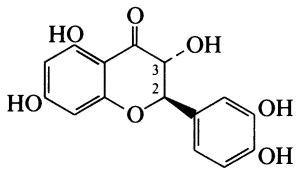
Oil. Bp_{70} 112-114°. n_D^{20} 1.3562.

Husted, P.R. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 1605 (*synth*)
McCarthy, E.R., *J. Org. Chem.*, 1963, **28**, 492 (*ms*)
Watson, E. *et al*, *J. Neurochem.*, 1973, **21**, 1569 (*use*)
Watson, E. *et al*, *Anal. Biochem.*, 1974, **59**, 441 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PBE750.

3,3′,4′,5,7-Pentahydroxyflavanone P-00023

3′,4′,5,7-Tetrahydroxydihydroflavonol. Dihydroquercetin. ***Taxifolin.*** *Distylin*

[480-18-2]



(*2R,3R*)-*form*

$C_{15}H_{12}O_7$ M 304.256

▷ LK6920000.

(***2R,3R*)-*form*** [17654-26-1]

Appears to be the most widespread of the dihydroflavonols, present in the free state in the Leguminosae, Labiateae, Cactaceae, Erythroxylaceae, Illiciaceae, Polygonaceae, Salicaceae, Winteraceae, Ericaceae, Moraceae, Dilleniaceae, Eucryphiaceae, Coniferae, Hamamelidaceae, Myrtaceae, Balanophoraceae, Lauraceae, Sapotaceae, Anacardiaceae, Fagaceae, Rosaceae and Ericaceae. Antifungal agent. Used as 0.3% soln. in EtOH for photometric detn. of Mo. Cryst. (EtOH or H_2O). Mp 240-242° (221-222°). $[\alpha]_D^{24}$ +44° (c, 1.03 in 50% Me_2CO aq.).

Penta-Ac: [6685-67-2].

Cryst. Mp 88-89°. $[\alpha]_D^{24}$ +11.6° (c, 1.2 in Me_2CO).

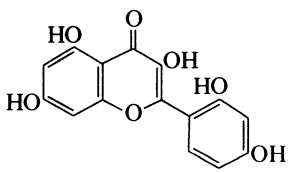
[5117-01-1, 54081-47-9, 54081-48-0, 54141-72-9, 63393-40-8, 64191-31-7, 64191-33-9, 82517-11-1, 83680-48-2, 117894-18-5]

Clark-Lewis, J.W. *et al*, *J. Chem. Soc.*, 1958, 2367 (*struct, abs config*)
Chan, F.L. *et al*, *Talanta*, 1960, **3**, 272 (*detn, Mo*)
Aft, H. *et al*, *J. Org. Chem.*, 1961, **26**, 1958 (*isol, deriv*)
Batterham, T.J. *et al*, *Aust. J. Chem.*, 1964, **17**, 428 (*pmr*)
Grisebach, H. *et al*, *Z. Naturforsch., B*, 1965, **20**, 446 (*biosynth*)
Sasaya, T. *et al*, *CA*, 1966, **65**, 5435e (*Hultenin*)
The Flavonoids, (Eds. Harborne, J.B. *et al*), Chapman and Hall, London, 1975, 585 (*occur*)
Sukurai, A. *et al*, *Bull. Chem. Soc. Jpn.*, 1982, **55**, 3051 (*Isoglucodistylin*)
The Flavonoids: Advances in Research, (Eds. Harborne, J.B. *et al*), Chapman and Hall, London, 1982, 375 (*occur*)
Shen, Z. *et al*, *Phytochemistry*, 1985, **24**, 155.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DMD000.

2′,3,4′,5,7-Pentahydroxyflavone P-00024

*2-(2,4-Dihydroxyphenyl)-3,5,7-trihydroxy-4*H*-1-benzopyran-4-one, 9CI. 2′,4′,5,7-Tetrahydroxyflavonol.* ***Morin.*** *2′-Hydroxypelargidenolon 1522. C.I. Natural yellow 8. C.I. Natural yellow 11. C.I. 75660*

[480-16-0]



$C_{15}H_{10}O_7$ M 302.240

Constit. of various woods, e.g. *Morus alba*. First isol. in 1830. Used as fluorescent alumina absorbent for column chromatography. Used as 0.025% soln. in EtOH for photometric detn. of In, rare earth elements, Sc, Th, Sn, W, V, Hf, Zr (λ_{max} 420 nm, ε 51000). Textile dye. Pale-yellow needles + $1H_2O$ (AcOH aq.). Sol. EtOH, alkalis; sl. sol. Et_2O, H_2O. Mp 303-304°.

▷ LK8749000.

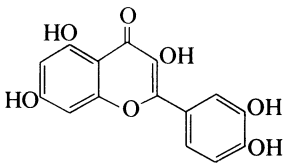
Penta-Ac: Prisms (EtOH) and needles (Et_2O). Mp 146-147° (prisms), Mp 115-116° (needles) (dimorph.).

Perkins, R.W. *et al*, *Anal. Chem.*, 1956, **28**, 1898 (*detn, Th*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 20.
Shnaiderman, S.Ya. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 2368 (*detn, V*)
Blank, A.B. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1331; 1976, **31**, 703; 1978, **33**, 65 (*detn, Zr, rare earths*)
Olenovich, N.L. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 47 (*detn, In*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIb: Individual Metals. Magnesium to Zinc*, John Wiley, New York, 4th Ed., 1989, 765.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MRN500.

3,3′,4′,5,7-Pentahydroxyflavone P-00025

*2-(3,4-Dihydroxyphenyl)-3,5,7-trihydroxy-4*H*-1-benzopyran-4-one, 9CI. 3′,4′,5,7-Tetrahydroxyflavonol.* ***Quercetin.*** *Sophoretin. Meletin. Quercetol. Quertin. Ericin*†

[117-39-5]



$C_{15}H_{10}O_7$ M 302.240

Isol. from many plants, esp. fruits; *inter alia*, *Helichrysum*, *Euphorbia* and *Korwinskia* spp. Present in the Solanaceae, Rhamnaceae, Passifloraceae and many other families. For example detected in almost all studied Umbelliferae. Used as soln. in EtOH for photometric detn. of Th (λ_{max} 422 nm, ε 33000), Al, Ga, In, Sc, Ta, Sn, Zr; fluorimetric detn. of Al. Antioxidant. Yellow cryst. + $2H_2O$ (EtOH aq.). Mp 313-314° dec.

▷ Mutagenic. LK8750000.

3′,4′,5,7-Tetra-Me ether: [1244-78-6]. *3-Hydroxy-3′,4′,5,7-tetramethoxyflavone. 3′,4′,5,7-Tetramethoxyflavonol*

$C_{19}H_{18}O_7$ M 358.347

Isol. from the bark of *Sterculia foetida*. Used as a 0.1% soln. in 75% EtOH for photometric detn. of Ta. Pale yellow needles (EtOH). Sol. EtOH. Mp 193°.

[7215-44-3, 27214-55-7, 90332-36-8, 103666-99-5]

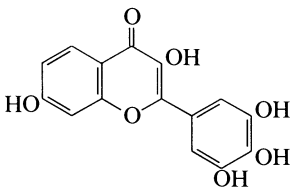
Rigaud, L., *Justus Liebigs Ann. Chem.*, 1854, **90**, 283, 289 (*isol*)
Popa, G. *et al*, *Fresenius' Z. Anal. Chem.*, 1959, **165**, 16 (*use, detn, Ta*)
Hamaguchi, H. *et al*, *Anal. Chim. Acta*, 1963, **28**, 61 (*detn, Sc*)
Kovalev, I.P. *et al*, *Zh. Obshch. Khim.*, 1963, **33**, 1670 (*ir*)
Batterham, T.J. *et al*, *Aust. J. Chem.*, 1964, **17**, 428 (*pmr*)
Audier, H., *Bull. Soc. Chim. Fr.*, 1966, 2892 (*ms*)
Kirk, R.S. *et al*, *Analyst (London)*, 1969, **94**, 71 (*detn, Sn*)
Farkas, L. *et al*, *Chem. Ber.*, 1969, **102**, 2583; 1974, **107**, 1518 (*synth*)
Babko, A.K. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1969, **35**, 292 (*detn, Al*)
Nogradi, M. *et al*, *Chem. Ber.*, 1970, **103**, 3414 (*synth*)
Dumkow, K. *et al*, *Chem. Ber.*, 1970, **103**, 3674 (*isol*)
Olenovich, N.L. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 47 (*detn, Al, Ga, In*)

Chernaya, N.V. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 698 (*detn, Al*)
Wagner, H. *et al*, *Tetrahedron Lett.*, 1976, 1799 (*nmr*)
Wenkert, E. *et al*, *Phytochemistry*, 1977, **16**, 1811 (*nmr*)
Anjaneyulu, A.S.R. *et al*, *Indian J. Chem., Sect. B*, 1981, **20**, 87 (*3-Hydroxy-3′,4′,5,7-tetramethoxyflavone*)
Nishino, H. *et al*, *Experientia*, 1984, **40**, 184 (*tox*)
Rossi, M. *et al*, *Bioorg. Chem.*, 1986, **14**, 55 (*cryst struct*)
The Flavonoids: Advances in Research since 1980, (Ed. Harborne, J.B.), Chapman and Hall, London, 1988.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, QCA000, RSU000.

3,3′,4′,5′,7-Pentahydroxyflavone P-00026

3,7-Dihydroxy-2-(3,4,5-trihydroxyphenyl)-4H-1-benzopyran-4-one, 9CI. 3′,4′,5,7-Tetrahydroxyflavonol. ***Robinetin.*** *Norkanugin*

[490-31-3]



$C_{15}H_{10}O_7$ M 302.240

Constit. of *Robinia pseudacacia*, *Gleditsia monosperma* and other plants. Used as 1m*M* soln. in EtOH for photometric detn. of Zr (λ_{max} 415 nm). Greenish-yellow needles (AcOH aq.). Mp 325-330° dec.

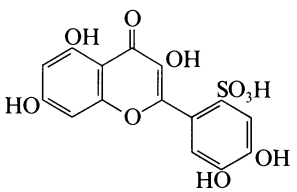
▷ LK8780000.

Charlesworth, E.H. *et al*, *J. Chem. Soc.*, 1933, 269.
Batterham, T.J. *et al*, *Aust. J. Chem.*, 1964, **17**, 428 (*pmr*)
Katyal, M. *et al*, *Fresenius' Z. Anal. Chem.*, 1967, **230**, 107 (*detn, Zr*)
De Koster, C.G. *et al*, *Biomed. Mass Spectrom.*, 1985, **12**, 596 (*ms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, RLP000.

3,5,7,3′,4′-Pentahydroxyflavone-6′-sulfonic acid P-00027

4,5-Dihydroxy-2-(3,5,7-trihydroxy-4-oxo-4H-1-benzopyran-2-yl)benzenesulfonic acid, 9CI. Quercetinsulfonic acid

[25001-18-7]



$C_{15}H_{10}O_{10}S$ M 382.304

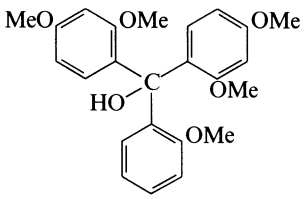
Used as 1m*M* aq. EtOH soln. for fluorimetric detn. of Hf and Zr (λ_{max} 440 nm, ε 15000, pH 0.1-0.3). Yellowish cryst. Sol. EtOH, alkalis; spar. sol. H_2O.

Pilipenko, A.T. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 710 (*detn, Zr, Hf*)
Ramonaite, C.P. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1361 (*detn, Zr*)

Pentamethoxy red P-00028

α-(2,4-Dimethoxyphenyl)-2,4-dimethoxy-α-(2-methoxyphenyl)benzenemethanol, 9CI. Bis(2,4-dimethoxyphenyl)(o-methoxyphenyl)methanol. 2,4,2′,4′,2″-Pentamethoxytriphenylcarbinol

[1755-51-7]



$C_{24}H_{26}O_6$ M 410.466

Used as 0.1% soln. in 70% EtOH as acid base indicator (pH range; 1.2-3.2, colour change: purple → colourless). Red cryst. (C_6H_6). Sol. EtOH. pK_a 1.7.

Lund, H., *J. Am. Chem. Soc.*, 1927, **49**, 1346 (*synth*)
Kolthoff, I.M. *et al*, *J. Am. Chem. Soc.*, 1939, **61**, 16 (*ind*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

2,3-Pentanedione, 9CI P-00029

Ethyl methyl diketone

[600-14-6]

$H_3CCOCOCH_2CH_3$

$C_5H_8O_2$ M 100.117

Flavour ingredient. Yellow liq. Sol. H_2O. d_4^{19} 0.957. Mp −52°. Bp 108°. n_D^{19} 1.4014.

▷ SA1850000.

Di-Me acetal:
$C_7H_{14}O_3$ M 146.186
Bp 162-163°.

2-Oxime: [32818-79-4]. *Isonitrosodiethyl ketone*
$C_5H_9NO_2$ M 115.132
Leaflets. Mp 69-71°.
▷ SA2300000.

3-Oxime: [609-29-0]. *Isonitrosopropyl methyl ketone*
$C_5H_9NO_2$ M 115.132
Leaflets. Mp 58-59°. Bp 183-187° part. dec.
▷ SA2350000.

3-Oxime, 4-nitrophenylhydrazone:
$C_{11}H_{14}N_4O_3$ M 250.257
Used as a 0.1% soln. in EtOH for detn. of Co. Yellow cryst. (EtOH). Mp 235-236°.

Dioxime: [4775-86-4]. *Ethylmethylglyoxime*
$C_5H_{10}N_2O_2$ M 130.146
Used for extraction-photometric detn. of Ni. Needles (EtOH). Mp 172-173° part. subl. pK_{a1} 10.51; pK_{a2} 12.02.

Bis-2,4-dinitrophenylhydrazone: [1180-59-2].
Mp 280-281°.

Disemicarbazone: Mp 251-252°.

U.K. Pat., 586 754, (1947); *CA*, **41**, 6894 (*synth*)
Anand, V.D. *et al*, *Mikrochim. Acta*, 1961, 650 (*synth, detn, Co*)
Egneus, B., *Anal. Chim. Acta*, 1968, **43**, 53; 1969, **48**, 291 (*use, dioxime, detn, Ni*)
Olah, G.A. *et al*, *J. Org. Chem.*, 1975, **40**, 2102 (*cmr*)
Yamashita, M. *et al*, *J. Chem. Soc., Chem. Commun.*, 1977, 691 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PBL350.

2,4-Pentanedione, 9CI, 8CI P-00030

Acetylacetone. Diacetylmethane

[123-54-6]

$$H_3CCOCH_2COCH_3 \rightleftharpoons H_3CC(OH)=CHCOCH_3$$

$C_5H_8O_2$ M 100.117

Tautomeric. Enol-form predominates in pure liq., vapour and most solvs., oxo-form predominates (88%) in aq. soln. Isol. from ethereal oil of *Pinus sylvestris*. Protecting reagent for aminoacids. Cleaves phenylhydrazones and semicarbazones, intermed. in heterocyclic synth. Forms many metal complexes. Used for extraction and separation of Al, Be, Ce, Co, Ga, In, Fe(*III*), Mo, U, V. pK_{a1} 9.03 (25°).

▷ Mod. toxic, flammable. SA1925000.

Oxo-form

Liq. Sol. dil. HCl; spar. sol. hot H_2O, misc. org. solvs. d_4^{25} 0.927. Mp −23°. Bp_{746} 139°, Bp 134-136°.

Imine: [870-74-6]. *4-Imino-2-pentanone, 9CI. 4-Amino-3-penten-2-one*

C_5H_9NO M 99.132

Cryst. (EtOAc). Mp 43° (40°).

Monoanil: [880-12-6]. *4-(Phenylimino)-2-pentanone, 9CI. 4-Anilino-3-penten-2-one*

$C_{11}H_{13}NO$ M 175.230

Cryst. (pet. ether). Mp 51-53°. Bp 285-286°.

Monoxime: [14401-90-2]. *Isonitrosoacetylacetone*

$C_5H_9NO_2$ M 115.132

Used as a 0.2-5% aq soln. for extraction-photometric detn. of Cu (λ_{max} 450 nm, ε 24400, CCl_4), Pd (λ_{max} 400 nm, ε 9600, $CHCl_3$). Cryst. (EtOAc). Mp 73°.

Dioxime: [2157-56-4].

$C_5H_{10}N_2O_2$ M 130.146

Used as 0.1*M* aq. soln. in photometric detn. of Cu (λ_{max} 600 nm). Prisms (Et_2O). Sol. H_2O, EtOH, Et_2O. Mp 151-152°, Mp 105°.

Enol-form [1522-20-9]

4-Hydroxy-3-penten-2-one

Mp −9°. pK_a 8.93 (25°). Forms salts with many metals. Exhibits intramolecular hydrogen bonding.

Me ether: [2845-83-2]. *4-Methoxy-3-penten-2-one*

$C_6H_{10}O_2$ M 114.144

Bp_{10} 58-59°. Most prepns. give mixt. of (*E*)- and (*Z*)-isomers.

Ac: [41002-50-0].

$C_7H_{10}O_3$ M 142.154

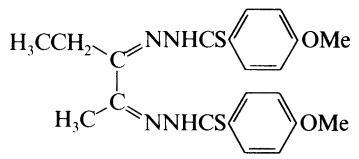
Bp_{20} 95-96°.

Steinbach, J.F. *et al, Anal. Chem.*, 1954, **26**, 375 (*use, Ga, In*)
Org. Synth., Coll. Vol., 3, 1955, 16 (*synth*)
Krishen, A. *et al, Anal. Chem.*, 1957, **29**, 288 (*use, U*)
Cameron, D.W. *et al, CA*, 1959, **53**, 16476 (*isol*)
Ben-Bassat, A.H. *et al, Bull. Soc. Chim. Fr.*, 1960, 948 (*use, dioxime*)
Talwar, U.B. *et al, Anal. Chem.*, 1966, **38**, 1929 (*monoxime, detn, Pd*)
Bowie, J.H. *et al, J. Org. Chem.*, 1966, **31**, 1384 (*ms*)
Chalmers, R.A. *et al, Analyst (London)*, 1968, **93**, 629 (*use, Al*)
Donaldson, E.M., *Talanta*, 1971, **18**, 905 (*use, Al*)
Koshimura, H. *et al, Bull. Chem. Soc. Jpn.*, 1973, **46**, 632 (*pmr*)
Soendergaard, N.C. *et al, Acta Chem. Scand., Ser. A*, 1975, **29**, 709 (*tautom*)
Shapet'ko, N.N. *et al, Org. Magn. Reson.*, 1975, **7**, 237 (*cmr*)
Grens, E. *et al, Spectrochim. Acta, Part A*, 1975, **31**, 555 (*ir*)
Patil, P.S. *et al, Analyst (London)*, 1978, **103**, 79 (*monoxime, synth, detn, Cu*)
Sauerer, A. *et al, Talanta*, 1984, **31**, 249 (*use, Be*)
Hush, N.S. *et al, Aust. J. Chem.*, 1987, **40**, 599 (*pe, tautom*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ABX750.

2,3-Pentanedione bis[*p*-methoxy(thiobenzoyl)hydrazone] P-00031

4-Methoxybenzenecarbothioic acid (1-ethyl-2-methyl-1,2-ethanediylidene)dihydrazide, 9CI

[37181-49-0]



$C_{21}H_{24}N_4O_2S_2$ M 428.578

Used as a soln. in THF for extraction-photometric detn. of Cd, Cu, Hg, Pb, Zn ($CHCl_3$). Yellowish cryst. powder (EtOH aq.). Sol. Me_2CO, EtOH; spar. sol. H_2O. Mp 185°.

Heizmann, P. *et al, Fresenius' Z. Anal. Chem.*, 1972, **259**, 110 (*use*)

1-Pentanesulfonic acid, 9CI P-00032

1-Pentylsulfonic acid

[35452-30-3]

$$H_3C(CH_2)_3CH_2SO_3H$$

$C_5H_{12}O_3S$ M 152.214

Liq. d_4^{25} 1.226. Mp 15.9°. Bp_1 163°.

Na salt: [22767-49-3].

Ion-pairing reagent used in hplc inc. analysis of peptides and proteins. Mp >300°.

Me ester: [2697-53-2].

$C_6H_{14}O_3S$ M 166.241

Liq. $Bp_{2.2}$ 96.4°, $Bp_{0.3}$ 80°.

Vivian, D.L. *et al, J. Am. Chem. Soc.*, 1935, **57**, 2559 (*synth*)
Hancock, W.S. *et al, J. Chromatogr.*, 1978, **161**, 291 (*use*)
Johnson, T.J. *et al, Tetrahedron*, 1978, **34**, 547 (*synth*)
Bidlingmeyer, B.A. *et al, Adv. Chromatogr. (Houston) 19th 1984*, 1979, **14**, 435; *CA*, **91**, 217413a (*use*)
Costanzo, S.J., *J. Chromatogr.*, 1984, **314**, 402 (*use*)

2,3,4-Pentanetrione, 9CI P-00033

Dimethyl triketone

[921-11-9]

$$H_3CCOCOCOCH_3$$

$C_5H_6O_3$ M 114.101

Orange-red oil. Bp_{20} 59-60°. Hygroscopic, forming hydrate Mp 52°.

2-Oxime:

$C_5H_7NO_3$ M 129.115

Needles (EtOAc/ligroin). Mp 75°.

3-Oxime: [29917-12-2].

Used as 2% aq. soln. for extraction-photometric detn. of Pd; colour reactions with Fe, Co, Ni, Cu. Cryst. Sol. H_2O, EtOH. Mp 73°.

2,3-Dioxime: [22512-60-3].

$C_5H_8N_2O_3$ M 144.130

Plates (H_2O). Mp 128° dec.

Trioxime: [24509-67-9].

$C_5H_9N_3O_3$ M 159.144

Used for photometric detn. of Fe (λ_{max} 550 nm). Cryst. Sol. Me_2CO, EtOH. Mp 100°. pK_{a1} 9.5; pK_{a2} 13.7.

Semicarbazone: Leaflets. Mp 249°.

Phenylhydrazone: [6134-57-2].

Pale-yellow leaflets. Mp 249°.

▷ SA3360000.

Bisphenylhydrazone: Mp 156°.

Wolff, L., *Justus Liebigs Ann. Chem.*, 1902, **325**, 139 (*synth*)
Dubsky, J., *Mikrochim. Acta*, 1941, **29**, 213 (*use, 3-oxime*)
Talwar, U.B. *et al*, *Anal. Chem.*, 1966, **38**, 1929 (*detn, Pd*)
Dayer, F. *et al*, *Helv. Chim. Acta*, 1974, **57**, 2201 (*synth*)
Aznarez Alduan, J.L. *et al*, *CA*, 1977, **86**, 199154g (*synth, use, trioxime*)
Verhe, R. *et al*, *Bull. Soc. Chim. Belg.*, 1978, **87**, 143 (*synth*)

1-Pentanol, 9CI P-00034

n-*Amyl alcohol*

[71-41-0]

$H_3CCH_2CH_2CH_2CH_2OH$

$C_5H_{12}O$ M 88.149

Widely distributed in plant sources, e.g. peppermint oil, tomatoes, tea, potatoes. Used to esterify amino acids for gc anal. Liq. Sl. sol. H_2O. d_4^{20} 0.815. Mp −79°. Bp 137°, Bp_{13} 49-50°. n_D^{20} 1.4103.

▷ Mod. toxic vapour, irritant, flammable. Esters are also mod. toxic. SB9800000.

Ac: Pentyl acetate. n-*Amyl acetate*
$C_7H_{14}O_2$ M 130.186
Liq. d_0^0 0.896. Fp −70.8°. Bp_{737} 148°.

4-Nitrobenzoyl: Mp 8.5-10.5°.

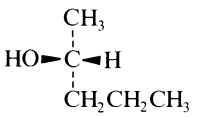
4-Nitrophenylurethane: Mp 86°.

Me ether: [628-80-8]. *1-Methoxypentane. Methyl pentyl ether. Amyl methyl ether*
$C_6H_{14}O$ M 102.176
d_4^{22} 0.759. Bp 99-100°. n_D^{22} 1.3862.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1959, **81**, 6434 (*synth*)
Johnson, D.E. *et al*, *Anal. Chem.*, 1961, **33**, 669 (*use*)
Schollkopf, U. *et al*, *Chem. Ber.*, 1964, **97**, 636 (*synth, deriv*)
Darbre, A. *et al*, *J. Chromatogr.*, 1965, **17**, 31 (*use*)
Blau, K. *et al*, *J. Chromatogr.*, 1965, **17**, 445; 1967, **26**, 35 (*use*)
Bieber, H., *Encycl. Chem. Process. Des.*, 1977, **3**, 278 (*rev*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **2**, 570 (*rev*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 181, 429, 430.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AOE000.

2-Pentanol, 9CI P-00035

[6032-29-7]



(*R*)-*form* Absolute configuration

$C_5H_{12}O$ M 88.149

▷ Mod. toxic vapour, flammable. SA4900000.

(R)-form [31087-44-2]
Bp 116-120°. $[\alpha]_D^{20}$ −16.1°.

1-Naphthylurethane:
$C_{16}H_{19}NO_2$ M 257.332
Cryst. (EtOH aq.). Mp 71-73°. $[\alpha]_D^{20}$ −2.8° (EtOH).

(S)-form [26184-62-3]
Bp 118.5-119.5°. $[\alpha]_D^{20}$ +16.1°.

Ac:
$C_7H_{14}O_2$ M 130.186
Bp 130-131°. $[\alpha]_D^{20}$ +17.16°.

1-Naphthylurethane: Mp 88-91°. $[\alpha]_D^{20}$ +13.3° (EtOH).

(±)-form
Liq. Sol. H_2O. d_4^{20} 0.830. Bp 118.9°. n_D^{25} 1.4041.

Ac: Used for extraction of BiI_3. Liq. Sol. Et_2O, EtOH. Bp 133.5°.

▷ Mod. toxic, flammable.

Allophanate:
$C_7H_{14}N_2O_3$ M 174.199
Mp 154°.

1-Naphthylurethane: Cryst. (ligroin). Mp 76°.

Et ether: 2-Ethoxypentane. Ethyl 1-methylbutyl ether
$C_7H_{16}O$ M 116.203
Liq. Bp 113-115° (105-106°). n_D^{17} 1.3900.

Pickard, R.H. *et al*, *J. Chem. Soc.*, 1911, **99**, 65 (*resoln*)
Brunel, R.F., *J. Am. Chem. Soc.*, 1923, **45**, 1337 (*synth*)
Lemieux, R.U. *et al*, *Can. J. Chem.*, 1951, **29**, 678 (*abs config*)
Guermont, J.P., *Bull. Soc. Chim. Fr.*, 1953, 386 (*deriv*)
Adembri, G., *Ann. Chim. (Rome)*, 1956, **46**, 62; *CA*, **50**, 13714 (*synth*)
Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1964, **86**, 1397 (*synth*)
Vigneron, J.P. *et al*, *Tetrahedron*, 1976, **32**, 939 (*synth*)
Bieber, H., *Encycl. Chem. Process. Des.*, 1977, **3**, 278 (*rev*)
Sandell, E.A. *et al*, *Photometric Determination of Traces of Metals*, Wiley, N.Y., 1978 (*Ac, use*)
Sherman, P.D., *Kirk-Othmer Encycl. Chem. Technol.*, 3rd Ed., Wiley, N.Y., 1978-1984, **2**, 570 (*rev*)
Hazards in the Chemical Laboratory, (Muir, G.D., Ed.), 2nd Ed., Chemical Society, London, 1977, 181, 429.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PBM750.

2-Pentanone, 9CI P-00036

Methyl propyl ketone

[107-87-9]

$H_3CCH_2CH_2COCH_3$

$C_5H_{10}O$ M 86.133

Isol. from soya oil (*Glycine max*), pineapple and a few other plant sources. Solvent. Used as a reagent for the gc separation of catecholamines. Liq. d_{15}^{15} 0.812. Bp 102°. n_D^{20} 1.3895.

▷ Irritant, TLV 700. Highly flammable, flash p. 7°. SA7875000.

Oxime: [623-40-5].
$C_5H_{11}NO$ M 101.148
Bp 167°.

Semicarbazone: Mp 110°.

2,4-Dinitrophenylhydrazone: [1636-82-4].
Orange cryst. Mp 141°.

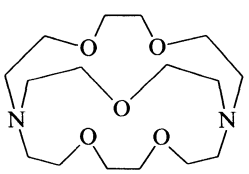
Di-Et acetal: 2,2-Dimethoxypentane
$C_9H_{20}O_2$ M 160.256
Bp_{185} 57.4°.

Meerwein, H., *Justus Liebigs Ann. Chem.*, 1913, **398**, 249 (*synth*)
U.K. Pat., 318 124, (1928); *CA*, **24**, 2140 (*synth*)
Yakovlev, I.P. *et al*, *J. Gen. Chem. USSR (Engl. Transl.)*, 1954, **24**, 1163; *CA*, **50**, 4773 (*synth*)
Kawai, S. *et al*, *Chem. Pharm. Bull.*, 1966, **14**, 618 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 429.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PBN250.

4,7,13,16,21-Pentaoxa-1,10-diazabicyclo[8.8.5]tricosane, 9CI P-00037

Cryptand 2.2.1. Kryptofix 2.2.1

[31364-42-8]



$C_{16}H_{32}N_2O_5$ M 332.439
Complexing agent for alkaline earth metals. Used as 2.5m*M* aq. soln. for photometric detn. of Ca, Mg, Na. Oil or viscous liq. Misc. H_2O. d 1.1. $Bp_{0.001}$ 175°. pK_{a1} 7.5; pK_{a2} 10.53.

Dietrich, B. *et al*, *Tetrahedron*, 1973, **29**, 1629 (*synth*)
Kolthoff, I.M., *Anal. Chem.*, 1979, **51**, 1R (*rev*)
Espersen, D. *et al*, *Anal. Chim. Acta*, 1979, **108**, 241 (*detn, Mg, Ca*)
Foerster, H.G. *et al*, *J. Am. Chem. Soc.*, 1980, **102**, 6984 (*N-15 nmr*)
Takagi, M. *et al*, *Anal. Chim. Acta*, 1981, **126**, 185 (*detn, Na*)
Yoshio, M. *et al*, *Anal. Lett.*, 1982, **15**, 1197 (*rev*)
Anelli, P.L. *et al*, *J. Org. Chem.*, 1985, **50**, 3453 (*synth*)

2-Pentenedial, 9CI P-00038

Glutacondialdehyde
[821-42-1]

$$OHCCH_2CH{=}CHCHO \rightleftharpoons HOCH{=}CHCH{=}CHCHO$$

$C_5H_6O_2$ M 98.101
Parent compd. not known. Salts exist in the (*E,E*)-enol form. Used as a reagent for anal. of amines, hydrazines, sulfonamides.
Na salt: Dark red leaflets + $2H_2O$ (H_2O).
K salt: Yellow cryst.
Ac: [24338-66-7].
$C_7H_8O_3$ M 140.138
Brownish needles (pet. ether). Mp 75°.

Baumgarten, P. *et al*, *Ber.*, 1926, **59**, 2658 (*synth*)
Klages, K. *et al*, *Chem. Ber.*, 1953, **86**, 1327 (*tautom*)
Becher, J., *Acta Chem. Scand.*, 1972, **26**, 3627 (*struct*)
Kunovits, G., *Mikrochim. Acta*, 1974, 717 (*use*)

Pentetic acid P-00039

N,N-*Bis*[*2-*[*bis*(*carboxymethyl*)*amino*]*ethyl*]*glycine*, *9CI. [[(Carboxymethyl)imino]bis(ethylenenitrilo)]tetraacetic acid, 8CI. Nitrilodiethylenedinitrilopentaacetic acid. Diethylenetriaminepentaacetic acid. DTPA*
[67-43-6]

$$[(HOOCCH_2)_2NCH_2CH_2]_2NCH_2COOH$$

$C_{14}H_{23}N_3O_{10}$ M 393.350
Chelating agent, employed as various salts. Used in photometric detn. of Cu (λ_{max} 650 nm); for masking heavy metals. Used as a 0.01*M* soln. in 80% NaOH aq. (as titrant) or a 0.01*M* aq. soln. in photometric detn. of Bi, Co, In, Pb, Pr, Tl and for titrimetric detn. of actinides. Cryst. (H_2O). Sol. alkalis, H_2O. Mp 219-220°. pK_{a1} 1.79; pK_{a2} 2.56; pK_{a3} 4.42; pK_{a4} 8.76; pK_{a5} 10.42, pK_{a1} 2.08; pK_{a2} 2.41; pK_{a3} 4.26; pK_{a4} 8.60; pK_{a5} 10.55. Zwitterionic in crystal state. Numerous salts known.
▷ MB8205000.

Mono-Ca, tri-Na salt: [1317-31-3]. *Calcium trisodium pentetate, BAN. Calcium chel 330. NSC 34249*
Chelating agent used medicinally.

[140-01-2, 1420-46-8, 2531-75-1, 2622-87-9, 7216-95-7, 7578-43-0, 11082-38-5, 12111-24-9, 13078-36-9, 15168-13-5, 17034-67-2, 38761-83-0, 41030-30-2, 41123-85-7, 52168-28-2, 63975-23-5]

Frost, A.E., *Nature* (*London*), 1956, **178**, 322 (*synth, props*)
Nakamoto, K. *et al*, *J. Am. Chem. Soc.*, 1963, **85**, 309 (*struct, ir*)
Sudmeier, J.L. *et al*, *Anal. Chem.*, 1964, **36**, 1698 (*pmr*)
Kula, R.J. *et al*, *Inorg. Chem.*, 1964, **3**, 458 (*pmr*)
Bermejo-Martinez, F. *et al*, *Microchem. J.*, 1966, **11**, 331 (*detn, Cu*)
Bermejo-Martinez, F. *et al*, *Inf. Quim. Anal.*, 1970, **24**, 77 (*detn, Co*)
Lin, E. *et al*, *J. Magn. Reson.*, 1971, **4**, 301 (*nmr*)
Kulba, F.Y. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1009 (*detn, In, Tl*)
Rykov, A.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 713 (*detn, actinides*)
Lirillov, A.I. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 2262 (*detn, Pr*)
Strelow, F.W. *et al*, *Talanta*, 1979, **26**, 537 (*masking*)
Cheng, K.L. *et al*, *Handbook of Organic Reagents*, CRC Press, Boca Raton, 1982 (*rev*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CAY500, DJG800, TNM850.

O-Pentylhydroxylamine, 9CI P-00040

Hydroxylamine pentyl ether. Pentyloxyamine
[5963-74-6]

$$H_2NO(CH_2)_4CH_3$$

$C_5H_{13}NO$ M 103.164
Gc derivatisation reagent for keto steroids. Oil. Bp 139°.
B,HCl: [51951-34-9].
Plates (EtOAc/EtOH). Mp 148°.

Palazzo, G. *et al*, *Gazz. Chim. Ital.*, 1954, **84**, 915 (*synth*)
Mamalis, P. *et al*, *J. Chem. Soc.*, 1960, 229 (*synth*)
Baillie, T.A. *et al*, *Anal. Lett.*, 1972, **5**, 351 (*use*)

Pentylmagnesium bromide P-00041

Bromopentylmagnesium, 9CI
[693-25-4]

$$H_3CCH_2CH_2CH_2CH_2MgBr$$

$C_5H_{11}BrMg$ M 175.351
Grignard reagent. Derivatisation reagent for chromatog. anal. of organotin compds. Used as a 2*M* soln. in Et_2O as derivatisation reagent for mono-, di- and trimethyl and butyltin compds.

Gilman, H. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 1576 (*synth*)
Zakharkin, L.I. *et al*, *Tetrahedron Lett.*, 1962, 631 (*synth*)
Leigh, T., *Chem. Ind.* (*London*), 1965, 426 (*synth*)
Leibfritz, D. *et al*, *Justus Liebigs Ann. Chem.*, 1972, **763**, 173 (*cmr*)
Maguire, R.J. *et al*, *J. Chromatogr.*, 1981, **209**, 458.
Martin-Landa, I. *et al*, *Anal. Proc.* (*London*), 1989, **26**, 16 (*use*)
Dirkx, W.M.R. *et al*, *Fresenius' Z. Anal. Chem.*, 1989, **335**, 769 (*use*)
Fehringer, N.V. *et al*, *HRC & CC, J. High Resolut. Chromatogr. Chromatogr. Commun.*, 1990, **13**, 575 (*use*)
Lobinski, R. *et al*, *Anal. Chem.*, 1992, **64**, 165.

Peracetic acid P-00042

Ethaneperoxoic acid, 9CI. Peroxyacetic acid
[79-21-0]

$$H_3CCOOOH$$

$C_2H_4O_3$ M 76.052
Disinfectant. Powerful oxidising agent in organic synth. Reagent for gc determination of *cis-trans* ratios in fatty esters. Liq. with unpleasant odour. Sol. H_2O, EtOH, Et_2O. Fp +0.1°. Bp 105°. pK_a 8.2 (20°).
▷ Explodes violently above 110°. Strong corrosive action on skin. Na salt is explosive when dry and is an exp. neoplastic agent. SD8750000.

tert-*Butyl ester:* [107-71-1]. tert-*Butyl peracetate*
$C_6H_{12}O_3$ M 132.159
Oxidising agent.
▷ Shock-sensitive explosive in solid state, detonates on rapid heating. SD8925000.

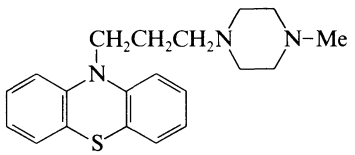
Greenspan, F.P. *et al*, *J. Am. Chem. Soc.*, 1946, **68**, 907 (*synth*)
Bunton, C.A. *et al*, *Chem. Ind.* (*London*), 1954, 191 (*synth*)
Phillips, B. *et al*, *J. Org. Chem.*, 1958, **23**, 1823 (*synth*)
Muecke, H. *et al*, *Pharmazie*, 1967, **22**, 444 (*synth, use*)
Lewis, S.N., *Oxidation*, Rohm and Haas Co., Philadelphia, 1969, **1**, 213 (*rev*)
Emken, E.A., *Lipids*, 1971, **6**, 686; 1972, **7**, 459 (*use*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 386.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 220, 380, 485.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BSC250, PCL500.

Perazine P-00043

10-[3-(4-Methyl-1-piperazinyl)propyl]-10H-phenothiazine, 9CI. Psytomin. Taxilan. P 725

[84-97-9]



$C_{20}H_{25}N_3S$ M 339.504

Neuroleptic, tranquilliser. Used as 0.2% aq. soln. for photometric detn. of Mo (λ_{max} 460 nm, in the presence of $SCN^{\ominus}$, 4*M* HCl), Pt. Oil or cryst. Sol. H_2O. Mp 53-56°. $Bp_{0.001}$ 160-170°.

▷ SP1140000.

B,2HCl: Needles. Mp 234-236° dec.

Maleate (1:2): [14516-56-4].
Used as a 0.2% aq. soln. for photometric detn. of Ir(*IV*) (λ_{max} 515 nm, ε 9930). Cryst. (H_2O). Mp 210°.

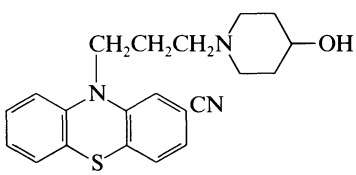
[14777-25-4]

Nieschulz, O. *et al*, *Arzneim.-Forsch.*, 1958, **8**, 199 (*pharmacol*)
Wirth, W. *et al*, *Arch. Int. Pharmacodyn. Ther.*, 1959, **123**, 78 (*pharmacol*)
Krauss, D. *et al*, *J. Pharm. Pharmacol.*, 1969, **21**, 808 (*metab*)
Breyer-Pfaff, U. *et al*, *Drug Metab. Dispos.*, 1978, **6**, 114 (*metab*)
Gowda, H.S. *et al*, *Analyst (London)*, 1979, **104**, 400 (*maleate, detn, Ir*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7081.
Owen, T.C. *et al*, *J. Heterocycl. Chem.*, 1984, **21**, 265 (*synth, pmr, bibl*)
Keshavan, B. *et al*, *Analyst (London)*, 1985, **110**, 1027 (*detn, Ir*)
Keshavan, B. *et al*, *Mikrochim. Acta*, 1985, **2**, 379 (*detn, Mo*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PCK500.

Pericyazine, BAN P-00044

10-[3-(4-Hydroxy-1-piperidinyl)propyl]-10H-phenothiazine-2-carbonitrile, 9CI. 2-Cyano-10-[3-(4-hydroxypiperidino)propyl] phenothiazine. ***Periciazine,*** **INN, JAN.** *Propericiazine. Neulactil. Other proprietary names*

[2622-26-6]



$C_{21}H_{23}N_3OS$ M 365.498

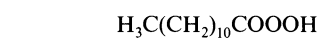
Tranquilliser, neuroleptic. Used as 0.1% aq. soln. (+ trace HCl) for photometric detn. of Au(*III*), V(*V*), Ru(*III*) (λ_{max} 511 nm, ε 11000). Yellow cryst. powder. Sol. acids. Mp 116-117°.

▷ SN7175000.

Fr. Pat., 1 212 031, (1961); *CA*, **55**, 19961 (*synth*)
Julou, L. *et al*, *C. R. Seances Soc. Biol. Ses Fil.*, 1963, **15**, 1242 (*pharmacol*)
Azzaro, M. *et al*, *Bull. Soc. Chim. Fr.*, 1967, 1977 (*pmr*)
Gilbert, J.N.T. *et al*, *Org. Mass Spectrom.*, 1969, **2**, 17 (*ms*)
Barbe, J. *et al*, *Ann. Pharm. Fr.*, 1973, **31**, 227 (*uv*)
Blazek, J. *et al*, *Cesk. Farm.*, 1975, **24**, 174 (*ir*)
Gowda, A.T. *et al*, *Curr. Sci.*, 1981, **50**, 395 (*detn, V*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7082.
Gowda, A.T. *et al*, *Anal. Chim. Acta*, 1983, **154**, 347 (*detn, Ru*)
Gowda, A.T. *et al*, *Microchem. J.*, 1984, **30**, 259 (*detn, Au*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 6108 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PIW000.

Peroxydodecanoic acid P-00045

Perlauric acid. Peroxylauric acid



$C_{12}H_{24}O_3$ M 216.320

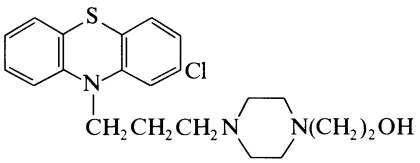
Used in the assignment of the position of ethylenic bonds by ms. Oxidising agent. Mp 52°.

Swern, D. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 4037 (*synth*)
Swern, D. *et al*, *J. Org. Chem.*, 1962, **27**, 1336 (*synth*)
Aplin, R.T. *et al*, *J. Chem. Soc., Chem. Commun.*, 1967, 858 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1972, **3**, 220.
Nedelec, J.Y. *et al*, *Synthesis*, 1976, 821 (*synth*)

Perphenazine, BAN, INN P-00046

4-[3-(2-Chlorophenothiazin-10-yl)propyl]-1-piperazineethanol, 9CI, 8CI. 2-Chloro-10-[3-[1-(2-hydroxyethyl)-4-piperazinyl] propyl]phenothiazine. Chlorpiprazine. Trilaton. Numerous proprietary names

[58-39-9]



$C_{21}H_{26}ClN_3OS$ M 403.975

Tranquilliser. Used as 0.2% aq. soln. for photometric detn. of Os(*VIII*) (λ_{max}528 nm, ε 34300). Cryst. (EtOAc). Mp 100-101°. Bp_1 278-281°, $Bp_{0.15}$ 214-215°. Light-sensitive.

▷ TL7175000.

Ac: [84-06-0]. *Perphenazine acetate.* ***Thiopropazate,*** **BAN, INN.** *Artalan. Dartal. Dartalan. Dartan. BS 14. SC 7105*
$C_{23}H_{28}ClN_3O_2S$ M 446.012
Neuroleptic, tranquilliser. $Bp_{0.1}$ 214-218°.

▷ TL7300000.

Ac; B,2HCl: [146-28-1].
Cryst. (EtOH aq.). Dec. at 223-229°.

▷ TL7350000.

3,4,5-Trimethoxybenzoyl: [388-51-2]. *Perphenazine trimethoxybenzoate.* ***Metofenazate,*** **INN.** *Methophenazin. Frenolon. Phrenolon. Sylador (obsol.)*
$C_{31}H_{36}ClN_3O_5S$ M 598.161
Neuroleptic, tranquilliser. Cryst. (EtOH). Mp 102-107°.

▷ DH9600000.

3,4,5-Trimethoxybenzoyl, difumarate: [522-23-6].
Mp 190-194°.

▷ DH9800000.

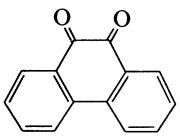
U.S. Pat., 2 766 235, (1956); *CA*, **51**, 7442 (*Thiopropazate*)
U.K. Pat., 805 778, (1958); *CA*, **53**, 8177 (*synth*)
Irwin, S. *et al*, *Arch. Int. Pharmacodyn. Ther.*, 1959, **118**, 358 (*pharmacol*)
High, J.P. *et al*, *Toxicol. Appl. Pharmacol.*, 1960, **2**, 540 (*pharmacol*)

Toldy, L. *et al*, *Acta Chim. Acad. Sci. Hung.*, 1964, **42**, 351; *CA*, **63**, 14853 (*Metofenazate*)
Zhuravlev, S.V. *et al*, *Zh. Prikl. Khim.* (*Leningrad*), 1965, **38**, 1174 (*synth*)
Azzaro, M. *et al*, *Bull. Soc. Chim. Fr.*, 1967, 1977 (*pmr*)
Gilbert, J.N.T. *et al*, *Org. Mass Spectrom.*, 1969, **2**, 17 (*ms*)
Horovitz, Z.P. *et al*, *Psychopharmacol. Bull.*, 1971, **7**, 24 (*rev, pharmacol*)
Brazek, J. *et al*, *Cesk. Farm.*, 1975, **24**, 174 (*ir*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7084, 7112, 12955.
Hawes, E.M. *et al*, *J. Labelled Compd. Radiopharm.*, 1983, **20**, 757 (*synth*)
Gowda, A.T. *et al*, *Analyst* (*London*), 1984, **109**, 651 (*detn, Os*)
Krocmar, J. *et al*, *Pharmazie*, 1986, **41**, 571 (*uv, vis*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 6185 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CJM250, MDU750, TFP250.

9,10-Phenanthraquinone P-00047

9,10-Phenanthrenedione, *9CI. Phenanthraquinone. Phenanthrenequinone*

[84-11-7]



$C_{14}H_8O_2$ M 208.216

Dehydrogenating agent. Used as derivatisation reagent for chromatographic detn. of guanidines and arginine residues in peptides. Orange-yellow needles. Mp 208.5-210°. Bp >360° subl. Dull-green soln. in conc. H_2SO_4.

▷ SF7875000.

Monoxime: [14140-04-6].
$C_{14}H_9NO_2$ M 223.231
Used as 0.1% EtOH soln. for photometric detn. of Co (λ_{max} 470 nm, ε 17500), Os, Rh, Ru. Cryst. Sol. EtOH. Mp 162°.

Dioxime: [14090-76-7].
$C_{14}H_{10}N_2O_2$ M 238.245
Used as 1-10m*M* EtOH solns. for photometric detn. of Co (λ_{max} 420 nm, ε 8800, $PhNO_2$), Cu (λ_{max} 430 nm, ε 5900, $PhNO_2$), Fe(*II*) (λ_{max} 430 nm, ε 7000, $PhNO_2$), Fe (*III*) (λ_{max} 408 nm, ε 8900, $PhNO_2$), Ni (λ_{max} 456 nm, ε 25000, $PhNO_2$). Cryst. Sol. EtOH, MeOH. Mp 208-209°, Mp 202° dec.

Dioxime, di-O-Ac: Mp 184°.

Dioxime, mono-Me ether: [74378-23-7].
$C_{15}H_{11}N_3O_2$ M 265.271
Used for photometric detn. of Os (λ_{max} 500 nm, ε 19000), Cu (λ_{max} 480 nm, ε 7700); as a metallochromic indic. in EDTA titration of Cu(*II*). Red cryst. Sol. DMF, EtOH. Mp 222-223°, Mp 220° dec.

Dioxime, di-Me ether: Mp 145-146°, Mp 245° (225°).

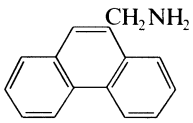
Monothiosemicarbazone: [59851-25-1].
$C_{15}H_{11}N_3OS$ M 281.337
Used as 2.5m*M* soln. in DMF for photometric detn. of Zn (λ_{max} 510 nm, ε 35000), Ni, Fe, Pd. Red cryst. (MeOH). Sol. DMF, MeOH. Mp 192-193°.

Schmidt, J. *et al*, *Ber.*, 1907, **17**, 2454 (*synth, dioxime*)
v. Auwers, K., *Justus Liebigs Ann. Chem.*, 1911, **378**, 210.
Kenner, J. *et al*, *J. Chem. Soc.*, 1927, 1111.
Ciusa, W., *Gazz. Chim. Ital.*, 1936, **66**, 591 (*synth, oxime*)
Org. Synth., Coll. Vol., 4, 1963, 757.
Yamada, S. *et al*, *Biochim. Biophys. Acta*, 1966, **130**, 538 (*detn, guanidines*)
Trikha, K.C. *et al*, *Talanta*, 1967, **14**, 977 (*detn, Co*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 317.
Kuse, S. *et al*, *Anal. Chim. Acta*, 1974, **70**, 65 (*use, dioxime*)
Kamil, F. *et al*, *Mikrochim. Acta*, 1980, **1**, 345 (*synth, semicarbazone, detn, Os*)
Baker, M.D. *et al*, *Anal. Chem.*, 1981, **53**, 1658 (*detn, guanidines*)
Sinha, P.P. *et al*, *Ann. Chim.* (*Rome*), 1983, **73**, 349 (*detn, Fe*)
Wasey, A. *et al*, *Bull. Chem. Soc. Jpn.*, 1983, **56**, 3603 (*detn, Rh, Ru*)
Sinha, P.P. *et al*, *Mikrochim. Acta*, 1983, **1**, 243 (*detn, Ni*)
Kamil, F. *et al*, *Rev. Roum. Chim.*, 1983, **28**, 413 (*use, semicarbazone*)
Wasey, A. *et al*, *Analyst* (*London*), 1984, **109**, 601 (*detn, Os*)
Sinha, P.P. *et al*, *Bull. Chem. Soc. Jpn.*, 1984, **57**, 2976 (*synth, thiosemicarbazone, detn, Zn*)
Shravah, K. *et al*, *Analyst* (*London*), 1986, **111**, 1339 (*detn, Pd*)
de Vries, J.G. *et al*, *J. Chem. Soc., Chem. Commun.*, 1988, 1172 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PCX250.

9-Phenanthrenemethylamine P-00048

9-Phenanthrenemethanamine, *9CI. 9-(Aminomethyl) phenanthrene*

[15398-91-1]



$C_{15}H_{13}N$ M 207.274
Cryst. (Et_2O/pet. ether). Mp 108.2-108.8°.

Picrate: Mp 241° dec.

N-*Ac:*
$C_{17}H_{15}NO$ M 249.312
Mp 182-185°.

N-*Benzoyl:*
$C_{22}H_{17}NO$ M 311.382
Mp 167°.

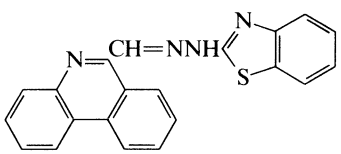
N-*Benzylidene:* Mp 103.5°.

[7470-15-7]

Shoppee, C.W., *J. Chem. Soc.*, 1933, 40.
McKay, A.F. *et al*, *J. Org. Chem.*, 1950, **15**, 648.

6-Phenanthridinecarboxaldehyde 2-benzothiazolylhydrazone P-00049

[54159-99-8]



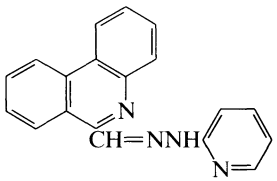
$C_{21}H_{14}N_4S$ M 354.434
Used as a 1m*M* soln. in EtOH as metallochromic indicator for titrimetric detn. of Cu. Yellow cryst. Spar. sol. EtOH. Mp 268-270°.

Berger, S.A. *et al*, *Mikrochim. Acta*, 1974, 679 (*synth, detn, Cu*)

6-Phenanthridinecarboxaldehyde 2-pyridylhydrazone P-00050

DPAPH

[31313-53-8]



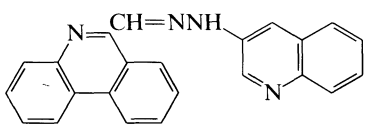
$C_{19}H_{14}N_4$ M 298.346

Used as C_6H_6 soln. for extraction-photometric detn. of Pd (λ_{max} 635 nm, ε 20000) or 1m*M* soln. in 0.01*M* HCl for photometric detn. of Cd, Cu, Ni, Pd, Zn (λ_{max} 525 nm, ε 70000, $CHCl_3$). Bright yellow solid. Sol. C_6H_6. Mp 223°.

Ryan, D.E. *et al*, *Anal. Chim. Acta*, 1971, **54**, 65 (*synth*, *detn*, *Pd*)

6-Phenanthridinecarboxaldehyde 2-quinolinylhydrazone, 9CI P-00051

[31313-54-9]



$C_{23}H_{16}N_4$ M 348.406

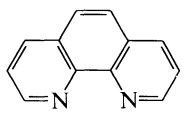
Used as a 1m*M* soln. in EtOH as metallochromic indicator in titrimetric detn. of Cu. Orange-yellow cryst. Sol. dil. acids; spar. sol. EtOH. Mp 176°.

Zatka, V. *et al*, *Anal. Chim. Acta*, 1971, **54**, 65 (*synth*)
Berger, S.A. *et al*, *Mikrochim. Acta*, 1974, 679 (*detn*, *Cu*)

1,10-Phenanthroline, 9CI P-00052

o-*Phenanthroline*

[66-71-7]



$C_{12}H_8N_2$ M 180.209

Used as soln. in dil. HCl for photometric detn. of Fe(*II*) (λ_{max}512 nm, ε 11000); chelating agent for Zn, Cd, Co, Ni, Ag, Ru, Os; counter-ion in extn. of anionic complexes (e.g. Ge, Co, Ru). Cryst. + $1H_2O$ (H_2O), cryst. (C_6H_6). Mp 98-100°, Mp 93-94°.

▷ SF8300000.

N-*Oxide:* [1891-19-6].

$C_{12}H_8N_2O$ M 196.208

Pale-yellow needles (PhCl). Mp 180-181°. pK_a 6.63 (22°).

N,N′-*Dioxide:* [72799-24-7].

$C_{12}H_8N_2O_2$ M 212.207

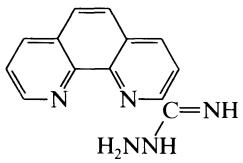
This compound is unknown: reports of its complexes are erroneous.

Smith, C.R., *J. Am. Chem. Soc.*, 1930, **52**, 397 (*synth*)
Smith, C.R. *et al*, *Chem. Rev.*, 1935, **16**, 113 (*synth*)
Willink, H.D.T. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1935, **54**, 282 (*synth*)
Harvey, A.E. *et al*, *Anal. Chem.*, 1955, **27**, 26 (*detn*, *Fe*)
Hibbits, J.O. *et al*, *Talanta*, 1961, **8**, 163 (*detn*, *Fe*)
Corey, E.J. *et al*, *J. Org. Chem.*, 1965, **30**, 288 (*oxide*, *derivs*)
Schilt, A.A., *Analytical Applications of 1,10-Phenanthroline and Related Compounds*, Pergamon, Oxford, 1969.
Nishigaki, S. *et al*, *Acta Crystallogr., Sect. B*, 1975, **31**, 1220 (*cryst struct*)
Holzbecher, Z., *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976.
Summers, L.A., *Adv. Heterocycl. Chem.*, 1978, **22**, 1 (*rev*)
Gillard, R.D., *Inorg. Chim. Acta*, 1981, **53**, L173 (*dioxide*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982.
Engbersen, J.F.J. *et al*, *J. Heterocycl. Chem.*, 1986, **23**, 989 (*oxide*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PCY250.

1,10-Phenanthroline-2-carboximidic acid hydrazide, 9CI P-00053

2-(1,10-Phenanthrolyl)hydrazidine

[1025-07-6]



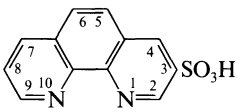
$C_{13}H_{11}N_5$ M 237.263

Used as 0.01*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 551 nm, ε 12300). Cryst. + $2H_2O$ (H_2O). Sol. H_2O, EtOH. Mp 192-193° dec.

Case, F.H., *J. Org. Chem.*, 1965, **30**, 931 (*synth*)
Schilt, A.A., *Talanta*, 1966, **13**, 895 (*detn*, *Fe*)

1,10-Phenanthroline-3-sulfonic acid, 9CI P-00054

[33388-35-1]



$C_{12}H_8N_2O_3S$ M 260.273

Used as redox indicator. Cryst. Sol. H_2O.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*, *ind*)

1,10-Phenanthroline-5-sulfonic acid P-00055

[33388-36-2]

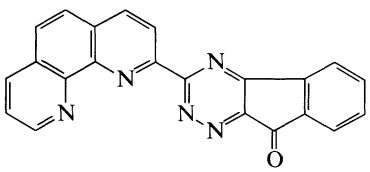
$C_{12}H_8N_2O_3S$ M 260.273

Used as redox indicator. Cryst. Sol. H_2O.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*, *ind*)

3-(1,10-Phenanthrolin-2-yl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, 9CI P-00056

[37004-82-3]

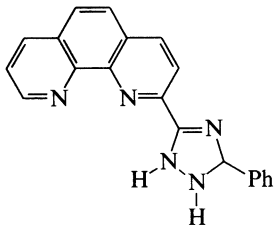


$C_{22}H_{11}N_5O$ M 361.362

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 520 nm, ε 8700). Cryst. (DMF). Sol. common org. solvs. Mp 285° (as dihydrate).

Case, F.H., *J. Heterocycl. Chem.*, 1972, **9**, 457 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn*, *Fe*)

3-[(1,10-Phenanthrolin-2-yl)]-5-phenyl-1,2,4-triazoline, 9CI P-00057

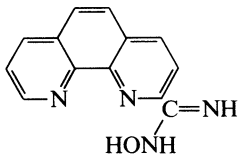


$C_{20}H_{15}N_5$ M 325.372

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 550 nm, ε 13400, aq. EtOH). Cryst. (EtOH). Sol. common org. solvents. Mp 135-136° (as monohydrate).

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

2-(1,10-Phenanthrolyl)amidoxime P-00058



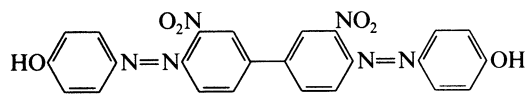
$C_{13}H_{10}N_4O$ M 238.248

Used as 0.01*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 541 nm, ε 12600). Cryst. Sol. EtOH, acids. Mp 235-238° dec.

Schilt, A.A., *Talanta*, 1966, **13**, 895 (*synth, detn, Fe*)

Phenazo P-00059

4,4'-Bis(4-hydroxyphenylazo)-3,3'-dinitrobiphenyl



$C_{24}H_{16}N_6O_6$ M 484.427

Used as a 5m*M* EtOH soln. for photometric detn. of Mg (ε 21500). Brown cryst. powder. Sol. EtOH, Me_2CO, $CHCl_3$, C_6H_6, alkalis; insol. H_2O, acids.

Kuznetsov, V.I. *et al*, *Zavod. Lab.*, 1958, **24**, 1053 (*synth, detn, Mg*)
Babko, A.K. *et al*, *Zh. Anal. Khim.*, 1962, **17**, 416, 922 (*detn, Mg*)
Babko, A.K. *et al*, *Zavod. Lab.*, 1968, **34**, 1435 (*detn, Mg*)

Phenol P-00060

Hydroxybenzene. Carbolic acid

[108-95-2]

PhOH

C_6H_6O M 94.113

Minor constit. of plant oils in combined form. A major constit. of coal tar. Used as 5% soln. in EtOH for photometric detn. of $NO_3^{\ominus}$; binding of Cl_2 and Br_2. Also used (with NaClO) for detn. of NH_3. Disinfectant. Used in manuf. of phenol-formaldehyde resins, bisphenol A, nylon intermediates and alkylphenols. Important industrial chemical, 35th in order of volume for USA in 1990 (production 1.76 million tons/year). Deliquescent needles. Mp 43°, Fp 41°. Bp_{25} 90.2°. Steam-volatile. Also used as sodium salt (Phenolate sodium, USAN).

▷ Highly toxic by skin contact, causes burns, TLV 19. Salts are irritant. SJ3325000.

Na salt: [139-02-6]. *Phenolate sodium, USAN*
Disinfectant.
▷ SM8780000.

Picrate: Mp 83.1°.

Phenylurethane: [38064-07-2]. *Phenylcarbamic acid hydroxyphenyl ester, 9CI*
$C_{13}H_{11}NO_2$ M 213.235
Needles (C_6H_6). Mp 126°.

Hydrogen sulphate: [937-34-8]. *Sulfuric acid monophenyl ester, 9CI*
$C_6H_6O_4S$ M 174.177
Urinary metab. of phenol in man and animals. Very unstable.

Ac: [122-79-2]. *Phenyl acetate*
$C_8H_8O_2$ M 136.150
Liq. Spar. sol. H_2O. d_{15}^{15} 1.081. Bp 195.7°. n_D^{25} 1.5017.
▷ AJ2800000.

Benzoyl: [93-99-2]. *Phenyl benzoate*
$C_{13}H_{10}O_2$ M 198.221
Prisms. Mp 71°. Bp 314°, 299°.
▷ DH6299500.

Formyl: [1864-94-4].
$C_7H_6O_2$ M 122.123
Liq. d^0 1.088. Bp 173° sl. dec., Bp_{25} 107°.

Me ether: see *Methoxybenzene, M-00078*

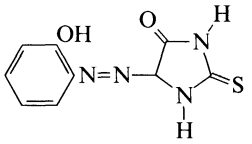
Allyl ether: [1746-13-0]. *2-Propenyloxybenzene, 9CI. Allyl phenyl ether*
$C_9H_{10}O$ M 134.177
Liq. with geranium odour. d_{15}^{15} 0.986. Bp 192-195°. Steam-volatile.
▷ DA8575000.

[139-02-6]

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, N.Y., 1947, **1**, 146 (*use*)
Kueding, W.W. *et al*, *J. Org. Chem.*, 1965, **30**, 3756 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 828, 1102.
Kolthoff, I.M. *et al*, *Quant. Chem. Anal.*, IV Ed., Macmillan, N.Y., 1971 (*use*)
Aldrich Library of NMR Spectra, 1974, **4**, 96A, 109A (*pmr*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 564C, 1310F (*ir*)
Adams, J.M. *et al*, *Acta Crystallogr., Sect. B*, 1976, **32**, 1345 (*cryst struct, deriv*)
Houben-Weyl, *Methoden Org. Chem.* (*Houben-Weyl*), *4th Ed.*, Vol. I, 1976 (*bibl*)
Thurman, C., *Kirk-Othmer Encycl. Chem. Technol.*, 3rd Ed., Wiley, N.Y., 1978-1984, 181, 373 (*rev*)
Elton-Bott, R.R., *Anal. Chim. Acta*, 1979, **108**, 285 (*detn, $NO_3^{\ominus}$*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2267.
Velghe, N. *et al*, *Analyst* (*London*), 1983, **108**, 1018 (*detn, $NO_3^{\ominus}$*)
Hugo, W.B., *Cosmet. Sci. Technol. Ser.*, 1984, **1**, 109 (*rev, use*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 415.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 436.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AGR000, PDN750, PDO000, PDY750, PEL500, SJF000.

o-Phenolazothiohydantoin P-00061

5-(2-Hydroxyphenylazo)-2-thioxo-4-imidazolidinone



$C_9H_8N_4O_2S$ M 236.254

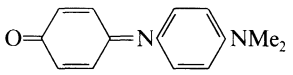
Several tautomers possible. Used as EtOH soln. for photometric detn. of Au, Pt, Pd. Yellow cryst. powder. Sol. EtOH, DMF.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87 (*synth, use*)

Phenol blue P-00062

4-[[4-(Dimethylamino)phenyl]imino]-2,5-cyclohexadien-1-one, 9CI. N,N-*Dimethylindoaniline. 1,4-Benzoquinone 4-(dimethylaminophenyl)anil*

[2150-58-5]



$C_{14}H_{14}N_2O$ M 226.277

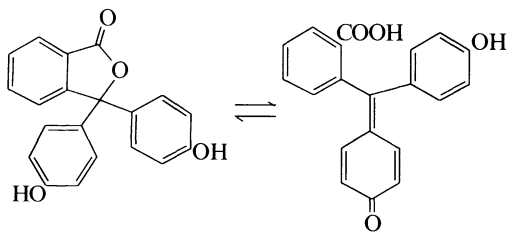
Used as redox indicator. Sol. H_2O. Mp 133-134°. pK_{a1} 5.96; pK_{a2} 9.89 (30°). λ_{max} 608 nm; E° + 0.677 V (30°). Hygroscopic.

Schwarzenbach, G. *et al*, *J. Am. Chem. Soc.*, 1938, **66**, 1667.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DPS600.

Phenolphthalein, INN P-00063

3,3-Bis(4-hydroxyphenyl)-1(3H)-isobenzofuranone, 9CI. 3,3-Bis(4-hydroxyphenyl)phthalide. α,4,4'-Trihydroxytriphenylmethane-2-carboxylic acid lactone. Dihydroxyphthalophenone. Numerous proprietary names

[77-09-8]



$C_{20}H_{14}O_4$ M 318.328

Laxative. Used as EtOH soln. as an acid-base indicator (pH range 8.0-10) and in photometric detn. of $CN^{\ominus}$, $Cl^{\ominus}$, N_2H_4. Needles. Sol. EtOH, Et_2O; sl. sol. H_2O. Mp 258-262°.

▷ SM8380000.

Mono-Me ether: [42138-12-5].
$C_{21}H_{16}O_4$ M 332.355
Needles (C_6H_6). Mp 80°, Mp 140.5-142.2° , (198-199°).

Di-Me ether: [6315-80-6].
$C_{22}H_{18}O_4$ M 346.382
Cryst. (MeOH or EtOH). Mp 100.5-101.1°.

Di-Ac: [5449-84-3].
$C_{24}H_{18}O_6$ M 402.403
Cryst. (EtOH). Mp 146.5-147.3°.

Oxime:
$C_{20}H_{15}NO_4$ M 333.343
Mp 216°.

Me ester (open-chain form):
$C_{21}H_{16}O_4$ M 332.355
Orange-red needles. Mp 127-130°.

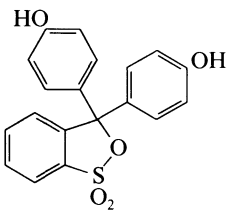
Et ester, Et ether (open-chain form):
$C_{24}H_{22}O_4$ M 374.435
Yellow cryst. Mp 98-104°.

Baeyer, A., *Justus Liebigs Ann. Chem.*, 1880, **202**, 69 (*synth*)
Underwood, H.W. *et al*, *J. Am. Chem. Soc.*, 1930, **52**, 4084.
Blicke, F.F. *et al*, *J. Am. Chem. Soc.*, 1932, **54**, 332.
Hubacher, M.H. *et al*, *J. Am. Pharm. Assoc.*, 1953, **42**, 23.
Maute, R.L. *et al*, *Anal. Chem.*, 1954, **26**, 1723 (*detn, $CN^{\ominus}$*)
Davies, M. *et al*, *J. Chem. Soc.*, 1954, 120 (*ir*)
Ziegler, E. *et al*, *Monatsh. Chem.*, 1969, **100**, 1604 (*pmr*)
Rousselet, R., *J. Pharm. Belg.*, 1971, **26**, 568 (*ir, tlc*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 92, 192 (*use*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*use*)
Houben-Weyl, *Methoden Org. Chem.* (*Houben-Weyl*), *4th Ed.*, (Wedemeyer, K.F., Ed.), 1976, 1093.
Shahine, S.A. *et al*, *Microchem. J.*, 1976, **21**, 286 (*detn, $Cl^{\ominus}$*)
Shahine, S.A. *et al*, *Mikrochim. Acta*, 1978, **2**, 431 (*detn, N_2H_4*)
Berger, S., *Tetrahedron*, 1981, **37**, 1607 (*cmr, tautom*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7522.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 5553 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PDO750.

Phenolsulfonphthalein, USAN P-00064

4,4'-(3H-2,1-Benzoxathiol-3-ylidene)bisphenol S,S-*dioxide, 8CI. 3,3'-Bis(4-hydroxyphenyl)-3H-2,1-benzoxathiole 1,1-dioxide. Phenol red. Fenolipuna. Sulfonphthal. Sulphental*

[143-74-8]



$C_{19}H_{14}O_5S$ M 354.383

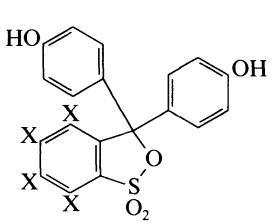
Diagnostic aid for renal function determination. Used as a 0.1% soln. in EtOH as an acid-base indicator (pH range: 6.4-8.2; colour change: yellow → red). Bright-red cryst. Insol. $CHCl_3$, Et_2O; sol. EtOH, dil. alkalis; sl. sol. H_2O. pK_{a1} 7.92 (20°). λ_{max} 557 nm.

▷ SJ7490000.

Orndorff, W.R. *et al*, *J. Am. Chem. Soc.*, 1923, **45**, 486 (*synth*)
Gault, M.H., *JAMA, J. Am. Med. Assoc.*, 1967, **200**, 871 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 103, 113.
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2145.
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 190.

Phenoltetrabromosulfonephthalein P-00065

4,4'-(4,5,6,7-Tetrabromo-3H-2,1-benzoxathiol-3-ylidene) bisphenol S,S-*dioxide*



X = Br

$C_{19}H_{10}Br_4O_5S$ M 669.967
Used as acid-base indicator (colour change: yellow → violet; pH range: 5.8-7.7); photometric detn. of total milk proteins. Reddish-black cryst. Sol. EtOH, Me_2CO, EtOAc, alkalis; spar. sol. H_2O. pK_{a1} 7.03 (25°).

Harden, W.C. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 562 (*synth*)
Boyd, W.M. *et al*, *J. Am. Chem. Soc.*, 1930, **52**, 4954 (*synth*)
Haring, M.M. *et al*, *J. Am. Chem. Soc.*, 1941, **63**, 1024 (*synth*)
Lippi, U. *et al*, *CA*, 1967, **66**, 45549q (*detn, proteins*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

Phenoltetrachlorosulfonephthalein P-00066

*4,4′-(4,5,6,7-Tetrachloro-3*H*-2,1-benzoxathiol-3-ylidene) bisphenol* S,S-*dioxide*

As Phenoltetrabromosulfonephthalein, P-00065 with

X = Cl

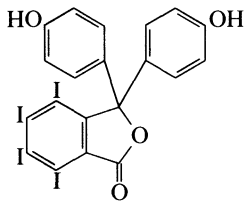
$C_{19}H_{10}Cl_4O_5S$ M 492.162
Used as acid-base indicator (pH range: 5.8-7.7; colour change: yellow → violet). Red-pink amorph. powder. Sol. EtOH, Me_2CO, EtOAc, alkalis; spar. sol. H_2O. pK_{a1} 7.04 (25°).

Harden, W.C. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 562 (*synth*)
Haring, M.M. *et al*, *J. Am. Chem. Soc.*, 1941, **63**, 1024 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

Phenoltetraiodophthalein P-00067

*3,3-Bis(4-hydroxy-2-methylphenyl)-4,5,6,7-tetraiodo-1(3*H*)-isobenzofuranone, 9CI*

[27458-03-3]



$C_{20}H_{10}I_4O_4$ M 821.915
Used as acid-base indicator (pH range: 8.2-10.0; colour change: colourless → bluish violet). Yellow cryst. powder. Sol. Me_2CO, EtOH; spar. sol. H_2O.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 101.

Phenoltetraiodosulfonephthalein P-00068

*4,4′-(4,5,6,7-Tetraiodo-3*H*-2,1-benzoxathiol-3-ylidene) bisphenol* S,S-*dioxide*

As Phenoltetrabromosulfonephthalein, P-00065 with

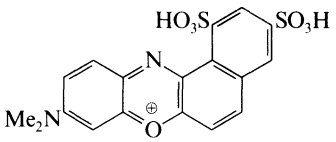
X = I

$C_{19}H_{10}I_4O_5S$ M 857.969
Used as acid-base indicator (pH range 6.4-8.0; colour change: yellow → red). Reddish-black cryst. Sol. EtOH, Me_2CO, EtOAc, alkalis; spar. sol. H_2O. Mp 180°.

Boyd, W.M. *et al*, *J. Am. Chem. Soc.*, 1930, **52**, 4954 (*synth*)
Bishop, E., *Indicators*, Oxford, Pergamon, 1972 (*use, ind*)

Phenonaphthoxazine G acid P-00069

9-(Dimethylamino)benzo[α]phenoxazin-7-ium-1,3-disulfonic acid(1+)



$C_{18}H_{15}N_2O_7S_2^{\oplus}$ M 435.458 (ion)
Sulfonic acid derivative of Meldola's Blue.

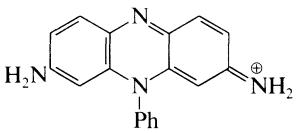
Chloride, di-K salt: Used as 0.2% aq. soln. for photometric detn. of Co. Redox indicator. Dark blue cryst. powder. Sol. H_2O. pK_{a1} 5.73. E° +0.491 V.

Eggers, H. *et al*, *Biochem. Z.*, 1942, **310**, 233.

Phenosafranine P-00070

3,7-Diamino-5-phenylphenazinium(1+). C.I. 50200. Saframine B

[16177-82-5]



$C_{18}H_{15}N_4^{\oplus}$ M 287.343 (ion)
Strictly the name Phenosafranine applies to the chloride. Basic dye.

Chloride: [81-93-6].
Biological stain. Used as a 0.1-0.2% aq. soln. as redox indicator, complexiметric indicator in titrimetric detn. of Fe(*III*), Ti. Lustrous green needles (dil. HCl). Sol. H_2O, EtOH. Mp >300°. pK_{a1} 4.96; pK_{a2} 5.78 (30°). E° +0.280V (30°).

N,N,N′,N′-*Tetra-Et: 3,7-Bis(diethylamino)-5-phenylphenazinium(1+). Tetraethylphenosafranine. Amethyst violet. C.I. 52055*
$C_{26}H_{31}N_4^{\oplus}$ M 399.558 (ion)

N,N,N′,N′-*Tetra-Et, chloride:* [3562-38-7].
$C_{26}H_{31}ClN_4$ M 435.010
Used as 0.1% aq. soln. as redox indicator in dichrometric titrimetric detn. of As(*III*), Fe(*II*), V(*IV*). Dark reddish blue cryst. Sol. H_2O, EtOH.

Stiehler, R.D. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 891 (*use*)
Ellis, C.M. *et al*, *Analyst (London)*, 1956, **81**, 693 (*detn, Fe*)
Murty, B. *et al*, *Talanta*, 1961, **8**, 438 (*detn, Ti*)
Akbarova, D.M. *et al*, *CA*, 1969, **71**, 4493b (*synth, uv-vis, ir*)
Colour Index, 3rd Edn, 1971, **4**, 4449 (*synth, chloride*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 441, 492.
Venkateswara Rao, N. *et al*, *J. Indian Chem. Soc.*, 1979, **56**, 430.

Phenosafrazo blue, 9CI P-00071

[87435-73-2]

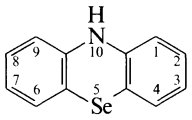
Structure undefined. Used as a 0.05% aq. soln. for extraction-photometric detn. of Ga, Sb (λ_{max} 598 nm, ε 64000). Cryst.

Guseinov, I.K. *et al*, *Azerb. Khim. Zh.*, 1982, 83, 115; *CA*, **99**, 168575j, 205172y (*detn, Sb, Ga*)

10*H*-Phenoselenazine, 9CI, 8CI P-00072

Selenodiphenylamine

[262-05-5]



$C_{12}H_9NSe$ M 246.170

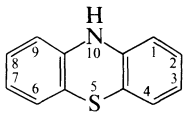
Used for extraction-photometric detn. of Pd. Yellow leaflets (C_6H_6). Mp 195°. Oxidised in air.

Melián, M. *et al*, *Inf. Quim. Anal.*, 1964, **18**, 109 (*detn, Pd*)
Cordella, G. *et al*, *Farmaco, Ed. Sci.*, 1965, **20**, 446; *CA*, **63**, 8349c.

Phenothiazine, INN, 9CI, 8CI P-00073

Thiodiphenylamine (obsol.). Numerous proprietary names

[92-84-2]



$C_{12}H_9NS$ M 199.276

Has antibacterial, anthelmintic props. Used as antioxidant. Used as 0.05% soln. in aq. EtOH for photometric detn. of Pd (λ_{max} 630 nm, ε 71300, 40% EtOH). Yellow plates (EtOH) or yellow cryst. (by subl.). Sol. EtOH. Mp 182°. Bp 371°, Bp_{40} 290°.

▷ SN5075000.

N-*Ac:* [1628-29-1].
$C_{14}H_{11}NOS$ M 241.313
Prisms (EtOH). Mp 197-197.5°.

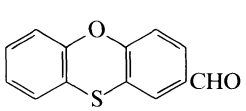
S-*Oxide:* [1207-71-2].
$C_{12}H_9NOS$ M 215.275
Mp 250° dec. approx.

Massie, S.P., *Chem. Rev.*, 1954, **54**, 797 (*rev*)
Warren, R.J. *et al*, *J. Pharm. Sci.*, 1966, **55**, 144 (*ir, uv*)
Azzaro, M., *Bull. Soc. Chim. Fr.*, 1967, 1977 (*pmr*)
Bodea, C. *et al*, *Adv. Heterocycl. Chem.*, 1968, **9**, 321 (*rev*)
Gilbert, J.N., *Org. Mass Spectrom.*, 1969, **2**, 17 (*ms*)
Gowda, H.S. *et al*, *Mikrochim. Acta*, 1975, **1**, 437 (*detn, Pd*)
McDowell, J.J.H., *Acta Crystallogr., Sect. B*, 1976, **32**, 5; 1977, **33**, 314 (*cryst struct*)
Borbely, A.A. *et al*, *Mod. Pharmacol.-Toxicol.*, 1979, **16**, 403 (*rev, pharmacol*)
Mitchell, S.C., *Drug Metab. Rev.*, 1982, **13**, 319 (*rev, metab*)
Saraf, S. *et al*, *Heterocycles*, 1982, **19**, 935 (*uv*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 798.
Hallberg, A. *et al*, *J. Heterocycl. Chem.*, 1983, **20**, 1453; 1984, **21**, 841 (*cmr, ms*)
Jovanovic, M.V. *et al*, *Org. Magn. Reson.*, 1984, **22**, 491 (*cmr*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 2211.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PDP250.

2-Phenoxathiincarboxaldehyde, 9CI P-00074

2-Formylphenoxathiin

[37947-92-5]



$C_{13}H_8O_2S$ M 228.271

Light yellow cryst. Mp 81.5-82°.

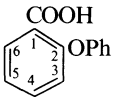
Oxime: [41087-85-8].
$C_{13}H_9NO_2S$ M 243.286
Used as a 0.02% soln. in EtOH for extraction-photometric detn. of Pd (λ_{max} 380 nm, C_6H_6). Cryst. (EtOH). Mp 140-141°.

Vasiliu, G. *et al*, *CA*, 1964, **60**, 14499d (*synth*)
Popa, G. *et al*, *Mikrochim. Acta*, 1973, 147 (*deriv, detn, Pd*)

2-Phenoxybenzoic acid, 9CI P-00075

Diphenyl ether 2-carboxylic acid. Salicylic acid phenyl ether

[2243-42-7]



$C_{13}H_{10}O_3$ M 214.220

Used as a 0.75% soln. in EtOH for fluorimetric detn. of Tb. Leaflets (EtOH aq.). Mp 113°. Bp 355°.

Me ester: [21905-56-6].
$C_{14}H_{12}O_3$ M 228.247
Bp 312°, Bp_4 150-151°.

Amide: [72084-13-0].
$C_{13}H_{11}NO_2$ M 213.235
Prisms (EtOH). Mp 131°.

Ullmann, F. *et al*, *Ber.*, 1905, **38**, 2111.
Langham, W. *et al*, *J. Am. Chem. Soc.*, 1941, **63**, 545.
Kosolopoff, G.M. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 1275.
Gilman, H. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 3848.
Kononenko, L.I. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 1392 (*use*)

Phenylacetic acid P-00076

Benzeneacetic acid, 9CI. Phenylethanoic acid. α-Toluic acid

[103-82-2]

$PhCH_2COOH$

$C_8H_8O_2$ M 136.150

Found in essential oils, e.g. neroli, rose oil, free and as esters. Also prod. by microorganisms. Volatile component of tail gland secretion from *Cervus elaphus* (red deer). Used as 1*M* soln. in $CHCl_3$ for selective extraction separation of Cu and U ($CHCl_3$). Important industrial intermediate. Perfumery and flavouring ingredient. Plates (pet. ether). Mp 77-78.5°. Bp 265.5°, $Bp_{0.01}$ 65-70°.

▷ Highly toxic orally. AJ2430000.

Me ester: [101-41-7].
$C_9H_{10}O_2$ M 150.177
Odoriferous constit. of many plants. Perfumery ingredient. d_{16}^{16} 1.063. Bp 215°, Bp_{50} 131-132°.

▷ Mod. toxic. AJ3175000.

Amide: [103-81-1]. *Benzeneacetamide, 9CI. Phenacetamide*
C_8H_9NO M 135.165
Plant growth regulator produced by *Actinomyces* spp. Constit. of the leaves of *Allophylus cobbe*. Plates or leaflets. Mp 157-158°.

▷ AC7705000.

Nitrile: [140-29-4]. *Benzeneacetonitrile, 9CI. Benzyl cyanide. Phenylacetonitrile*
C_8H_7N M 117.150
Isol. from thick-tailed galago *Galago crassicaudatus*. Used in the detection of nitro compds. Liq. d_{15}^{15} 1.021. Bp 234°, Bp_{12} 107°. n_D^{25} 1.5211.

▷ Toxic by inhalation and skin absorption, eye irritant. AM1400000.

Org. Synth., Coll. Vol., 1, 1932, 101, 436.
Org. Synth., Coll. Vol., 4, 1963, 760 (*amide*)
Johns, S.R. *et al, Aust. J. Chem.*, 1969, **22**, 1315 (*isol*)
Legradi, L., *Mikrochim. Acta*, 1970, 544 (*nitrile, use*)
Adam, J. *et al, Talanta*, 1972, **19**, 1105; 1973, **20**, 1344 (*detn, Cu, U*)
Morris, W.W., *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 1037 (*ir*)
Aldrich Library of NMR Spectra, 1974, **6**, 105A (*pmr*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 814A (*ir*)
Larson, R.A. *et al, J. Chromatogr.*, 1977, **138**, 186 (*glc*)
Crew, R.M. *et al, J. Chem. Ecol.*, 1979, **5**, 861.
Bakke, J.M. *et al, J. Chem. Ecol.*, 1983, **9**, 513.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 437.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EOH000, MHA500, PDX750, PDY850, PEA750.

Phenylacetylene P-00077

Ethynylbenzene, 9CI, 8CI

[536-74-3]

PhC≡CH

C_8H_6 M 102.135

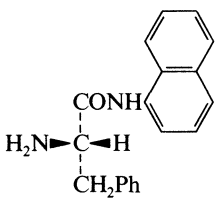
Found in coal tar. Used as a 10% soln. in CH_2Cl_2 for extraction-photometric detn. of Pd (λ_{max} 317 nm). Oil. Sol. Me_2CO, $CHCl_3$, C_6H_6. $d^{12.5}$ 0.94. Fp −45°. Bp 142°, Bp_{13} 35-36°. n_D^{20} 1.5490.

▷ DA0780000.

Freeman, J.P. *et al, J. Am. Chem. Soc.*, 1957, **79**, 1712.
Buckles, R.E. *et al, J. Org. Chem.*, 1957, **22**, 55.
Normant, J., *Bull. Soc. Chim. Fr.*, 1963, 1868, 1888.
Org. Synth., Coll. Vol., 4, 1963, 763.
Ziegler, M. *et al, Fresenius' Z. Anal. Chem.*, 1965, **210**, 344 (*use*)
Kaluza, F., *Chem. Ind. (London)*, 1967, 2045 (*isol*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PEB750.

Phenylalanine α-naphthylamide P-00078

*α-Amino-*N*-1-naphthalenylbenzenepropanamide, 9CI*



$C_{19}H_{18}N_2O$ M 290.364

(S)-form [112077-80-2]

Derivatisation reagent for hplc resoln. of carboxylic acids.

Fujimoto, Y. *et al, J. Chromatogr.*, 1987, **402**, 344 (*use*)

Phenylalanine β-naphthylamide P-00079

*α-Amino-*N*-2-naphthalenylbenzenepropanamide, 9CI*

[14008-99-2]

$C_{19}H_{18}N_2O$ M 290.364

(S)-form [740-57-8]

Derivatisation reagent for hplc resoln. of carboxylic acids. Mp 128-129°. $[\alpha]_D^{25}$ +86.5° (c, 1.03 in MeOH).

B,HCl: Cryst. ($MeOH/Et_2O$). Mp 203-206°.

(±)-form

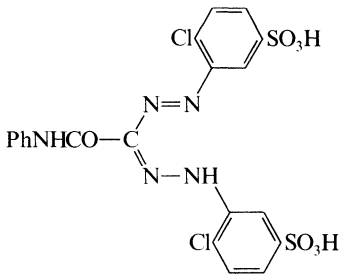
Flakes (EtOH aq.). Mp 113°.

Seligman, A.M. *et al, J. Am. Chem. Soc.*, 1951, **73**, 2086 (*synth*)
Lefrancier, P. *et al, Bull. Soc. Chim. Fr.*, 1965, 3668 (*synth*)
Fujimoto, Y. *et al, J. Chromatogr.*, 1987, **402**, 344 (*use*)

3,3′-[3-[(Phenylamino)carbonyl]-1,5-formazandiyl]bis[4-chlorobenzenesulfonic acid], 9CI P-00080

Formazan F32

[88054-84-6]



$C_{20}H_{15}Cl_2N_5O_7S_2$ M 572.405

Used as 0.01*M* soln. in toluene for extraction separation of Pd(*II*) and Ag from Pt(*IV*) and Cu(*II*). Cryst. Sol. toluene, 1,2-dichloroethane, H_2O.

Di-K salt: [69373-22-4].

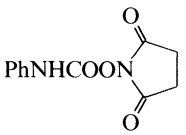
Used as 0.25% aq. soln. for photometric detn. of Pd (λ_{max} 625 nm, ε 11500, pH 2.5-4.5). Cryst. (MeOH). Sol. MeOH, dioxan, H_2O. Mp >300°.

Kettrup, A. *et al, Fresenius' Z. Anal. Chem.*, 1978, **293**, 115 (*synth, detn, Pd*)
Grote, M. *et al, Fresenius' Z. Anal. Chem.*, 1980, **300**, 280; 1982, **310**, 369 (*synth*)
Grote, M. *et al, Talanta*, 1984, **31**, 755 (*use*)

1-[[(Phenylamino)carbonyl]oxy]-2,5-pyrrolidinedione, 9CI P-00081

Succinimide phenylcarbamate. N-[(*Phenylcarbamoyl*)*oxy*] *succinimide, 8CI*

[23583-11-1]



$C_{11}H_{10}N_2O_4$ M 234.211

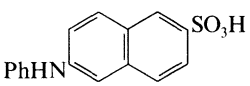
Derivatisation reagent for hplc anal. of amines with spectrophotometric detn. Cryst. (C_6H_6/Me_2CO). Mp 149-154° and 243-244° (double Mp).

Gross, H. *et al, Justus Liebigs Ann. Chem.*, 1969, **725**, 212 (*synth*)
Kurita, K. *et al, J. Org. Chem.*, 1978, **43**, 2918 (*synth*)
Nimura, N. *et al, Anal. Chem.*, 1986, **58**, 2372 (*use*)

6-(Phenylamino)-2-naphthalenesulfonic acid, 9CI P-00082

6-Anilino-2-naphthalenesulfonic acid, 8CI

[20096-53-1]



$C_{16}H_{13}NO_3S$ M 299.350

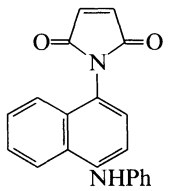
Used for fluorimetric detn. of K (after extraction-separation with crown ethers). Needles. Sol. acids, alkalis; sl. sol. H_2O.

Antonovich, V.P. *et al, Zh. Anal. Khim.*, 1980, **36**, 992 (*detn, K*)

1-[4-(Phenylamino)-1-naphthalenyl]-1*H*-pyrrole-2,5-dione, 9CI P-00083

N-(*4-Anilino-1-naphthyl*)*maleimide. ANM*

[50539-45-2]



$C_{20}H_{14}N_2O_2$ M 314.343

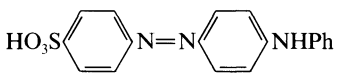
Fluorescent reagent used for labelling thiol groups in proteins. Red prisms (EtOAc). Mp 207-208.5°.

Kanaoka, Y. *et al*, *Biochim. Biophys. Acta*, 1973, **317**, 563 (*synth, use*)
Kawato, S. *et al*, *Dev. Biochem.*, 1978, **5**, 241 (*use*)
Beliveau, R. *et al*, *Dev. Biochem.*, 1981, **20**, 179 (*use*)
Miki, K. *et al*, *J. Biol. Chem.*, 1981, **256**, 9382 (*use*)
Yasuoka-Yabe, K. *et al*, *J. Biochem. (Tokyo)*, 1983, **94**, 665 (*use*)

4-[[4-(Phenylamino)phenyl]azo] benzenesulfonic acid, 9CI P-00084

Orange IV. Tropaeolin OO. C.I. Acid orange 5. C.I. 13080

[17040-79-8]



$C_{18}H_{15}N_3O_3S$ M 353.401

Strictly, the name Orange IV applies to the sodium salt.

Na salt: [554-73-4].

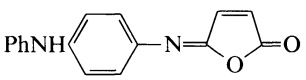
Used as a 0.04% soln. in aq. EtOH for extraction-photometric detn. of K (λ_{max} 450 nm), photometric detn. of Mg, detn. of Zn, titrimetric detn. of organic acids, acid-base indicator (pH range: 1.3-3.2; colour change: red → yellow); redox indicator. Orange-yellow cryst. Sol. H_2O, EtOH; spar. sol. Et_2O; insol. C_6H_6.

Suten, A. *et al*, *CA*, 1972, **77**, 172202y (*redox indicator*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*detn, Mg, Zn, organic acids, acid-base indicator*)
Nazarenko, A.Y. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1719 (*detn, K*)

5-[[4-(Phenylamino)phenyl]imino]-2(5*H*)-furanone, 9CI P-00085

N-(*4-Anilinophenyl*)*isomaleimide. APIM*

[110090-64-7]



$C_{16}H_{12}N_2O_2$ M 264.283

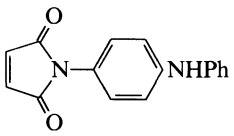
Derivatisation reagent for amines for hplc with electrochem. detn. Reddish brown needles (EtOAc). Mp 158-159°.

Shimada, K. *et al*, *J. Chromatogr.*, 1983, **280**, 271 (*synth, ir, pmr, use*)

1-[4-(Phenylamino)phenyl]-1*H*-pyrrole-2,5-dione, 9CI P-00086

N-(p-*Anilinophenyl*)*maleimide, 8CI*

[32099-65-3]



$C_{16}H_{12}N_2O_2$ M 264.283

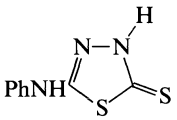
Derivatisation reagent for electrochem. detn. of thiols using hplc. Yellow needles (EtOAc/hexane). Mp 135-136°.

Shimada, K. *et al*, *Anal. Chim. Acta*, 1983, **147**, 375 (*synth, use*)

5-(Phenylamino)-1,3,4-thiadiazole-2(3*H*)-thione, 9CI P-00087

2-Mercapto-5-anilino-1,3,4-thiadiazole

[10253-83-5]



$C_8H_7N_3S_2$ M 209.295

Tautomeric with mercapto form. Used as a 1% soln. in 70% EtOH for photometric detn. of Pd, Bi; for separation of Ag, Bi, Cd, Co, Cu, Fe(*II*), Fe(*III*), Hg, Ni, Zn. Yellowish cryst. Sol. EtOH, Me_2CO, alkalis. Mp 219°.

▷ XI4810000.

[53689-70-6]

Popper, E. *et al*, *Bull. Soc. Chim. Fr.*, 1963, 99 (*use*)
Popper, E. *et al*, *Rev. Roum. Chim.*, 1966, **11**, 283 (*detn, Bi, Cd, Pb*)
Roman, L. *et al*, *Mikrochim. Acta*, 1968, 660 (*detn, Pd*)
Chattopadhyay, S.S., *CA*, 1973, **79**, 38183f (*detn, Bi*)

N-[(Phenylamino)thioxomethyl] benzenecarbothioamide, 9CI P-00088

1-Phenyl-3-thiobenzylthiocarbamide. 1-Phenyl-3-thiobenzoylthiourea

[25310-08-1]

PhNHCSNHCSPh

$C_{14}H_{12}N_2S_2$ M 272.394

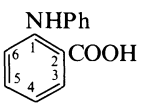
Used as 0.1% soln. in Me_2CO for extraction-photometric detn. of Cu (λ_{max} 360 nm, ε 127000, $CHCl_3$), Fe(*II*); as 0.05% EtOH soln. for extraction-photometric detn. of Pt(*IV*) (λ_{max} 430 nm, ε 17500). Cryst. Sol. Me_2CO, EtOH. Mp 122°.

Uttarwar, R.M. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **287**, 317 (*detn, Pt*)
Ilyas, S.Q. *et al*, *Mikrochim. Acta*, 1980, **2**, 263; 1983, **3**, 271 (*synth, detn, Cu, Fe*)

N-Phenylanthranilic acid, 8CI P-00089

2-(Phenylamino)benzoic acid, 9CI. Diphenylamine-2-carboxylic acid. 2-Anilinobenzoic acid

[91-40-7]



$C_{13}H_{11}NO_2$ M 213.235
Used as redox indicator for titrimetric detn. of Fe(*II*). Prisms. Sol. hot EtOH, C_6H_6; spar. sol. hot H_2O; insol. cold H_2O. Mp 184°. E° +1.08 V.

▷ CB3730000.

Et ester: [23868-11-3].
$C_{15}H_{15}NO_2$ M 241.289
Bp_6 184-187°.

Ullmann, F. *et al*, *Justus Liebigs Ann. Chem.*, 1907, **355**, 312.
Wieland, H. *et al*, *Ber.*, 1915, **48**, 1117.
Bauer, K., *Chem. Ber.*, 1950, **83**, 10.
Lederer, M., *Anal. Chim. Acta*, 1952, **6**, 1 (*use*)
Org. Synth., Coll. Vol., 4, 1963, 15.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PEG500.

Phenylarsonic acid, 9CI P-00090

Benzenearsonic acid, 8CI

[98-05-5]

$PhAsO(OH)_2$

$C_6H_7AsO_3$ M 202.041
Used as 5% soln. in dil. NH_3 in gravimetric detn. of Zn, Nb, Sn(*IV*), Bi, Th and pptn. separation of Nb and Ta. Catalyst for oxidations. Cryst. (H_2O). Sol. H_2O. Mp 158-162° dec. pK_{a1} 3.65; pK_{a2} 8.77 (25°, c, 0.01). Above Mp → anhydride.

▷ Toxic. CY3150000.

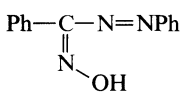
Di-Me ester: Dimethyl phenylarsonate
$C_8H_{11}AsO_3$ M 230.095
d^{23} 1.395. Bp_{95} 188°. Dec. by H_2O.
Di-Et ester: [37907-80-5]. *Diethyl phenylarsonate*
$C_{10}H_{15}AsO_3$ M 258.148
d^{15} 1.318. Bp_{15} 168-170°.

Org. Synth., Coll. Vol., 2, 1943, 494.
Alimarin, I.P. *et al*, *Zavod. Lab.*, 1945, **11**, 254 (*use*)
Majumdar, A.K. *et al*, *Anal. Chim. Acta*, 1959, **21**, 330 (*detn, Nb*)
Pietsch, R., *Mikrochim. Acta*, 1964, 1082, 1115 (*use*)
Patrovsky, V., *Collect. Czech. Chem. Commun.*, 1965, **30**, 1727 (*detn, Ta*)
Dietze, U., *J. Prakt. Chem.*, 1971, **313**, 889 (*ir*)
Stec, W.J. *et al*, *Inorg. Chem.*, 1972, **11**, 219.
Zakirov, D.U. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 910 (*nqr*)
Filowitz, M. *et al*, *Inorg. Chem.*, 1979, **18**, 93 (*nmr*)
Jacobson, S.E. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 6938, 6946 (*use*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC, Boca Raton, 1982, 445 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BBL750.

(Phenylazo)benzaldoxime P-00091

2-(Phenylazo)benzaldehyde oxime, 9CI

[63257-93-2]



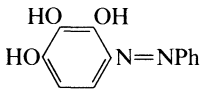
$C_{13}H_{11}N_3O$ M 225.249
Used as EtOH soln. for photometric detn. of Pd (λ_{max} 550 nm, ε 3600), Co, Rh. Yellow cryst. Sol. EtOH. Mp 129-130°.

Bamberger, E. *et al*, *Chem. Ber.*, 1903, **36**, 57 (*synth*)
Hunter, L. *et al*, *J. Chem. Soc.*, 1941, 823 (*detn, Co*)
Kalia, K.C. *et al*, *Inorg. Chem.*, 1969, **8**, 2586; 1968, **7**, 2016 (*detn, Pd, Rh*)
Mahgoub, A.E. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **284**, 205 (*detn, Co*)
Mahgoub, A.E. *et al*, *Analyst (London)*, 1978, **103**, 879 (*synth, detn, Pd*)

4-(Phenylazo)-1,2,3-benzenetriol, 9CI P-00092

2,3,4-Trihydroxyazobenzene

[6492-47-3]



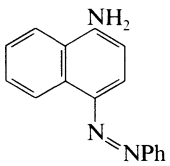
$C_{12}H_{10}N_2O_3$ M 230.223
Used as 1m*M* Me_2CO soln. for photometric detn. of Mo(*VI*) (λ_{max} 460 nm, ε 19500). Dark brown powder. Sol. Me_2CO, EtOH.

Gambarov, D.G. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 2190 (*synth, detn, Mo*)

4-Phenylazo-1-naphthylamine P-00093

4-Benzeneazo-1-naphthylamine. C.I. Solvent yellow 4. Naphthyl red. α-Naphthylaminoazobenzene

[131-22-6]



$C_{16}H_{13}N_3$ M 247.299
Used as a 0.1% soln. in 70% EtOH aq. as an acid-base indicator (pH range: 3.7-5.0; colour change: red→yellow), for argentometric detn. of $Cl^{\ominus}$, $Br^{\ominus}$, $I^{\ominus}$, $SCN^{\ominus}$. Reddish-violet cryst. (EtOH). Sol. EtOH, dil. HCl, C_6H_6. Mp 123°, Mp 124°.

▷ QJ0360000.

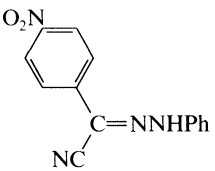
B,HCl: Cryst. Mp 205°.
B,H_2SO_4: Cryst. Mp 214-215°.

Woroshzow, J., *J. Prakt. Chem.*, 1911, **84**, 527 (*synth*)
Thiel, A. *et al*, *Z. Anorg. Allg. Chem.*, 1924, **136**, 393 (*synth, uv*)
Ibbotson, D.A. *et al*, *J. Chem. Soc.*, 1961, 5163 (*uv*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

α-(Phenylazo)-4-nitrobenzeneacetonitrile, 9CI P-00094

α-(Benzeneazo)-4-nitrobenzylcyanide

[27822-98-6]



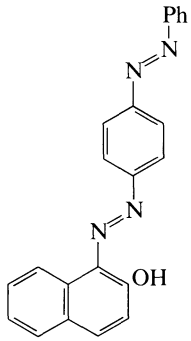
$C_{14}H_{10}N_4O_2$ M 266.259
Acid-base indicator. Red-orange cryst. Sol. EtOH, Me_2CO. Mp 201°. pK_{a1} 12.1 (H_2O).

Legradi, L., *Talanta*, 1970, **17**, 161 (*synth, use*)

1-[[4-(Phenylazo)phenyl]azo]-2-naphthalenol, 9CI P-00095

Sudan III. C.I. Solvent red 23. C.I. 26100. Certiqual oil red. Fat red R. Oil scarlet G. Silotras scarlet T.B.. Stearix scarlet. Toney red. Numerous other names

[85-86-9]



$C_{22}H_{16}N_4O$ M 352.395

Commercially available. Stain for fats in animal tissue. Used for photometric detn. of Zr. Dark red cryst. powder. Sol. alkalis, EtOH, C_6H_6, insol. H_2O. Mp 199° dec.

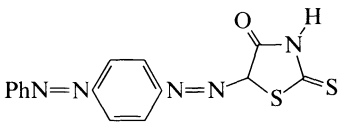
▷ Irritant. QK4250000.

Colour Index, 3rd Edn., 1971, **4**, 4427 (*synth*)
Abasov, G.A. *et al*, *CA*, 1976, **85**, 86745m (*detn, Zr*)
Lillie, R.D., *H.J. Conn's Biological Stains*, 9th Edn., Williams S Wilkins, Baltimore, 1977, 168, 576 (*rev*)
Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 3194A.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, OHA000.

5-[[4-(Phenylazo)phenyl]azo]-2-thioxo-4-thiazolidinone, 9CI P-00096

Benzeneazobenzeneazorhodanine

[3403-03-0]



$C_{15}H_{11}N_5OS_2$ M 341.417

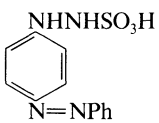
Various tautomers possible. Used as 0.2% soln. in 5% EtOH for photometric detn. of Cu, Hg, Ag, Pd, Au (in the presence of various surfactants). Cryst. Sol. EtOH.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87.
Gur'eva, R.F. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 2165 (*synth, use*)

2-[(4-Phenylazo)phenyl]hydrazinesulfonic acid, 9CI P-00097

4-Hydrazinoazobenzene-N′-sulfonic acid

[6004-88-2]



$C_{12}H_{12}N_4O_3S$ M 292.318

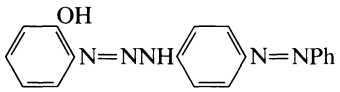
Reagent for the detn. of carbonyl compds. Dark red needles. Dec. <100°.

Troger, J. *et al*, *J. Prakt. Chem.*, 1908, **78**, 369 (*synth*)
Hunig, S. *et al*, *Chem. Ber.*, 1955, **88**, 423, 1201 (*use*)
Feigl, F., *Spot Tests in Organic Analysis*, Elsevier, 6th Ed., 1960, 228 (*use*)

2-[3-[4-(Phenylazo)phenyl]-1-triazenyl]phenol, 9CI P-00098

2-Hydroxybenzenediazoaminoazobenzene. 1-(2-Hydroxyphenyl)-3-(4-phenylazophenyl)triazene

[119191-00-3]



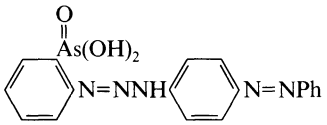
$C_{18}H_{15}N_5O$ M 317.349

Used as 0.02% EtOH soln. for photometric detn. of Cd (ε 197000, in the presence of Triton X-10). Yellowish brown powder. Sol. EtOH, Me_2CO. Mp >130° dec.

Hsu Chung-Gin, *et al*, *Mikrochim. Acta*, 1989, **1**, 313 (*synth, detn, Cd*)

[2-[3-[4-(Phenylazo)phenyl]-1-triazenyl]phenyl]arsonic acid, 9CI P-00099

[101615-74-1]



$C_{18}H_{16}AsN_5O_3$ M 425.278

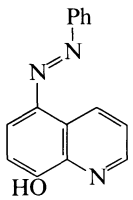
Orange-red cryst. Used as a 0.05% aq. soln. for photometric detn. of Pb (λ_{max} 430 nm), Hg (λ_{max} 500 nm, ε 150000). Mod. sol. H_2O.

Lukin, A.M. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 295 (*detn, Pb*)
Zhang, B. *et al*, *CA*, 1986, **104**, 161108x (*synth, detn, Hg*)

5-Phenylazo-8-quinolinol, 9CI P-00100

8-Hydroxy-5-phenylazoquinoline

[4312-09-8]



$C_{15}H_{11}N_3O$ M 249.271

Gives colour reaction with Cd, Co, Mn, Ni, Pb, Zn. Orange cryst. (toluene). Sol. EtOH. Mp 189° dec. pK_{a1} 3.1; pK_{a2} 8.9 (25°, μ 0.1, 50% dioxan).

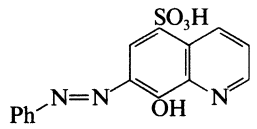
N-Oxide: [63319-28-8].
$C_{15}H_{11}N_3O_2$ M 265.271
Used as a soln. in NH_3 aq. for photometric detn. of Al, Co, Cu, Pb, Pd, Zn. Dark yellow cryst. powder. Sol. alkalis; insol. H_2O; spar. sol. EtOH (0.095 g per 100 cm^3); sl. sol. Me_2CO (0.48 g per 100 cm^3). λ_{max} 403 nm (EtOH).

Fox, J.J., *J. Chem. Soc.*, 1910, **97**, 1339 (*synth*)
Takamoto, S., *Anal. Chem.*, 1965, **37**, 1249 (*use*)
Nemodruk, A.A. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 457 (*N-oxide, use*)

Phenylazoxine S P-00101

8-Hydroxy-7-(phenylazo)-5-quinolinesulfonic acid, 8CI

[483-71-6]



$C_{15}H_{11}N_3O_4S$ M 329.336

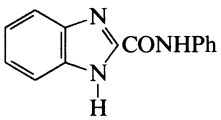
Used as a 0.1% aq. soln. for photometric detn. of Mo (λ_{max} 400 nm, ε 13800), V(*IV*) (λ_{max} 400 nm, ε 15000); complexiметric detn. of V. Red cryst. Sol. alkalis; mod. sol. H_2O.

Goyal, S.S. *et al*, *Talanta*, 1967, **14**, 1449 (*detn, V*)
Goyal, S.S. *et al*, *Z. Naturforsch.*, 1968, **238**, 142 (*detn, Mo*)

N-Phenyl-1*H*-benzimidazolecarboxaldehyde, 9CI P-00102

2-Benzimidazolecarboxylic acid anilide. 2-Benzimidazolecarboxanilide

[13745-42-1]



$C_{14}H_{11}N_3O$ M 237.260

Needles (EtOH). Mp 235-236°.

Oxime: [62209-31-8]. N-*Hydroxy*-N′-*phenyl-1*H-*benzimidazole-2-carboximidamide*

$C_{14}H_{12}N_4O$ M 252.275

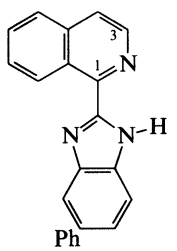
Used as a 0.02% soln. in $CHCl_3$ for extraction-photometric detn. of Co (λ_{max} 343 nm, ε 23000, $CHCl_3$), Cu (λ_{max} 337 nm, ε 14500, $CHCl_3$). Cryst. (C_6H_6). Sol. EtOH, Et_2O, C_6H_6, $CHCl_3$.

Gompper, R. *et al*, *Chem. Ber.*, 1959, **92**, 550 (*synth*)
Bagdasarov, K.N. *et al*, *Zavod. Lab.*, 1976, **42**, 143 (*detn, Co*)
Chernov'yants, M.S. *et al*, *CA*, 1977, **87**, 94945h (*detn, Cu*)
Papadopoulos, E.P. *et al*, *Org. Magn. Reson.*, 1982, **19**, 188 (*cmr, tautomerism*)
Katritzky, A.R. *et al*, *J. Org. Chem.*, 1988, **53**, 5685 (*synth*)

1-(5-Phenyl-2-benzimidazolyl)isoquinoline, 8CI P-00103

2-(1-Isoquinolyl)-5-phenylbenzimidazole

[17583-67-4]



$C_{22}H_{15}N_3$ M 321.381

Used as 5m*M* soln. in aq. EtOH to give colour reactions with Co, Cu(*I*), Fe(*II*). Cryst. (MeOH). Sol. common org. solvs. Mp 163-164°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 483 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

3-(5-Phenyl-2-benzimidazolyl)isoquinoline, 8CI P-00104

2-(3-Isoquinolyl)-5-phenylbenzimidazole

[17583-68-5]

$C_{22}H_{15}N_3$ M 321.381

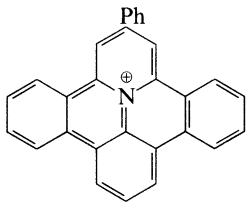
Used as 5m*M* soln. in aq. EtOH to give colour reactions with Co, Cu(*I*), Fe(*II*). Cryst. (C_6H_6). Sol. common org. solvs. Mp 189-190°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 483 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

9-Phenylbenzo(1,2)quinolizino[3,4,5,6-*def*]phenanthridinium(1+), 9CI P-00105

2-Phenylbenzo[8,9]quinolizino[4,5,6,7-fed]phenanthridinylium(1+)

[76191-74-7]



$C_{29}H_{18}N^{\oplus}$ M 380.468 (ion)

Perchlorate:

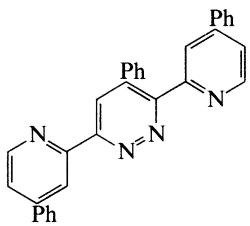
$C_{29}H_{18}ClNO_4$ M 479.918

Used as 0.1m*M* EtOH soln. for extraction-photometric detn. of Au(*III*) (λ_{max} 460 nm, 0.04-0.4 μg/ml, isopentyl acetate), Tl(*III*). Cryst. (MeOH). Sol. MeOH, EtOH. Mp 340°.

Perez-Ruiz, T. *et al*, *Analyst* (*London*), 1983, **108**, 733 (*synth, detn, Au*)
Perez-Ruiz, T. *et al*, *Microchem. J.*, 1985, **31**, 196 (*detn, Tl*)

4-Phenyl-3,6-bis(4-phenyl-2-pyridyl)pyridazine, 8CI P-00106

[18818-56-9]



$C_{32}H_{22}N_4$ M 462.553

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 563 nm, ε 1870); gives colour reactions with Co, Cu(*I*). Cryst. (C_6H_6/pet. ether). Sol. common org. solvents. Mp 140-141°.

Case, F.H., *J. Heterocycl. Chem.*, 1968, **5**, 431 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

1-Phenyl-1,3-butanedione, 9CI P-00107

Benzoylacetone. α-Acetylacetophenone. Benzoylpropanone

[93-91-4]

$PhCOCH_2COCH_3$

$C_{10}H_{10}O_2$ M 162.188

Used for photometric detn. of Ti. Cryst. (EtOH). Sol. conc. alkali; spar. sol. cold H_2O. Mp 61°. Bp_{14} 132°.

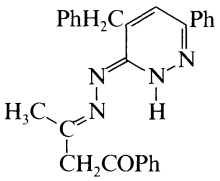
Dioxime: [53120-17-5]. *Benzylmethylglyoxime*

$C_{10}H_{12}N_2O_2$ M 192.217
Used as EtOH soln. for detn. of Ni and Pd. Cryst. (EtOH aq.). Sol. EtOH, Me_2CO. Mp 194°.

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **3**, 233 (*synth, use, deriv*)
Mair, W.M., *J. Org. Chem.*, 1966, **31**, 3790 (*synth*)
Semmingsen, D., *Acta Chem. Scand.*, 1972, **26**, 143 (*cryst struct*)
Shapet'ko, N.N., *Org. Magn. Reson.*, 1975, **5**, 237 (*cmr*)
Opasova, R.G. *et al*, *Zavod. Lab.*, 1977, **43**, 416 (*use*)
Opasova, R.G. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 974 (*use*)

1-Phenyl-1,3-butanedione 3-[[6-phenyl-4-(phenylmethyl)-3-pyridazinyl] hydrazone], 9CI P-00108

[85770-93-0]



$C_{27}H_{24}N_4O$ M 420.513
Used as 2m*M* soln. in 75% dioxan for photometric detn. of Cu (λ_{max} 360 nm), Ni (λ_{max} 346 nm), Co (λ_{max} 370 nm) (pH 3.5-4, 75% dioxan aq.). Reddish brown cryst. (EtOH). Sol. EtOH, dioxan.

Jahine, H. *et al*, *Indian J. Chem., Sect. B*, 1977, **15**, 352 (*synth*)
Ramadan, A.A. *et al*, *Talanta*, 1983, **30**, 245 (*use*)

1-Phenyl-1,2,3-butanetrione, 9CI P-00109

Methylphenyl triketone

[4435-51-2]

$PhCOCOCOCH_3$

$C_{10}H_8O_3$ M 176.171
Liq. Bp_5 115-116°.

2-Oxime: [6797-44-0].
$C_{10}H_9NO_3$ M 191.186
Used as 0.25% sol. in C_6H_6 for photometric detn. of Fe(*II*) (λ_{max} 590 nm, ε 3800), Pd, Ru(*III*). Needles (H_2O). Sol. $CHCl_3$, C_6H_6. Mp 126-128°.

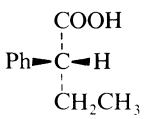
2,3-Dioxime: [32796-72-8]. *Benzoylmethylglyoxime. Palladon*
$C_{10}H_{10}N_2O_3$ M 206.201
Used for gravimetric detn. of Pd. Cryst. V. sol. EtOH, Me_2CO, Et_2O; insol. H_2O, C_6H_6. Mp 177-181° (dec.).

Shchekochikhina, R.L. *et al*, *CA*, 1963, **58**, 1906a (*use, dioxime*)
Dayer, F. *et al*, *Helv. Chim. Acta*, 1974, **57**, 2201 (*synth*)
Ford, B.W. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1974, 1009 (*synth, oxime*)
Desai, B.J. *et al*, *Analyst (London)*, 1979, **104**, 160 (*detn, Fe*)
Desai, B.J. *et al*, *Fresenius' Z. Anal. Chem.*, 1979, **295**, 412 (*detn, Pd, Ru*)
Hansen, J.F. *et al*, *J. Org. Chem.*, 1985, **50**, 3955 (*cryst struct, oxime*)

2-Phenylbutanoic acid P-00110

α-Ethylbenzeneacetic acid, 9CI. Ethylphenylacetic acid

[90-27-7]



(R)-form
Absolute configuration

$C_{10}H_{12}O_2$ M 164.204

▷ ET5957500.

(R)-form [938-79-4]
$[\alpha]_D$ −96.5° (C_6H_6).

Chloride:
$C_{10}H_{11}ClO$ M 182.649
Bp_{14} 95°.

(S)-form [4286-15-1]
Bp_4 138°. $[\alpha]_D$ +96.5° (C_6H_6).

Chloride: [40473-35-6].
Used to determine abs. configs. of sulfoxides. Bp_{14} 97-98°. $[\alpha]_D^{17}$ +89° (Et_2O).

(±)-form [7782-29-8]
Plates (Et_2O). Mp 44-45°. Bp 270°, Bp_{14} 145-150°.

Me ester: [2294-71-5].
$C_{11}H_{14}O_2$ M 178.230
Bp 228°.

Amide: [90-26-6].
$C_{10}H_{13}NO$ M 163.219
Mp 86°.
▷ ES4955000.

Nitrile: [69350-73-8].
$C_{10}H_{11}N$ M 145.204
Bp 238-240°, Bp_7 102-104°.

Anhydride: [1519-21-7].
$C_{20}H_{22}O_3$ M 310.392
Reagent for determination of abs. configs. by the Horeau method.

[769-68-6, 36854-57-6, 39651-08-6, 51260-63-0]

Pettersson, K., *Ark. Kemi*, 1956, **10**, 283 (*abs config*)
Horeau, A., *Tetrahedron Lett.*, 1961, 506 (*deriv, use*)
Falle, H. *et al*, *Monatsh. Chem.*, 1965, **96**, 276 (*anhydride, use*)
Weidmann, R. *et al*, *Bull. Soc. Chim. Fr.*, 1967, 117 (*anhydride, use*)
Verbit, L. *et al*, *J. Org. Chem.*, 1975, **40**, 1649 (*synth*)
Juger, S. *et al*, *Tetrahedron Lett.*, 1975, 2733 (*chloride, use*)
Vigneron, J.-P. *et al*, *Bull. Soc. Chim. Fr.*, 1976, 649 (*resoln*)
Meyers, A.I. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 567 (*synth*)
Org. Synth., 1976, **55**, 91 (*synth*)
Chiellini, E. *et al*, *Makromol. Chem.*, 1977, **178**, 701 (*resoln, synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PEP250.

Phenyldiazomethane P-00111

(Diazomethyl)benzene, 9CI. Diazophenylmethane

[766-91-6]

$PhCHN_2$

$C_7H_6N_2$ M 118.138
Reagent for derivatisation of carboxylic acids for gc anal. Obt. as deep wine-red soln.

Overberger, C.G. *et al*, *J. Am. Chem. Soc.*, 1964, **86**, 658 (*synth*)
Klemm, H.P. *et al*, *J. Chromatogr.*, 1973, **75**, 19 (*use*)
Hintze, U. *et al*, *J. Chromatogr.*, 1973, **87**, 481 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 515 (*use*)
Bakker, B.H. *et al*, *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1975, **94**, 50 (*synth*)
Wulfman, D.S. *et al*, *Synth. Commun.*, 1988, **18**, 2349 (*synth*)

Phenyldihydroxyborane P-00112

Phenylboronic acid, 10CI, 9CI. Phenylboric acid. Benzeneboronic acid. Dihydroxy(phenyl)borane

[98-80-6]

$PhB(OH)_2$

$C_6H_7BO_2$ M 121.931

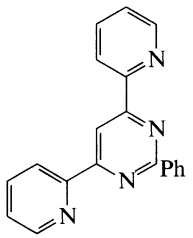
Used as a derivatizing agent for glc detn. of diols, hydroxyacids, hydroxyamines. Needles (H_2O). Sol. MeOH, EtOH, spar. sol. H_2O, Et_2O. Mp 216°. pK_a 8.86 (25°, H_2O). Forms anhydride below Mp.

▷ CY8575000.

Morlyan, N.M. *et al*, *CA*, 1972, **76**, 14619 (*synth*)
Rettig, S.J. *et al*, *Can. J. Chem.*, 1977, **55**, 3071 (*struct*)
Gragg, B.R. *et al*, *J. Organomet. Chem.*, 1977, **132**, 29 (*nmr*)
Shapiro, B.L. *et al*, *J. Phys. Chem. Ref. Data*, 1977, **6**, 919 (*pmr*)
Poole, C.F. *et al*, *J. Chromatogr.*, 1978, **158**, 33 (*use*)
Nöth, H. *et al*, *NMR Spectroscopy of Boron Compounds* (*NMR Basic Principles and Progress*), (Part 14), Springer, 1978 (*nmr*)
Ramsey, B.G. *et al*, *J. Org. Chem.*, 1980, **45**, 1322 (*nmr, struct*)
Bullen, N.P. *et al*, *J. Organomet. Chem.*, 1980, **195**, 147 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BBM000.

2-Phenyl-4,6-di-2-pyridinylpyrimidine, 9CI P-00113

[61097-53-8]



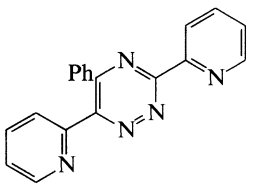
$C_{20}H_{14}N_4$ M 310.357

Used for photometric detn. of Cu(*I*) (λ_{max} 510 nm, ε 2800, pH ~ 7, aq. EtOH). Cryst. (2-methoxyethanol). Sol. MeOH, EtOH, 2-methoxyethanol. Mp 283°.

Schilt, A.A. *et al*, *Talanta*, 1976, **23**, 543 (*synth, detn, Cu*)

5-Phenyl-3,6-di-2-pyridyl-1,2,4-triazine P-00114

[18895-91-5]



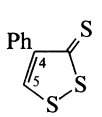
$C_{19}H_{13}N_5$ M 311.345

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co, Cu(*I*), Fe(*II*) (λ_{max} 558 nm, ε 2310). Cryst. (C_6H_6/hexane). Sol. common org. solvents. Mp 159-160°.

Case, F.H., *J. Heterocycl. Chem.*, 1968, **5**, 413 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

4-Phenyl-3*H*-1,2-dithiole-3-thione, 9CI P-00115

[3354-37-8]



$C_9H_6S_3$ M 210.344

Used as a 0.3% soln. in CCl_4 for pptn. of Ag, Au, Cu, Hg, Pd, Sn. Orange needles (EtOH). Sol. Me_2CO, hot EtOH, $CHCl_3$, C_6H_6, CCl_4; insol. H_2O. Mp 122°.

B,MeI: Mp 194° dec.

Voronkov, M.G. *et al*, *Zh. Org. Khim.*, 1949, **19**, 1927 (*synth*)
Voronkov, M.G. *et al*, *Zh. Anal. Khim.*, 1951, **6**, 331 (*use*)
Legrand, L. *et al*, *Bull. Soc. Chim. Fr.*, 1953, 327 (*synth*)
Fields, E.K., *J. Am. Chem. Soc.*, 1955, **77**, 4255 (*synth, derivs*)
Pedersen, C.T. *et al*, *Acta Chem. Scand.*, 1972, **26**, 250 (*ms*)
Plavac, N. *et al*, *Can. J. Chem.*, 1975, **53**, 836 (*cmr*)
Wentrup, G.J. *et al*, *Synthesis*, 1975, 525 (*synth, uv*)

5-Phenyl-3*H*-1,2-dithiole-3-thione, 9CI P-00116

[3445-76-9]

$C_9H_6S_3$ M 210.344

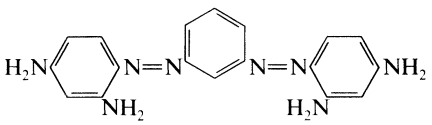
Used as a 0.3% soln. in CCl_4 for pptn. of Ag, Au, Cu, Hg, Pd, Sn. Brown needles (BuOAc) or dark orange needles (EtOH or Me_2CO). Sol. Me_2CO, hot EtOH, $CHCl_3$, C_6H_6, CCl_4; insol. H_2O. Mp 126°.

Voronkov, M.G. *et al*, *Zh. Org. Khim.*, 1949, **19**, 1927 (*synth*)
Voronkov, M.G. *et al*, *Zh. Anal. Khim.*, 1951, **6**, 331 (*use*)
Klingsberg, E. *et al*, *J. Am. Chem. Soc.*, 1961, **83**, 2934 (*synth*)
Yoshida, H. *et al*, *Bull. Chem. Soc. Jpn.*, 1976, **49**, 3128 (*synth*)
Frandsen, E.G. *et al*, *Org. Magn. Reson.*, 1977, **10**, 43 (*cmr*)
Pedersen, B.S. *et al*, *Tetrahedron*, 1979, **35**, 2433 (*synth, cmr*)

4,4'-[1,3-Phenylenebis(azo)]bis-1,3-benzenediamine, 9CI P-00117

1,3-Bis(2,4-diaminophenylazo)benzene. Bismarck brown. C.I. 21000. C.I. Basic brown 1

[1052-38-6]



$C_{18}H_{18}N_8$ M 346.394

B,2HCl: [10114-58-6].

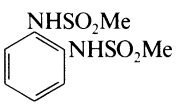
Textile dye. Used as a 0.01% soln. in EtOH to give colour reaction with Pd; biological stain. Blackish-brown powder. V. sol. H_2O; sl. sol. EtOH; prac. insol. Me_2CO, C_6H_6, CCl_4.

Welcher, F.J., *Organic Analytical Reagents*, 1948, 339 (*synth*)
Popa, G. *et al*, *Zh. Anal. Khim.*, 1959, **14**, 322 (*detn, Pd*)
Colour Index, 3rd Edn., 1971, **4**, 4154 (*synth*)
Saber, T.M. *et al*, *CA*, 1973, **79**, 77753 (*props*)

N,N'-1,2-Phenylenebismethanesulfonamide, 8CI P-00118

N,N'-*Bis(methanesulfonyl)phenylenediamine. 1,2-Bis(methanesulfonamido)benzene*

[7596-80-7]



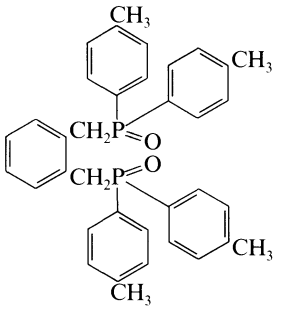
$C_8H_{12}N_2O_4S_2$ M 264.326

Used as 0.01% soln. in PhCl for extraction separation of Cu(*II*), Co, Zn, Cd, Pb, Hg(*II*). Cryst. (MeOH). Sol. PhCl, toluene, MeOH. Mp 217-217.5°.

Ide, S. *et al*, *Anal. Chim. Acta*, 1983, **149**, 235 (*synth, use*)

[1,2-Phenylenebis(methylene)]bis[bis(4-methylphenyl)]phosphine oxide, 9CI P-00119

[122690-20-4]



$C_{36}H_{36}O_2P_2$ M 562.627

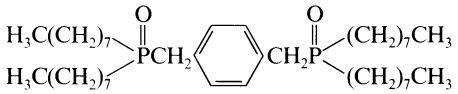
Used as soln. in 2-nitrophenyloctyl ether in Ca selective electrodes. Cryst.

Bessis, S.M. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 1769 (*synth*, *use*)

[1,4-Phenylenebis(methylene)]bis[dioctylphosphine oxide], 9CI P-00120

1,4-Bis[(*dioctylphosphinyl*)*methyl*]*benzene*

[79719-14-5]



$C_{40}H_{76}O_2P_2$ M 650.987

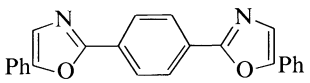
Used as 1m*M* $CHCl_3$ soln. for extraction separation of Ga (from 6*M* HCl). Cryst. Sol. $CHCl_3$.

Yamashoji, Y. *et al*, *Anal. Sci.*, 1987, **3**, 327 (*detn*, *Ga*)

2,2′-(1,4-Phenylene)bis[5-phenyloxazole], 9CI P-00121

1,4-Bis(*5-phenyl-2-oxazolyl*)*benzene*. *POPOP*

[1806-34-4]



$C_{24}H_{16}N_2O_2$ M 364.403

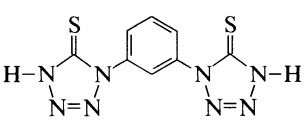
Used in scintillation counting. Cryst. (Py). Mp 242-244°.

Ott, D.G. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 5448 (*synth*)
Walker, D. *et al*, *J. Heterocycl. Chem.*, 1964, **1**, 72 (*synth*)
Ambats, I. *et al*, *Acta Crystallogr.*, 1965, **19**, 942 (*cryst struct*)
Leggate, P. *et al*, *Mol. Cryst.*, 1968, **4**, 357 (*props*, *uv*)
Dhane, D.L. *et al*, *Indian J. Chem.*, 1975, **13**, 858 (*synth*)

1,1′-[1,3-Phenylene]bis-2-tetrazoline-5-thione P-00122

m-*Phenylenedi*(*1-tetrazoline-5-thione*)

[24950-73-0]



$C_8H_6N_8S_2$ M 278.321

Used as a 2% soln. in Me_2CO for gravimetric detn. of Ag, Au, Cd, Cu, Ru(*III*). Leaflets (EtOH). Mp 179° dec.

Lieber, E. *et al*, *J. Org. Chem.*, 1962, **27**, 2214 (*synth*)
Johar, G.S. *et al*, *CA*, 1969, **71**, 77023h (*detn*, *Au*, *Pd*)
Johar, G.S. *et al*, *Curr. Sci.*, 1969, **38**, 592; *CA*, **72**, 85908m (*detn*, *Ag*, *Cd*, *Cu*)
Johar, G.S. *et al*, *Talanta*, 1970, **17**, 355 (*detn*, *Ru*)

1,1′-[1,4-Phenylene]bis-2-tetrazoline-5-thione P-00123

p-*Phenylenedi*(*1-tetrazoline-5-thione*)

[24271-29-2]

$C_8H_6N_8S_2$ M 278.321

Leaflets (EtOH). Sol. Me_2CO, EtOH. Mp 210° dec.

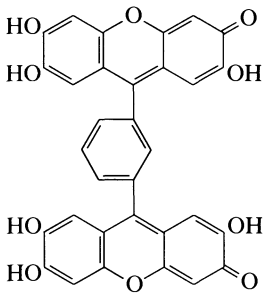
Di-Na salt: [32650-57-0].

Used as a 2% soln. in Me_2CO for gravimetric detn. of Ag, Au, Ru(*III*).

Lieber, E. *et al*, *J. Org. Chem.*, 1962, **27**, 2214 (*synth*)
Johar, G.S. *et al*, *CA*, 1969, **71**, 77023h (*detn*, *Au*, *Pd*)
Agarwala, U. *et al*, *Curr. Sci.*, 1969, **38**, 139 (*detn*, *Ag*)
Johar, G.S. *et al*, *Talanta*, 1970, **17**, 355 (*detn*, *Ru*)

9,9′-(1,3-Phenylene)bis[2,6,7-trihydroxy-3*H*-xanthen-3-one], 9CI P-00124

[54886-81-6]



$C_{32}H_{18}O_{10}$ M 562.488

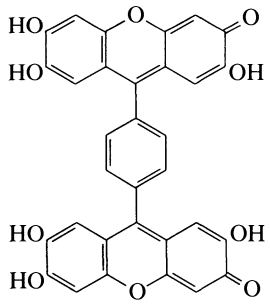
Used as a 1 m*M* soln. in EtOH for photometric detn. of Te. Cryst. Spar. sol. H_2O.

Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1850 (*detn*, *Te*)

9,9′-(1,4-Phenylene)bis[2,6,7-trihydroxy-3*H*-xanthen-3-one], 9CI P-00125

Phenylenebisfluorone

[54696-40-1]



$C_{32}H_{18}O_{10}$ M 562.488

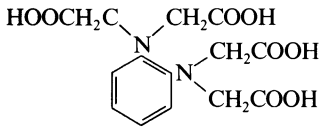
Used as 0.03% soln. in 0.02*M* NaOH for photometric detn. of Ga (λ_{max} 535 nm, ε 49000). Brown cryst. Sol. alkalis.

Fedin, A.V. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1734 (*synth*, *detn*, *Ga*)

1,2-Phenylenediamine-*N,N,N',N'*-tetraacetic acid P-00126

N,N'-*1,2-Phenylenebis*[N-(*carboxymethyl*)*glycine*], *9CI. PhDTA*

[40774-59-2]



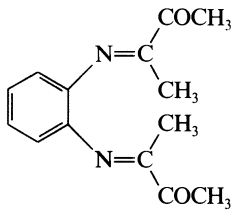
$C_{14}H_{16}N_2O_8$ M 340.289

Used as aq. soln. for indirect complexometric titration of Be (back titration of the excess of PhDTA with copper(*II*) soln.). Cryst. (H_2O). Sol. H_2O, Me_2CO.

McCandlish, E.F. *et al*, *J. Inorg. Nucl. Chem.*, 1978, **17**, 1383 (*synth*)

Nakasuka, N. *et al*, *Anal. Chim. Acta*, 1988, **207**, 361 (*detn, Be*)

3,3'-(1,2-Phenylenedinitrilo)bis-2-butanone, 9CI P-00127



$C_{14}H_{16}N_2O_2$ M 244.293

Dioxime: [75389-07-0]. *Bis*(*2-hydroxyimino-3-butylidene*)-o-*phenylenediimine*

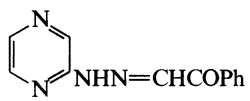
$C_{14}H_{18}N_4O_2$ M 274.322

Used as a 1% soln. in aq. EtOH for gravimetric detn. of Ni, Pd. Pale yellow cryst. (EtOH). 179. Mp 179°.

Mathur, N.K. *et al*, *Talanta*, 1964, **11**, 647 (*synth, detn, Ni, Pd*)

1-Phenyl-1,2-ethanedione 2-(2-pyrazinyl) hydrazone P-00128

Phenylglyoxal 2-(*2-pyrazinyl*)*hydrazone*



$C_{12}H_{10}N_4O$ M 226.237

Used as a soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 470 nm), Co (λ_{max} 485 nm), Ni (λ_{max} 487 nm), Fe(*II*). Cryst.

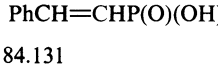
Case, F.H., *J. Chem. Eng. Data*, 1976, **21**, 124 (*synth*)

Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 373 (*use*)

2-Phenylethenylphosphonic acid, 9CI P-00129

β-Styrylphosphonic acid. 2-Phenylvinylphosphonic acid. 1-Phenyl-2-phosphonoethylene

[1707-08-0]



$C_8H_9O_3P$ M 184.131

Used as 1% soln. for pptn. separation of Ag, Au (in the presence of $SnCl_2$). Lustrous plates (H_2O). Sol. H_2O. Mp 142°, Mp 154-155°. pK_{a1} 2.22; pK_{a2} 6.69 (H_2O, 25°).

Mono-Me ester: Methyl hydrogen (*2-phenylethenyl*) *phosphonate. Monomethyl styrylphosphonate*

$C_9H_{11}O_3P$ M 198.158

Solid. Mp 83-86°.

Mono-Et ester: Monoethyl (*2-phenylethenyl*)*phosphonate. Monoethyl styrylphosphonate*

$C_{10}H_{13}O_3P$ M 212.185

Solid. Mp 75-76°. pK_a 1.80 (H_2O, 25°).

Di-Et ester: [1018-24-2]. *Diethyl* (*2-phenylethenyl*) *phosphonate. Diethyl styrylphosphonate*

$C_{12}H_{17}O_3P$ M 240.238

Liq. d_4^{20} 1.09. $Bp_{1.5}$ 134°. n_D^{20} 1.5298.

Monobenzyl ester: Mono(*phenylmethyl*) (*2-phenylethenyl*) *phosphonate. Benzyl styrylphosphonate*

$C_{15}H_{15}O_3P$ M 274.255

Cryst. (pet. ether). Mp 91-93°.

(E)-form

Di-Me ester: [60190-89-8].

Cryst. (Et_2O). Mp 29-30°. $Bp_{0.1}$ 127°.

Di-Et ester: [20408-33-7].

Liq. $Bp_{0.3}$ 136-138°.

[1707-07-9, 25362-01-0, 33818-56-3]

Maynard, J.A. *et al*, *Aust. J. Chem.*, 1963, **16**, 609 (*esters, synth, uv*)

Ionin, B.I. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 2651), 1964, **34**, 2630 (*diethyl ester*)

Griffin, C.E. *et al*, *J. Org. Chem.*, 1965, **30**, 1935 (*synth, esters*)

Chernova, A.V. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 693), 1972, 722 (*ester, uv, raman*)

Maas, G. *et al*, *Chem. Ber.*, 1976, **109**, 2039 (*ester, synth, ir, pmr*)

Berkova, G.A. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 54), 1978, **48**, 66 (*ester, pmr*)

Axelrad, G. *et al*, *J. Org. Chem.*, 1981, **46**, 5200 (*esters, synth*)

Biryulina, V.N. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 815), 1981, **51**, 976 (*complexes*)

Sekine, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1982, **55**, 224 (*esters, synth, pmr*)

Hirao, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1982, **55**, 909 (*ester, synth*)

Turkhina, L.A. *et al*, *Zh. Neorg. Khim.*, (*Engl. transl.* p. 297), 1982, **27**, 523 (*monoalkyl esters*)

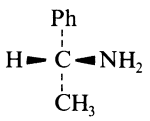
Xu, Y. *et al*, *Synthesis*, 1983, 556 (*ester, synth, ir, pmr*)

Dietze, U. *et al*, *Fresenius' Z. Anal. Chem.*, 1985, **322**, 17 (*detn, Ag, Au*)

1-Phenylethylamine P-00130

α-*Methylbenzenemethanamine*, *9CI.* α-*Methylbenzylamine*, *8CI.* α-*Aminoethylbenzene*

[98-84-0]



(*R*)-*form* Absolute configuration

$C_8H_{11}N$ M 121.182

▷ Mod. toxic. DP5775000.

(R)-form [3886-69-9]

Used in the detn. of abs. config. of secondary alcohols. Mp 32.5°. Bp 187.4°, Bp_{15} 81°. $[\alpha]_D^{20}$ +31.0° (c, 2.1 in EtOH).

B,HCl: Cryst. (Me_2CO). Mp 171°. $[\alpha]_D$ +3.5° (c, 3.5 in H_2O), $[\alpha]_D$ +8.27° (c, 31.45 in H_2O).

N-*Formyl:* [31502-34-8].

$C_9H_{11}NO$ M 149.192

$Bp_{0.07}$ 128°. $[\alpha]_D$ +171.5° (c, 6.07 in $CHCl_3$).

N-*Ac:* [36283-44-0].

$C_{10}H_{13}NO$ M 163.219

Mp 104°. $[\alpha]_D$ +168.1° (EtOH).

N-*Benzoyl:* [20826-48-6].

$C_{15}H_{15}NO$ M 225.290

Needles (EtOH aq.). Mp 125.5°. $[\alpha]_D^{20}$ +40.1° (c, 3 in C_6H_6), $[\alpha]_D^{20}$ −44.6° (DMF).

N-*Me:*
$C_9H_{13}N$ M 135.208
Bp_{11} 74-76°. $[\alpha]_D^{22}$ +62.7° (c, 4 in EtOH), $[\alpha]_D$ +78.3° (c, 2.18 in $CHCl_3$).

N,N-*Di-Me:* [19342-01-9].
$C_{10}H_{15}N$ M 149.235
Bp_{16} 81°. $[\alpha]_D^{22}$ +61.76° (neat).

N-*Et:*
$C_{10}H_{15}N$ M 149.235
Bp_{16} 100°. $[\alpha]_D^{20}$ +60.0° (neat).

(±)-***form*** [618-36-0]
Oil. Bp 188°, Bp_8 80-81°.

B,HCl: [13437-79-1].
Needles (EtOH). Mp 160°.

N-*Ac:* [36065-27-7].
Mp 57°, Mp 75°. Bp 292-293°.

N-*Benzoyl:* [28623-68-9].
Needles. Mp 121-122.5°.

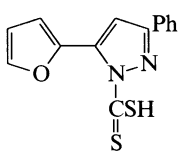
N-*Me:* [42882-26-8].
$C_9H_{13}N$ M 135.208
Bp 184°, Bp_{18} 87°.

N,N-*Di-Me:* [2449-49-2].
Bp 194-195°, Bp_{11} 70-72°.
▷ DP6825000.

N-*Et:* [19302-12-6].
Bp 197°, Bp_{16} 90°.

EPA/NIH Mass Spectral Data Base, 195 (*ms*)
Sadtler Standard C-13 NMR Spectra, 2937 (*cmr*)
Sadtler Standard Ultraviolet Spectra, 1640 (*uv*)
Org. Synth., Coll. Vol., 3, 1955, 717 (*synth*)
Nerdel, F. *et al*, *Justus Liebigs Ann. Chem.*, 1959, **621**, 42 (*synth*)
Ault, A., *J. Chem. Educ.*, 1965, **42**, 269 (*resoln*)
Paquette, L.A. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 7548 (*deriv, synth*)
Bush, M.A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1969, 1491 (*cryst struct, abs config*)
Brooks, C.J.W. *et al*, *J. Chem. Soc., Chem. Commun.*, 1973, 194 (*use*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 564C (*ir*)
Fujita, S. *et al*, *Bull. Chem. Soc. Jpn.*, 1975, 1971.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 441; **6**, 457.
Angres, I. *et al*, *J. Org. Chem.*, 1975, **40**, 1457 (*resoln, pmr*)
Chantrapromma, K. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1983, 1049 (*synth*)
Weiberth, F.J. *et al*, *J. Org. Chem.*, 1986, **51**, 5338 (*synth, pmr, ms*)
Blagg, J. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1987, 1805 (*synth, pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ALW250, DSO800.

3-Phenyl-5-(2-furyl)-1-pyrazolinedithiocarbamic acid P-00131



$C_{14}H_{10}N_2OS_2$ M 286.378

Na salt: Used as a 0.5% soln. in $CHCl_3$/isopentanol for extraction-photometric detn. of Re. Yellow needles (C_6H_6/Me_2CO). λ_{max} 331 nm.

Busev, A.I., *Zh. Anal. Khim.*, 1967, **22**, 1029; 1971, **26**, 2225 (*synth, detn, Re*)

Phenylglyoxal, 8CI P-00132

α-*Oxobenzeneacetaldehyde, 9CI. Benzoylformaldehyde*
[1074-12-0]

Ph^1CO^2CHO

$C_8H_6O_2$ M 134.134
Used for photometric detn. of Hg(*II*) and Fe(*III*). Needles + H_2O (H_2O). Mod. sol. H_2O. Mp 91° (loses H_2O). Bp_{125} 142°. Steam-volatile.

2-Oxime: [532-54-7]. *Isonitrosoacetophenone. Benzoylformoxime. Hydroxyiminoacetophenone*
$C_8H_7NO_2$ M 149.149
Used for detn. of Co, Pb, Mn, Ni. Plates ($CHCl_3$). Sol. alkalis, $CHCl_3$; sl. sol. H_2O. Mp 129° (126-128°).
▷ MD3325000.

2-Oxime, 1-(4-nitrophenyl)hydrazone: Isonitrosoacetophenone p-*nitrophenylhydrazone*
$C_{14}H_{12}N_4O_3$ M 284.274
Used for photometric detn. of Co. Dark orange cryst. Mp 212°.

2-Oxime, 1-(2,4-dinitrophenyl)hydrazone: Isonitrosoacetophenone 2,4-dinitrophenylhydrazone
$C_{14}H_{11}N_5O_5$ M 329.271
Used for photometric detn. of Co. Red cryst. Mp 233°.

Dioxime:
$C_8H_8N_2O_2$ M 164.163
Mp 168°, Mp 180° (2 forms known).

2-Hydrazone: [20292-75-5].
$C_8H_8N_2O$ M 148.164
Needles (C_6H_6). Mp 120-121°.

Bisphenylhydrazone: [33876-74-3]. *Phenylosazone*
Yellow needles or leaflets (EtOH). Mp 152°.

Bis-2,4-dinitrophenylhydrazone: [4881-22-5].
Mp 295-297.5°.

Mono(2-pyridyl)hydrazone: [111313-19-0].
$C_{13}H_{11}N_3O$ M 225.249
Used as 0.1% EtOH soln. for photometric detn. of Zn (λ_{max} 465 nm, ε 71000, pH 7.2-8.5, 40% EtOH). Cryst. Sol. EtOH.

2-Di-Me acetal: [6956-56-5]. *2,2-Dimethoxy-1-phenylethanone. Benzoyldimethoxymethane*
$C_{10}H_{12}O_3$ M 180.203
Bp 247-248°, Bp_{16} 133-134°.

2-Di-Et acetal: [6175-45-7]. *2,2-Diethoxy-1-phenylethanone. Benzoyldiethoxymethane*
$C_{12}H_{16}O_3$ M 208.257
Bp_{15} 110°.
▷ MD3284000.

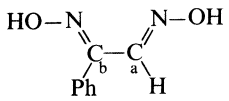
[22668-53-7]

Org. Synth., Coll. Vol., 2, 1943, 509 (*synth*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, N.Y., 1947, **3**, 279 (*synth, use*)
Deshmukh, G.S. *et al*, *Zh. Anal. Khim.*, 1961, **16**, 313 (*4-nitrophenylhydrazones, synth, use*)
Saxena, R.C. *et al*, *Indian J. Appl. Chem.*, 1969, **32**, 177, 328; *CA*, **75**, 14560t (*detn, Fe, Hg*)
Org. Synth., Coll. Vol., 5, 1973, 937 (*synth, bibl*)
Libman, J., *J. Org. Chem.*, 1974, **39**, 1782 (*synth*)
Asuero, A.G. *et al*, *Anal. Chim. Acta*, 1987, **196**, 311 (*synth, detn, Zn*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ILH000.

Phenylglyoxime P-00133

α-(Hydroxyimino)benzeneacetaldehyde oxime, 9CI. Phenylglyoxal dioxime

[4589-97-3]



(E,E)-form

$C_8H_8N_2O_2$ M 164.163

Three isomers characterised. Used for photometric detn. of Co.

(E,E)-form [17016-15-8]

anti-*form*

Needles ($CHCl_3$ or EtOH aq.). Mp 166-168°. Red Ni complex. There appears also to be a polymorph, Mp 177-80°.

(aE,bZ)-form [26527-40-2]

anti-amphi-*form*

Cryst. ($Me_2CO/CHCl_3$). Mp 178-180°. Green Ni complex.

(Z,Z)-form [26527-42-4]

syn-*form*

Cryst. (EtOAc aq.). Mp 168-170°.

Peshkova, V.M. *et al*, *Khim. Khim. Tekhnol. (Minsk)*, 1958, **1**, 62; *CA*, **53**, 1976 (*use*)
Burakevich, J.V. *et al*, *J. Org. Chem.*, 1971, **36**, 1 (*bibl*)
Peshkova, V.M. *et al*, *Oximes*, Nauka, Moscow, 1977.

Phenylhydrazine, 9CI, 8CI P-00134

Hydrazinobenzene

[100-63-0]

$PhNHNH_2$

$C_6H_8N_2$ M 108.143

Reagent for characterisation of carbonyl compds. and prep. of numerous heterocyclic compds. Reducing agent for azo and nitro compds. Used as 1% aq. soln. for photometric detn. of Mo, Al, Cr, Ti, Zr. Plates (usually an oil with aniline-like odour). d_4^{25} 1.095. Mp 19.6°. Bp 243°, Bp_{12} 122°. pK_a −5.2 (20°, H_2O). Oxid. in air.

▷ Toxic by inhalation and skin absorption, irritant TLV 20. MV8925000.

B,HCl: [59-88-1].

Leaflets (H_2O). Mp 250-254° dec.

▷ Toxic by inhalation and skin absorption, irritant. MV9000000.

N^1-*Ac:* [2116-41-8].

$C_8H_{10}N_2O$ M 150.180

Plates (C_6H_6/ligroin). Mp 126°.

N^2-*Ac:* [114-83-0]. *Acetic acid 2-phenylhydrazide, 9CI*

$C_8H_{10}N_2O$ M 150.180

Used as a 0.16*M* soln. in $CHCl_3$ for extraction-photometric detn. of Au(*III*) (λ_{max} 315 nm, ε 5900). Prisms. Sol. $CHCl_3$. Mp 129°.

▷ AJ2900000.

N^1,N^2-*Di-Ac:*

$C_{10}H_{12}N_2O_2$ M 192.217

Needles ($EtOH/C_6H_6$). Mp 107-108°.

N^1-*Benzoyl:*

$C_{13}H_{12}N_2O$ M 212.251

Needles (H_2O). Mp 70°.

N^2-*Benzoyl:*

$C_{13}H_{12}N_2O$ M 212.251

Prisms (EtOH). Mp 178°.

N^1,N^2-*Dibenzoyl:*

$C_{20}H_{16}N_2O_2$ M 316.359

Registry of Mass Spectral Data, Wiley-Interscience, 119 (*ms*)
Sadtler Standard C-13 NMR Spectra, 2887 (*cmr*)
Org. Synth., Coll. Vol., 1, 1932, 442 (*synth*)
Shriner, R.L. *et al*, *Chem. Rev.*, 1944, **35**, 351 (N^2-*Ac*, *use*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **2**, 442 (*synth*, *use*)
Grammaticakis, P., *Bull. Soc. Chim. Fr.*, 1951, 965 (*uv*)
Bozsai, I., *Talanta*, 1963, **10**, 543 (*detn*, *Mo*)
Aldrich Library of NMR Spectra, 1974, **5**, 37B (*pmr*)
Aldrich Library of IR Spectra, 2nd Ed, 1975, 661F (*ir*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 284.
Patel, K.S., *Anal. Chem.*, 1986, **58**, 1547 (N^2-*Ac*, *use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 438.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ACX750, PFI000, PFI250.

N-Phenylhydroxylamine, 8CI P-00135

N-*Hydroxybenzenamine, 9CI. β-Phenylhydroxylamine*

[100-65-2]

PhNHOH

C_6H_7NO M 109.127

Needles (H_2O). V. sol. EtOH, Et_2O; sol. H_2O. Mp 81-82°. pK_a 3.2.

▷ Can explode spontaneously. LD_{50} 247 mg/kg (mouse, oral). NC4900000.

N-*Ac:* [1795-83-1]. N-*Hydroxy*-N-*phenylacetamide, 9CI*

$C_8H_9NO_2$ M 151.165

Used for pptn. of Nb. Needles (ligroin). Sol. common org. solvs. Mp 67-67.5°.

N,O-*Di-Ac:* [32954-65-7].

$C_{10}H_{11}NO_3$ M 193.202

Prisms (C_6H_6/pet. ether). Mp 43°.

N-*Benzoyl:* [304-88-1]. N-*Benzoyl*-N-*phenylhydroxylamine. N-Hydroxy*-N-*phenylbenzamide. Benzophenylhydroxamic acid. BPHA*

$C_{13}H_{11}NO_2$ M 213.235

Used in extraction-separation of Sb, Bi, Sn, Al, Mo, Nb, Ta, U, Sr, Ca, ($CHCl_3$); in extraction-photometric detn. of V (λ_{max} 525 nm, ε 5100), Ce, Ti, Fe(*III*), $SCN^{\ominus}$. Needles (H_2O). Sol. EtOH, dioxan, $CHCl_3$, C_6H_6, acids, aq. NH_3; sl. sol. H_2O (0.04 g per 100 cm^3). Mp 123-124°.

N,O-*Dibenzoyl:* [16817-95-1].

$C_{20}H_{15}NO_3$ M 317.343

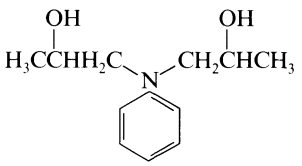
Cryst. (EtOH). Mp 121°.

Registry of Mass Spectral Data, Wiley-Interscience, 123 (*ms*)
Org. Synth., Coll. Vol., 1, 1932, 445 (*synth*)
Grammaticakis, P., *Bull. Soc. Chim. Fr.*, 1951, 965 (*uv*)
Ryan, D.E., *Analyst (London)*, 1960, **85**, 569 (*detn*, *V*)
Alimarin, I.P. *et al*, *Talanta*, 1961, **8**, 317 (*detn*, *Sc*)
Das, M.K. *et al*, *Anal. Chim. Acta*, 1968, **43**, 140; 1979, **50**, 243.
Shendrikar, A.D., *Talanta*, 1969, **16**, 51 (*deriv*, *detn*, *Nb*)
Majumdar, A.K. *et al*, *N-Benzoylphenylhydroxylamine and Its Analogues*, Pergamon, Oxford, 1972.
Snell, F.D., *Photometric and Fluorimetric Methods of Analysis, Metals, Part 2*, John Wiley, New York, 1978, 1196, 1425.
Mori, K. *et al*, *Chem. Pharm. Bull.*, 1982, **30**, 3097 (*derivs*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 109 (*use*, *N-Benzoyl*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 625.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PFJ250.

1,1′-(Phenylimino)bis-2-propanol, 9CI P-00136

N,N-*Bis(2-hydroxypropyl)aniline*

[3077-13-2]



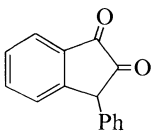
$C_{12}H_{19}NO_2$ M 209.288

Used as 0.02*M* soln. in dil. HCl for photometric detn. of $NO_2^{\ominus}$ (λ_{max} 500 nm, ε 20000). Cryst.

Motomizu, S. *et al*, *Analyst (London)*, 1987, **112**, 1261 (*use*)

3-Phenyl-1,2-indanedione P-00137

3-Phenyl-1H-indene-1,2(3H)-dione, 9CI



$C_{15}H_{10}O_2$ M 222.243

Needles (pet. ether). Mp 137-138°.

Dioxime: [24273-38-9].

$C_{15}H_{12}N_2O_2$ M 252.272

Used for pptn. of Au, Co, Cu, Ni, Os, Pd. Cryst. (EtOH).

Disemicarbazone: Yellow needles (EtOH). Mp 252° dec.

Pfeiffer, P. *et al*, *Justus Liebigs Ann. Chem.*, 1935, **520**, 192.
Bark, L.S. *et al*, *Talanta*, 1969, **16**, 497 (*use*)

Phenyl isocyanate P-00138

Isocyanatobenzene, 9CI. Phenylcarbimide. Carbanil

[103-71-9]

PhN=C=O

C_7H_5NO M 119.123

Anal. reagents for alcohols and amines. $d_4^{19.6}$ 1.10. Mp −30°. Bp 166°, Bp_{13} 55°.

▷ Irritant, lachrymator. DA3675000.

Hardy, D.V.N., *J. Chem. Soc.*, 1934, 2011 (*synth*)
Arnold, R.G. *et al*, *Chem. Rev.*, 1957, **57**, 47 (*rev*)
Tadao, S. *et al*, *Bull. Chem. Soc. Jpn.*, 1963, **36**, 617 (*synth*)
Hardy, W.B. *et al*, *Tetrahedron Lett.*, 1967, 961 (*synth*)
Aldrich Library of NMR Spectra, 1974, **7**, 141B (*pmr*)
Rosen, R.T. *et al*, *Appl. Spectrosc.*, 1974, **28**, 200 (*use*)
Chantry, G.W. *et al*, *Spectrochim. Acta, Part A*, 1974, **30**, 1717 (*ir*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 995D (*ir*)
Bjorkqvist, B. *et al*, *J. Chromatogr.*, 1978, **153**, 265; 1981, **204**, 109 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 396 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PFK250.

Phenyl isothiocyanate P-00139

Isothiocyanatobenzene, 9CI. Phenyl mustard oil

[103-72-0]

PhN=C=S

C_7H_5NS M 135.189

Isol. from seed oil of *Putranjiva roxburghii* and other plants. Used for the automatic detn. of amino acid sequences. Reacts with amino acids to form phenylthiohydantoins. Used for chromatog. sepn. Sol. hot H_2O, alkalis. d_4^{25} 1.13. Fp −21°. Bp 221°, Bp_{12} 95°.

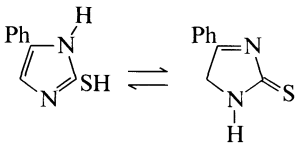
▷ Highly toxic orally. Emits highly toxic fumes in contact with acid or on heating to dec.. NX9275000.

Org. Synth., Coll. Vol., 1, 1932, 447 (*synth*)
Edman, P. *et al*, *Eur. J. Biochem.*, 1967, **1**, 80 (*use*)
Jochims, J., *Chem. Ber.*, 1968, **101**, 1746 (*synth*)
Katritzky, A.R. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 1757 (*ir*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 323.
Zeller, K.P. *et al*, *Tetrahedron*, 1972, **28**, 1353 (*ms*)
Graffeo, A.P. *et al*, *Anal. Lett.*, 1973, **6**, 505 (*use*)
Heinrikson, R.L. *et al*, *Anal. Biochem.*, 1984, **136**, 65 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ISQ000.

4-Phenyl-2-mercaptoimidazole P-00140

1,3-Dihydro-4-phenyl-2H-imidazole-2-thione, 9CI. 4-Phenylimidazole-2-thiol, 8CI

[6857-34-7]



$C_9H_8N_2S$ M 176.242

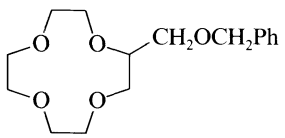
Used as 0.01*M* soln. in butanol for extraction-photometric detn. of Pd (λ_{max} 440 nm, ε 4700). Cryst. Sol. H_2O, EtOH.

Tserkasevich, K.V. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 532 (*detn, Pd*)

2-[(Phenylmethoxy)methyl]-1,4,7,10-tetraoxacyclododecane, 9CI P-00141

2-[(Benzyloxy)methyl]-12-crown-4

[75507-20-9]



$C_{16}H_{24}O_5$ M 296.363

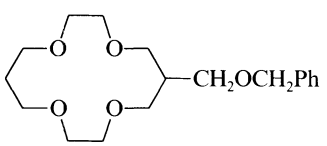
Used as 0.01*M* soln. in CH_2Cl_2 for extraction separation of alkali metals. Cryst. Sol. $CHCl_3$, CH_2Cl_2, toluene.

Pacey, G.E. *et al*, *Synth. Commun.*, 1981, **11**, 323 (*synth*)
Pacey, G.E. *et al*, *Talanta*, 1984, **31**, 165 (*use*)

6-[(Phenylmethoxy)methyl]-1,4,8,11-tetraoxacyclotetradecane, 9CI P-00142

3-[(Benzyloxy)methyl]-14-crown-4

[92818-22-9]



$C_{18}H_{28}O_5$ M 324.416

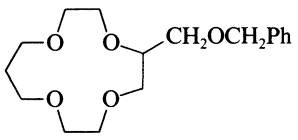
Used as an ionophore for Li in ion-selective microelectrodes. Liq.

Czech, B.P. *et al*, *J. Org. Chem.*, 1984, **49**, 4805 (*synth*)
Attiyat, A.S. *et al*, *Anal. Chem.*, 1988, **60**, 2561 (*use*)

5-[(Phenylmethoxy)methyl]-1,4,7,10-tetraoxacyclotridecane, 9CI P-00143

2-[(Benzyloxy)methyl]-13-crown-4

[92818-15-0]



$C_{17}H_{26}O_5$ M 310.389

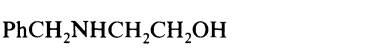
Used as ionophore for Li in ion-selective microelectrodes. Liq.

Czech, B.P. *et al*, *J. Org. Chem.*, 1984, **49**, 4805 (*synth*)
Attiyat, A.S. *et al*, *Anal. Chem.*, 1988, **60**, 2561 (*use*)

2-[(Phenylmethyl)amino]ethanol, 9CI P-00144

N-*Benzylethanolamine. 2-Benzylaminoethanol*

[104-63-2]



$C_9H_{13}NO$ M 151.208

Reagent for capillary gc detn. of formaldehyde in air. Oil. d^{20} 1.5086. Bp_{20} 167-169°, $Bp_{0.5}$ 106-107°. n_D^{20} 1.5442.

Picrate: [14342-74-6].
Mp 134°.

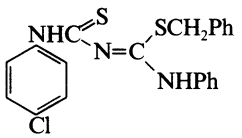
B,HCl: [58576-72-0].
Mp 94-95°.

Hunt, J.H. *et al*, *J. Chem. Soc.*, 1957, 2073 (*synth*)
Castro, B. *et al*, *Bull. Soc. Chim. Fr.*, 1971, 4368 (*synth*)
Kennedy, E.R. *et al*, *Anal. Chem.*, 1982, **54**, 1739 (*use*)
Priha, E. *et al*, *Anal. Chem.*, 1986, **58**, 1195 (*use*)

***N*-Phenylmethyl[[(4-chlorophenyl)amino]thioxomethyl]-*N'*-phenylcarbamimidothioate, 9CI** P-00145

4-Benzyl-1-(4-chlorophenyl)-5-phenyl-2,4-isodithiobiuret

[63446-61-7]



$C_{21}H_{18}ClN_3S_2$ M 411.978

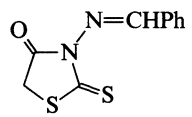
Used as 2m*M* $CHCl_3$ soln. for extraction-photometric detn. of Pd(*II*), Ag (λ_{max} 500 nm, pH 6.1-7.7). Cryst. (EtOH). Sol. EtOH, $CHCl_3$. Mp 127°.

Deshmukh, B.K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 980; 1982, **59**, 401 (*synth, use*)

3-[(Phenylmethylene)amino]-2-thioxo-4-thiazolidinone, 9CI P-00146

N-*Benzylidene-3-aminorhodanine*

[4992-28-3]



$C_{10}H_8N_2OS_2$ M 236.318

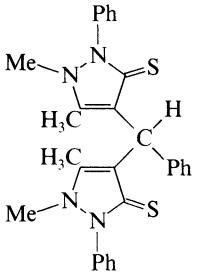
Used for photometric detn. of Pt metals. Orange cryst. (C_6H_6). Sol. EtOH, C_6H_6, Me_2CO; insol. H_2O.

Savvin, S.B. *et al*, *Talanta*, 1987, **34**, 87.

4,4'-(Phenylmethylene)bis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], 9CI P-00147

Phenyldithiopyrylmethane

[74713-68-1]



$C_{29}H_{28}N_4S_2$ M 496.699

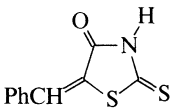
Used as aq. soln. for extraction-photometric detn. of Bi, Au(*III*), Mo, Pd, Pb, Sn. Yellowish cryst. powder. Sol. acids, C_6H_6, $CHCl_3$, DMF, AcOH, Me_2CO; sl. sol. H_2O. Mp 160°.

Dolgorev, A.V. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 854 (*synth, use*)

5-Phenylmethylene-2-thioxo-4-thiazolidinone, 9CI P-00148

5-Benzylidenerhodanine

[3806-42-6]



$C_{10}H_7NOS_2$ M 221.303

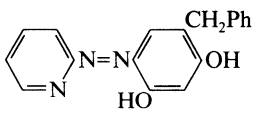
Used as a 0.01 or 0.2% soln. in EtOH for photometric detn. of Au, Ag, Cu, Hg, Pd, Pt, Tl. Orange-red cryst. Sol. EtOH, Me_2CO. pK_a 9.34 (25°).

Kulberg, L.M. *et al*, *Zh. Anal. Khim.*, 1954, **9**, 85.
Turkiewicz, N.M., *Zh. Anal. Khim.*, 1956, **11**, 180.
V'yunov, K.A. *et al*, *Zh. Org. Khim.*, 1973, **9**, 817 (*pKa*)

4-(Phenylmethyl)-6-(2-pyridinylazo)-1,3-benzenediol, 9CI P-00149

1-(2-Pyridylazo)-4-benzylresorcinol

[60835-77-0]



$C_{18}H_{15}N_3O_2$ M 305.335

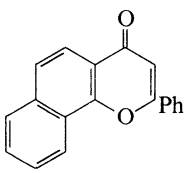
Used as EtOH soln. for extraction-photometric detn. of Co (ε 19000; $CHCl_3$, isopentanol). Brown cryst.

Urmanov, N. *et al*, *CA*, 1983, **98**, 190818s (*detn, Co*)

2-Phenyl-4*H*-naphtho[1,2-*b*]pyran-4-one, 9CI P-00150

Benzo[h]*flavone. 1-Naphthoflavone*

[604-59-1]



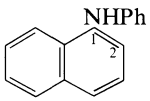
$C_{19}H_{12}O_2$ M 272.303
Used as 1% soln. in EtOH for photometric detn. of Cl_2, I_2, as an indicator in iodometry. Orange plates (EtOH). Sol. EtOH, conc. H_2SO_4. Mp 167° (154°).

Smith, F.E. *et al*, *J. Chem. Soc.*, 1946, 542.
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1948, **4** (*synth*, *use*)
Poirier, Y. *et al*, *Bull. Soc. Chim. Fr.*, 1967, 865.
Ruo, M. *et al*, *CA*, 1972, **78**, 147635.
Dorofeenko, E.N. *et al*, *Zh. Obshch. Khim.*, 1976, **12**, 432; *CA*, **84**, 150455.

N-Phenyl-1-naphthylamine P-00151

1-Anilinonaphthalene

[90-30-2]



$C_{16}H_{13}N$ M 219.285
Rubber vulcanisation accelerator. Indicator used in the anal. of organometallic reagents. Fluorescent probe for detn. of detergent critical micelle concentrations. Prisms or needles (EtOH), leaflets (ligroin). Mp 62°. Bp_{528} 335°, Bp_8 226°.

▷ QM4500000.

N-*Ac:*
$C_{18}H_{15}NO$ M 261.323
Cryst. (EtOH). Sol. EtOH, $CHCl_3$, C_6H_6; spar. sol. Et_2O. Mp 115°.

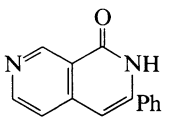
N-*Benzoyl:*
$C_{23}H_{17}NO$ M 323.393
Cryst. (EtOH). Sol. EtOH, Et_2O, C_6H_6. Mp 152°.

Streiff, J., *Justus Liebigs Ann. Chem.*, 1881, **209**, 154 (*synth*)
Knoevenagel, E., *J. Prakt. Chem.*, 1914, **89**, 17 (*synth*)
Hodgson, H.H. *et al*, *J. Soc. Chem. Ind., London*, 1939, **58**, 154 (*synth*)
Nakamura, K. *et al*, *Synthesis*, 1974, 882 (*synth*)
Riepe, W. *et al*, *Org. Mass Spectrom.*, 1978, **13**, 57 (*ms*)
Bergbreiter, D.E. *et al*, *J. Org. Chem.*, 1981, **46**, 219 (*use*)
Brito, R.M.M. *et al*, *Anal. Biochem.*, 1986, **152**, 250 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PFT250.

3-Phenyl-2,7-naphthyridin-1(2*H*)-one, 9CI P-00152

1-Hydroxy-3-phenyl-2,7-naphthyridine

[92905-81-2]

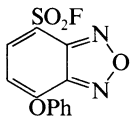


$C_{14}H_{10}N_2O$ M 222.246
Fluorogenic reagent for epoxides. Needles (EtOH). Mp 234.5-235.5°.

Krohnke, F. *et al*, *Justus Liebigs Ann. Chem.*, 1956, **600**, 198 (*synth*)
Bobbitt, J.M. *et al*, *J. Org. Chem.*, 1964, **29**, 2298 (*synth*)
Sano, A., *Anal. Sci.*, 1985, **1**, 441 (*use*)

7-(Phenyloxy)-4-benzofurazansulfonyl fluoride, 9CI P-00153

[126165-72-8]

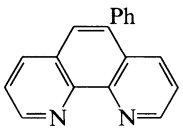


$C_{12}H_7FN_2O_4S$ M 294.263
Fluorogenic reagent for thiols and amines. Needles (hexane). Mp 120-121°.

Toyooka, T. *et al*, *Analyst (London)*, 1989, **114**, 1233 (*synth*, *use*)

5-Phenyl-1,10-phenanthroline P-00154

[6153-89-5]



$C_{18}H_{12}N_2$ M 256.306
Cryst. (C_6H_6). Mp 202-203°.

B,HCl: [23484-31-3].
Used as redox indicator. Cryst. Sol. $CHCl_3$, C_6H_6.

Case, F.H. *et al*, *J. Org. Chem.*, 1951, **16**, 1541 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*, *ind*)

[Phenyl(phenylamino)]methylphosphonic acid P-00155

α-Anilinobenzylphosphonic acid

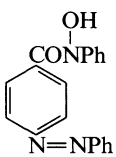
$PhNHCH(Ph)PO(OH)_2$

$C_{13}H_{14}NO_3P$ M 263.232
Et ester: Cryst. Mp 113°.
Di-Et ester: Cryst. Sol. H_2O, pet. ether. Mp 92-93°.
Mono-octyl ester: [1806-41-3].
$C_{21}H_{30}NO_3P$ M 375.447
Used as 0.02*M* $CHCl_3$ soln. for photometric detn. of Mo (λ_{max} 470 nm, ε 5800), Ti (λ_{max} 420 nm, ε 27000). Needles. Sol. $CHCl_3$, C_6H_6. Mp 97-100°.

Jagodić, V., *Ber.*, 1960, **93**, 2308 (*synth*, *detn*, *Mo*, *Ti*)
Tamhina, B. *et al*, *Anal. Chim. Acta*, 1975, **76**, 417; 1976, **86**, 223 (*detn*, *Mo*, *Ti*)

N-Phenyl-4-(phenylazo)benzohydroxamic acid P-00156

4-(N-Hydroxy-N-phenylaminocarbonyl)azobenzene



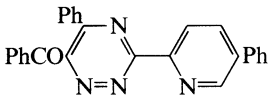
$C_{19}H_{15}N_3O_2$ M 317.346
Used as a 0.5% soln. in $CHCl_3$ to give colour reaction with V (λ_{max} 378 nm, ε 12000, $CHCl_3$). Red-orange cryst. (EtOH aq.). Mp 178-179°.

Cassidy, R.M. *et al*, *Can. J. Chem.*, 1968, **46**, 327 (*use*)

Phenyl[5-phenyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazin-6-yl]methanone, 9CI P-00157

6-Benzoyl-5-phenyl-3-(4-phenyl-2-pyridyl)-1,2,4-triazine

[37004-75-4]



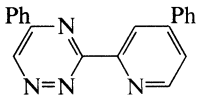
$C_{27}H_{18}N_4O$ M 414.465

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 497 nm, ε 6400), Fe(*II*) (λ_{max} 573 nm, ε 26800). Cryst. (EtOH). Sol. common org. solvs. Mp 156°.

Case, F.H., *J. Heterocycl. Chem.*, 1972, **9**, 457 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Co, Fe*)

5-Phenyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazine, 9CI P-00158

[42838-34-6]



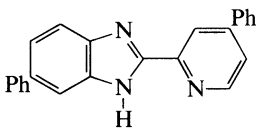
$C_{20}H_{14}N_4$ M 310.357

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 495 nm, ε 10500), Fe(*II*) (λ_{max} 560 nm, ε 34800). Cryst. (EtOH). Sol. common org. solvs. Mp 183°.

Case, F.H., *J. Heterocycl. Chem.*, 1973, **10**, 353 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*use*)

5-Phenyl-2-(4-phenyl-2-pyridyl) benzimidazole, 8CI P-00159

[14040-58-5]



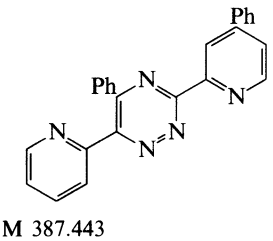
$C_{24}H_{17}N_3$ M 347.418

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 606 nm, ε 7100). Cryst. (C_6H_6). Sol. common org. solvs. Mp 252-253°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*use*)

5-Phenyl-3-(4-phenyl-2-pyridyl)-6-(2-pyridyl)-1,2,4-triazine, 8CI P-00160

[18895-93-7]



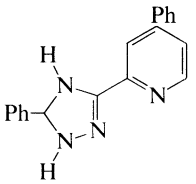
$C_{25}H_{17}N_5$ M 387.443

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co, Cu(*I*), Fe(*II*) (λ_{max} 565 nm, ε 2440). Cryst. (EtOH). Sol. common org. solvs. Mp 204-205°.

Case, F.H., *J. Heterocycl. Chem.*, 1968, **5**, 413 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

5-Phenyl-3-(4-phenyl-2-pyridyl)-1,2,4-triazoline P-00161

4-Phenyl-2-(5-phenyl-Δ^2-1,2,4-triazolin-3-yl)pyridine, 8CI



$C_{19}H_{16}N_4$ M 300.362

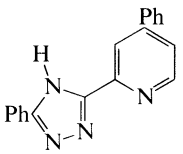
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 525 nm, ε 16200, aq. EtOH). Cryst. (C_6H_6). Sol. common org. solvs. Mp 149-150°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

4-Phenyl-2-(5-phenyl-1,2,4-triazol-3-yl) pyridine P-00162

5-Phenyl-3-(4-phenyl-2-pyridyl)-1,2,4-triazole

[30091-76-0]



$C_{19}H_{14}N_4$ M 298.346

Used as a 5m*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 515 nm, ε 6400). Cryst. (EtOH). Mp 236-237°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

Phenylphosphinic acid, 9CI P-00163

[1779-48-2]

PhPH(O)(OH)

$C_6H_7O_2P$ M 142.094

The free acid exists in the phosphinic acid form. Used as aq. soln. for pptn. of rare earth elements and gravimetric detn. of Fe(*III*). Cryst. Sol. H_2O. Mp 86-87°, Mp 78-80°. pK_{a1} 1.75 (25°), pK_{a1} 2.1 (40% MeOH aq.), pK_{a1} 8.71 (DMF, 25°), pK_{a2} 10.87 (Me_2CO, 25°).

Cyclohexylammonium salt: Solid. Mp 198-200°.

Anilinium salt: Solid. Mp 101°.

Me ester: [7162-15-4]. *Methyl phenylphosphinate*
$C_7H_9O_2P$ M 156.121
Liq. Bp_3 103-104°.

Et ester: [2511-09-3]. *Ethyl phenylphosphinate*
$C_8H_{11}O_2P$ M 170.147
Prod. of uv irrad. of Inezin. Liq. d_4^{20} 1.13. $Bp_{0.2}$ 102-103°. n_D^{20} 1.5180 (1.5220).
▷ SZ5600000.

Isopropyl ester: Isopropyl phenylphosphinate. 1-Methylethyl phenylphosphinate
$C_9H_{13}O_2P$ M 184.174

Liq. d_4^{20} 1.09. Bp_{10} 146°, $Bp_{0.5}$ 80°. n_D^{20} 1.5075, 1.5154.

Ph ester: [52744-21-5]. *Phenyl phenylphosphinate*
$C_{12}H_{11}O_2P$ M 218.191
Liq. n_D^{25} 1.5924.

(−)-*Menthyl ester: Menthyl phenylphosphinate*
$C_{16}H_{25}O_2P$ M 280.346
Liq. $Bp_{0.1}$ 165° (bath).

Trimethylsilyl ester: [27262-80-2]. *Trimethylsilyl phenylphosphinate*
$C_9H_{15}O_2PSi$ M 214.275
Liq. d_4^{20} 1.05. $Bp_{0.07}$ 91°. n_D^{20} 1.4902.

N,N-*Diethylamide:* [70403-04-2]. N,N-*Diethyl*-P-*phenylphosphinic amide*
No phys. props. reported.

Anhydride: [5054-42-2].
$C_{12}H_{12}O_3P_2$ M 266.172
No phys. props. reported.

Banks, J.E., *Anal. Chem.*, 1957, **29**, 109 (*detn, Fe*)
Goncalves, H. *et al*, *Bull. Soc. Chim. Fr.*, 1961, 1595 (*synth, ir, esters*)
Frank, A.W., *J. Org. Chem.*, 1961, **26**, 850 (*synth*)
Mukherji, A.K., *Anal. Chim. Acta*, 1964, **30**, 591 (*detn, lanthanides*)
Budzikiewicz, H. *et al*, *Monatsh. Chem.*, 1965, **96**, 1739 (*ester, ms*)
Wolf, R. *et al*, *Spectrochim. Acta, Part A*, 1967, **23**, 1641 (*esters, ir*)
Emmick, T.L. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 3459 (*esters*)
Pudovik, A.N. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.*, p. 306), 1968, **38**, 305 (*ester*)
Pudovik, A.N. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1681), 1969, **39**, 1715 (*ir, props*)
Brazier, J.-F. *et al*, *Bull. Soc. Chim. Fr.*, 1970, 1089 (*silyl ester, ir, pmr, nmr*)
Benschop, H.P. *et al*, *J. Chem. Soc., Dalton Trans.*, 1970, 1431 (*ester*)
Gallagher, M.J. *et al*, *J. Chem. Soc. C*, 1971, 593 (*anhydride*)
Wiley, R.H., *Org. Mass Spectrom.*, 1971, **5**, 675 (*ms*)
Hewitt, D.G., *Aust. J. Chem.*, 1979, **32**, 463 (*ester*)
Andreev, N.A. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p 1959), 1979, **49**, 2230 (*amide*)

Phenylphosphonic acid, 9CI, 8CI P-00164

Benzenephosphonic acid

[1571-33-1]

$PhP(O)(OH)_2$

$C_6H_7O_3P$ M 158.093

Fire retardant. Used as aq. soln.for pptn. of rare earth elements. Used as a 2% aq. soln. for detn. of lanthanides. Plates (H_2O or EtOAc). Sol. H_2O. Mp 162-164°. pK_{a1} 1.83; pK_{a2} 7.45 (25°). Titrates as a monobasic acid in Me_2CO or ROH but as dibasic in DMF.

▷ TA0350000.

Bis(2-methylpropyl) ester: [2783-48-4]. *Bis(2-methylpropyl) phenylphosphonate. Diisobutyl phenylphosphonate*
$C_{14}H_{23}O_3P$ M 270.308
Used for extraction of Fe from aq. media, and of U and Th from spent reactor fuel elements.

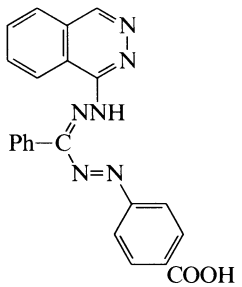
Bis(4-nitrophenyl) ester: [38873-91-5].
$C_{18}H_{13}N_2O_7P$ M 400.284
Peptide coupling agent causing little racemization. Cryst. (CCl_4). Mp 94-96°.

Doak, G.O. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 5658 (*synth, props*)
Mukherji, A.K., *Anal. Chim. Acta*, 1964, **30**, 591 (*pptn, rare earth elements*)
Tavs, P. *et al*, *Tetrahedron*, 1967, **23**, 4677 (*esters, synth*)
Kharrasova, F.M. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 1215), 1968, **38**, 1262 (*esters*)
Dietze, U., *J. Prakt. Chem.*, 1974, **316**, 485 (*ir*)
Griffiths, W.R. *et al*, *Phosphorus Relat. Group V Elem.*, 1975, **5**, 273 (*ms*)
Weakley, T.J.R., *Acta Crystallogr., Sect. B*, 1976, **32**, 2889 (*cryst struct*)
Kodolov, V.I. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 142), 1977, 165 (*pe*)
Modro, T.A. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1977, 1479 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PFV500, PFV750.

3-Phenyl-1-(1-phthalazinyl)-5-(*p*-carboxyphenyl)formazan P-00165

4-[3-Phenyl-5-(1-phthalazinyl)-1-formazano]benzoic acid, 9CI

[67073-44-3]



$C_{22}H_{16}N_6O_2$ M 396.407

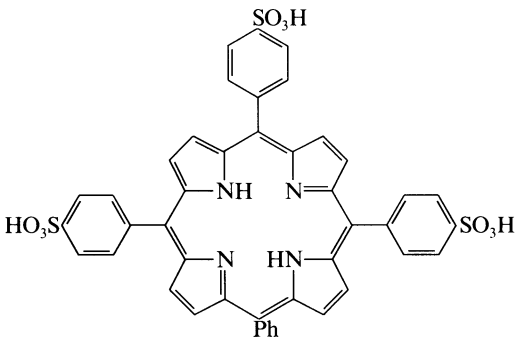
Used as 2m*M* soln. in EtOH for extraction-photometric detn. of Hg (λ_{max} 530 nm, ε 36000, $CHCl_3$). Brown cryst. (cyclohexane). Sol. EtOH, cyclohexane, $CHCl_3$, DMF.

Barbina, T.M. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 1222 (*synth, detn, Hg*)

4,4′,4″-(20-Phenyl-21*H*,23*H*-porphine-5,10,15-triyl)trisbenzenesulfonic acid, 9CI P-00166

α,β,γ,δ-Tetraphenylporphinetrisulfonic acid

[36951-71-0]



$C_{44}H_{30}N_4O_9S_3$ M 854.940

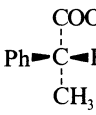
Used as a 1m*M* aq. soln. for photometric detn. of Cu (λ_{max} 413 nm). Cryst. Sol. H_2O.

Pasternak, R.F. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 4511 (*synth*)
Itoh, J. *et al*, *Anal. Chim. Acta*, 1975, **74**, 53 (*detn, Cu*)

2-Phenylpropanoic acid P-00167

α-Methylbenzeneacetic acid, 9CI. Hydratropic acid

[492-37-5]



(*R*)-form
Absolute configuration

$C_9H_{10}O_2$ M 150.177

(*R*)-form [7782-26-5]
Bp_6 133-135°. $[\alpha]_D^{21}$ −73.1° ($CHCl_3$).

(*S*)-form [7782-24-3]
$Bp_{0.4}$ 101-103°. $[\alpha]_D^{20}$ +81.1° (c, 3.108 in EtOH), $[\alpha]_D^{22}$ +97.0° (neat).

Me ester: [28645-07-0].
$C_{10}H_{12}O_2$ M 164.204
Bp_2 60-65°. $[\alpha]_D^{22}$ +103.5° (neat).

(±)-form [2328-24-7]
Mp 36-37°. Bp 264-265°, Bp_{11} 147°. pK_{a1} 4.3 (25°).

Me ester: [31508-44-8].
Bp 221°, Bp_{22} 119°.

Chloride: [22414-26-2].
C_9H_9ClO M 168.622
Reagent for gc resoln. of hydroxy acids and alcohols.
$Bp_{12.5}$ 97-98°.

Amide: [2328-25-8].
$C_9H_{11}NO$ M 149.192
Needles (EtOH aq.). Mp 97.5°.

Nitrile: [42253-96-3]. *α-Methylbenzeneacetonitrile, 9CI. 1-Cyano-1-phenylethane*
C_9H_9N M 131.177
Bp 230-232°.

[1125-70-8, 1823-91-2, 25145-43-1, 36240-11-6, 42412-76-0]

Eliel, E.L. *et al, J. Am. Chem. Soc.*, 1952, **74**, 923 (*synth*)
Bonner, W.A., *J. Am. Chem. Soc.*, 1952, **74**, 1034 (*synth*)
Hammarstram, S. *et al, Anal. Biochem.*, 1973, **52**, 169 (*chloride, use*)
Cervinka, O. *et al, Collect. Czech. Chem. Commun.*, 1973, **38**, 1159 (*synth, resoln*)
Angres, I. *et al, J. Org. Chem.*, 1975, **40**, 1457 (*synth, resoln*)
Fujii, K. *et al, Synthesis*, 1983, 444 (*synth*)
Giordano, C. *et al, Synthesis*, 1985, 436 (*synth*)
Maruoka, K. *et al, Synthesis*, 1986, 130 (*synth*)
Yamauchi, T. *et al, J. Chem. Soc., Perkin Trans. 1*, 1987, 1255, 1433 (*synth, deriv*)

3-Phenyl-2-propenal, 9CI P-00168

Cinnamaldehyde, 8CI. Cinnamic aldehyde. 3-Phenylacrolein

[104-55-2]

PhCH=CHCHO

C_9H_8O M 132.162
Used in perfumery and flavour industries.

▷ Mod. toxic. GD6475000.

(*E*)-form [14371-10-9]
Constit. of cinnamon and cassia oils. Liq. d_4^{20} 1.05. Fp −7.5°. Bp *ca.* 250° part. dec., Bp_{20} 130°. Steam-volatile. Forms bisulfite compd.

(E,E)-*Oxime:* [40212-77-9].
C_9H_9NO M 147.176
Needles (C_6H_6 or H_2O). Mp 138.5°.

(E,E)-*Oxime, Ac:* Prisms (Et_2O). Mp 69-70°.

(E,Z)-*Oxime:* [40412-97-3].
Mp 64-65°.

(E,Z)-*Oxime, Ac:* Leaflets (pet. ether). Mp 35.5°.

Semicarbazone: Leaflets (H_2O). Mp 217°.

Phenylhydrazone: Mp 168°.

2,4-Dinitrophenylhydrazone: Mp 255°.

Thiosemicarbazone: [5351-70-2].
$C_{10}H_{11}N_3S$ M 205.283
Used as a 0.4m*M* soln. in EtOH for photometric detn. of Pd (λ_{max} 373 nm, ε 31000), Pt (λ_{max} 390 nm, ε 39000).
Cryst. (EtOH). Mp 82-84°. pK_{a1} 0.22; pK_{a2} 11.69.

▷ VT3270000.

Di-Me acetal: [4364-06-1]. *(3,3-Dimethyl-1-propenyl) benzene, 9CI*
$C_{11}H_{14}O_2$ M 178.230
Liq. Bp_{11} 125-127°.

Di-Et acetal: [7148-78-9]. *(3,3-Diethoxy-1-propenyl)benzene, 9CI*
$C_{13}H_{18}O_2$ M 206.284
Liq. Bp *ca.* 264-268°, Bp_{12} 140-142°.

(*Z*)-form [57194-69-1]
Liq. d^{20} 1.04. $Bp_{0.4}$ 67-69°.

Semicarbazone: Mp 196°.

Phenylsemicarbazone: Mp 187°.

Andrews, L.J., *J. Am. Chem. Soc.*, 1947, **69**, 3062 (*uv*)
Jun, N., *Bull. Chem. Soc. Jpn.*, 1967, **40**, 1512 (*pmr*)
Hayes, W.P. *et al, Spectrochim. Acta, Part A*, 1968, **24**, 323 (*ir*)
Org. Synth., 1971, **51**, 11, 20; 1974, **54**, 42 (*synth*)
Kerentseva, V.P. *et al, Zh. Anal. Khim.*, 1971, **26**, 1144; 1972, **27**, 719 (*synth, pKa, detn, Pd, Pt*)
Morris, W.W., *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 1037 (*ir*)
Luedemann, H.D. *et al, Makromol. Chem.*, 1974, **175**, 2393 (*cmr*)
Bestmann, H.J. *et al, Chem. Ber.*, 1982, **115**, 161 (*synth*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 674.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 255.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CMP969.

3-Phenyl-2-propenoic acid, 9CI P-00169

Cinnamic acid, 8CI. 3-Phenylacrylic acid

[621-82-9]

PhCH=CHCOOH

$C_9H_8O_2$ M 148.161
Reference material used in elemental microanalysis. Used in photometric detn. of U (anionic complex associated with Rhodamine B). Simple esters are used as perfumery and flavouring ingredients.

▷ GD7800000.

(*E*)-form [140-10-3]
Cinnamamide
Occurs as free acid and esters in storax, Peruvian balsam and other resins. Needles or prisms (EtOH). Mp 133°. Bp 300°. pK_a 4.46 (25°). Steam-volatile.

Me ester: [103-26-4]. *Methyl cinnamate*
$C_{10}H_{10}O_2$ M 162.188
Occurs in essential oils. Mp 36°. Bp 263°.

▷ GE0190000.

Anhydride:
$C_{18}H_{14}O_3$ M 278.307
Used in the spectrophotometric titration of aliphatic amines. Needles (C_6H_6). Mp 136°.

(*Z*)-form [102-94-3]
Cryst. in three forms. Mp 68°, Mp 58°, Mp 42°. Bp 95° (high vac.). pK_a 3.85 (25°). The highest-melting (*Z*)-form has been known as Allocinnamic acid. The other two forms have both been referred to as Isocinnamic acid.

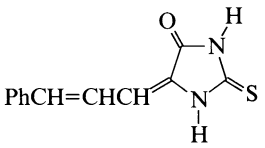
[102-92-1, 621-79-4, 39124-46-4, 59015-50-8]

de Jong, A.W.K., *Ber.*, 1922, **55**, 463 (*isom*)
Berthoud, A. *et al, Helv. Chim. Acta*, 1930, **13**, 437 (*synth*)
Wittstruck, T.A. *et al, J. Am. Chem. Soc.*, 1967, **89**, 3803 (*pmr*)

Connors, K.A. *et al*, *Anal. Chim. Acta*, 1968, **43**, 334 (*anhydride, detn, amines*)
Mendez, J. *et al*, *Microchem. J.*, 1968, **13**, 232 (*uv*)
Analyst (*London*), 1972, **97**, 740 (*microanal*)
Poluektov, N.S. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1972, **38**, 271 (*detn, U*)
Morris, W.W., *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 1037 (*ir*)
v. Massow, F. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1973, 1480 (*cmr*)
Glover, G.I. *et al*, *Sep. Sci. Technol.*, 1975, **10**, 795.
Brunet, J.-J. *et al*, *Tetrahedron Lett.*, 1981, **22**, 1013 (*synth*)
Babler, J.H. *et al*, *Tetrahedron Lett.*, 1983, **24**, 3835 (*deriv, synth, bibl*)
Murakami, T. *et al*, *Fortschr. Chem. Org. Naturst.*, 1988, **54**, 1 (*isol, amide*)
Wierda, D.A. *et al*, *Acta Crystallogr., Sect. C*, 1989, **45**, 338 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CMP975, MIO500.

5-(3-Phenyl-2-propenylidene)-2-thioxo-4-imidazolidinone, 9CI P-00170

[53514-60-6]

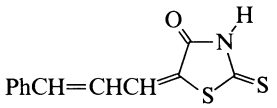


$C_{12}H_{10}N_2OS$ M 230.290
Used as 0.5m*M* EtOH soln. to give colour reactions with Pd, Cu, Ag (pH 4.5). Yellow cryst. (EtOH). Sol. EtOH, DMF. Mp 245-247°. pK_{a1} 8.1; pK_{a2} 12.9.

Montana Gonzalez, M.T. *et al*, *Mikrochim. Acta*, 1982, **2**, 363 (*synth, use*)

5-(3-Phenyl-2-propenylidene)-2-thioxo-4-thiazolidinone, 9CI P-00171

[15328-87-7]



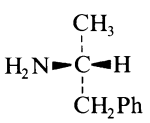
$C_{12}H_9NOS_2$ M 247.341
Used as a 0.2% soln. in EtOH for photometric detn. of Ag, Au, Cu, Hg, Pd, Pt. Cryst. Sol. EtOH, Me_2CO, Et_2O. Mp 218-219°.

Kulberg, L.M. *et al*, *Zh. Anal. Khim.*, 1954, **9**, 85 (*use*)
Singh, C. *et al*, *Curr. Sci.*, 1983, **52**, 1305 (*synth*)

1-Phenyl-2-propylamine P-00172

α-Methylbenzeneethanamine, 9CI. 2-Amino-1-phenylpropane. 1-Benzylethylamine. β-Aminopropylbenzene. Amphetamine. Benzedrine. ***Amfetamine,*** **INN.** *Numerous proprietary names*

[60-15-1]



(*R*)-*form* Absolute configuration

$C_9H_{13}N$ M 135.208
▷ Highly toxic. SH9000000.

(***R*)-*form*** [156-34-3] ***Levamphetamine,*** ***BAN.*** *Levamfetamine, INN*
Sympathomimetic drug. Less potent than (*S*)-isomer. Resolving agent.

B,H_2SO_4: [51-62-7]. *Levedrine*
▷ SI1575000.

Succinate: [5634-40-2]. *Levamfetamine succinate, USAN. Amodril. Cydril. Miagret*
Anorexic agent.

N-*Me; B,HCl:* [826-10-8].
▷ SH5250000.

N-*Me; B,MeI:*
$C_{11}H_{18}IN$ M 291.174
Columns. Mp 197-198°. $[\alpha]_D^{18}$ −3.7°.

N,N-*Di-Me:* [52691-87-9].
$C_{11}H_{17}N$ M 163.262
Bp_{32} 116-120°. $[\alpha]_D^{26}$ +7.8° (c, 1.96 in MeOH).

(***S*)-*form*** [51-64-9] ***Dexamphetamine,*** ***BAN, INN.*** *Dextroamphetamine, USAN*
CNS stimulant, appetite suppressant. Resolving agent. Oil. Bp_{16} 102°. $[\alpha]_D$ +33.5° (c, 10.0 in EtOH). n_D^{20} 1.4704.
▷ SH9100000.

B,HCl: [1462-73-3].
▷ SH9798400.

B,H_2SO_4: [51-63-8]. *Dextroamphetamine sulfate, USAN. Dexedrine. Diphylets. Hetamine. Apetain. Dexamed*
Plates. Mp >300°. $[\alpha]_D^{20}$ +21.8°.
▷ SI1400000.

N-*Me; B,HCl:* [51-57-0]. *Methedrine*
Sympathomimetic, central stimulant. Cryst. (EtOH). Mp 172°. $[\alpha]_D^{20}$ +18° (H_2O).
▷ SH5425000.

N,N-*Di-Me:* [17279-39-9]. ***Dimetamfetamine,*** **INN**
Psychotherapeutic.
▷ SI3800000.

N,N-*Di-Me; B,HCl:* [36913-04-9].
Mp 183-186°. $[\alpha]_D$ +15.1°.

(±)-***form*** [300-62-9]
Oil. Sl. sol. H_2O. d_4^{25} 0.913. Bp 203°.
▷ SH9450000.

B,HCl: Mp 145-147°. Hygroscopic.

B,H_2SO_4: [60-13-9]. *Amphetamine sulfate, USAN. Ibiozedrine. Bennie*
▷ SI1750000.

B,H_3PO_4: [139-10-6]. *Profetamine phosphate*
Sinters at *ca.* 150°. Dec. at *ca.* 300°.
▷ SI0875000.

N-*Me: 2-Methylamino-1-phenylpropane.* ***Metamfetamine,*** **INN**
$C_{10}H_{15}N$ M 149.235
CNS stimulant. Oil. Bp_{63-65} 126-127°.

N-*Me; B,HCl:* [300-42-5].
Cryst. (EtOH/Et_2O). Mp 135-136°.
▷ SH5075000.

N-*Formyl:* [15302-18-8]. N-(α-*Methylphenethyl)formamide, 8CI.* ***Formetorex,*** **INN.** *Formetamide*
$C_{10}H_{13}NO$ M 163.219
Anorexic agent. Bp_3 155-157°.

N-*Ac:*
$C_{11}H_{15}NO$ M 177.246
Needles (EtOH aq.). Mp 64°, becomes 93° on standing.

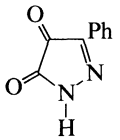
N-*Et:* [457-87-4]. ***Etilamfetamine,*** **INN.** *Etamfetamine. Apetinil*
$C_{11}H_{17}N$ M 163.262
Neuroleptic and anorexic agent. Bp_{14} 104.5-106°.
▷ SH6810000.

N,N-*Di-Me:* [49681-82-5].
Bp_{20} 115-118°.

[1858-47-5, 7528-00-9]

Hartung, W.H. *et al*, *J. Am. Chem. Soc.*, 1931, **53**, 1875 (*synth*)
Freudenberg, K. *et al*, *Justus Liebigs Ann. Chem.*, 1934, **510**, 223 (*abs config*)
Leonard, N.J. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 4858 (*synth*)
Craig, J.C. *et al*, *Tetrahedron*, 1967, **23**, 3573 (*ord, cd*)
Cervinka, O. *et al*, *Z. Chem.*, 1968, **8**, 24 (*Formetorex*)
Vree, T.B. *et al*, *J. Pharm. Pharmacol.*, 1969, **21**, 774 (*props, deriv*)
Bergin, R. *et al*, *Acta Crystallogr., Sect. B*, 1971, **27**, 2146 (*cryst struct*)
Bright, S. *et al*, *J. Org. Chem.*, 1973, **38**, 2554 (*conformn*)
Groot-Wassink, B.H. *et al*, *J. Chem. Educ.*, 1974, **51**, 671 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 18.
Handb. Exp. Pharmacol., 1977, **45**, 3 (*revs*)
Handb. Psychopharmacol., 1978, **11**, 1 (*revs*)
Caldwell, J., *Amphetamines Relat. Stimul. : Chem. Biol. Clin. Sociol. Aspects*, (Ed.), CRC Press, Boca Raton, Flo., 1980 (*book*)
Testa, B. *et al*, *J. Pharm. Sci.*, 1980, **69**, 497 (*pharmacol, Dimetamfetamine*)
Bailey, K. *et al*, *Anal. Chim. Acta*, 1981, **123**, 75 (*cmr*)
Morgan, J.P., *Subst. Abuse: Clin. Prob. Perspect.*, Williams and Willimas, Baltimore, 1981 (*revs*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1412-1415.
Smith, H.C. *et al*, *J. Am. Chem. Soc.*, 1983, **105**, 1578 (*synth, Dimetamfetamine*)
Paulsen-Sörman, U.B. *et al*, *J. Med. Chem.*, 1984, **27**, 342 (*synth, props*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1273-1275 (*synonyms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AOA250, AOA500, AOB250, AOB500, BBK000, BBK500, BBK750, DBA800, EGI500, MDT600.

3-Phenyl-1*H*-pyrazole-4,5-dione P-00173



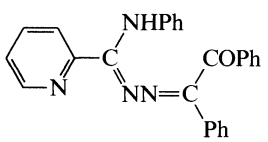
$C_9H_6N_2O_2$ M 174.159

4-Oxime: [1688-32-0].
$C_9H_7N_3O_2$ M 189.173
Used as 1% soln. in EtOH for gravimetric detn. of Cu(*II*). Red cryst. (AcOH). Sol. AcOH, EtOH, MeOH. Mp 184°.

Ponzio, G. *et al*, *Gazz. Chim. Ital.*, 1926, **56**, 701 (*synth, oxime*)
Hovorka, V. *et al*, *Chem. Listy*, 1942, **36**, 73; *CA*, **37**, 4321 (*detn. Cu*)
Welcher, F.J., *Organic Analytical Reagents*, Vol. 3, Van Nostrand, New York, 1947 (*synth, use, oxime*)
Makhija, K.K. *et al*, *Indian J. Pure Appl. Phys.*, 1990, **28**, 481 (*cryst struct, oxime*)

N-Phenyl-2-pyridinecarboximidic acid (oxodiphenylethylidene)hydrazide, 9CI P-00174

[59158-16-6]

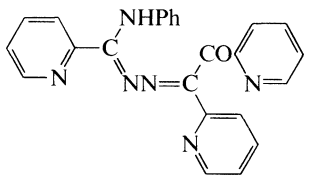


$C_{26}H_{20}N_4O$ M 404.470
Used as 0.01*M* soln. in EtOH for photometric detn. of Cu(*I*) (λ_{max} 475 nm, ε 400). Cryst. (EtOH). Sol. EtOH. Mp 147-148°.

Schilt, A.A. *et al*, *Talanta*, 1975, **22**, 915 (*synth, detn, Cu*)

N-Phenyl-2-pyridinecarboximidic acid (oxodi-2-pyridinylethylidene)hydrazide, 9CI P-00175

[59158-17-7]

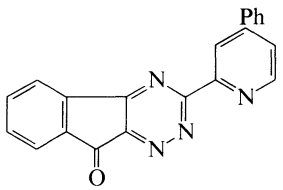


$C_{24}H_{18}N_6O$ M 406.446
Used as 0.01*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 618 nm, ε 8300), Cu(*I*), Co, Ni. Cryst. (EtOH). Sol. EtOH. Mp 173-174°.

Schilt, A.A. *et al*, *Talanta*, 1975, **22**, 915 (*synth, use*)

3-(4-Phenyl-2-pyridinyl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, 9CI P-00176

[37004-80-1]

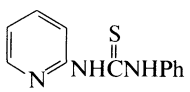


$C_{21}H_{12}N_4O$ M 336.352
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 493 nm, ε 9300), Fe(*II*) (λ_{max} 581 nm, ε 28900). Cryst. (2-methoxyethanol). Sol. common org. solvs. Mp 229-230°.

Case, F.H., *J. Heterocycl. Chem.*, 1972, **9**, 457 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Cu, Fe*)

N-Phenyl-*N'*-pyridinylthiourea, 9CI P-00177

[886-60-2]



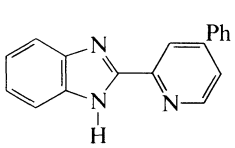
$C_{12}H_{11}N_3S$ M 229.305
Used as 1m*M* soln. in aq. Me_2CO for photometric detn. of Sb (λ_{max} 410 nm, ε 30000), Rh (λ_{max} 335 nm, ε 28000). Yellow cryst. Sol. Me_2CO. Mp 172°.

▷ YU1380000.

Mathur, S.P. *et al*, *Rev. Latinoam. Quim.*, 1975, **6**, 160; *CA*, **84**, 98852m (*detn, Sb*)
Usatenko, Yu.I. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 1211 (*detn, Rh*)

2-(4-Phenyl-2-pyridyl)benzimidazole, 8CI P-00178

[14060-59-4]



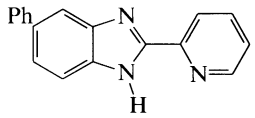
$C_{18}H_{13}N_3$ M 271.321

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 540 nm, ε 4200). Cryst. (C_6H_6). Sol. common org. solvs. Mp 209-210°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*use*)

5-Phenyl-2-(2-pyridyl)benzimidazole, 8CI P-00179

[14060-65-2]

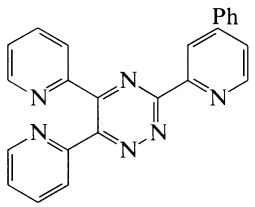


$C_{18}H_{13}N_3$ M 271.321

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 550 nm, ε 2600). Cryst. (C_6H_6/pet. ether). Sol. common org. solvents. Mp 150-151°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*use*)

3-(4-Phenyl-2-pyridyl)-5,6-di-2-pyridyl-1,2,4-triazine P-00180



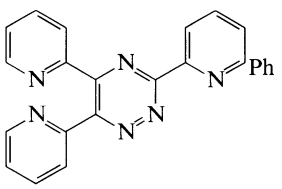
$C_{24}H_{16}N_6$ M 388.431

Used as 0.01*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 571 nm, ε 22700), Cu(*I*) (λ_{max} 504 nm, ε 5200). Cryst. (2-methoxyethanol aq.). Sol. EtOH, 2-methoxyethanol; sl. sol. H_2O. Mp 171-172°.

Case, F.H., *J. Org. Chem.*, 1965, **30**, 931 (*synth*)
Schilt, A.A., *Talanta*, 1966, **13**, 895 (*use*)

3-(6-Phenyl-2-pyridyl)-5,6-di-2-pyridyl-1,2,4-triazine P-00181

[18895-99-3]



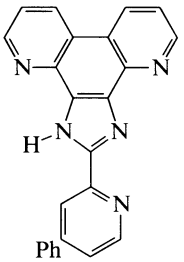
$C_{24}H_{16}N_6$ M 388.431

Used as a 5m*M* soln. in aq. EtOH to give colour reactions with Co, Cu(*I*), Fe(*II*). Cryst. (EtOH). Sol. common org. solvs. Mp 175-176°.

Case, F.H., *J. Heterocycl. Chem.*, 1968, **5**, 413 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1970, **17**, 649 (*use*)

2-(4-Phenyl-2-pyridyl)-1*H*-imidazo[4,5-*f*][4,7]phenanthroline, 8CI P-00182

[14040-62-1]



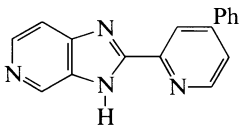
$C_{24}H_{15}N_5$ M 373.416

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*). Cryst. (C_6H_6). Sol. common org. solvs., dil. HCl. Mp 167-168°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*use*)

2-(4-Phenyl-2-pyridyl)-1*H*-imidazo[4,5-*c*]pyridine, 8CI P-00183

[14060-64-1]



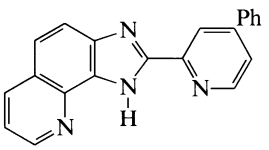
$C_{17}H_{12}N_4$ M 272.309

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 566 nm, ε 9600). Cryst. (EtOH). Sol. common org. solvs., dil. HCl. Mp 253-254°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*use*)

2-(4-Phenyl-2-pyridyl)-3*H*-imidazo[4,5-*h*]quinoline, 8CI P-00184

[14044-51-0]



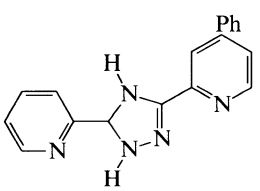
$C_{21}H_{14}N_4$ M 322.368

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*). Cryst. (C_6H_6). Sol. common org. solvs. Mp 110-111°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*use*)

3-(4-Phenyl-2-pyridyl)-5-(2-pyridyl)-1,2,4-triazoline P-00185

4-Phenyl-2,2′-Δ²-1,2,4-triazoline-3,5-diyldipyridine, 8CI



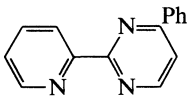
$C_{18}H_{15}N_5$ M 301.350

Used as a 5m*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 531 nm, ε 7700). Cryst. (C_6H_6). Sol. common org. solvs. Mp 148°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

4-Phenyl-2-(2-pyridyl)pyrimidine, 8CI P-00186

[10198-69-3]

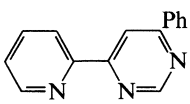


$C_{15}H_{11}N_3$ M 233.272
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 425 nm, ε 4200), Fe(*II*) (λ_{max} 531 nm, ε 10800). Cryst. (Et_2O). Sol. C_6H_6, Me_2CO, EtOH, dil. HCl. Mp 76-77°.

Lafferty, J.J. *et al*, *J. Org. Chem.*, 1967, **32**, 1591 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*use*)

4-Phenyl-6-(2-pyridyl)pyrimidine, 8CI P-00187

[10198-90-0]



$C_{15}H_{11}N_3$ M 233.272
Used as 5m*M* soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 487 nm, ε 3400), Fe(*II*) (λ_{max} 569 nm, ε 7600). Cryst. Sol. C_6H_6, dil. HCl.

Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*use*)

5-Phenyl-2-(2-pyridyl)pyrimidine, 8CI P-00188

[10198-81-9]

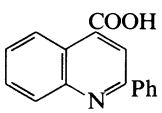
$C_{15}H_{11}N_3$ M 233.272
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 425 nm, ε 4600), Fe(*II*) (λ_{max} 525 nm, ε 7000). Cryst. (C_6H_6). Sol. C_6H_6, Me_2CO, EtOH, dil. HCl. Mp 159-160°.

Lafferty, J.J. *et al*, *J. Org. Chem.*, 1967, **32**, 1591 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*use*)

2-Phenyl-4-quinolinecarboxylic acid, 9CI P-00189

2-Phenylcinchoninic acid. ***Cinchophen,*** **INN.** *Atophan. Quinophen. Aciphenoquinoline*

[132-60-5]



$C_{16}H_{11}NO_2$ M 249.268
Analgesic, antiinflammatory, no longer in widespread use. Used as 0.01*M* aq. soln. of Na salt for extraction-photometric detn. of Sc and lanthanides. Cryst. (MeOH). Insol. H_2O. Mp 218°.

▷ GD4025000.

B,HCl: Lemon-yellow cryst. Mp 223°.
B,HBr: Brownish-yellow cryst. Mp 255°.
B,HI: Orange cryst. Mp 243°.
Me ester: [4546-48-9].
$C_{17}H_{13}NO_2$ M 263.295
Mp 61°. Bitter taste.
Et ester: [4420-46-6].
$C_{18}H_{15}NO_2$ M 277.322
Cryst. (EtOH). Mp 51°.
2-Propenyl ester: [524-34-5]. ***Allylcinchophen.*** *Atoquinol*
$C_{19}H_{15}NO_2$ M 289.333
Antiinflammatory. Analgesic. Cryst. (EtOH). Mp 30°. Bp_{15} 265°, $Bp_{0.8}$ 215°.
Amide: [29197-45-3].
$C_{16}H_{12}N_2O$ M 248.284
Mp 196°.
Nitrile: [2973-26-4]. *2-Phenyl-4-quinolinecarbonitrile. 4-Cyano-2-phenylquinoline*
$C_{16}H_{10}N_2$ M 230.268
Cryst. (EtOH). Mp 140°.
B,MeI: Red cryst. (EtOH aq.). Mp 160-165° dec.
1-Oxide: [20389-12-2].
$C_{16}H_{11}NO_3$ M 265.268
Cryst. (EtOH). Mp 255-256°.

Doebner, O. *et al*, *Justus Liebigs Ann. Chem.*, 1887, **242**, 290 (*synth*)
Pfitzinger, W., *J. Prakt. Chem.*, 1897, **56**, 293 (*synth*)
U.S. Pat., 1 336 952, (1920); *CA*, **14**, 1736 (*deriv*)
Rosenmund, K.W., *Ber.*, 1921, **54**, 2893 (*deriv*)
Du Puis, R.N. *et al*, *J. Am. Chem. Soc.*, 1934, **56**, 471.
Poluektov, N.S. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 266 (*detn, rare earths*)
Belt'yukova, S.V., *Zh. Anal. Khim.*, 1975, **30**, 1321 (*detn, Sc*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2627.
Ozawa, F. *et al*, *J. Org. Chem.*, 1986, **51**, 415 (*synth*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 5813.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PGG000.

1-Phenyl-3-(selenophen-2-yl)-1,3-propanedione, 9CI P-00190

Benzoylselenoylmethane. 2-(Benzoylacetyl)selenophene

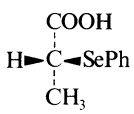
[10471-68-8]

$C_{13}H_{10}O_2Se$ M 277.181
Used as a satd. EtOH soln. for extraction-photometric detn. of Cu (λ_{max} 355 nm, ε 45700, $CHCl_3$). Yellow cryst. (MeOH). Sol. common org. solvents. Mp 65-66°. Bp_6 276-277°.

Yurev, Y.K. *et al*, *Zh. Obshch. Khim.*, 1961, **31**, 1449; *CA*, **55**, 23491g (*synth, detn, Cu*)

2-(Phenylseleno)propanoic acid P-00191

[34598-65-7]



(R)-form

$C_9H_{10}O_2Se$ M 229.137
Reagent for enantiomer analysis of alcohols by ^{77}Se nmr and for enantioselective synth.

(R)-form
$[\alpha]_D^{25}$ +93.0° (c, 1.986 in EtOH).

(S)-form
$[\alpha]_D^{25}$ −93.0° (c, 1.632 in EtOH).

(±)-form
Mp 49-50°.

Petragnani, N. *et al*, *Synthesis*, 1978, 476 (*synth*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 397 (*use*)
Michelsen, P. *et al*, *Chem. Scr.*, 1984, **24**, 251 (*synth, use*)
Michelsen, P. *et al*, *J. Chromatogr.*, 1985, **331**, 295 (*use*)

2-Phenylsemicarbazide P-00192

1-Phenylhydrazinecarboxamide, 9CI
[39538-93-7]

$H_2NCONPhNH_2$

$C_7H_9N_3O$ M 151.168
Used as a 0.1% soln. in EtOH for photometric detn. of Cu. Needles (EtOH). Mp 118-119°.

4-Et:
$C_9H_{13}N_3O$ M 179.221
Plates (EtOH aq.). Mp 88°.
Picrate: Yellow needles (EtOH). Mp 163°.

Skibina, E.H., *Zh. Anal. Khim.*, 1952, **7**, 244 (*use*)
Fischer, A. *et al*, *J. Chem. Soc.*, 1965, 7444 (*synth*)
Pilgram, K. *et al*, *J. Heterocycl. Chem.*, 1976, **13**, 1257 (*synth*)

4-Phenylsemicarbazide P-00193

N-*Phenylhydrazinecarboxamide, 9CI*
[537-47-3]

$PhNHCO^2NH^1NH_2$

$C_7H_9N_3O$ M 151.168
Reagent for the identification of aldehydes and ketones. Plates (H_2O), needles (C_6H_6). Mp 128°.

B,HCl: Prisms. Mp 215°.
2-Me: [19102-24-0].
$C_8H_{11}N_3O$ M 165.194
Mp 93-94°.
1,1-Di-Me: [6297-20-7].
$C_9H_{13}N_3O$ M 179.221
Mp 108°.

Org. Synth., Coll. Vol., 1, 1932, 439 (*synth*)
Sah, P.P.T. *et al*, *J. Chin. Chem. Soc.* (*Peking*), 1934, **2**, 32; *CA*, **28**, 3713 (*use*)

N-(Phenylsulfonyl)benzamide P-00194

[3559-04-4]

$PhCONHSO_2Ph$

$C_{13}H_{11}NO_3S$ M 261.301
Cryst. (EtOH aq.). Mp 146-147°. pK_{a1} 6.03; pK_{a2} 11.8.

Oxime: [20037-46-1]. *Benzohydroxamic acid benzenesulfonamide.* N-(*Phenylsulfonyl*)*benzamidoxime, 8CI*
$C_{13}H_{12}N_2O_3S$ M 276.315
Used as a 0.05*M* aq. soln. for extraction-photometric detn. of Fe (λ_{max} 540 nm, ε 2300), Ru(*IV*) (λ_{max} 640 nm, ε 3200, butanol/$CHCl_3$). Cryst. (CCl_4, H_2O). Sol. EtOH, hot C_6H_6, Me_2CO, CCl_4, Et_2O, H_2O.

Thompson, Q.E., *J. Am. Chem. Soc.*, 1951, **73**, 5841 (*synth*)
McFarland, J.W. *et al*, *J. Org. Chem.*, 1966, **31**, 1903 (*synth*)
Abrazhanova, E.A. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 1418 (*synth, oxime, detn, Fe*)
Khinkovich, E.A. *et al*, *Khim. Khim. Tekhnol.* (*Minsk*), 1971, **14**, 346; *CA*, **75**, 29560s (*detn, Ru*)
Fiedorova, N.G., *Zh. Anal. Khim.*, 1971, **26**, 664 (*pKa*)

(Phenylsulfonyl)carbonimidodithioic acid, 9CI P-00195

Benzenesulfodithiocarbamic acid
[5706-64-9]

$PhSO_2NHCSSH$

$C_7H_7NO_2S_3$ M 233.336
Di-K salt: Used for photometric detn. of Co. Red-orange cryst. (EtOH). Sol. H_2O. Mp 310° dec.

Tandon, S.N. *et al*, *Fresenius' Z. Anal. Chem.*, 1971, **253**, 36 (*synth, use*)

N-(Phenylsulfonyl)glycine, 9CI P-00196

N-*Benzenesulfonylglycine*
[5398-96-9]

$PhSO_2NHCH_2COOH$

$C_8H_9NO_4S$ M 215.229
Used as soln. in Me_2CO for titrimetric detn. of Hg(*II*). Cryst. (EtOH). Sol. hot H_2O, EtOH, dioxan, Me_2CO; spar. sol. cold H_2O, toluene, C_6H_6, Et_2O. Mp 165-166°.

Ghosh, N.N. *et al*, *J. Indian Chem. Soc.*, 1963, **40**, 945; 1964, **41**, 286 (*detn, Hg*)

Phenyltellurous acid P-00197

Benzenetellenic acid

PhTeOOH

$C_6H_6O_2Te$ M 237.712
Used for pptn. of Ag, Bi, Cr, Fe, Hf, Nb, Pb, Sn, Ta, Ti, Th, Zr. Cryst.

Alimarin, I.P., *Chem. Anal.* (*Warsaw*), 1957, **2**, 222 (*use*)

N-Phenylthiobenzohydroxamic acid, 8CI P-00198

[13034-85-0]

PhC(=S)N(OH)Ph

$C_{13}H_{11}NOS$ M 229.302
Used as 1% soln. in EtOH for gravimetric detn. of Cu, Fe. Cryst. (EtOH). Mp 101-102°. pK_{a1} 8.1.

Brydon, G.A. *et al*, *Anal. Chim. Acta*, 1966, **35**, 190 (*synth, pKa*)
Cassidy, R.H. *et al*, *Anal. Chim. Acta*, 1968, **41**, 319 (*detn, Cu*)
Abraham, D. *et al*, *Anal. Chim. Acta*, 1969, **48**, 93 (*detn, Fe*)

1-Phenylthiosemicarbazide P-00199

[645-48-7]

$PhNHNHCSNH_2$

$C_7H_9N_3S$ M 167.234
Used as 0.5% soln. in Me_2CO for photometric detn. of Co. Cryst. (EtOH). Mp 200-201° dec.

▷ VT3850000.

Fischer, E., *Justus Liebigs Ann. Chem.*, 1882, **212**, 324 (*synth*)
Koshkin, N.V. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 757 (*detn, Co*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PGM750.

4-Phenylthiosemicarbazide P-00200

N-*Phenylhydrazinecarbothioamide, 9CI*
[5351-69-9]

$PhNHCSNHNH_2$

$C_7H_9N_3S$ M 167.234

Used for photometric detn. of Se and Te (reagent acts as reductor in acid medium). Plates (EtOH). Sol. EtOH. Mp 138-140°.

▷ VT4025000.

Czugler, M. *et al*, *Cryst. Struct. Commun.*, 1973, **6**, 645 (*cryst struct*)
Furlani, C. *et al*, *Gazz. Chim. Ital.*, 1973, **103**, 951 (*synth*)
Florean, E. *et al*, *Clujul Med.*, 1982, **55**, 144; *CA*, **98**, 154478x (*detn, Se, Te*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PGN000.

Phenylthiourea, 9CI P-00201

[103-85-5]

$PhNHCSNH_2$

$C_7H_8N_2S$ M 152.220

Used as 2.5% soln. in EtOH or aq. DMF for extraction-photometric detn. of Pd (λ_{max} 400 nm, ε 3000), Re (λ_{max} 410 nm, $CHCl_3$). Needles (H_2O). Mp 154°.

▷ Highly toxic. Emits toxic fumes in contact with acids or on heating to dec.. YU1400000.

1-N-Ac: [22713-55-9]. N-(*Aminothioxomethyl*)-N-*phenylacetamide*, *9CI*. N-*Acetyl*-N-*phenylthiourea*
$C_9H_{10}N_2OS$ M 194.257
Prisms (EtOH aq.). Mp 140° (139° dec.).

3-N-Ac: [1132-44-1]. N-[(*Phenylamino*)*thioxomethyl*] *acetamide*, *9CI*. N-*Acetyl*-N′-*phenylthiourea*
$C_9H_{10}N_2OS$ M 194.257
Cryst. (EtOH aq.). Mp 173°.

1-N-Benzoyl: [98095-85-3]. N-(*Aminothioxomethyl*)-N-*phenylbenzamide*, *9CI*. N-*Benzoyl*-N-*phenylthiourea*
$C_{14}H_{12}N_2OS$ M 256.328
Mp 133-137°.

3-N-Benzoyl: [4921-82-8]. N-[(*Phenylamino*)*thioxomethyl*] *benzamide*, *9CI*. N-*Benzoyl*-N′-*phenylthiourea*
$C_{14}H_{12}N_2OS$ M 256.328
Used as tolune soln. for extraction separation of Pd(*II*). Cryst. (EtOH). Mp 141-143°.
▷ YS1400000.

3-N-Me: [2724-69-8]. N-*Methyl*-N′-*phenylthiourea*, *9CI*
$C_8H_{10}N_2S$ M 166.246
Needles. Mp 113°.
▷ YT8750000.

3-N-Di-Me: [705-62-4]. N,N-*Dimethyl*-N′-*phenylthiourea*, *9CI*
$C_9H_{12}N_2S$ M 180.273
Prisms (EtOH). Mp 134-135°.

Schiff, H., *Justus Liebigs Ann. Chem.*, 1868, **148**, 338.
Pollock, E.N., *Anal. Chim. Acta*, 1969, **47**, 367 (*detn, Re, synth*)
Jackson, F.H. *et al*, *J. Chem. Soc. C*, 1969, 268 (*synth*)
Loev, B. *et al*, *J. Med. Chem.*, 1972, **15**, 1024 (*synth, use*)
Joshua, C.P. *et al*, *Chem. Ind. (London)*, 1974, 750 (*synth*)
Patil, S.P. *et al*, *Mikrochim. Acta*, 1974, 853 (*detn, Pd*)
Kaválek, J. *et al*, *Collect. Czech. Chem. Commun.*, 1985, **50**, 766 (*synth, pmr, cmr, derivs*)
Vest, P. *et al*, *Fresenius' Z. Anal. Chem.*, 1989, **335**, 759 (*detn, Pd*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MOA500, PGN250.

1-Phenyl-3-thioxo-1-butanone, 9CI P-00202

Benzoylthioacetone

[15473-63-9]

$PhCOCH_2C(S)CH_3$

$C_{10}H_{10}OS$ M 178.254

Used as a 1m*M* soln. in C_6H_6 for extraction-photometric detn. of Co (λ_{max} 460 nm, C_6H_6), Hg (λ_{max} 345 nm, ε 17000), Ni. Cryst. Sol. common org. solvs.

Leban, M. *et al*, *Aust. J. Chem.*, 1974, **27**, 2353.
Murti, M.V.R. *et al*, *Talanta*, 1976, **23**, 246 (*detn, Co, Ni*)
Murti, M.V.R. *et al*, *Bull. Chem. Soc. Jpn.*, 1977, **50**, 738 (*detn, Hg*)

4-Phenyl-4-thioxo-2-butanone, 9CI P-00203

Monothiobenzoylacetone

[15473-64-0]

$PhCSCH_2COCH_3$

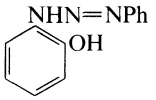
$C_{10}H_{10}OS$ M 178.254

Used a 1m*M* C_6H_6 soln. for extraction-photometric detn. of Cd (λ_{max} 390 nm, ε 21000, pH ~ 12). Cryst. Sol. C_6H_6.

Murti, M.V. *et al*, *Indian J. Chem., Sect. A*, 1976, **14**, 455 (*synth*)
Murti, M.V. *et al*, *Chem. Anal. (Warsaw)*, 1978, **23**, 593 (*detn, Cd*)

2-(3-Phenyl-2-triazenyl)phenol P-00204

3-(2-Hydroxyphenyl)-1-phenyl-1-triazene



$C_{12}H_{11}N_3O$ M 213.238

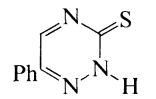
N[1]-*Oxide:* [92071-88-0].
$C_{12}H_{11}N_3O_2$ M 229.238
Used as 0.2m*M* EtOH soln. for fluorimetric detn. of Zr (λ_{max} 570 nm, pH 1.6-2), Nb (λ_{max} 540 nm, pH 3.2-5). Yellow cryst. (EtOH aq.). Sol. EtOH; sl. sol. H_2O.

Pal, B.K. *et al*, *Mikrochim. Acta*, 1984, **2**, 121; 1985, **1**, 437 (*synth, detn, Zr, Nb*)
Samanta, C. *et al*, *Acta Crystallogr., Sect. C*, 1985, **41**, 142 (*cryst struct*)

6-Phenyl-1,2,4-triazine-3(2*H*)-thione, 9CI P-00205

2,3-Dihydro-6-phenyl-1,2,4-triazine-3-thione

[27623-09-2]



$C_9H_7N_3S$ M 189.240

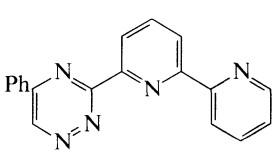
Used as 1m*M* soln. in $CHCl_3$ for gravimetric detn. of Pd, Tl(*I*), extraction-photometric detn. of Hg(*II*) (λ_{max} 430 nm, ε 6090, $CHCl_3$) and Cu (λ_{max} 500 nm, ε 5000). Yellow cryst. (DMSO). Sol. $CHCl_3$. Mp 242-243°.

Lalezari, I. *et al*, *J. Heterocycl. Chem.*, 1970, **7**, 689 (*synth*)
Edrissi, M. *et al*, *Talanta*, 1972, **19**, 814 (*detn, Tl, Pd*)
Maghssoudi, R.H. *et al*, *Anal. Chem.*, 1975, **47**, 550, 1694 (*detn, Hg, Cu*)

6-(5-Phenyl-1,2,4-triazin-3-yl)-2,2′-bipyridine, 9CI P-00206

3-(2,2′-Bipyridin-6-yl)-5-phenyl-1,2,4-triazine

[42838-36-8]



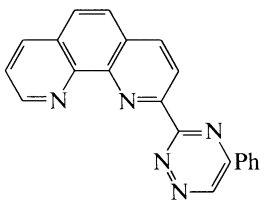
$C_{19}H_{13}N_5$ M 311.345
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 545 nm, ε 3350), Cu(*I*) (λ_{max} 450 nm, ε 4600), Fe(*II*) (λ_{max} 583 nm, ε 14500). Cryst. (2-methoxyethanol). Sol. common org. solvs. Mp 196°.

Case, F.H., *J. Heterocycl. Chem.*, 1973, **10**, 353 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*use*)

2-(5-Phenyl-1,2,4-triazin-3-yl)-1,10-phenanthroline, 9CI P-00207

3-[2-(1,10-Phenanthrolyl)]-5-phenyl-1,2,4-triazine

[42838-35-7]



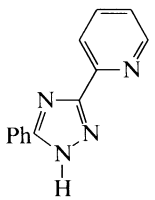
$C_{21}H_{13}N_5$ M 335.367
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 555 nm, ε 1850), Cu(*I*) (λ_{max} 440 nm, ε 3600), Fe(*II*) (λ_{max} 604 nm, ε 18000). Cryst. (EtOH). Sol. common org. solvs. Mp 254°.

Case, F.H., *J. Heterocycl. Chem.*, 1973, **10**, 353 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*use*)

2-(5-Phenyl-1*H*-1,2,4-triazol-3-yl)pyridine, 9CI P-00208

5-Phenyl-3-(2-pyridyl)-1H-1,2,4-triazole

[25433-29-8]

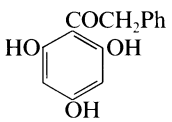


$C_{13}H_{10}N_4$ M 222.249
Used as 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 470 nm, ε 4000, EtOH aq.). Cryst. (C_6H_6). Sol. common org. solvs. Mp 212-213°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

2-Phenyl-1-(2,4,6-trihydroxyphenyl) ethanone P-00209

Benzyl 2,4,6-trihydroxyphenylketone. 2-(Phenylacetyl)-1,3,5-benzenetriol



$C_{14}H_{12}O_4$ M 244.246
Used as 0.1% soln. in EtOH for photometric detn. of Ti. Cryst.

Paul, S.D., *Anal. Chim. Acta*, 1963, **28**, 494 (*detn, Ti*)

N-Phenyl-*N*-(trimethylsilyl)acetamide, 9CI P-00210

N-(*Trimethylsilyl*)*acetanilide*, *8CI*

[10557-63-8]

$AcNPhSiMe_3$

$C_{11}H_{17}NOSi$ M 207.347
Silylation reagent for gc anal. of alcohols and phenols. Liq. d_4^{20} 0.9745. Bp 222°, Bp_{13} 105°. n_D^{20} 1.4986.

Birkofer, L. *et al*, *Chem. Ber.*, 1969, **102**, 3094 (*synth*)
Fukui, M. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1972, 1043 (*synth*)
Piekos, R. *et al*, *J. Chromatogr.*, 1976, **117**, 431 (*synth, use*)

Phenylurea, 9CI P-00211

[64-10-8]

$PhNHCONH_2$

$C_7H_8N_2O$ M 136.153
Needles or plates (H_2O), tablets (EtOH). Sol. hot H_2O. Mp 147°. Bp 238°.

▷ YU0650000.

B,HCl: Plates. Mp 114-116° dec. Dec. by H_2O.

1-N-*Ac:*
$C_9H_{10}N_2O_2$ M 178.190
Needles (H_2O). Mp 167°.

3-N-*Ac:*
$C_9H_{10}N_2O_2$ M 178.190
Needles (H_2O or EtOH). Mp 183°.

1-N-*Nitroso:*
$C_7H_7N_3O_2$ M 165.151
Yellow needles (Et_2O/pet. ether). Mp 95° dec.
▷ Exp. carcinogen.

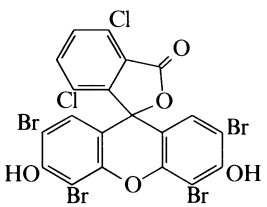
N-*Hydroxy:* [33108-63-3]. *1-Hydroxy-1-phenylurea*, *9CI. Anilinohydroxamic acid*
$C_7H_8N_2O_2$ M 152.152
Gives colour reactions with Fe, Os, U. Cryst. Sol. EtOH, Me_2CO.

Org. Synth., Coll. Vol., 1, 1932, 453 (*synth*)
White, H.C. *et al*, *J. Org. Chem.*, 1942, **7**, 497 (*synth*)
Binder, L.O. *et al*, *J. Chem. Educ.*, 1946, **23**, 285 (*synth*)
Bass, V.C. *et al*, *Talanta*, 1966, **13**, 735 (*use, N-OH*)
Daniher, F.A., *J. Org. Chem.*, 1969, **34**, 2908 (*synth*)
Baumgarten, H.E. *et al*, *J. Org. Chem.*, 1976, **41**, 3805 (*synth*)
Kashino, S. *et al*, *Acta Crystallogr., Sect. B*, 1977, **33**, 855 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PGP250.

Phloxin P-00212

2',4',5',7'-Tetrabromo-4,7-dichloro-3',6'-dihydroxyspiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one. Dichloro(P)tetrabromo(R)fluorescein. C.I. Acid red 98. C.I. 45405

[6441-77-6]



$C_{20}H_6Br_4Cl_2O_5$ M 716.786
Strictly, the name Phloxin applies to the dipotassium salt.

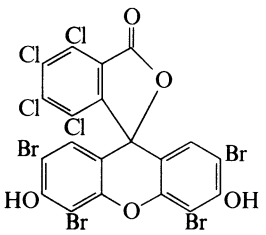
Di-K salt: Used as a 2% soln. in EtOH as an adsorption indicator for titrimetric detn. of $Br^{\ominus}$, $I^{\ominus}$; fluorimetric indicator; fluorimetric detn. of Ag, Pb. Orange red cryst. powder. Sol. H_2O. Aq. soln. cherry red with greenish-yellow fluoresc.

Gomes, D.J. *et al*, *Rev. Port. Farm.*, 1971, **21**, 363; *CA*, **77**, 69657b (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)
Talipov, S.T. *et al*, *Khim. Khim. Tekhnol. (Minsk)*, 1973, **16**, 299; *CA*, **78**, 168179z (*detn, Ag, Pb*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CMM000.

Phloxine B P-00213

2',4',5',7'-Tetrabromo-4,5,6,7-tetrachloro-3',6'-dihydroxyspiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 9CI. Phloxine BA. Tetrabromo(R)tetrachloro(P)fluorescein. C.I. Acid red 92. Cyanosine. C.I. 45410. Eosin 10B

[13473-26-2]



$C_{20}H_4Br_4Cl_4O_5$ M 785.675
Strictly the trade names given apply to the disodium salt. Sol. alkalis.

Di-Na salt: [18472-87-2].
Printing ink and cosmetic dye. Used as a 0.2% aq. soln. as acid-base fluorescent indicator (pH range: 2.5 - 4.0). Biological stain. Orange-red cryst. powder. Sol. H_2O, EtOH. A soln. shows dark green (H_2O) or brick red (EtOH) fluorescence.
▷ LM5900000.

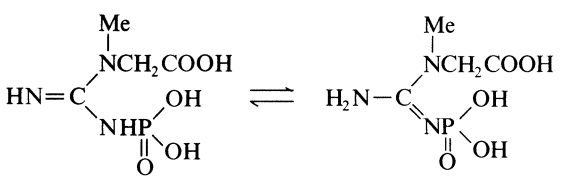
[20266-44-8, 75888-73-2]

Orndorff, W.R. *et al*, *J. Am. Chem. Soc.*, 1914, **36**, 701 (*synth, uv*)
Wales, H., *J. Am. Chem. Soc.*, 1923, **45**, 2421 (*Na salt, uv*)
Holmes, W.C., *J. Am. Chem. Soc.*, 1924, **46**, 2770 (*K salt, uv*)
Adelman, A.H. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 3977 (*fluor*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)
Gardin, E. *et al*, *J. Chromatogr.*, 1982, **249**, 393 (*chromatog*)
Van Liedekerke, B.M. *et al*, *J. Chromatogr.*, 1990, **528**, 155 (*chromatog*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ADG250.

N-Phosphocreatine P-00214

N-[*Imino(phosphonoamino)methyl*]-N-*methylglycine, 9CI. Creatine phosphate.* N^{ω}*-Phosphonocreatine.* N-(N-*Phosphonoamidino)sarcosine. Phosphagen*

[67-07-2]



$C_4H_{10}N_3O_5P$ M 211.114
Energy source in vertebrate muscle and nerve tissue. pK_{a2} 4.6. Isol. as Ca salt.

Di-Na salt: [922-32-7].
Used as a substrate for the detn. of creatine phosphokinase activity. Platelets (EtOH/aq.). V. sol. H_2O.

P,P-*Di-Ph ester:* N-[*Imino(diphenoxyphosphinylamino)methyl*]-N-*methylglycine*
$C_{16}H_{18}N_3O_5P$ M 363.309
Cryst. (MeOH aq.). Mp 141-142°.

P,P-*Di-Ph ester, C-benzyl ester: Benzyl* N-[*Imino(diphenoxyphosphinylamino)methyl*]-N-*methylglycinate*
$C_{23}H_{24}N_3O_5P$ M 453.433
Cryst. (MeOH aq.). Mp 103°.

Cramer, F. *et al*, *Chem. Ber.*, 1959, **92**, 392 (*synth*)
Ennor, A.H. *et al*, *Phys. Rev.*, 1959, **38**, 631 (*rev*)
Berlet, H.H., *Anal. Biochem.*, 1974, **60**, 347 (*isol*)
Richard, R.E. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1974, 368 (*N nmr*)
Maudsley, A.A. *et al*, *J. Magn. Reson.*, 1983, **51**, 147 (*P nmr*)

Phosphoramidothioic acid *O,O*-bis(1-methylethyl)ester, 9CI P-00215

N-(O,O-*Diisopropylthiophosphoryl)thiobenzamide*

[66078-55-5]

$$PhCSNHPS[OCH(CH_3)_2]_2$$

$C_{13}H_{20}NO_2PS_2$ M 317.412
Used as 3m*M* CCl_4 soln. for extraction separation of Cu(*II*) (from Fe(*III*) and other elements, pH ~ 2). Cryst. pK_a 8.2 (40% propanol).

Pudovik, A.N. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 861 (*synth*)
Toropova, V.F. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 1739 (*synth, detn, Cu*)
Zimin, M.G. *et al*, *Zh. Obshch. Khim.*, 1982, **52**, 1776 (*props*)

Phosphorodithioic acid *O,O*-bis(2-methylallyl) ester P-00216

O,O-*Bis(2-methylallyl)phosphorodithioate, 9CI*

[26930-07-4]

$$[H_2C{=}C(CH_3)CH_2O]_2PSSH$$

$C_8H_{15}O_2PS_2$ M 238.311
Used for extraction of As, Bi, Cu, Fe(*III*), Mo, Os, Pb, Pd, Pt, Rh, Ru; flotation of In, Sn, Tl(*I*), Tl(*III*). Cryst. (MeOH/Me_2CO). $Bp_{0.0001}$ 58°.

K salt: [26933-93-7].
Cryst. Sol. common org. solvs. Mp 115°.

Zemylanskii, N.I. *et al*, *Zh. Obshch. Khim.*, 1969, **39**, 2461 (*synth*)
Pilipenko, A.T. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1970, **36**, 1151.
Mel'nik, Y.I. *et al*, *Zh. Obshch. Khim.*, 1970, **40**, 791 (*synth*)

Phosphorotrithioic acid *O*-[2-(diethylamino)ethyl] ester P-00217

O-[*2-(Diethylamino)ethyl]phosphorotrithioate, 9CI*

$$Et_2NCH_2CH_2OPS(SH)_2$$

$C_6H_{16}NOPS_3$ M 245.370
Used for extraction of Cu, Mo, Pt; flotation of Co, In, Fe(*III*), Mo, Ni, Tl(*I*), Tl(*III*), Zr. Cryst. (MeOH/Me_2CO).

Di-K salt: [20583-15-7].
Sol. common org. solvs. Mp 195° dec.

Gupalo, A.P. *et al*, *CA*, 1968, **69**, 76552b (*synth*)
Pilipenko, A.T. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1970, **36**, 1151.

Phosphorotrithioic acid *O*-[2-(dimethylamino)ethyl]ester P-00218

O-[*2-(Dimethylamino)ethyl*]*phosphorotrithioate*, *9CI*

$Me_2NCH_2CH_2OPS(SH)_2$

$C_4H_{12}NOPS_3$ M 217.317

Used for extraction of Cu, Mo, Pt; flotation of In, Fe(*III*), Tl(*I*), Tl(*III*), Zr. Cryst. ($MeOH/Me_2CO$).

Di-K salt: [20583-13-5].

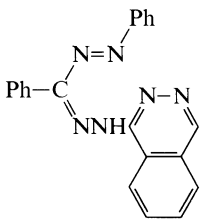
Cryst. Sol. common org. solvs. Mp 180° dec.

Gupalo, A.P. *et al*, *CA*, 1968, **69**, 76552b (*synth*)
Pilipenko, A.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1970, **36**, 1151.

1-(1-Phthalazinyl)-3,5-diphenylformazan P-00219

1-(2H)-Phthalazinone [*phenyl(phenylazo)methylene*] *hydrazone*, *9CI*

[67073-40-9]



$C_{21}H_{16}N_6$ M 352.398

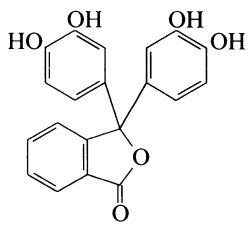
Used as 2m*M* soln. in EtOH for extraction-photometric detn. of Hg (λ_{max} 520 nm, ε 42000, $CHCl_3$). Orange-brown cryst. (cyclohexane). Sol. EtOH, cyclohexane, $CHCl_3$, DMF.

Podchainova, V.N. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 688 (*synth, detn, Hg*)
Barbina, T.M. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 1222 (*detn, Hg*)

Phthalein violet P-00220

3,3-Bis(3,4-dihydroxyphenyl)-1(3H)-isobenzofuranone, *9CI*.
2,2-Bis(3,4-dihydroxyphenyl)phthalide.
Pyrocatecholphthalein

[596-28-1]



$C_{20}H_{14}O_6$ M 350.327

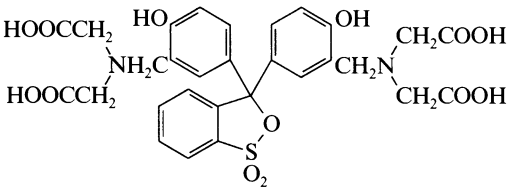
Used as a 0.25% soln. in EtOH for photometric detn. of B. Black cryst. powder. Sol. EtOH, Me_2CO.

Patrovsky, V., *Talanta*, 1963, **10**, 175 (*synth, detn, B*)

Phthalexon S P-00221

N,N′-[*3H-2,1-Benzoxathiol-3-ylidenebis*[(*6-hydroxy-3,1-phenylene*)*methylene*]]*bis*[N-(*carboxymethyl*)*glycine*] S,S-*dioxide*, *9CI*

[32736-66-6]



$C_{29}H_{28}N_2O_{13}S$ M 644.612

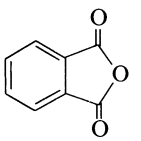
Used as 1 m*M* aq. soln. for photometric detn. of Bi, Zr, Th, rare earth elements. Dark cryst. powder. Sol. H_2O, EtOH.

Grunin, A.V. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1346 (*detn, Bi*)
Cherkesov, A.I. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1513 (*detn, Zr*)
Kirillov, A.I. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 2154; 1981, **36**, 1323 (*detn, rare earths*)

Phthalic anhydride, 8CI P-00222

1,3-Isobenzofurandione, *9CI*

[85-44-9]



$C_8H_4O_3$ M 148.118

Obt. industrially by catalytic oxidn. of Naphthalene. Used in manuf. of phthalic esters and resins. Dehydrating agent for alcohols, protecting reagent for aminoacids. Derivatisation reagent in the anal. of alcohols. Needles (EtOH). Spar. sol. H_2O, Et_2O, sol. EtOH. Mp 131.8°. Bp 284° (295°). Sublimes. Hydrol. by hot H_2O.

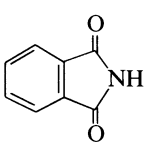
▷ Irritant, TLV 6. TI3150000.

Registry of Mass Spectral Data, Wiley-Interscience, 377 (*ms*)
Menczel, C., *Z. Phys. Chem.*, 1927, **125**, 161 (*uv*)
Kirk-Othmer Encycl. Chem. Technol., 2nd Ed., Wiley, N.Y., 1963-1971, **15**, 444.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 882.
Aldrich Library of NMR Spectra, 1974, **7**, 50D (*pmr*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 919c (*ir*)
Cohen, L.J. *et al*, *Anal. Chem.*, 1975, **47**, 313 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 447.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PHW750.

Phthalimide, 8CI P-00223

1H-Isoindole-1,3(2H)-dione, *9CI*

[85-41-6]



$C_8H_5NO_2$ M 147.133

Source of "protected" ammonia in primary amine synth. (Gabriel). Needles (H_2O), prisms (AcOH); leaflets by subl. Insol. C_6H_6, pet. ether. Mp 238°. Forms salts with bases.

▷ TI3920000.

Monoxime: [29833-90-7].
$C_8H_6N_2O_2$ M 162.148
Gives colour reactions with Ag, Au, Co, Cr, Cu, Fe, Mn, Ni, Pd, Rh. Cryst. Spar. sol. H_2O, Me_2CO, EtOH; insol. $CHCl_3$. Mp 264-266°.

N-*Ac:* [1971-49-9].
$C_{10}H_7NO_3$ M 189.170
Mp 133-135°.

N-(*4-Methylbenzenesulfonyl*): [5460-83-3].
$C_{15}H_{11}NO_4S$ M 301.322
Uv labelling reagent for hplc anal. of carboxylic acids. Cryst. (EtOH, C_6H_6 or EtOAc). Mp 144.5°.

N-*Me:* [550-44-7].
$C_9H_7NO_2$ M 161.160
Needles (EtOH aq.). Mp 133-134°. Bp 285°. Sublimes.

N-*Chloromethyl:*
$C_9H_6ClNO_2$ M 195.605
Reagent for formation of phthalimidomethyl esters. Uv-sensitive derivatisation reagent for hplc. Mp 132°.

N-*Hydroxymethyl:*
$C_9H_7NO_3$ M 177.159
Reagent for forming cryst. derivs. with amines. Mp 138-142°.

N-*Chloro:* [3481-09-2].
$C_8H_4ClNO_2$ M 181.578
Used as a 0.05*M* soln. in glac. AcOH as an oxidant for direct titrations in aq. AcOH. Cryst. Sol. AcOH, EtOH, C_6H_6; insol. H_2O. Mp 183-185°.

N-*Bromo:* [2439-85-2].
$C_8H_4BrNO_2$ M 226.029
Brominating agent. Used as an oxidative titrant in anal. Yellow cryst. (C_6H_6). Mp 206-207°.

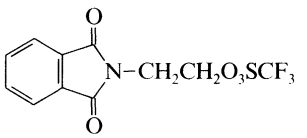
Dithiosemicarbazone: [60435-22-5].
$C_{10}H_{11}N_7S_2$ M 293.376
Used as 0.2% soln. in DMF for photometric detn. of $IO_4^{\ominus}$ (λ_{max}410 nm, ε 28000) and catalytic-photometric detn. of Os. Cryst. Sol. DMF; insol. H_2O.

Org. Synth., Coll. Vol., 1, 1932, 457 (*synth*)
Peacock, D.H. *et al, J. Chem. Soc.*, 1934, 1303 (*synth, tosylate*)
Drew, H.D.K. *et al, J. Chem. Soc.*, 1937, 16 (*deriv*)
Sakellarios, E.J., *Helv. Chim. Acta*, 1946, **29**, 1675 (*synth, tosylate*)
Kauffman, H.F. *et al, J. Org. Chem.*, 1954, **19**, 1662 (*deriv*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 135, 484 (*derivs*)
Gibson, M.S. *et al, Angew. Chem., Int. Ed. Engl.*, 1968, **7**, 919 (*use*)
Sheradsky, T., *Tetrahedron Lett.*, 1968, 1909 (*deriv*)
Buscarons, F. *et al, Inf. Quim. Anal.*, 1972, **26**, 1 (*oxime, synth*)
Krause, J.G. *et al, J. Org. Chem.*, 1972, **37**, 2040 (*synth, spectra*)
Aldrich Library of NMR Spectra, 1974, **7**, 97D (*pmr*)
Guzman, M. *et al, An. Quim.*, 1974, **70**, 828 (*dithiosemicarbazone, synth*)
Aldrich Library of IR Spectra, 2nd Ed., 1975, 960C (*ir*)
Guzman, M. *et al, Anal. Chim. Acta*, 1976, **83**, 259 (*dithiosemicarbazone, detn, Os*)
Lindner, W. *et al, J. Chromatog.*, 1979, **176**, 55 (*use, chloromethyl deriv*)
Jayasree, N. *et al, Talanta*, 1985, **32**, 1067 (*N-Chloro, use*)
Kaupp, G. *et al, Chem. Ber.*, 1986, **119**, 2387 (*N-Vinylphthalimide*)
Callejon Mochon, M. *et al, Microchem. J.*, 1986, **34**, 83 (*dithiosemicarbazone, detn, Os*)
Das, C.M. *et al, J. Indian Chem. Soc.*, 1987, **64**, 382 (*use, bromo deriv*)
Funazo, K. *et al, J. Chromatogr.*, 1989, **481**, 211 (*tosylate, synth, use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EOR500, PHX000.

2-Phthalimidoethyl trifluoromethanesulfonate P-00224

2-(1,3-Dihydro-1,3-dioxo-2H-isoindol-2-yl) ethyltrifluoromethanesulfonate, 9CI

[127175-39-7]



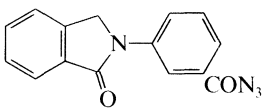
$C_{11}H_8F_3NO_5S$ M 323.249
Uv labelling reagent for carboxylic acids in hplc. Fine needles (hexane). Mp 79°.

Yasaka, Y. *et al, Anal. Sci.*, 1990, **6**, 49 (*synth, use*)

3-(2-Phthalimidyl)benzoyl azide P-00225

3-(1,3-Dihydro-1-oxo-2H-isoindol-2-yl)benzoyl azide, 9CI

[135590-68-0]



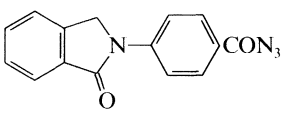
$C_{15}H_{10}N_4O_2$ M 278.270
Fluorescence labelling reagent for alcohols in hplc. Needles (Me_2CO aq.). Mp 123-126°.

Tsuruta, Y. *et al, Anal. Sci.*, 1991, **7**, 411 (*synth, use*)

4-(2-Phthalimidyl)benzoyl azide P-00226

4-(1,3-Dihydro-1-oxo-2H-isoindol-2-yl)benzoyl azide, 9CI

[135590-69-1]



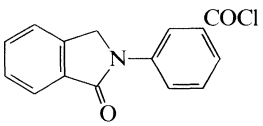
$C_{15}H_{10}N_4O_2$ M 278.270
Fluorescence labelling reagent for alcohols in hplc. Pale yellow grains (Me_2CO aq.). Mp 152-157°.

Tsuruta, Y. *et al, Anal. Sci.*, 1991, **7**, 411 (*synth, use*)

3-(2-Phthalimidyl)benzoyl chloride P-00227

3-(1,3-Dihydro-1-oxo-2H-isoindol-2-yl)benzoyl chloride, 9CI

[114341-15-0]



$C_{15}H_{10}ClNO_2$ M 271.702
Fluorescent derivatisation reagent for alcohols and amines. Needles. Mp 176-177.5°.

Tsuruta, Y. *et al, Anal. Chim. Acta*, 1987, **192**, 309 (*synth, use*)

4-(2-Phthalimidyl)benzoyl chloride P-00228

4-(1,3-Dihydro-1-oxo-2H-isoindol-2-yl)benzoyl chloride, 9CI

[114341-13-8]

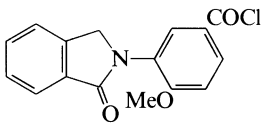
$C_{15}H_{10}ClNO_2$ M 271.702
Fluorescent derivatisation reagent for alcohols and amines. Fine needles. Mp >230°.

Tsuruta, Y. *et al, Anal. Chim. Acta*, 1987, **192**, 309 (*synth, use*)

3-(2-Phthalimidyl)-4-methoxybenzoyl chloride P-00229

3-(1,3-Dihydro-1-oxo-2H-isoindol-2-yl)-4-methoxybenzoyl chloride, 9CI

[114341-16-1]



$C_{16}H_{12}ClNO_3$ M 301.728

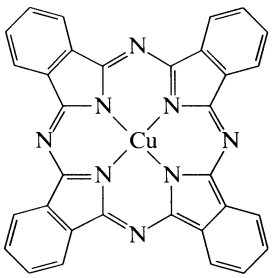
Fluorescent derivatisation reagent for alcohols and amines. Fine needles. Mp 196.5-197.5° subl.

Tsuruta, Y. *et al*, *Anal. Chim. Acta*, 1987, **192**, 309 (*synth, use*)

[29*H*,31*H*-[Phthalocyaninato(2−)]-N^{29},N^{30},N^{31},N^{32}]copper(*II*), 11CI P-00230

Copper phthalocyanine. Pigment blue 15. Alcian blue. Ingrain blue 1. C.I. 74160

[147-14-8]



$C_{32}H_{16}CuN_8$ M 576.078

Commercially available. Pigment in inks and paints. Used for photometric detn. of $S_2O_8^{2\ominus}$. Bright blue microcryst. with purple lustre. Stable towards heat, alkali, dil. acid. Dec. by hot HNO_3. Sol. 98% H_2SO_4; insol. H_2O, EtOH, hydrocarbons.

α-form

Better pigment than β-form. Redder than β-form. Converts to β-form in presence of aromatic solvs., heat etc.

β-form

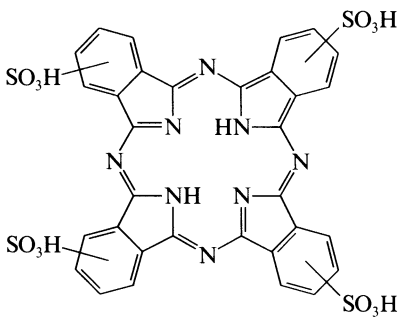
More thermodynamically stable form. Greener than α-form.

Dent, C.E. *et al*, *J. Chem. Soc.*, 1934, 1027 (*synth*)
Baumann, F. *et al*, *Angew. Chem.*, 1956, **68**, 133 (*synth*)
Villegas, E. *et al*, *Anal. Chim. Acta*, 1963, **29**, 145 (*use*)
Brown, C.J., *J. Chem. Soc. A*, 1968, 2488 (*cryst struct*)
Steinbach, F. *et al*, *J. Chem. Soc., Faraday Trans. 1*, 1979, **75**, 2594 (*ir*)
Graczyk, A. *et al*, *J. Magn. Reson.*, 1979, **34**, 467 (*esr*)
Moxon, N.T. *et al*, *Aust. J. Chem.*, 1981, **34**, 489 (*struct, magnetism*)
Chen, S.X. *et al*, *Bull. Chem. Soc. Jpn.*, 1983, **56**, 2565 (*pe*)
Jennings, C. *et al*, *J. Raman Spectrosc.*, 1984, **15**, 34 (*raman*)
Merck Index, 11th Ed., 1989, 2515.

Phthalocyaninetetrasulfonic acid, 8CI P-00231

Tetrabenzotetraazoporphinetetrasulfonic acid

[33308-41-7]



$C_{32}H_{18}N_8O_{12}S_4$ M 834.805

Tetra-Na salt: [29721-96-8].

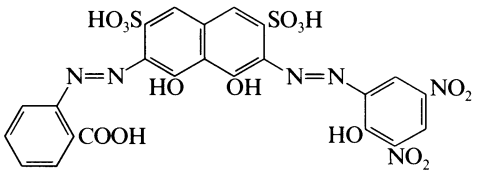
Used as a 0.1% aq. soln. for photometric detn. of Ti(*III*) (λ_{max} 520 nm, ε 40000), V(*III*). Cryst.

Tsekovnitskaya, I.A. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 973, 1527 (*detn, Ti, V*)

Picramine K P-00232

3-(2-Carboxyphenylazo)-4,5-dihydroxy-6-(2-hydroxy-3,5-dinitrophenylazo)-2,7-naphthalenedisulfonic acid

[14041-36-2]



$C_{23}H_{14}N_6O_{15}S_2$ M 678.527

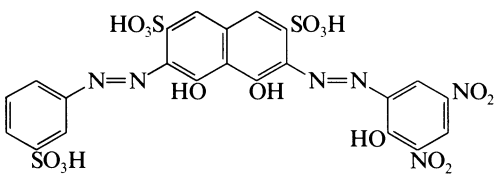
Used as a 0.1 or 0.5% aq. soln. for photometric detn. of Ba (λ_{max} 645 nm, ε 47000), Ca (λ_{max} 640 nm, ε 47000), Mg (λ_{max} 640 nm, ε 52000), Nb, Pu(*IV*), Zr. Dark red cryst. powder. Mod. sol. H_2O. pK_{a1} 2.79; pK_{a2} 8.8.

Savvin, S.B., *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow (*detn, Nb, Zr*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 1075; 1969, **24**, 177 (*use, detn, Ba, Ca, Mg, Pu*)
Muk, A.A. *et al*, *Anal. Chim. Acta*, 1969, **44**, 59; **45**, 534 (*pKa*)
Alimarin, I.P. *et al*, *CA*, 1970, **72**, 279979z (*detn, Nb*)

Picramine M P-00233

4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI

[14041-33-9]



$C_{22}H_{14}N_6O_{16}S_3$ M 714.581

Used as a 0.1% aq. soln. for photometric detn. of Cu, Nb, V, Pd (λ_{max} 600 nm, ε 40000); extraction-photometric detn. of Cu. Dark red cryst. powder. Sol. H_2O, EtOH. pK_{a1} 2.19; pK_{a2} 8.9.

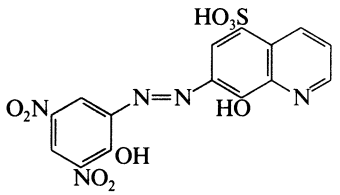
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 1075 (*detn, V*)
Okhanova, L.A. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 1562 (*detn, Cu*)
Muk, A.A. *et al*, *Anal. Chim. Acta*, 1969, **44**, 59; 1969, **45**, 534 (*pKa*)

Savvin, S.B. *et al*, *Talanta*, 1969, **16**, 423 (*detn, Pd*)
Alimarin, I.P. *et al*, *CA*, 1970, **72**, 279979z (*detn, Nb*)
Perisic-Janic, N.V. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 208 (*pKa*)

Picriminazosulfoxine P-00234

8-Hydroxy-7-[(2-hydroxy-3,5-dinitrophenyl)azo]-5-quinolinesulfonic acid, 9CI

[13059-74-0]



$C_{15}H_9N_5O_9S$ M 435.330

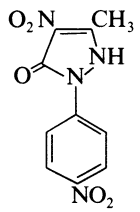
Used as a 0.5% aq. soln. for photometric detn. of Cu, Ni; metallochromic indicator in titrimetric detn. of Bi, Cu, Ni. Orange red cryst. powder. Sol. H_2O, EtOH, Me_2CO; insol. $CHCl_3$, Et_2O, C_6H_6. pK_{a1} 3.0; pK_{a2} 8.1; pK_{a3} 11.74.

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 568 (*synth, detn, Bi*)
Goijal, S.S. *et al*, *Mikrochim. Acta*, 1969, 237 (*detn, Cu*)
Zhao, Z. *et al*, *CA*, 1982, **96**, 134891g (*detn, Cu, Ni*)

Picrolonic acid P-00235

2,4-Dihydro-5-methyl-4-nitro-2-(2-nitrophenyl)-3H-pyrazol-3-one, 9CI. 3-Methyl-4-nitro-1-(4-nitrophenyl)-5-pyrazolone

[550-74-3]



$C_{10}H_8N_4O_5$ M 264.197

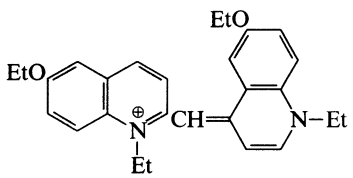
Forms crystalline addn. compds. with org. bases, used to characterise alkaloids etc. Used as aq. soln. of Li salt for indirect photometric detn. of Ca. Yellow leaflets. Mp 116-117°.

▷ UQ9510000.

Matthes, H., *Arch. Pharm.* (*Weinheim, Ger.*), 1907, **245**, 112 (*use*)
Kofler, L. *et al*, *Microchem. J.*, 1937, **22**, 43 (*use*)
Nonova, D.C., *Mikrochim. Acta*, 1958, 111 (*detn, Ca*)
Rivas, M.J.S., *CA*, 1959, **53**, 7187 (*synth*)
Yavorskii, N.P., *Farm. Zh.* (*Kiev*), 1964, **19**, 65; *CA*, **61**, 9361.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PIE000.

Pinachrome P-00236

6-Ethoxy-2-[(6-ethoxy-1-ethyl-4(1H)-quinolinylidene)methyl]-1-ethylquinolinium(1+), 9CI. p-*Ethoxyquinaldine*-p-*ethoxyquinolineethylcyanine*



$C_{27}H_{31}N_2O_2^{\oplus}$ M 415.554 (ion)

The name Pinachrome strictly applies to the iodide salt.

Iodide: [27593-93-7].
$C_{27}H_{31}IN_2O_2$ M 542.459

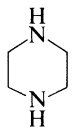
Used as a 0.1% soln. in 70% aq. EtOH as acid-base indicator (pH range: 5.6-8.0; colour change: colourless → violet). Dark green cryst. powder. Sol. dil. HCl; sl. sol. EtOH.

Kolthoff, I.M., *J. Am. Chem. Soc.*, 1928, **50**, 1604.

Piperazine, 9CI P-00237

Hexahydropyrazine. Numerous proprietary names

[110-85-0]



$C_4H_{10}N_2$ M 86.136

Anthelmintic, freq. administered as derivs. Used for detn. of Sb, Au, Sn, Mo, W, V. Hygroscopic plates (EtOH) with salty taste. V. sol. H_2O, EtOH, insol. Et_2O. Mp 106°. Bp 146°. pK_a 4.19.

▷ Irritant, causes burns. TK7800000.

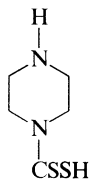
[41372-10-5, 50322-15-1]

Kitchen, L.J. *et al*, *J. Am. Chem. Soc.*, 1947, **69**, 854 (*synth*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **3**, 146 (*synth, use*)
Martin, W.B. *et al*, *J. Am. Chem. Soc.*, 1948, **70**, 1817 (*synth*)
Lanum, W.J. *et al*, *J. Chem. Eng. Data*, 1969, **14**, 93 (*props*)
Yokozeki, A. *et al*, *Bull. Chem. Soc. Jpn.*, 1971, **44**, 2352 (*struct*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 392.
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **2**, 295 (*rev*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 449.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DVF200, HEP000, MOD250, PIJ000, PIJ500, PIK500.

1-Piperazinecarbodithioic acid, 9CI P-00238

1-Piperazinedithiocarbamic acid

[99-00-3]



$C_5H_{10}N_2S_2$ M 162.279

Once widely used as an anthelmintic for treatment of roundworm infection in pigs and poultry. Yellow microcryst. powder. Spar. sol. H_2O. Mp 225-227° subl.

N-*Me:* [5712-49-2]. N-*Methylpiperazinedithiocarbamic acid. 4-Methyl-1-piperazinecarbodithioic acid, 9CI*
$C_6H_{12}N_2S_2$ M 176.306
Used as 0.1% aq. soln. of Na salt for photometric detn. of Bi, Cu, Te. Cryst. (as Na salt). Sol. H_2O (as Na salt).

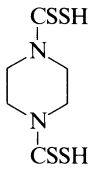
[16909-14-1]

Dunderdale, J. *et al*, *Chem. Ind.* (*London*), 1956, 174 (*synth*)
Macrotrigiano, G.M. *et al*, *J. Inorg. Nucl. Chem.*, 1974, **36**, 3709 (*synth, deriv*)
Jain, S.K. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 2164 (*use*)

1,4-Piperazinedicarbodithioic acid, 9CI P-00239

Piperazinebis(dithiocarbamic acid)

[7526-03-6]



$C_6H_{10}N_2S_4$ M 238.422

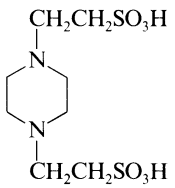
Used as aq. soln. of Na salt for photometric detn. of Ni, Cu, Co, Hg(*II*). Cryst. Sol. alkalis.

Tsukada, M. *et al*, *CA*, 1986, **104**, 81097c.

1,4-Piperazinediethanesulfonic acid, 9CI P-00240

Piperazine-1,4-bis(2-ethanesulfonic acid). PIPES

[5625-37-6]



$C_8H_{18}N_2O_6S_2$ M 302.372

Good's buffer with pH range 6.1-7.5. Cryst. (EtOH aq.). Mp >300° dec. (as mono-Na salt). pK_a 6.80 (20°).

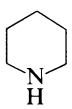
[10010-67-0, 76836-02-7]

Good, N.E. *et al*, *Biochemistry*, 1966, **5**, 467 (*synth*)
Eagle, H., *Science* (*Washington, D.C.*), 1971, **174**, 500 (*use*)
McGlothlin, C.D. *et al*, *Anal. Lett.*, 1976, **9**, 245 (*props*)
Pfeiffer, S.E. *et al*, *J. Biol. Chem.*, 1976, **251**, 5112.
Roy, R.N. *et al*, *Clin. Chem.* (*Winston-Salem, N.C.*), 1980, **26**, 1919; 1981, **27**, 1787 (*use*)

Piperidine, 9CI P-00241

Hexahydropyridine

[110-89-4]



$C_5H_{11}N$ M 85.149

Occurs in form of Piperine in black pepper (*Piper nigrum*, *P. longum*, *P. officinarum*). Also present in free state in plants, e.g. *Psilocaulon absimile*, *Petrosimonia monandra*, *Glycine max*. Useful base in org. synth. Used for detn. of Co, Ni, Pt, Pd, Rh, Ir. Liq. with characteristic odour. Misc. H_2O, sol. org. solvs. d_4^{20} 0.862. Mp −9°. Bp 106°, Bp_{20} 17.7°. n_D^{20} 1.4534. Forms a hydrate, Mp −14°.

▷ Highly toxic by inhalation and skin absorption, causes burns. Highly flammable, fl. p. 16°. TM3500000.

B,HCl: [6091-44-7].
Prisms (EtOH). Mp 244-245°.
▷ TN0400000.

1-Ac: [618-42-8].
$C_7H_{13}NO$ M 127.186
Mp 131-133°. Bp 226-227°, Bp_{30} 125°.
▷ TM3975000.

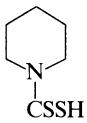
1-Benzoyl: [776-75-0].
$C_{12}H_{15}NO$ M 189.257
Mp 48°. Bp 320-321°, Bp_{20} 180-184°.
▷ TM4600000.

Skita, A. *et al*, *Ber.*, 1912, **45**, 3592; 1916, **49**, 1600 (*synth*)
Org. Synth., Coll. Vol., 1, 1932, 99 (*synth*)
Wojcik, B. *et al*, *J. Am. Chem. Soc.*, 1934, **56**, 2419 (*synth*)
Seikel, M.K., *J. Am. Chem. Soc.*, 1940, **62**, 750 (*use*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **3**, 149 (*synth, use*)
Weitkamp, H. *et al*, *Chem. Ber.*, 1962, **95**, 2895 (*pmr*)
Daasch, L.W., *J. Phys. Chem.*, 1965, **69**, 3196 (*ms*)
Gupta, J.K.D. *et al*, *Indian J. Phys.*, 1970, **44**, 561 (*cryst struct*)
Kausch, M. *et al*, *Org. Magn. Reson.*, 1977, **10**, 208 (*pmr, cmr*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 293.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 449.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ADA250, HET000, NLJ500, PIL500.

1-Piperidinecarbodithioic acid, 9CI P-00242

Piperidine-N-dithiocarboxylic acid. Piperidinedithiocarbamic acid

[98-99-7]



$C_6H_{11}NS_2$ M 161.292

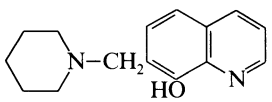
Free acid not isol. Salts are powerful vulcanisation accelerators. Used as aq. soln. for extraction-separation of Rh from Ir; extraction of Pd, Pt (1,2-dichloroethane). Cryst. Sol. alkalis. pK_{a1} 5.64 (25°).

Piperidine salt: Leaflets (EtOH). Mp 174°.
Phenylhydrazine salt: Mp 218°.
Me ester: [698-17-9].
$C_7H_{13}NS_2$ M 175.318
Plates. Mp 33-34°. Bp *ca.* 260°.

U.K. Pat., 358 230, (1931).
Clifford, A.M. *et al*, *J. Am. Chem. Soc.*, 1932, **54**, 1166 (*synth*)
Pyle, J.T. *et al*, *Anal. Chem.*, 1964, **36**, 1796 (*synth, detn, Pd, Pt*)
Fedorenko, N.V. *et al*, *Zavod. Lab.*, 1964, **30**, 402 (*detn, Rh*)
Kadyrov, A. *et al*, *CA*, 1975, **83**, 178742 (*synth*)

7-(1-Piperidinylmethyl)-8-quinolinol, 9CI P-00243

[6632-09-3]



$C_{15}H_{18}N_2O$ M 242.320

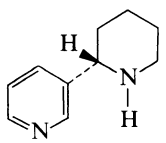
pK_{a1} 1.7; pK_{a2} 6.6; pK_{a3} 10.9.

B,HCl: Used for extraction-photometric detn. of In. Cryst. (Me_2CO/EtOH). Mp 198°.

Phillips, J.P. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 3768 (*synth, detn, In*)

3-(2-Piperidinyl)pyridine, 9CI P-00244

[40774-73-0]



(*S*)-*form*

$C_{10}H_{14}N_2$ M 162.234

▷ Highly toxic; exptl. tetratogen.

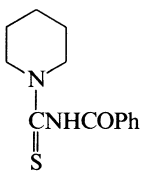
(*S*)-*form* [494-52-0] ***Anabasine.*** *Nicotimine*
Alkaloid from *Anabasis aphylla, Nicotiana tabacum*, many other *N.* spp.(Chenopodiaceae, Solanaceae) and many other spp. in several families. Mp 25-30°. Bp 276°, Bp_2 104-105°.
▷ BV4375000.
Dipicrate: Mp 205°.
N-*Ac:* [3350-86-5].
$C_{12}H_{16}N_2O$ M 204.271
Used as 0.5*M* aq. soln. for extraction-photometric detn. of Ti. Cryst. Sol. EtOH; sl. sol. H_2O.
p-*Nitrobenzoyl:* Mp 127-128° (122°). $[\alpha]_D^{20}$ −130.0° (c, 3 in MeOH).
N-*Me:* **N-*Methylanabasine***
Occurs in traces in crude nicotine. Oil. Bp_{12} 127-128°. $[\alpha]_D^{15}$ −85.1°.
Tetrahydro: Tetrahydroanabasine
$C_{10}H_{18}N_2$ M 166.266
Alkaloid from *Adenocarpus complicatus* subsp. *aureus* (Leguminosae). No details. Struct. not fully descr.

(±)-*form* [13078-04-1]
Neonicotine
Alkaloid from *Duboisia myoporoides, N. glauca* and other spp. (Solanaceae). Bp_{775} 280-282°.
Dipicrate: Mp 213-214°.

Orechoff, A. *et al, Ber.*, 1931, **64**, 266; 1932, **65**, 232 (*isol*)
Späth, E. *et al, Ber.*, 1937, **70**, 70 (*resoln*)
Linnell, R.H., *J. Am. Chem. Soc.*, 1954, 1391 (*uv*)
Otroshchenko, O.S., *Zh. Obshch. Khim.*, 1954, **24**, 1885 (*synth, N-Ac*)
Lukeš, R. *et al, Collect. Czech. Chem. Commun.*, 1962, **27**, 751 (*synth*)
Talipov, S.T., *Zh. Anal. Khim.*, 1963, **18**, 178 (*use, N-Ac*)
Duffield, A.M. *et al, J. Am. Chem. Soc.*, 1965, **87**, 2926 (*ms*)
Testa, B. *et al, Mol. Pharmacol.*, 1973, **9**, 10 (*cd*)
Leete, E., *J. Chem. Soc., Chem. Commun.*, 1975, 9 (*biosynth*)
Nehme, M. *et al, An. Quim.*, 1977, **73**, 307; *CA*, **87**, 114689h (*tetrahydroanabasine*)
Rakhmatullina, V.U. *et al, J. Gen. Chem. USSR* (*Engl. Transl.*), 1978, **48**, 629 (*synth*)
Pfrengle, W. *et al, J. Org. Chem.*, 1989, **54**, 4261 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AON875.

N-(1-Piperidinylthioxomethyl)benzamide, 9CI P-00245

1-Piperidino-3-benzoylthiourea. N-*Benzoyl-1-piperidinethioamide*
[58415-38-6]

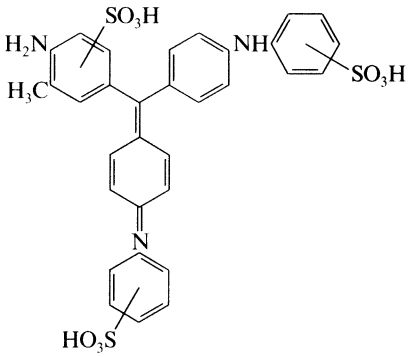


$C_{13}H_{16}N_2OS$ M 248.348
Used as 5m*M* soln. in 0.1*M* NaOH for extraction-separation of Ir(*III,IV*), Ru(*III*) ($CHCl_3$, sl. acidic media). Needles (EtOH). Sol. alkalis, EtOH. Mp 126-128°.

Beyer, L. *et al, J. Prakt. Chem.*, 1975, **317**, 829 (*synth*)
Röbisch, G. *et al, Anal. Chim. Acta*, 1983, **151**, 255 (*use*)

Poirrier blue C4B P-00246

Aminomethyl[[4-[(sulfophenyl)amino]phenyl][4-[(sulfophenyl)imino]-2,5-cyclohexadien-1-ylidene]methyl]benzenesulfonic acid, 9CI. C.I. Acid blue 22. C.I. Water blue. Aniline blue water soluble. C.I. 42755



$C_{32}H_{25}N_3O_9S_3$ M 691.762
Strictly, the name Poirrier blue C4B applies to the disodium salt.
Di-Na salt: [28631-66-5].
Used as acid-base indicator (pH range: 11.0-13.0; colour change: blue → reddish violet). Sol. H_2O; sl. sol. EtOH.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

Polyethylene glycol P-00247

α-*Hydro-ω-hydroxypoly(oxy-1,2-ethanediyl)*, *8CI. PEG*
[25322-68-3]

$$H(OCH_2CH_2)_nOH \text{ where } n > 4$$

Av. MW 200-6000. Used as 20% aq. soln. for extraction-photometric detn. of Au(*III*) (λ_{max} 394 nm). Used as a water-soluble lubricant in food and food packaging and as an ointment base. Viscous liq. or solid. Sol. H_2O, org. solv., aromatic hydrocarbons. d 1.127. Mp 4-10°.
▷ Eye irritant.

Fordyce, H., *J. Am. Chem. Soc.*, 1939, **61**, 1905 (*synth*)
Ziegler, M. *et al, Fresenius' Z. Anal. Chem.*, 1961, **184**, 166 (*detn, Au*)
Chapman, A.H. *et al, Metallurgia*, 1968, **78**, 217 (*detn, Au*)
Davidson, R.L., *Handb. Water-Soluble Gums Resins*, McGraw Hill, N.Y., 1980 (*rev*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PJT000, PJT200, PJT225, PJT230, PJT240, PJT250, PJT500, PJT750, PJU000, PJV000.

Polyoxyethylenedecylamine P-00248

$C_{26}H_{55}NO_7$ M 493.723
Used as a 0.5% aq. soln. for photometric detn. of Be. Cryst.

Nishida, H. *et al, Bull. Chem. Soc. Jpn.*, 1976, **46**, 571 (*detn, Be*)
Nishida, H. *et al, Bunseki Kagaku* (*Jpn. Anal.*), 1978, **27**, 77 (*detn, Be*)

Poly(vinyl alcohol) P-00249

Ethenol homopolymer, 9CI. PVA
[9002-89-5]

$$[—CH_2CH(OH)—]_n$$

Used as 1-3% aq. solns. as a protective colloid (stabilisation of pseudo-solns., e.g. Se or Te sol.); indirect detn. of Cu(*II*) (oxidn. of $I^{\ominus}$ to I_2 which forms coloured complex with the reagent). Used in textile and

paper sizing, in adhesives, in the formulation of cement coatings and finishings, and as an emulsion-polymerization aid. White or cream granular powder. Sol. H_2O. Prepd. by hydrolysis of poly(vinyl acetate).

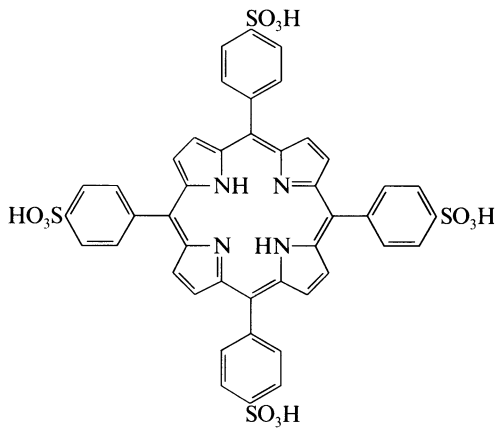
▷ TR8100000.

Calmé, P. *et al*, *Mikrochim. Acta*, 1972, 173 (*detn, Cu*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **23**, 848 (*rev*)
Dunn, A.S., *Chem. Ind. (London)*, 1980, 801 (*rev*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986 (*use*)
Merck Index, 11th Ed., 1989, 7562.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PKP750.

4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakisbenzenesulfonic acid, 9CI P-00250

α,β,γ,δ-Tetrakis(p-*sulfophenyl*)*porphine*. *5,10,15,20-Tetrakis*(*4-sulfophenyl*)*porphine*

[35218-75-8]



$C_{44}H_{30}N_4O_{12}S_4$ M 935.005

Used for photometric detn. of Pb (λ_{max} 464 nm, ε 275000), Co (λ_{max} 432 nm, ε 240000), Cd (λ_{max} 413 nm), Pd (λ_{max} 410 nm, ε 22000), Hg (λ_{max} 413 nm). Used in modification of anion-exchange resin for detn. of H_2O_2. Used as 0.004m*M* aq. soln. for kinetic-photometric detn. of Zn (λ_{max} 421 nm, in the presence of excess Cd). Cryst. Sol. alkalis. pK_{a1} 4.8 (μ = 0.1, 25°).

N-*Me*: [83177-98-4]. N-*Methyl-5,10,15,20-tetrakis*(*4-sulfophenyl*)*porphine*

$C_{45}H_{32}N_4O_{12}S_4$ M 949.031

Used as 0.005m*M* aq. soln. for kinetic-photometric detn. of Cu and Zn in serum. Cryst. Sol. H_2O.

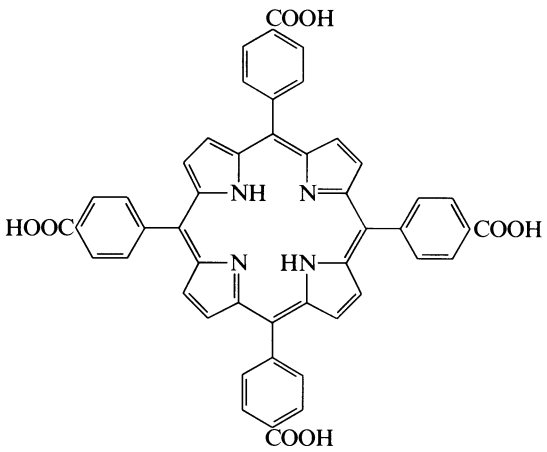
[39050-26-5, 68438-24-4]

Adler, A.D. *et al*, *J. Org. Chem.*, 1966, **32**, 476 (*synth*)
Pasternack, R.F. *et al*, *J. Am. Chem. Soc.*, 1972, **84**, 4511 (*synth*)
Ishii, H. *et al*, *Nippon Kagaku Zasshi*, 1978, 390 (*detn, Pd*)
Wang, W.L. *et al*, *CA*, 1981, **94**, 202103n (*synth, detn, Pb*)
Tabata, M. *et al*, *Mikrochim. Acta*, 1985, **1**, 397 (*detn, Cd, Zn*)
Funahashi, S. *et al*, *Mikrochim. Acta*, 1986, **1**, 33 (*synth, use, deriv*)
Ishii, H. *et al*, *Anal. Sci.*, 1987, **3**, 229 (*detn, Co*)
Tabata, M., *Analyst (London)*, 1987, **112**, 141 (*detn, Hg*)
Saito, Y. *et al*, *Talanta*, 1987, **34**, 667 (*detn, H_2O_2*)
Tabata, M. *et al*, *TrAC, Trends Anal. Chem. (Pers. Ed.)*, 1991, **10**, 128.

4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakisbenzoic acid, 9CI P-00251

α,β,γ,δ-Tetrakis(*4-carboxyphenyl*)*porphine*

[14609-54-2]



$C_{48}H_{30}N_4O_8$ M 790.787

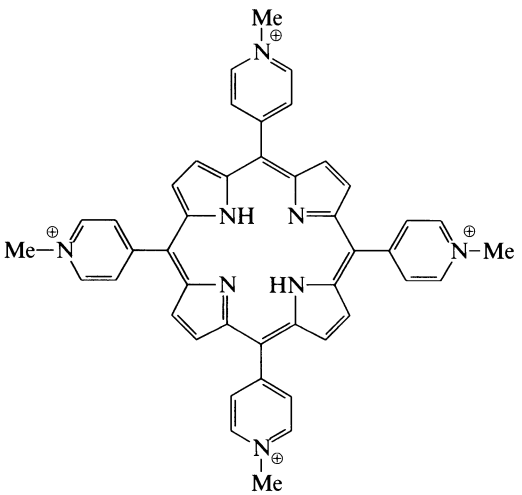
Used as a 0.2m*M* soln. in dil. NaOH for photometric detn. of Mn (λ_{max} 469 nm). Cryst. Sol. alkais.

Longo, R.F. *et al*, *J. Heterocycl. Chem.*, 1969, **6**, 927 (*synth*)
Ishii, H. *et al*, *Anal. Chim. Acta*, 1982, **132**, 347 (*detn, Mn*)
Tabata, M. *et al*, *TrAC, Trends Anal. Chem. (Pers. Ed.)*, 1991, **10**, 128 (*rev*)

4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakis[1-methylpyridinium], 9CI P-00252

α,β,γ,δ-Tetrakis(*4*-N-*methylpyridyl*)*porphine*

[38673-65-3]



$C_{44}H_{38}N_8^{4\oplus}$ M 678.838 (ion)

Tetrakis(p-*toluenesulfonate*): Used as a 0.1m*M* aq. soln. for photometric detn. of Cd (λ_{max} 450 nm, ε 220000), Cu (λ_{max} 424 nm); indirect photometric detn. of $CN^{\ominus}$. Cryst.

Tabata, M. *et al*, *Anal. Lett.*, 1980, **13**, 427 (*detn, Cu*)
Makino, T. *et al*, *Clin. Chim. Acta*, 1981, **111**, 1 (*synth*)
Watanabe, H. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1982, **31**, 471 (*detn, Cu*)
Ishii, H. *et al*, *Talanta*, 1982, **29**, 545 (*detn, Cd*)
Ishii, H. *et al*, *Analyst (London)*, 1987, **112**, 1121 (*detn, $CN^{\ominus}$*)
Komata, M. *et al*, *Talanta*, 1988, **35**, 723 (*detn, Cd*)
Tabata, M. *et al*, *TrAC, Trends Anal. Chem. (Pers. Ed.)*, 1991, **10**, 128 (*rev*)

Potassium *O*-ethyl dithiocarbonate P-00253

Carbonodithioic acid, O-ethyl ester, potassium salt, 9CI. Dithiocarbonic acid, O-ethyl ester, potassium salt, 8CI. Potassium ethylxanthogenate. Ethylxanthic acid, potassium salt

[140-89-6]

$EtOCS_2K$

$C_3H_5KOS_2$ M 160.302

Obt. by adding CS_2 to a slurry of powdered KOH in EtOH, extracted in Me_2CO, pptd. with pet. ether. Commercially available. Used for chelation and extraction-separation of heavy metal ions (Sb, Bi, Cu, Hg, Zn, Cd) into org. solvs. Also used in flotation of ores and as a soil fumigant. Cyclocondensation reagent. Pale yellow monoclinic cryst. (Me_2CO/pet. ether). Sol. H_2O, EtOH; prac. insol. Et_2O. Dec. by boiling H_2O or heat.

▷ Toxic.

Mazzi, F. *et al*, *Z. Kristallogr.*, 1963, **118**, 378 (*cryst struct*)
Tyden, I., *Talanta*, 1966, **13**, 1353 (*thermal dec*)
Sadovskii, A.P. *et al*, *Zh. Strukt. Khim.*, 1967, **8**, 1043 (*x-ray spectrum*)
Jowitt, R.N. *et al*, *J. Chem. Soc. A*, 1970, 1702 (*ir, pmr*)
Rao, A.L.J. *et al*, *Fresenius' Z. Anal. Chem.*, 1975, **227**, 126 (*flotation*)
Donaldson, E.M., *Talanta*, 1975, **23**, 417 (*uses*)
U.S. Pat., 3 864 374, (1975); *CA*, **82**, 170038 (*manuf*)
Gautam, M. *et al*, *Mikrochim. Acta*, 1979, **1**, 515 (*uses*)
Tsarenko, S.V. *et al*, *Izv. Vyssh. Uchebn. Zaved., Tsvetn. Metall.*, 1980, 3 (*flotation*)
Sasaki, Y., *Anal. Chim. Acta*, 1981, **127**, 209 (*uses*)
Millican, R.J. *et al*, *J. Am. Chem. Soc.*, 1983, **105**, 3622 (*acid cat dec*)
Adrian, P. *et al*, *Trans. Inst. Min. Metall., Sect. C*, 1985, **94**, 102 (*purifn*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PLF000.

Primaquine, BAN, INN P-00254

N^4-(6-Methoxy-8-quinolinyl)-1,4-pentanediamine, 9CI. 8-(4-Amino-1-methylbutylamino)-6-methoxyquinoline, 8CI. Avlon. Neo-Quipenyl. Primachim. SN 13272

[90-34-6]

$C_{15}H_{21}N_3O$ M 259.350

▷ VA9650000.

(±)-form

Antimalarial drug. Used for detn. of Cr(*VI*) and V(*III*) (gives purple colour in conc. H_2SO_4). Viscous liq. $Bp_{0.5}$ 175-179°. pK_{a1} 10.39 (NH_2); pK_{a2} 3.20 (quinoline N); pK_{a3} −1 to −2 (aniline N) (H_2O). Treatment with Primaquine is subject to high levels of parasite resistance.

$B,2H_3PO_4$: [63-45-6]. *Primaquine phosphate, USAN*
Yellow cryst. (EtOH aq.). Mod. sol. H_2O. Mp 197-198°.
▷ VA9660000.

Oxalate (1:1): Yellow cryst. (EtOH aq.). Mp 182.5-185°.

Elderfield, R.C. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 4816 (*synth*)
Olenick, J.G., *Antibiotics*, 1975, **3**, 516 (*rev*)
Baty, J.D. *et al*, *Biomed. Mass Spectrom.*, 1978, **5**, 76 (*ms*)
Singh, S.P. *et al*, *J. Heterocycl. Chem.*, 1978, **15**, 9 (*nmr*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1387.
Hufford, C.D. *et al*, *J. Heterocycl. Chem.*, 1983, **20**, 273 (*cmr, props*)
Shen, N.-K. *et al*, *Mikrochim. Acta*, 1984, **1**, 19 (*use*)
Price, A.H. *et al*, *Prog. Clin. Biol. Res.*, 1986, **214**, 261 (*rev, metab, tox*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PMC300, PMC310.

Primene JM T P-00255

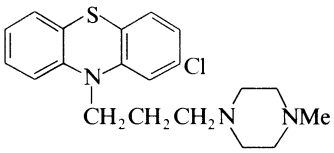
A mixture of long chain alkylamines. Total carbon number is 1725. Used as a soln. in kerosene for extraction of Hf, U, Zr. Amber viscous oil. Sol. common org. solvs.; insol. H_2O; spar. sol. NH_2SO_4 (5 mg per 100 cm^3). d^{25} 0.845.

Schmid, E.R. *et al*, *J. Radioanal. Chem.*, 1973, **13**, 349 (*detn, U*)
El-Yamani, I.S. *et al*, *Talanta*, 1978, **25**, 523 (*detn, Hf, Zr*)

Prochlorperazine, BAN, INN P-00256

2-Chloro-10-[3-(4-methyl-1-piperazinyl)propyl]-10H-phenothiazine, 9CI. Proclorperazine. Chlormeprazine. Numerous proprietary names

[58-38-8]



$C_{20}H_{24}ClN_3S$ M 373.948

Tranquilliser, antiemetic. Used as a 0.1% aq. soln. for photometric detn. of V(*V*) (λ_{max} 529 nm, ε 12400). Viscous liq. Also used as ethanesulfonate (Prochlorperazine edisylate, USAN).

▷ SO2700000.

Dimaleate: [84-02-6]. *Campazine. Emetival*
Very small cryst. Sol. H_2O; insol. org. solvs. Mp 228°. Component of Combid.
▷ SO3150000.

$B,EtSO_3H$: [1257-78-9]. *Prochlorperazine edisylate, USAN*
▷ SO2975000.

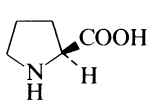
[1257-78-9]

U.K. Pat., 780 193, (1958); *CA*, **52**, 2093 (*synth, pharmacol*)
Hanlon, T.E. *et al*, *Psychopharmacologia*, 1965, **7**, 89 (*pharmacol*)
Kracmar, J. *et al*, *Pharmazie*, 1968, **23**, 651 (*uv*)
Gilbert, J.N. *et al*, *Org. Mass Spectrom.*, 1969, **2**, 17 (*ms*)
McDowell, J.J.H., *Acta Crystallogr., Sect. B*, 1979, **35**, 2433 (*cryst struct*)
Patra, A. *et al*, *J. Indian Chem. Soc.*, 1982, **59**, 660 (*cmr*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7096-7099.
Gowda, H.S. *et al*, *Analyst (London)*, 1984, **109**, 381 (*detn, V*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 5729.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PME700, PMF250, PMF500.

Proline P-00257

2-Pyrrolidinecarboxylic acid

[28882-68-0]



(S)-form

$C_5H_9NO_2$ M 115.132

(*R*)-*form* [344-25-2]
D-form
Used as a 0.1*M* aq. soln. for spectropolarimetric detn. of Cu. Cryst. (EtOH/Et_2O). Mp 206°, Mp 215-220° dec. $[\alpha]_D^{20}$ +81.9° (H_2O), $[\alpha]_D$ +60.4° (c, 1 in 5*M* HCl).
Me ester: $[\alpha]_D^{25}$ +34°.
N-(*4-Methylbenzenesulfonyl*): Mp 130-133°.
N-*3-Nitrobenzoyl:* Mp 137-140°. $[\alpha]_D^{20}$ +120° (*M* NaOH).

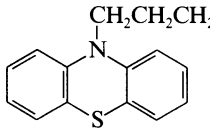
(*S*)-*form* [147-85-3]
L-form
Found in hydrolysates of many proteins/peptides, widely distributed in free state. Recoverable chiral reagent in asymmetric synth. of L-amino acids etc. Cryst. (EtOH/Et_2O). Mp 220-222° dec. $[\alpha]_D^{25}$ −86.2° (c, 1 in H_2O), $[\alpha]_D$ −60.4° (c, 1 in 5*M* HCl). *N*-Protected derivs. of interest in peptide synthesis are listed alphabetically elsewhere.
B,HCl: Mp 115°.
Me ester:
$C_6H_{11}NO_2$ M 129.158
Bp_{10} 70°.
Me ester; B,HCl: $[\alpha]_D^{24}$ −40.1° (c, 0.5 in H_2O).
N-*Ac:*
$C_7H_{11}NO_3$ M 157.169
Mp 118°. $[\alpha]_D^{23}$ −115° (c, 2 in H_2O).
N-*2,4-Dinitrophenyl:* Mp 137°.
N-(*4-Methylbenzenesulfonyl*): Mp 130-133°.
Amide:
$C_5H_{10}N_2O$ M 114.147
Mp 99°.
Amide, N-*Ac:*
$C_7H_{12}N_2O_2$ M 156.184
Mp 178-180°.
Anhydride:
$C_{10}H_{16}N_2O_3$ M 212.248
Mp 149°. $[\alpha]_D^{19}$ −147.2°.

(±)-*form* [609-36-9]
Hygroscopic needles (EtOH/Et_2O). Mp 205° dec. (213°). pK_{a1} 1.80; pK_{a2} 10.63 (20°).
Monohydrate: Sol. H_2O, EtOH; insol. Me_2CO, $CHCl_3$, Et_2O. Mp 190-191°.
B,HCl: Cryst. (H_2O). Mp 158-159°.
Et ester:
$C_7H_{13}NO_2$ M 143.185
Oil. Bp_{13} 80°.
Amide: Cryst. (C_6H_6). Mp 93°.
Anhydride: Mp 183-184°.
N-*3-Nitrobenzoyl:* Prisms (H_2O). Mp 90-92°.
N-*Nitroso:*
▷ Exp. carcinogen.

Greenstein, J.P. *et al*, *Chemistry of the Amino Acids*, Wiley, N.Y., 1961, **3**, 2178 (*rev*)
Buyle, R., *Chem. Ind. (London)*, 1966, 380 (*synth*)
Buckingham, D.A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1969, 581 (*config*)
Campi, E. *et al*, *Anal. Chim. Acta*, 1972, **58**, 237 (*detn, Cu*)
Verbist, J.J. *et al*, *Nature (London)*, 1972, **235**, 328 (*cryst struct*)
Monteiro, H.J., *Synthesis*, 1974, 137 (*synth*)
Pogliani, L. *et al*, *Org. Magn. Reson.*, 1975, **7**, 61 (*pmr*)
Schmidt, U. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1977, **16**, 777 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 421.
Drauz, K. *et al*, *J. Org. Chem.*, 1986, **51**, 3494 (*synth*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 868.

Promazine, BAN, INN P-00258

N,N-*Dimethyl-10*H-*phenothiazine-10-propanamine*, *9CI. 10-(3-Dimethylaminopropyl)phenothiazine*
[58-40-2]



$C_{17}H_{20}N_2S$ M 284.424
Tranquilliser. Used for photometric detn. of Ce(*IV*) and As(*III*) (indirectly), $NO_2^{\ominus}$ [oxidation by Ce(*IV*)]. Oily liq. $Bp_{0.3}$ 203-210°. Also marketed as embonate.
▷ SO7000000.
B,HCl: [53-60-1]. *Promazine hydrochloride, USAN. Propazium. Sparine. Numerous proprietary names*
White/yellow hygroscopic cryst. Insol. Et_2O, C_6H_6. Mp 177-181° dec.
▷ SO8575000.
[4701-69-3, 15421-37-1]

Fr. Pat., 1 186 825, (1959).
Fink, G.B. *et al*, *J. Pharm. Sci.*, 1962, **51**, 548 (*pharmacol*)
De Leenheer, A., *J. Chromatogr.*, 1972, **74**, 35 (*nmr*)
Solomon, M.D. *et al*, *Aust. J. Chem.*, 1973, **26**, 325.
Rodgers, J.R. *et al*, *J. Pharm. Pharmacol.*, 1976, **28**, 246 (*cryst struct*)
Gowda, H.S. *et al*, *Microchem. J.*, 1978, **23**, 291 (*use*)
Szabo, W.A. *et al*, *J. Org. Chem.*, 1980, **45**, 744 (*synth*)
Dewey, E.A. *et al*, *Drug Metab. Dispos.*, 1981, **9**, 130 (*metab*)
Staiger, D.B. *et al*, *J. Heterocycl. Chem.*, 1981, **18**, 101 (*cmr*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7100, 7101.
Shibl, A.H. *et al*, *J. Pharm. Sci.*, 1984, **73**, 841 (*activity*)
Schmolka, S.J. *et al*, *Synthesis*, 1984, **1**, 29 (*synth*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 4418.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DQA600, PMI500.

Propanal, 9CI P-00259

Propionaldehyde
[123-38-6]

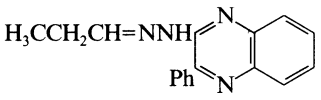
H_3CCH_2CHO

C_3H_6O M 58.080
Isol. from various plant sources, e.g. hops, brown algae (*Laminaria* sp.), and strawberry aroma. Liq. with suffocating odour. Mod. sol. H_2O. d_{25}^{25} 0.797. Fp −81°, Mp 131°. Bp 47.5-49°. n_D^{20} 1.3636. Hydrolyzable on heating.
▷ Mod. toxic, irritant. Highly flammable, flash p. −9°. May form explosive peroxides. UE0350000.
Polymer: Metapropanal
Cryst. Insol. H_2O. Mp 180°. Subl.
Di-Me acetal: [4744-10-9]. *1,1-Dimethoxypropane*
$C_5H_{12}O_2$ M 104.149
Bp 89°.
2,4-Dinitrophenylhydrazone: Mp 142-148°.
Oxime: [627-39-4]. *Propanal oxime, 9CI*
C_3H_7NO M 73.094
Colorimetric reagent for Pd(*II*). Cryst. (EtOH). Sol. EtOH, H_2O. Mp 40°. Bp 130-132°, Bp_{100} 77°.
Semicarbazone: Two forms: needles (C_6H_6/ligroin) or plates (H_2O). Sol. H_2O. Mp 88-90° (needles), Mp 154° (plates).

Org. Synth., 1932, **12**, 64 (*synth*)
Kirk-Othmer Encycl. Chem. Technol., 2nd Ed., Wiley, N.Y., 1963-1971, **16**, 548 (*rev*)
Stecenko, A.I. *et al*, *Zh. Neorg. Khim.*, 1972, **17**, 2724 (*oxime*)
Miyajima, G. *et al*, *Org. Magn. Reson.*, 1974, **6**, 313 (*cmr*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 460.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DOM200, PMT750.

Propanal (3-phenyl-2-quinoxalinyl) hydrazone, 9CI **P-00260**

[22583-30-8]



$C_{17}H_{16}N_4$ M 276.340
Reagent for the detn. of aliphatic aldehydes. Pale yellow needles (pet. ether). Mp 124°.

Tagami, S. *et al*, *Chem. Pharm. Bull.*, 1975, **23**, 891 (*synth*, *use*)

Propanedioic acid, 9CI **P-00261**

Malonic acid, 8CI
[141-82-2]

$HOOCCH_2COOH$

$C_3H_4O_4$ M 104.062
Widespread in plants in small amts. Used as aq. soln. for extraction-separation of U; as an eluant in ion-exchange sepn. of Sn(*IV*); alkalimetric standard; complexing agent. Cryst. Sol. H_2O, EtOH, Et_2O, mod. sol. Py. Mp 135.6°. pK_{a1} 2.77; pK_{a2} 5.70 (H_2O, 25°). Sublimes *in vacuo*.

▷ Strong irritant. LD_{50} 300 mg/kg (mouse, i.p.). OO0175000.

Di-Me ester: [108-59-8]. *Dimethyl malonate*
$C_5H_8O_4$ M 132.116
Bp 181°.
▷ Reacts violently with methyl azide in presence of base. OO0950000.

*Di-*tert*-butyl ester:* [541-16-2].
$C_{11}H_{20}O_4$ M 216.277
Reagent for synth. of ketones from acid chlorides. Mp −6°. Bp_1 65-67°.

Dihydrazide: [3815-86-9].
$C_3H_8N_4O_2$ M 132.122
Used for photometric detn. of Pd (λ_{max} 285 nm). Plates (EtOH). V. sol. H_2O, AcOH, sol. EtOH. Mp 154°.

[36148-03-5]

Hauser, C.R. *et al*, *J. Am. Chem. Soc.*, 1942, **64**, 2714 (*synth*)
Org. Synth., Coll. Vol., 2, 1943, 376 (*synth*)
Gran, G. *et al*, *Anal. Chim. Acta*, 1956, **14**, 150.
Ratusky, J. *et al*, *CA*, 1957, **51**, 138 (*ester*)
Dawson, J. *et al*, *Mikrochim. Acta*, 1958, 325, 330 (*detn*, *Sn*)
Org. Synth., Coll. Vol., 4, 1963, 261, 263 (*derivs*)
Rodd's Chem. Carbon Compd. (2nd Ed.), 2nd Ed., Vol ID, 1965, 293.
Barnikow, G., *J. Prakt. Chem.*, 1966, **34**, 251 (*derivs*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 211; **8**, 193.
Wadier, C. *et al*, *Mikrochim. Acta*, 1971, 303 (*detn*, *Pd*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976.
Dalvi, M.B. *et al*, *Talanta*, 1978, **25**, 599 (*detn*, *U*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **14**, 794 (*rev*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CCC750, DSM200, MAO000.

Propanedithioamide, 9CI **P-00262**

Dithiomalonamide
[6944-34-9]

$H_2NCSCH_2CSNH_2$

$C_3H_6N_2S_2$ M 134.226
Needles. Mp 212° (dec.). pK_{a1} 3.28; pK_{a2} 8.94.

N,N′-*Di-Ph:* [4887-74-5]. N,N′-*Diphenylpropanedithioamide*, *9CI*. N,N′-*Diphenyldithiomalonamide*
$C_{15}H_{14}N_2S_2$ M 286.421
Used as 1% EtOH soln. for gravimetric detn. of Ni(*II*) and Co(*III*). Lemon yellow cryst. Spar. sol. EtOH. Mp 152°.

Lehr, H. *et al*, *Helv. Chim. Acta*, 1944, **27**, 970 (*synth*)
Taylor, E.C. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 2656 (*synth*)
Barnikow, V.G. *et al*, *J. Prakt. Chem.*, 1965, **30**, 63 (*synth*)
Pal, T. *et al*, *Talanta*, 1986, **33**, 973 (*use*)

2,2′-(1,3-Propanediyldiimino)bis[2-(hydroxymethyl)-1,3-propanediol], 9CI **P-00263**

1,3-Bis[tris(hydroxymethyl)methylamino]propane. 2,2′-(Trimethylenediimino)bis[2-(hydroxymethyl)-1,3-propanediol]
[64431-96-5]

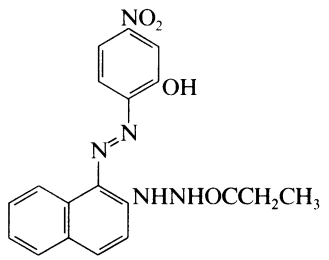
$(HOCH_2)_3CNH(CH_2)_3NHC(CH_2OH)_3$

$C_{11}H_{26}N_2O_6$ M 282.336
Biological buffer. Cryst. (EtOH). Mp 170-171° (as dihydrobromide). pK_{a1} 6.8; pK_{a2} 9.0.

Pierce, J.S. *et al*, *J. Am. Chem. Soc.*, 1944, **66**, 879 (*synth*)
Kaniansky, D. *et al*, *J. Chromatogr.*, 1980, **194**, 11 (*use*)
Rinkus, S.J. *et al*, *Anal. Biochem.*, 1985, **150**, 379 (*use*)
Kitamura, Y. *et al*, *J. Solution Chem.*, 1987, **16**, 715.
Lambing, J.L. *et al*, *Biochem. Biophys. Res. Commun.*, 1988, **151**, 693 (*use*)

Propanoic acid 2-[1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenyl] hydrazide, 9CI **P-00264**

[39200-23-2]



$C_{19}H_{17}N_5O_4$ M 379.374
Used as 0.2m*M* soln. in Me_2CO for photometric detn. of Zn (Me_2CO aq.). Red cryst. (DMF aq.). Sol. H_2O, DMF, Me_2CO. Mp 209°.

Kamaeva, L.V. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 1687 (*synth*, *detn*, *Zn*)

1-Propanol, 9CI **P-00265**

Propyl alcohol
[71-23-8]

$H_3CCH_2CH_2OH$

C_3H_8O M 60.096
Solv. for resins, cellulose esters etc. Used to esterify fatty acids and amino acids for gc anal. Misc. H_2O, EtOH, Et_2O. d_4^{25} 0.799. Mp −127°. Bp 97.4°. pK_a 16.1 (25°). n_D^{20} 1.3850.

▷ Mod. toxic, TLV 500. Highly flammable, flash p. 25°. UH8225000.

3,5-Dinitrobenzoyl: Mp 73°.

4-Nitrophenylurethane: Mp 115°.

Ac: Propyl acetate. 1-Acetoxypropane
$C_5H_{10}O_2$ M 102.133
Bp 101.67°.

O-*Nitrite:* [543-67-9]. *Propyl nitrite*
$C_3H_7NO_2$ M 89.094
Bp 48.9-49.4°.
▷ Mod. toxic. RA1180000.

O-*Nitrate: Propyl nitrate*
$C_3H_7NO_3$ M 105.093
d_4^{20} 1.055. Bp 110.5°. n_D^{20} 1.3979.

Shriner, R.L. *et al, J. Am. Chem. Soc.*, 1931, **53**, 1602 (*synth, derivs*)
Cowley, E.G. *et al, J. Chem. Soc.*, 1933, 1252 (*nitrate, nitrite*)
Mumford, S.A. *et al, J. Chem. Soc.*, 1950, 75 (*props*)
Kirk-Othmer Encycl. Chem. Technol., 2nd Ed., Wiley, N.Y., 1963-1971, **16**, 559 (*rev*)
Appleby, A.J. *et al, J. Gas Chromatogr.*, 1967, **5**, 266 (*use*)
Adams, R.F., *J. Chromatogr.*, 1974, **95**, 189 (*use*)
Miyajima, G. *et al, Org. Magn. Reson.*, 1974, **6**, 313 (*cmr*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 458.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PND000, PNQ750.

2-Propanol, 9CI P-00266

Isopropanol. 2-Hydroxypropane. Isopropyl alcohol, USAN. Alcojel. Avantin. Bowsteral. Hartasol. Petrohol. Propol. Takineocol

[67-63-0]

$H_3CCH(OH)CH_3$

C_3H_8O M 60.096
Present in fruit aromas, e.g. *Carica papaya*. Widely used solvent for creosote, resins, gums, inks, oil, lotions etc. Used in antifreeze mixt. and as extraction solvent in food preparation. Topical antiinfective. Pharmaceutic aid (solvent). Used to prepare isopropyl esters of carboxylic acids for gc anal. Important industrial chemical, 48th in order of volume for USA in 1990 (production 0.69 million tons/year). Liq. Sol. H_2O. d_4^{20} 0.786. Fp −89.5°, Mp −88.5°. Bp 82.5°. pK_a 17.1. n_D^{20} 1.3776. Forms azeotropic mixt. with H_2O ctg. 12.1% H_2O. Can be salted out from aq. solns. Component of Hibistat.

▷ Eye irritant, TLV 980. Fl. p. 12°. Explosive reacn. with some materials. NT8050000.

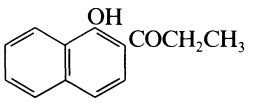
Methanesulfonyl:
▷ Exp. teratogen.

Brooks, B.T., *Chem. Rev.*, 1926, **2**, 382 (*rev*)
Brooks, B.T., *J. Am. Chem. Soc.*, 1934, **56**, 1998 (*synth*)
Hatch, L.F., *Isopropyl Alcohol*, McGraw-Hill, N.Y., 1961 (*bibl*)
Kirk-Othmer Encycl. Chem. Technol., 2nd Ed., Wiley, N.Y., 1963-1971, **16**, 564 (*rev*)
Katague, D.B. *et al, J. Pharm. Sci.*, 1965, **54**, 891 (*isol*)
Biondi, P.A. *et al, J. Chromatogr.*, 1975, **109**, 389 (*use*)
Food Chemicals Codex, 3rd Ed., 1981, 155 (*anal*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 555.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 458.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, INJ000.

2-Propanoyl-1-naphthol P-00267

1-Hydroxy-2-propionaphthone. Ethyl 1-hydroxy-2-naphthyl ketone

[24490-31-1]



$C_{13}H_{12}O_2$ M 200.237
Greenish-yellow plates (EtOH). Mp 85°. Triboluminescent.

Me ether:
$C_{14}H_{14}O_2$ M 214.263
Needles (pet. ether). Mp 42-43°.

Et ether:
$C_{15}H_{16}O_2$ M 228.290
Yellow oil. Bp_{15} 175-180°.

Semicarbazone: Yellow cryst. Mp 304°.

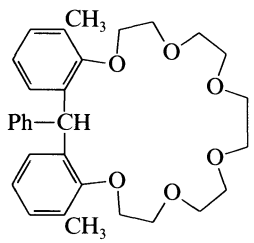
Picrate: Red cryst. Mp 88°.

Phenylhydrazone: Cryst. Mp 78°.

Oxime: [21660-75-3].
$C_{13}H_{13}NO_2$ M 215.251
Used for gravimetric detn. of Cu, Pd; pptn. sepn. of Pd. Cryst. (C_6H_6). Mp 128°.

Hantzsch, A., *Ber.*, 1906, **39**, 3080 (*synth*)
Heilbron, I.M. *et al, J. Chem. Soc.*, 1934, 1311 (*synth*)
Desai, R.D. *et al, Proc. - Indian Acad. Sci., Sect. A*, 1941, **13**, 33 (*synth*)
Brewster, C.M. *et al, J. Am. Chem. Soc.*, 1942, **64**, 2578 (*synth*)
Merchant, R.N. *et al, Curr. Sci.*, 1956, **21**, 556 (*synth*)
Tambat, N.D. *et al, J. Indian Chem. Soc.*, 1968, **45**, 517 (*detn, Cu*)
Patkar, D.N. *et al, Curr. Sci.*, 1973, **42**, 818 (*detn, Pd*)
Krespan, C.G., *J. Org. Chem.*, 1979, **44**, 4924 (*synth*)
Elkasaby, M.A. *et al, Indian J. Chem., Sect. B*, 1980, **19**, 571 (*synth, oxime*)

Propeller crown 7 P-00268



$C_{31}H_{38}O_6$ M 506.638
Used as soln. in THF in PVC membrane ion selective electrodes (selective for $K^{\oplus}$ over $Na^{\oplus}$). Fine powder. Mp 95-97°.

Covington, A.K. *et al, Analyst (London)*, 1988, **113**, 895 (*synth, use*)

2-Propenoic acid, 9CI P-00269

Acrylic acid

[79-10-7]

$H_2C{=}CHCOOH$

$C_3H_4O_2$ M 72.063
Found in green algae. Used widely for polymerisations, incl. prodn. of polyacrylates. Misc. H_2O. d_4^{16} 1.062. Mp 13°. Bp 141° (polymerises). pK_a 4.25 (25°). n_D^{20} 1.4424.

▷ Toxic, irritant, causes burns, TLV 3.0. Exp. teratogen. AS4375000.

Me ester: [96-33-3]. *Methyl acrylate*
$C_4H_6O_2$ M 86.090
Dienophile. Bp 85°. Polymerises on long standing.
▷ Mod. toxic, irritant. Highly flammable. Forms peroxide, can polymerise violently. AT2800000.

Et ester: [140-88-5]. *Ethyl acrylate*
Polymerisation feedstock, odorant for natural gas, synthetic reagent. Liq. with acid odour. d_4^{20} 0.923. Mp −71.2°. Bp 99.8°. n_D^{20} 1.4068.
▷ Skin and eye irritant, TLV 5ppm. LD_{50} 420 mg/kg. Threshold carcinogen. Flammable, Fl.p.15°. AT0700000.

Chloride: [814-68-6].
C_3H_3ClO M 90.509
Bp 75°.
▷ AT7350000.

Amide: [79-06-1]. *Acrylamide*
C_3H_5NO M 71.079
Leaflets (C_6H_6). Sol. H_2O, EtOH, Et_2O, $CHCl_3$. Mp 85°. Polymerises on heating.
▷ Highly toxic, irritant. AS3325000.

Nitrile: [107-13-1]. *Vinyl cyanide. Cyanoethylene. Acrylonitrile*
C_3H_3N M 53.063
Monomer, cyanoethylating reagent. Used as an indicator in thermometric titrations. Sol. H_2O. Bp 78°.
▷ Highly toxic, TLV (skin) 4.5. Exp. carcinogen. Highly flammable, fl. p. 0°. AT5250000.

Anhydride:
$C_6H_6O_3$ M 126.112
Bp_{35} 97°.

Wohlk, A., *J. Prakt. Chem.*, 1900, **61**, 212.
van der Burg, J.H.N., *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1922, **41**, 21 (*synth*)
Ratchford, W.P. *et al*, *J. Am. Chem. Soc.*, 1944, **66**, 1864 (*synth*)
Sieburth, J.M., *Science (Washington, D.C.)*, 1960, **132**, 676 (*isol*)
Katayama, T., *CA*, 1966, **65**, 5924 (*isol*)
Bowles, A.J. *et al*, *Org. Mass Spectrom.*, 1969, **2**, 809 (*ms*)
Sasaki, Y. *et al*, *Chem. Pharm. Bull.*, 1970, **18**, 1478 (*pmr, ester, nitrile*)
Katritzky, A.R. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 6861 (*ir*)
George, W.O. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1972, 400 (*ir, conformn, esters*)
Greenhow, E.J. *et al*, *Analyst (London)*, 1974, **99**, 360; 1978, **103**, 411; 1979, **104**, 801 (*use, nitrile*)
Austin, G.T., *Chem. Eng. (N.Y.)*, 1974, **81**, 86 (*rev, manuf*)
Miyajima, G. *et al*, *Org. Magn. Reson.*, 1974, **6**, 413 (*cmr*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 439.
Villieras, J. *et al*, *Synthesis*, 1984, 406 (*synth, ester*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 165, 166, 478.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ADS250, ADS750, ADX500, ADZ000, EFT000, MGA500.

1-Propen-2-ol, 9CI P-00270

2-Hydroxypropylene. Isopropenyl alcohol
[29456-04-0]

$$H_2C{=}C(OH)CH_3$$

C_3H_6O M 58.080
Free compd. unknown.

Ac: [108-22-5]. *Isopropenyl acetate*
$C_5H_8O_2$ M 100.117
Reagent for enol acetylation and alkylations. Used in anal. of amino acids, alcohols and thiols. Liq. d_{20}^{20} 0.9226. Mp −92.9°. Bp 96°.
▷ Irritant, highly flammable. UD4200000.

Me ether: [116-11-0]. *2-Methoxypropene. Isopropenyl methyl ether*
C_4H_8O M 72.107
Reagent for synth. of unsatd. ketones, protecting group. Bp 38°, Bp 36°.
▷ UD0800000.

Isocyanate:
$C_4H_5NO_2$ M 99.089
Bp_{390} 42°.

Claisen, L., *Ber.*, 1898, **31**, 1021.
Hennion, G.F. *et al*, *J. Am. Chem. Soc.*, 1934, **56**, 1802.
Gwynn, B.H. *et al*, *J. Am. Chem. Soc.*, 1942, **64**, 2216.
Foster, D.I. *et al*, *J. Am. Chem. Soc.*, 1961, **83**, 851.
Saucy, G. *et al*, *Helv. Chim. Acta*, 1967, **50**, 1158, 2091.
Volodina, M.A. *et al*, *CA*, 1968, **69**, 41024d; 1969, **70**, 9295c; 1970, **73**, 10500j; 1972, **76**, 30430b (*use, acetate*)
Newman, M.S. *et al*, *J. Org. Chem.*, 1973, **38**, 2910.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 360; **6**, 308.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MQK750.

2-Propen-1-ol, 9CI P-00271

Allyl alcohol
[107-18-6]

$$H_2C{=}CHCH_2OH$$

C_3H_6O M 58.080
Present in garlic *Allium sativum*. Used in manuf. of glycerol and unsatd. esters. Phytotoxic soil sterilant. Reducing agent; used for detn. of Hg(*I*). Liq. Misc. H_2O, alcohols. d^{15} 0.8573. Fp −50°. Bp 96-97°. pK_a 15.5 (25°). n_D^{20} 1.4135. Forms constant-boiling mixt. with H_2O contg. 27.7% H_2O.
▷ Highly toxic and irritant, TLV 5. Highly flammable, flash p. 21°. BA5075000.

Ac: [591-87-7].
$C_5H_8O_2$ M 100.117
Bp 103-104°. Readily polymerised in presence of alkaline earths.
▷ Highly toxic. AF1750000.

3,5-Dinitrobenzoyl: Mp 48°.

p-*Toluenesulfonyl:*
$C_{10}H_{12}O_3S$ M 212.269
Bp 135-140°.

Di-Li deriv.: Reacts with carbonyl compds. to give unsatd. diols.

Methanesulfonyl:
▷ Exp. neoplastic agent.

Benzenesulfonyl: Allyl benzenesulfonate
▷ Can explode on dist.

Deulafeu, V., *CA*, 1928, **22**, 4104 (*synth*)
Delaby, R. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1929, **18**, 710.
U.K. Pat., 577 992, (1947); *CA*, **41**, 2067 (*synth*)
Vogel, A.I., *Textbook of Practical Organic Chemistry*, Longmans, London, 1956 (*purif*)
Qureshi, M., *Anal. Chem.*, 1964, **36**, 2040 (*detn, Hg*)
Bernhard, R.A. *et al*, *Arch. Biochem. Biophys.*, 1964, **107**, 137 (*isol*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 11.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 165, 166, 168, 478.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AFU750, AFV500.

N-2-Propenyl-1,2-hydrazinedicarbothioamide, 9CI P-00272

[2113-72-6]

$H_2NCSNHNHCSNHCH_2CH{=}CH_2$

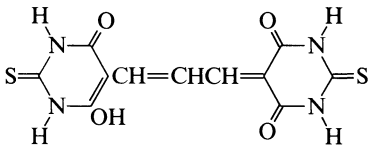
$C_5H_{10}N_4S_2$ M 190.293

Used for separation of Ag, Bi, Cd, Co, Cu, Fe(*II*), Fe(*III*), Hg, Ni, Zn. Cryst. Sol. alkalis.

Popper, E. *et al*, *Bull. Soc. Chim. Fr.*, 1963, 99 (*use*)

5,5′-(1-Propen-1-yl-3-ylidene)bis[2-thiobarbituric acid], 8CI P-00273

[1638-80-8]



$C_{11}H_8N_4O_4S_2$ M 324.341

Used as 0.03% aq. soln. for photometric detn. of Mg (λ_{max} 620 nm). Violet cryst. (H_2O). Sol. H_2O.

Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1969, **248**, 291 (*synth, detn, Mg*)

2-Propylamine P-00274

2-Propanamine, 9CI. Isopropylamine. 2-Aminopropane

[75-31-0]

$(H_3C)_2CHNH_2$

C_3H_9N M 59.111

Used for photometric detn. of Cu (λ_{max} 590 nm) (pH range 4-10). Liq. Mp −101°. Bp 33-34°. pK_a 5.27.

▷ Strong irritant, TLV 12. Extremely flammable, fl. p. −37°. NT8400000.

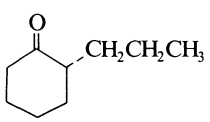
B,HCl: [15572-56-2].
Mp 153-155°.
▷ NT9530000.

B,(COOH)$_2$: Mp 160-160.5°.

Gabriel, S. *et al*, *Ber.*, 1917, **50**, 804 (*synth*)
Skita, A. *et al*, *Ber.*, 1928, **61**, 1682 (*synth*)
Winans, C.F. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 2056 (*synth*)
Norton, D.G. *et al*, *J. Org. Chem.*, 1954, **19**, 1054 (*synth*)
Staskun, B. *et al*, *J. Chem. Soc. C*, 1966, 531 (*synth*)
Sarneskii, J.E. *et al*, *Anal. Chem.*, 1975, **47**, 2116 (*cmr*)
Sharma, C.L. *et al*, *Fresenius' Z. Anal. Chem.*, 1976, **280**, 219 (*use*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 372.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, INK000, INL000.

2-Propylcyclohexanone, 9CI P-00275

[94-65-5]



(*R*)-*form* Absolute configuration

$C_9H_{16}O$ M 140.225

(R)-form [36302-45-1]
$[\alpha]_D^{25}$ −28.2° (c, 3.78 in MeOH).

(S)-form [67113-13-7]
Reagent used to detect enantiomeric purity of 1,2-glycols by cmr or hplc. $[\alpha]_D^{25}$ +24.7° (MeOH).

(±)-form
Bp 198-199°, Bp_{13} 83-84°.

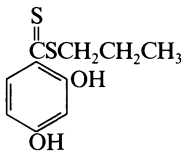
Oxime:
$C_9H_{17}NO$ M 155.239
Cryst. (EtOH aq.). Mp 67-68°.

Semicarbazone: Cryst. (EtOH aq.). Mp 133.5-134° dec.

Enders, D. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1976, **15**, 549 (*synth*)
Meyers, A.I. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 3032 (*synth, abs config*)
Bischoff, C. *et al*, *J. Prakt. Chem.*, 1976, **318**, 773 (*synth*)
Mitra, A. *et al*, *Tetrahedron*, 1976, **32**, 2731 (*synth*)
Hashimoto, S. *et al*, *Tetrahedron Lett.*, 1978, 573 (*synth*)
Yamada, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1979, **52**, 275 (*synth*)
Meyers, A.I. *et al*, *Tetrahedron Lett.*, 1983, **24**, 3551 (*use*)

S-Propyl 2,4-dihydroxydithiobenzoate P-00276

2,4-Dihydroxydithiobenzoic acid S-*propyl ether*



$C_{10}H_{12}O_2S_2$ M 228.336

Used as a 0.25-0.5% soln. in EtOH as turbidimetric acid-base indicator (pH range: 6.0-7.0). Cryst. Sol. Me_2CO, EtOH.

Korenmann, I.M. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 1305 (*use, ind*)

O-Propylhydroxylamine, 9CI P-00277

Hydroxylamine propyl ether. Propoxylamine. Propoxyamine

[5792-43-8]

$H_2NOCH_2CH_2CH_3$

C_3H_9NO M 75.110

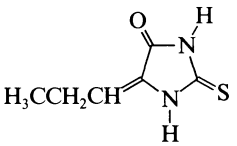
Derivatisation reagent for carbonyl compds. Oil. Bp 90-91°.

B,HCl: [6084-54-4].
Plates (EtOAc). Mp 150-151°.

Theilacker, W. *et al*, *Angew. Chem.*, 1956, **68**, 303 (*synth*)
Mamalis, P. *et al*, *J. Chem. Soc.*, 1960, 229 (*synth*)
Smith, A.G., *J. Chromatogr.*, 1977, **142**, 533 (*use*)

5-Propylidene-2-thioxo-4-imidazolidinone, 9CI P-00278

[84071-20-5]



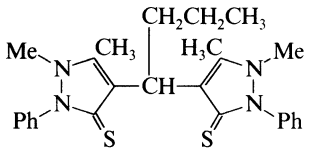
$C_6H_8N_2OS$ M 156.208

Used as 0.5m*M* EtOH soln. to give colour reaction with Cu(*I*) (pH 4.5). Cryst. (EtOH). Sol. EtOH, DMF. Mp 197-200°. pK_{a1} 8.3; pK_{a2} 11.8.

Montana Gonzalez, M.T. *et al*, *Mikrochim. Acta*, 1982, **2**, 363 (*synth, use*)

4,4′-(Propylmethylene)bis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], 9CI P-00279

Propyldithioantipyrylmethane



$C_{26}H_{30}N_4S_2$ M 462.682

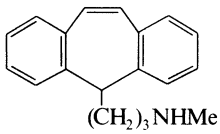
Used as 0.5% soln. in AcOH for photometric detn. of Os (λ_{max} 690 nm, ε 5000). Cryst. Mp 249-250°.

Akimov, V.K. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 1004 (*synth, use*)

Protriptyline, BAN, INN P-00280

N-*Methyl-5*H-*dibenzo*[a,d]*cycloheptene-5-propanamine*, *9CI*. *7-(3-Methylaminopropyl)-1,2:5,6-dibenzocycloheptatriene*. *5-(3-Methylaminopropyl)-5*H-*dibenzo*[a,d]*cycloheptene*. *Amimethyline*

[438-60-8]



$C_{19}H_{21}N$ M 263.382

Antidepressant.

▷ HP1050000.

B,HCl: [1225-55-4]. *Protriptyline hydrochloride*, *USAN*. *Anelun*. *Concordin*. *Maximed*. *Triptil*. *Vivactil*

Used as 0.1*M* aq. soln. for fluorimetric and photometric detn. of Co (λ_{max} 342 nm, ε 5200). Cryst. (2-propanol/Et_2O). Sol. H_2O. Mp 169-171°.

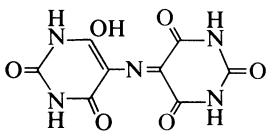
▷ HP1400000.

Engelhardt, E.L. *et al*, *J. Med. Chem.*, 1968, **11**, 325 (*synth, pharmacol*)
Siek, T.J., *J. Forensic Sci.*, 1974, **19**, 193 (*uv*)
Wilson, J.M. *et al*, *Clin. Chem.* (*Winston-Salem, N.C.*), 1977, **23**, 1012 (*ms*)
Abraham, R.J. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1977, 1964 (*pmr*)
Burns, D.T. *et al*, *Anal. Chim. Acta*, 1980, **115**, 389 (*detn, Co*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2534.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DDA600, POF250.

Purpuric acid P-00281

5-[(Hexahydro-2,4,6-trioxo-5-pyrimidyl)imino]-2,4,6(1H,3H,5H)-pyrimidinetrione, *9CI*. *5,5′-Nitrilodibarbituric acid*, *8CI*

[121-08-4]



$C_8H_5N_5O_6$ M 267.157

Known only as salts. pK_{a2} 9.2; pK_{a3} 10.9 (25°). Salts dec. on acidification → Uramil and Alloxan.

NH_4 salt: [3051-09-0]. *Murexide*. *C.I. 56085*

Used as 0.1% aq. soln. as a metal indicator in EDTA titration of Ca (pH ~ 12), Co, Cu, Ni; photometric detn. of Ca, Sr. Purple-red cryst. with green lustre (H_2O saturated with NH_4Cl). Sol. H_2O. Mp >300°. pK_{a2} 9.2; pK_{a3} 10.5. Deep-purple aq. soln.

Li salt: Deep-red triclinic cryst. + $2H_2O$.

K salt: Black rectangular needles + $2H_2O$.

N-*Tetra-Me:* [18641-48-0]. *1,3-Dimethyl-5-[(tetrahydro-1,3-dimethyl-2,4,6-trioxo-5(2*H*)-pyrimidinylidene)amino]-2,4,6(1*H*,3*H*, 5*H*)-pyrimidinetrione*, *9CI*. *Tetramethylmurexide*. *Murexoin*

$C_{12}H_{13}N_5O_6$ M 323.265

Red-coloured oxidn. prod. of Caffeine. Used as a 0.04%m*M* aq. soln. of $NH_4^{\oplus}$ salt for spectophotometric detn. of Ca (in urine), Ba, Mg, Sr. Red needles (as NH_4 salt).

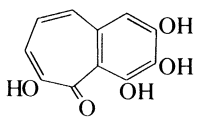
[32340-52-6]

Hantzsch, A. *et al*, *Ber.*, 1910, **43**, 92 (*synth*)
Davidson, D. *et al*, *J. Am. Chem. Soc.*, 1936, **58**, 1821 (*synth*)
Winslow, N.M., *J. Am. Chem. Soc.*, 1939, **61**, 2089 (*struct*)
Gysling, H. *et al*, *Helv. Chim. Acta*, 1949, **32**, 1484 (*Murexoin*)
Pollard, F.N. *et al*, *Analyst* (*London*), 1956, **81**, 348 (*detn, Ca*)
Russel, D.S. *et al*, *Anal. Chim. Acta*, 1961, **25**, 81 (*detn, Sr*)
Blake, A.B., *Nature* (*London*), 1966, **212**, 67 (*cryst struct*)
Auterhoff, H. *et al*, *Arch. Pharm.* (*Weinheim, Ger.*), 1968, **30**, 73 (*Murexoin*)
Kohn, R., *Chem. Zvesti*, 1969, **23**, 721 (*use*)
Clark-Lewis, J.W. *et al*, *Aust. J. Chem.*, 1970, **23**, 323 (*synth*)
Buergi, H.B. *et al*, *Helv. Chim. Acta*, 1972, **55**, 1771 (*cryst struct*)
Ohnishi, S.T., *Anal. Biochem.*, 1978, **85**, 165 (*use*)
Balaji, K.S. *et al*, *Anal. Chem.*, 1978, **50**, 1972 (*detn, Ca*)
Kozuka, H. *et al*, *Chem. Pharm. Bull.*, 1982, **30**, 941 (*synth, struct, Murexoin*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 291 (*use*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, New York, 4th Ed., 1986, 357.

Purpurogallin P-00282

*2,3,4,6-Tetrahydroxy-5*H-*benzocyclohepten-5-one*, *9CI*

[569-77-7]



$C_{11}H_8O_5$ M 220.181

Occurs in gall of *Dryophanta divisa* as glycoside. Used as 5m*M* soln. in dioxan or 0.01*M* soln. in EtOH for photometric detn. of Zr and Ge (λ_{max} 340 nm, ε 34200). Used for gravimetric detn. of Ce, Mo, Th, Zr. Yellow or dark-red needles (AcOH). Mp 274° (rapid heating). Dec. without melting when slowly heated.

▷ DE8380000.

Tetra-Ac: Plates (EtOH or C_6H_6). Mp 184-186°.
Tetra-Me ether: Prisms (EtOH). Mp 93-94°.

Barltrop, J.H. *et al*, *J. Chem. Soc.*, 1948, 116 (*struct*)
Haworth, R.D. *et al*, *J. Chem. Soc.*, 1948, 1045; 1949, 3271 (*struct*)
Caunt, D. *et al*, *J. Chem. Soc.*, 1950, 1631 (*synth*)
Critchlow, A. *et al*, *J. Chem. Soc.*, 1951, 1318 (*struct, synth*)
Alimarin, I.P. *et al*, *Zh. Anal. Khim.*, 1962, **17**, 700 (*detn, Zr*)
Hui-Ming Shih, *et al*, *CA*, 1963, **59**, 12163 (*detn, Ge*)
Dutt, Y. *et al*, *Indian J. Appl. Chem.*, 1963, **26**, 77 (*use*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1964, **19**, 1459 (*detn, Ge*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TDD500.

Pyrazine, 9CI P-00283

Piazine (obsol.)

[290-37-9]

$C_4H_4N_2$ M 80.089

Prisms (H_2O). Sol. H_2O, EtOH, Et_2O. Mp 47°. Bp_{768} 115.5-115.8°. pK_{a1} 0.57; pK_{a2} −5.51 (25°, H_2O). Steam-volatile.

▷ UQ2015000.

B,H_2SO_4: Mp 136-137°.

B, MeI: [6277-35-6].
$C_5H_7IN_2$ M 222.028
Used for photometric detn. of CO (λ_{max} 658 nm, ε 12500), $CN^{\ominus}$, sulfoxides. Cryst. Sol. H_2O, EtOH, Et_2O.

Picrate: Yellow needles (EtOH). Mp 157°.

1-Oxide: [2423-65-6].
$C_4H_4N_2O$ M 96.088
Needles (C_6H_6). Mp 113-114°.

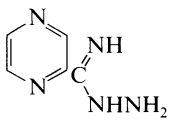
1,4-Dioxide: [2423-84-9].
$C_4H_4N_2O_2$ M 112.088
Needles (MeOH). Mp 285-295°.

Aston, J.G. *et al*, *J. Am. Chem. Soc.*, 1934, **56**, 153 (*synth*)
Koelsch, C.F. *et al*, *J. Org. Chem.*, 1958, **23**, 1603 (*oxides*)
Cheeseman, G.W.H. *et al*, *Adv. Heterocycl. Chem.*, 1972, **14**, 99 (*rev*)
Tóth, A. *et al*, *Acta Chim. Acad. Sci. Hung.*, 1973, **77**, 69 (*uv*)
Kobayashi, Y. *et al*, *Chem. Pharm. Bull.*, 1974, **22**, 2097 (*oxides*)
Rao, G.V. *et al*, *Indian J. Chem.*, 1975, **13**, 1090 (*pmr*)
Wadt, W.R. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 2034 (*struct*)
DeWith, G. *et al*, *Acta Crystallogr., Sect. B*, 1976, 3178 (*cryst struct*)
Toma, H.E. *et al*, *CA*, 1977, **87**, 77908f (*methiodide, detn, CO, $CN^{\ominus}$, sulfoxides*)
Tsujimoto, T. *et al*, *Chem. Pharm. Bull.*, 1979, **27**, 1169 (*cmr*)
Gumbley, S.J. *et al*, *J. Heterocycl. Chem.*, 1985, **22**, 1143 (*props*)
Cradock, S. *et al*, *J. Am. Chem. Soc.*, 1988, **110**, 2758 (*struct*)

Pyrazinecarboximidic acid hydrazide, 8CI P-00284

Pyrazylhydrazidine

[18107-03-4]



$C_5H_7N_5$ M 137.144

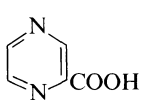
Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*) (λ_{max} 535 nm, ε 7800). Cryst. (C_6H_6). Sol. common org. solvents, dil. HCl. Mp 123-124°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **5**, 223 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn, Fe*)

Pyrazinecarboxylic acid, 9CI P-00285

Pyrazinoic acid

[98-97-5]



$C_5H_4N_2O_2$ M 124.099

Needles (H_2O). Mp 225-229° dec. Sublimes.

Me ester: [6164-79-0].
$C_6H_6N_2O_2$ M 138.126
Cryst. (Et_2O), needles (pet. ether). Mp 59°, Mp 61-62°.

Amide: [98-96-4]. *Pyrazinecarboxamide, 9CI.* ***Pyrazinamide,*** **BAN, INN.** *Aldinamide. Eprazin. Tebrazid. Other proprietary names*
$C_5H_5N_3O$ M 123.114
Tuberculostatic. Used as a 0.01-0.001*M* aq. soln. for photometric detn. of Co (λ_{max} 380 nm). Cryst. (H_2O or EtOH). Mp 189-191° (subl. from 159°). pK_a −0.5.

▷ Exp. neoplastic agent. UQ2275000.

Nitrile: [19847-12-2]. *Pyrazinecarbonitrile, 9CI. Cyanopyrazine*
$C_5H_3N_3$ M 105.099
Oil or cryst. Mp 20°. Bp_6 87°.

1-Oxide: [32046-09-6].
$C_5H_4N_2O_3$ M 140.098
Prisms (H_2O). Mp 138-139°.

Me ester, 1-oxide: [85661-24-1].
$C_6H_6N_2O_3$ M 154.125
Needles (MeOH). Mp 81-82°.

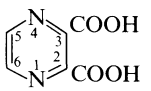
Me ester, 4-oxide: [770-00-3].
$C_6H_6N_2O_3$ M 154.125
Cryst. (MeOH). Mp 169-171°.

Nitrile, 1-oxide: [32046-03-0].
$C_5H_3N_3O$ M 121.098
Prisms (MeOH). Mp 157-159°.

Kushner, S. *et al*, *J. Am. Chem. Soc.*, 1952, **74**, 3617 (*amide*)
Gainer, H., *J. Org. Chem.*, 1959, **24**, 691 (*synth*)
Robba, M., *Ann. Chim. (Paris)*, 1960, **5**, 351 (*nitrile*)
Marx, G.S. *et al*, *J. Org. Chem.*, 1972, **37**, 111 (*pmr*)
Weiner, I.M. *et al*, *J. Pharmacol. Exp. Ther.*, 1972, **180**, 411 (*pharmacol, amide*)
Bus, J. *et al*, *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1973, **92**, 123 (*ir*)
Takusagawa, F. *et al*, *Bull. Chem. Soc. Jpn.*, 1974, **47**, 1409 (*cryst struct*)
Sikorska, H., *Chem. Anal. (Warsaw)*, 1975, **20**, 1025 (*use, amide*)
Tsujimoto, T. *et al*, *Chem. Pharm. Bull.*, 1979, **27**, 1169 (*cmr*)
Tiwari, R.K. *et al*, *Indian J. Phys., A*, 1982, **56**, 413 (*cryst struct, amide*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7568.
Felder, E. *et al*, *Anal. Profiles Drug Subst.*, 1983, **12**, 433 (*rev, synth, pharmacol, anal*)
Sato, N., *J. Heterocycl. Chem.*, 1983, **20**, 169 (*synth, ir, pmr, oxides*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 272 (*Amide*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, POL500.

2,3-Pyrazinedicarboxylic acid P-00286

[89-01-0]



$C_6H_4N_2O_4$ M 168.109

Used as 2% aq. soln. for photometric detn. of Mo (λ_{max} 550 nm, ε 9500); as 0.05*M* soln. in 2*M* aq. NH_4OAc for photometric detn. of Fe(*II*). Cryst. Mp 183-185° dec. pK_{a1} 0.9 (2.20); pK_{a2} 3.57.

Di-Me ester: [6164-77-8].
$C_8H_8N_2O_4$ M 196.162
Mp 50°.

Di-Et ester: [2427-90-9].
$C_{10}H_{12}N_2O_4$ M 224.216
Bp_8 165°.

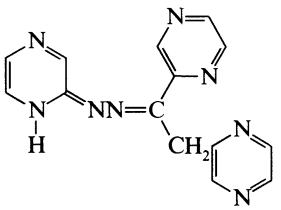
Diamide: [6164-78-9].
$C_6H_6N_4O_2$ M 166.139
Cryst. (H_2O). Mp 240° dec.

Dinitrile: [13481-25-9]. *2,3-Dicyanopyrazine*
$C_6H_2N_4$ M 130.109
Mp 132.5-133°.
Anhydride:
$C_6H_2N_2O_3$ M 150.093
Mp 210° dec. (170°).

Gabriel, S. *et al*, *Ber.*, 1907, **40**, 4851.
Solomons, I.A. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 679.
Hemmerich, P. *et al*, *Helv. Chim. Acta*, 1958, **41**, 498 (*anhydride*)
Org. Synth., Coll. Vol., 4, 1963, 824.
Oguchi, S., *Nippon Kagaku Zasshi*, 1965, **86**, 435.
Hartkamp, H., *Fresenius' Z. Anal. Chem.*, 1967, **231**, 161; 1968, **241**, 66 (*detn, Mo*)
Takusagawa, F. *et al*, *Chem. Lett.*, 1973, 1121 (*cryst struct*)
Sanyal, G.S. *et al*, *Fresenius' Z. Anal. Chem.*, 1975, **276**, 71 (*detn, Fe*)

2(1*H*)-Pyrazinone (1,2-dipyrazinylethylidene)hydrazone, 9CI P-00287

[71336-96-4]

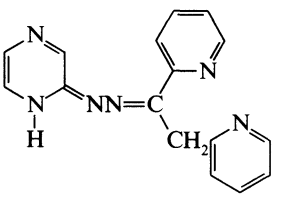


$C_{14}H_{12}N_8$ M 292.302
Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 538 nm, ε 24000), Cu(*I*) (λ_{max} 521 nm, ε 13000), Fe(*II*), Ni (λ_{max} 499 nm, ε 36600). Cryst. (EtOH). Sol. common org. solvs. Mp 216°.

Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 85 (*synth, use*)

2(1*H*)-Pyrazinone (1,2-di-2-pyridinylethylidene)hydrazone, 9CI P-00288

[71336-88-4]

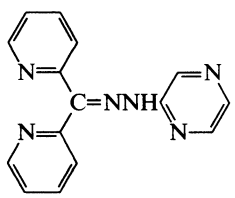


$C_{16}H_{14}N_6$ M 290.327
Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 499 nm, ε 26000), Cu(*I*) (λ_{max} 483 nm, ε 18900), Fe(*II*), Ni (λ_{max} 470 , ε 39000). Cryst. (MeOH). Sol. common org. solvs. Mp 164°.

Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 85 (*synth, use*)

2(1*H*)-Pyrazinone (di-2-pyridinylmethylene)hydrazone, 9CI P-00289

Di-2-pyridyl ketone pyrazinylhydrazone
[58495-43-5]

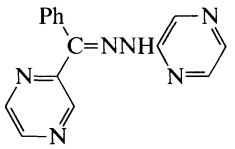


$C_{15}H_{12}N_6$ M 276.300
Used as a soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 495 nm, ε 20700), Co (λ_{max} 505, ε 30700), Ni (λ_{max} 481 nm, ε 45800), Fe(*II*). Cryst. Sol. common org. solvs.

Case, F.H., *J. Chem. Eng. Data*, 1976, **21**, 124 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 373 (*use*)

2(1*H*)-Pyrazinone (phenylpyrazinylmethylene)hydrazone, 9CI P-00290

[58495-45-7]

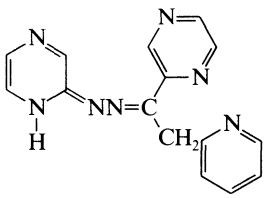


$C_{15}H_{12}N_6$ M 276.300
Used as a soln. in aq. EtOH to give colour reactions with Cu(*I*), Fe(*II*). Cryst. Sol. common org. solvs.

Case, F.H., *J. Chem. Eng. Data*, 1976, **21**, 124 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 373 (*use*)

2(1*H*)-Pyrazinone [1-pyrazinyl-2-(2-pyridinyl)ethylidene]hydrazone, 9CI P-00291

[71336-90-8]

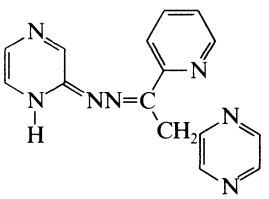


$C_{15}H_{13}N_7$ M 291.315
Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 533 nm, ε 23300), Cu(*I*) (λ_{max} 514 nm, ε 17000), Fe(*II*), Ni (λ_{max} 501 nm, 30000). Cryst. (MeOH). Sol. common org. solvs. Mp 179°.

Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 85 (*synth, use*)

2(1*H*)-Pyrazinone [2-pyrazinyl-1-(2-pyridinyl)ethylidene]hydrazone, 9CI P-00292

[71336-94-2]



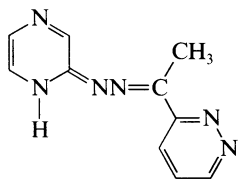
$C_{15}H_{13}N_7$ M 291.315
Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 492 nm, ε 25100), Cu(*I*) (λ_{max} 478 nm, ε 19000), Fe(*II*), Ni (λ_{max} 466 nm, ε 46000). Cryst. (EtOH). Sol. common org. solvs. Mp 195°.

Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 85 (*synth, use*)

2(1*H*)-Pyrazinone [1-(3-pyridazinyl) ethylidene]hydrazone, 9CI P-00293

3-Acetylpyridazine pyrazinylhydrazone

[58495-47-9]



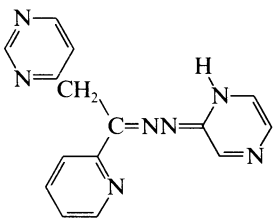
$C_{10}H_{10}N_6$ M 214.229

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 525 nm, ε 20800), Cu (λ_{max} 500nm, ε 15000), Fe(*II*), Ni (λ_{max} 480 nm, ε 30000). Cryst. Sol. common org. solvs.

Case, F.H., *J. Chem. Eng. Data*, 1976, **21**, 124 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 373 (*use*)

2(1*H*)-Pyrazinone [1-(2-pyridinyl)-2-(4-pyrimidinyl)ethylidene]hydrazone, 9CI P-00294

[71336-98-6]



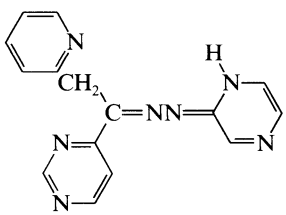
$C_{15}H_{13}N_7$ M 291.315

Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 500 nm, ε 23800), Cu(*I*) (λ_{max} 476 nm, ε 21000), Fe(*II*), Ni (λ_{max} 469 nm, ε 44000). Cryst. (MeOH). Sol. common org. solvs. Mp 163°.

Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 85 (*synth*, *use*)

2(1*H*)-Pyrazinone [2-(2-pyridinyl)-1-(4-pyrimidinyl)ethylidene]hydrazone, 9CI P-00295

[71336-92-0]



$C_{15}H_{13}N_7$ M 291.315

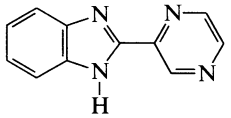
Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 516 nm, ε 30100), Cu(*I*) (λ_{max} 498 nm, ε 32000), Fe(*II*), Ni (λ_{max} 492 nm, ε 55000). Cryst. (MeOH). Sol. common org. solvs. Mp 187°.

Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 85 (*synth*, *use*)

2-(Pyrazinyl)benzimidazole, 8CI P-00296

(2-Benzimidazolyl)pyrazole

[2602-88-2]



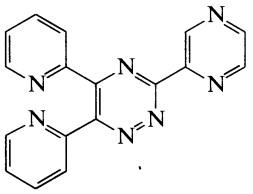
$C_{11}H_8N_4$ M 196.211

Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*) (λ_{max} 600 nm, ε 8800). Cryst. (C_6H_6). Sol. C_6H_6, Me_2CO, EtOH, dil. HCl. Mp 235-236°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **5**, 223 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn*, *Fe*)

3-Pyrazinyl-5,6-di-2-pyridyl-1,2,4-triazine P-00297

[18091-50-4]



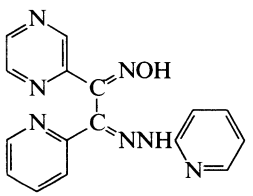
$C_{17}H_{11}N_7$ M 313.321

Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Cd (λ_{max} 455 nm), Cu(*I*) (λ_{max} 507 nm), Fe(*II*) (λ_{max} 580 nm, ε 6800). Cryst. (DMF). Sol. C_6H_6, dil, HCl. Mp 191-192°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **5**, 223 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn*, *Cd*, *Cu*, *Fe*)

Pyrazinyl-2-pyridinylethanedione 2-(2-pyridinylhydrazone) 1-oxime, 9CI P-00298

[71337-01-4]



$C_{16}H_{13}N_7O$ M 319.325

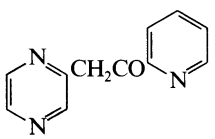
Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 483 nm, ε 33700), Cu(*I*) (λ_{max} 470 nm, ε 24000), Fe(*II*), Ni (λ_{max} 445 nm, ε 24600). Cryst. (EtOH). Sol. common org. solvs. Mp 258°.

Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 85 (*synth*, *use*)

2-Pyrazinyl-1-(2-pyridinyl)ethanone P-00299

2-(Pyrazinylacetyl)pyridine

[62846-81-5]



$C_{11}H_9N_3O$ M 199.212

Cryst. (MeOH). Mp 122°.

2-Thiazolylhydrazone: [73568-95-3].
$C_{14}H_{12}N_6S$ M 296.355

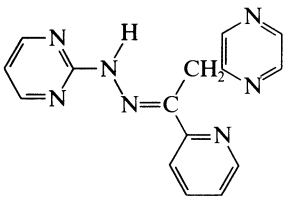
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 480 nm, ε 26100), Cu(*I*) (λ_{max} 462 nm, ε 16500), Fe(*II*) (λ_{max} 620 nm, ε 74000), Ni (λ_{max} 549 nm, ε 39800). Cryst.(MeOH). Sol. common org. solvs. Mp 147°.

Oxime: [62846-71-3].
$C_{11}H_{10}N_4O$ M 214.226
Cryst. (C_6H_6). Mp 154°.

Case, F.H. *et al*, *J. Heterocycl. Chem.*, 1977, **14**, 1 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, use, deriv*)

2-Pyrazinyl-1-(2-pyridinyl)ethanone 2-pyrimidinylhydrazone, 9CI P-00300

[73569-05-8]

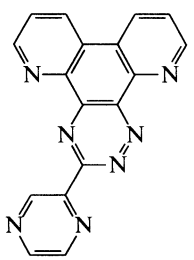


$C_{15}H_{13}N_7$ M 291.315
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 452 nm, ε 26000), Cu(*I*) (λ_{max} 484 nm, ε 15200), Fe(*II*) (λ_{max} 556 nm, ε 7600), Ni (λ_{max} 429 nm, ε 39700). Cryst. (MeOH aq.). Sol. common org. solvs. Mp 151°.

Schilt, A.A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, use*)

3-(Pyrazinyl)-1,2,4-triazino[5,6-*f*][4,7]phenanthroline P-00301

[18207-64-2]



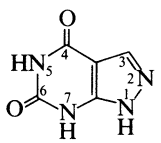
$C_{17}H_9N_7$ M 311.305
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co, Cu(*I*) (λ_{max} 531 nm, ε 8300), Fe(*II*) (λ_{max} 581 nm, ε 15800). Cryst. Sol. C_6H_6.

Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn, Co, Cu, Fe*)

1*H*-Pyrazolo[3,4-*d*]pyrimidine-4,6(5*H*,7*H*)-dione, 9CI P-00302

***Oxypurinol*, BAN, USAN.** *Oxipurinol, INN. Alloxanthine. Oxoallopurinol. BW 55-5. NSC 76239*

[2465-59-0]



1*H-form*

$C_5H_4N_4O_2$ M 152.112

Purine numbering may also be used. 1*H*-Form predominates. Metab. of allopurinol. Specific inhibitor of the reduced form of xanthine oxidase. Reagent for the spectrophotometric anal. of hexamethylenetetramine in pharmaceuticals. Cryst. (H_2O). Mp >300°.

1H-form

1,5-Di-Me: [7254-33-3].
$C_7H_8N_4O_2$ M 180.166
Granules. Mp 297-298°.

5,7-Di-Me: [4680-51-7].
$C_7H_8N_4O_2$ M 180.166
Cryst. (EtOH). Mp 280-281°. pK_{a1} 9.26 (20°).

1,5,7-Tri-Me: [4318-52-9].
$C_8H_{10}N_4O_2$ M 194.193
Cryst. (EtOH). Mp 202-204°.

2H-form

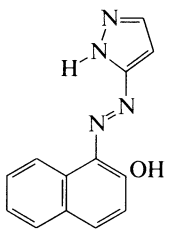
2,5,7-Tri-Me: [10505-26-7].
$C_8H_{10}N_4O_2$ M 194.193
Cryst. Mp 267-269°.

Schmidt, P. *et al*, *Helv. Chim. Acta*, 1956, **39**, 986 (*synth*)
Robins, R.K., *J. Am. Chem. Soc.*, 1956, **78**, 784 (*synth*)
Falco, E.A. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 3143 (*synth*)
Rundles, R.W., *Ann. Rheum. Dis. Suppl.*, 1966, **6**, 615 (*rev, pharmacol*)
Simmonds, H.A., *Clin. Chim. Acta*, 1969, **23**, 353 (*metab*)
Massey, V. *et al*, *J. Biol. Chem.*, 1970, **245**, 2837 (*props*)
Delbarre, F. *et al*, *C. R. Hebd. Seances Acad. Sci. Ser. D*, 1971, **272**, 639 (*props*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1007.
Seela, F. *et al*, *Justus Liebigs Ann. Chem.*, 1986, 1213 (*cmr, bibl, derivs*)
Yanchuk, V.D. *et al*, *CA*, 1988, **108**, 101419x, 137947g (*use*)

1-(1*H*-Pyrazol-3-ylazo)-2-naphthalenol, 9CI P-00303

3(5)-(2-Hydroxy-1-naphthylazo)pyrazole

[55435-18-2]

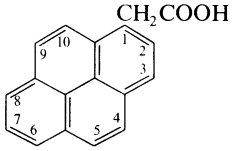


$C_{13}H_{10}N_4O$ M 238.248
Used as 1m*M* soln. in EtOH or dioxan for extraction-photometric detn. of Cu, Co, Ni. Orange cryst. (EtOH). Sol. EtOH, Me_2CO, $CHCl_3$, dioxan, EtOAc; spar. sol. H_2O. Mp 207-208°. pK_{a1} 3.27; pK_{a2} 10.68.

Gancarzyk, T. *et al*, *Chem. Anal. (Warsaw)*, 1974, **19**, 1215 (*synth, use*)

1-Pyreneacetic acid, 9CI P-00304

[64709-55-3]



$C_{18}H_{12}O_2$ M 260.292

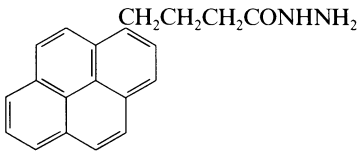
Indicator for the titration of organolithium cpds. and Grignard reagents. Cryst. (toluene/MeOH). Mp 214-219°, Mp 221-222°.

Me ester: [73654-19-0].
$C_{19}H_{14}O_2$ M 274.318
Plates (hexane). Mp 90-91.5°.

Shozda, R.J. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 1716 (*synth, deriv*)
Deck, L.M. *et al*, *J. Org. Chem.*, 1983, **48**, 3577 (*synth, deriv*)
Kijuren, H. *et al*, *J. Org. Chem.*, 1991, **56**, 6950 (*use*)

1-Pyrenebutanoic acid hydrazide, 9CI P-00305

[55486-13-0]



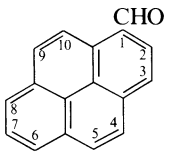
$C_{20}H_{18}N_2O$ M 302.375
Fluorescent labelling reagent.

Reines, S.A. *et al*, *Nucleic Acids Res.*, 1974, **1**, 767 (*synth, use*)
Koenig, P. *et al*, *Biopolymers*, 1977, **16**, 2231.
Fujimori, E. *et al*, *Biochim. Biophys. Acta*, 1983, **742**, 155.

1-Pyrenecarboxaldehyde, 9CI P-00306

1-Formylpyrene

[3029-19-4]



$C_{17}H_{10}O$ M 230.265
Used as fluorogenic reagent for primary amines. Yellow leaflets (EtOH). Mp 125-126°.

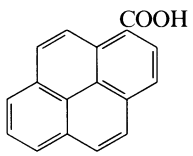
Oxime: [3786-56-9].
$C_{17}H_{11}NO$ M 245.280
Cryst. (EtOH aq.). Mp 191-192°.

Martin, R.H. *et al*, *Bull. Soc. Chim. Belg.*, 1955, **64**, 367; 1965, **74**, 418 (*synth, pmr*)
Hwang, T.K. *et al*, *Anal. Chim. Acta*, 1978, **99**, 305 (*use*)
Secrist, J.A. *et al*, *J. Org. Chem.*, 1979, **44**, 2941 (*synth*)
Bair, K.W. *et al*, *J. Med. Chem.*, 1990, **33**, 2385 (*oxime*)

1-Pyrenecarboxylic acid, 9CI P-00307

3-Pyrenecarboxylic acid (obsol.)

[19694-02-1]



$C_{17}H_{10}O_2$ M 246.265
Fluorescent label for amines. Yellow needles (PhCl, EtOH). Mp 273°.

Me ester: [6145-35-3].
$C_{18}H_{12}O_2$ M 260.292
Cryst. (MeOH). Mp 83-84°.

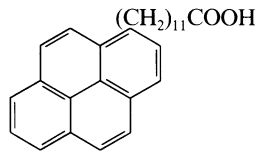
Et ester:
$C_{19}H_{14}O_2$ M 274.318
Mp 63°.

Vollmann, H. *et al*, *Justus Liebigs Ann. Chem.*, 1937, **531**, 1 (*synth*)
Berg, A., *Acta Chem. Scand.*, 1949, **3**, 655; 1956, **10**, 1362 (*synth*)
Hansen, P.E. *et al*, *Acta Chem. Scand., Ser. B*, 1981, **35**, 131 (*ir*)
Milosavljevic, B.H. *et al*, *J. Phys. Chem.*, 1988, **92**, 2997 (*photophys props*)

1-Pyrenedodecanoic acid, 9CI P-00308

3-Pyrenedodecanoic acid (obsol.)

[69168-45-2]



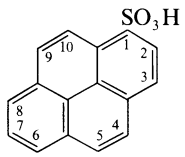
$C_{28}H_{32}O_2$ M 400.560
Fluorescent probe for lipids. Cryst. (Me_2CO). Mp 123-125°.

Me ester: [69168-44-1].
$C_{29}H_{34}O_2$ M 414.586
Cryst. (pet. ether). Mp 63-65°.

Katusin-Razem, B., *Croat. Chem. Acta*, 1978, **51**, 163 (*synth, ir, uv, pmr*)
Homan, R. *et al*, *Anal. Biochem.*, 1989, **178**, 166 (*use*)

1-Pyrenesulfonic acid P-00309

[26651-23-0]



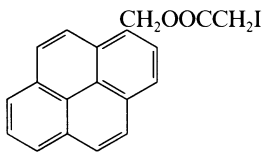
$C_{16}H_{10}O_3S$ M 282.319
Cryst. + $2H_2O$ (H_2SO_4 aq.). Mp 182-184° (anhyd.).
Monohydrate: Mp 118-119°.
Dihydrate: Amorph. solid. Mp 128°.
Chloride: [61494-52-8].
$C_{16}H_9ClO_2S$ M 300.765
Fluorescent labelling reagent for amine groups. Mp 175-176°.

Colter, A.K. *et al*, *Can. J. Chem.*, 1978, **56**, 585 (*synth, deriv, ir, pmr*)
Nakabayashi, M. *et al*, *Photochem. Photobiol.*, 1981, **33**, 449 (*use, deriv*)
Cerfontain, H. *et al*, *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1983, **102**, 210 (*pmr*)
Menger, F.M. *et al*, *J. Org. Chem.*, 1987, **52**, 3793 (*synth*)

1-Pyrenylmethyl iodoacetate, 9CI P-00310

3-Pyrenylmethyl iodoacetate (obsol.). 1-(Iodoacetoxymethyl) pyrene

[67013-49-4]



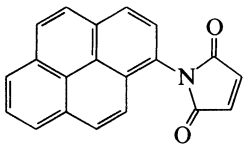
$C_{19}H_{13}IO_2$ M 400.215
Fluorescent probe for proteins.

Chen, R.F. *et al*, *Anal. Lett.*, 1985, **18**, 393 (*use*)

1-(1-Pyrenyl)-1*H*-pyrrole-2,5-dione, 9CI P-00311

N-(*1-Pyrenyl*)*maleimide*

[42189-56-0]



$C_{20}H_{11}NO_2$ M 297.312

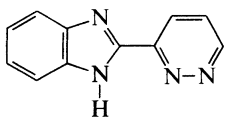
Fluorescent reagent for thiol groups. Gold needles (EtOH aq.). Mp 223-225°.

Weltman, J.K. *et al*, *J. Biol. Chem.*, 1973, **248**, 3173 (*synth, ir, pmr, uv, use*)
Wu, C.-W. *et al*, *Biochemistry*, 1976, **15**, 2863 (*use*)
Lux, B. *et al*, *J. Biol. Chem.*, 1981, **256**, 1767 (*use*)

2-(3-Pyridazinyl)benzimidazole, 8CI P-00312

3-(2-Benzimidazolyl)pyridazine

[18107-01-2]



$C_{11}H_8N_4$ M 196.211

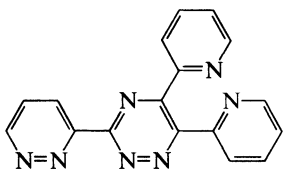
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 590 nm, ε 8100). Cryst. (C_6H_6/EtOH). Sol. C_6H_6, Me_2CO, EtOH, dil. HCl. Mp 270-271°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **5**, 223 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn, Fe*)

3-(3-Pyridazyl)-5,6-bis(2-pyridyl)-1,2,4-triazine P-00313

*3-(3-Pyridazinyl)-5,6-di-2-pyridyl-*as*-triazine, 8CI*

[18091-51-5]



$C_{17}H_{11}N_7$ M 313.321

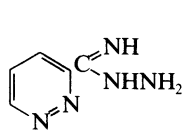
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 450 nm, ε 6000), Cu(*I*) (λ_{max} 507 nm, ε 4800), Fe(*II*) (λ_{max} 584 nm, ε 12900). Cryst. (EtOH). Sol. C_6H_6, Me_2CO, dil. HCl; mod. sol. EtOH. Mp 206-207°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **5**, 223 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn, Co, Cu, Fe*)

3-Pyridazylhydrazidine P-00314

3-Pyridazinecarboximidic acid hydrazide, 8CI

[18107-04-5]



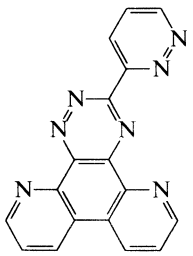
$C_5H_7N_5$ M 137.144

Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Fe(*II*) (λ_{max} 525 nm, ε 14800). Cryst. (EtOH). Sol. C_6H_6, Me_2CO, EtOH. Mp 164-165°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **5**, 223 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1989, **16**, 519 (*detn, Fe*)

3-(3-Pyridazyl)-1,2,4-triazino[5,6-*f*][4,7]phenanthroline P-00315

[18091-53-7]



$C_{17}H_9N_7$ M 311.305

Used as a 5m*M* soln. in EtOH for photometric detn. of Co, Cu(*I*) (λ_{max} 525 nm, ε 7100), Fe(*II*) (λ_{max} 583 nm, ε 15900). Cryst. Sol. C_6H_6.

Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn, Co, Cu, Fe*)

Pyridine P-00316

[110-86-1]

C_5H_5N M 79.101

Extracted in quantity from coal tar. Found in traces in some plants, e.g. *Nicotiana paniculata*, *Atropa belladonna* (Solanaceae). Powerful solvent; dissolves inorg. salts. Org. intermed. Solvent in Karl Fischer reagent for detn. of H_2O, denaturant for industrial ethanol. Important analytical solvent; often used in separation and detn. of elements. Liq. with characteristic unpleasant odour. Misc. H_2O, ligroin, Et_2O, etc. d_4^{25} 0.978. Fp −42°. Bp 115.5°. pK_a 5.58 (25°). n_D^{21} 1.5092. Forms azeotropic mixt. with 3 mols. H_2O, Bp 92-3°. Hygroscopic. Steam-volatile.

▷ Toxic by inhalation and skin contact, TLV 15. Flammable, flash p. 20°. UR8400000.

B,HCl: [628-13-7].
Hygroscopic cryst. (EtOH). Mp 82°. Bp 218-219°.
▷ UT4375000.

B,2HCl: [58888-58-7].
Mp 46°.

B,HBr: [18820-82-1].
Orange cryst. Mp 213°.

B,HI: [18820-83-2].
Cryst. + $1H_2O$ (H_2O). Mp 268° dec.

B,$(COOH)_2$*:* [23758-50-1].
Mp 151-152°.

B,$HClO_4$*:* [15598-34-2].
Cryst. (EtOH). Mp 147° dec.
▷ Detonates on impact.

B,MeI: [930-73-4].
Cryst. (EtOH or Me_2CO). Mp 118°. V. hygroscopic.
▷ UU6300000.

B,EtBr: [1906-79-2].
Cryst. (EtOH). Mp 111-112°.

B,EtI: [872-90-2].
Cryst. (EtOH/Et_2O). Mp 90.5°.

Picrate: [1152-90-5].
Mp 165-166°.

Styphnate: Cryst. (EtOH). Mp 184.5-185.5°.

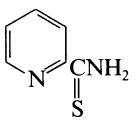
N-*Oxide:* see *Pyridine* N-*oxide*, *P-00356*

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **3**, 1 (*use*)
Barnes, R.A. *et al*, *Chem. Heterocycl. Compd.*, (Part 1), 1960, **14** (*rev, bibl*)
Luckner, M., *Pharmazie*, 1964, **19**, 1 (*biosynth*)
Boodman, N.S. *et al*, *Chem. Heterocycl. Compd.*, Suppl. 1, 1974, **14**, 183 (*synth*)
Talukdar, A.N. *et al*, *Acta Crystallogr., Sect. B*, 1976, **32**, 803 (*cryst struct*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 497; **8**, 424.
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **19**, 454 (*rev*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986 (*use*)
Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1493 (*cmr*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 525, 527.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 465, 466.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MOZ000, POP250, POR750, PPC100.

2-Pyridinecarbothioamide P-00317

2-Thiopicolinamide

[5346-38-3]



$C_6H_6N_2S$ M 138.193

Used for extraction-photometric detn. of Fe (λ_{max} 615 nm, ε 13600). Needles (EtOH). Mp 137°.

N-*Butyl:* [52379-35-8]. N-*Butyl-2-pyridinecarbothioamide*, *9CI*

$C_{10}H_{14}N_2S$ M 194.300

Used as 1m*M* soln. in $CHCl_3$ for extraction separation of microamounts of Au(*III*) (from 3.3*M* HCl), Pd (λ_{max} 361 nm, ε 62400), Ag. Yellow cryst. (pet. ether). Sol. $CHCl_3$, CCl_4, 1-2-dichloroethane, EtOH, C_6H_6, Me_2CO; spar. sol. H_2O. Mp 44-45°.

N-*Ph:* [13225-84-8]. N-*Phenyl-2-thiopicolinamide*. N-*Phenyl-2-pyridinecarbothioamide*, *9CI*

$C_{12}H_{10}N_2S$ M 214.290

Used as 1m*M* soln. in $CHCl_3$ for extraction separation of microamounts of Au(*III*) (from 4.2*M* HCl), Pd, Ag, Pt. Yellow cryst. Sol. $CHCl_3$, CCl_4, 1,2-dichloroethane, EtOH. Mp 46-47°.

N-*Benzyl:* [52379-37-0]. N-(*Phenylmethyl*)-*2-pyridinecarbothioamide*. N-*Benzyl-2-thiopicolinamide*

$C_{13}H_{12}N_2S$ M 228.317

Used as 1m*M* soln. in $CHCl_3$ for extraction separation of Au(*III*) (from 4.5*M* HCl medium), Pd, Ag, Pt. Yellow cryst. Sol. $CHCl_3$, CCl_4, 1,2-dichloroethane, EtOH.

N-(*2-Methylphenyl*): [21259-33-6]. N-o-*Tolyl-2-thiopicolinamide*. N-(*2-Methylphenyl*)-*2-pyridinecarbothioamide*, *9CI*

$C_{13}H_{12}N_2S$ M 228.317

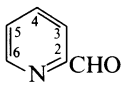
Used as 1m*M* soln. in $CHCl_3$ for extraction separation of microamounts of Au(*III*) (from 5.4*M* HCl), Pd, Ag, Pt; flotation separation of $S^{2\ominus}$. Yellow cryst. (C_6H_6). Sol. $CHCl_3$, CCl_4, 1,2-dichloroethane, EtOH. Mp 69-71°.

Karrer, P. *et al*, *Helv. Chim. Acta*, 1945, **28**, 820 (*synth*)
Wawschinek, O. *et al*, *Mikrochim. Acta*, 1964, 694 (*detn, Fe*)
Kluiber, R.W., *Inorg. Chem.*, 1965, **4**, 829 (*synth, N-Butyl*)
Tissier, C. *et al*, *Bull. Soc. Chim. Fr.*, 1970, 3752 (*props*)
Fomin, B.N. *et al*, *CA*, 1972, **76**, 156873s (*detn, $S^{2\ominus}$*)
Solozhekin, P.M. *et al*, *Izv. Akad. Nauk Tadzh. SSR*, 1979, **2**, 48; *CA*, **92**, 121139k (*detn, Pd*)
Gibalo, I.M. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 92 (*detn, Au*)
Gibalo, I.M. *et al*, *Zh. Neorg. Khim.*, 1982, **27**, 1005 (*detn, Pd, Ag*)
Aminabhavi, T.M. *et al*, *Inorg. Chim. Acta*, 1985, **108**, L31 (*synth, derivs*)
Shkil, A.N. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 1204 (*detn, Au, Pd, Pt*)
Rukhadze, E.G. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 1257 (*detn, Pt*)

2-Pyridinecarboxaldehyde, 9CI P-00318

Picolinaldehyde, 8CI. 2-Formylpyridine

[1121-60-4]



C_6H_5NO M 107.112

Oil. Sol. H_2O. $d_4^{18.5}$ 1.13. Bp_{13-14} 62-63°. pK_{a1} 3.84; pK_{a2} 12.68. n_D^{19} 1.5389.

Oxime: [873-69-8].

$C_6H_6N_2O$ M 122.126

Used for titrimetric detn. of Fe. Needles (H_2O). Sol. H_2O, EtOH, Et_2O. Mp 113-115°. pK_{a1} 3.56; pK_{a2} 10.17 (25°).

▷ TJ5100000.

Semicarbazone: [13370-79-1].

Needles (EtOH). Mp 195-196°.

Selenosemicarbazone: [40324-80-9].

$C_7H_8N_4Se$ M 227.127

Used as a 2m*M* soln. in EtOH for photometric detn. of Co (λ_{max} 435 nm, ε 5500), Cu (λ_{max} 388 nm), Fe(*II*) (λ_{max} 615 nm, ε 6900), Fe(*III*) (λ_{max} 445 nm, ε 6800), Ni (λ_{max} 400 nm, ε 10700). Brown needles (EtOH). Mp 212-214°. pK_{a1} 9.60.

Phenylhydrazone:

$C_{12}H_{11}N_3$ M 197.239

Acid base indicator. Cryst. (MeOH aq.). Mp 181°. pK_a 5.03 (20% EtOH).

Phenylhydrazone; B,HCl: [7727-07-3].

Needles (EtOH). Mp 196°.

[30915-37-8, 30915-38-9]

Lénart, G.H., *Ber.*, 1914, **47**, 808.
Niemann, C. *et al*, *J. Am. Chem. Soc.*, 1942, **64**, 1678.
Hart, E.P., *J. Chem. Soc.*, 1952, 4540.
Green, R.W. *et al*, *J. Phys. Chem.*, 1961, **65**, 2211 (*pKa*)
Hanania, G.I. *et al*, *J. Chem. Soc.*, 1962, 2745 (*pKa*)
Bolton, S., *J. Pharm. Sci.*, 1963, **52**, 858; *CA*, **59**, 14567 (*detn, Fe*)
Conde, A. *et al*, *Cryst. Struct. Commun.*, 1972, **1**, 155 (*cryst struct, deriv*)
Pavon, J.M. *et al*, *Talanta*, 1972, **19**, 1659 (*synth, pKa, use, selenosemicarbazone*)
Vasilikotis, G.S. *et al*, *Anal. Chim. Acta*, 1975, **75**, 227 (*phenylhydrazone, synth, use*)
Kawashima, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1975, **48**, 2009.
Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1493 (*cmr*)

3-Pyridinecarboxaldehyde, 9CI P-00319

Nicotinaldehyde, 8CI. 3-Formylpyridine

[500-22-1]

C_6H_5NO M 107.112

Sol. H_2O. Bp_{26} 97-99°, Bp_{11} 83-87°. pK_{a1} 3.70; pK_{a2} 13.0 (25°).

Oxime: [1193-92-6].

$C_6H_6N_2O$ M 122.126

Mp 150°. pK_{a1} 3.56; pK_{a2} 10.17 (25°).

▷ UT4060000.

Semicarbazone: [13370-80-4].

Mp 216° dec.

Thiosemicarbazone: [555-90-8]. *2-(3-Pyridinylmethylene) hydrazinecarbothioamide, 9CI.* ***Nicothiazone,*** **INN.** *Nicothizonum. G 469. GT 1*
$C_7H_8N_4S$ M 180.233
Has antitubercular props. Used as a 0.1% soln. in aq. MeOH for photometric detn. of Pd (λ_{max} 450 nm). Yellow cryst. Sol. MeOH. Mp 227-230°, Mp 222-223°.
▷ QS3325000.

Phenylhydrazone: [57023-37-7].
Cryst. (EtOH). Mp 158°.

N-*Oxide:*
$C_6H_5NO_2$ M 123.111
Needles ($CHCl_3/Et_2O$). Mp 139-141°.

Hydrazide:
$C_6H_7N_3$ M 121.141
Used as 0.01*M* aq. soln. for photometric detn. of V(*V*) (λ_{max} 420 nm, ε 750). Sol. EtOH, C_6H_6; spar. sol. H_2O.

Harries, C.D. *et al, Justus Liebigs Ann. Chem.*, 1915, **410**, 115.
Panizzon, L., *Helv. Chim. Acta*, 1941, **24**, 24E.
Niemann, C. *et al, J. Am. Chem. Soc.*, 1942, **64**, 1680.
Gardner, T.S. *et al, J. Org. Chem.*, 1951, **16**, 1121 (*Nicothiazone*)
Krych, Z. *et al, Chem. Anal. (Warsaw)*, 1967, **12**, 535 (*detn, V*)
Grecu, I. *et al, CA*, 1971, **76**, 11154q (*detn, Pd, thiosemicarbazone*)
Wilson, H.R. *et al, J. Med. Chem.*, 1974, **17**, 760 (*Nicothiazone*)
Mignot, A. *et al, Eur. J. Med. Chem.*, 1980, **15**, 33 (*Nicothiazone*)
Nagano, H. *et al, Chem. Pharm. Bull.*, 1987, **35**, 4068 (*oxide*)

4-Pyridinecarboxaldehyde, 9CI P-00320

Isonicotinaldehyde, 8CI. 4-Formylpyridine
[872-85-5]
C_6H_5NO M 107.112
Sol. H_2O. Bp_{16} 82-83°. pK_{a1} 4.52; pK_{a2} 12.05 (25°). n_D^{25} 1.5352.

Picrate: Cryst. + $1H_2O$. Mp 168-169°.

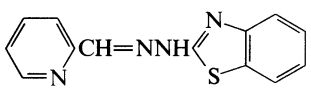
Phenylhydrazone: [7757-39-3].
$C_{12}H_{11}N_3$ M 197.239
Used as a 0.1% soln. in EtOH as acid-base indicator. Cryst. (MeOH aq.). Mp 178-179°, Mp 157°. pK_{a1} 5.89 (20% EtOH).

Phenylhydrazone; B,HCl: Mp 270°.

Oxime: [696-54-8].
$C_6H_6N_2O$ M 122.126
Cryst. (H_2O). Mp 131°. pK_{a1} 4.9 (NH); pK_{a2} 9.6 (NOH) (25°, 0.5*M* KNO_3).

Wibaut, J.P. *et al, Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1945, **64**, 30.
Chilton, W.S. *et al, J. Org. Chem.*, 1967, **32**, 1270 (*oxime*)
Vasilikotis, G.S. *et al, Anal. Chim. Acta*, 1975, **75**, 227 (*synth, use, phenylhydrazone*)
Martinez-Ripoll, M. *et al, Acta Crystallogr., Sect. B*, 1976, **32**, 2322, 2325.

2-Pyridinecarboxaldehyde 2-benzothiazolylhydrazone, 9CI P-00321

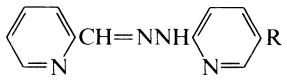


$C_{13}H_{10}N_4S$ M 254.315
(***Z*)-form** [49582-16-3]
Used as a 1m*M* soln. in EtOH as metallochromic indicator for titrimetric detn. of Co, Cu, Fe, Ni, Pd. Pale green cryst. Spar. sol. EtOH. Mp 238°.

Heit, M.L. *et al, Anal. Chim. Acta*, 1965, **32**, 448 (*synth, detn, Co, Cu, Fe, Ni, Pd*)
Berger, S.A. *et al, Mikrochim. Acta*, 1974, 679 (*detn, Cu*)

2-Pyridinecarboxaldehyde (5-chloro-2-pyridinyl)hydrazone, 9CI P-00322

[111283-09-1]



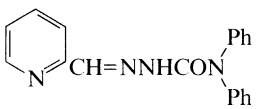
R = Cl

$C_{11}H_9ClN_4$ M 232.672
Used as 2.5m*M* EtOH soln. for photometric detn. of Ni (λ_{max} 500 nm, ε 64000, pH 7), Cu, Fe(*II*), Pd, Zn. Yellow cryst. (EtOH). Sol. EtOH, dioxan, C_6H_6. Mp 150-151°.

Ishii, H. *et al, Anal. Sci.*, 1987, **3**, 347; 1988, **4**, 73 (*synth, use*)

2-Pyridinecarboxaldehyde diphenylsemicarbazone P-00323

N,N-*Diphenyl-2-(2-pyridinylmethylene) hydrazinecarboxamide, 9CI*
[84353-93-5]

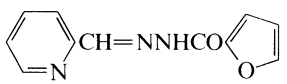


$C_{19}H_{16}N_4O$ M 316.362
Used for photometric detn. of Cu(*II*) (λ_{max} 380 nm, ε 18000, pH 4.0-6.5). Cryst. Sol. DMF, EtOH.

Isagai, K. *et al, Bunseki Kagaku (Jpn. Anal.)*, 1982, **31**, 565; *CA*, **98**, 64766k (*synth, use*)

2-Pyridinecarboxaldehyde 2-furoylhydrazone P-00324

2-Furancarboxylic acid (2-pyridinylmethylene)hydrazide, 9CI
[88053-38-7]

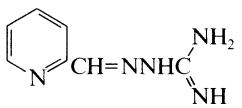


$C_{11}H_9N_3O_2$ M 215.211
Used as 2m*M* EtOH soln. for fluorimetric detn. of Ga (λ_{max} 445 nm). Brown cryst. (EtOH aq.). Sol. EtOH; sl. sol. H_2O. Mp 107-109°.

Requena, E. *et al, Analyst (London)*, 1983, **108**, 933 (*synth, detn, Ga*)

2-Pyridinecarboxaldehyde guanylhydrazone P-00325

2-(2-Pyridinylmethylene)hydrazinecarboximidamide, 9CI
[6928-09-2]



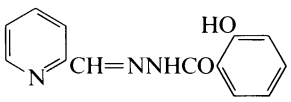
$C_7H_9N_5$ M 163.182
Used as EtOH soln. for photometric detn. of Ni (λ_{max} 375 nm, ε 4660), Co, Cu, Pd, Fe(*II*). Yellow cryst. (50% EtOH). Sol. DMF, MeOH, EtOH; spar. sol. $CHCl_3$, H_2O. Mp 182-183°.

Roman Ceba, M. *et al, Talanta*, 1981, **28**, 134 (*synth, use*)

2-Pyridinecarboxaldehyde (2-hydroxybenzoyl)hydrazone P-00326

2-Hydroxybenzoic acid (2-pyridinylmethylene)hydrazide, 9CI

[18176-38-0]

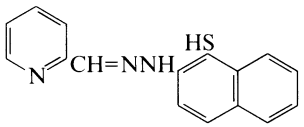


$C_{13}H_{11}N_3O_2$ M 241.249

Used as 0.1% EtOH soln. for fluorimetric detn. of Al; as EtOH soln. for photometric detn. of Ni (λ_{max} 375 nm, ε 39000), Zn (λ_{max} 365 nm, ε 48000), V (λ_{max} 400 nm, ε 22000). Cryst. Sol. EtOH.

Gallego, M. *et al*, *Microchem. J.*, 1978, **23**, 353; 1979, **24**, 143 (*synth, detn, Ni, V, Zn*)
Gallego, M. *et al*, *Analyst* (*London*), 1983, **108**, 92 (*detn, Al*)

2-Pyridinecarboxaldehyde (1-mercapto-2-naphthalenyl)hydrazone P-00327



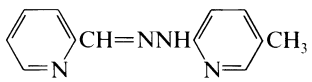
$C_{16}H_{13}N_3S$ M 279.365

Used for photometric detn. of Cu (λ_{max} 480 nm). Cryst. Sol. EtOH.

Ryan, D.E. *et al*, *Anal. Lett.*, 1969, **2**, 515 (*synth, use*)

2-Pyridinecarboxaldehyde (5-methyl-2-pyridinyl)hydrazone, 9CI P-00328

[58333-09-8]

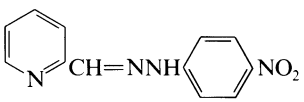


$C_{12}H_{12}N_4$ M 212.254

Used as 2.5m*M* EtOH soln. for photometric detn. of Ni (λ_{max} 584 nm, ε 18700, pH 7), Fe(*II*), Pd, Cu, Zn. Yellow cryst. (EtOH). Sol. EtOH, dioxan, C_6H_6. Mp 155-157°.

Ishii, H. *et al*, *Anal. Sci.*, 1987, **3**, 347; 1988, **4**, 73 (*synth, use*)

2-Pyridinecarboxaldehyde 4-nitrophenylhydrazone P-00329



$C_{12}H_{10}N_4O_2$ M 242.237

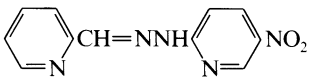
(E)-form [55537-30-9]

Used as a 0.04m*M* soln. in aq. EtOH as acid-base indicator (pH range: 10.2-13.5). Yellow cryst. (EtOH). Sol. EtOH. Mp 257-260°, Mp 240-241°. pK_{a1} 12.59 (μ = 0.1, 20°).

Carillo, J. *et al*, *Microchem. J.*, 1979, **24**, 234 (*synth*)
Guzmán, M. *et al*, *Microchem. J.*, 1982, **27**, 1 (*indicator*)
Ishii, H. *et al*, *Anal. Sci.*, 1987, **3**, 347 (*synth, detn, Ni, indicator*)
Camean Fernandez, A.M. *et al*, *Talanta*, 1987, **34**, 673 (*indicator*)

2-Pyridinecarboxaldehyde (5-nitro-2-pyridinyl)hydrazone, 9CI P-00330

[16391-79-0]



$C_{11}H_9N_5O_2$ M 243.224

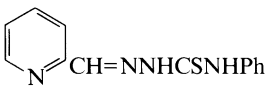
Used as 2.5m*M* EtOH soln. for photometric detn. of Ni (λ_{max} 475 nm, ε 84000, pH 7), Cu, Fe(*II*), Hg(*II*), Pd, Zn. Yellow cryst. (EtOH). Sol. EtOH, dioxan, C_6H_6. Mp 140-141°.

Ishii, H. *et al*, *Anal. Sci.*, 1987, **3**, 347; 1988, **4**, 73 (*synth, use*)

2-Pyridinecarboxaldehyde phenylthiosemicarbazone P-00331

N-Phenyl-2-(2-pyridinylmethylene)hydrazinecarbothioamide, 9CI. Picolinaldehyde phenylthiosemicarbazone

[6839-89-0]



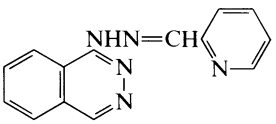
$C_{13}H_{12}N_4S$ M 256.331

Used as 0.05% soln. in DMF or $CHCl_3$ for photometric detn. of Co (λ_{max} 390 nm, ε 30000). Yellow cryst. (EtOH). Sol. DMF; mod. sol. $CHCl_3$, EtOH, $PhNO_2$. Mp 204-205°. pK_{a1} 3.66; pK_{a2} 10.47.

Gomez Ariza, J.L. *et al*, *Talanta*, 1976, **23**, 460 (*synth, detn, Co*)

2-Pyridinecarboxaldehyde 1-phthalazinylhydrazone, 9CI P-00332

[16085-60-2]



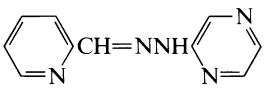
$C_{14}H_{11}N_5$ M 249.274

Used as $CHCl_3$ soln. for extraction photometric detn. of Pd (λ_{max} 537 nm, ε 12400). Cryst. Sol. $CHCl_3$.

Otomo, M. *et al*, *Microchem. J.*, 1980, **25**, 75 (*synth, detn, Pd*)
Nakagawa, T. *et al*, *Analyst* (*London*), 1985, **110**, 387 (*detn, Pd*)

2-Pyridinecarboxaldehyde 2-pyrazinylhydrazone, 9CI P-00333

[58495-41-3]



$C_{10}H_9N_5$ M 199.215

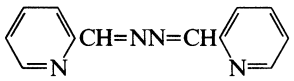
Used as a soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 475 nm, ε 16600), Co (λ_{max} 495 nm, ε 27000), Ni (λ_{max} 488 nm, ε 43000), Fe(*II*). Cryst. Sol. common org. solvs.

Case, F.H., *J. Chem. Eng. Data*, 1976, **21**, 124 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 373 (*use*)

2-Pyridinecarboxaldehyde (2-pyridinylmethylene)hydrazone, 9CI P-00334

Picolinaldehyde azine. Pyridine-2-carboxaldehyde azine

[6957-24-0]



$C_{12}H_{10}N_4$ M 210.238

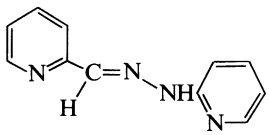
Used for photometric detn. of Pd. Orange cryst. Sol. Me_2CO, C_6H_6, EtOH.

Garcia Vargas, M. *et al*, *An. Quim., Ser. B*, 1980, **76**, 471 (*use*)

2-Pyridinecarboxaldehyde 2-pyridylhydrazone P-00335

1-(α-Pyridylmethylene)-2-(α-pyridyl)hydrazine. PapyH

[2215-33-0]



$C_{11}H_{10}N_4$ M 198.227

(E)-form [21945-37-9]

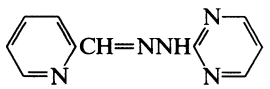
Used as 0.2% soln. in aq. EtOH for extraction-photometric detn. of Pd (λ_{max} 562 nm, ε 16500, 1,2-dichlorobenzene), Ni (λ_{max} 485 nm, ε 57000, C_6H_6), Co (λ_{max} 496 nm, ε 32600), Cu, Fe, Zn, Cd, Mn. Pale-yellow needles (EtOH). Sol. acids, EtOH, dioxan, $CHCl_3$, C_6H_6. Mp 171-172°, Mp 179-180°.

[21945-38-0]

Lions, F. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 3858 (*synth, use*)
Geldard, J.F. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 2262 (*detn, Fe*)
Cameron, A.J. *et al*, *Anal. Chim. Acta*, 1963, **29**, 73; 1968, **40**, 413 (*detn, Pd*)
Geldard, J.F. *et al*, *Inorg. Chem.*, 1963, **2**, 270 (*synth, use*)
Bell, C.F. *et al*, *Talanta*, 1965, **12**, 696 (*detn, Pd*)
Quddus, M.A. *et al*, *Anal. Chim. Acta*, 1968, **42**, 503 (*synth, use*)
Haddad, P.R. *et al*, *Talanta*, 1976, **23**, 275 (*detn, Co*)
Burns, D.T. *et al*, *Anal. Chim. Acta*, 1983, **151**, 245 (*detn, Co*)
Casey, A.T. *et al*, *Aust. J. Chem.*, 1984, **37**, 739 (*cryst struct*)
Nakagawa, T. *et al*, *Analyst (London)*, 1985, **110**, 387 (*detn, Pd*)
Ishii, H. *et al*, *Anal. Sci.*, 1987, **3**, 347; 1988, **4**, 73 (*synth, use*)

2-Pyridinecarboxaldehyde 2-pyrimidinylhydrazone, 9CI P-00336

[73568-97-5]



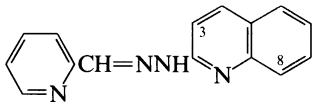
$C_{10}H_9N_5$ M 199.215

Used as 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 452 nm, ε 25800), Cu(*I*) (λ_{max} 425 nm, ε 13600), Fe(*II*) (λ_{max} 550 nm, ε 6500), Ni (λ_{max} 424 nm, ε 38300). Cryst. (MeOH aq.). Sol. common org. solvs. Mp 221°.

Case, F.H., *J. Chem. Eng. Data*, 1976, **21**, 124 (*synth*)
Schilt, A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, use*)

2-Pyridinecarboxaldehyde 2-quinolinylhydrazone, 9CI P-00337

[7385-99-1]



$C_{15}H_{12}N_4$ M 248.287

Used as metallochromic indicator for titrimetric detn. of Cu; extraction-photometric detn. of Pd (λ_{max} 594 nm), Ni (λ_{max} 515 nm, ε 67000, C_6H_6), Cu, Fe, Zn, Cd; photometric detn. of Co (λ_{max} 510 nm, ε 30000), Ni (λ_{max} 492 nm, ε 50500). Yellow cryst. (EtOH aq.). Spar. sol. EtOH. Mp 197°.

Heit, M.L. *et al*, *Anal. Chim. Acta*, 1965, **32**, 448; 1966, **34**, 407 (*synth, use, detn, Pd*)
Singhal, S.P. *et al*, *Anal. Chim. Acta*, 1967, **37**, 91 (*detn, Co, Ni*)
Jensen, R.E. *et al*, *Anal. Chim. Acta*, 1967, **37**, 397 (*detn, Pd*)
Afghan, B.K. *et al*, *Anal. Chim. Acta*, 1968, **41**, 167 (*detn, Ni*)
Frei, R.W. *et al*, *Anal. Chim. Acta*, 1971, **55**, 125 (*synth, use*)
Berger, S.A. *et al*, *Mikrochim. Acta*, 1974, 679 (*detn, Cu*)

2-Pyridinecarboxaldehyde 3-quinolinylhydrazone, 9CI P-00338

[70845-30-6]

$C_{15}H_{12}N_4$ M 248.287

Used for photometric detn. of Cu(*I*) (λ_{max} 500 nm, ε 2200). Cryst. (EtOH). Sol. common org. solvs. Mp 218° (monohydrate).

Schilt, A.A. *et al*, *Talanta*, 1982, **29**, 338 (*synth, detn, Cu*)

2-Pyridinecarboxaldehyde 8-quinolinylhydrazone P-00339

(2-Pyridyl)-N-8-quinolylhydrazone

[82633-08-7]

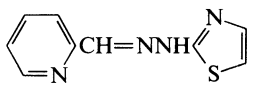
$C_{15}H_{12}N_4$ M 248.287

Used as 0.01*M* EtOH soln. for photometric detn. of Cu(*I*) (λ_{max} 476 nm, ε 21300, pH 7), Co, Ni, Fe(*II*). Cryst. (MeOH aq.). Sol. MeOH, EtOH. Mp 118°.

Schilt, A.A. *et al*, *Talanta*, 1982, **29**, 338 (*synth, use*)

2-Pyridinecarboxaldehyde 2-thiazolylhydrazone, 9CI P-00340

[3788-82-7]



$C_9H_8N_4S$ M 204.255

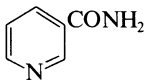
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 479 nm, ε 25700), Cu(*I*) (λ_{max} 459 nm, ε 15500), Fe(*II*) (λ_{max} 580 nm, ε 64000), Ni (λ_{max} 446 nm, ε 40100). Cryst. (EtOH). Sol. common org. solvs. Mp 200°.

Schilt, A.A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, use*)

3-Pyridinecarboxamide, 9CI P-00341

***Nicotinamide*, INN.** *Nicotinic acid amide. Vitamin B_3. Niacinamide. PP-Factor. Antipellagra factor. Numerous proprietary names*

[98-92-0]



$C_6H_6N_2O$ M 122.126

Widespread in plants, e.g. rice, yeast and fungi. Enzyme cofactor, used in treatment of pellagra. Needles (C_6H_6). Mp 129-130°. $Bp_{0.0005}$ 150-160°.

▷ QS3675000.

N-*Me:* see *3-(Aminocarbonyl)-1-methylpyridinium(1+), A-00134*

N'-*Benzyl:* [2503-55-1].
$C_{13}H_{12}N_2O$ M 212.251
Mp 72-73°.

N-*Oxide:* [1986-81-8].
$C_6H_6N_2O_2$ M 138.126
Cryst. (H_2O). Mp 291-293° (275-276°).

N'-*Hydroxy:* [5657-61-4]. *N-Hydroxy-3-pyridinecarboxamide, 9CI. Nicotinohydroxamic acid.* ***Nicoxamat*, INN.** *Heparit*
$C_6H_6N_2O_2$ M 138.126
Antifungal agent, used in treatment of liver disorders. Used as aq. soln. for extraction-photometric detn. of Mn, V (λ_{max} 450 nm, ε 4000, *n*-hexanol); gives colour reactions with Fe, V, Mo. Prisms (EtOH). Sol. H_2O. Mp 168°. pK_a 8.3.

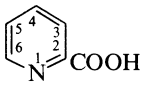
N'-*Hydroxy, oxime:* [1594-58-7]. *Nicotinamidoxime. N-Hydroxy-3-pyridinecarboximidamide, 9CI*
$C_6H_7N_3O_2$ M 153.140
Used for photometric detn. of Co, Ni. Yellow cryst. (EtOH). Mp 128°.

La Forge, F.B., *J. Am. Chem. Soc.*, 1928, **50**, 2480.
Org. Synth., Coll. Vol., 1, 1932, 704 (*oxide*)
Georg, A. *et al*, *Helv. Chim. Acta*, 1943, **26**, 358 (*synth*)
Rohrlich, M., *Arch. Pharm. (Weinheim, Ger.)*, 1950, **283**, 122 (*synth*)
Yale, H.L. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 1933 (*synth, Nicoxamat*)
Hackley, B.B. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 3651 (*synth, deriv*)
Dutta, R.L., *J. Indian Chem. Soc.*, 1957, **34**, 311; 1958, **35**, 243 (*detn, Mn, Fe, V, Mo*)
Tripathi, K.K. *et al*, *Fresenius' Z. Anal. Chem.*, 1959, **169**, 326, 407; 1960, **176**, 91 (*Nicotinamidoxime, synth, detn, Co*)
Minczewski, J. *et al*, *Chem. Anal. (Warsaw)*, 1961, **6**, 377 (*detn, V*)
Helgeson, J.P. *et al*, *Proc. Natl. Acad. Sci. U.S.A.*, 1966, **56**, 60 (*uv, ms*)
Hase, J. *et al*, *Chem. Pharm. Bull.*, 1971, **19**, 363 (*pharmacol, deriv*)
Birdsall, B. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1972, 1643 (*cmr*)
Auerbach, J. *et al*, *J. Org. Chem.*, 1976, **41**, 725 (*synth*)
Busha, A. *et al*, *Synth. Commun.*, 1977, **7**, 549 (*synth, deriv*)
Oppenheimer, N.J. *et al*, *Org. Magn. Reson.*, 1980, **13**, 14 (*N-15 nmr*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7865.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 410.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NCR000.

2-Pyridinecarboxylic acid, 9CI P-00342

Picolinic acid

[98-98-6]



$C_6H_5NO_2$ M 123.111

Isol. from culture medium of *Piricularia oryzae*. Catalyst for CrO_3 oxidns. Used as 8% aq. soln. for extraction separation of V(*III*). Needles (H_2O, EtOH or C_6H_6). Sol. H_2O. Subl. 136-137°. pK_{a1} 0.99; pK_{a2} 5.39 (25°).

▷ TJ7344000.

Me ester: [2459-07-6].
$C_7H_7NO_2$ M 137.138
Hygroscopic cryst. Fp 14°. Bp 232°.

Et ester: [2524-52-9].
$C_8H_9NO_2$ M 151.165
Bp 243°, Bp_{13} 122°.

Ph ester: [26838-86-8].
$C_{12}H_9NO_2$ M 199.209
Mp 82°.

Chloride: [29745-44-6].
C_6H_4ClNO M 141.556
Mp 46°. Bp_{10} 160° sl. dec.

Nitrile: [100-70-9]. *2-Cyanopyridine*
$C_6H_4N_2$ M 104.111
Needles (Et_2O). Sol. H_2O. Mp 27°. Bp 222-227°.

1-Oxide: [824-40-8].
$C_6H_5NO_3$ M 139.110
Mp 161°.

Hydrazide: [1452-63-7].
$C_6H_7N_3O$ M 137.141
Used as a 0.01*M* aq. soln. for photometric detn. of V(*V*) (λ_{max} 420 nm). Cryst. Mp 161-162°.

Oliveto, E.P., *Chem. Heterocycl. Compd.*, (Part 3), 1962, **14**, 179 (*bibl*)
Tamari, K. *et al*, *CA*, 1965, **63**, 6049 (*isol*)
Krych, Z. *et al*, *Chem. Anal. (Warsaw)*, 1967, **12**, 535 (*hydrazide, detn, V*)
Takusagawa, F. *et al*, *Chem. Lett.*, 1973, 1089 (*cryst struct*)
Kon, J.I. *et al*, *CA*, 1974, **81**, 120398 (*synth*)
Pollak, P.I. *et al*, *Chem. Heterocycl. Compd.*, Suppl. 3, 1974, **14** (*bibl*)
Paraskewas, S., *Synthesis*, 1974, 819 (*synth*)
Ninomiya, I., *CA*, 1976, **85**, 108547c.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 293.
Yatirajam, V. *et al*, *Talanta*, 1979, **26**, 60 (*detn, V*)
Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1493 (*cmr*)
Csanády, G. *et al*, *Org. Prep. Proced. Int.*, 1990, **22**, 507 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PIB930.

3-Pyridinecarboxylic acid P-00343

***Nicotinic acid*, INN.** *Niacin, USAN. Nicamin. Nicobid. Wampocap. Numerous proprietary names*

[59-67-6]

$C_6H_5NO_2$ M 123.111

Present in fruits and other plant materials. Vitamin, enzyme cofactor, vasodilator. Used as 2.5% aq. soln. for extraction-photometric detn. of U(*VI*) (λ_{max} 556 nm, ε 120000). Needles (H_2O or EtOH). Sol. hot H_2O, spar. sol. Et_2O. Mp 236°, Mp 225-227°. pK_{a1} 2.00; pK_{a2} 4.82 (25°). Sublimes.

▷ QT0525000.

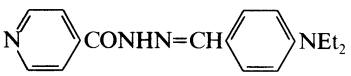
B,HCl: [636-79-3].
Prisms or plates (H_2O). Mp 274°.

Hydrazide: [553-53-7].
$C_6H_7N_3O$ M 137.141
Bactericide. Needles (EtOH or C_6H_6). Mp 161-162°.
▷ QT1750000.

Org. Synth., Coll. Vol., 1, 1932, 385 (*synth*)
Green, R.W. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 4896 (*deriv, uv, tautom*)
Oliveto, E.P., *Chem. Heterocycl. Compd.*, (Part 3), 1962, **14**, 179 (*bibl*)
Bild, N. *et al*, *Helv. Chim. Acta*, 1967, **50**, 1885 (*ms*)
Poluektov, N.S. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 541 (*detn, U*)
Pollak, P.I. *et al*, *Chem. Heterocycl. Compd.*, Suppl. 3, 1974, **14** (*bibl*)
Paraskewas, S., *Synthesis*, 1974, 819 (*synth*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **24**, 59 (*rev*)
Dommisse, R. *et al*, *Heterocycles*, 1981, **16**, 1893 (*cmr*)
Staedeli, W. *et al*, *Org. Magn. Reson.*, 1981, **15**, 106 (*N-15 nmr*)
Kutoglu, A. *et al*, *Acta Crystallogr., Sect. C*, 1983, **39**, 232 (*cryst struct*)
Hotz, W., *Adv. Lipid Res.*, 1983, **20**, 195 (*rev, pharmacol*)
Weiner, M. *et al*, *Clin. Pharmacol. Vol. 1: Nicotinic Acid Nutrient-Cofactor-Drug*, Dekker, N.Y., 1983 (*book*)
Sauberlich, H.E. *et al*, *Coenzymes Cofactors*, 1987, **2**, 599, 627 (*revs*)
Lewis, N.I., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NCQ900, NDU500, NDV000.

4-Pyridinecarboxylic acid [[4-(diethylamino)phenyl]methylene]hydrazide P-00344

p-*Diethylaminobenzaldehyde isonicotinoylhydrazone.*
Isonicotinic acid [p-(*diethylamino*)*benzylidene*]*hydrazide*

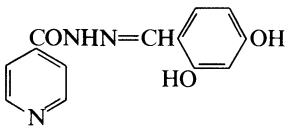


$C_{17}H_{20}N_4O$ M 296.371
Used as a 0.01*M* soln. in EtOH for detn. of Hg. Cryst. (MeOH). Mp 184-185°.

Katiyar, S., *Talanta*, 1964, **11**, 892 (*use*)

4-Pyridinecarboxylic acid [(2,4-dihydroxyphenyl)methylene]hydrazide, 9CI P-00345

1-Isonicotinoyl-2-(2,4-dihydroxybenzylidene)hydrazine. 2,4-Dihydroxybenzaldehyde 4-pyridinylcarbonylhydrazone
[3477-69-8]

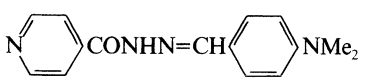


$C_{13}H_{11}N_3O_3$ M 257.248
Used as 1m*M* EtOH soln. for fluorimetric detn. of Al (λ_{max} 478 nm, EtOH, pH ~ 5). Cryst. Sol. EtOH.

Vasilikiotis, G. *et al*, *Microchem. J.*, 1969, **14**, 380; 1986, **34**, 174 (*synth, detn, Al*)

4-Pyridinecarboxylic acid [[4-(dimethylamino)phenyl]methylene]hydrazide, 9CI P-00346

p-*Dimethylaminobenzaldehyde isonicotinoylhydrazone.*
Isonicotinic acid [p-(*dimethylamino*)*benzylidene*]*hydrazide*
[13059-77-3]

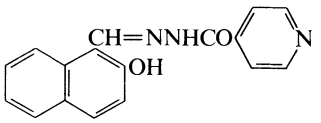


$C_{15}H_{16}N_4O$ M 268.318
Used as a 0.01*M* soln. in EtOH for detn. of Hg. Cryst. (MeOH). Mp 202-203°.

Katiyar, S., *Talanta*, 1964, **11**, 892.

4-Pyridinecarboxylic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide P-00347

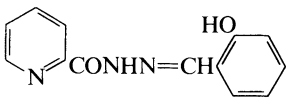
2-Hydroxy-1-naphthaldehyde 4-pyridinylhydrazone
[796-42-9]



$C_{17}H_{13}N_3O_2$ M 291.309
Used for photometric detn. of Fe(*II*), Fe(*III*), Mo(*VI*), Ti. Cryst.

Dzyubo, L.N. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 2386 (*detn, Ti*)
Taniguchi, H. *et al*, *CA*, 1974, **81**, 85489m (*use*)
Podchainova, V.N. *et al*, *Zavod. Lab.*, 1974, **40**, 243 (*use*)

2-Pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide P-00348

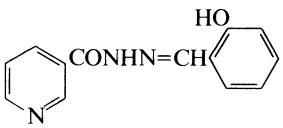


$C_{13}H_{11}N_3O_2$ M 241.249
Used for photometric detn. of Ti (λ_{max} 224 nm, ε 61100). Cryst. Mp 236°.

Dolgorev, A.V., *Zh. Anal. Khim.*, 1973, **28**, 1093 (*detn, Ti*)

3-Pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, 9CI P-00349

[15017-28-4]



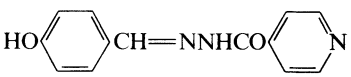
$C_{13}H_{11}N_3O_2$ M 241.249
Used as a 0.5% soln. in EtOH for photometric detn. of Ti; extraction -photometric detn. of Fe, Ti, V. Cryst. (EtOH aq.). Sol. EtOH. Mp 236°.

[71112-97-5]

Dolgorev, A.V. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1093 (*use*)

4-Pyridinecarboxylic acid [(4-hydroxyphenyl)methylene]hydrazide, 9CI P-00350

4-Hydroxybenzaldehyde isonicotinoylhydrazone
[840-81-3]



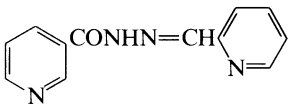
$C_{13}H_{11}N_3O_2$ M 241.249
Used as a 4m*M* soln. in EtOH for photometric detn. of V. Cryst. Mp 286-287°.

Zommer, S. *et al*, *Chem. Anal. (Warsaw)*, 1973, **47**, 425 (*detn, V*)

3-Pyridinecarboxylic acid (2-pyridinylmethylene)hydrazide, 9CI P-00351

2-Pyridinecarboxaldehyde 3-pyridinecarbonylhydrazone. Picolinaldehyde nicotinoylhydrazone

[15017-27-3]

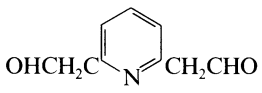


$C_{12}H_{10}N_4O$ M 226.237

Used as EtOH soln. for fluorimetric detn. of Ti. Yellowish cryst. (EtOH). Sol. EtOH. Mp 162°.

Luque de Castro, M.D. *et al*, *Talanta*, 1980, **27**, 645 (*synth*, *detn*, *Ti*)

2,6-Pyridinediacetaldehyde P-00352



$C_9H_9NO_2$ M 163.176

Dioxime: 2,6-Pyridinediacetoxime

$C_9H_{11}N_3O_2$ M 193.205

Used as 1% soln. in MeOH or Me_2CO for photometric detn. of Ni, Fe(*III*), Cu. Cryst. Sol. MeOH, Me_2CO. Mp 147°.

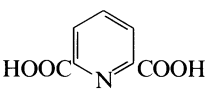
Hartkamp, E., *Fresenius' Z. Anal. Chem.*, 1960, **178**, 19 (*synth*, *detn*, *Ni*)

Gagliardi, E. *et al*, *Mikrochim. Acta*, 1965, 1047 (*detn*, *Fe*, *Cu*)

2,6-Pyridinedicarboxylic acid P-00353

Dipicolinic acid

[499-83-2]



$C_7H_5NO_4$ M 167.121

Occurs in bacterial spores. Used as 0.1*M* aq. soln. for photometric detn. of Ag, Cr, V and Mn; gravimetric detn. of U. Cryst. + $1\frac{1}{2}$ H_2O (H_2O). Mp 252° dec. (anhyd.). pK_{a1} 2.24; pK_{a2} 4.67 (25°).

6-Me ester: [7170-36-7].

Cryst. (C_6H_6). Mp 149-150°. pK_a 2.65 (25°).

Di-Me ester: [5453-67-8].

$C_9H_9NO_4$ M 195.174

Mp 121°. $Bp_{0.5}$ 155-160°.

Mono-Et ester: [21855-16-3].

$C_9H_9NO_4$ M 195.174

Produced by spores of *Bacillus cecus* var. *mycoides*. Mp 121.5°.

Di-Et ester: [15658-60-3].

$C_{11}H_{13}NO_4$ M 223.228

Mp 28°, Mp 41-42°. Bp_1 158°.

Dinitrile: [2893-33-6]. *2,6-Dicyanopyridine*

$C_7H_3N_3$ M 129.121

Mp 123°.

Diamide, dioxime: 2,6-Pyridinediamidoxime

$C_7H_9N_5O_2$ M 195.180

Used as 0.1% aq. soln. for photometric detn. of Fe(*II*) (λ_{max} 523 nm, pH 13). Cryst. (H_2O). Sol. H_2O, EtOH.

Biemann, K. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 5558.

Hartkamp, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1961, **184**, 98; 1962, **187**, 16; 1964, **199**, 183 (*detn*, *Ag*, *Mn*, *Cr*)

Pearse, G.A., *Anal. Chem.*, 1962, **34**, 536 (*detn*, *V*)

Oliveto, E.P., *Chem. Heterocycl. Compd.*, (Part 3), 1962, **14**, 179 (*bibl*)

Den Boef, G., *Fresenius' Z. Anal. Chem.*, 1964, **199**, 348 (*detn*, *Cr*)

Bodalski, R. *et al*, *Pol. J. Chem.* (*Rocz. Chem.*), 1964, **38**, 1337; *CA*, **62**, 1627.

Weyking, M.W. *et al*, *Anal. Chem.*, 1966, **38**, 1950 (*synth*, *detn*, *Fe*)

Takusagawa, F. *et al*, *Bull. Chem. Soc. Jpn.*, 1973, **46**, 2020 (*cryst struct*)

Marangoni, G. *et al*, *Talanta*, 1973, **20**, 1217 (*detn*, *U*)

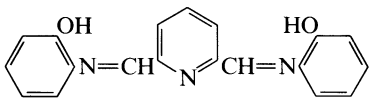
Pollak, P.I. *et al*, *Chem. Heterocycl. Compd.*, Suppl. 3, 1974, **14** (*bibl*)

Mišič-Vuković, M. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1978, 34 (*synth*, *Me ester*)

2,2′-[2,6-Pyridinediylbis(methylidynenitrilo)] bisphenol, 9CI P-00354

2,6-Pyridinedicarboxaldehyde bis 2-hydroxyanil

[1823-48-9]



$C_{19}H_{15}N_3O_2$ M 317.346

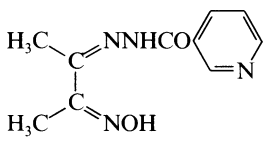
Used as a 0.4% soln. in $CHCl_3$ to give colour reactions with Bi, Sb, U(*VI*). Yellow cryst. (MeOH).

Thabet, S.K. *et al*, *Anal. Chem.*, 1975, **47**, 1870 (*use*)

3-Pyridine-[2-(hydroxyimino)-1-methylpropylidene]carboxylic acid P-00355

Biacetyl nicotinoylhydrazone oxime

[91151-80-3]



$C_{10}H_{12}N_4O_2$ M 220.230

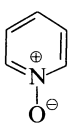
Used as a 0.5-2m*M* soln. in EtOH for fluorimetric detn. of $SO_4^{2\ominus}$, Hf,Ti, Zr. Cryst. (EtOH aq.). Sol. EtOH, Me_2CO; spar. sol. H_2O, C_6H_6. pK_a 9.5 (4% EtOH).

Cejas, M.A. *et al*, *Anal. Chim. Acta*, 1984, **158**, 287 (*detn*, *Hf*, *Ti*, *Zr*)

Rubio, S., *Talanta*, 1985, **32**, 203 (*detn*, $SO_4^{2\ominus}$)

Pyridine *N*-oxide P-00356

[694-59-7]



C_5H_5NO M 95.101

Reagent for oxidative decarboxylation of α-halo acids and carboxylic acids to aldehydes. Used as 20% aq. soln. (acidified with HCl) for extraction-photometric detn. of Au. Solid. Mp 65-66°. Bp_{15} 136-140°, Bp_1 100-105°.

▷ Emits highly toxic fumes when heated to dec.. UT6410000.

B,HCl: Cryst. (2-propanol). Mp 179.5-181°.

Picrate: Yellow needles. Mp 180.5-182°.

B,MeClO₄: [4329-79-7].

Cryst. (EtOH). Mp 69-70°.

Org. Synth., 1953, **33**, 79 (*synth*)

Eisenthal, R. *et al*, *Tetrahedron*, 1965, **21**, 2205.

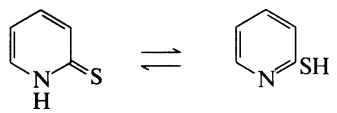
Holt, P.F. *et al*, *J. Chem. Soc. B*, 1968, 233 (*uv*)

Ziegler, M. *et al*, *Mikrochim. Acta*, 1970, 628 (*detn, Au*)
Ulku, D. *et al*, *Acta Crystallogr., Sect. B*, 1971, **27**, 432 (*cryst struct*)
Tamura, Y. *et al*, *Chem. Pharm. Bull.*, 1971, **19**, 130 (*synth*)
Tolstikov, G.A. *et al*, *Tetrahedron Lett.*, 1971, 2807 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 567.
Cowan, D.A. *et al*, *Biomed. Mass Spectrom.*, 1978, **5**, 551 (*ms*)
Wamsler, T. *et al*, *J. Magn. Reson.*, 1978, **31**, 177 (*pmr, cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, POS000.

2(1*H*)-Pyridinethione, 9CI P-00357

2-Thiopyridone. 2-Pyridinethiol, 9CI. 2-Mercaptopyridine. 2-Pyridyl mercaptan

[2637-34-5]



C_5H_5NS M 111.167

Thione tautomer predominates except in vapour phase. Used as 2% soln. in EtOH for photometric detn. of Bi, Pd; forms coloured ppts. with Hg, Cu, Cd. Yellowish prisms (C_6H_6). Mp 130-132°, Mp 128°.

▷ UT8575000.

Thione-form

N-*Me:* [2044-27-1].
C_6H_7NS M 125.194
Cryst. (MeOH aq.). Mp 85-87°.
▷ UT9830000.

N-*Acetoxy:* [15922-79-9]. *1-Acetoxy-2(1H)-pyridinethione, 9CI*
$C_7H_7NO_2S$ M 169.204
Used for photometric detn. of Cu. Cryst. Mp 173-175°.

1-Hydroxy: 1-Hydroxy-2(1H)-pyridinethione, 9CI. Pyrithione
C_5H_5NOS M 127.167
Many metal salts used in cosmetics and pharmaceuticals. Cryst. (C_6H_6/pet. ether). Mp 68°.

SH-form

N-*Oxide:* [1121-31-9]. *2-Pyridinethiol* N-*oxide*
C_5H_5NOS M 127.167
Used as a 0.02*M* $CHCl_3$ soln. for extraction-photometric detn. of Fe (λ_{max} 550 nm, ε 3400), V(*V*), Pd (λ_{max} 365 nm, ε 5240); gravimetric detn. of Ag, Fe(*III*); turbidimetric detn. of Ag. Cryst. Sol. $CHCl_3$. Mp 70-72°.

S-*Me:* [18438-38-5].
C_6H_7NS M 125.194
Liq. Bp_{23} 100-104°.

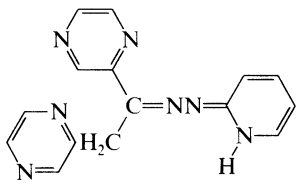
S-*Me; B,MeI:* Pale yellow needles (Me_2CO). Mp 155-157°.

S-*Me*, N-*Oxide:*
C_6H_7NOS M 141.193
Needles (EtOAc/hexane). Mp 81°.

Jones, R.A. *et al*, *J. Chem. Soc.*, 1958, 3610; 1960, 2937 (*synth, struct, deriv, tautom*)
Albert, A. *et al*, *J. Chem. Soc.*, 1959, 2384 (*synth*)
Dalziel, J.A. *et al*, *Analyst (London)*, 1964, **89**, 707; 1966, **91**, 98 (*N-Oxide, synth, gravimetric detn, Fe*)
Clayton, O. *et al*, *CA*, 1967, **67**, 82111g (*synth, N-acetoxy*)
Abramovitch, R.A. *et al*, *J. Heterocycl. Chem.*, 1969, **6**, 989; 1975, **12**, 683 (*1-Hydroxy, synth*)
Izquierdo, A. *et al*, *Inf. Quim. Anal.*, 1971, **25**, 203; 1972, **26**, 271 (*pptn, photometric detn*)
Kwiatkowski, J.S., *J. Mol. Struct.*, 1971, **10**, 245 (*struct*)
Edrissi, M. *et al*, *Microchem. J.*, 1971, **16**, 177, 526 (*synth, N-acetoxy, detn, Cu, Pd*)
Cook, M.J. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1972, 1295 (*struct*)
Edrissi, M. *et al*, *Anal. Chim. Acta*, 1974, **71**, 215 (*detn, Ag*)
Pauls, H. *et al*, *Chem. Ber.*, 1976, **109**, 3653 (*deriv*)
Beak, P. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 171; *J. Org. Chem.*, 1980, **45**, 1347, 1354 (*struct*)
Friese, H.J. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **287**, 298 (*N-Oxide, detn, V*)
Black, J.G. *et al*, *Clin. Toxicol.*, 1978, **13**, 1 (*1-Hydroxy, rev, tox*)
Stefaniak, L., *Org. Magn. Reson.*, 1978, **11**, 385; 1979, **12**, 379 (*nmr*)
Ohms, U. *et al*, *Acta Crystallogr., Sect. B*, 1982, **38**, 831 (*cryst struct*)
Barton, D.H.R. *et al*, *Tetrahedron*, 1985, **41**, 3901; 1987, **43**, 2733 (*1-Hydroxy, synth*)
Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1493 (*cmr*)

2(1*H*)-Pyridinone (1,2-dipyrazinylethylidene)hydrazone, 9CI P-00358

[71336-95-3]



$C_{15}H_{13}N_7$ M 291.315

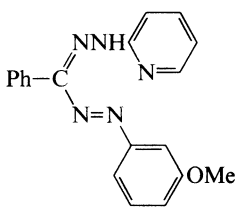
Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 530 nm, ε 23400), Cu(*I*) (λ_{max} 516 nm, ε 15500), Fe(*II*), Ni (λ_{max} 500 nm, ε 33000). Cryst. (MeOH). Mp 139°.

Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 85 (*synth, use*)

2(1*H*)-Pyridinone [[(3-methoxyphenyl)azo]phenylmethylene]hydrazone, 9CI P-00359

5-(3-Methoxyphenyl)-3-phenyl-1-(2-pyridinyl)formazan

[133393-33-6]



$C_{19}H_{17}N_5O$ M 331.376

Used as 0.1m*M* dioxan soln. to give colour reactions with Cu, Zn. Brown-red cryst. (EtOH/dioxan). Sol. EtOH, dioxan. pK_{a1} 3.5; pK_{a2} 12.9.

Uchiumi, A. *et al*, *Anal. Sci.*, 1991, **7**, 119 (*synth, reactions*)

2(1*H*)-Pyridinone [[(4-methoxyphenyl)azo]phenylmethylene]hydrazone, 9CI P-00360

5-(4-Methoxyphenyl)-3-phenyl-1-(2-pyridinyl)formazan

[39232-71-8]

$C_{19}H_{17}N_5O$ M 331.376

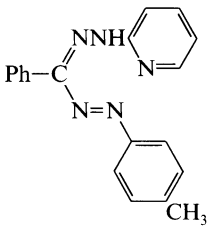
Used as 0.1m*M* dioxan soln. to give colour reactions with Cu, Zn. Brown-red cryst. (EtOH/dioxan). Sol. EtOH, dioxan. pK_{a1} 3.9; pK_{a2} 13.3.

Uchiumi, A. *et al*, *Anal. Sci.*, 1991, **7**, 119 (*synth, reactions*)

2(1*H*)-Pyridinone [[(4-methylphenyl)azo] phenylmethylene]hydrazone, 9CI P-00361

5-(4-Methylphenyl)-3-phenyl-1-(2-pyridinyl)formazan

[39232-69-4]



$C_{19}H_{17}N_5$ M 315.377

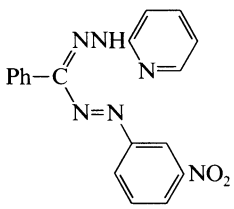
Used as 0.1m*M* dioxan soln. to give colour reactions with Cu, Zn, Ni. Brown-red cryst. (EtOH/dioxan). Sol. EtOH, dioxan. pK_{a1} 3.8; pK_{a2} 13.5.

Uchiumi, A. *et al*, *Anal. Sci.*, 1991, **7**, 119 (*synth, reactions*)

2(1*H*)-Pyridinone [[(3-nitrophenyl)azo] phenylmethylene]hydrazone, 9CI P-00362

5-(3-Nitrophenyl)-3-phenyl-1-(2-pyridinyl)formazan

[133832-09-4]



$C_{18}H_{14}N_6O_2$ M 346.348

Used as 0.1m*M* dioxan soln. to give colour reactions with Cu, Zn, Ni. Brown-red cryst. (EtOH/dioxan). Sol. EtOH, dioxan. pK_{a1} 3.0; pK_{a2} 12.0.

Uchiumi, A. *et al*, *Anal. Sci.*, 1991, **7**, 119 (*synth, reactions*)

2(1*H*)-Pyridinone [[(4-nitrophenyl)azo] phenylmethylene]hydrazone, 9CI P-00363

5-(4-Nitrophenyl)-3-phenyl-1-(2-pyridinyl)formazan

[39232-74-1]

$C_{18}H_{14}N_6O_2$ M 346.348

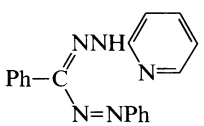
Used as 0.1m*M* dioxan soln. to give colour reactions with Cu, Zn, Ni. Brown-red cryst. (EtOH/dioxan). Sol. EtOH, dioxan. pK_{a1} 2.8; pK_{a2} 11.7.

Uchiumi, A. *et al*, *Anal. Sci.*, 1991, **7**, 119 (*synth, reactions*)

2(1*H*)-Pyridinone [phenyl(phenylazo) methylene]hydrazone, 9CI P-00364

3,5-Diphenyl-1-(2-pyridinyl)formazan

[39232-68-3]



$C_{18}H_{15}N_5$ M 301.350

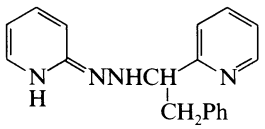
Used as 0.1m*M* dioxan soln. to give colour reactions with Cu, Zn, Ni. Brown-red cryst. (EtOH/dioxan). Sol. EtOH, dioxan. pK_{a1} 3.6; pK_{a2} 13.3.

Uchiumi, A. *et al*, *Anal. Sci.*, 1991, **7**, 119 (*synth, reactions*)

2(1*H*)-Pyridinone [2-phenyl-1-(2-pyridinyl) ethylidene]hydrazone, 9CI P-00365

Benzyl(2-pyridyl)methanone 2-pyridylhydrazone

[76637-26-8]



$C_{18}H_{16}N_4$ M 288.351

Used as a 1m*M* soln. in EtOH for photometric detn. of Co; fluorimetric detn. of Ga (λ_{max} 545 nm, pH 3.5), Zn (λ_{max} 550 nm, pH ~ 11). Brown cryst. (EtOH). Sol. EtOH, Me_2CO, C_6H_6; spar. sol. H_2O. Mp 114-115°.

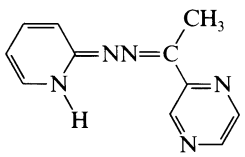
Laserna, J.J. *et al*, *Anal. Chim. Acta*, 1980, **121**, 295 (*synth, detn, Ga*)

Garcia Sánchez, F. *et al*, *Analyst (London)*, 1982, **107**, 35 (*detn, Co*)

Garcia Sánchez, F. *et al*, *Talanta*, 1982, **29**, 511 (*detn, Zn*)

2(1*H*)-Pyridinone (1-pyrazinylethylidene) hydrazone, 9CI P-00366

[58495-36-6]



$C_{11}H_{11}N_5$ M 213.241

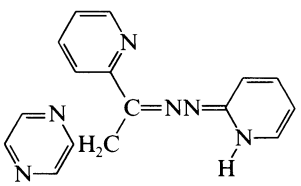
Used as a soln. in aq. EtOH for photometric detn. of Cu(*I*), Co (λ_{max} 525 nm, ε 21800), Ni (λ_{max} 497 nm, ε 22600), Fe(*II*). Cryst. Sol. common org. solvs.

Case, F.H., *J. Chem. Eng. Data*, 1976, **21**, 124 (*synth*)

Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 373 (*use*)

2(1*H*)-Pyridinone [1-pyrazinyl-2-(2-pyridinyl)ethylidene]hydrazone, 9CI P-00367

[71336-89-5]



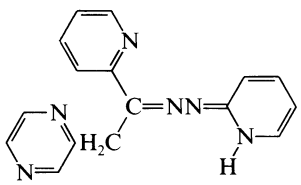
$C_{16}H_{14}N_6$ M 290.327

Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 533nm, ε 26000), Cu(*I*) (λ_{max} 517 nm, ε 15400), Fe(*II*), Ni (λ_{max} 501 nm, ε 3000). Cryst. (MeOH aq.). Mp 122°.

Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 85 (*synth, use*)

2(1*H*)-Pyridinone [2-pyrazinyl-1-(2-pyridinyl)ethylidene]hydrazone, 9CI P-00368

[71336-93-1]

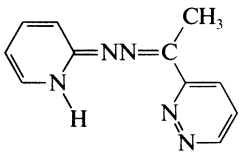


$C_{16}H_{14}N_6$ M 290.327
Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 482 nm, ε 31000), Cu(*I*) (λ_{max} 465 nm, ε 16500), Fe(*II*), Ni (λ_{max} 454 nm, ε 30400). Cryst. (MeOH aq.). Sol. common org. solvs. Mp 154°.

Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 85 (*synth, use*)

2(1*H*)-Pyridinone [1-(3-pyridazinyl) ethylidene]hydrazone, 9CI P-00369

[58495-38-8]

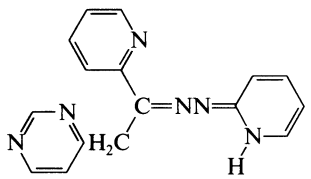


$C_{11}H_{11}N_5$ M 213.241
Used as a soln. in aq. EtOH for photometric detn. of Cu(*I*), Co (λ_{max} 519 nm, ε 19000), Ni (λ_{max} 475 nm, ε 11500), Fe(*II*). Cryst. Sol. common org. solvs.

Case, F.H., *J. Chem. Eng. Data*, 1976, **21**, 124 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 373 (*use*)

2(1*H*)-Pyridinone [1-(2-pyridinyl)-2-(4-pyrimidinyl)ethylidene]hydrazone, 9CI P-00370

[71336-97-5]

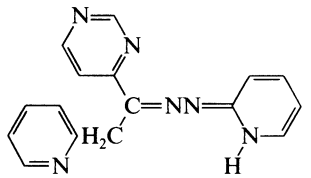


$C_{16}H_{14}N_6$ M 290.327
Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 482 nm, ε 27900), Cu(*I*) (λ_{max} 468 nm, ε 17600), Fe(*II*), Ni (λ_{max} 456 nm, ε 18000). Cryst. (MeOH). Sol. common org. solvs. Mp 128°.

Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 85 (*synth, use*)

2(1*H*)-Pyridinone [2-(2-pyridinyl)-1-(4-pyrimidinyl)ethylidene]hydrazone, 9CI P-00371

[71336-91-9]



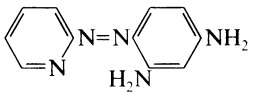
$C_{16}H_{14}N_6$ M 290.327
Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 509 nm, ε 36000), Cu(*I*) (λ_{max} 497 nm, ε 27000), Fe(*II*), Ni (λ_{max} 480 nm, ε 52000). Cryst. (MeOH). Sol. common org. solvs. Mp 149°.

Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 85 (*synth, use*)

4-(2-Pyridinylazo)-1,3-benzenediamine, 9CI P-00372

4-(2-Pyridylazo)-1,3-diaminobenzene. 2-(2,4-Diaminophenylazo)pyridine. PADAB

[50768-76-8]



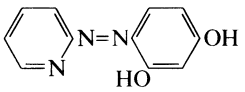
$C_{11}H_{11}N_5$ M 213.241
Used as 1m*M* EtOH soln. for photometric detn. of Co. Red-brown needles. Sol. common org. solvs.; sl. sol. H_2O. Mp 250°.

Shibata, S. *et al*, *Anal. Chim. Acta*, 1974, **71**, 85 (*synth, detn, Co*)

4-(2-Pyridinylazo)-1,3-benzenediol P-00373

2-(2,4-Dihydroxyphenylazo)pyridine. 4-(2-Pyridylazo) resorcinol. PAR

[1141-59-9]



$C_{11}H_9N_3O_2$ M 215.211
Used as 0.1% aq. soln. for photometric detn. of many metals, e.g. Cd, Cr, Co, Cu, V, In (λ_{max} 510 nm, ε 43000, pH ~ 6), Nb (λ_{max} 550 nm, ε 36000, pH ~ 6), Pb (λ_{max} 520 nm, ε 37000, pH ~ 10), Ga, Zr, U; metal indicator in chelatometry. Brown-red cryst. powder. pK_{a2} 5.5; pK_{a3} 12.3.

Na salt: Sol. H_2O, EtOH. Mp 187° dec.

1-Me ether: [77349-98-5]. *5-Methoxy-2-(2-pyridinylazo) phenol, 9CI*
$C_{12}H_{11}N_3O_2$ M 229.238
Used as 0.2% MeOH soln. for extraction-photometric detn. of Ni (λ_{max} 520 nm, ε 113000, $CHCl_3$), Cu, Co. Cryst. Sol. MeOH, EtOH, dioxan; sl. sol. H_2O. Mp 175°. pK_{a1} 3.15; pK_{a2} 7.80 (aq. dioxan, 25°, 0.1*M* KNO_3).

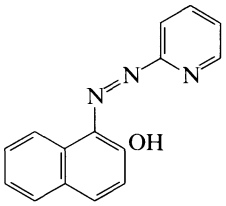
1-Et ether: [77349-99-6]. *5-Ethoxy-2-(2-pyridinylazo)phenol, 9CI*
$C_{13}H_{13}N_3O_2$ M 243.265
Used as 0.2% MeOH soln. for extraction-photometric detn. of Ni (λ_{max} 522 nm, ε 108000, $CHCl_3$), Cu, Co. Cryst. Sol. MeOH, EtOH, dioxan; sl. sol. H_2O. Mp 150°. pK_{a1} 3.20; pK_{a2} 7.75 (aq. dioxan, 25°, 0.1*M* KNO_3).

Chichibabin, A.E., *Zh. Russ. Fiz.-Khim. Ova.*, 1920, **50**, 512 (*synth*)
Pollard, F.H. *et al*, *Anal. Chim. Acta*, 1959, **20**, 26 (*synth, use*)
Geary, W.J. *et al*, *Anal. Chim. Acta*, 1962, **26**, 575; **27**, 71 (*use*)
Betteridge, D. *et al*, *Anal. Chem.*, 1963, **35**, 729 (*use*)
Hoshino, H. *et al*, *Anal. Chem.*, 1972, **44**, 1091; 1985, **57**, 625 (*use*)
Snell, F.D., *Photometric and Fluorimetric Methods of Analysis, Metals, Part I*, John Wiley, New York, 1978, 34, 480, 513, 736, 911, 969.
Ohshita, K. *et al*, *Anal. Chim. Acta*, 1981, **124**, 193 (*synth, use*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Ratan, 1982, 195 (*use*)
Aznarez, J., *Analyst (London)*, 1985, **10**, 193 (*use*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 309, 347, 406, 628.
West, T.S. *et al*, *The Determination of Trace Metals in Natural Waters*, Blackwell, Oxford, 1988, 17, 39, 44.

1-(2-Pyridinylazo)-2-naphthalenol, 9CI P-00374

1-(2-Pyridylazo)-2-naphthol. PAN

[85-85-8]



$C_{15}H_{11}N_3O$ M 249.271

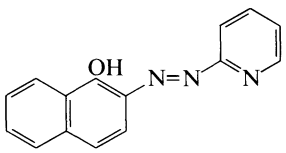
Used as 0.1% EtOH soln. for extraction-photometric detn. of many metals, e.g. Rh, Ni, In, Ga, Mn (λ_{max} 564 nm, ε 58000, $CHCl_3$), Zn (λ_{max} 560 nm, ε 52000), Cd, Co, V, Ti, Zr, U; metal indicator in chelatometry. Reddish brown cryst. powder. Sol. EtOH, Et_2O, $CHCl_3$; insol. H_2O. Mp 138-141°. pK_{a1} 2.9; pK_{a2} 11.6 (25°, μ = 0.1).

Chichibabin, A.E., *Zh. Russ. Fiz.-Khim. Ova.*, 1920, **50**, 512 (*synth*)
Cheng, K.L. *et al*, *Anal. Chem.*, 1955, **27**, 782; 1969, **41**, 510 (*use*)
Shibata, S., *Anal. Chim. Acta*, 1960, **23**, 367; 1961, **25**, 348 (*use*)
Püschel, S., *Fresenius' Z. Anal. Chem.*, 1966, **221**, 132 (*use*)
Betteridge, D. *et al*, *Analyst (London)*, 1973, **98**, 377 (*synth, ir, pmr, use*)
Snell, F.D., *Photometric and Fluorimetric Methods of Analysis, Metals, Part I*, John Wiley, New York, 1978, 480, 512, 910; *Metals, Part II*, John Wiley, New York, 1978, 1056, 1387, 1553.
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 185 (*props*)
Reeves, R.L. *et al*, *Inorg. Chem.*, 1986, **25**, 185, 1473 (*use*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 639 (*use*)

2-(2-Pyridinylazo)-1-naphthalenol, 9CI P-00375

2-(1-Hydroxy-2-naphthylazo)pyridine. o-α-PAN

[10335-31-6]



$C_{15}H_{11}N_3O$ M 249.271

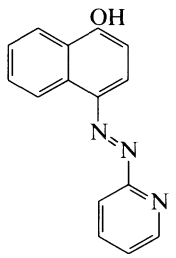
Used as 0.1m*M* EtOH soln. for extraction-photometric detn. of Cu (λ_{max} 590 nm, ε 20000, CCl_4), Ti (λ_{max} 590 nm, ε 17000). Orange cryst. Sol. EtOH, MeOH. Mp 122° (subl.).

Betteridge, D. *et al*, *Analyst (London)*, 1973, **98**, 377, 512, 520 (*synth, detn, Cu, Ti*)

4-(2-Pyridinylazo)-1-naphthalenol, 9CI P-00376

4-(2-Pyridylazo)-1-naphthol, 8CI. 2-(4-Hydroxy-1-naphthylazo)pyridine. p-PAN

[7385-98-0]



$C_{15}H_{11}N_3O$ M 249.271

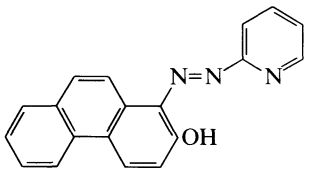
Used as 0.1% soln. in 50% EtOH for extraction-photometric detn. of In, Pd (λ_{max} 640 nm, ε 14200, $CHCl_3$). Brown cryst. powder. Sol. H_2O.

Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 166; 1967, **22**, 1039 (*detn, In, Pd*)

1-(2-Pyridinylazo)-2-phenanthrenol, 9CI P-00377

2-(2-Hydroxy-1-phenanthrylazo)pyridine

[36190-42-8]



$C_{19}H_{13}N_3O$ M 299.331

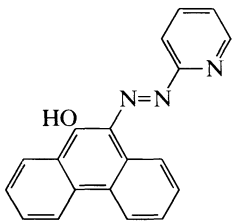
Used as MeOH soln. for photometric detn. of Cu (λ_{max} 560 nm, ε 30000, pH 2-8, MeOH/dioxan/H_2O). Cryst.

Rishi, A.K. *et al*, *Curr. Sci.*, 1975, **44**, 122 (*use*)

10-(2-Pyridinylazo)-9-phenanthrenol, 9CI P-00378

10-(2-Pyridylazo)-9-phenanthrol

[50722-39-9]



$C_{19}H_{13}N_3O$ M 299.331

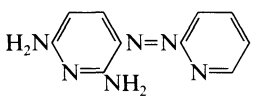
Used for extraction-photometric detn. of Cu, Ni, Zn; photometric detn. of Cd (λ_{max} 560 nm, ε 70000). Cryst. pK_{a1} 2.59; pK_{a2} 13.13 (20% dioxan).

Kiyokawa, M. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1973, **22**, 860 (*detn, Cu, Ni, Zn*)
Kominami, B. *et al*, *CA*, 1975, **83**, 187956v (*detn, Cd*)

3-(2-Pyridinylazo)-2,6-pyridinediamine, 9CI P-00379

2,6-Diamino-3,2'-azopyridine

[37734-35-3]



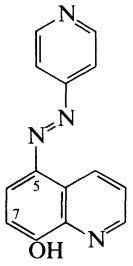
$C_{10}H_{10}N_6$ M 214.229

Used as EtOH soln. for photometric detn. of Pd (λ_{max} 620 nm, ε 14000). Orange cryst. (EtOH). Sol. acids, EtOH, Me_2CO; spar. sol. H_2O.

Talipov, S.T., *Zh. Anal. Khim.*, 1969, **24**, 409 (*synth*)
Kosolapova, S.N. *et al*, *Uzb. Khim. Zh.*, 1972, **16**, 19; *CA*, **77**, 83220k.

5-(4-Pyridinylazo)-8-quinolinol, 9CI P-00380

8-Hydroxy-5-(4-pyridylazo)quinoline



$C_{14}H_{10}N_4O$ M 250.259

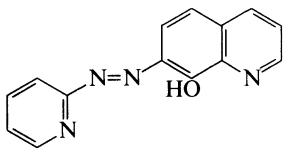
N^4-*Oxide:* [65114-52-5].
$C_{14}H_{10}N_4O_2$ M 266.259
Used as 1m*M* DMF soln. as an acid-base indicator (pH range: 4.8-6.7; colour change: yellow → violet). Red cryst. powder. Sol. DMF, EtOH; sl. sol. H_2O. Mp 188-189°.

Pisichenko, G.M. *et al*, *Zh. Anal. Khim.*, 1986, **41**, 639 (*synth, use*)

7-(2-Pyridinylazo)-8-quinolinol, 9CI P-00381

8-Hydroxy-7-(2-pyridylazo)quinoline. Pyridylazoxin

[16566-55-5]



$C_{14}H_{10}N_4O$ M 250.259
Used as a 0.1% soln. in EtOH for titrimetric detn. of Cu (λ_{max} 525 nm), Tl. Red cryst. (EtOH). Sol. dioxan; mod. sol. EtOH, Me_2CO, alkalis; sl. sol. H_2O; insol. Et_2O, C_6H_6, CCl_4, toluene.

Busev, A.I. *et al*, *CA*, 1962, **56**, 5398 (*detn, Tl*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1962, **17**, 380; 1963, **18**, 33 (*synth, detn, Cu*)

7-(4-Pyridinylazo)-8-quinolinol, 9CI P-00382

8-Hydroxy-7-(4-pyridylazo)quinoline

$C_{14}H_{10}N_4O$ M 250.259

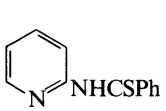
N^4-*Oxide:* [103682-76-4].
$C_{14}H_{10}N_4O_2$ M 266.259
Used as 1m*M* DMF soln. as an acid-base indicator (pH range 5.2-6.7; colour change yellow → violet). Brown-red cryst. powder. Sol. DMF, EtOH; sl. sol. H_2O. Mp 201-202°.

Pisichenko, G.M. *et al*, *Zh. Anal. Khim.*, 1986, **41**, 639 (*synth, use*)

N-2-Pyridinylbenzenecarbothioamide, 9CI P-00383

N-2-Pyridylthiobenzamide

[27060-34-0]

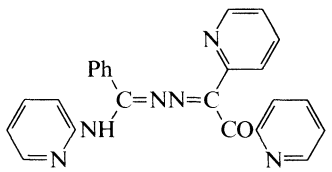


$C_{12}H_{10}N_2S$ M 214.290
Used as 0.15*M* soln. in C_6H_6 for extraction-photometric detn. of Au(*III*) (λ_{max} 400 nm, ε 2200, $Br^{\ominus}$/5*M* HCl). Cryst. Sol. C_6H_6.

Shriner, R.L. *et al*, *Chem. Rev.*, 1944, **35**, 351 (*synth*)
Patel, K.S. *et al*, *Anal. Chem.*, 1986, **58**, 1547 (*use*)

N-2-Pyridinylbenzenecarboximidic acid (oxodi-2-pyridinylethylidene)hydrazide, 9CI P-00384

[59158-19-9]



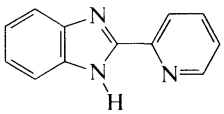
$C_{24}H_{18}N_6O$ M 406.446
Used as 0.01 *M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 668 nm, ε 14400), Co, Ni, Cu. Cryst. (2-methoxyethanol). Sol. EtOH, 2-methoxyethanol. Mp 208°.

Schilt, A.A. *et al*, *Talanta*, 1975, **22**, 915 (*synth, use*)

2-(2-Pyridinyl)-1*H*-benzimidazole, 9CI P-00385

2-(2-Benzimidazolyl)pyridine

[1137-68-4]

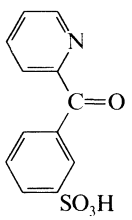


$C_{12}H_9N_3$ M 195.223
Used as 1m*M* EtOH soln. to give colour reaction with Fe(*II*); fluorimetric detn. of Ga (λ_{max} 413 nm), In, Zn (λ_{max} 398 nm, pH 4-6). Cryst. (EtOH). Sol. EtOH, Et_2O, $CHCl_3$, C_6H_6; sl. sol. H_2O. Mp 216-218°.

Walter, J.L. *et al*, *Anal. Chem.*, 1954, **26**, 217 (*synth, detn, Fe*)
Bark, L.S. *et al*, *Anal. Chim. Acta*, 1969, **45**, 425 (*fluorim, detn*)

3-(2-Pyridinylcarbonyl)benzenesulfonic acid, 9CI P-00386

[51964-33-1]



$C_{12}H_9NO_4S$ M 263.273

Thiosemicarbazone: [76895-45-9]. *3-[[(Aminothioxomethyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, 9CI*
$C_{13}H_{12}N_4O_3S_2$ M 336.395
Used as a soln. in DMF for photometric detn. of Fe(*II*) (λ_{max} 520 nm, ε 9000). Yellow cryst. Sol. H_2O, Me_2CO, EtOH, 4-methyl-2-pentanone, DMF. Mp >325°. pK_{a1} −3.25; pK_{a2} 3.73; pK_{a3} 11.45 (0.1*M* KCl, 25°).

Phenylthiosemicarbazone: [76895-46-0].
$C_{19}H_{16}N_4O_3S_2$ M 412.492
Used for photometric detn. of Fe(*II*) (λ_{max} 630 nm, ε 9300). Yellow cryst. Sol. H_2O, Me_2CO, EtOH, DMF. Mp >325°. pK_{a1} −3.5; pK_{a2} 3.65; pK_{a3} 10.49 (0.1*M* KCl, 25°).

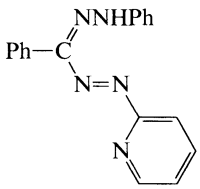
2-Pyridylhydrazone: [52018-85-6].
$C_{17}H_{14}N_4O_3S$ M 354.389
Used as 2m*M* soln. for preconcentration of Fe, Co, Ni, Cu, Zn, Cd, Hg, Pd (forms anionic complexes). Yellow cryst. (EtOH aq.). Sol. EtOH, H_2O.

Benzoylhydrazone: [110346-97-9].
$C_{19}H_{15}N_3O_4S$ M 381.411
Used as 2m*M* aq. soln. for photometric detn. of Co (λ_{max} 400 nm, ε 21700), Fe(*II*). Cryst. (EtOH aq.). Sol. EtOH; mod. sol. H_2O. Mp 280° dec. pK_{a1} 3.66; pK_{a2} 10.6 (25°, μ = 0.2).

Going, J.E. *et al*, *Anal. Chim. Acta*, 1974, **70**, 127; 1976, **81**, 349 (*synth*, *use*)
Bautista Rodriguez, J.M. *et al*, *Talanta*, 1980, **27**, 923 (*synth*, *use*, *uv*)
Nakanishi, T. *et al*, *Microchem. J.*, 1987, **35**, 328; **36**, 128 (*synth*, *use*)

1-(2-Pyridinyl)-3,5-diphenylformazan, 9CI P-00387

[21542-39-2]

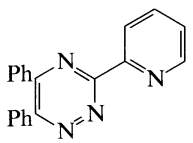


$C_{18}H_{15}N_5$ M 301.350
Used as metallochromic indicator for titrimetric detn. of Cu, Ni; acid-base indicator. Violet cryst. (MeOH). Sol. EtOH, dioxan. pK_{a1} 3.07 (50% dioxan); pK_{a2} 13.90 (40% dioxan).

Kiyokawa, M. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1972, **21**, 244 (*use*)

3-(2-Pyridinyl)-5,6-diphenyl-1,2,4-triazine, 9CI P-00388

[1046-56-6]

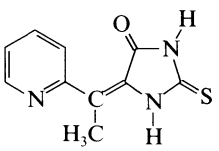


$C_{20}H_{14}N_4$ M 310.357
Used as a 0.1% soln. in EtOH for photometric detn. of Ru (λ_{max} 485 nm, ε 21000). Cryst. (EtOH). Mp 191-193°.

Kamra, L.C. *et al*, *Anal. Chim. Acta*, 1975, **78**, 423.

5-[1-(2-Pyridinyl)ethylidene]-2-thioxo-4-imidazolidinone, 9CI P-00389

5-[1-(2-Pyridyl)ethylidene]-2-thiohydantoin



$C_{10}H_9N_3OS$ M 219.267
(E)-form [69580-24-1]
Used as 8m*M* DMF soln. for photometric detn. of Ag, Au(*III*), Cu, Pd (λ_{max} 415 nm, ε 15000). Yellow cryst. (EtOH). Sol. EtOH, DMF. Mp 285° dec.

Montana Gonzalez, M.T. *et al*, *Talanta*, 1978, **25**, 331 (*synth*, *use*)

N-2-Pyridinyl-2-furancarboxamide, 9CI P-00390

2-Furylamidopyridine

[35218-40-7]

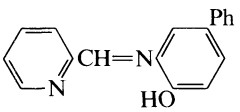
$C_{10}H_8N_2O_2$ M 188.185
Used as a 1% soln. in C_6H_6 for photometric detn. of Mo(*VI*) (λ_{max} 470 nm, ε 14500). Cryst. Sol. EtOH, C_6H_6, Me_2CO; insol. H_2O.

Biniecki, S. *et al*, *Acta Pol. Pharm.*, 1972, **29**, 1; *CA*, **77**, 75102h (*synth*)
Patel, K.S. *et al*, *Talanta*, 1982, **29**, 791.

3-[(2-Pyridinylmethylene)amino]-[1,1′-biphenyl]-4-ol, 9CI P-00391

Picolinaldehyde 2-hydroxy-5-phenylanil

[60435-18-9]



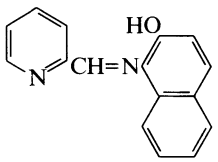
$C_{18}H_{14}N_2O$ M 274.321
Used as a 0.02% soln. in $CHCl_3$ for extraction-photometric detn. of Pd (λ_{max} 627 nm, ε 4900, $CHCl_3$). Yellow needles (pet. ether). Sol. C_6H_6, $CHCl_3$, pet. ether; insol. H_2O. Mp 115-116°.

Ottomo, M. *et al*, *Anal. Chim. Acta*, 1976, **83**, 275 (*synth*, *detn*, *Pd*)

1-[(2-Pyridinylmethylene)amino]-2-naphthalenol, 9CI P-00392

1-Picolylideneamino-2-naphthol

[52641-68-6]



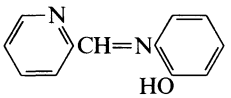
$C_{16}H_{12}N_2O$ M 248.284
Used as 0.1m*M* $CHCl_3$ soln. for extraction-photometric detn. of Zn (λ_{max} 520 nm, ε 45000). Yellow cryst. ($MeOH/C_6H_6$). Sol. $CHCl_3$. Mp 186-187° dec.

Otomo, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1974, **47**, 455 (*synth*, *detn*, *Zn*)

2-[(2-Pyridinylmethylene)amino]phenol, 9CI P-00393

2-Pyridylidene-2-aminophenol. 2-Pyridinecarboxaldehyde o-hydroxyanil

[3860-58-0]



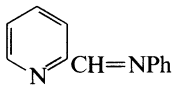
$C_{12}H_{10}N_2O$ M 198.224
Used as 1m*M* EtOH soln. for photometric detn. of Sc, Ni (λ_{max} 460nm), extraction-photometric detn. of Zn ($CHCl_3$); as a 0.02% soln. in $CHCl_3$ for photometric detn. of Pd (λ_{max} 594 nm, ε 4160). Yellow-orange needles (pet. ether). Sol. EtOH, dioxan, C_6H_6; insol. H_2O. Mp 106°. pK_{a1} 3.6; pK_{a2} 4.6; pK_{a3} 11.5.

Geary, W.J. *et al*, *Anal. Chim. Acta*, 1962, **26**, 575 (*synth*)
Otomo, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1973, **46**, 2421 (*synth*)
Otomo, M. *et al*, *Anal. Chim. Acta*, 1976, **83**, 275 (*detn, Pd*)
Holzbecher, Z. *et al*, *Collect. Czech. Chem. Commun.*, 1976, **41**, 1506 (*detn, Sc*)
Capitan, F. *et al*, *Quim. Anal.* (*Barcelona*), 1977, **31**, 269.
Capitan, F. *et al*, *Afinidad*, 1978, **35**, 553 (*detn, Zn*)

N-(2-Pyridinylmethylene)benzenamine, 9CI P-00394

2-(Phenyliminomethyl)pyridine. 2-Pyridinecarboxaldehyde anil. α-Picolinaldehyde anil

[7032-25-9]



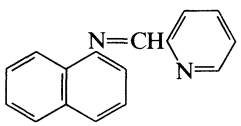
$C_{12}H_{10}N_2$ M 182.224
Used as 0.01*M* EtOH soln. for extraction-photometric detn. of $SCN^{\ominus}$ (λ_{max} 585 nm, as mixed complex with Fe(*II*), pH 6.5, $PhNO_2$). Cryst. Sol. EtOH.

Capitan-Vallvey, L.F. *et al*, *An. Quim.*, 1977, **73**, 1308 (*synth*)
Capitan-Vallvey, L.F. *et al*, *Microchem. J.*, 1983, **28**, 118 (*detn, $SCN^{\ominus}$*)

N-(2-Pyridinylmethylene)-1-naphthalenamine, 9CI P-00395

2-Pyridinecarboxaldehyde 1-naphthylanil

[64921-11-5]



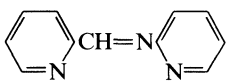
$C_{16}H_{12}N_2$ M 232.284
Used for photometric detn. of Ni (λ_{max} 430-440 nm, ε 1600). Cryst. Sol. common org. solvs.

Capitan, F. *et al*, *Quim. Anal.* (*Madrid*), 1977, **31**, 341 (*detn, Ni*)

N-(2-Pyridinylmethylene)-2-pyridinamine P-00396

2-Pyridinecarboxaldehyde 2-pyridylanil. 2-Pyrilidene-2-aminopyridine

[21756-23-0]



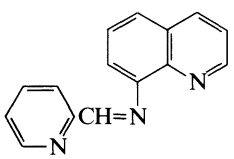
$C_{11}H_9N_3$ M 183.212
Used for photometric detn. of Sc. Cryst. (EtOH). Mp 119°. pK_{a1} 4.0; pK_{a2} 6.2; pK_{a3} 9.0 (10% EtOH, 25°), pK_{a1} 3.5; pK_{a2} 6.66; pK_{a3} 7.33 (10% EtOH, 25°).

Holzbecher, Z. *et al*, *Collect. Czech. Chem. Commun.*, 1976, **41**, 1506 (*synth*)

N-(2-Pyridinylmethylene)-8-quinolinamine, 9CI P-00397

8-(α-Pyridylmethyleneamino)quinoline. 8-Picolylideneaminoquinoline

[56496-26-5]

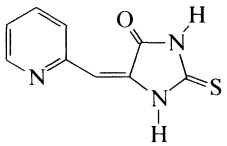


$C_{15}H_{11}N_3$ M 233.272
Used as soln. in $PhNO_2$ for extraction-photometric detn. of Fe(*II*) (λ_{max} 663 nm, ε 7040). Yellow needles (EtOH). Sol. EtOH, $PhNO_2$. Mp 139-140°.

Lions, F. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 2733 (*synth*)
Otomo, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1975, **48**, 906 (*detn, Fe*)

5-(2-Pyridinylmethylene)-2-thioxo-4-imidazolidinone, 9CI P-00398

5-(2-Pyridylmethylene)-2-thiohydantoin



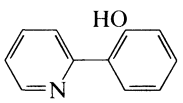
$C_9H_7N_3OS$ M 205.240
(E)-form [69580-21-8]
Used as 4m*M* DMF soln. for photometric detn. of Au(*III*), Cu(*II*), Ni, Zn (λ_{max} 419 nm, ε 22000). Yellow-orange cryst. (EtOH). Sol. EtOH, DMF. Mp 276°.

Montana Gonzalez, M.T. *et al*, *Talanta*, 1978, **25**, 331 (*synth, use*)

2-(2-Pyridinyl)phenol, 9CI P-00399

2-(2-Hydroxyphenyl)pyridine

[33421-36-2]

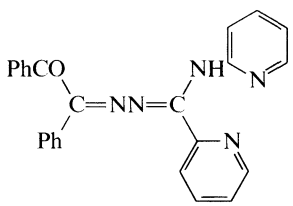


$C_{11}H_9NO$ M 171.198
Used as soln. in aq. EtOH for fluorimetric detn. of Be. Cryst. Sol. common org. solvs.; spar. sol. H_2O. Mp 56°.

Kahrt, L. *et al*, *Collect. Czech. Chem. Commun.*, 1976, **41**, 540 (*detn, Be*)

N-2-Pyridinyl-2-pyridinecarboximidic acid (oxodiphenylethylidene)hydrazide, 9CI P-00400

[59158-20-2]

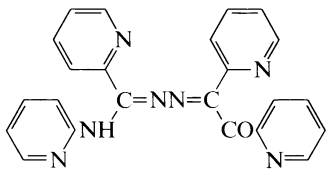


$C_{25}H_{19}N_5O$ M 405.458
Used as 0.01 *M* soln. in EtOH for photometric detn. of Cu(*I*) (λ_{max} 475 nm, ε 1800). Cryst. (EtOH). Sol. EtOH. Mp 154°.

Schilt, A.A. *et al*, *Talanta*, 1975, **22**, 915 (*synth, use*)

N-2-Pyridinyl-2-pyridinecarboximidic acid (oxodi-2-pyridinylethylidene)hydrazide, 9CI P-00401

[59158-21-3]



$C_{23}H_{17}N_7O$ M 407.434

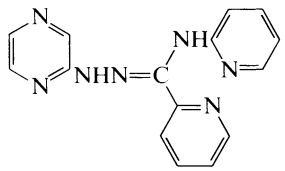
Used as 0.01*M* soln. in EtOH for photometric detn. of Ni (λ_{max} 460 nm, ε 17000), Co (λ_{max} 490 nm, ε 8900), Fe(*II*), Zn (λ_{max} 475 nm, ε 1400). Cryst. (EtOH). Sol. EtOH, common org. solvs. Mp 173°.

Schilt, A.A. *et al*, *Talanta*, 1975, **22**, 915 (*synth*, *use*)

N-2-Pyridinyl-2-pyridinecarboximidic acid 2-pyrazinylhydrazide, 9CI P-00402

N-*2-Pyridylpicolinamide pyrazinylhydrazone*

[58528-46-4]



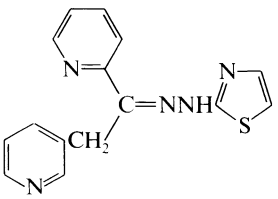
$C_{15}H_{13}N_7$ M 291.315

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 514 nm, ε 7600). Cryst. Sol. common org. solvs.

Case, F.H., *J. Chem. Eng. Data*, 1976, **21**, 124 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 373 (*use*)

1-(2-Pyridinyl)-2-(3-pyridinyl)ethanone 2-thiazolylhydrazone, 9CI P-00403

[73568-87-3]

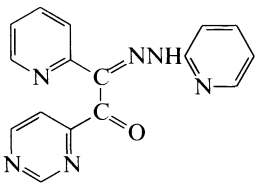


$C_{15}H_{13}N_5S$ M 295.367

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 479 nm, ε 25300), Cu (λ_{max} 462 nm, ε 14100), Fe(*II*) (λ_{max} 594 nm, ε 7600), Ni (λ_{max} 451 nm, ε 39400). Cryst. (pet. ether). Sol. common org. solvs. Mp 108°.

Schilt, A.A. *et al*, *Talanta*, 1980, **27**, 55 (*synth*, *use*)

2-Pyridinyl-4-pyrimidinylethanedione 1-(2-pyridinylhydrazone), 9CI P-00404



$C_{16}H_{12}N_6O$ M 304.310

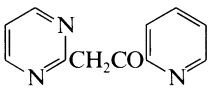
2-Oxime: [71337-02-5].
$C_{16}H_{13}N_7O$ M 319.325
Used as a 0.01*M* soln. in EtOH for photometric detn. of Co (λ_{max} 481 nm, ε 35000), Cu(*I*) (λ_{max} 470 nm, ε 25500), Fe(*II*), Ni (λ_{max} 460 nm, ε 23000). Cryst. (EtOH). Sol. common org. solvs. Mp 237°.

Schilt, A.A. *et al*, *Talanta*, 1979, **26**, 85 (*synth*, *use*)

1-(2-Pyridinyl)-2-(2-pyrimidinyl)ethanone P-00405

2-(2-Pyrimidinylacetyl)pyridine

[73569-08-1]



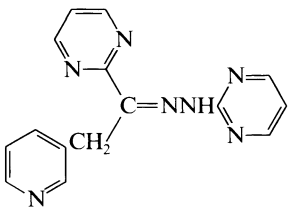
$C_{11}H_9N_3O$ M 199.212

2-Thiazolylhydrazone: [73568-96-4].
$C_{14}H_{12}N_6S$ M 296.355
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 479 nm, ε 26100), Cu(*I*) (λ_{max} 461 nm, ε 16400), Fe(*II*) (λ_{max} 595 nm, ε 8300), Ni (λ_{max} 447 nm, ε 39000). Cryst. (MeOH). Sol. common org. solvs. Mp 147°.

Schilt, A.A. *et al*, *Talanta*, 1980, **27**, 55 (*synth*, *use*)

1-(2-Pyridinyl)-2-(2-pyrimidinyl)ethanone 2-pyrimidinylhydrazone, 9CI P-00406

[73569-06-9]



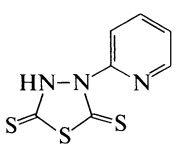
$C_{15}H_{13}N_7$ M 291.315

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 453 nm, ε 26600), Cu(*I*) (λ_{max} 440 nm, ε 19500), Ni (λ_{max} 423 nm, ε 39400). Cryst. (MeOH). Sol. common org. solvs. Mp 159°.

Schilt, A. *et al*, *Talanta*, 1980, **27**, 55 (*synth*, *use*)

3-(2-Pyridinyl)-1,3,4-thiazolidine-2,5-dithione, 9CI P-00407

[56468-60-1]

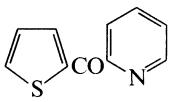


$C_7H_5N_3S_3$ M 227.335
Used for extraction-photometric detn. of Bi (λ_{max} 340 nm, ε 29000, $CHCl_3$), Pd, Se, Te. Cryst. Sol. $CHCl_3$, C_6H_6.

Busev, A.I. *et al*, *CA*, 1977, **87**, 77833c (*use*)

2-Pyridinyl-2-thienylmethanone, 9CI P-00408

2-Pyridyl-2-thienyl ketone



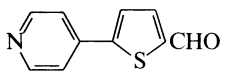
$C_{10}H_7NOS$ M 189.237

Oxime: [40758-37-0]. *2-Pyridyl-2-thienyl-β-ketoxime*
$C_{10}H_8N_2OS$ M 204.252
Used as 1% soln. in EtOH for photometric detn. of Co (λ_{max} 412 nm, ε 20000). Cryst. (EtOH). Sol. EtOH, Et_2O. Mp 126-127°.

Notenboom, H.R. *et al*, *Mikrochim. Acta*, 1973, 467 (*synth, detn, Co*)
Beaupré, P. *et al*, *Mikrochim. Acta*, 1978, 95, 229 (*detn, Co*)

5-(4-Pyridinyl)-2-thiophenecarboxaldehyde, 9CI P-00409

[129770-69-0]

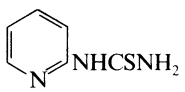


$C_{10}H_7NOS$ M 189.237
Fluorescence derivatisation reagent for primary amines. Plates. Mp 135-136°.

Nakajima, R. *et al*, *Bull. Chem. Soc. Jpn.*, 1990, **63**, 1968 (*synth, pmr, cmr, use*)

2-Pyridinylthiourea, 9CI P-00410

[14294-11-2]

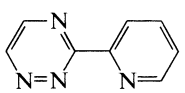


$C_6H_7N_3S$ M 153.207
Used as 0.03*M* soln. in EtOH for photometric detn. of Re(*VII*) (λ_{max} 405 nm, ε 16000). Cryst. Sol. EtOH. Mp 135°.

Pollock, E.N. *et al*, *Anal. Chim. Acta*, 1965, **32**, 418 (*synth*)
Dutta, G. *et al*, *Mikrochim. Acta*, 1986, **1**, 359 (*detn, Re*)

3-(2-Pyridinyl)-1,2,4-triazine, 9CI P-00411

[30091-53-3]



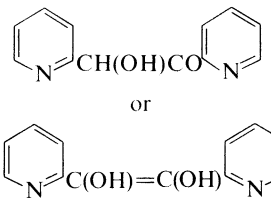
$C_8H_6N_4$ M 158.162
Used as 5m*M* soln. in aq. EtOH for photometric detn. of Cu(*I*) (λ_{max} 462 nm, ε 5100), Fe(*II*) (λ_{max} 525 nm, ε 11300). Cryst. (C_6H_6/pet. ether). Sol. common org. solvs. Mp 86-87°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Cu, Fe*)

Pyridoin P-00412

2-Hydroxy-1,2-di-2-pyridinylethanone, 9CI. Hydroxy-2-pyridylmethyl 2-pyridyl ketone, 8CI. α-Hydroxy-β-oxodipyridylethane. Di-2-pyridyl-1,2-ethenediol

[1141-06-6]



$C_{12}H_{10}N_2O_2$ M 214.223
Used as a 1-2% soln. in hot EtOH or glac. AcOH for gravimetric detn. of Mo, W. Yellow needles (EtOH). Spar. sol. cold EtOH; sol. $CHCl_3$, C_6H_6, Me_2CO; insol. H_2O. Mp 161°. Red col. in dil. AcOH. Reduces Fehling's soln.

Di-Ac:
$C_{16}H_{14}N_2O_4$ M 298.298
Two forms known, doubtless (*E*) and (*Z*). Mp 186°, Mp 225.5°.

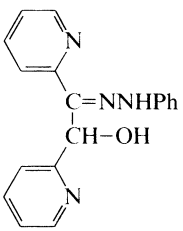
Phenylhydrazone: Cryst. (2-methyl-2-propanol).

Harries, C. *et al*, *Justus Liebigs Ann. Chem.*, 1915, **410**, 108.
Cramer, F. *et al*, *Chem. Ber.*, 1953, **86**, 1586.
Mathes, W. *et al*, *Chem. Ber.*, 1954, **87**, 1870.
Eistert, B. *et al*, *Chem. Ber.*, 1958, **91**, 1404.
Bhat, A.N. *et al*, *Fresenius' Z. Anal. Chem.*, 1963, **195**, 424 (*detn, Mo, W*)
Buehler, C.A., *Chem. Rev.*, 1964, **64**, 7.
Ashida, T. *et al*, *Acta Crystallogr.*, 1965, **18**, 122 (*cryst struct*)
Brown, J.N. *et al*, *J. Org. Chem.*, 1972, **37**, 3712 (*pmr*)

Pyridoin phenylhydrazone P-00413

2-Hydroxy-1,2-(di-2-pyridinyl)ethanone phenylhydrazone, 9CI

[65373-68-4]



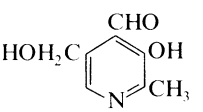
$C_{18}H_{16}N_4O$ M 304.351
Used as 0.1% EtOH soln. for photometric detn. of Cu (λ_{max} 440 nm, ε 21000). Light yellow cryst. (butanol). Mp 145°.

Silva, M. *et al*, *Mikrochim. Acta*, 1977, **2**, 121 (*synth, detn, Cu*)

Pyridoxal P-00414

3-Hydroxy-5-hydroxymethyl-2-methyl-4-pyridinecarboxaldehyde, 9CI. 3-Hydroxy-5-hydroxymethyl-2-methylisonicotinic aldehyde

[66-72-8]



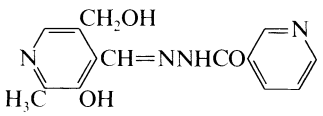
$C_8H_9NO_3$ M 167.164
Exhibits vitamin B_6 activity. Used for fluorimetric detn. of amino acids.

B,HCl: Cryst. (Me_2CO aq.). Mp 170° dec.
5-O-Phosphate: see *Pyridoxal phosphate, P-00416*
Oxime: [708-08-7].
$C_8H_{10}N_2O_3$ M 182.179
Mp 225-226° dec.
Semicarbazone: Mp 235° dec.
Salicyloylhydrazone: [82970-90-9].
$C_{15}H_{15}N_3O_4$ M 301.301
Used as 0.1% soln. in EtOH/DMF for photometric detn. of Al, Ti, Zr (λ_{max} 395 nm, ε 24000). Yellow cryst. (EtOH). Mp 247°.

Harris, S.A. *et al, J. Am. Chem. Soc.*, 1944, **66**, 2088 (*synth*)
Ahrens, H. *et al, J. Heterocycl. Chem.*, 1967, **4**, 625 (*synth*)
de Jongh, D.C. *et al, Org. Mass Spectrom.*, 1968, **1**, 151 (*ms*)
Gansow, O.A. *et al, Tetrahedron*, 1968, **24**, 4477 (*nmr*)
Lustenberger, N. *et al, Angew. Chem., Int. Ed. Engl.*, 1972, **11**, 227 (*use*)
Lange, H.W. *et al, Fresenius' Z. Anal. Chem.*, 1972, **261**, 337 (*use*)
Gallego, M. *et al, Anal. Chim. Acta*, 1982, **138**, 311 (*salicyloylhydrazone, synth, detn, Zr*)
Gallego, M. *et al, Analyst (London)*, 1983, **108**, 92 (*salicyloylhydrazone, detn, Al*)
Gallego, M. *et al, Mikrochim. Acta*, 1983, **1**, 289 (*salicyloylhydrazone, detn, Ti*)

Pyridoxal nicotinoylhydrazone P-00415

[2681-77-8]



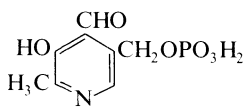
$C_{14}H_{14}N_4O_3$ M 286.290
Used as 0.05% aq. soln. for fluorimetric detn. of Mg (λ_{max} 480 nm, pH 10). Yellow cryst. (50% EtOH). Sol. EtOH, DMF, MeOH, Me_2CO; spar. sol. H_2O.

Cejas, M.A. *et al, Anal. Chim. Acta*, 1981, **130**, 73 (*synth, detn, Mg*)

Pyridoxal phosphate P-00416

3-Hydroxy-2-methyl-5-[(phosphonooxy)methyl]-4-pyridinecarboxaldehyde, 9CI. Pyridoxal 5-monophosphate. Codecarboxylase. Coenzyme B_6

[54-47-7]



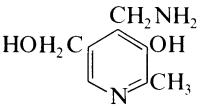
$C_8H_{10}NO_6P$ M 247.144
Coenzyme in racemisation, decarboxylation and transamination reactions of α-amino-acids. Used as 0.01*M* soln. in 0.01*M* HCl for fluorimetric detn. of Be (λ_{max} 460 nm). Powder or cryst. Mp 140-143°. Bright yellow in alk. soln.
▷ UV1207000.
Ca salt: Bright yellow powder. λ_{max} 228, 307.5, 390 nm (H_2O at pH 11).
Oxime:
$C_8H_{11}N_2O_6P$ M 262.158
Cryst. (H_2O contg. HCl). Mp 229-230° dec.
Acridine salt: Lemon-yellow cryst.

Gunsalus, I.C. *et al, J. Biol. Chem.*, 1945, **161**, 743.
Metzler, D.E. *et al, J. Am. Chem. Soc.*, 1954, **76**, 648.
Boyer, P.D. *et al, Enzymes*, Vol 2, Chap. 6, Academic Press, N.Y., 1960 (*rev*)
Korytynk, W. *et al, J. Am. Chem. Soc.*, 1963, **85**, 2813 (*pmr*)
Osbond, J.M., *Vitam. Horm. (N.Y.)*, 1964, **22**, 367 (*synth, rev*)
Petidier, A. *et al, Talanta*, 1985, **32**, 1041 (*detn, Be*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PII100.

Pyridoxamine P-00417

4-(Aminomethyl)-5-hydroxy-6-methyl-3-pyridinemethanol, 9CI. 4-(Aminomethyl)-3-hydroxy-5-hydroxymethyl-2-methylpyridine. 3-Hydroxy-5-hydroxymethyl-2-methyl-4-pyridinemethylamine

[85-87-0]



$C_8H_{12}N_2O_2$ M 168.195
Exhibits vitamin B_6 activity. Used for fluorimetric detn. of α-oxo acids. Cryst. Sol. EtOH, acids. Mp 198-200°. Mp 193-193.5°.
B,2HCl: [524-36-7].
Cryst. (MeOH). Mp 226-227° dec.
▷ UV1230000.

Harris, S.A. *et al, J. Am. Chem. Soc.*, 1944, **66**, 2088 (*synth*)
Kamer, P. *et al, Helv. Chim. Acta*, 1948, **31**, 1004 (*synth*)
Balyakina, M.V. *et al, Zh. Obshch. Khim.*, 1961, **31**, 2983 (*synth*)
Lange, H.W. *et al, Fresenius' Z. Anal. Chem.*, 1972, **261**, 337 (*use*)

1-(2-Pyridyl)-1-hexanone P-00418

2-Hexanoylpyridine. Pentyl 2-pyridyl ketone

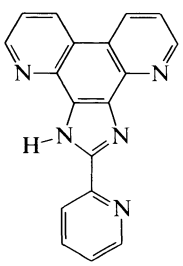
[42203-03-2]

$C_{11}H_{15}NO$ M 177.246
Liq. Bp_{13} 132-133°. n_D^{20} 1.5001.
Oxime: [34541-30-5].
$C_{11}H_{16}N_2O$ M 192.260
Used as 0.01*M* aq. soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 360 nm, ε 2700, isopentanol). Cryst. (Et_2O saturated with HCl). Sol. H_2O; sl. sol. Et_2O. Mp 149-151°.

Trusell, F. *et al, Anal. Chim. Acta*, 1964, **30**, 269 (*synth, oxime, detn, Cu*)
Tomer, K.B. *et al, J. Org. Chem.*, 1973, **38**, 4152 (*ms*)
Reimann, E. *et al, Justus Liebigs Ann. Chem.*, 1976, 1351 (*synth*)

2-(2-Pyridyl)-1*H*-imidazo[4,5-*f*][4,7]phenanthroline, 8CI P-00419

[14040-60-9]

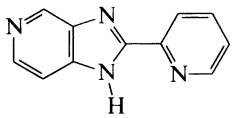


$C_{18}H_{11}N_5$ M 297.318
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*). Cryst. (C_6H_6). Sol. common org. solvents, dil. HCl. Mp 248-249°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al, Talanta*, 1968, **15**, 1055 (*use*)

2-(2-Pyridyl)-1*H*-imidazo[4,5-*c*]pyridine, 8CI P-00420

[14060-62-9]



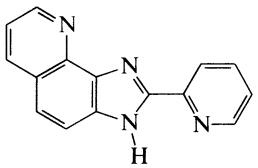
$C_{11}H_8N_4$ M 196.211

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 548 nm, ε 3200). Cryst. (C_6H_6). Sol. common org. solvents, dil. HCl. Mp 234-235°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*use*)

2-(2-Pyridyl)-3*H*-imidazo[4,5-*h*]quinoline, 8CI P-00421

[14854-13-8]



$C_{15}H_{10}N_4$ M 246.271

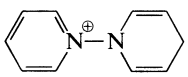
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 460 nm, ε 1000). Cryst. (EtOH). Sol. common org. solvents. Mp 235°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*use*)

Pyridylpyridinium(1+) P-00422

1,4-Dihydro-4-(4(1H)-pyridinylidene)pyridine radical ion(1+), 9CI

[35862-62-5]



$C_{10}H_{10}N_2^{\oplus}$ M 158.202 (ion)

Chloride:

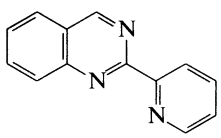
$C_{10}H_{10}ClN_2$ M 193.655

Used as a 2% aq. soln. for photometric detn. of N_2H_4 (λ_{max} 500 nm). Cryst.

Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1971, **253**, 102 (*use*)

2-(2-Pyridyl)quinazoline, 8CI P-00423

[10198-94-4]



$C_{13}H_9N_3$ M 207.234

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 442 nm, ε 11500), Cu(*I*) (λ_{max} 481 nm, ε 8900). Cryst. (hexane). Sol. C_6H_6, dil. HCl. Mp 86-87°.

5,6,7,8-Tetrahydro deriv.: [10198-85-3]. *2-(2-Pyridyl)-5,6,7,8-tetrahydroquinazoline, 8CI*

$C_{13}H_{13}N_3$ M 211.266

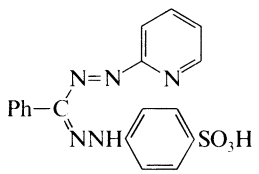
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 488 nm, ε 6200), Cu(*I*) (λ_{max} 437 nm, ε 5500). Cryst. (cyclohexanone). Sol. C_6H_6, dil. HCl. Mp 82-83°.

Lafferty, J.J. *et al*, *J. Org. Chem.*, 1967, **32**, 1591 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*use*)

1-(2-Pyridyl)-5-(4-sulfophenyl)-3-phenylformazan P-00424

4-[3-Phenyl-1-(2-pyridyl)-5-formazano]benzenesulfonic acid, 9CI

[32748-20-2]

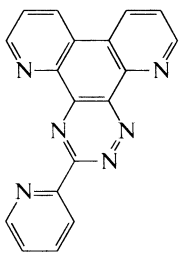


$C_{18}H_{15}N_5O_3S$ M 381.414

Used as a 0.2m*M* aq. soln. as metallochromic indicator for titrimetric detn. of Cu. Red-violet cryst. (MeOH). Sol. H_2O, EtOH. pK_{a2} 4.48; pK_{a3} 11.83.

Matsushima, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1971, **20**, 156, 1310 (*synth, detn, Cu*)

2-Pyridyl-1,2,4-triazino[5,6-*f*][4,7]phenanthroline P-00425



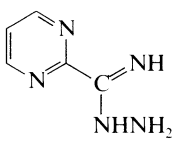
$C_{18}H_{10}N_6$ M 310.317

Used as 0.01*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 593 nm, ε 20200), Cu(*I*) (λ_{max} 511 nm, ε 7500). Cryst. (DMF). Sol. EtOH, DMF. Mp 325°.

Case, F.H., *J. Org. Chem.*, 1965, **30**, 931 (*synth*)
Schilt, A.A., *Talanta*, 1966, **13**, 895 (*use*)

2-Pyrimidinecarboximidic acid hydrazide P-00426

2-Pyrimidylhydrazidine



$C_5H_7N_5$ M 137.144

Used as 0.01 *M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 553 nm, ε 48000). Cryst. (C_6H_6). Sol. C_6H_6, EtOH. Mp 109-110°.

Case, F.H., *J. Org. Chem.*, 1965, **30**, 931 (*synth*)
Schilt, A.A., *Talanta*, 1966, **13**, 895 (*use*)

4-Pyrimidinecarboximidic acid hydrazide, 8CI P-00427

4-Pyrimidylhydrazidine

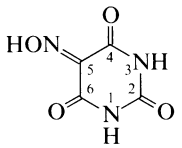
[18091-46-8]

$C_5H_7N_5$ M 137.144
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 537 nm). Cryst. (C_6H_6). Sol. common org. solvs. Mp 146-147°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **5**, 223 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*use*)

2,4,5,6(1*H*,3*H*)-Pyrimidinetetrone 5-oxime, 9CI P-00428

5-Isonitrosobarbituric acid. Alloxan-5-oxime, 8CI. Violuric acid, 8CI. 5-Hydroxyiminobarbituric acid
[87-39-8]



$C_4H_3N_3O_4$ M 157.085
Exists in tautomeric forms. Used as an analytical reagent for separation of cations, and also as algicide, bactericide and fungicide. Used as 0.01*M* aq. soln. for photometric detn. of Co (λ_{max} 360 nm, ε 34000, pH 8.6). Rhombic or orthorhombic cryst. Mod. sol. H_2O → violet solns., sol. EtOH. Mp 240-241° dec. pK_a 4.57-4.7 (25°).

▷ BA4225000.

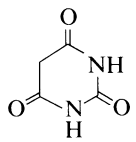
Me ether:
$C_5H_5N_3O_4$ M 171.112
Plates (pet. ether). Sol. H_2O, alkalis, org. solvs. → yellow solns. Mp 268°. pK_a 6.74 (25°).

N^1,N^3-*Di-Ph:* [41514-71-0]. *1,3-Diphenyl-5-nitrosobarbituric acid*
$C_{16}H_{11}N_3O_4$ M 309.281
Used for photometric detn. of Co (λ_{max} 374 nm).

Hantzsch, A. *et al*, *Ber.*, 1909, **42**, 986 (*synth*)
Ershova, L.V. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 2406; 1974, **29**, 1367 (*detn, Co*)
Raimova, N.V. *et al*, *CA*, 1973, **79**, 151 260 (*tautom*)
U.S. Pat., 3 928 017, (1975); *CA*, **85**, 155067 (*synth*)
Zvilichovsky, G., *Tetrahedron*, 1977, **33**, 2259 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AFU000.

2,4,6(1*H*,3*H*,5*H*)-Pyrimidinetrione, 9CI P-00429

Barbituric acid. Malonylurea
[67-52-7]



$C_4H_4N_2O_3$ M 128.087
Parent compd. of the barbiturate sedatives but is said to have no sedative props. Used in plastic manuf. and in photometric detn. of $CN^{\ominus}$ and $Cl^{\ominus}$. Dihydrate, prisms (H_2O). Mp 248° dec.

▷ Mod. irritant, allergen.

N-Et: [50721-57-8].
$C_6H_8N_2O_3$ M 156.141
Rectangular leaflets (EtOH). Mp 119-120°.

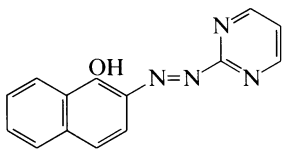
1,3-Di-Me: [769-42-6]. *1,3-Dimethyl-2,4,6(1H,3H,5H)-pyrimidinetrione, 9CI. 1,3-Dimethylbarbituric acid. Malonyldimethylurea*
$C_6H_8N_2O_3$ M 156.141
Used for photometric detn. of $CN^{\ominus}$ (λ_{max} 588 nm). Needles. Sol. H_2O. Mp 123°. Sublimes.

1,3-Di-Et: [32479-73-5]. *1,3-Diethylbarbituric acid*
$C_8H_{12}N_2O_3$ M 184.194
Sol. hot H_2O. Mp 52-53°. Bp_{19} 167°.

Wood, J.K. *et al*, *J. Chem. Soc.*, 1909, **95**, 979 (*synth*)
Biltz, H. *et al*, *Ber.*, 1916, **46**, 652 (*derivs*)
Org. Synth., Coll. Vol., 2, 1943, 60 (*synth*)
Carter, M.K., *J. Chem. Educ.*, 1951, **28**, 524 (*rev*)
Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1953, **138**, 214, 404 (*use, detn, $Cl^{\ominus}$, $CN^{\ominus}$*)
Webber, H.M., *Analyst (London)*, 1965, **90**, 372 (*detn, $Cl^{\ominus}$*)
Bideau, J.-P. *et al*, *Acta Crystallogr., Sect. B*, 1976, **32**, 481 (*cryst struct*)
Al-Karaghouli, A.L. *et al*, *Acta Crystallogr., Sect. B*, 1977, **33**, 1655 (*cryst struct*)
Fischer, W. *et al*, *CA*, 1977, **86**, 50288w (*detn, $CN^{\ominus}$*)
Broderius, S.J., *Anal. Chem.*, 1981, **53**, 1472 (*detn, $CN^{\ominus}$*)
Nieminen, A.O.K. *et al*, *Org. Magn. Reson.*, 1985, **23**, 419 (*N-15 nmr*)
Prajpati, D. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1988, 607 (*synth*)

2-(2-Pyrimidinylazo)-1-naphthalenol, 9CI P-00430

2-(1-Hydroxy-2-naphthylazo)pyrimidine
[10335-38-3]

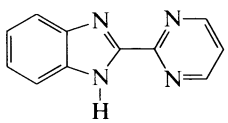


$C_{14}H_{10}N_4O$ M 250.259
Used as 1m*M* EtOH soln. for photometric detn. of Zn (λ_{max} 543 nm, ε 25000), Cu(*II*), Ni. Red cryst. Sol. EtOH, MeOH. Mp 149-150°. pK_{a1} 0.92; pK_{a2} 9.66 (50% MeOH, μ = 0.1).

Pollard, F.H. *et al*, *Talanta*, 1966, **13**, 725 (*synth*)
Anderson, R.G. *et al*, *Analyst (London)*, 1968, **93**, 20 (*use*)

2-(2-Pyrimidinyl)benzimidazole, 9CI P-00431

2-(2-Benzimidazolyl)pyrimidine
[18107-02-3]

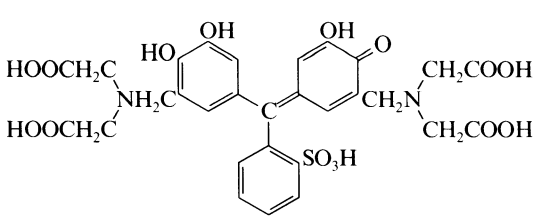


$C_{11}H_8N_4$ M 196.211
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 516 nm). Cryst. (EtOH). Sol. C_6H_6, Me_2CO, EtOH, dil. HCl. Mp 299-300°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **5**, 223 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*use*)

Pyrocatecholsulfonephthalein complexan P-00432

N,N′-[3H-*2,1-Benzoxathiol-3-ylidenebis*[(*5,6-dihydroxy-3,1-phenylene*)*methylene*]]*bis*[N-(*carboxymethyl*)*glycine*], *9CI*
[92836-59-4]



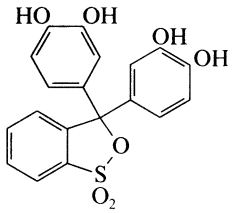
$C_{29}H_{28}N_2O_{15}S$ M 676.611
CA Name refers to ring-closed tautomer. Used as 0.01*M* aq. soln. for photometric detn. of Bi (λ_{max} 505 nm, ε 21500). Dark green cryst. Sol. H_2O.

Yu, R.Q. *et al*, *Talanta*, 1984, **31**, 1121 (*synth, use*)

Pyrocatechol violet P-00433

4,4′-(3H-2,1-Benzoxathiol-3-ylidene)bis(1,2-benzenediol) S,S-dioxide, 9CI. Catechol sulfonephthalein. Catechol violet

[115-41-3]



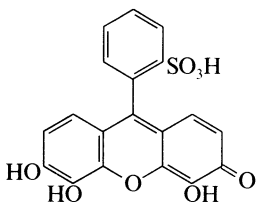
$C_{19}H_{14}O_7S$ M 386.381
Used as 0.1% aq. soln. for photometric detn. of Al, Bi, Sb, Cd, Cr, Cu, Ga, In (λ_{max} 630 nm, ε 35000), Sc, Sn, N, Ti, Th, V, Zr; indicator in complexometric detn. of Bi, Th, Cu. The boron complex, Boropyrocatechol, is used for photometric detn. of Lu. Reddish brown powder. Sol. H_2O, EtOH; insol. Et_2O. pK_{a3} 7.8; pK_{a4} 9.7; pK_{a5} 11.7.

Malat, M., *Fresenius' Z. Anal. Chem.*, 1962, **186**, 418 (*detn, Bi*)
Wilson, A.D. *et al*, *Analyst (London)*, 1963, **88**, 109 (*detn, Al*)
Malat, M., *Mikrochim. Acta*, 1966, 228 (*detn, In*)
Serdyuk, L.S. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1975, **41**, 366 (*B complex*)
Snell, F.D., *Photometric and Fluorimetric Methods of Analysis, Metals Part 1*, John Wiley, New York, 1978, 500; *Metals Part 2*, 1149, 1265.
Shijo, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1981, **54**, 700 (*detn, V*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 35 (*use*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 100, 585 (*use*)

Pyrogallol red P-00434

Spiro[3H-2,1-benzoxathiole-3,9′-[9H]xanthene]-3′,4′,5′,6′-tetrol S,S-dioxide, 9CI. Pyrogallolsulfonephthalein

[32638-88-3]

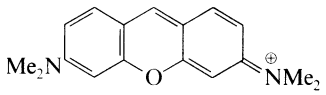


$C_{19}H_{12}O_8S$ M 400.365
Used as 0.4m*M* aq. soln. for photometric detn. of Ga, In, Fe, rare earths, Tl, Ag, V, W, Mo (λ_{max} 600 nm, ε 42000). Reddish brown powder. Sol. EtOH; sl. sol. H_2O.

Dagnall, R.M. *et al*, *Talanta*, 1961, **8**, 711; 1964, **11**, 1533 (*detn, Ag*)
Morgen, E.A. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1384 (*detn, Mo*)
Korenaga, T. *et al*, *Anal. Chim. Acta*, 1979, **104**, 369 (*detn, Fe*)
Krzyzanowska, M. *et al*, *Chem. Anal. (Warsaw)*, 1979, **24**, 19 (*detn, In*)
Wyganowski, C., *Microchem. J.*, 1981, **26**, 45; 1982, **27**, 13 (*detn, Ga*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 45 (*use*)

Pyronine G P-00435

N-[6-(*Dimethylamino*)-3H-*xanthen*-3-*ylidene*]-N-*methylmethanaminium*(1+), *9CI. Pyronine Y. C.I. 45005 Basic dye*



$C_{17}H_{19}N_2O^{\oplus}$ M 267.350 (ion)
Strictly, the name Pyronine G applies to the chloride.

Chloride: [92-32-0].
$C_{17}H_{19}ClN_2O$ M 302.803
Used as 1m*M* aq. soln. for photometric detn. of Sb, Cd, Au(*III*) ($CHCl_3$, C_6H_6, PhCl). Violet cryst. powder. Sol. H_2O, EtOH. Mp 250-260°.
▷ BQ1450000.

Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 514 (*detn, Sb*)
Nabivanets, B.I. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1901 (*detn, Au*)
Rao, T.P. *et al*, *Analyst (London)*, 1982, **107**, 704 (*detn, Cd*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PPQ750.

Pyrrole, 8CI P-00436

Azole

[109-97-7]

C_4H_5N M 67.090
Occurs in coal tar. Isol. in traces from plants. Used as 1% soln. in EtOH for photometric detn. of Se(*IV*), Au(*III*), silicic acid. Liq. with characteristic odour. Sol. EtOH, Et_2O, C_6H_6; insol. H_2O. d_4^{20} 0.969. Bp_{761} 130-131°. n_D^{20} 1.5085. Turns brown in air. Forms metallic salts. Trimerises with HCl. Nitroprussiates in alkali → red col. which turns blue on addn. of acids.
▷ Flammable. Emits highly toxic fumes on heating. UX9275000.

Picrate: Orange-red cryst. Mp 69° dec.
Phenylurethane: Mp 142-143°.
N-*Formyl:* [24771-28-6].
C_5H_5NO M 95.101
Bp_{22} 39°.
N-*Ac:* [609-41-6].
C_6H_7NO M 109.127
Liq. Bp 181-182°.
N-*Benzoyl:* [5145-65-3].
$C_{11}H_9NO$ M 171.198
Yellow oil. Bp_{715} 276°. Steam-volatile.
N-*Propyl:* [5145-64-2].
$C_7H_{11}N$ M 109.171
d_4^{20} 0.883. Bp 146.5-147.5°.
N-*Isopropyl:* [7057-97-8].
$C_7H_{11}N$ M 109.171
Bp_{21} 49-51°.
N-*Butyl:* [589-33-3].
$C_8H_{13}N$ M 123.197
Bp_{48} 105°.
N-tert-*Butyl:* [24764-40-7].
$C_8H_{13}N$ M 123.197
Bp_{24} 51-61°.
N-(*2-Propenyl*): [7435-07-6].
C_7H_9N M 107.155
Bp_{48} 105°. Unstable in air. Steam-volatile.

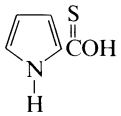
N-*Benzyl:* [2051-97-0].
$C_{11}H_{11}N$ M 157.215
Sol. EtOH, Et_2O. Bp 245-246°, Bp_{27} 138-139°. Turns yellow in light and air.

N-*Amino:* [765-39-9]. *1H-Pyrrol-1-amine, 9CI. 1-Aminopyrrole*
$C_4H_6N_2$ M 82.105
Bp_{12} 71-73°. n_D^{25} 1.5311.

Pictet, A., *Ber.*, 1904, **37**, 2792.
Org. Synth., Coll. Vol., 1, 1932, 461.
Fischer, H. *et al*, *Die Chemie des Pyrrols*, Vol. I, 1934; Vol. II , Part 1, 1937; Vol. II , Part 2, 1940.
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **3**, 572 (*synth, use*)
Jennings, A.L. *et al*, *J. Org. Chem.*, 1964, **29**, 2065 (*ms*)
Schulte, K.E. *et al*, *Chem. Ber.*, 1965, **98**, 98.
Katekar, G.F. *et al*, *Aust. J. Chem.*, 1969, **22**, 1199 (*pmr, cmr, N-15 nmr*)
Flitsch, W. *et al*, *Chem. Ber.*, 1969, **102**, 3268 (*1-amino*)
Candy, C.F. *et al*, *J. Chem. Soc. C*, 1970, 2563 (*derivs*)
Catalotti, R. *et al*, *Can. J. Chem.*, 1976, **54**, 2451 (*ir*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **19**, 499 (*rev*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PPS250.

1*H*-Pyrrole-2-carbothioic acid P-00437

2-Pyrrolethiocarboxylic acid



C_5H_5NOS M 127.167

S-*Me ester:* [118792-46-4].
C_6H_7NOS M 141.193
Cryst. (pet. ether). Mp 79-80°.

S-*Et ester:* [23999-86-2].
C_7H_9NOS M 155.220
Needles (Et_2O/pet. ether). Mp 29-29.5°.

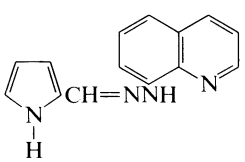
1-Me, S-*Me ester:* [118792-47-5].
C_7H_9NOS M 155.220
Liq. Bp_{24} 131-132°.

Hydrazide: [68062-21-5]. *2-Pyrrolethiocarboxhydrazide*
$C_5H_7N_3S$ M 141.196
Used as 0.01*M* EtOH soln. for extraction-photometric detn. of Ru(*III*), Os(*VI, VIII*) (pH 9-10.5, 4-methyl-2-pentanone). Cryst. (hot H_2O). Sol. EtOH, 4-methyl-2-pentanone; mod. sol. H_2O. Mp 121-122°.

Loader, C.E. *et al*, *Tetrahedron*, 1969, **25**, 3879 (*synth, pmr, ester*)
Shome, S.C. *et al*, *Mikrochim. Acta*, 1978, **2**, 343 (*synth, detn, Os, Ru, hydrazide*)
Barbero, M. *et al*, *Synthesis*, 1988, 300 (*synth, ester*)

1*H*-Pyrrole-2-carboxaldehyde 8-quinolinylhydrazone, 9CI P-00438

[82633-12-3]



$C_{14}H_{12}N_4$ M 236.276

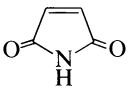
Used as 0.01*M* soln. in 0.05*M* HCl in EtOH for photometric detn. of Co, Cu(*I*) (λ_{max} 540 nm, ε 12800), Fe(*II*), Ni. Cryst. (MeOH). Sol. common org. solvs. Mp 150°.

Schilt, A.A. *et al*, *Talanta*, 1982, **29**, 338 (*synth, use*)

1*H*-Pyrrole-2,5-dione, 9CI P-00439

Maleimide, 8CI

[541-59-3]



$C_4H_3NO_2$ M 97.073
Plates. Mp 93°. Subl. readily.

▷ ON4800000.

N-*Me:* [930-88-1].
$C_5H_5NO_2$ M 111.100
Prisms (Et_2O). Sol. EtOH, spar. sol. C_6H_6. Mp 90-92°. Volatile.

▷ ON5600000.

N-*Et:* [128-53-0]. N-*Ethylmaleimide. 1-Ethyl-1H-pyrrole-2,5-dione*
$C_6H_7NO_2$ M 125.127
Reagent for thiols and amino acids. Cryst. Mp 45.5-46.5°, Mp 44°. Bp 210°.

Dioxime: [14445-80-8].
$C_4H_5N_3O_2$ M 127.102
Mp 256°.

Semicarbazone: Mp 230°.

Rinkes, I.J., *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1926, **45**, 819 (*synth*)
Marriau, D.H., *J. Am. Chem. Soc.*, 1949, 1515 (*synth, N*-Ethyl)
Broekhuysen, J., *Anal. Chim. Acta*, 1958, **19**, 542 (*use*)
Coleman, L.E. *et al*, *J. Org. Chem.*, 1959, **24**, 135 (*synth*)
Peikzer, Z., *Collect. Czech. Chem. Commun.*, 1960, **25**, 1514 (*use*)
Lukes, R. *et al*, *Collect. Czech. Chem. Commun.*, 1962, **27**, 1387 (*synth*)
Weizman, P.D.J. *et al*, *Anal. Biochem.*, 1971, **43**, 321 (*use*)
McPhalen, C.A. *et al*, *Acta Chem. Scand.*, 1983, **39**, 1439 (*cryst struct*)
Jemal, M. *et al*, *Anal. Chem.*, 1985, **57**, 2407 (*use, N*-Ethyl)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MAL250, MAM750.

Pyrrolidine, 9CI P-00440

Tetrahydropyrrole. Tetramethyleneimine

[123-75-1]

C_4H_9N M 71.122
Male sex pheromone of *Ceratitis capitata* (Mediterranean fruit fly). Present in tobacco and carrot leaves (*Daucus carota*) (Umbelliferae). Widely distributed in trace amts., presumably as bacterial decarboxylation prod. of proline. Primary odour constit. of sperm. Widely used org. base, used in the prep. of enamines. Reagent used in the ms determination of the position of double bonds and of methyl branching in fatty acids. Liq. with odour resembling Piperidine. Misc. H_2O. d_4^{20} 0.8618. Fp −63°. Bp 88.5-89°. Fumes in air. Strongly alkaline.

▷ Irritant. Highly flammable, flash pt. 3°. UX9650000.

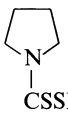
Hemipicrate: Dark-red cryst. Mp 163-164°.
Monopicrate: Yellow needles (EtOH). Mp 112°.

N-*Benzyl:*
$C_{11}H_{15}N$ M 161.246
Sol. EtOH, Et_2O. Bp 237°. Absorbs CO_2 and H_2O from the air.
N-*2,4-Dinitrophenyl:* Cryst. (cyclohexane/EtOAc).
N-*Nitroso:*
▷ Exp. carcinogen.

de Jong, M. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1930, **49**, 237.
Ochiai, E. *et al*, *Ber.*, 1934, **67**, 1017 (*derivs*)
Duffield, A.M. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 2920 (*ms*)
Wilshire, J.F.K., *Aust. J. Chem.*, 1966, **19**, 1935 (*deriv*)
Achenbach, H. *et al*, *Chem. Ber.*, 1970, **103**, 2535.
Andersson, B.A. *et al*, *Lipids*, 1974, **9**, 185, 443; 1975, **10**, 215, 716 (*use*)
Amoore, J.E. *et al*, *J. Chem. Ecol.*, 1975, **1**, 299.
Hawthorne, D.G. *et al*, *Aust. J. Chem.*, 1976, **29**, 215 (*cmr*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 428.
Baker, R. *et al*, *J. Chem. Soc., Chem. Commun.*, 1985, 824.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 466.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PPS500.

1-Pyrrolidinecarbodithioic acid, 8CI P-00441

Tetramethylenedithiocarbamic acid
[25769-03-3]

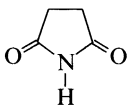


$C_5H_9NS_2$ M 147.265
pK_{a1} 3.29 (25°).
NH_4 salt: [5108-96-3]. *Ammonium pyrrolidine dithiocarbamate. APDC*
Used as 0.01*M* aq. soln. for photometric detn. of Bi, Cu, Nb, Sb, Sn, Te, Zn; extraction-separation of As. Cryst. (EtOH/Et_2O). Sol. H_2O, EtOH, $CHCl_3$. Mp 153-155°, Mp 142-144°.

Halissa, H. *et al*, *Talanta*, 1961, **8**, 841 (*cryst struct*)
Kovacs, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1962, **186**, 267; 1965, **208**, 255 (*use*)
Likussar, W. *et al*, *Anal. Chem.*, 1971, **43**, 1273 (*detn, Cu, Co, Cd, Zn*)
Dellien, I., *Talanta*, 1979, **26**, 1101 (*use*)
Nichols, J.A. *et al*, *J. Assoc. Off. Anal. Chem.*, 1980, **63**, 500 (*use*)
Puttemans, F. *et al*, *Anal. Chim. Acta*, 1983, **149**, 123 (*use*)

2,5-Pyrrolidinedione, 9CI P-00442

Succinimide, 8CI
[123-56-8]

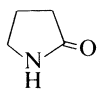


$C_4H_5NO_2$ M 99.089
Used for photometric detn. of Cu (λ_{max} 590 nm, pH 4-10). Plates + $1H_2O$ (EtOH aq.). Mp 126-127°. Bp 287-288° dec. pK_a 3.48.
▷ WN2200000.
N-*Ac:* [3027-06-3].
$C_6H_7NO_3$ M 141.126
$Bp_{9.5}$ 167°.
N-*Propanoyl:* [30364-55-7]. *1-(1-Oxopropoxy)-2,5-pyrrolidinedione, 9CI. Succinimido propionate.* N-(*Propionyloxy*)*succinimide, 8CI*
$C_7H_9NO_4$ M 171.152
Used for derivatization of biogenic amines for hplc anal. with electrochem. detn. Cryst. (EtOAc/hexane). Mp 32-34°.
N-*Benzoyl:* [6343-27-7].
$C_{11}H_9NO_3$ M 203.197
Mp 129-130°.
N-(*2-Propenyl*): [2555-14-8].
$C_7H_9NO_2$ M 139.154
Bp 249-250°.
N-*Hydroxy:* [6066-82-6].
$C_4H_5NO_3$ M 115.088
Reagent used in peptide synth.
N-*Acetoxy:* [14464-29-0]. *1-(Acetyloxy)-2,5-pyrrolidinedione, 9CI.* N-*Acetoxysuccinimide*
Reagent for acetylating amines. Cryst. (hexane/C_6H_6). Mp 131-132°.
Oxime:
$C_4H_6N_2O_2$ M 114.104
Mp 197° dec.
Dioxime:
$C_4H_7N_3O_2$ M 129.118
Mp 207°.
N-*Bromo:* see N-*Bromosuccinimide, B-00576*

Ma, T.-S. *et al*, *CA*, 1934, **28**, 6108 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 487.
Lapidot, Y. *et al*, *J. Lipid Res.*, 1967, **8**, 142 (*synth, deriv, use*)
Paquet, A., *Can. J. Chem.*, 1976, **54**, 733 (*synth, deriv*)
Sharma, C.L. *et al*, *Fresenius' Z. Anal. Chem.*, 1976, **280**, 219 (*detn, Cu*)
Gramain, J.C. *et al*, *J. Chem. Soc., Chem. Commun.*, 1976, 194 (*synth*)
Grochowski, E.G. *et al*, *Synthesis*, 1977, 277 (*synth, deriv*)
Tang, Y.S. *et al*, *J. Labelled Compd. Radiopharm.*, 1983, **20**, 277 (*synth*)
Jacobson, K.A. *et al*, *FEBS Lett.*, 1985, **188**, 307 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SND000.

2-Pyrrolidinone, 9CI P-00443

2-Oxopyrrolidine. Butyrolactam. 2-Pyrrolidone. Piperidinic lactam. 4-Aminobutanoic acid lactam
[616-45-5]



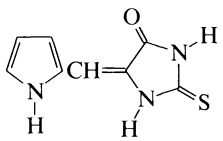
C_4H_7NO M 85.105
Reagent used in the ms detn. of the branching points in long-chain primary alcohols. Cryst. (pet. ether). V. sol. H_2O, most org. solvs., spar. sol. pet. ether. Mp 24.6°. Bp 245°, Bp_{12} 133°. Spar. steam-volatile. Forms a monohydrate in moist air, Mp 35° (30°).
▷ UY5715000.
N-*Ac:* [932-17-2].
$C_6H_9NO_2$ M 127.143
Bp 231°.
▷ UY5717000.
enol-form

Me ether: [5264-35-7]. *3,4-Dihydro-5-methoxy-2H-pyrrole. 2-Methoxy-1-pyrroline*
C_5H_9NO M 99.132
Liq. Bp 118-120°.
Et ether: [931-46-4]. *5-Ethoxy-3,4-dihydro-2H-pyrrole, 9CI. 2-Ethoxy-1-pyrroline*
$C_6H_{11}NO$ M 113.159
Liq. Bp 133-137°.

Gabriel, S., *Ber.*, 1889, **22**, 3338 (*synth*)
Metzger, H. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1963, **2**, 624 (*synth*)
Zeifman, V.I. *et al*, *CA*, 1963, **59**, 5110 (*synth*)
Etienne, A. *et al*, *Bull. Soc. Chim. Fr.*, 1969, 3704 (*derivs*)
Vetter, W. *et al*, *Helv. Chim. Acta*, 1977, **60**, 1203 (*use*)
Fronza, G. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1977, 1746 (*nmr*)
Pellegata, R. *et al*, *Synthesis*, 1978, 614 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PPT500.

5-(1*H*-Pyrrol-2-ylmethylene)-2-thioxo-4-imidazolidinone, 9CI P-00444

[84071-22-7]



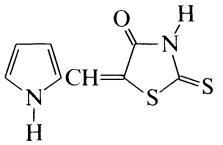
$C_8H_7N_3OS$ M 193.229
Used as 0.5m*M* EtOH soln. to give colour reactions with Pd, Cu, Ag, (pH 4.5). Yellow cryst. (EtOH). Sol. EtOH, DMF. Mp 260°. pK_{a1} 8.3; pK_{a2} 13.4.

Montana Gonzalez, M.T. *et al*, *Mikrochim. Acta*, 1982, **2**, 363 (*synth, reactions*)

5-(1*H*-Pyrrol-2-ylmethylene)-2-thioxo-4-thiazolidinone, 9CI P-00445

5-(Pyrrol-2-yl)methylenerhodanine

[53428-07-2]



$C_8H_6N_2OS_2$ M 210.280
Used as a 0.2% soln. in EtOH for photometric detn. of Au, Ag, Cu, Hg, Pd, Pt. Orange-red cryst. Sol. Et_2O, Me_2CO, EtOH. Mp 228-230°.

Kulberg, L.M. *et al*, *Zh. Anal. Khim.*, 1954, **9**, 85 (*use*)

Pyruvaldehyde, 8CI P-00446

2-Oxopropanal, 9CI. Pyruvic aldehyde. 2-Oxopropionaldehyde. Methylglyoxal. Pyroracemic aldehyde. Propanalone

[78-98-8]

$H_3CCOCHO$

$C_3H_4O_2$ M 72.063
Physiological role unknown. Shows antitumour props. Yellow liq. with pungent odour, giving yellowish-green vapour. Sol. EtOH, C_6H_6. d_{20}^{20} 1.06. Bp *ca.* 72°. pK_{a1} 11.0 (30°) (hydrate). Liq. is bimolecular at r.t. rapidly polymerising to amorph. glassy mass.
▷ Shows mutagenic and tumour-promoting props.. UZ0700000.

1-Oxime: [306-44-5]. *Isonitrosoacetone. Monoisonitrosoacetone. MNA*
$C_3H_5NO_2$ M 87.078
Cholinesterase and acetylcholinesterase reactivator used to treat poisoning by organophosphorus insecticides and nerve gases. Used in detn. of Cd, Co, Cu, Fe, Pb, Mn, Hg, Sn, Zn. Leaflets (Et_2O/pet. ether), needles (by subl.). Sol. H_2O, Et_2O, spar. sol. C_6H_6. Mp 69°. pK_a 8.39. Steam-volatile, readily subl.
▷ UZ0750000.

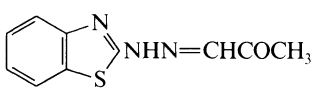
Dioxime: [1804-15-5]. *Methylglyoxime*
$C_3H_6N_2O_2$ M 102.093
Used as aq. soln. for photometric detn. of Ni, Co, Re, Cd, Cu, Fe, Pb, Mn, Hg, Sn, Zn. Prisms (EtOH) or needles by subl. Spar. sol. H_2O. Mp 157°, Mp 153°. pK_{a1} 10.5; pK_{a2} 12.0.
Disemicarbazone: Mp 254°.
1-Phenylhydrazone: Mp 148-150°.
Bis-2,4-dinitrophenylhydrazone: Reddish-orange cryst. ($PhNO_2$). Mp 308-309°.
Bis(phenylthiosemicarbazone): [64849-53-2]. *2,2'-(1-Methyl-1,2-ethanediylidene)bis[N-phenylhydrazinecarbothioamide], 9CI*
$C_{17}H_{18}N_6S_2$ M 370.501
Used as 0.1% soln. in DMF for photometric detn. of Zn (λ_{max} 455 nm, ε 22000, pH 6.4). Pale yellow cryst. Sol. DMF. pK_{a1} 10.96 (0.1*M* KCl, 60% DMF, 20°).
Di-Ac:
$C_7H_8O_4$ M 156.138
Pale-yellow liq. Bp_{13} 115-116°.
Tetra-Et acetal: [16330-14-6]. *1,1,2,2-Tetraethoxypropane*
$C_{11}H_{24}O_4$ M 220.308
Bp 192°.

Fischer, O.L. *et al*, *Ber.*, 1924, **57**, 1506 (*synth*)
Taylor, T.W.J. *et al*, *J. Chem. Soc.*, 1926, 2818 (*oxime*)
Cox, E. *et al*, *J. Chem. Soc.*, 1936, 129 (*synth, dioxime*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, N.Y., 1947, **3**, 278 (*synth, use, 1-oxime*)
Weygand, F. *et al*, *Chem. Ber.*, 1957, **90**, 1230 (*synth*)
Steinbauer, E. *et al*, *Monatsh. Chem.*, 1962, **93**, 303 (*synth*)
Org. Synth., Coll. Vol., 4, 1963, 633 (*deriv*)
Tetsuzo, K. *et al*, *CA*, 1964, **61**, 638 (*synth*)
Bestman, H.-J. *et al*, *Chem. Ber.*, 1969, **102**, 2259 (*synth*)
Mosher, W.A. *et al*, *J. Org. Chem.*, 1970, **35**, 3689 (*oxime*)
Alderliesten, P. *et al*, *Acta Chem. Scand., Ser. B*, 1975, **29**, 811 (*oxime*)
Peshkova, V.M., *Oximes*, Nauka, Moscow, 1977.
Asuero, A.G. *et al*, *Microchem. J.*, 1980, **25**, 14 (*synth*)
Yamaguchi, T. *et al*, *Agric. Biol. Chem.*, 1982, **46**, 849 (*tox*)
Baltes, H. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1982, **21**, 540 (*synth*)
Matsuura, T. *et al*, *Chem. Pharm. Bull.*, 1985, **33**, 3567 (*anal*)
Asuero, A.G. *et al*, *Anal. Lett.*, 1986, **19**, 837 (*pKa*)
Herrador, M.A. *et al*, *Analyst (London)*, 1987, **112**, 1237 (*detn, Zn*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PQC000.

Pyruvaldehyde 1-(2-benzothiazolylhydrazone) P-00447

2-Oxopropanal 1-2-benzothiazolylhydrazone, 9CI

[68579-70-4]



$C_{10}H_9N_3OS$ M 219.267
Used a 0.5% soln. in C_6H_6 for photometric detn. of Cd (λ_{max} 460 nm, ε4600, pH 11-12). Yellow cryst. Sol. C_6H_6.

Libergott, E. *et al*, *Anal. Chim. Acta*, 1978, **101**, 229 (*synth*)
Roquette-Pinto, C.L. *et al*, *Anal. Chim. Acta*, 1980, **117**, 349 (*detn, Cd*)

Pyruvic acid P-00448

2-Oxopropanoic acid, 9CI. Pyroracemic acid. Acetylformic acid

[127-17-3]

$H_3CCOCOOH$

$C_3H_4O_3$ M 88.063

Intermed. in primary metab. incl. fermentation processes. Present in muscle in redox equilib. with Lactic acid. Reagent for regeneration of carbonyl compds. from semicarbazones, phenylhydrazones and oximes. Cryst. or liq. with odour resembling acetic acid. Misc. H_2O, EtOH, Et_2O. Mp *ca.* 13.6°. Bp 165° part. dec., Bp_{10} 65°. pK_{a1} 2.39 (25°). Impure samples dec. on standing.

Me ester: [600-22-6].
$C_4H_6O_3$ M 102.090
Bp 134-137°.

Me ester, oxime:
$C_4H_7NO_3$ M 117.104
Needles (Et_2O). Mp 69°. Bp_{14} 122-123°.

Me ester, 2,4-dinitrophenylhydrazone: Mp 186.5-187.5°.

Et ester: [617-35-6].
$C_5H_8O_3$ M 116.116
Bp 155°, Bp_{17} 55°.

Et ester, oxime: [20591-87-1].
$C_5H_9NO_3$ M 131.131
Prisms or needles. Mp 97°. Bp 213° sl. dec.

Et ester, semicarbazone: Mp 206° dec.

Et ester, 2,4-dinitrophenylhydrazone: Yellow cryst. (dioxan/EtOH). Mp 154.5-155°.

Amide: [631-66-3].
$C_3H_5NO_2$ M 87.078
Prisms or plates (EtOH). Mp 124-125°.

Amide, oxime:
$C_3H_6N_2O_2$ M 102.093
Plates or prisms (H_2O). Mp 178.5° dec.

Amide, semicarbazone: Mp 230° dec.

Nitrile: [631-57-2]. *Acetyl cyanide*
C_3H_3NO M 69.063
Liq. with characteristic odour. Bp 93°.

Nitrile, phenylhydrazone: Leaflets (C_6H_6). Mp 150-151°.

Nitrile, semicarbazone: Mp 215° dec.

2,4-Dinitrophenylhydrazone: Used as a 0.05% soln. in EtOH as acid-base indicator (pH range; 11.9→12.9; colour change: light yellow → pink red). Yellow cryst. (AcOH). Mp 218°.

Oxime: [2211-14-5]. *2-Isonitrosopropanoic acid*
$C_3H_5NO_3$ M 103.077
Dec. at 180-1°.

Semicarbazone: Needles (H_2O). Mp *ca.* 200° dec.

Thiosemicarbazone: [10418-09-4]. *Pyroracemic acid thiosemicarbazone. 2-[(Aminothioxomethyl)hydrazono] propanoic acid, 9CI*
$C_4H_7N_3O_2S$ M 161.184
Used as 5m*M* aq. soln. for catalytic detn. of Rh(*III*) (10^{-6}–10^{-5}*M*, pH ~ 4). Cryst. Sol. H_2O, EtOH.

Di-Et ketal: [25741-02-0]. *2,2-Diethoxypropanoic acid*
$C_7H_{14}O_4$ M 162.185
Oil. Unstable to dist.

Di-Et ketal, amide: [92845-55-1]. *2,2-Diethoxypropanamide*
$C_7H_{15}NO_3$ M 161.200
Cryst. solid (pet. ether). Mp 70-71° (65-66°).

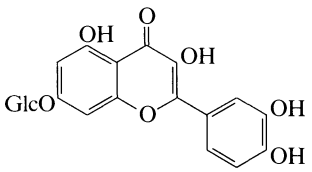
Tschelinzeff, W. *et al*, *Ber.*, 1929, **62**, 2211 (*synth*)
Org. Synth., Coll. Vol., 1, 1932, 475 (*synth*)
Allen, E.H., *J. Am. Chem. Soc.*, 1950, **52**, 2955 (*synth*)
Chugreeva, N.V. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 391 (*use*)
Org. Synth., Coll. Vol., 4, 1963, 467 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 774; **7**, 310.
Harata, K. *et al*, *Acta Crystallogr., Sect. B*, 1977, **33**, 210 (*cryst struct*)
LaMattina, J.L. *et al*, *J. Org. Chem.*, 1987, **52**, 3479 (*acetals*)
Ezerskaya, N.A. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 846 (*synth, detn, Rh, thiosemicarbazone*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PQC100.

Q

Quercimeritrin Q-00001

7-O-β-D-Glucopyranosyloxy-3,3′,4′,5-tetrahydroxyflavone. Quercetin 7-glucoside. Quercimeritroside

[491-50-9]



$C_{21}H_{20}O_{12}$ M 464.382

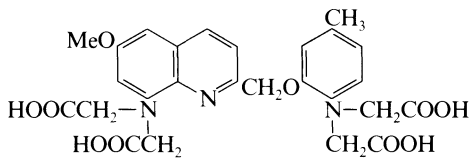
Occurs in numerous plant spp. Used for luminescence detn. of Zr. Yellow needles + $3H_2O$. Mp 249-250°.

Hoerhammer, L. *et al*, *Tetrahedron Lett.*, 1966, 567 (*synth*)
Markham, K.R. *et al*, *Tetrahedron*, 1978, **34**, 1389 (*cmr*)
Zel'tser, L.E. *et al*, *Talanta*, 1987, **34**, 873 (*use*)

Quin 2 Q-00002

N-[2-[[8-[Bis(carboxymethyl)amino]-6-methoxy-2-quinolinyl]methoxy]-4-methylphenyl]-N-(carboxymethyl)glycine, 9CI

[83014-44-2]



$C_{26}H_{27}N_3O_{10}$ M 541.513

Fluorescent indicator for intracellular Ca.

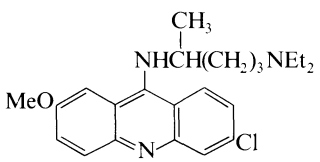
Tetrakis(acetoxymethyl)ester: [83104-85-2]. *Quin 2A*
$C_{38}H_{43}N_3O_{18}$ M 829.767
Fluorimetric reagent for Ca.

Tsien, R.Y., *Biochemistry*, 1980, **19**, 2396 (*synth*)
Tsien, R.Y. *et al*, *J. Cell Biol.*, 1982, **94**, 325 (*use*)

Quinacrine Q-00003

N^4-(6-Chloro-2-methoxy-9-acridinyl)-N′,N′-diethyl-1,4-pentanediamine, 9CI. 6-Chloro-N-(4-diethylamino-1-methylbutyl)-2-methoxy-9-acridinamine. ***Mepacrine,*** **INN.** *Acrichine. Atabrine. Atebrin. Numerous proprietary names*

[83-89-6]



$C_{23}H_{30}ClN_3O$ M 399.962

Antimalarial and anthelmintic (administered as salts). Used as 0.1% aq. soln. for extraction-fluorimetric detn. of Hg(*II*) (λ_{max} 498 nm, pH 1.5, butyl acetate/Me_2CO, 4:1). Yellow oil.

▷ Toxic. AR7700000.

(+)-***form***
Yellow oil. $[\alpha]_D$ +205° (EtOH).

B,2HCl: Yellow cryst. (EtOH/Et_2O). Mp 244-245° dec. $[\alpha]_D^0$ +388° (H_2O).

(−)-***form***
$[\alpha]_D^{17}$ −197° (EtOH).

B,2HCl: Yellow cryst. (EtOH/Et_2O). Mp 244-245° dec. $[\alpha]_D^{14}$ −379° (H_2O).

(±)-***form***
Mp 86-88°.

B,2HCl: [69-05-6]. *Quinacrine hydrochloride, USAN*
Cryst. (H_2O). Mp 248-250°.
▷ AR7875000.

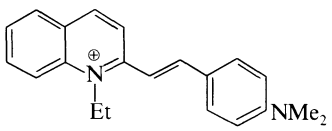
B,2MeSO$_3$H: [316-05-2]. *Quinacrine soluble. Musonal*
Mp 143-145°.
▷ AR7880000.

[6151-30-0]

Mietsch, F. *et al*, *Angew. Chem.*, 1934, **47**, 633.
Brown, B.R. *et al*, *J. Chem. Soc.*, 1948, 99 (*synth*)
Courseille, C. *et al*, *Acta Crystallogr., Sect. B*, 1973, **29**, 2349 (*cryst struct*)
Wolfe, A.D., *Antibiotics (N.Y.)*, 1975, **3**, 203 (*rev, pharmacol*)
Acheson, R.M. *et al*, *Org. Mass Spectrom.*, 1977, **12**, 518 (*ms*)
Griggs, B.G. *et al*, *Org. Magn. Reson.*, 1978, **11**, 81 (*cmr*)
Tanenbaum, L. *et al*, *Arch. Dermatol.*, 1980, **116**, 587 (*rev, pharmacol*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1382.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 6925.
Grigoryan, L.A. *et al*, *Zh. Anal. Khim.*, 1990, **45**, 1763 (*detn, Hg*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ARQ250, CFU750.

Quinaldine red Q-00004

2-[2-[4-(Dimethylamino)phenyl]ethenyl]-1-ethylquinolinium(1+)



$C_{21}H_{23}N_2^{\oplus}$ M 303.426 (ion)

Iodide: [117-92-0].
$C_{21}H_{23}IN_2$ M 430.331
Dye. Acid-base indicator used as 0.1% soln. in glac. AcOH. Mp 241-243°. Phototropic.

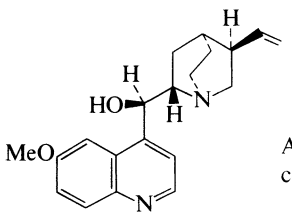
[65201-92-5]

Higuchi, T. *et al*, *Anal. Chem.*, 1956, **28**, 1506 (*use, ind*)
Alicino, J.P., *Microchem. J.*, 1960, **4**, 551 (*use, ind*)
Güsten, H., *Justus Liebigs Ann. Chem.*, 1981, 1896 (*synth, isom*)

Quinine, BAN Q-00005

(8α,9R)-6′-Methoxycinchonan-9-ol, 9CI

[130-95-0]



Absolute configuration

$C_{20}H_{24}N_2O_2$ M 324.422

Alkaloid from *Cinchona officinalis* and most other *C.* spp., also in *Remijia pedunculata*. Occurs mainly in the bark (cinchona bark) but has also been isol. from trunkwood (Rubiaceae). Traditional antimalarial drug, used in tonics and bitter drinks. Esp. important in treating *Plasmodium falciparum* which is resistant to other antimalarial drugs. Activity is stereochemistry-independent, i.e. racemates and stereoisomers show similar activity. Illicit abortifacient in large doses. Stimulant for horses, has been used in horse doping. Weak cardiac depressant and antifibrillatory agent. Resolving agent for organic acids, used in asymmetric syntheses. Used as 1% aq. soln. (as sulfate) for photometric detn. of Bi, W, As(*V*), P(*V*). Cryst. with v. bitter taste. Sol. H_2O, EtOH, C_6H_6, $CHCl_3$. Mp 177° (anhyd.). $[\alpha]_D$ −158° (−145°) (EtOH), $[\alpha]_D^{15}$ −158.7° (Et_2O). pK_a 4.3. Forms a dihydrate and a trihydrate, Mp 57°(efflorescent). Triboluminescent. Blue fluor. in soln.

▷ LD_{50} 115 mg/kg (mouse, i.p.). VA6020000.

B,HCl: [130-89-2].
Needles + $2H_2O$, dehydrating at 100°. Mp 158-160° (anhyd.). $[\alpha]_D^{15}$ −145.5° (EtOH).

B,2HCl: [60-93-5].
Needles. Mp 180-185°. $[\alpha]_D^{18}$ −233° (H_2O).

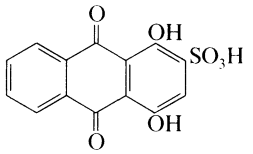
[6119-70-6]

Food Chemicals Codex, 2nd Ed., **II**, 690, 692 (*anal*)
Woodward, R.B. *et al*, *J. Am. Chem. Soc.*, 1945, **67**, 860 (*synth*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, NY, 1948, **4** (*use*)
Lyle, G.G. *et al*, *Tetrahedron*, 1967, **23**, 51, 3253 (*config, uv, ord, pmr*)
Fales, H.M. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 1590 (*ms*)
Battersby, A.R. *et al*, *J. Chem. Soc., Chem. Commun.*, 1971, 30, 31 (*biosynth*)
Chao, J.M. *et al*, *Anal. Chem.*, 1974, **46**, 296 (*ms*)
Moreland, C.G. *et al*, *J. Org. Chem.*, 1974, **39**, 2413 (*cmr*)
Haznagy, H. *et al*, *Pharmazie*, 1976, **31**, 713 (*ir*)
Grethe, G. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 589 (*synth*)
Hahn, F.E., *Antibiotics (N.Y.)*, 1979, **5**, 353 (*rev, pharmacol, tox*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 430.
Muhtadi, F.J. *et al*, *Anal. Profiles Drug Subst.*, 1983, **12**, 547 (*rev, uv, ir, pmr, cmr, ms, anal*)
Imanishi, T. *et al*, *Chem. Pharm. Bull.*, 1983, **31**, 1551 (*synth*)
Hofheinz, W. *et al*, *Handb. Exp. Pharmacol.*, 1984, **68**, 61 (*rev*)
Smith, E., *J. Chromatogr.*, 1984, **299**, 233 (*hplc*)
Prakash, O. *et al*, *Indian J. Chem., Sect. B*, 1988, **27**, 950 (*pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, QHJ000, QIJ000, QJJ100, QJS000, QMA000.

Quinizarin S Q-00006

9,10-Dihydro-1,4-dihydroxy-9,10-dioxo-2-anthracenesulfonic acid, 9CI. Quinizarin-2-sulfonic acid. 1,4-Dihydroxy-2-anthraquinonesulfonic acid. C.I. Pigment violet 5. Helio fast rubine 4BLA. Monosol fuchsine R. C.I. 58055

[145-48-2]



$C_{14}H_8O_7S$ M 320.279

Na salt: [22297-70-7].
Used as a 0.1% soln. in MeOH or H_2O as metallochromic indicator in titrimetric detn. of Al, Be, Fe, Th. Orange-red cryst. Sol. H_2O.

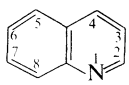
[33796-05-3]

Cucci, M.W. *et al*, *Anal. Chem.*, 1949, **21**, 1358 (*detn, Be*)
Owens, E.G. *et al*, *Anal. Chem.*, 1959, **31**, 384 (*detn, Al*)
Owens, E.G. *et al*, *Anal. Chim. Acta*, 1960, **23**, 321 (*detn, Th*)
Sangal, S.P. *et al*, *Chim. Anal. (Paris)*, 1964, **46**, 138 (*detn, Th*)
Joshi, D.P. *et al*, *J. Indian Chem. Soc.*, 1964, **41**, 33 (*detn, Fe*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

Quinoline Q-00007

1-Benzazine. 1-Azanaphthalene

[91-22-5]



C_9H_7N M 129.161

Occurs in coal tar and in "stupp" fat. Solv. for decarboxylations. Dehydrohalogenation reagent. Used for photometric detn. of Mo (λ_{max} 470 nm, ε 18000), gravimetric detn. of P(*V*); as a synergistic agent in extraction of Co. Liq. Mod. sol. H_2O. d_4^{20} 1.093. Fp −15.6°. Bp 238.05°, Bp_{17} 114°. n_D^{20} 1.6268. Hygroscopic, steam-volatile.

▷ Toxic. Emits toxic fumes on heating to dec. Hepatocarcinogen, mutagen. VA9275000.

B,HCl: [530-64-3].
Deliquescent prisms + $\frac{1}{2}$ H_2O. Mp 94°, Mp 134.5° (anhyd.).

B,H_2SO_4: Cryst. (EtOH or AcOH). Mp 163.5-164.5°.

B,MeCl: Cryst. + $1H_2O$ (EtOH). Mp 126°.

B,MeBr: Needles. Mp 70°.

B,MeI: Orange-red cryst. (EtOH). Mp 133°.

B,EtBr: Plates + $1H_2O$ (H_2O or EtOH). Mp 80°.

B,EtI: Yellow prisms (EtOH). Mp 158°.

Picrate: Yellow needles (C_6H_6). Mp 207-208°.

N-*CH_2Ph, nitrate salt:* [19801-99-1].
Used as a 0.8% soln. in HNO_3 for gravimetric detn. of Ce, Th. Cryst. (HNO_3). Mp 73-74°.

N-*Oxide:* [1613-37-2].
C_9H_7NO M 145.160
Needles + $2H_2O$. Mp 62°.
▷ VC2335000.

N-*Oxide, picrate:* Cryst. Mp 143°.

[5436-28-2, 26323-01-3, 27926-80-3]

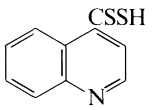
Kalinin, A.I. *et al*, *CA*, **80**, 127816c (*detn, P*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 356.
Markov, G.S. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 278; 1971, **26**, 1215 (*N-Benzyl, synth, detn, Th, Ce*)

Hideo, A. *et al*, *Nippon Kagaku Zasshi*, 1971, **92**, 1156; *CA*, **76**, 104508g (*detn, Co*)
Rao, V.P. *et al*, *Mikrochim. Acta*, 1975, 265 (*detn, Mo*)
Johns, S.R. *et al*, *Aust. J. Chem.*, 1976, **29**, 1617 (*cmr*)
Jones, G., *Chem. Heterocycl. Compd.*, 1977, **32**, 1 (*rev*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **19**, 532 (*rev*)
Attimonelli, M. *et al*, *Org. Magn. Reson.*, 1979, **12**, 17 (*pmr*)
Horino, H. *et al*, *Tetrahedron Lett.*, 1979, 2403 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, QMJ000.

4-Quinolinecarbodithioic acid, 9CI Q-00008

4-Quinolinedithiocarboxylic acid

[36779-25-6]



$C_{10}H_7NS_2$ M 205.304

Used for extraction-photometric detn. of Pt group metals. Cryst. Sol. alkalis.

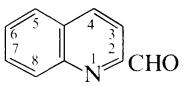
[76575-10-5]

Usklinge, Z. *et al*, *Latv. PSR Zinat. Akad. Vestis, Khim. Ser.*, 1979, 435; *CA*, **91**, 185811k (*use*)

2-Quinolinecarboxaldehyde, 9CI Q-00009

2-Formylquinoline. Quinaldehyde

[5470-96-2]



$C_{10}H_7NO$ M 157.171

Prisms or plates (pet. ether). Sol. EtOH, C_6H_6, spar. sol. H_2O. Mp 71°. Reduces NH_3, $AgNO_3$.

B,MeCl: Mp 148-149° dec.

B,MeI: Mp 177-178°.

Oxime: [1131-68-6].

$C_{10}H_8N_2O$ M 172.186

Used as EtOH soln. for photometric detn. of Pd, Re (λ_{max} 515 nm, in the presence of $SnCl_2$, 1*M* HCl). Needles. Sol. EtOH. Mp 189°.

Oxime; B,MeI: [83484-86-0].

Pale-yellow cryst. (H_2O). Mp 212-214°.

Semicarbazone: Mp 232-234° dec.

Thiosemicarbazone: [3608-81-9]. *2-Quinolinecarboxaldehyde thiosemicarbazone*

$C_{11}H_{10}N_4S$ M 230.293

Used as a 0.1% soln. in aq. DMF for extraction-photometric detn. of Ni (λ_{max} 460 nm, ε 15800, $CHCl_3$), Pd. Yellow cryst. Sol. DMF. Mp 234°.

Phenylhydrazone: [7727-09-5].

Yellow plates (EtOH). Prac. insol. H_2O, Et_2O. Mp 204°.

Dinitrophenylhydrazone: Yellow cryst. Mp 251-253°.

2-Pyridylhydrazone: see *2-Quinolinecarboxaldehyde 2-pyridylhydrazone, Q-00012*

2-Thiazolylhydrazone: see *2-Quinolinecarboxaldehyde 2-thiazolylhydrazone, Q-00016*

2-Benzothiazolylhydrazone: see *2-Quinolinecarboxaldehyde 2-benzothiazolylhydrazone, Q-00010*

2-Quinolylhydrazone: see *2-Quinolinecarboxaldehyde 2-quinolinylhydrazone, Q-00014*

8-Quinolylhydrazone: see *2-Quinolinecarboxaldehyde 8-quinolinylhydrazone, Q-00015*

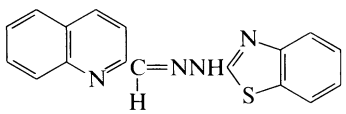
1-Phthalazinylhydrazone: see *2-Quinolinecarboxaldehyde 1-phthalazinylhydrazone, Q-00011*

2-Pyrimidinylhydrazone: see *2-Quinolinecarboxaldehyde 2-pyrimidinylhydrazone, Q-00013*

Hammick, D.L., *J. Chem. Soc.*, 1926, 1303.
Cooper, K.E. *et al*, *J. Chem. Soc.*, 1932, 723.
Kaplan, H., *J. Am. Chem. Soc.*, 1941, **63**, 2654.
Oi, N., *Nippon Kagaku Kaishi*, 1959, **80**, 1151 (*oxime, detn, Pd*)
Dutt, N.K. *et al*, *J. Inst. Chem. (India)*, 1974, **46**, 206; *CA*, **84**, 115450y (*oxime, detn, Re*)
Khasnis, D.V. *et al*, *Talanta*, 1979, **26**, 593 (*thiosemicarbazone, synth, use*)
Witiak, D.T. *et al*, *J. Org. Chem.*, 1986, **51**, 3237 (*deriv*)

2-Quinolinecarboxaldehyde 2-benzothiazolylhydrazone Q-00010

[3806-87-9]



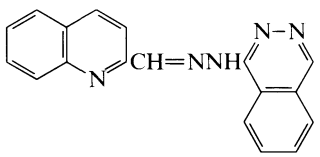
$C_{17}H_{12}N_4S$ M 304.375

Used as a 1m*M* soln. in EtOH as a metallochromic indicator for titrimetric detn. of Cu. Yellow cryst. Mp 278-280°.

Berger, S.A. *et al*, *Mikrochim. Acta*, 1974, 679 (*synth, use*)

2-Quinolinecarboxaldehyde 1-phthalazinylhydrazone, 9CI Q-00011

[16085-66-8]



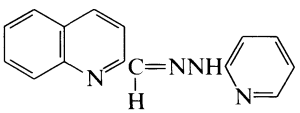
$C_{18}H_{13}N_5$ M 299.334

Used as $CHCl_3$ soln. for extraction-photometric detn. of Pd (λ_{max} 580 nm, ε 13700). Cryst. Sol. $CHCl_3$.

Otomo, M. *et al*, *Microchem. J.*, 1980, **25**, 75 (*synth, detn, Pd*)
Nakagawa, T. *et al*, *Analyst (London)*, 1985, **110**, 387 (*detn, Pd*)

2-Quinolinecarboxaldehyde 2-pyridylhydrazone Q-00012

[16085-59-9]



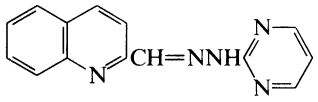
$C_{15}H_{12}N_4$ M 248.287

Used as a 1m*M* soln. in 0.01*M* HCl for extraction-photometric detn. of Cd, Cu, Ni (λ_{max} 541 nm, ε 70000, $CHCl_3$), Pd, Zn; fluorimetric detn. of Zn. Cryst. Mp 209°.

Zatka, V. *et al*, *Anal. Chim. Acta*, 1971, **54**, 65 (*detn, Cd, Cu, Ni, Pd, Zn*)
Ryan, D.E. *et al*, *Anal. Chim. Acta*, 1972, **58**, 101 (*synth, detn, Zn*)

2-Quinolinecarboxaldehyde 2-pyrimidinylhydrazone, 9CI Q-00013

[73568-98-6]



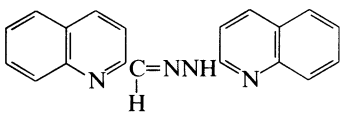
$C_{14}H_{11}N_5$ M 249.274

Used as a 5m*M* soln. in EtOH aq. for photometric detn. of Co (λ_{max} 453 nm, ε 29100), Cu(*I*) (λ_{max} 470 nm, ε 18100), Fe(*II*) (λ_{max} 488 nm, ε 6600), Ni (λ_{max} 467 nm, ε 49800). Cryst. (2-methoxyethanol). Sol. common org. solvents. Mp 247°.

Schilt, A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, use*)

2-Quinolinecarboxaldehyde 2-quinolinylhydrazone Q-00014

[23003-64-7]



$C_{19}H_{14}N_4$ M 298.346

Used as 0.5m*M* aq. soln. for photometric detn. of Cu (λ_{max} 536 nm, ε 47000); metallochromic indicator for titrimetric detn. of Cu. Yellow cryst. (Py). Sol. Py, EtOH, Me_2CO; insol. H_2O. Mp 268-270°.

[20267-58-7]

Jensen, R.E. *et al*, *Anal. Chem.*, 1968, **40**, 624 (*synth, detn, Cu*)
Sims, G.G. *et al*, *Anal. Chim. Acta*, 1969, **44**, 139 (*synth, detn, Cu*)

2-Quinolinecarboxaldehyde 8-quinolinylhydrazone, 9CI Q-00015

[82633-15-6]

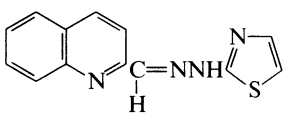
$C_{19}H_{14}N_4$ M 298.346

Used as a 0.01*M* soln. in acidified EtOH for photometric detn. of Cu(*I*) (λ_{max} 525 nm, ε 8200). Cryst. (EtOH). Sol. common org. solvents. Mp 125°.

Schilt, A.A. *et al*, *Talanta*, 1982, **29**, 338 (*synth, detn, Cu*)

2-Quinolinecarboxaldehyde 2-thiazolylhydrazone Q-00016

[3806-88-0]



$C_{13}H_{10}N_4S$ M 254.315

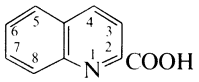
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Co (λ_{max} 500 nm, ε 27000), Cu(*I*) (λ_{max} 486 nm, ε 9600), Fe(*II*) (λ_{max} 512 nm, ε 16600), Ni (λ_{max} 498 nm, ε 44000). Cryst. (EtOH). Sol. common org. solvs. Mp 222°.

Schilt, A.A. *et al*, *Talanta*, 1980, **27**, 55 (*synth, use*)

2-Quinolinecarboxylic acid, 9CI Q-00017

Quinaldinic acid. Quinaldic acid

[93-10-7]



$C_{10}H_7NO_2$ M 173.171

Used for gravimetric detn. of Cd, Cu, Zn, Te. Needles + $2H_2O$ (H_2O). Sol. hot H_2O, C_6H_6; mod. sol. cold H_2O. Mp 157° (anhyd.). pK_a 4.92. Heat → quinoline.

▷ UZ9100000.

B,HCl: Mp 175-176°.

Me ester: [19575-07-6].
$C_{11}H_9NO_2$ M 187.198
Mp 86°.

Et ester: [4491-33-2].
$C_{12}H_{11}NO_2$ M 201.224
Needles. Mp 43-45°. $Bp_{0.03}$ 127-129°.

Chloride: [50342-01-3].
$C_{10}H_6ClNO$ M 191.616
Mp 175-176°, Mp 97° (dimorph.).

Amide: [5382-42-3]. *2-Quinolinecarboxamide. Quinaldinohydroxamic acid*
$C_{10}H_8N_2O$ M 172.186
Used for extraction-photometric detn. of V(*V*) (pH 4, isobutanol). Cryst. Spar. sol. Et_2O; sol. hot H_2O. Mp 133°.

Nitrile: [1436-43-7]. *2-Cyanoquinoline*
$C_{10}H_6N_2$ M 154.171
Needles. Sol. EtOH, C_6H_6, Et_2O. Mp 94°.

N-*Oxide:* [3297-64-1].
$C_{10}H_7NO_3$ M 189.170
Used as 0.01*M* MeOH soln. for photometric detn. of Fe(*III*) (λ_{max} 380 nm, ε 10300, $CHCl_3$). Needles (H_2O) or yellow cryst. (EtOH aq.). Sol. MeOH; spar. sol. Et_2O. Mp 171°, Mp 161-163°.

Hammick, D.L. *et al*, *J. Chem. Soc.*, 1929, 214 (*chloride*)
Taylor, T.W.J., *J. Chem. Soc.*, 1929, 1110 (*synth*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **2**, 210 (*synth, use*)
Ochiai, E., *J. Org. Chem.*, 1953, **18**, 534 (*synth*)
Dutta, R.L., *J. Indian Chem. Soc.*, 1959, **36**, 285, 339 (*amide, detn, V*)
Jones, G. *et al*, *Tetrahedron*, 1965, **21**, 2529 (*ester*)
Szafran, M. *et al*, *Pol. J. Chem.* (*Rocz. Chem.*), 1972, **46**, 1531 (*ir*)
Chaudhuri, A.H. *et al*, *Fresenius' Z. Anal. Chem.*, 1976, **281**, 361 (*oxide, synth, detn, Te*)
Gdaniec, M. *et al*, *Acta Crystallogr., Sect. B*, 1977, **33**, 3558 (*amide*)
Jones, R.C.F. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1990, 385 (*amide, synth, pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, QEA000.

8-Quinolinecarboxylic acid, 9CI Q-00018

[86-59-9]

$C_{10}H_7NO_2$ M 173.171

Used as 1% soln. in dil. NaOH for extraction-photometric detn. of Fe(*II*) (in the presence of Py, $CHCl_3$, pH 3-6). Needles (H_2O). Mp 187°.

Me ester: [40245-26-9].
$C_{11}H_9NO_2$ M 187.198
$Bp_{0.5}$ 129-131°.

Et ester: [25635-22-7].
$C_{12}H_{11}NO_2$ M 201.224
Mp 45°. Bp_{13} 194-197°, $Bp_{0.3}$ 145-155°.

Nitrile: [35509-27-4]. *8-Quinolinecarbonitrile, 9CI. 8-Cyanoquinoline*

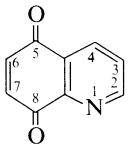
$C_{10}H_6N_2$ M 154.171
Mp 84°.

Elderfield, R.C. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 5626.
Zehner, J.M. *et al*, *Anal. Chim. Acta*, 1966, **35**, 135 (*detn, Fe*)

5,8-Quinolinedione, 9CI Q-00019

5,8-Quinolinequinone

[10470-83-4]



$C_9H_5NO_2$ M 159.144
Bright-yellow cryst. or greenish needles (EtOH). Mp 121-122° dec. V. unstable to alkali.

5-Oxime: [3565-26-2]. *8-Hydroxy-5-nitrosoquinoline*
$C_9H_6N_2O_2$ M 174.159
Used as EtOH soln. for photometric detn. of Zn (λ_{max} 620 nm). Needles (EtOH). Sol. EtOH. Mp 245° dec. (darkens at 220°).
▷ VC8237000.

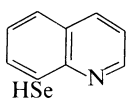
Dioxime:
$C_9H_7N_3O_2$ M 189.173
Used for extraction-photometric detn. of Co (λ_{max} 416 nm, ε 14800, 3-methyl-1-butanol). Cryst. Sol. common org. solvs. Mp >200° dec.

Long, R. *et al*, *J. Chem. Soc.*, 1953, 3919 (*synth*)
Pratt, Y.T. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 1155 (*synth*)
Munshi, J.F. *et al*, *J. Heterocycl. Chem.*, 1967, **4**, 133 (*props*)
Singh, R.B. *et al*, *Talanta*, 1979, **26**, 425 (*dioxiline, detn, Co*)
Mori, I. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1980, **29**, 723 (*detn, Zn*)
Cameron, D.W. *et al*, *Aust. J. Chem.*, 1982, **35**, 1439 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, NLR000.

8-Quinolineselenol, 9CI Q-00020

8-Selenoquinoline. Selenoxine

[16396-64-8]



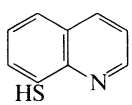
C_9H_7NSe M 208.121
Analytical props. similar to those of oxine and thiooxine. Used as $CHCl_3$ soln. for extraction-separation of metals. Red-brown needles (EtOH). Sol. $CHCl_3$, C_6H_6, EtOH. Mp 73.5-74.5°. pK_{a1} 0.12; pK_{a2} 8.50 (dioxan aq.). Forms insol. chelates with many metals.

Sekido, E. *et al*, *Anal. Chem.*, 1963, **35**, 1550; 1964, **36**, 1768; 1965, **37**, 1556 (*synth, use*)
Nakamura, N. *et al*, *Talanta*, 1970, **17**, 515 (*props*)
Sekido, E. *et al*, *Talanta*, 1972, **19**, 479, 647 (*synth*)
Mido, Y. *et al*, *J. Inorg. Nucl. Chem.*, 1974, **36**, 537 (*ir*)

8-Quinolinethiol, 9CI Q-00021

8-Mercaptoquinoline. Thiooxine

[491-33-8]



C_9H_7NS M 161.227
Used as $CHCl_3$ soln. for extraction sepn. of Au, Tl, Ir, Mn; extraction-photometric detn. of Cu, Mo, Sn, Bi, Sb (ε 5000-9000). Cryst. Sol. $CHCl_3$, CCl_4, C_6H_6, 1,2-dichloroethane, MeOH, DMF. Mp 58-59°.

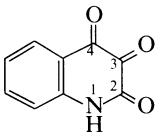
S-*Et:*
$C_{11}H_{11}NS$ M 189.281
Needles. Mp 51°.

Corsini, A. *et al*, *Anal. Chem.*, 1963, **35**, 1424 (*props*)
Magee, R.J. *et al*, *Anal. Chim. Acta*, 1963, **29**, 27 (*detn, Mo*)
Lee, H.S., *Can. J. Chem.*, 1963, **41**, 1646 (*synth*)
Bankovski, Yu.A. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 668.
Demina, L.A. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 593 (*detn, Au*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 377 (*use*)

2,3,4(1*H*)-Quinolinetrione, 9CI Q-00022

1,2,3,4-Tetrahydroquinoline-2,3,4-trione. 3,4-Dihydro-3,4-dioxocarbostyril. Quinisatin

[3565-42-2]



$C_9H_5NO_3$ M 175.143
Quinisatin and its *N*-substituted derivs. readily form hydrates (3,3-dihydroxy-1*H*-quinolin-2,4-diones) with water. Prepared by heating hydrate *in vacuo*. Red solid. Mp 270-274° dec.

Hydrate: [3568-33-0]. *3,3-Dihydroxy-2,4(1*H*,3*H*)-quinolinedione, 9CI*
$C_9H_7NO_4$ M 193.159
Yellow needles or prisms (H_2O). Dec. at 120-5°, losing H_2O.

1-Me: [2291-40-9].
$C_{10}H_7NO_3$ M 189.170
Red prisms (xylene). Mp 236°. Forms hydrate (pale-yellow cryst.).

1-Benzyl:
$C_{16}H_{11}NO_3$ M 265.268
Red cryst. (xylene). Mp 135°. Forms hydrate (yellow plates).

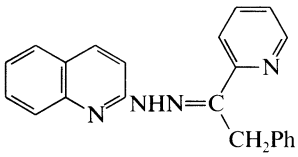
1-Ph: [2291-38-5].
$C_{15}H_9NO_3$ M 251.241
Red cryst. (xylene). Mp 215°. Forms hydrate (pale-yellow prisms).

3-Oxime: [36412-06-3].
$C_9H_6N_2O_3$ M 190.158
Used as 1.5m*M* soln. in DMF/MeOH for photometric detn. of Os (λ_{max} 515 nm). Orange prisms (EtOH). Sol. MeOH, DMF. Mp 208° dec.

Baeyer, A. *et al*, *Ber.*, 1883, **16**, 2216 (*synth*)
Hardman, R. *et al*, *J. Chem. Soc.*, 1954, 3878 (*oxime, synth*)
Ayres, G.H. *et al*, *Anal. Chim. Acta*, 1962, **26**, 340 (*oxime, detn, Os*)
Wittmann, H., *Monatsh. Chem.*, 1965, **96**, 523 (*derivs*)
Kappe, T. *et al*, *Monatsh. Chem.*, 1968, **99**, 2157 (*synth*)
Regitz, M. *et al*, *Justus Liebigs Ann. Chem.*, 1969, **723**, 47 (*synth*)
Eistert, B. *et al*, *Chem. Ber.*, 1973, **106**, 1537 (*derivs*)

2(1*H*)-Quinolinone [2-phenyl-1-(2-pyridinyl)ethylidene]hydrazone, 9CI Q-00023

[86486-16-0]



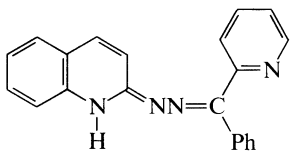
$C_{22}H_{18}N_4$ M 338.411

Used as 0.5m*M* EtOH soln. for fluorimetric detn. of Zn (λ_{max} 535 nm, 80% EtOH, pH 10.5-13). Brown cryst. (EtOH). Sol. EtOH. Mp 140°.

Santiago, M. *et al*, *Mikrochim. Acta*, 1983, **2**, 197 (*synth, detn, Zn*)

2(1*H*)-Quinolinone (phenyl-2-pyridinylmethylene)hydrazone, 9CI Q-00024

[35896-24-3]



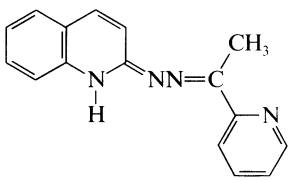
$C_{21}H_{16}N_4$ M 324.384

Used as a 0.01*M* soln. in acidified EtOH for photometric detn. of Co (λ_{max} 517 nm, ε 33900), Cu(*I*), Fe(*II*), Ni, Zn (λ_{max} 475 nm, ε 51700). Cryst. (C_6H_6). Sol. common org. solvs. Mp 193°.

Schilt, A.A. *et al*, *Talanta*, 1982, **29**, 338 (*synth, use*)

2(1*H*)-Quinolinone [1-(2-pyridinyl)ethylidene]hydrazone, 9CI Q-00025

[70845-34-0]



$C_{16}H_{14}N_4$ M 262.313

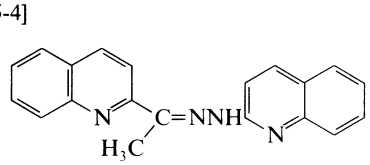
Used as a 0.01*M* soln. in acidified EtOH for photometric detn. of Co (λ_{max} 495 nm, ε 30700), Cu(*I*), Fe(*II*), Ni, Zn (λ_{max} 450 nm, ε 36400). Cryst. (EtOH). Sol. common org. solvs. Mp 148°.

Schilt, A.A. *et al*, *Talanta*, 1982, **29**, 338 (*synth, use*)

2(1*H*)-Quinolinone [1-(2-quinolinyl)ethylidene]hydrazone, 9CI Q-00026

(2-Quinolyl)methyl-N-*2-quinolylhydrazone*

[82633-05-4]



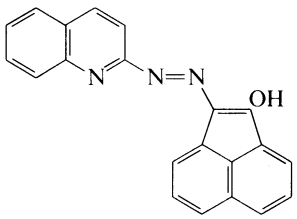
$C_{20}H_{16}N_4$ M 312.373

Used as a 0.01*M* EtOH soln. for photometric detn. of Ni (λ_{max} 512 nm, ε 20700, pH 7), Co (λ_{max} 506 nm, ε 8500), Zn, Cu(*I*). Cryst. (EtOH). Sol. EtOH. Mp 175°.

Schilt, A.A. *et al*, *Talanta*, 1982, **29**, 338 (*synth, use*)

2-(2-Quinolinylazo)-1-acenaphthylenol, 9CI Q-00027

[51278-49-0]



$C_{21}H_{13}N_3O$ M 323.353

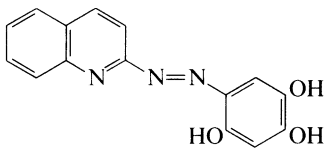
Used as CCl_4 soln. or 1m*M* MeOH soln. for extraction-photometric detn. of Zn (λ_{max} 540 nm, ε 88000, pH 7-11), Cd, Hg(*II*). Brown cryst. Sol. CCl_4, $CHCl_3$, MeOH. Mp 195°.

Mehta, Y.L. *et al*, *Curr. Sci.*, 1974, **43**, 11 (*synth*)
Singh, I. *et al*, *Talanta*, 1976, **23**, 617 (*use*)

5-(2-Quinolinylazo)-1,2,4-benzenetriol, 9CI Q-00028

1-(2-Quinolylazo)-2,4,5-trihydroxybenzene. 2-(2,4,5-Trihydroxyphenylazo)quinoline

[89631-83-4]



$C_{15}H_{11}N_3O_3$ M 281.270

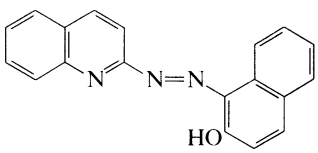
Used as 2m*M* EtOH soln. for photometric detn. of Mn (λ_{max} 560 nm, ε 46000). Cryst. Sol. EtOH, MeOH.

Singh, I. *et al*, *Talanta*, 1984, **31**, 109 (*synth, detn, Mn*)

1-(2-Quinolinylazo)-2-naphthalenol, 9CI Q-00029

1-(2-Quinolylazo)-2-naphthol. 2-(2-Hydroxy-1-naphthylazo)quinoline

[39101-26-3]



$C_{19}H_{13}N_3O$ M 299.331

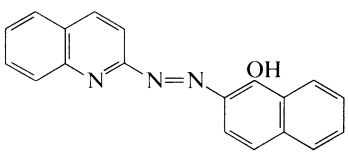
Used as 0.035% $CHCl_3$ soln. for extraction-photometric detn. of Sb(*III*) (λ_{max} 625 nm, in the presence of iodide). Red cryst. powder (Me_2CO). Sol. Me_2CO, $CHCl_3$, EtOH, C_6H_6. Mp 137-139° dec.

Rakhmatullaev, K. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 1793 (*synth, detn, Sb*)

2-(2-Quinolinylazo)-1-naphthalenol, 9CI Q-00030

2-(2-Quinolylazo)-1-naphthol. 2-(1-Hydroxy-2-naphthylazo)quinoline

[35841-55-5]



$C_{19}H_{13}N_3O$ M 299.331

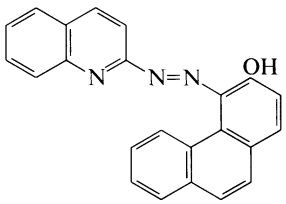
Used as 0.1m*M* EtOH soln. for extraction-photometric detn. of Cu (λ_{max} 610 nm, ε 47500), Zn (λ_{max} 624 nm, ε 49300); gives colour reactions with Ni, Co, Fe(*II*), Cd, Hg, Pd, Pb, U(*VI*). Cryst. (dioxan). Sol. dioxan, EtOH. Mp 224-225°. pK_{a1} 2.65 (dioxan).

Kawase, A., *Anal. Chim. Acta*, 1972, **58**, 311 (*synth, use*)

1-(2-Quinolinylazo)-2-phenanthrenol, 9CI Q-00031

2-(2-Hydroxy-1-phenanthrylazo)quinoline

[36531-92-7]



$C_{23}H_{15}N_3O$ M 349.391

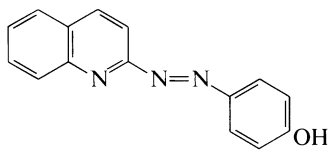
Used as a 0.01*M* soln. in dioxan for extraction-photometric detn. of Cu (λ_{max} 590 nm, ε 38400, $CHCl_3$); metallochromic indicator for titrimetric detn. of Cu, Co, Hg; photometric detn. of Co (λ_{max} 550 nm, ε 51200). Orange-red cryst.

Virmani, R.N. *et al*, *Fresenius' Z. Anal. Chem.*, 1972, **258**, 125; **260**, 289 (*titr detn, Cu, Hg*)
Virmani, R.N. *et al*, *Indian J. Chem.*, 1972, **10**, 225 (*phot detn, Cu*)
Virmani, R.N. *et al*, *J. Prakt. Chem.*, 1972, **314**, 965 (*detn, Co*)

4-(2-Quinolinylazo)phenol, 9CI Q-00032

4-(2-Quinolylazo)phenol. 2-(4-Hydroxyphenylazo)quinoline

[76019-74-4]



$C_{15}H_{11}N_3O$ M 249.271

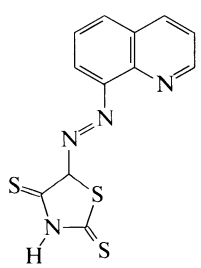
Used as 1m*M* EtOH soln. for photometric detn. of Cu (λ_{max} 535 nm, ε 83000), Ag, Pd, Os, Au(*III*); indirect detn. of $I^{\ominus}$. Dark red cryst. Sol. EtOH, MeOH.

Barua, S. *et al*, *Analyst (London)*, 1980, **105**, 996; 1981, **106**, 798 (*synth, detn, Ag, $I^{\ominus}$*)
Barua, S. *et al*, *J. Indian Chem. Soc.*, 1983, **60**, 64 (*detn, Cu*)
Singh, I. *et al*, *Bull. Chem. Soc. Jpn.*, 1989, **62**, 1316 (*detn, Pd, Os, Au*)

5-(8-Quinolinylazo)-2,4-thiazolidinedithione, 9CI Q-00033

Quinoline-8-azothiorhodanine

[36576-00-8]



$C_{12}H_8N_4S_3$ M 304.420

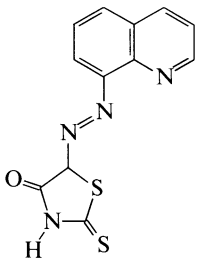
Used as EtOH soln. for photometric detn. of Pt(*II*). Red cryst. powder. Sol. EtOH, DMF.

Basargin, N.N., *Zavod. Lab.*, 1972, **38**, 260 (*synth, detn, Pt*)

5-(8-Quinolinylazo)-2-thioxo-4-thiazolidinone, 9CI Q-00034

Quinoline-8-azorhodanine

[36575-99-2]



$C_{12}H_8N_4OS_2$ M 288.353

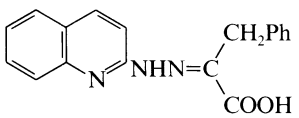
Used as EtOH soln. for photometric detn. of Pt(*II*) (λ_{max} 500 nm, ε 12000). Brown cryst. powder. Sol. EtOH, DMF.

Basargin, N.N., *Zavod. Lab.*, 1972, **38**, 260 (*synth, detn, Pt*)

α-(2-Quinolinylhydrazono)benzenepropanoic acid, 9CI Q-00035

Phenylpyruvic acid 2-quinolylhydrazone

[53519-80-5]



$C_{18}H_{15}N_3O_2$ M 305.335

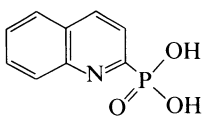
Used as EtOH soln. for photometric detn. of Cu (λ_{max} 450 nm, ε 31500). Cryst. Sol. EtOH. Mp 240°.

Katyal, M. *et al*, *J. Indian Chem. Soc.*, 1974, **51**, 576 (*synth, use*)

2-Quinolinylphosphonic acid, 9CI Q-00036

2-Quinolylphosphonic acid, 8CI. 2-Quinolinephosphonic acid

[14646-14-1]



$C_9H_8NO_3P$ M 209.141

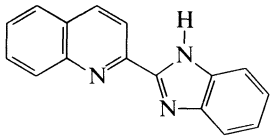
Used as a 1% soln. in dil. NaOH for gravimetric detn. of Cd. Cryst. (hot H_2O). Mp 200°, Mp 348-350°. Forms a monohydrate.

Burger, A. *et al*, *J. Org. Chem.*, 1955, **20**, 1383 (*synth*)
Sympson, R.F. *et al*, *Anal. Chem.*, 1967, **39**, 262 (*detn, Cd*)
Sheinkman, A.K. *et al*, *Zh. Obshch. Khim.*, 1970, **40**, 700; *J. Gen. Chem. USSR (Engl. Transl.)*, 671 (*synth, ir*)
Sheinkman, A.K. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 169), 1971, **196**, 1377 (*synth*)
U.S. Pat., 3 888 626, (1973); *CA*, **83**, 97569 (*synth, use*)

2-(2-Quinolyl)benzimidazole, 8CI Q-00037

2-(2-Benzimidazolyl)quinoline

[14044-48-5]

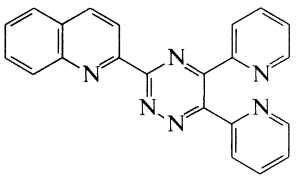


$C_{16}H_{11}N_3$ M 245.283

Used as 5m*M* soln. in EtOH aq. for photometric detn. of Cu(*I*) (λ_{max} 483 nm, ε 3600), Fe(*II*). Cryst. (C_6H_6). Sol. common org. solvents. Mp 220-221°.

Case, F.H., *J. Heterocycl. Chem.*, 1967, **4**, 157 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 1055 (*detn, Cu, Fe*)

3-(2-Quinolyl)-5,6-bis(2-pyridyl)-1,2,4-triazine Q-00038

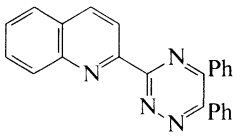


$C_{22}H_{14}N_6$ M 362.393

Used as 0.01*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 589 nm, ε 9200), Cu(*I*) (λ_{max} 547 nm, ε 6200). Cryst. (DMF aq.). Sol. EtOH, DMF; sl. sol. H_2O. Mp 176-177°.

Case, F.H., *J. Org. Chem.*, 1965, **30**, 931 (*synth*)
Schilt, A.A., *Talanta*, 1966, **13**, 895 (*detn, Fe*)

3-(2-Quinolyl)-5,6-diphenyl-1,2,4-triazine Q-00039



$C_{24}H_{16}N_4$ M 360.417

Used as 0.01*M* soln. in EtOH for photometric detn. of Cu(*I*) (λ_{max} 512 nm, ε 6400). Cryst.(Me_2CO). Sol. Me_2CO, EtOH. Mp 188-189°.

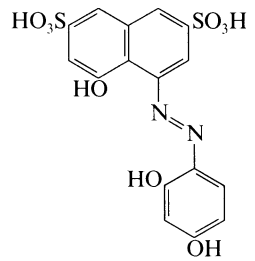
Case, F.H., *J. Org. Chem.*, 1965, **30**, 931 (*synth*)
Schilt, A.A., *Talanta*, 1966, **13**, 895 (*use*)

R

H-Resorcine R-00001

4-[(2,4-Dihydroxyphenyl)azo]-5-hydroxy-2,7-naphthalenedisulfonic acid, 9CI

[3627-01-8]



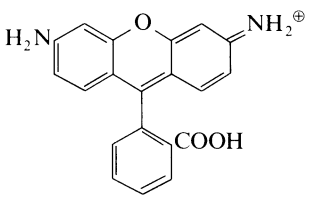
$C_{16}H_{12}N_2O_9S_2$ M 440.411

Used as a 0.05-0.1% aq. soln. to give colour reactions with Be, Co, Ni, Zn; photometric detn. of B (ε 11000), Be. Cryst.

Kuznetsov, V.I., *Zh. Anal. Khim.*, 1955, **10**, 276 (*detn, Be, Co, Ni, Zn*)
Nodirova, D.A. *et al*, *CA*, 1976, **85**, 153463h (*detn, B*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 2101; 1984, **39**, 35 (*synth, detn, B*)
Flyantikova, G.V. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 1982 (*detn, B*)

Rhodamine 110 R-00002

2-(6-Amino-3-imino-3H-xanthen-9-yl)benzoic acid, 9CI. Rhodamine 560



$C_{20}H_{15}N_2O_3^{\oplus}$ M 331.350 (ion)

The dyestuff is usually the hydrochloride (i.e. chloride of the conjugate base illus.). Dye used in tunable lasers. λ_{max} (untuned emission) 570 nm.

N,N,N′,N′-*Tetra-Et, chloride:* [81-88-9]. *Rhodamine B.* N-[[9-(*2-Carboxyphenyl*)-*6-diethylamino*]-3H-*xanthen-3-ylidene*]-N-*ethylethanaminium*(*1+*), *9CI.* [9-(o-*Carboxyphenyl*)-*6*-(*diethylamino*)-3H-*xanthen-3-ylidene*] *diethylammonium, 8CI. C.I. Basic violet 10. C.I. Food red 15. C.I. Solvent red 49. Pilot 578. Rhodamine 610. Tetraethylrhodamine. C.I. 45170*

$C_{28}H_{31}ClN_2O_3$ M 479.017

Dye with numerous uses (cosmetics, drugs, fluorescent inks, lasers). Used for extraction-photometric detn. of Sb (λ_{max} 552 nm, ε 97000), Bi, Zn, Cd, Ga, Sn, In, Tl(*III*), Re, Au(*III*), Hg, Pd, Pt, U, Zr, $PO_4^{3\ominus}$; fluorescent redox indicator. Violet cryst. powder. Sol. H_2O, EtOH; sl. sol. Me_2CO. Forms red aq. soln. with strong orange-yellow fluorescence.

N,N,N′,N′-*Tetra-Et, Et ester, chloride:* [2390-63-8]. *Ethylrhodamine B. C.I. 45175*

$C_{30}H_{35}ClN_2O_3$ M 507.071

Used for extraction-photometric detn. of Ta, Co, Zr. Red-violet cryst. (H_2O).

N,N,N′,N′-*Tetra-Et, butyl ester, chloride:* [3571-37-7]. *Butylrhodamine B.* N-[9-[2-(*Butoxycarbonyl*)*phenyl*]-6-(*diethylamino*)-3H-*xanthen-3-ylidene*]-N-*ethylethanaminium chloride, 9CI*

$C_{32}H_{39}ClN_2O_3$ M 535.124

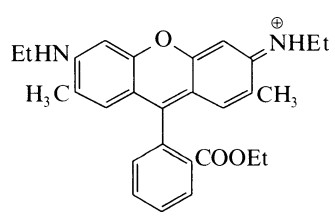
Used for extraction-photometric detn. of Sb(*V*), As(*V*), Au (ε 130000), Ga, In, Pb, Re, Ta, Te, U, Hg, $I^{\ominus}$, $PO_4^{3\ominus}$. Dark red-brown cryst. Sol. H_2O; insol. C_6H_6.

[14899-08-2, 64381-98-2]

Kuznetsov, V.I., *Dokl. Akad. Nauk SSSR, Ser. Khim.*, 1946, **52**, 231 (*synth, butylrhodamine B*)
Onishi, H. *et al*, *Anal. Chim. Acta*, 1954, **11**, 44 (*detn, Sb*)
Ramette, R.W. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 4872.
Kuznetsov, V.I., *Zh. Anal. Khim.*, 1960, **15**, 523 (*synth, butylrhodamine B*)
Makarova, S.V. *et al*, *Zh. Anal. Khim.*, 1964, **19**, 564, 847 (*Ethylrhodamine B*)
Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 514; 1977, **32**, 1942 (*butylrhodamine B, detn, Sb, Hg*)
Mitssel, Y.A. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 596 (*Ethylrhodamine B*)
Lebedeva, S.P. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1403 (*detn, Re*)
Rochat, J. *et al*, *Analusis*, 1976, **4**, 267 (*props*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976, 141, 284, 301, 566 (*use*)
Kauffman, J.M., *Appl. Opt.*, 1980, **19**, 3431 (*bibl, use*)
Alimarin, I.P. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 855 (*butylrhodamine B, detn, U*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 1652 (*butylrhodamine B, detn, As*)
Skripchuk, V.G. *et al*, *Zavod. Lab.*, 1983, **49**, 1 (*butylrhodamine B, detn, Te*)
Sjoberg, A.M. *et al*, *J. Chromatogr.*, 1985, **318**, 149 (*hplc, chromatog*)
Takayanagi, M. *et al*, *Appl. Spectrosc.*, 1986, **40**, 1132 (*raman*)
Ballard, J.M. *et al*, *Org. Mass Spectrom.*, 1986, **21**, 575 (*ms*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, New York, 4th Ed., 1986, 93, 578, 637; *Part IIb: Individual Metals. Magnesium to Zinc*, John Wiley, New York, 4th Ed., 1989, 424.
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 141, 284, 301, 566 (*use*)
Hinckley, D.A. *et al*, *Spectrochim. Acta, Part A*, 1986, **42**, 747 (*uv*)
Wegener, J.W. *et al*, *Chromatographia*, 1987, **24**, 865 (*hplc, uv*)
Chalmers, J.H. *et al*, *J. Chem. Educ.*, 1987, **64**, 969 (*props*)
Ernsting, N.P. *et al*, *Chem. Phys.*, 1988, **122**, 431 (*spectra*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FAG070.

Rhodamine 590 R-00003

Rhodamine 6G. C.I. Basic red 1. C.I. 45160. Several other synonyms



$C_{28}H_{31}N_2O_3^{\oplus}$ M 443.564 (ion)

Strictly, the name Rhodamine 590 applies to the chloride.

Chloride: [989-38-8].

$C_{28}H_{31}ClN_2O_3$ M 479.017

Used as 0.05% aq. soln. for extraction-photometric detn. of As(*V*), Sb(*V*), Bi, Ge, Sn, P(*V*), Ga, In, Hg, Ta, Te, Ni, Co; flotation-photometric detn. of Pt (λ_{max} 530 nm, ε 280000), Pd, Os, Ru, Ir. Dye used in tunable lasers. Biological stain. Bluish-pink cryst. powder. Sol. H_2O, EtOH. λ_{max} (untuned emission) 590 nm.

▷ Experimental teratogen. DH0175000.

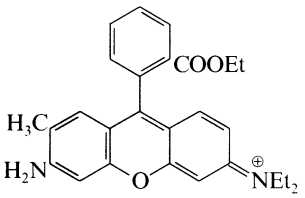
Perchlorate: [13161-28-9]. *Pilot 559P*

$C_{28}H_{31}ClN_2O_7$ M 543.015

Kauffman, J.M., *Appl. Opt.*, 1980, **19**, 3431 (*bibl, use*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982 (*props, use*)
Nazarenko, V.A. *et al*, 1983, **38**, 1251 (*detn, As*)
Marczenko, Z. *et al*, *Anal. Chim. Acta*, 1983, **153**, 219 (*detn, Pt*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 323 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, RGW000.

Rhodamine 3G0 R-00004

N-[*6-Amino-9-[2-(ethoxycarbonyl)phenyl]-7-methyl-3*H-*xanthen-3-ylidene*]-N-*ethylethanaminium*(*1+*), *9CI. Basic red 4. C.I. 45215*



$C_{27}H_{29}N_2O_3^{\oplus}$ M 429.538 (ion)

Chloride: [3068-40-4].

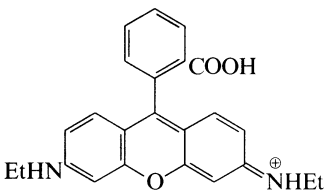
$C_{27}H_{29}ClN_2O_3$ M 464.990

Used as 1m*M* aq. soln. for extraction-fluorimetric detn. of Te, Ga, In (C_6H_6). Violet cryst. powder. Sol. H_2O, EtOH.

Zorov, N.B. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1466.
Khvatkova, A.P. *et al*, *Vestn. Mosk. Univ., Ser. 2: Khim.*, 1972, **13**, 355; *CA*, **77**, 134673v (*detn, Te*)

Rhodamine G R-00005

9-(2-Carboxyphenyl)-3,6-bis(ethylamino)xanthylium(*1+*). *C.I. Basic red 8. C.I. 45150*



$C_{24}H_{23}N_2O_3^{\oplus}$ M 387.457 (ion)

Strictly the name Rhodamine G applies to the chloride.

Chloride: [2768-89-0].

$C_{24}H_{23}ClN_2O_3$ M 422.910

Used as 1m*M* aq. soln. for extraction-photometric detn. of Sb (λ_{max} 530 nm, ε 100000, C_6H_6), Bi. Dark red cryst. (MeOH). Sol. H_2O; sl. sol. EtOH.

Et ester, chloride: [6359-21-3]. *Rhodamine 4G*

$C_{26}H_{27}ClN_2O_3$ M 450.964

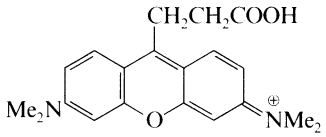
Basic dye. Used as 1m*M* aq. soln. for extraction-photometric detn. of Ga (as $GaCl_4^{\ominus}$ C_6H_6); extraction-fluorimetric detn. of Te, Ga, In (C_6H_6). Violet cryst. powder. Sol. H_2O, EtOH.

Golovina, A.P. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 2242 (*detn, Ga*)
Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 514 (*detn, Sb*)
Zorov, N.B. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 1466.
Khvatkova, Z.M. *et al*, *Vestn. Mosk. Univ., Ser. 2: Khim.*, 1972, **13**, 355; *CA*, **77**, 134673v (*detn, Te*)
Shestidesatnaya, N.L., *Ukr. Khim. Zh. (Russ. Ed.)*, 1975, **41**, 84 (*detn, Bi*)

Rhodamine S R-00006

N-[*9-(2-Carboxyethyl)-6-(dimethylamino)-3*H-*xanthen-3-ylidene*]-N-*methylmethanaminium*(*1+*). *Succinylrhodamine. C.I. Basic red 11. C.I. 45050*

[72968-14-0]



$C_{20}H_{23}N_2O_3^{\oplus}$ M 339.413 (ion)

Chloride:

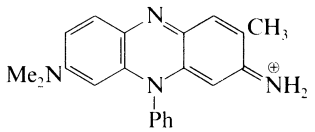
$C_{20}H_{23}ClN_2O_3$ M 374.866

Used as 0.05% soln. in dil. HCl for photometric detn. of Sb(*V*). Red powder. Brown needles with golden iridescence. Sol. H_2O, acids; sl. sol. EtOH. Mp 225-230°.

Dutt, S. *et al*, *J. Chem. Soc.*, 1924, **125**, 2524 (*synth*)
Jabalonski, W.E. *et al*, *Analyst (London)*, 1970, **95**, 131.

Rhoduline violet R-00007

3-Amino-7-(dimethylamino)-2-methyl-5-phenylphenazinium(*1+*), *9CI*



$C_{21}H_{21}N_4^{\oplus}$ M 329.424 (ion)

Basic phenazine dye. Strictly the name Rhoduline violet applies to the chloride salt.

Chloride: [16508-73-9].

$C_{21}H_{21}ClN_4$ M 364.876

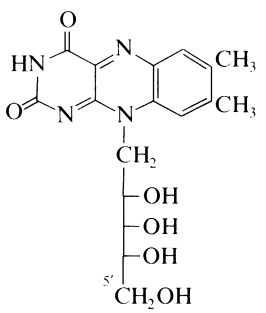
Used as 0.4m*M* aq. soln. for extraction-photometric detn. of Sb(*V*) (λ_{max} 552 nm, ε 55000, C_6H_6/2-butanone, 1*M* HCl). Brown-violet cryst. (EtOH aq.). Sol. H_2O, EtOH.

Tautkus, S.A. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 1239 (*detn, Sb*)

Riboflavine, 9CI, INN R-00008

1-Deoxy-1-(3,4-dihydro-7,8-dimethyl-2,4-dioxobenzo[g]*pteridin-10*(2H)*-yl)-*D*-ribitol, 9CI. Flavaxin. Lactoflavine. Ovoflavine. Vitamin B_2. Vitamin G. Russupteridine yellow III. Other synonyms*

[83-88-5]



$C_{17}H_{20}N_4O_6$ M 376.368

Widely distributed, but occurs in free form only in the

retina, in whey and in urine. Main forms occurring in tissues and cells are flavine mononucleotide and flavine-adenine dinucleotide. Vitamin cofactor. Used as adsorption indicator in titrimetric detn. of Ag. Orange needles. Sol. EtOH; spar. sol. H_2O. Mp 280° dec. $[\alpha]_D$ −9.8° (H_2O), $[\alpha]_D$ −125° (20*N* NaOH). λ_{max} 220, 265, 365 and 455 nm (H_2O). Green fluor. in soln.

▷ VJ1400000.

5′-Phosphate: [146-17-8]. *Riboflavine 5′-(dihydrogen phosphate), 9CI. Flavin mononucleotide. Lactoflavin phosphate. Monophosphoriboflavin. Riboflavin monophosphate. Vitamin B_2 phosphate. FMN*
The prosthetic group of various flavine enzymes. Enzyme co-factor, vitamin. Yellow cryst. ($2H_2O$). λ_{max} 530 nm. Tends to isomerise to isomeric phosphates.

▷ VJ1350000.

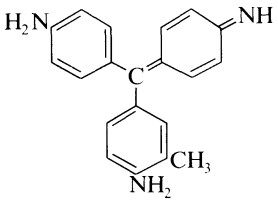
[130-40-5, 129569-92-2, 129569-93-3]

Viscontini, M. *et al*, *Helv. Chim. Acta*, 1952, **35**, 457 (*synth, phosphate*)
Kotaki, A. *et al*, *J. Vitaminol.*, 1968, **14**, 247 (*synth, tetranicotinate*)
Tanaka, N. *et al*, *Bull. Chem. Soc. Jpn.*, 1969, **42**, 1546 (*cryst struct*)
Paterson, T. *et al*, *J. Chem. Soc., Chem. Commun.*, 1969, 290 (*biosynth*)
Beach, R. *et al*, *Tetrahedron Lett.*, 1969, 3489 (*synth*)
Kainosho, M. *et al*, *Biochemistry*, 1972, **11**, 741 (*P-31 nmr, phosphate*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, no. 2610 (*occur*)
McCormick, D.A., *J. Heterocycl. Chem.*, 1974, **11**, 969.
Yagi, K. *et al*, *Biochemistry*, 1976, **15**, 2877 (*N-15 nmr*)
Yoneda, F., *J. Am. Chem. Soc.*, 1976, **98**, 830 (*synth*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **24**, 108 (*rev, synth*)
Holmgren, A., *Experientia*, 1980, **36**, 149 (*rev, FAD*)
Walt, D.R. *et al*, *J. Am. Chem. Soc.*, 1980, **102**, 7805 (*synth, 5′-phosphate*)
Merrill, A.H. *et al*, *Methods Enzymol.*, 1980, **66**, 287 (*phosphate, synth*)
Brown, G.M. *et al*, *Adv. Enzymol. Relat. Areas Mol. Biol.*, 1982, **53**, 345 (*rev, biosynth*)
Bacher, A. *et al*, *J. Am. Chem. Soc.*, 1982, **104**, 3754 (*biosynth*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7841-7844.
Keller, P.J. *et al*, *Tetrahedron*, 1983, **39**, 3471 (*biosynth*)
Ulrich, E.L. *et al*, *Tetrahedron Lett.*, 1983, **24**, 473 (*pmr*)
Moonen, C.T. *et al*, *Biochemistry*, 1984, **23**, 4859 (*pmr, cmr, conformn, tetraacetate, 5′-phosphate*)
Cooperman, J.M. *et al*, *Food Sci. Technol.*, 1984, **13**, 299 (*rev, metab, props*)
Nielsen, P. *et al*, *Methods Enzymol.*, 1986, **122**, 209 (*synth, phosphates*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 4425, 4473, 7551.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, RIF500, RIK000.

Rosaniline R-00009

4-[(4-Aminophenyl)(4-imino-2,5-cyclohexadien-1-ylidene) methyl]-2-methylbenzenamine, 9CI. C.I. Basic Violet 14. Basic magenta. C.I. 42510

[3248-93-9]



$C_{20}H_{19}N_3$ M 301.390

Used as a dye or in the manuf. of dyestuffs. Possesses antifungal props. Brown-red cryst. Dec. at 186°.

▷ ZE9705000.

B,HCl: [632-99-5]. *Fuchsine. Magenta I*
Used as aq. soln. for extraction-photometric detn. of $Br^{\ominus}$, Re(*VII*). Biological stain. Commercially available. Used as a 1m*M* aq. soln. for extraction-photometric detn. of Au (λ_{max} 555 nm, ε 88000, C_6H_6/cyclohexanone). Metallic green cryst. Mp 250° dec. Dec. >200°.

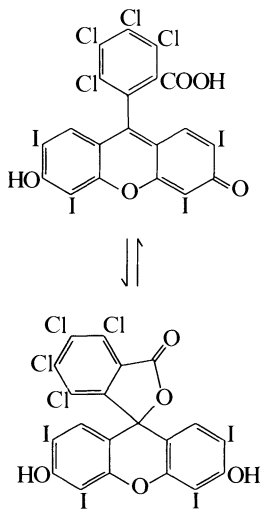
▷ Toxic. CX9855000.

Fischer, E. *et al*, *Ber.*, 1880, **13**, 2204 (*synth*)
Scanlan, J.T., *J. Am. Chem. Soc.*, 1935, **57**, 887 (*synth*)
Michaelis, L. *et al*, *J. Am. Chem. Soc.*, 1943, **67**, 1212 (*struct*)
Hunter, G. *et al*, *Analyst (London)*, 1954, **79**, 467 (*detn, Br*)
Beyermann, K., *Fresenius' Z. Anal. Chem.*, 1961, **183**, 91 (*detn, Re*)
Colour Index, 3rd Edn., 1971, **4**, 4389 (*synth*)
Joy, E.F. *et al*, *Anal. Chem.*, 1973, **45**, 856 (*detn, Br*)
Popa, G. *et al*, *Rev. Chim. (Bucharest)*, 1977, **28**, 64 (*detn, Au*)
Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 2012 (*detn, Re*)
Sigma-Aldrich Library of Chemical Safety Data, 1988, **1**, 339A.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MAC250, MAC500.

Rose bengal, 8CI R-00010

4,5,6,7-Tetrachloro-3′,6′-dihydroxy-2′,4′,5′,7′-tetraiodospiro[isobenzofuran-1(3H),9′(9H)xanthen]-3-one, 9CI. 3,4,5,6-Tetrachloro-2′,4′,5′,7′-tetraiodofluorescein, 8CI. C.I. Solvent red 141. C.I. 45440

[4159-77-7]



$C_{20}H_4Cl_4I_4O_5$ M 973.677

Singlet-O_2 sensitiser for photooxidations. Dyestuff for cosmetics; food additive. Acid-base indicator. Insol. H_2O. Normally used as di-Na salt.

Di-K salt: [632-68-8]. *Rose Bengal B. C.I. Acid red 94*
Dyestuff for nylon, silk, cellulose materials, inks, cosmetics. Used for extraction-photometric detn. of Cu, Pb, Hg, Ni, Cd, Ag, Pd. Bright bluish pink solid. Sol. H_2O (blue-red soln., no fluor.).
▷ Possibly teratogenic in rats. Carcinogen. Toxic to freshwater organisms. Binds to and inhibits RNA polymerase.

Di-Na salt: [42352-53-4]. *Rose bengal sodium, INN. Food red colour 105*
Biological stain. Used for diagnosing corneal trauma. ^{125}I and ^{131}I labelled versions are used as diagnostic aids in hepatic function detn. (Robengatrope). Red powder.

Bis Et_3NH salt: [91491-51-9].
Singlet oxygen sensitiser. Purple red powder.

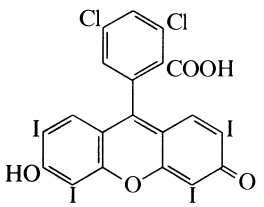
Lactone-form
Colourless or v. pale pink solid.

[152-74-9, 632-69-9, 11121-48-5, 15251-14-6, 24916-55-0, 42352-89-6, 50291-21-9]

Sigma-Aldrich Library of Chemical Safety Data, **2**, 3054D.
Sanders, H.J., *Chem. Eng. News*, 1966, **44**, (42)100, (43)108 (*rev, use*)
Bellin, J.S. *et al*, *J. Chromatogr.*, 1966, **24**, 131 (*chromatog*)
Bayley, B.W. *et al*, *Talanta*, 1966, **13**, 753 (*detn, Cu*)
Dagnall, R.M. *et al*, *Talanta*, 1968, **15**, 1353 (*detn, Pd*)
Peeples, W.A. *et al*, *J. Liq. Chromatogr.*, 1981, **4**, 51 (*hplc, purifn*)
Gandin, E. *et al*, *J. Chromatogr.*, 1982, **249**, 393 (*glc, purifn*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 945, 2146, 5864.
Lamberts, J.J.M. *et al*, *Z. Naturforsch., B*, 1984, **39**, 474 (*uv, use, deriv*)
Lamberts, J.J.M. *et al*, *Tetrahedron*, 1985, **41**, 2183 (*ir, pmr, uv, props, use*)
Ghiggino, K.P. *et al*, *Aust. J. Chem.*, 1988, **41**, 9 (*purifn, uv, props*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, RMP175.

Rose bengal A R-00011

4,7-Dichloro-3′,6′-dihydroxy-2′,4′,5′,7′-tetraiodospiro[isobenzofuran-1(3H),9′-[9H]xanthen]-3-one, 9CI. C.I. Solvent red. C.I. 45435



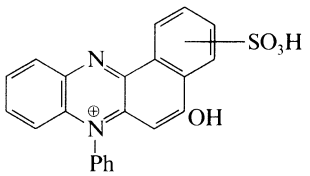
$C_{20}H_6Cl_2I_4O_5$ M 904.788
Strictly, the name Rose bengal A applies to the disodium salt.

Di-Na salt: [18265-55-9].
Used as 1m*M* aq. soln. for extraction-photometric detn. of Cu, Pb, Hg, Ni, Cd, Ag, Pd. Pink cryst. Sol. H_2O, EtOH.

Dagnall, R.M. *et al*, *Talanta*, 1968, **15**, 1353 (*use*)
Matveets, M.A. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 1049.

Rosinduline 2G R-00012

5-Hydroxy-7-phenylsulfobenzo[a]phenazinium(1+), 9CI. C.I. Acid orange 15. C.I. 50120



$C_{22}H_{14}N_2O_4S$ M 402.430
Strictly, the name Rosinduline 2G applies to the sodium salt.

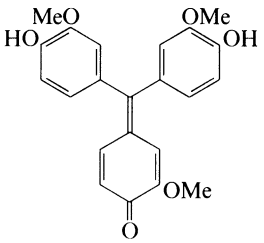
Na salt: [1324-05-6].
Used as redox indicator. Cryst. Sol. H_2O, conc. H_2SO_4. pK_{a1} 9.5 (30°). E° +0.139 (30°).

Michaelis, L., *J. Biol. Chem.*, 1931, **91**, 369 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 491 (*use*)

Rubrophen R-00013

4-[Bis(4-hydroxy-3-methoxyphenyl)methylene]-2-methoxy-2,5-cyclohexadien-1-one, 9CI. Rubrocol

[5664-34-6]



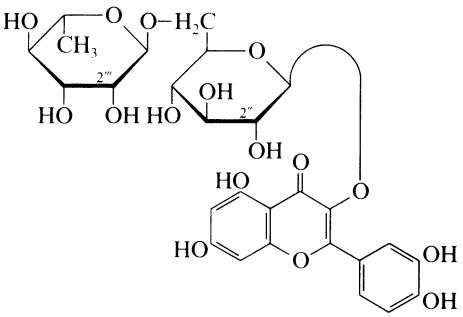
$C_{22}H_{20}O_6$ M 380.396
Used as aq. soln. as acid-base indicator (pH range: 1-3; colour change: red → yellow; pH range: 6.5-7.2; colour change: yellow → violet). Cryst. Sl. sol. H_2O.

Szebellédy, L. *et al*, *Magy. Gyogyszeresztud. Tarsasag. Ert.*, 1937, **13**, 822; *CA*, **32**, 1608[3].
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

Rutin R-00014

Quercetin 3-β-D-rutinoside. ***Rutoside,*** **INN.** *Rutinic acid. Sophorin†. Melin. Osyritin. Violaquercitrin. Myrticolorin. Globulariacitrin. Eldrin. Paliuroside*

[153-18-4]



$C_{27}H_{30}O_{16}$ M 610.524
Constit. of many plants. Presence in over 30 families, mostly dicotyledons, demonstrated by 1955. First isol. from *Ruta graveolens* (Weiss, 1842). Antihaemorrhagic.

Used as 1m*M* soln. in 50% MeOH for photometric detn. of Mo (λ_{max} 400 nm, ε 22100), W (λ_{max} 405 nm, ε 40300). Yellow cryst. + $3H_2O$ (H_2O). Mp 214-215° dec. (anhyd.). $[\alpha]_D^{23}$ +13.82° (EtOH).

▷ VM2975000.

7-O-(*2-Hydroxyethyl*): [23869-24-1]. ***Monoxerutin INN.*** *Mono-7-HR. Z 12007*

$C_{29}H_{34}O_{17}$ M 654.577

Vasodilator; antihaemorrhagic.

4′-(*2-Morpholinylethyl*) *ether:* [30851-76-4]. ***Ethoxazorutoside,*** **INN.** *Ethoxazorutin. Solarutine. Solurutine*

$C_{33}H_{41}NO_{17}$ M 723.683

Antihaemorrhagic agent. Mp 135°.

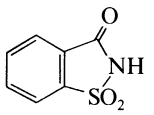
Griffith, J.Q., *Rutin and Related Flavonoids*, Mack, Easton, 1955.
Hörhammer, L. *et al*, *Tetrahedron Lett.*, 1966, 567 (*synth*)
Schmid, R.D., *Tetrahedron*, 1972, **28**, 3259 (*ms*)
Wenkert, E. *et al*, *Phytochemistry*, 1977, **16**, 1811 (*cmr*)
Pfendt, L.B. *et al*, *Mikrochim. Acta*, 1980, **1**, 385.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, RSU000.

S

Saccharin, USAN S-00001

1,2-Benzisothiazol-3(2H)-one 1,1-dioxide, 9CI. Benzoic sulfimide. o-Sulfobenzoic imide. Saxin. Sweeta. Garantose. Hermesetas. Other synonyms

[81-07-2]



$C_7H_5NO_3S$ M 183.187

All salts intensely sweet. Widely-used sweetening agent. Used as 25% aq. soln. of Na salt for detn. of Tl; extraction-separation of Ag. Cryst. (H_2O). Spar. sol. H_2O, EtOH, Me_2CO; sl. sol. Et_2O, $CHCl_3$. Mp 224°. pK_{a1} 1.31 (25°, 0.2*M* KCl/HCl).

▷ DE4200000.

Na salt (1:1): [128-44-9]. *Saccharin sodium, USAN. Sucaryl*
▷ DE4550000.

Ca salt (2:1): [6485-34-3]. *Saccharin calcium, USAN*
▷ DE4250000.

N-*Me:* [15448-99-4].
$C_8H_7NO_3S$ M 197.214
Mp 131-132°.

N-*Et:* [18712-20-4].
$C_9H_9NO_3S$ M 211.241
Mp 93-94°.

N-*Br:* [35812-01-2].
$C_7H_4BrNO_3S$ M 262.083
Oxidimetric titrant in potentiometric and visual titrations of reductants. Pale-yellow cryst. (CCl_4). Mp 170-172°.

N-(*2-Nitrobenzenesulfenyl*):
$C_{13}H_8N_2O_5S_2$ M 336.349
Reagent for peptide synth. Mp 185-186° dec.

Benzoyl: [37952-93-5].
$C_{14}H_9NO_4S$ M 287.295
Mp 250° dec.

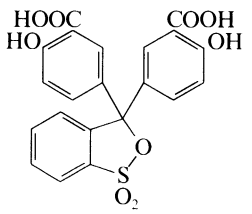
Oxime:
$C_7H_6N_2O_3S$ M 198.202
Mp 208-210° dec.

[6155-57-3, 6381-91-5]

Remsen, I., *Ber.*, 1879, **12**, 469 (*synth*)
Ziegler, K. *et al*, *Justus Liebigs Ann. Chem.*, 1942, **551**, 80.
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **3**, 1574 (*detn, Tl*)
Ziegler, M. *et al*, *Fresenius' Z. Anal. Chem.*, 1960, **173**, 411 (*detn, Ag*)
Hettler, H., *Adv. Heterocycl. Chem.*, 1973, **15**, 233 (*rev*)
Sánchez, E.I. *et al*, *Synthesis*, 1976, 736 (*synth*)
Ball, L.M. *et al*, *Xenobiotica*, 1977, **7**, 189 (*metab, Na salt*)
Sweatman, T.W. *et al*, *Xenobiotica*, 1981, **11**, 531 (*pharmacol*)
Sánchez, E.I. *et al*, *J. Org. Chem.*, 1982, **47**, 1588.
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2404, 2406.
Stassinopoulou, C.I. *et al*, *Org. Magn. Reson.*, 1983, **21**, 187 (*pmr*)
Byard, J.L., *Adv. Exp. Med. Biol.*, 1984, **177**, 147 (*rev, metab, tox*)
Zubair, M.U. *et al*, *Anal. Profiles Drug Subst.*, 1984, **13**, 487 (*rev*)
Nasser, F.A. *et al*, *J. Organomet. Chem.*, 1984, **266**, 225 (*synth*)
Romani, S. *et al*, *Synthesis*, 1985, **16**, 512 (*metab*)
Mohana Das, C. *et al*, *Indian J. Chem., Sect. A*, 1987, **26**, 55 (*bromo deriv, use*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 617.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BCE500, CAM750, SJN700.

Salicyl red S-00002

5,5'-(3H-2,1-Benzoxathiol-3-ylidene)bis(2-hydroxybenzoic acid) S,S-*dioxide. Salicylsulfonephthalein*



$C_{21}H_{14}O_9S$ M 442.402

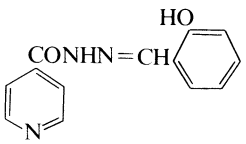
Used as a 0.1% soln. in 70% EtOH as acid-base indicator (pH range: 6.6-8.2; colour change: yellow → violet). Red amorph. powder. Sol. EtOH, Me_2CO, EtOAc, alkalis; spar. sol. H_2O.

Harden, W.C. *et al*, *J. Am. Chem. Soc.*, 1927, **49**, 3139 (*synth*)
Bishop, E., *Indicators*, Oxford, Pergamon, 1972 (*use*)

Salinazid, BAN, INN S-00003

4-Pyridinecarboxylic acid [(2-hydroxyphenyl)methylene] hydrazide, 9CI. N-*Isonicotinoyl-N'-salicylidenehydrazine. Salicylaldehyde isonicotinoylhydrazone. Acozid. Nicozid. Nilazid. Nupasal.* o-*Oxyberon. Phthiosan. Saliniazid. Salizid. HP 213. MG 1480*

[495-84-1]



$C_{13}H_{11}N_3O_2$ M 241.249

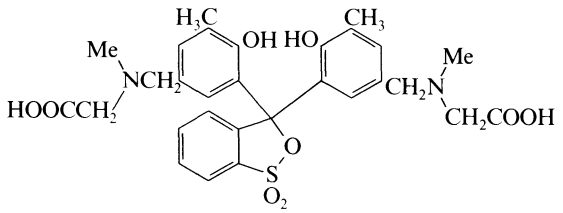
Used in treatment of tuberculosis. Used as a 0.1% soln. in EtOH for photometric detn. of Ce(*IV*), Ni, Zn, Cd, Co, Ge (λ_{max} 390 nm, ε 34000), In (λ_{max} 380 nm, ε 32000), Mn, gravimetric detn. of Cu. Yellow cryst. (EtOH). Sol. Me_2CO, EtOH, C_6H_6. Mp 232-233°, Mp 265°.

Yale, H. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 1933 (*synth*)
Hart, J.J.D. *et al*, *Antibiot. Chemother. (Washington, D.C.)*, 1954, **4**, 803 (*synth, props*)
Bavin, E.M. *et al*, *J. Pharm. Pharmacol.*, 1955, **7**, 1032 (*pharmacol, tox*)
Chakvaranty, D. *et al*, *J. Pharm. Sci.*, 1964, **53**, 1036 (*synth, use*)
Katiyar, S., *Talanta*, 1964, **11**, 892 (*grav detn, Cu*)
Gupta, H.S., *Indian J. Appl. Chem.*, 1971, **34**, 106 (*detn, Ce, Ni, Zn*)
Vasilikiotis, G.S. *et al*, *Microchem. J.*, 1973, **18**, 85; 1975, **20**, 173 (*synth, detn, Cd, Co, In, Mn, Ni, Zn, Ge*)
Cowper, A.J. *et al*, *J. Inst. Chem. (India)*, 1981, **53**, 111, 195 (*synth, pharmacol*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7570.

Sarcosine cresol red S-00004

N,N′-[*3H-2,1-Benzoxathiol-3-ylidenebis*[(*6-hydroxy-5-methyl-3,1-phenylene*)*methylene*]]*bis*[N-*methylglycine*] S,S-*dioxide*, *9CI*

[65720-39-0]



$C_{29}H_{32}N_2O_9S$ M 584.646

Used as a 1m*M* aq. soln. for photometric detn. of Cu.

Korbl, J., *Chem. Ind.* (*London*), 1957, 1624 (*synth*)
Matsuo, T. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1971, **20**, 693.

Selenazone S-00005

1,5-Diphenyl-3-formazanselenol, *8CI*. *3-Seleno-1,5-diphenylformazan*

[22037-15-6]

$C_{13}H_{12}N_4Se$ M 303.225

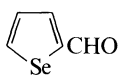
Selenium analogue of dithizone. Used as 0.001% $CHCl_3$ soln. for extraction of Ag, Pb, Zn, Mn, Fe chelates. Black powder. Sol. $CHCl_3$, CCl_4, alkalis. Mp 116°.

Ramakrishna, R.S. *et al*, *Anal. Chim. Acta*, 1969, **48**, 251.
Ramakrishna, R.S. *et al*, *Chem. Ind.* (*London*), 1969, **11**, 325 (*synth, use*)

2-Selenophenecarboxaldehyde S-00006

2-Formylselenophene

[25109-26-6]



C_5H_4OSe M 159.046

Liq. d_{20} 1.6688. Bp_{14} 92°, Bp_7 86-87°. n_D^{20} 1.6292.

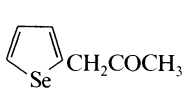
Oxime: [18278-71-2].
C_5H_5NOSe M 174.061
Used as a 0.5% soln. in EtOH for gravimetric, amperometric and polarographic detn. of Pd. Cryst.

Yur'ev, Yu.K. *et al*, *J. Gen. Chem. USSR* (*Engl. Transl.*), 1956, **27**, 201 (*synth*)
Chierici, L. *et al*, *Gazz. Chim. Ital.*, 1958, **88**, 453 (*synth*)
Bark, L.S. *et al*, *Analyst* (*London*), 1967, **92**, 162 (*grav detn, Pd*)
Bark, L.S. *et al*, *Anal. Chim. Acta*, 1970, **49**, 349 (*amp, polarogr, detn, Pd*)
Gronowitz, S. *et al*, *Chem. Scr.*, 1975, **7**, 8, 111 (*pmr, cmr, Se-77 nmr*)

1-(2-Selenophenyl)-2-propanone, 9CI S-00007

2-Acetonylselenophene

[32543-15-0]



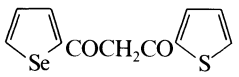
C_7H_8OSe M 187.100

Used as a 0.04-0.4*M* soln. in $CHCl_3$ for extraction-separation of Th ($CHCl_3$). Sol. common org. solvs.

Peshkova, V.M. *et al*, *Zh. Anal. Khim.*, 1959, **14**, 411 (*use*)

1-(2-Selenophenyl)-3-(2-thienyl)-1,3-propanedione S-00008

Selenoylthienoylmethane



$C_{11}H_8O_2SSe$ M 283.209

Used as a satd. EtOH soln. for extraction-photometric detn. of Cu (λ_{max} 385 nm, ε 19000, $CHCl_3$). Yellow cryst. (MeOH). Sol. common org. solvs. Mp 91-92°.

Yurev, Y.K. *et al*, *Zh. Obshch. Khim.*, 1961, **31**, 1449 (*synth, use*)

Selenourea, 9CI S-00009

[630-10-4]

CH_4N_2Se M 123.016

Synth. from H_2Se + cyanamide. Used for photometric detn. of Ru and Os. Prisms or needles (H_2O). Mp 200° dec. (slow heat), Mp 235° dec. Air and light sensitive.

▷ Poison. YU1820000.

B,MeI: Methylisoselenourea iodide
Yellow cryst. Mp 187-188° dec.

B,MeHSO$_4$: Methylisoselenourea hydrogen sulfate
Yellow cryst. Mp 67-70° dec. Structure: $[H_2N—C(SeMe)=NH_2]HSO_4$.

N-*Me:* [5533-49-3].
$C_2H_6N_2Se$ M 137.043
Mp 156-157°.

N,N-*Di-Me:*
$C_3H_8N_2Se$ M 151.070
Mp 98-100°.

N,N′-*Di-Me:* [5533-46-0].
Mp 110-111°.

N,N,N′,N′-*Tetra-Me:* [5943-53-3].
$C_5H_{12}N_2Se$ M 179.123
Mp 79-81°.

N-*Et:* [33251-42-2].
Mp 125°.

N-*Ph:* [6124-02-3].
$C_7H_8N_2Se$ M 199.114
Mp 191-192°.

N,N-*Di-Ph:* [21347-28-4].
$C_{13}H_{12}N_2Se$ M 275.211
Mp 205-207° dec.

N,N′-*Di-Ph:* [16519-43-0].
Mp 178-182° dec., Mp 190-192°.

Backer, H.J. *et al*, *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1943, **62**, 580 (*synth*)
Dunbar, P.E. *et al*, *J. Am. Chem. Soc.*, 1947, **69**, 1833 (*synth*)
King, L.C. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 1864 (*synth*)
Pilipenko, A.T. *et al*, *Zh. Anal. Khim.*, 1961, **16**, 73 (*detn, Ru, Os*)
Pilipenko, A.T. *et al*, *Zh. Neorg. Khim.*, 1961, **6**, 413 (*detn, Ru, Os*)
Hope, H., *Acta Chem. Scand.*, 1964, **18**, 1800 (*synth*)
Jensen, K.A. *et al*, *Acta Chem. Scand.*, 1966, **20**, 597 (*derivs*)
Guedicelli, J.F. *et al*, *Bull. Soc. Chim. Fr.*, 1968, 1099 (*derivs*)
Klayman, D.L. *et al*, *J. Org. Chem.*, 1969, **34**, 3549 (*derivs*)
Rutherford, J.S. *et al*, *Z. Kristallogr., Kristallgeom., Kristallphys., Kristallchem.*, 1969, **128**, 229 (*cryst struct*)
Duncan, J.L. *et al*, *J. Chem. Soc. A*, 1971, 2695 (*ir, raman*)
Walter, W. *et al*, *Tetrahedron*, 1972, **28**, 3233 (*pmr*)
Gmelin Handbook Inorg. Chem., Syst. No. 14, 1978, **D6**, 241 (*bibl*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SBV000.

Selenoylacetone S-00010

1-Selenophen-2-yl-1,3-butanedione, 9CI

[1680-37-1]

$C_8H_8O_2Se$ M 215.110

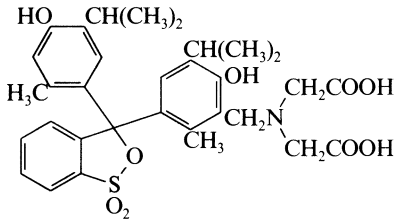
Used as a satd. soln. in EtOH for extraction-photometric detn. of Cu (λ_{max} 345 nm, ε 36300, $CHCl_3$). Pale yellow cryst. (EtOH). Sol. common org. solvs. Mp 33-33.5°. Bp_6 146-146.5°.

Yurev, Y.K. *et al*, *Zh. Obshch. Khim.*, 1961, **31**, 1449 (*synth, use*)

Semimethyl thymol blue S-00011

N-(*Carboxymethyl*)-N-[[*2-hydroxy-5-[3-[4-hydroxy-2-methyl-5-(1-methylethyl)phenyl]-3*H-*2,1-benzoxathiol-3-yl]-6-methyl-3-(1-methylethyl)phenyl]methyl]glycine* S,S-*dioxide*, *9CI*. *3-[*N,N-*Bis(carboxymethyl)aminomethyl] thymolsulfonephthalein*

[34400-83-4]



$C_{32}H_{37}NO_9S$ M 611.712

Used as a 0.1 m*M* aq. soln. for photometric detn. of Co, Cu, Ni, Zn. Dark violet cryst. powder. Sol. H_2O, alkalis. Mp 198-199°. pK_{a3} 2.0; pK_{a5} 2.81; pK_{a7} 7.6; pK_{a8} 12.1 (μ = 0.1, 25°).

Yoshino, T. *et al*, *Talanta*, 1969, **16**, 151; 1974, **21**, 199 (*synth, detn, Co, Cu, Ni, Zn*)

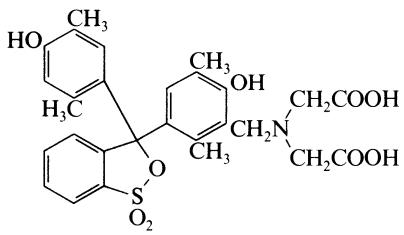
Kosenko, N.F. *et al*, *J. Anal. Chem. USSR* (*Engl. Transl.*), 1975, **30**, 1883.

Kosenko, N.F. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 2245.

Semimethylxylenol blue S-00012

N-(*Carboxymethyl*)-N-[[*2-hydroxy-5-[3-[4-hydroxy-2,5-dimethylphenyl]-3*H-*2,1-benzoxathiol-3-yl]-3,6-dimethylphenyl]methyl]glycine* S,S-*dioxide*, *9CI*

[35777-93-6]



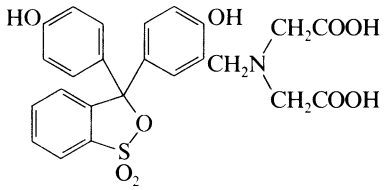
$C_{28}H_{29}NO_9S$ M 555.604

Used as 0.05% aq. soln. for photometric detn. of Bi (λ_{max} 570 nm, ε 34300), Pd, Fe(*III*), Al. Violet cryst. powder. Sol. H_2O; sl. sol. EtOH.

Ueda, J. *et al*, *Bull. Chem. Soc. Jpn.*, 1978, **51**, 773; 1983, **56**, 1968 (*synth, detn, Al, Fe, Pd, Bi*)

Semiphthalexon S S-00013

N-(*Carboxymethyl*)-N-[[*2-hydroxy-5-[3-(4-hydroxyphenyl)-3*H-*2,1-benzoxathiol-3-yl]phenyl]methyl]glycine* S,S-*dioxide*, *9CI*



$C_{24}H_{21}NO_9S$ M 499.497

Strictly, the name Semiphthalexon S applies to the disodium salt.

Di-Na salt: [34958-52-6].

Used as 1m*M* aq. soln. for photometric detn. of rare earth elements, Pr (ε 56000). Brown cryst. powder. Sol. H_2O, EtOH.

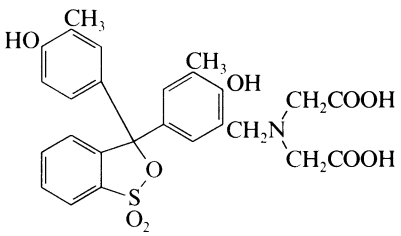
Koroleva, G.N. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 1133 (*detn, rare earths*)

Kirillov, A.I. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 1796 (*detn, rare earths*)

Semixylenol orange S-00014

N-(*Carboxymethyl*)-N-[[*2-hydroxy-5-[3-(4-hydroxy-3-methylphenyl)-3*H-*2,1-benzoxathiol-3-yl]-3-methylphenyl] methyl]glycine* S,S-*dioxide*, *9CI*

[19329-67-0]



$C_{26}H_{25}NO_9S$ M 527.551

Used as EtOH soln. for photometric detn. of Zr (λ_{max} 533nm, ε 59000). Red cryst. powder. Sol. H_2O, alkalis; sl. sol. EtOH. pK_{a5} 2.60; pK_{a7} 7.47; pK_{a8} 10.9 (25°, μ = 1).

Olson, D.C. *et al*, *Anal. Chem.*, 1962, **34**, 1299 (*detn, Zr*)

Murakami, M. *et al*, *Talanta*, 1967, **14**, 1293 (*synth*)

Sodium tetraphenylborate(*III*) S-00015

Tetraphenylboron sodium. Tetraphenylborate(1−), sodium salt, 8CI. Kalignost

[143-66-8]

$NaBPh_4$

$C_{24}H_{20}BNa$ M 342.223

Synth. by reaction of BF_3 and PhMgBr in THF, followed by addition of NaCl. Commercially available. Reagent for the detn. of univalent inorg. as well as org. cations. Used as 1% soln. in 0.01*M* NaOH for gravimetric detn. of K; indirect volumetric detn. of K. Derivatizing agent used in gc detn. of $Hg^{2\oplus}$. Needles. Sol. H_2O, EtOH. Mp >300°.

▷ Irritant.

Flaschka, H., *Fresenius' Z. Anal. Chem.*, 1952, **136**, 99 (*detn, K*)

Sporek, K. *et al*, *Analyst* (*London*), 1955, **80**, 347 (*detn, K*)

Cluley, H.J., *Analyst* (*London*), 1955, **80**, 355 (*detn, K*)

Holzapfel, H. *et al*, *J. Prakt. Chem.*, 1964, **26**, 15 (*synth*)

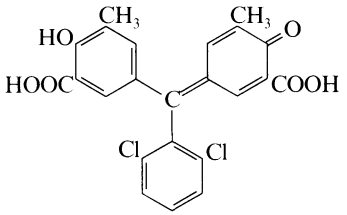
Angelelli, J.M. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 4500 (*ir*)

Luckow, V. *et al*, *J. Chromatogr.*, 1978, **150**, 187 (*detn, $Hg^{2\ominus}$*)
Popovych, O., *Solubility Data Ser.*, 1981, **18**, 3 (*soly*)
Saski, Y. *et al*, *Tokyo Kogei Daigaku Kogakubu Kiyo*, 1982, **5**, 39; *CA*, 1983, **99**, 22534 (*pmr, B-11 nmr, cmr*)
Schaedler, H.D. *et al*, *Z. Chem.*, 1984, **24**, 407 (*Na-23 nmr*)
Tabeta, R. *et al*, *Bull. Chem. Soc. Jpn.*, 1986, **59**, 1957 (*Na-23 nmr*)

Solochrome azurine BS S-00016

5-[(3-Carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichlorophenyl)methyl]-2-hydroxy-3-methylbenzoic acid, 9CI. Pontachrome azure blue B. Chrome fast pure blue B. C.I. 43830. C.I. Mordant blue I. Eriochrome azurol B. Acid chrome pure blue

[15012-28-9]



$C_{23}H_{16}Cl_2O_6$ M 459.281

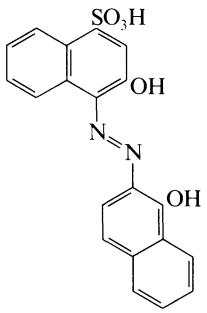
Used as 1m*M* aq. soln. for photometric detn. of Ga (λ_{max} 680nm, ε 140000), Al, Ce, Be, Th, U, Pd; complexometric indicator. Cryst. (MeOH). Sol. H_2O.

[1796-92-5]

Sharma, C.L. *et al*, *Fresenius' Z. Anal. Chem.*, 1971, **255**, 368; 1972, **260**, 30 (*detn, Fe*)
Uesugi, K. *et al*, *Anal. Chim. Acta*, 1972, **60**, 79 (*detn, Pd*)
Sharma, C.L. *et al*, *Indian J. Chem.*, 1972, **10**, 744 (*detn, Al, Ce, U*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 336.
Feigl, F. *et al*, *Spot Tests in Inorganic Analysis*, Elsevier, Amsterdam, 1972.
Uesugi, K. *et al*, *Talanta*, 1977, **24**, 391 (*detn, Pd*)
Martine, C. *et al*, *Mikrochim. Acta*, 1985, **2**, 223 (*detn, Al*)

Solochrome black 6BN S-00017

3-Hydroxy-4-[(1-hydroxy-2-naphthalenyl)azo]-1-naphthalenesulfonic acid, 9CI. 1',2-Dihydroxy-1,2'-azonaphthalene-4-sulfonic acid. Eriochrome blue black B. C.I. Mordant black 3. C.I. 14640



$C_{20}H_{14}N_2O_5S$ M 394.407

Strictly, the name Solochrome black 6BN applies to the sodium salt.

Na salt: [3564-14-5].

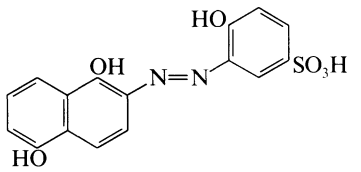
Used as 0.5% soln. in aq. EtOH for photometric detn. of U, Th; as 0.5% MeOH soln. for photometric detn. of Mg. Bluish black cryst. powder. Sol. H_2O, EtOH, Me_2CO. λ_{max} 528 nm.

▷ QK2195000.

Korkisch, J. *et al*, *Mikrochim. Acta*, 1961, 537 (*detn, Th*)
Janauer, G.E. *et al*, *Talanta*, 1962, **9**, detn, 427 (*detn, U*)
Slegers, G. *et al*, *Analyst* (*London*), 1974, **99**, 471 (*detn, Mg*)

Solochrome black PV S-00018

3-[(1,5-Dihydroxy-2-naphthalenyl)azo]-4-hydroxybenzenesulfonic acid, 9CI. Diamond black PV. C.I. Mordant black 9. C.I. 16500. Eriochrome black PV. Omega chrome black PV. Calcochrome black PV. Chrome black PV. Chrome fast black PV



$C_{16}H_{12}N_2O_6S$ M 360.347

Strictly, the name Solochrome black PV applies to the sodium salt. pK_{a1} 4.1; pK_{a2} 7.0; pK_{a3} 11.0.

Na salt: [2052-25-7].

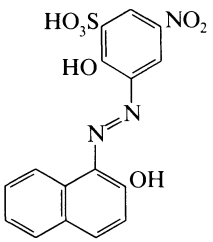
Used as 0.1% aq. soln. as a metal indicator in chelatometry and titrimetric detn. of Ca, Mg, Cd, Fe, Mn, Pb, Zn; photometric detn. of Mg. Black cryst. powder. Sol. H_2O; mod. sol. ethoxyethanol; sl. sol. EtOH.

Belcher, R., *Chemist-Analyst*, 1958, **437**, 2 (*use*)
Budesinsky, B., *Collect. Czech. Chem. Commun.*, 1958, **23**, 895 (*use*)
Khalifa, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1961, **183**, 108, 241; 1961, **184**, 11 (*detn, Mg, Cd, Mn, Zn, pKa*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)
Woodward, C. *et al*, *Talanta*, 1973, **20**, 417 (*use*)

Solochrome fast grey RA S-00019

2-Hydroxy-3-[(2-hydroxy-1-naphthalenyl)azo]-5-nitrobenzenesulfonic acid, 9CI. Solochrome black RN. Nitromagneson. Galumofluorine

[25926-45-8]



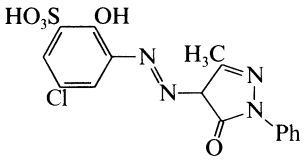
$C_{16}H_{11}N_3O_7S$ M 389.345

Used as 0.1% aq. soln. for photometric detn. of U, Th, V, Cu (λ_{max} 555 nm), Bi (λ_{max} 570 nm); as 0.1% Me_2CO aq. soln. for extraction-fluorimetric detn. of Al. Bluish black cryst. powder. Sol. H_2O; mod. sol. EtOH.

Khalifa, H., *Anal. Chim. Acta*, 1957, **17**, 318 (*detn, Bi*)
Khalifa, H., *Fresenius' Z. Anal. Chem.*, 1957, **158**, 103 (*detn, Cu*)
Korkisch, J., *Fresenius' Z. Anal. Chem.*, 1961, **182**, 253 (*detn, U, Th*)
Janauer, G.E. *et al*, *Mikrochim. Acta*, 1961, 599 (*detn, V*)
Khalifa, H. *et al*, *Microchem. J.*, 1972, **17**, 266; 1973, **18**, 617 (*detn, Cu*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1945 (*synth, detn, Al*)

Solochrome fast red S-00020

5-Chloro-3-[(4,5-dihydro-3-methyl-5-oxo-1-phenyl-1H-pyrazol-4-yl)azo]-2-hydroxybenzenesulfonic acid. C.I. Mordant red 19. C.I. 18735



$C_{16}H_{13}ClN_4O_5S$ M 408.821

Strictly, the name Solochrome fast red applies to the sodium salt.

Na salt: [1934-24-3].

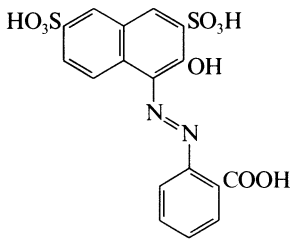
Used as 0.25% MeOH soln. for photometric detn. of Th, U(*VI*); as a 0.1% aq. soln. as metallochromic indicator for titrimetric detn. of Mg. Bright red cryst. powder. Sol. H_2O, MeOH, Me_2CO, EtOH; insol. C_6H_6, $CHCl_3$. λ_{max} 713 nm.

Belcher, R. *et al*, *Chemist-Analyst*, 1958, **47**, 2 (*detn, Mg*)
Korkisch, J. *et al*, *Anal. Chem.*, 1961, **33**, 1930 (*detn, Th*)
Janauer, G.E. *et al*, *Talanta*, 1962, **9**, 427 (*detn, Th, U*)

Solochrome red B S-00021

2-[(2-Hydroxy-3,6-disulfo-1-naphthalenyl)azo]benzoic acid, 9CI. 4-(2-Carboxyphenylazo)-3-hydroxy-2,7-naphthalenedisulfonic acid. C.I. Mordant red 9. C.I. 16105. Alizarine red B. Eriochrome red P.E.. Resamine pink 5B. Siloton red 3B. Versal scarlet 3BBA. Numerous other proprietary names

[10261-17-3]



$C_{17}H_{12}N_2O_9S_2$ M 452.422

Strictly, the name Solochrome red B applies to the trisodium salt. Used as a 0.1% aq. soln. as metallochromic indicator for titrimetric detn. of Cu. Cryst. Sol. H_2O, EtOH, Me_2CO, acids; insol. C_6H_6, $CHCl_3$, toluene.

Tri-Na salt: [1836-22-2].

Used as 1m*M* aq. soln. for photometric detn. of Co (λ_{max} 495 nm); as 0.01% soln. in EtOH to give colour reaction with Pd. Bluish red cryst. powder. Sol. H_2O; sl. sol. EtOH, Me_2CO.

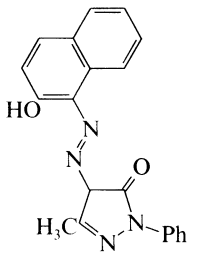
▷ QJ6402600.

Belcher, R. *et al*, *Chemist-Analyst*, 1957, **46**, 86 (*use*)
Popa, G. *et al*, *Zh. Anal. Khim.*, 1959, **14**, 322 (*use*)
Colour Index, 3rd Edn., 1971, **4**, 4091 (*synth*)
Elsirafy, A.A., *Fresenius' Z. Anal. Chem.*, 1980, **301**, 26 (*detn, Co*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CMG750.

Solochrome red ERS S-00022

2,4-Dihydro-4-[(2-hydroxy-1-naphthalenyl)azo]-5-methyl-2-phenyl-3H-pyrazol-3-one, 9CI

[15073-39-9]



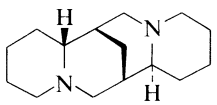
$C_{20}H_{16}N_4O_2$ M 344.372

Used as 0.1% EtOH soln. for fluorimetric detn. of Ga; photometric detn. of Ni, V. Dark red cryst. Sol. EtOH; sl. sol. H_2O.

Ladenbauer, I.M. *et al*, *Mikrochim. Acta*, 1955, 1076 (*detn, Ga*)
Janauer, G.E., *Fresenius' Z. Anal. Chem.*, 1960, **177**, 407; 1961, **179**, 241 (*detn, Ni, V*)

Sparteine, INN S-00023

Dodecahydro-7,14-methano-2H,6H-dipyrido[1,2-a:1',2'-e]diazocine, 9CI



(−)-*form*
Absolute configuration

$C_{15}H_{26}N_2$ M 234.384

(+)-*form* [492-08-0]

Pachycarpine

Alkaloid from several genera of the family Leguminosae, subfamily Faboideae, notably *Lupinus pusillus*, *Cytisus caucasicus* and *Baptisia* spp., also from *Genista monosperma*, *Pelargonium* (*Horea*) *acutifolia*, *P. longifolia*, *Sophora pachycarpa* and *Ammodendron* spp. (Leguminosae). Used as 1% aq. soln. of iodide for extraction-photometric detn. of Ti (λ_{max} 390 nm, ε 10300, $CHCl_3$). Bp_8 173-174°. $[\alpha]_D$ +17.1° (EtOH). n_D^{20} 1.5312.

▷ Highly toxic. RT0620000.

B,HClO₄: Plates (EtOH). Mp 171-172°.
Dipicrate: Cryst. (EtOH/Me_2CO). Mp 205-206°.
N^{16}-*Oxide:* [30301-23-6]. ***Pachycarpine* N^{16}-*oxide***
$C_{15}H_{26}N_2O$ M 250.383
Alkaloid from *Ammodendron karelinii* (Leguminosae). Cryst. (Me_2CO). Mp 153-154°.

(−)-*form* [90-39-1]

Lupinidine

Alkaloid from several genera of the family Leguminosae, subfamily Faboideae, notably many *Lupinus* and *Adenocarpus* spp., also *Piptanthus nanus*, *Sarothamnus* spp. *Chamaecytisus* spp. Oxytocic agent, has been used in treatment of cardiac insufficiency. Used mainly as sulfate used in chiral catalyst systems. Useful complexing agent for metals ions. Liq. Bp_{18} 181°. $[\alpha]_D$ −17.0° (EtOH). pK_{a1} 11.96; pK_{a2} 4.80 (15°). n_D^{19} 1.5289. This is the commonest form, frequently referred to as just Sparteine.

▷ WG5950000.

B,2HBr: Mp 194-195°.
B,2HI: Mp 257-258°.
B,H_2SO_4: [299-39-8]. *Sparteine sulfate, USAN. Numerous proprietary names*

Oxytocic agent. Cryst. + $5H_2O$. Dec. at 136°.
▷ WG6430000.

Dipicrate: Mp 208°, Mp 205-206°.
B,MeI: Mp 239-240°.

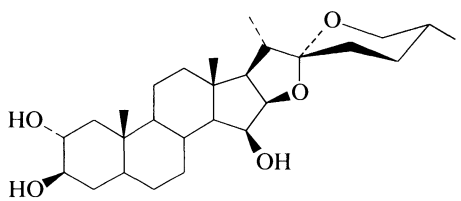
(±)-form [4985-24-4]
Alkaloid from *C. proliferus* and *A. hispanicus* (Leguminosae). Liq. Bp_1 119-121°. n_D^{20} 1.5223.

B,$HClO_4$: Mp 131-133°.
Dipicrate: Mp 208°.

[6160-12-9]

Stenhouse, J., *Justus Liebigs Ann. Chem.*, 1858, **78**, 1 (*isol*)
Clemo, G.R. *et al*, *J. Chem. Soc.*, 1933, 644; 1949, 663 (*struct*)
Jaretzky, R. *et al*, *Arch. Pharm. (Weinheim, Ger.)*, 1934, **272**, 152 (*occur*)
Leonard, N.J. *et al*, *J. Am. Chem. Soc.*, 1950, **72**, 1316 (*ir, synth, rev, resoln*)
Anet, E. *et al*, *Nature (London)*, 1950, **165**, 35 (*synth*)
Okuda, S. *et al*, *Chem. Ind. (London)*, 1961, 1116 (*abs config*)
van Tamelen, E.E. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 7372 (*synth*)
Vard, A.G., *CA*, 1970, **76**, 121173m (*use*)
Cannon, J.R. *et al*, *Aust. J. Chem.*, 1971, **24**, 1537 (*isol*)
Binnig, F. *et al*, *Arzneim.-Forsch.*, 1974, **24**, 752, 753 (*pharmacol*)
Klyne, W. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1974, 2565 (*cd*)
Nakano, T. *et al*, *J. Org. Chem.*, 1974, **39**, 3584 (*ms*)
Bohlmann, F. *et al*, *Chem. Ber.*, 1975, **108**, 1043 (*cmr*)
Kushmuradov, Yu.K. *et al*, *Khim. Prir. Soedin.*, 1977, **13**, 717; *Chem. Nat. Compd. (Engl. Transl.)*, 604 (*oxide*)
Fanso-Free, S.N.Y. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 1549 (*N nmr, conformn*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 13264.
Golebiewski, W.M. *et al*, *J. Chem. Soc., Chem. Commun.*, 1983, 1509 (*biosynth*)
Eichelbaum, M. *et al*, *Xenobiotica*, 1986, **16**, 465 (*rev, metab*)
Takatsu, N. *et al*, *Chem. Pharm. Bull.*, 1987, **35**, 4990 (*synth*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 3779.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PAB250, SKX500, SKX750.

Spirostane-2,3,15-triol S-00024



$C_{27}H_{44}O_5$ M 448.642

(2α,3β,5α,15β,25R)-form [511-34-2] ***Digitogenin***
Aglycone from *Digitalis purpurea*, also occurring in free state. Also in *D. lanata, D. ciliata* and *Cestrum parqui*. Needles (MeOH). Mp 296° (280-283°). $[\alpha]_D^{19}$ −81° ($CHCl_3$).

3-O-[β-D-Glucopyranosyl-(1→3)-β-D-galactopyranosyl-(1→2)-[β-D-xylopyranosyl-(1→3)]-O-β-D-glucopyranosyl-(1→4)-β-D-galactopyranoside]: [11024-24-1]. ***Digitonin***
$C_{56}H_{92}O_{29}$ M 1229.325
Constit. of *D. purpurea* and other *D.* spp. Used as an aq. soln. for detn. of cholesterol. Cryst. (EtOH). Mp 235-240°. $[\alpha]_D$ −54.3° (MeOH). Forms 1:1 insol. complex with cholesterol.
▷ IH2050050.

3-O-[β-D-Galactopyranosyl-(1→2)-[β-D-xylopyranosyl-(1→3)]-O-β-D-glucopyranosyl-(1→4)-β-D-galactopyranoside]: ***Desglucodigitonin***
$C_{50}H_{82}O_{24}$ M 1067.183
Isol. from seeds and leaves of *D. lanata*. Fine needles + $2H_2O$ (1-butanol aq.). Mp 243-245°. $[\alpha]_D^{20}$ −71.4° (c, 0.28 in Py).

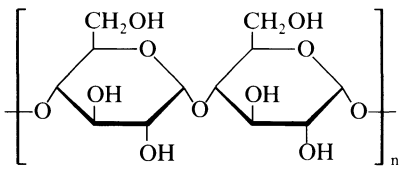
(2α,3β,5α,15β,25S)-form
Neodigitogenin
From *D. purpurea*. Cryst. (MeOH). Mp 277-279°. $[\alpha]_D$ −82° (Py).

2,3-Di-Ac:
$C_{31}H_{48}O_7$ M 532.716
Mp 229-232°. $[\alpha]_D$ −114° ($CHCl_3$).

Klass, D.L. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 3829 (*Neodigitogenin*)
Sato, D. *et al*, *CA*, 1956, **50**, 17331 (*isol*)
Djerassi, C. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 3166 (*struct*)
Tschesche, R. *et al*, *Tetrahedron*, 1962, **18**, 959 (*isol*)
Tschesche, R. *et al*, *Tetrahedron*, 1963, **19**, 621 (*struct, Digitonin*)
Kawasaki, T. *et al*, *Chem. Pharm. Bull.*, 1964, **12**, 1250 (*Desglucodigitonin*)
Ellnain-Wojtasze, K.M. *et al*, *Herba Pol.*, 1976, **22**, 28 (*isol*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DKL400.

Starch, 9CI, 8CI S-00025

Amylum



$C_6H_{10}O_5$ M 162.142

Starch is composed of Amylose and Amylopectin. Amylose is preponderantly a linear polymer of several thousand D-glucose units mainly α-(1→4) linked. Amylopectin is a branched polymer composed largely of α-D-(1→4)-linked glucose units. The branch is α-(1→6) and occurs at the 6 position every 20-25 glucose units. Pullulanase, *R*-enzyme and Isoamylase hydrol. the α-D-(1→6) linkages. Polymeric. Minimum formula given.

Unbranched-form [9005-82-7]
Amylose
Stored in all parts of plants as insol. granules. Coml. starches come mainly from corn (maize), sorghum grains, tapioca root and potato tuber. Most starch samples contain 20 ± 5% Amylose which can be pptd. from aq. starch soln. with, e.g., Thymol. Used in particulate form as a dusting powder, as a gelling agent in processed foods, as a flocculant and pigment retainer in paper manuf. and in dried film form for sizing paper and textiles. Pharmaceutical aid. Used in photometric detn. of I_2; as an indicator in iodometry. $[\alpha]_D$ +200° (H_2O), $[\alpha]_D$ +162° (1*M* NaOH), $[\alpha]_D$ +175° (DMSO). Hydrol. by acid, α-Amylase and β-Amylase. Forms inclusion complexes, gives a deep-blue colour with I_2.

Branched-form [9037-22-3]
Amylopectin
$[\alpha]_D$ +200° (H_2O), $[\alpha]_D$ +163° (1*M* NaOH).

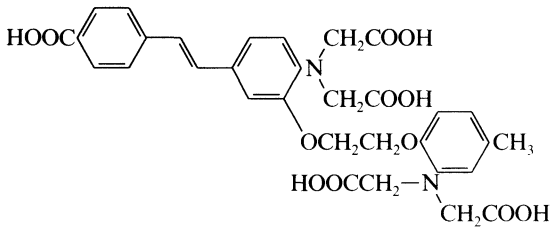
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, NY, 1948, **4** (*use*)
Whistler, R.L. *et al*, *Methods Carbohydr. Chem.*, 1964, **4**, 3.
Greenwood, C.T., *The Carbohydrates*, Academic Press, 1970, **2B**, 471.
St. Jacques, M. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 4386 (*pmr*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 1641.
Whistler, R.L. *et al*, *Starch: Chem. Technol.*, 2nd Ed., Academic Press, 1984.

Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 316.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SLJ500.

Stil 1 S-00026

4-[2-[4-[Bis(carboxymethyl)amino]-3-[2-[2-[bis(carboxymethyl)amino]-5-methylphenoxy]ethoxy]phenyl]ethenyl]benzoic acid, 9CI

[96314-94-2]



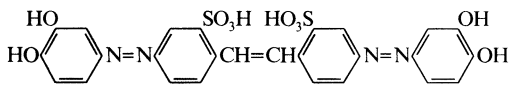
$C_{32}H_{32}N_2O_{12}$ M 636.611

Fluorescent indicator for intracellular Ca.

Grynkiewicz, G. *et al*, *J. Biol. Chem.*, 1985, **260**, 3440 (*synth*)

Stilbazo S-00027

4,4'-Bis[(3,4-dihydroxyphenyl)azo]-2,2'-stilbenedisulfonic acid, 8CI. 2,2'-(Ethenediyl)bis[5-[(3,4-dihydroxyphenyl)azo]benzenesulfonic acid], 9CI



$C_{26}H_{20}N_4O_{10}S_2$ M 612.597

Strictly, the name Stilbazo applies to the diammonium salt.

Di-NH_4 salt: [1571-36-4].

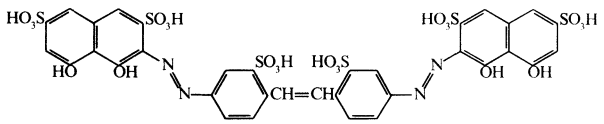
Used as 0.012% aq. soln. for photometric detn. of Al (λ_{max} 500 nm, ε 19500). Dark brown cryst. Sol. H_2O.

Kuznetsov, V.I. *et al*, *Zavod. Lab.*, 1950, **16**, 787 (*synth, Al*)
Wetlesen, C.U. *et al*, *Anal. Chim. Acta*, 1961, **24**, 294 (*Al*)

Stilbazochrome S-00028

3,3'-[1,2-Ethenediylbis[(3-sulfo-4,1-phenylene)azo]]bis[4,5-dihydroxy-2,7-naphthalenedisulfonic acid], 9CI

[3691-70-1]



$C_{34}H_{24}N_4O_{22}S_6$ M 1032.973

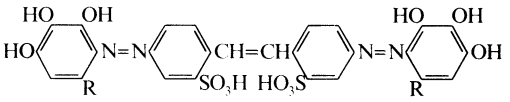
Used as 0.1*M* aq. soln. for photometric detn. of Sc (λ_{max} 660 nm, ε 23000), Al. Cryst. (EtOH). Sol. H_2O, EtOH.

Cherkesov, A.I., *Zh. Anal. Khim.*, 1964, **19**, 943, 1067 (*synth, use*)
Cherkesov, A.I., *Zavod. Lab.*, 1968, **34**, 786 (*synth, use*)

Stilbazogall I S-00029

2,2'-(1,2-Ethenediyl)bis[5-[2,3,4-trihydroxyphenylazo]benzenesulfonic acid], 9CI

[3937-33-5]



R = H

$C_{26}H_{20}N_4O_{12}S_2$ M 644.596

Used as 0.1m*M* aq. soln. for photometric detn. of Al (λ_{max} 490 nm, ε 31000), Zr (λ_{max} 500 nm, ε 27000), W. Dark brown cryst. powder. Sol. H_2O, EtOH, MeOH.

Cherkesov, A.I. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 665 (*synth, detn, Zr*)
Ishii, H. *et al*, *Bull. Chem. Soc. Jpn.*, 1966, **39**, 193 (*detn, W*)
Elinson, S.V. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 718 (*detn, Al*)

Stilbazogall II S-00030

2,2'-[1,2-Ethenediylbis[(3-sulfo-4,1-phenylene)azo]]bis[3,4,5-trihydroxybenzoic acid], 9CI

[1793-80-2]

As Stilbazogall I, S-00029 with

R = COOH

$C_{28}H_{20}N_4O_{16}S_2$ M 732.615

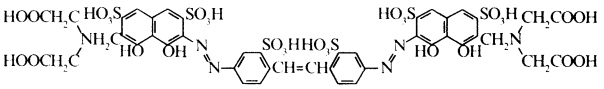
Used as 0.1m*M* aq. soln. for photometric detn. of Zr (λ_{max} 510 nm, ε 13000). Dark brown cryst. powder. Sol. H_2O, EtOH, MeOH.

Cherkesov, A.I. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 665 (*synth, detn, Zr*)

Stilbazokhimdu S-00031

N,N'-[*1,2-Ethenediylbis[(3-sulfo-4,1-phenylene)azo(1,8-dihydroxy-3,6-disulfo-7,2-naphthalenediyl)methylene]]bis[N-(carboxymethyl)glycine], 9CI. Stilazokhimdu*

[31950-08-0]



$C_{44}H_{38}N_6O_{30}S_6$ M 1323.202

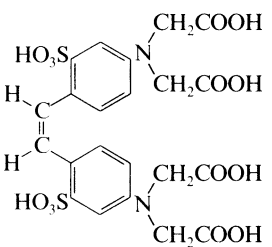
Used as 0.1m*M* aq. soln. for photometric detn. of Sc and Y-subgroup elements. Brown cryst. powder. Sol. H_2O, EtOH.

Akhmedli, M.K. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 194 (*synth, use*)

Stilbexon S-00032

[*Vinylenebis[(3-sulfo-*p*-phenylene)nitrilo]]tetraacetic acid, 8CI. 4,4'-Bis*[N,N-*di(carboxymethyl)amino]stilbene-2,2'-disulfonic acid*

[3983-25-3]



$C_{22}H_{22}N_2O_{14}S_2$ M 602.553

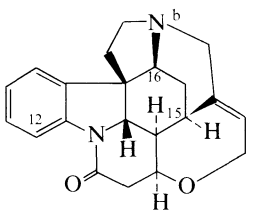
Used as aq. soln. as a fluorescence acid-base indicator (pH 13-14; colour change blue → yellow). Cryst. Sol. H_2O.

Temkina, V.Ya. *et al*, *CA*, 1967, **69**, 86967e (*use*)

Strychnine, 8CI S-00033

Strychnidin-10-one, *9CI*

[57-24-9]



Absolute configuration

$C_{21}H_{22}N_2O_2$ M 334.417

Alkaloid from the seeds of *Strychnos nux-vomica*, from *S. wallichiana* and from very many other *S.* spp. Bark of *S. icaja* is richest known source (6.6%) (Strychnaceae). Violent tetanic poison, employed comly. in vermin killers. Small doses used as tonics. Use as animal poison prohibited in UK, pharmaceutical use essentially obsolete. Important tool in neurophysiological research. CNS stimulant. Convulsant. Cholinesterase inhibitor. Tonic. Used as 2% aq. soln. for photometric detn. of $PO_4^{3\ominus}$, $NO_2^{\ominus}$, $NO_3^{\ominus}$. Mp 270-271° (slow heat), Mp 275-285°, Mp 286-288°. $[\alpha]_D^{18}$ −139° ($CHCl_3$), $[\alpha]_D$ −104° (EtOH). pK_{a1} 8.0; pK_{a2} 2.3 (20°). Readily forms crystalline chloromethochloride artifacts when $CHCl_3$ or CH_2Cl_2 is used in isoln.

▷ Poisonous. Antidote: barbiturates. LD_{50} 2mg/kg (mouse, oral). WL2275000.

B_2,H_2SO_4: [60-41-3].
Cryst. + $5H_2O$. Mp 200° (anhyd.).
▷ WL2550000.

Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, NY, 1948, **4**, 259 (*use*)
Robinson, R., *Prog. Org. Chem.*, 1952, **1**, 1 (*rev, struct*)
Peerdeman, A.F., *Acta Crystallogr.*, 1956, **9**, 824 (*cryst struct*)
Woodward, R.B. *et al*, *Tetrahedron*, 1963, **19**, 247 (*synth*)
Hesse, M. *et al*, *Helv. Chim. Acta*, 1965, **48**, 674 (*ms*)
Heimberger, S.I. *et al*, *J. Chem. Soc., Chem. Commun.*, 1973, 217 (*biosynth*)
Snow, J.W. *et al*, *Can. J. Chem.*, 1978, **56**, 1222 (*uv, cd*)
Wenkert, E. *et al*, *J. Org. Chem.*, 1978, **43**, 1099 (*pmr, cmr*)
Chazin, W.J. *et al*, *Can. J. Chem.*, 1983, **61**, 1749 (*pmr*)
Mostad, A. *et al*, *Acta Chem. Scand., Ser. B*, 1985, **39**, 705 (*cryst struct*)
Glover, S.S.C. *et al*, *Acta Crystallogr., Sect. C*, 1985, **41**, 990 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SMN500, SMP000.

Succinic acid, 8CI S-00034

Butanedioic acid, *9CI*. *Ethane-1,2-dicarboxylic acid*. *Wormwood acid*

[110-15-6]

$HOOCCH_2CH_2COOH$

$C_4H_6O_4$ M 118.089

Widely distributed in higher plants and prod. by microorganisms. Used in the food industry and in lacquers and photography. Used as aq. soln. for gravimetric detn. of Fe(*III*), Al. Prisms (H_2O). Mp 184-185°. pK_{a1} 4.22; pK_{a2} 5.70 (25°, H_2O).

▷ WM4900000.

Di-Me ester: [3878-55-5]. *Dimethyl succinate*. *Methyl succinate*
$C_6H_{10}O_4$ M 146.143
Liq. d_4^{18} 1.120. Mp 19°. Bp 200°, Bp_{11} 80°.

Di-Et ester: [123-25-1]. *Diethyl succinate*. *Ethyl succinate*
$C_8H_{14}O_4$ M 174.196
Flavour ingredient. Mp −21°. Bp 217.7°, Bp_{15} 105°.
▷ WM7400000.

Di-tert-*Butyl ester:* [926-26-1].
$C_{12}H_{22}O_4$ M 230.303
Sterically-hindered reagent for use in Stobbe condensations.

Monoamide: [638-32-4]. *4-Amino-4-oxobutanoic acid*, *9CI*. *Succinamic acid*, *8CI*. *Succinic acid monoamide*
$C_4H_7NO_3$ M 117.104
Needles (Me_2CO). Mod. sol. H_2O; spar. sol. EtOH. Mp 157°. pK_{a1} 4.57 (19°).

Monoamide, N-*hydroxy:* [4743-99-1]. N-*Hydroxysuccinamic acid*
$C_4H_7NO_4$ M 133.104
Used as a 5% aq. soln. of di-K salt for photometric detn. of Fe, Mn, Ti, V. Cryst. (H_2O) (as di-K salt).

Diamide: [110-14-5]. *Succinamide*, *8CI*. *Butanediamide*, *9CI*. *Succinic acid diamide*
$C_4H_8N_2O_2$ M 116.119
Needles (H_2O). Mp 242°.

Bis(dimethylamide): [7334-51-2]. *Tetramethylsuccinamide*
$C_8H_{16}N_2O_2$ M 172.227
Reacts with organolithium compds. to give 1,4-diketones. Mp 81-82°.

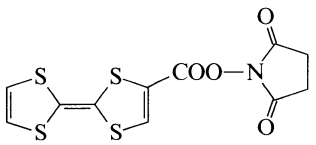
Imide: see *2,5-Pyrrolidinedione*, *P-00442*
Anhydride: see *Dihydro-2,5-furandione*, *D-00405*
Monothioureide: see *4-[(Aminothioxomethyl)amino]-4-oxobutanoic acid*, *A-00362*

Morrell, G.F., *J. Chem. Soc.*, 1914, **105**, 2698 (*diamide*)
Jeffery, G.H. *et al*, *J. Chem. Soc.*, 1934, 1101 (*monoamide*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **2**, 85 (*detn, Fe*)
Hurd, C.D., *J. Org. Chem.*, 1953, **17**, 865 (*synth, amide, N-OH*)
Weintraub, L. *et al*, *Chem. Ind. (London)*, 1965, 185 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 212.
Homes, J.L. *et al*, *Org. Mass Spectrom.*, 1970, **3**, 1505 (*ms*)
Kantlehner, W. *et al*, *Chem. Ber.*, 1971, **104**, 3711.
Bhargava, S.P. *et al*, *Fresenius' Z. Anal. Chem.*, 1971, **255**, 210 (*detn, Fe, Mn, Ti, V*)
Machida, K. *et al*, *Spectrochim. Acta, Part A*, 1972, **28**, 235 (*ir, derivs*)
McMurry, J.E. *et al*, *J. Org. Chem.*, 1975, **40**, 2556.
Brockson, T.J. *et al*, *Synthesis*, 1975, 396.
Cortese, N.A. *et al*, *J. Org. Chem.*, 1978, **43**, 3985.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SMY000, SNB000, SNE000, SNG000.

N-Succinimidoyl tetrathiafulvalene-2-carboxylate S-00035

1-[[[2-(1,3-Dithiol-2-ylidene)-1,3-dithiol-4-yl]carbonyl]oxy]-2,5-pyrrolidinedione, *9CI*

[137044-02-1]



$C_{11}H_7NO_4S_4$ M 345.445

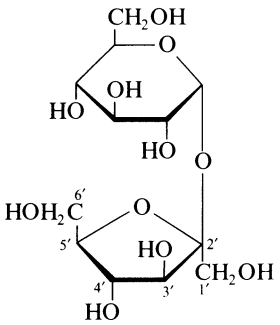
Derivatisation reagent for precolumn labelling of amines in hplc. Dark purple cryst. (C_6H_6).

Shimada, K. *et al*, *Chem. Pharm. Bull.*, 1991, **39**, 1897 (*synth, use*)

Sucrose, 9CI, 8CI S-00036

β-D-Fructofuranosyl α-D-glucopyranoside, 9CI. Saccharose. Cane sugar. Beet sugar

[57-50-1]



$C_{12}H_{22}O_{11}$ M 342.299

Widespread in seeds, leaves, fruits, flowers and roots of plants, where it functions as an energy store for metabolism and as a carbon source for biosynth. Annual world production is in excess of 90 × 10^6 tons mainly from the juice of sugar cane and sugar beet which contain respectively ~ 20% and ~ 17% of the sugar. Sweetening agent and food source assimilated by most organisms. Reference material used in elemental microanalysis. Cryst. (H_2O or EtOH). Mp 185-187°. $[\alpha]_D$ +66.5° (H_2O). Does not reduce Fehling's soln., form an osazone or mutarotate. Hydrol. with invertase or acid gives D-glucose and D-fructose.

▷ WN6500000.

Octa-Ac:

$C_{28}H_{38}O_{19}$ M 678.597

Flavouring ingredient. Mp 69°. $[\alpha]_D$ +59.6° ($CHCl_3$).

Octabenzoyl:

$C_{68}H_{54}O_{19}$ M 1175.163

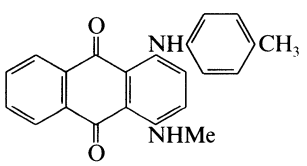
Mp 60-63°. $[\alpha]_D$ +32.6° ($CHCl_3$).

Lemieux, R.U. *et al, J. Am. Chem. Soc.*, 1953, **75**, 4118 (*synth*)
Van der Veen, J.M., *J. Org. Chem.*, 1963, **28**, 564 (*pmr*)
Binkley, W.W. *et al, Carbohydr. Res.*, 1969, **10**, 245 (*pmr*)
Kollonitsch, V., *Sucrose Chemicals*, Kline, The International Sugar Research Foundation, Washington, D.C., 1970 (*rev*)
Allerhand, A. *et al, J. Am. Chem. Soc.*, 1971, **93**, 2777 (*cmr*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Hanson, J.C. *et al, Acta Crystallogr., Sect. B*, 1973, **29**, 797 (*cryst struct*)
Khan, R., *Adv. Carbohydr. Chem. Biochem.*, 1976, **33**, 235 (*rev*)
Pfeffer, P.E. *et al, J. Am. Chem. Soc.*, 1979, **107**, 1265 (*cmr*)
Block, K. *et al, Carbohydr. Res.*, 1982, **100**, 63 (*conformn*)
Hull, W.E., *Two-Dimensional NMR Brochure*, Bruker Analytische Messtechnik, Karlsruhe, 1982 (*pmr*)
Card, P.J., *J. Am. Chem. Soc.*, 1984, **104**, 5348 (*1′-fluoro*)
James, C.E. *et al, Fortschr. Chem. Org. Naturst.*, 1989, **55**, 117 (*rev*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SNH000.

Sudan blue GA S-00037

1-(Methylamino)-4-[(4-methylphenyl)amino]-9,10-anthracenedione, 9CI. C.I. Solvent blue 11. 1-Methylamino-4-(p-toluidino)anthraquinone. Nitro fast blue 3GB. Oil blue GA. C.I. 61525

[128-85-8]



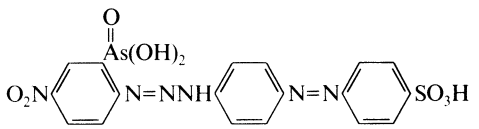
$C_{22}H_{18}N_2O_2$ M 342.396

Used as a 0.5% soln. in aq. EtOH as metallochromic indicator in titrimetric detn. of Ba, $SO_4^{2\ominus}$. Cryst. Sol. C_6H_6, toluene; sl. sol. Me_2CO, EtOH.

Mustafin, I.S. *et al, Khim. Khim. Tekhnol. (Minsk)*, 1959, **2**, 493 (*detn, $SO_4^{2\ominus}$*)
Mustafin, I.S. *et al, CA*, 1960, **54**, 11856 (*detn, Ba*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)
Korolev, B.A. *et al, CA*, 1973, **79**, 6728w (*pKa, props*)

Sulfarsazen S-00038

4-[[4-[3-(2-Arsono-4-nitrophenyl)-1-triazenyl]phenyl]azo] benzenesulfonic acid. Plumbon. Plumbon S. Plumbon IREA



$C_{18}H_{15}AsN_6O_8S$ M 550.339

Strictly, the name Sulfarsazen applies to the sodium salt.

Na salt: [1772-02-7].

Used as 1m*M* EtOH soln. for photometric detn. of Co, Zn, Pb, Ag, In; metallochromic indicator for titrimetric detn. of Cd, Ni, Pb, Zn. Brown-red cryst. Sol. EtOH, H_2O.

Tri-Na salt: Mp >300°.

Lukin, A.M. *et al, Zh. Anal. Khim.*, 1960, **15**, 295; 1962, **17**, 212 (*synth, detn, 212*)
Partashnikova, M.Z. *et al, Zh. Anal. Khim.*, 1965, **20**, 313 (*titrim, Cd, Ni, Pb, Zn*)
Yamashige, T. *et al, Bunseki Kagaku (Jpn. Anal.)*, 1979, **28**, 464 (*detn, Pb*)
Tananaiko, M.M. *et al, Ukr. Khim. Zh. (Russ. Ed.)*, 1982, **48**, 505; 1983, **49**, 952 (*detn, Zn, Co*)
Pyatnitskii, I.V. *et al, Zh. Anal. Khim.*, 1983, **38**, 815 (*detn, In*)

Sulfoacetic acid S-00039

Sulfoethanoic acid

[123-43-3]

$HOOCCH_2SO_3H$

$C_2H_4O_5S$ M 140.117

Reagent for Liebermann-Burchard colorimetric test for steroids. Reaction catalyst. Hygroscopic cryst. + $1H_2O$ (H_2O). Mp 84-86°. Bp 245° dec. pK_{a2} 4.20 (25°).

▷ AJ4900000.

Py salt: [21372-73-6].

Mp 151-152°.

Carboxy-Et ester:

$C_4H_8O_5S$ M 168.170

Mp 175° (as K salt).

Di-Et ester:

$C_6H_{12}O_5S$ M 196.224

$Bp_{0.5}$ 116°.

Dianilide:

$C_{14}H_{14}N_2O_3S$ M 290.342

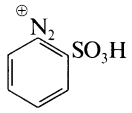
Mp 150-151°.

[5462-60-2, 16697-66-8, 22128-42-3, 64707-21-7]

Folkers, K. *et al, J. Am. Chem. Soc.*, 1944, **66**, 1083 (*synth*)
Lehmann, J. *et al, J. Am. Chem. Soc.*, 1964, **86**, 4469.
Hoogenboom, B.E. *et al, J. Org. Chem.*, 1969, **34**, 3414 (*deriv*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 7.
Mao, J.C.H. *et al, Antimicrob. Agents Chemother.*, 1985, **27**, 197.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SNU000.

2-Sulfobenzenediazonium(1+), 9CI S-00040

[32651-15-3]



$C_6H_5N_2O_3S^{\oplus}$ M 185.183 (ion)

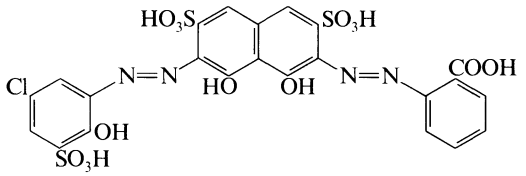
Hydroxide, inner salt: [612-31-7]. *2-Diazoniumbenzenesulfonate. Diazotized orthanilic acid*
$C_6H_4N_2O_3S$ M 184.175
Used for spectrophotometric detn. of naphthols and oxines. Cryst. Mp 106° dec.

Sellers, C.F. *et al*, *J. Chem. Soc. C*, 1969, 2139 (*synth*)
Amin, D. *et al*, *Microchem. J.*, 1986, **33**, 78 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BBO125.

Sulfochlorophenol K S-00041

3-(2-Carboxyphenylazo)-6-(5-chloro-2-hydroxy-3-sulfophenylazo)-4,5-dihydroxy-2,7-naphthalenedisulfonic acid. 2-[[7-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]]benzoic acid, 9CI

[2103-67-5]



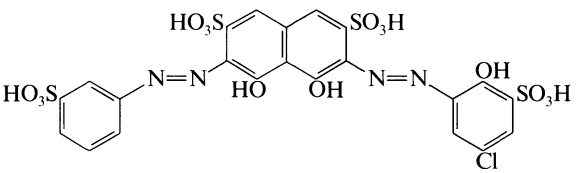
$C_{23}H_{15}ClN_4O_{14}S_3$ M 703.041
Used as 0.05 or 0.1% aq. soln. for photometric detn. of Nb, Ba (λ_{max} 650 nm, ε 32000), Ca (λ_{max} 640 nm, ε 34000), Mg (λ_{max} 640 nm, ε 33000). Dark red cryst. powder. Sol. H_2O; sl. sol. EtOH.

Alimarin, I.P. *et al*, *Talanta*, 1968, **15**, 601 (*detn, Nb*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177 (*detn, Ba, Ca, Mg*)

Sulfochlorophenol M S-00042

3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI

[14155-11-4]



$C_{22}H_{15}ClN_4O_{15}S_4$ M 739.095
Used as 0.1% aq. soln. for photometric detn. of Nb (ε 43000). Dark red cryst. powder. Sol. H_2O; sl. sol. EtOH.

Alimarin, I.P. *et al*, *Talanta*, 1966, **13**, 689; 1968, **15**, 601 (*detn, Nb*)

Sulfochlorophenol N S-00043

3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI

[26069-57-8]

As Sulfochlorophenol K, S-00041 with

$R^1 = R^2 = R^4 = H$, $R^3 = NO_2$

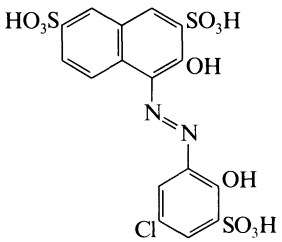
$C_{22}H_{14}ClN_5O_{14}S_3$ M 704.028
Used as 0.02% aq. soln. for photometric detn. of V(*V*) (λ_{max} 627 nm, ε 31200). Brown-red cryst. powder. Sol. H_2O, EtOH.

Zenki, M., *Analyst* (*London*), 1979, **104**, 323 (*synth, detn, V*)

Sulfochlorophenol R S-00044

4-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-3-hydroxy-2,7-naphthalenedisulfonic acid, 9CI

[2103-74-4]



$C_{16}H_{11}ClN_2O_{11}S_3$ M 538.920
Used as 0.05% aq. soln. for photometric detn. of Ga (λ_{max} 570 nm, ε 12000), Sc; as 0.075m*M* aq. soln. as an indicator in complexometric titration of Ca (λ_{max} 535 nm, pH 12). Red cryst. powder. Sol. H_2O, EtOH. pK_{a1} 5.96; pK_{a2} 12.5 (25°, μ = 1).

Ryabchikov, D.I. *et al*, *Zh. Anal. Khim.*, 1964, **19**, 1210 (*detn, Sc*)
Ryabchikov, D.I. *et al*, *Zavod. Lab.*, 1965, **31**, 154 (*detn, Sc*)
Salikhov, V.D. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 189 (*detn, Ga*)
Nada, H., *Anal. Chim. Acta*, 1980, **121**, 265; 1983, **149**, 291 (*synth, detn, Ca*)

Sulfochlorophenol S S-00045

3,6-Bis[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, 9CI

[2103-73-3]

As Sulfochlorophenol K, S-00041 with

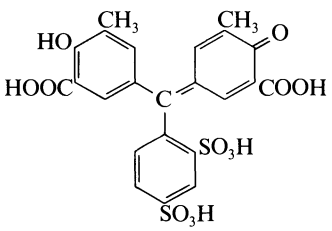
$R^1 = OH$, $R^2 = SO_3H$, $R^3 = H$, $R^4 = Cl$

$C_{22}H_{14}Cl_2N_4O_{16}S_4$ M 789.539
Used as 0.1% aq. soln. for photometric detn. of Nb (ε 33000), Be, Sc, Mo, Zr. Dark red cryst. powder. Sol. H_2O.

Dedkov, Yu.M. *et al*, *Zavod. Lab.*, 1964, **30**, 654 (*detn, Zr*)
Ryabchikov, D.I. *et al*, *Zavod. Lab.*, 1965, **31**, 154 (*detn, Sc*)
Alimarin, I.P. *et al*, *Talanta*, 1966, **13**, 689; 1968, **15**, 601 (*detn, Nb*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 2198 (*detn, Mo*)
Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 90 (*detn, Be*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIb: Individual Metals. Magnesium to Zinc*, John Wiley, New York, 1989, 161.

Sulfochrome S-00046

5-[(3-Carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,4-disulfophenyl)methyl]-2-hydroxy-3-methylbenzoic acid



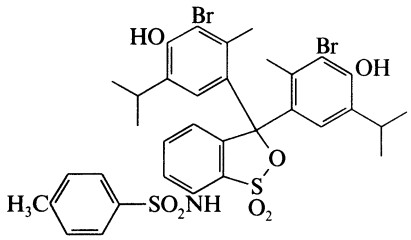
$C_{23}H_{18}O_{12}S_2$ M 550.520
Strictly, the name Sulfochrome applies to the diammonium salt.

Di-NH_4 salt: [25522-89-8].
$C_{23}H_{24}N_2O_{12}S_2$ M 584.581
Used as 0.5m*M* aq. soln. for photometric detn. of Al (ε 38000), Be, rare earth elements. Red cryst. powder (EtOH). Sol. EtOH, H_2O.

Petrova, G.S. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 1332 (*detn, Al*)
Bol'shakova, E.G. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 1956 (*detn, rare earth elements*)
Arkhangel'skaya, *et al*, *Zavod. Lab.*, 1980, **46**, 883 (*detn, Be*)

Sulfonamidebromothymol blue S-00047

N-[3,3-Bis[3-bromo-4-hydroxy-2-methyl-5-(1-methylethyl) phenyl]-3H-2,1-benzoxathiol-7-yl]-4-methylbenzenesulfonamide S,S-*dioxide*
[134116-39-5]

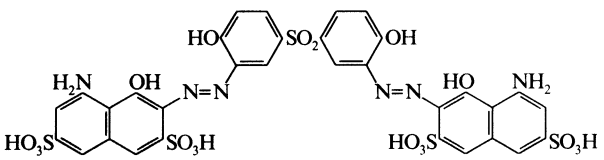


$C_{34}H_{35}Br_2NO_7S_2$ M 793.593
Used as EtOH soln. as an acid-base indicator (pH range 6.5-8.5; colour change yellow→blue). Cryst. Sol. EtOH. pK_{a1} 7.7.

Puschett, J.B. *et al*, *Talanta*, 1991, **38**, 335 (*synth, use*)

Sulfonazo S-00048

3,3'-[Sulfonylbis[(6-hydroxy-3,1-phenylene)azo]]bis[5-amino-4-hydroxy-2,7-naphthalenedisulfonic acid], *9CI*
[2103-68-6]

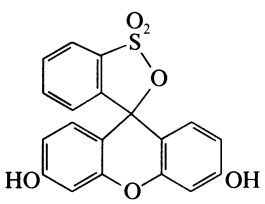


$C_{32}H_{24}N_6O_{18}S_5$ M 940.901
Used as 0.03% aq. soln. for photometric detn. of Sc (λ_{max} 575 nm, ε 11000). Brown cryst. powder. Sol. H_2O.

Brudz, V.G. *et al*, *Zh. Anal. Khim.*, 1962, **17**, 568 (*detn, Sc*)
Cherkesov, A.I. *et al*, *Zh. Anal. Khim.*, 1964, **19**, 1067 (*detn, Sc*)

Sulfonefluorescein S-00049

Spiro[3H-2,1-benzoxathiole-3,9'-[9H]xanthene]-3',6'-diol 1,1-dioxide, *9CI. Hydroquinolsulfonephthalein*
[4424-03-7]

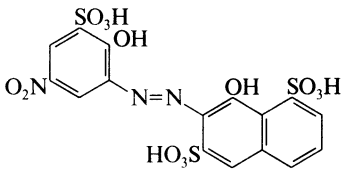


$C_{19}H_{12}O_6S$ M 368.366
Acid-base indicator (pH range: 4-6; colour change: brown → yellow). Used as a 0.01% aq. soln. Dark red plates. Sol. H_2O, EtOH. Mp >300°. pK_{a1} 7.2.

Orndorff, W.R. *et al*, *J. Am. Chem. Soc.*, 1928, **50**, 1730 (*synth, use*)
Bishop, E., *Indicators*, Oxford, Pergamon, 1972 (*use*)

Sulfonitrazo S-00050

8-Hydroxy-7-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-1,6-naphthalenedisulfonic acid, *9CI. Sulfonitrazo E*
[33683-76-0]

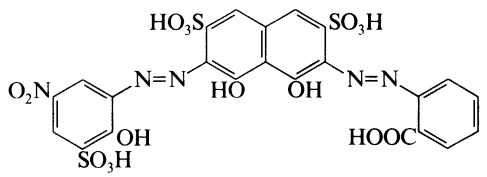


$C_{16}H_{11}N_3O_{13}S_3$ M 549.473
Used as 1m*M* (or 0.1%) aq. soln. for photometric detn. of Mo (λ_{max} 565 nm, ε 11900), V (λ_{max} 582 nm, ε 21100), Pd, Zr, Ti, Al (λ_{max} 560 nm, ε 26900), Ga (λ_{max} 560 nm, ε 32000), In (λ_{max} 560 nm, ε 27400). Red cryst. powder (conc. HCl). Sol. H_2O.

Barenbaum, M.E. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 1967 (*synth, detn, V*)
Tiutiunnikova, P.D. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 508 (*detn, Al, Ga, In*)
Polyak, L.Ya., *Zh. Anal. Khim.*, 1977, **32**, 278 (*detn, V*)
Orlova, E.S. *et al*, *Zh. Anal. Khim.*, 1983, **38**.
Ermolenko, L.V. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 1030 (*synth, detn, Al*)

Sulfonitrophenol K S-00051

2-[[1,8-Dihydroxy-7-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, *9CI. 3-(2-Carboxyphenylazo)-4,5-dihydroxy-6-(2-hydroxy-5-nitro-3-sulfophenylazo)-2,7-naphthalenedisulfonic acid*
[20650-43-5]



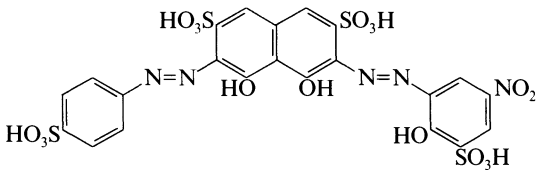
$C_{23}H_{15}N_5O_{16}S_3$ M 713.593
Used as 0.05-0.1% aq. soln. for photometric detn. of Al (λ_{max} 640 nm, ε 47000), Ba (λ_{max} 640 nm, ε 31000), Ca (λ_{max} 640 nm, ε 37000), Ga (λ_{max} 650 nm, ε 36000), In (λ_{max} 650 nm, ε 37000), Mg (λ_{max} 645 nm, ε 44000), Pd (λ_{max} 620 nm, ε 70000), Mo (λ_{max} 535 nm, ε 50000), V (λ_{max} 645 nm, ε 55000). Dark red cryst. (EtOH aq.). Mod. sol. H_2O.

Savvin, S.B. *et al*, *Talanta*, 1969, **16**, 423 (*detn, Pd*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 177; 1971, **26**, 532; 1972, **27**, 1972 (*detn, Ba, Ca, Mg, Mo, V*)
Savvin, S.B. *et al*, *Organicheskiye Reagenty Gruppy Arsenazo III*, Atomizdat, Moscow, 1971 (*detn, Al, Ga, In*)

Sulfonitrophenol M S-00052

4,5-Dihydroxy-3-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 8CI

[26069-45-4]



$C_{22}H_{15}N_5O_{17}S_4$ M 749.648

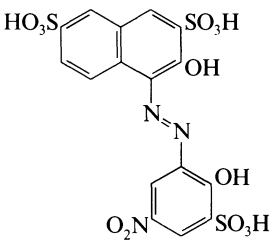
Used as 0.1% aq. soln. for photometric detn. of Nb (ε 53000), Pd (λ_{max} 625 nm, ε 80000), W, Pt, Cu, Pu(*IV*); extraction-photometric detn. of Cu. Red cryst. powder. Sol. H_2O.

Alimarin, I.P. *et al*, *Talanta*, 1968, **15**, 601 (*detn, Nb*)
Okhanova, L.A., *Zh. Anal. Khim.*, 1968, **23**, 1562 (*detn, Cu*)
Milyukova, M.S. *et al*, *CA*, 1971, **75**, 14615q (*detn, Pu*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 1119 (*detn, W*)
Gur'eva, R.F. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 1009; 1982, **37**, 667 (*detn, Pd, Pt*)

Sulfonitrophenol R S-00053

3-Hydroxy-4-[(2-hydroxy-3-nitro-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI

[20900-71-4]



$C_{16}H_{11}N_3O_{13}S_3$ M 549.473

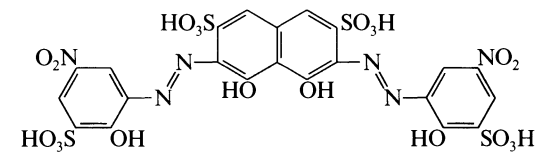
Used as 0.1% aq. soln. for photometric detn. of Ga (λ_{max} 570 nm, ε 18600); as 0.1% aq. soln. for fluorimetric detn. of Al (pH 2.5-3, 20% EtOH). Brown cryst. powder. Sol. H_2O, EtOH. pK_{a2} 4.3; pK_{a3} 11.9.

Salikhov, V.D. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 529 (*detn, Ga*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1945 (*synth, detn, Al*)

Sulfonitrophenol S S-00054

4,5-Dihydroxy-3,6-bis[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI

[26196-08-7]



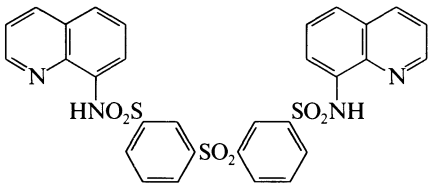
$C_{22}H_{14}N_6O_{20}S_4$ M 810.645

Used as 0.05% aq. soln. for photometric detn. of Al (λ_{max} 680 nm, ε 56000), Mo, Nb; amplification methods for As(*V*), P(*V*). Dark red cryst. powder. Sol. H_2O.

Alimarin, I.P. *et al*, *Talanta*, 1968, **15**, 601 (*detn, Nb*)
Malyutina, T.M. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 925 (*detn, As, P*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 1552; 1980, **35**, 54 (*detn, Al*)

3,3′-Sulfonylbis[*N*-8-quinolylbenzenesulfonamide], 8CI S-00055

[10346-63-1]



$C_{30}H_{22}N_4O_6S_3$ M 630.725

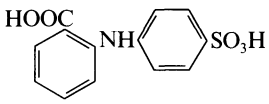
Used as a 0.1*M* soln. in EtOH or Me_2CO for pptn. of Ag, Co, Cu, Hg, Pb, Zn. Cryst. Mp 203-204°.

Billman, J.H. *et al*, *Anal. Chem.*, 1962, **34**, 408 (*use*)
Billman, J.H. *et al*, *CA*, 1968, **69**, 30767x (*use*)

N-(4-Sulfophenyl)-2-aminobenzoic acid, 9CI S-00056

2-Carboxydiphenylamine-4′-sulfonic acid. 2-Carboxy-4′-sulfodiphenylamine

[26119-52-8]



$C_{13}H_{11}NO_5S$ M 293.300

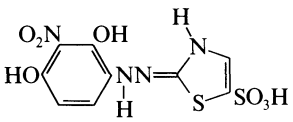
Used as a 0.1% aq. soln. for photometric detn. of V (λ_{max} 565 nm, ε 16000). Cryst. (H_2O). Sol. H_2O.

Frumina, N.S. *et al*, *Talanta*, 1969, **16**, 138 (*detn, V*)

4-(5-Sulfothiazolylazo)-2-nitroresorcinol S-00057

2-[(2,4-Dihydroxy-3-nitrophenyl)azo]-5-thiazolesulfonic acid, 9CI

[39070-33-2]



$C_9H_6N_4O_7S_2$ M 346.301

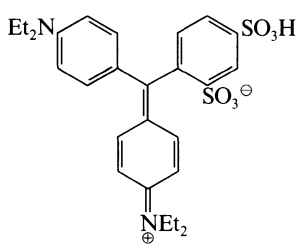
Various tautomers possible. Used as 0.01*M* aq. soln. for extraction-photometric detn. of Ni (λ_{max} 530 nm, ε 75500, $CHCl_3$, pH ~5). Cryst. powder. Sol.H_2O, EtOH.

Adamovich, L.P. *et al*, *Izv. Vyssh. Uchebn. Zaved., Khim. Khim. Tekhnol.*, 1977, **20**, 1328; *CA*, **88**, 202463f.

Sulphan blue, BAN S-00058

N-[*4-[[4-(Diethylamino)phenyl](2,4-disulfophenyl)methylene]-2,5-cyclohexadien-1-ylidene]-N-ethylethanaminium, 9CI. [4-[α-[p-(Diethylamino)phenyl]-2,4-disulfobenzylidene]-2,5-cyclohexadien-1-ylidene]diethylammonium, 8CI. Blue VRS. Disulfine blue VNS. C.I. Acid blue 1. C.I. Food blue 3. Alphazurine 2G. Sulfan blue. Patent blue V. C.I. 42045*

[116-95-0]



$C_{27}H_{32}N_2O_6S_2$ M 544.692

Strictly the name Sulphan blue applies to the sodium salt. Cardiovascular investigative dye, freq. used as Na or Al salt. Acid base indicator used as 0.1% aq. soln. (pH range: 0.8-3.0; colour change: yellow → blue).

Na salt: [129-17-9].

Violet powder. V. sol. H_2O, sol. EtOH. λ_{max} 635 nm.

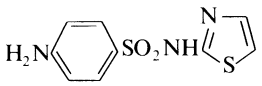
▷ BP6830000.

Holmes, W.C., *Ind. Eng. Chem.*, 1923, **15**, 833 (*uv*)
Gangolli, S.D. *et al*, *Food Cosmet. Toxicol.*, 1972, **10**, 449 (*pharmacol*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 125 (*use*)
McEwen, C.N. *et al*, *Anal. Chem.*, 1977, **49**, 922 (*ms*)
Newton, D.W. *et al*, *J. Pharm. Sci.*, 1981, **70**, 122 (*props*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2150.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ADE500.

Sulphathiazole, BAN **S-00059**

4-Amino-N-2-thiazolylbenzenesulfonamide, 9CI. N′-*2-Thiazolylsulfanilamide, 8CI. 2-Sulfanilamidothiazole.* ***Sulfathiazole,* INN.** *Cerazole. Sulfex. Numerous proprietary names*

[72-14-0]



$C_9H_9N_3O_2S_2$ M 255.321

Used in treatment of severe staphylococcal infections. Used as a 0.01*M* soln. in 0.01*M* NaOH for potentiometric and conductometric detn. of Ag. Yellowish-white prismatic rods and six-sided plates and prisms. Dimorphic. Mp 200-203° (rods), Mp *ca.* 175° (plates).

▷ Exp. carcinogen. LD_{50} 400 mg/kg (mouse, i.p.). WP2360000.

Na salt: [144-74-1].

V. sol. H_2O. Absorbs CO_2 from humid air.

▷ WP2450000.

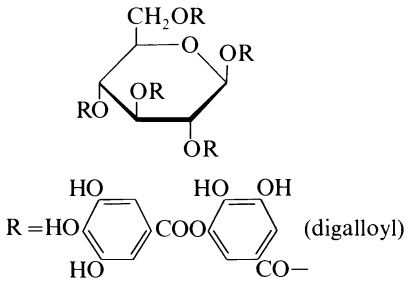
[144-74-1]

Fosbinder, R.J., *J. Am. Chem. Soc.*, 1939, **61**, 2032 (*synth*)
Capitan, F. *et al*, *Inf. Quim. Anal.*, 1970, **24**, 100 (*use*)
Bass, A.D. *et al*, *Drill's Pharmacol. Med., 4th Ed.*, 4th Ed., McGraw-Hill, N.Y., 1971, 1657 (*pharmacol*)
Kruger, G.J. *et al*, *Acta Crystallogr., Sect. A*, 1972, **28**, 272 (*cryst struct*)
Kracmar, J. *et al*, *Pharmazie*, 1975, **30**, 447 (*uv*)
Forlani, L., *Gazz. Chim. Ital.*, 1981, **111**, 159 (*pmr, tautom*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 4953, 4954.
Haley, T.J., *Dangerous Prop. Ind. Mater. Rep.*, 6th Ed., Van Nostrand-Reinhold, 1983, **3**, 9 (*rev, pharmacol, tox*)
Bult, A., *Pharm. Weekbl., Sci. Ed.*, 1983, **5**, 77 (*cmr, tautom*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1148.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TEX250, TEX500.

T

Tannin, 9CI, 8CI T-00001

Tannic acid. Gallotannic acid. Gallotannin. Chinese tannin



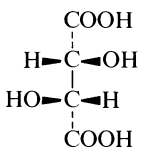
approximate composition

Chinese gallotannin is a mixt. of isomers and closely related compounds whose average composition corresponds to that of Penta-*O*-(*m*-digalloyl)-β-D-glucose. There are also some trigalloyl units. A major constit. of galls of many spp. of oak (e.g. *Quercus lusitanica*), the leaves of Stagshorn (*Rhus typhina*) and pods of tara (*Caesalpinia spinosa*). Used as a mordant in dyeing, ink manuf., tanning, clarifying beer and wine and photography and as a coagulant in rubber manuf. Can be used as an astringent. Used as 3% aq. soln. for gravimetric detn. of Nb, Ta, Ti, U, W; separation of Ta and Nb. Yellowish powder. Sol. H_2O, EtOH, Me_2CO; sl. sol. Et_2O. Mp 210-215° dec. $[\alpha]_D^{20}$ +12.0° to +18.4° (c, 2 in Me_2CO)(from Chinese galls, Sicilian sumach or Stagshorn sumach), $[\alpha]_D^{20}$ +21.7° to +23.2° (c, 2 in Me_2CO)(from Turkish galls). Forms precipitates with metal salts, alkaloids, albumen and gelatin.

Schoeller, W.R. *et al*, *Analyst (London)*, 1931, **56**, 795; 1932, **57**, 284; 1935, **60**, 284 (*use*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **2** (*use*)
Schmidt, O.T., *Fortschr. Chem. Org. Naturst.*, 1956, **13**, 70.
Armitage, R. *et al*, *J. Chem. Soc.*, 1961, 1842.
Britton, G. *et al*, *J. Chem. Soc. C*, 1966, 783.

Tartaric acid T-00002

2,3-Dihydroxybutanedioic acid, 9CI



(2*R*,3*R*)-*form*

$C_4H_6O_6$ M 150.088

DL-Nomenclature, although frequently used, is ambiguous when applied to Tartaric acid. Used as a masking agent for metals; gravimetric detn. of K; KH-tartrate is used as primary alkalimetric standard.

(2R,3R)-form [87-69-4]

L-form. L-Threaric acid

Occurs in many plants and fruit. Comly. available from the K,H salt deposited in fermenting grape juice. Acidulant for soft drinks and fruit jellies. Used to clean metals for plating, as a mordant for dyeing and in calico printing. Resolving agent for bases. Pharmaceutical aid (buffering agent). Mp 169-170°. $[\alpha]_D^{20}$ +12.0° (c, 20.0 in H_2O). pK_{a1} 2.98; pK_{a2} 4.34 (25°). Cream of tartar (the K,H salt) is used in baking powder; Rochelle salt (the K,Na salt) is used in electroplating and medicinally as a mild saline cathartic preparation; tartar emetic (the KSb salt) is used in low dose as an expectorant in cough syrups and in large doses as an emetic.

▷ WW7875000.

Mono-Na salt: [526-94-3].
$[\alpha]_D^{19}$ +21.8° (H_2O).

Di-NH_4 salt: [3164-29-2].
$[\alpha]_D^{15}$ +34.6° (H_2O).

▷ WW8050000.

Di-Me ester: [608-68-4]. *Dimethyl tartrate*
$C_6H_{10}O_6$ M 178.141
Mp 48°, Mp 62° (dimorph.).

*Bis-4-methylbenzoyl: Di-*p*-toluoyl tartrate*
$C_{20}H_{18}O_8$ M 386.357
Resolving agent. Mp 169-171°. $[\alpha]_D$ −141° (EtOH).

(2S,3S)-form [147-71-7]

D-form. D-Threaric acid

Found only in fruits and leaves of the West African tree *Bankinia reticulata* and combined as Chicoric acid (see below). Mp 169-170°. $[\alpha]_D^{20}$ −20.0° (c, 20.0 in H_2O). Not used commercially.

(2RS,3RS)-form [133-37-9]

(±)-*form*

Formed by heating the (+)-acid. Mp 205-206°. The first racemate to be separated into its antipodes.

Di-Me ester: Mp 84°, Mp 90° (dimorph.). Bp_{12} 158°.

(2RS,3SR)-form [147-73-9]

meso-*form. Racemic acid. Mesotartaric acid*

Mp 159-160°. pK_{a1} 3.17; pK_{a2} 4.91 (25°). Not found in nature.

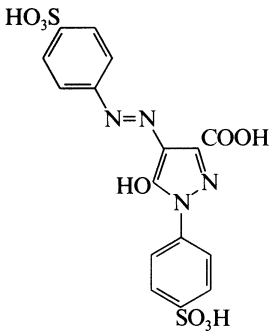
[18261-99-9]

Pasteur, L., *Ann. Chim. Phys.*, 1850, **28**, 79.
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1947, **2**, 176 (*use*)
Bijvoet, J.M. *et al*, *Nature (London)*, 1951, **171**, 168 (*cryst struct*)
Bijovet, J.M. *et al*, *Acta Crystallogr.*, 1958, **11**, 61 (*cryst struct*)
Org. Synth., Coll. Vol., 4, 1963, 242 (*anhydride*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 351 (*deriv*)
Handb. Biochem. Mol. Biol., 3rd Edn., 1975-1977, (Fasman, G.D., Ed.), 1975, 169.
Stothes, J.B. *et al*, *Can. J. Chem.*, 1977, **55**, 841 (*cmr*)
Kirk-Othmer Encycl. Chem. Technol., 3rd Ed., Wiley, N.Y., 1978-1984, **13**, 103.
Albertsson, J. *et al*, *J. Appl. Crystallogr.*, 1979, **12**, 537 (*cryst struct*)
Hawthorne, F.C. *et al*, *Acta Crystallogr., Sect. B*, 1982, **38**, 2461 (*cryst struct*)
Buding, H. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1985, **24**, 513 (*abs config, bibl*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 486.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DCH000, TAF750.

Tartrazine T-00003

4,5-Dihydro-5-oxo-1-(4-sulfophenyl)-4-[(4-sulfophenyl)azo]-1H-pyrazole-3-carboxylic acid, 9CI. 5-Hydroxy-1-(4-sulfophenyl)-4-[(4-sulfophenyl)azo]pyrazole-3-carboxylic acid. Hydrazine yellow. C.I. Food yellow 4. C.I. Acid yellow 23, 8CI

[34175-08-1]



$C_{16}H_{12}N_4O_9S_2$ M 468.424

Strictly the name Tartrazine applies to the trisodium salt. Cryst.

Tri-Na salt: [1934-21-0].
Used as a 0.01% soln. in EtOH for photometric detn. of Pd. Dye for wool and silk. Colour additive in foods, drugs, and cosmetics. Orange-yellow powder.

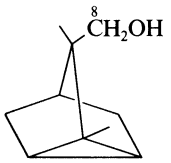
▷ UQ6400000.

U.K. Pat., 585 781, (1947); *CA*, **41**, 6727h (*synth*)
Freeman, K.A. *et al*, *J. Assoc. Off. Agric. Chem.*, 1950, **33**, 937 (*synth, uv*)
Popa, G. *et al*, *Zh. Anal. Khim.*, 1959, **14**, 322 (*detn, Pd*)
Colour Index, 3rd Ed, 1971, **4**, 4132.
Marmino, D.M. *et al*, *J. Assoc. Off. Anal. Chem.*, 1974, **57**, 495 (*pmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FAG140.

Teresantalol T-00004

2,3-Dimethyltricyclo[2.2.1.0^{2,6}]heptane-3-methanol, 9CI

[29550-55-8]



$C_{10}H_{16}O$ M 152.236

Constit. of Indian sandalwood oil (*Santalum album*). Cryst. (pet. ether/C_6H_6). Mp 115°. Bp_9 95-98°. $[\alpha]_D$ +12.1° (EtOH).

8-Aldehyde: [59300-39-9]. ***Teresantalal***
$C_{10}H_{14}O$ M 150.220
Constit. of the oil of *S. album*.

8-Carboxylic acid: [562-66-3]. ***α-Teresantalic acid***
$C_{10}H_{14}O_2$ M 166.219
Isol. from *S. album*. Cryst. (EtOH). Mp 158°. Bp_{20} 157-158°. $[\alpha]_D^{20}$ −76.6° (C_6H_6).

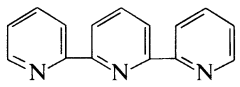
8-Carboxylic acid, chloride: [54793-90-7].
$C_{10}H_{13}ClO$ M 184.665
Reagent for gc resoln. of amino acid enantiomers.

Guha, P.C. *et al*, *J. Indian Chem. Soc.*, 1944, **59**, 271 (*isol*)
Nambara, T. *et al*, *J. Chromatogr.*, 1974, **100**, 180 (*use*)
Demole, E. *et al*, *Helv. Chim. Acta*, 1976, **59**, 737 (*isol*)
Monti, S.A. *et al*, *J. Org. Chem.*, 1978, **43**, 2282 (*synth*)

2,2′:6′,2″-Terpyridine, 9CI T-00005

α-Terpyridyl

[1148-79-4]



$C_{15}H_{11}N_3$ M 233.272

Forms complexes with transition and heavy metals. Used as 0.5% soln. in EtOH for photometric detn. of Ag (λ_{max} 465 nm); Ru (λ_{max} 475 nm, ε 8300, pH 5.5). Cryst. Sol. EtOH. Mp 88°.

1-N-Oxide: [97721-16-9].
$C_{15}H_{11}N_3O$ M 249.271
Mp 134-135°.

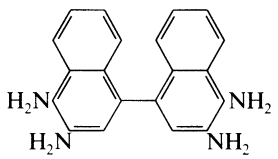
1,1″-Di-N-oxide: [97721-17-0].
$C_{15}H_{11}N_3O_2$ M 265.271
Cryst. Mp 232-233°.

Tri-N-oxide: [78017-86-4].
$C_{15}H_{11}N_3O_3$ M 281.270
Solid or cryst. Mp 320° dec.

Badger, G.M. *et al*, *J. Chem. Soc.*, 1956, 616 (*synth*)
Hogg, R. *et al*, *J. Chem. Soc.*, 1962, 341 (*complexes*)
Case, F.H., *J. Org. Chem.*, 1962, **27**, 640 (*oxides, synth*)
Gagliardi, E. *et al*, *Mikrochim. Acta*, 1964, 1175 (*detn, Ag*)
Kamra, L.C. *et al*, *Anal. Chim. Acta*, 1976, **81**, 177 (*detn, Ru*)
Thummell, R.P. *et al*, *J. Org. Chem.*, 1985, **50**, 3635 (*oxides, synth, ir, pmr, ms, uv*)

3,3′,4,4′-Tetraamino-1,1′-binaphthyl T-00006

[1,1′-Binaphthalene]-3,3′,4,4′-tetramine, 9CI. 3,3′-Diaminonaphthidine



$C_{20}H_{18}N_4$ M 314.389

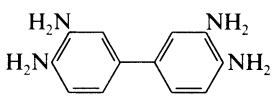
Used as a 0.2% soln. in AcOH as a redox indicator. Yellow cryst. (EtOH). Sol. AcOH, C_6H_6, dil. acids.

Belcher, R. *et al*, *J. Chem. Soc.*, 1958, 4454 (*synth, use*)

3,3′,4,4′-Tetraaminobiphenyl T-00007

3,3′-Diaminobenzidine. [1,1′-Biphenyl]-3,3′,4,4′-tetramine, 9CI. DAB

[91-95-2]



$C_{12}H_{14}N_4$ M 214.269

Used in photometric detn. of Se (λ_{max} 420 nm, ε 10200), Cr(*VI*), V; extraction-photometric detn. of $NO_2^{\ominus}$ (λ_{max} 350 nm, ε 3500, butanol); peroxidase substrate. Cryst. (MeOH). Mp 178-179°. pK_{a1} 6.20; pK_{a2} 5.16; pK_{a3} 3.0; pK_{a4} 2.4 (DMF, 20°). Darkens rapidly in air.

▷ DV8750000.

Tetra-B,HCl: [7411-49-6].
Cryst. Sol. acids.
▷ DV8753000.

[19010-26-5]

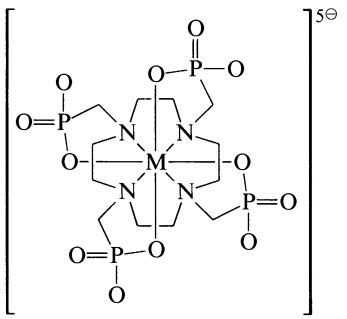
LeFèvre, R.J.W. *et al*, *J. Chem. Soc.*, 1927, 2330 (*synth*)
Hoste, J. *et al*, *Anal. Chim. Acta*, 1955, **12**, 158 (*Se*)
Cheng, K.L., *Anal. Chem.*, 1956, **28**, 1738 (*detn, Se*)
Danzuka, T. *et al*, *Anal. Chem.*, 1958, **30**, 1370 (*use*)

Cheng, K.L. *et al*, *Chemist-Analyst*, 1963, **52**, 73 (*detn, Cr(VI)*)
Vogel, H., *J. Polym. Sci., Polym. Chem. Ed.*, 1963, 1531 (*synth*)
Riley, J.P. *et al*, *Anal. Chim. Acta*, 1968, **41**, 175 (*detn, V*)
Lin, E. *et al*, *Mikrochim. Acta*, 1970, 652 (*detn, $NO_2^{\ominus}$*)
Balyatinskaya, L.N. *et al*, *J. Gen. Chem. USSR* (*Engl. Transl.*), 1978, **48**, 794.
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 349 (*use*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 508.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BGK500, BGK750.

(1,4,7,10-Tetraazacyclododecane-*N*,*N*′,*N*″,*N*‴-tetramethylenephosphonato)dysprosate(5−) T-00008

[[[*1,4,7,10-Tetraazacyclododecane-1,4,7,10-tetrayltetrakis(methylene)*]*tetrakis[phosphonato*]](*8*−)]*dysprosate(5*−*), 12CI*

[115701-67-2]



M = Dy

$C_{12}H_{24}DyN_4O_{12}P_4^{5\ominus}$ M 702.736 (ion)
^{23}Na nmr shift reagent. Colourless.

Sherry, A.D. *et al*, *J. Magn. Reson.*, 1988, **76**, 528 (*synth, use*)

[1,4,7,10-Tetraazacyclododecane-*N*,*N*′,*N*″,*N*‴-tetramethylenephosphonato]terbate(*III*) (5−) T-00009

[[[*1,4,7,10-Tetraazacyclododecane-1,4,7,10-tetrayltetrakis(methylene)*]*tetrakis[phosphonato*]](*8*−)-N,N′,N″,N‴,O^{P},$O^{P'}$,$O^{P''}$,$O^{P'''}$]*terbate(5*−*), 12CI*

[122762-22-5]

As (1,4,7,10-Tetraazacyclododecane-*N*,*N*′,*N*″,*N*‴-tetramethylenephosphonato)dysprosate(5−), T-00008 with

M = Tb

$C_{12}H_{24}N_4O_{12}P_4Tb^{5\ominus}$ M 699.161 (ion)
Used as nmr probe to study gene protein.

Dick, L.R. *et al*, *Biochemistry*, 1989, **28**, 7896 (*use*)

[1,4,7,10-Tetraazacyclododecane-*N*,*N*′,*N*″,*N*‴-tetramethylenephosphonato]thulate(*III*) (5−) T-00010

[[[*1,4,7,10-Tetraazacyclododecane-1,4,7,10-tetrayltetrakis(methylene)*]*tetrakis[phosphonato*]](*8*−)]*thulate(5*−*)*

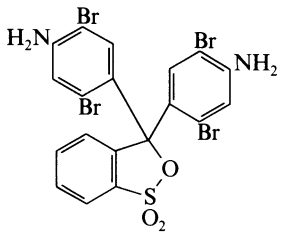
As (1,4,7,10-Tetraazacyclododecane-*N*,*N*′,*N*″,*N*‴-tetramethylenephosphonato)dysprosate(5−), T-00008 with

M = Tm

$C_{12}H_{24}N_4O_{12}P_4Tm^{5\ominus}$ M 709.170 (ion)
^{23}Na nmr shift reagent: potentially useful for monitoring $Na^{\oplus}$ levels in heart tissue.

Sherry, A.D. *et al*, *Lanthanide Probes in Life, Chemical and Earth Sciences*, (Bünzli, J-C.G, Ed.), Elsevier, 1989, 122 (*use*)

Tetrabromoanilinesulfonephthalein T-00011



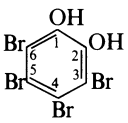
$C_{19}H_{12}Br_4N_2O_3S$ M 667.997
Used as a soln. in EtOH as acid-base indicator (pH range: 8.12-8.92, colour change: yellow→blue). Leaflets or short columns or prisms with green or bronze lustre. Sol. EtOH; insol. H_2O. pK_{a1} 8.48.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

Tetrabromo-1,2-benzenediol, 9CI T-00012

Tetrabromocatechol. Tetrabromopyrocatechol

[488-47-1]



$C_6H_2Br_4O_2$ M 425.697
Used for extraction-photometric detn. of Ti and Mo (anionic complexes of the reagent associated with basic dyes, CCl_4). Cryst. (EtOH). Mp 192-193°.

▷ UX2430000.

Di-Ac:
$C_{10}H_6Br_4O_4$ M 509.771
Cryst. (C_6H_6). Mp 215-216°.

Mono-Me ether: [35488-17-6]. *2,3,4,5-Tetrabromo-6-methoxyphenol. Tetrabromoguaiacol*
$C_7H_4Br_4O_2$ M 439.723
Cryst. (EtOH or $CHCl_3$). Mp 162-163°.

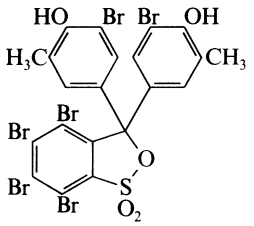
Di-Me ether: [83826-53-3]. *1,2,3,4-Tetrabromo-5,6-dimethoxybenzene. Tetrabromoveratrole*
$C_8H_6Br_4O_2$ M 453.750
Cryst. (CCl_4). Mp 151-152°.

Methylene ether: [15930-48-0]. *4,5,6,7-Tetrabromo-1,3-benzodioxole. Tetrabromomethylenedioxybenzene*
$C_7H_2Br_4O_2$ M 437.708
Cryst. (EtOH). Mp 208-209°.

Zincke, T., *Ber.*, 1887, **20**, 1776 (*synth*)
Jackson, C.L. *et al*, *Am. Chem. J.*, 1906, **35**, 169 (*deriv*)
Zetzsche, F. *et al*, *Helv. Chim. Acta*, 1927, **10**, 91 (*deriv*)
Frejha, J. *et al*, *Chem. Zentralbl.*, 1936, **1**, 2338 (*synth, deriv*)
Wulf, O.R. *et al*, *J. Chem. Phys.*, 1938, **6**, 702 (*ir*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 252 (*detn, Ti*)
Vinarova, L.I. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 2013 (*detn, Mo*)
Kajigaeshi, S. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1990, 897 (*di-Me ether*)

4,4′-(4,5,6,7-Tetrabromo-3*H*-2,1-benzoxathiol-3-ylidene)bis[2-bromo-6-methylphenol] *S,S*-dioxide T-00013

Dibromo-o-cresoltetrabromosulfonephthalein



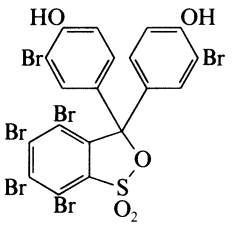
$C_{21}H_{12}Br_6O_5S$ M 855.813

Acid-base indicator (pH range: 5.2-6.8; colour change red → violet). Pink cryst. (AcOH). Sol. H_2O, dil. HCl.

Harden, W.C. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 562 (*synth*)

4,4′-(4,5,6,7-Tetrabromo-3*H*-2,1-benzoxathiol-3-ylidene)bis[2-bromophenol] *S,S*-dioxide T-00014

3,3′-Dibromophenoltetrabromosulfonephthalein



$C_{19}H_8Br_6O_5S$ M 827.759

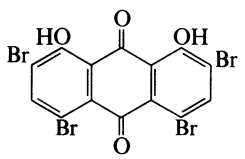
Acid-base indicator (pH range: 5.6-7.2; colour change: yellow → purple). Pink cryst. (AcOH). Sol. H_2O, dil. HCl.

Harden, W.C. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 562 (*synth*)

2,4,5,7-Tetrabromo-1,8-dihydroxyanthraquinone T-00015

2,4,5,7-Tetrabromo-1,8-dihydroxy-9,10-anthracenedione, *9CI*. *Tetrabromochrysazin*

[17139-66-1]



$C_{14}H_4Br_4O_4$ M 555.799

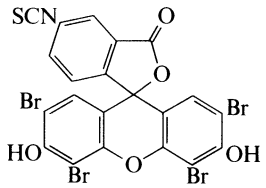
Used as a 1m*M* soln. in conc. H_2SO_4 for photometric detn. of B (λ_{max} 540 nm).

Karpen, W.L. *et al*, *Anal. Chem.*, 1961, **33**, 738 (*detn, B*)

2′,3′,4′,7′-Tetrabromo-3′,6′-dihydroxy-5-isothiocyanatospiro[isobenzofuran-1(3*H*),9′[9*H*]xanthen]-3-one, 9CI T-00016

Eosin-5-isothiocyanate

[60520-47-0]



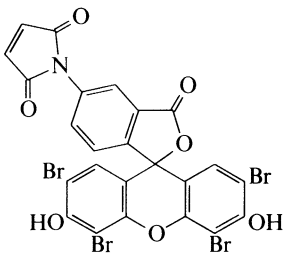
$C_{21}H_7Br_4NO_5S$ M 704.972

Fluorescent label for proteins.

Cherry, R.S. *et al*, *Biochemistry*, 1976, **15**, 3653.
Chen, R.F. *et al*, *Analyst* (*London*), 1985, **18**, 393 (*use*)

1-[2′,3′,4′,7′-Tetrabromo-3′,6′-dihydroxy-3-oxospiro[isobenzofuran-1(3*H*),9′-[9*H*]xanthen]-5-yl]-1*H*-pyrrole-2,5-dione, 9CI T-00017

Eosin-5-maleimide

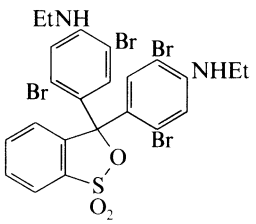


$C_{24}H_9Br_4NO_7$ M 742.954

Fluorescent label for thiol groups.

Curtis, S.K. *et al*, *Histochemistry*, 1980, **68**, 23 (*use*)
Mueller, M. *et al*, *FEBS Lett.*, 1985, **184**, 110 (*use*)
Huustek, J. *et al*, *J. Biol. Chem.*, 1985, **260**, 6288 (*use*)
Spring, O. *et al*, *Plant Sci.* (*Limerick, Irel.*), 1987, **48**, 203 (*use*)

Tetrabromo-*N*-ethylanilinesulfonephthalein T-00018



$C_{23}H_{20}Br_4N_2O_3S$ M 724.105

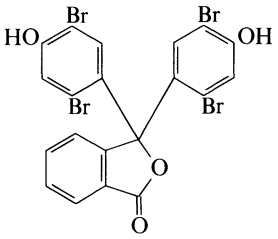
Used as a soln. in EtOH as acid-base indicator (pH range: 8.12 -9.33; colour change: blue → yellow). Leaflets, short columns, prisms with green or bronze lustre. Sol. EtOH; insol. H_2O. pK_{a2} 8.65.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

Tetrabromophenolphthalein T-00019

3,3-Bis(3,5-dibromo-4-hydroxyphenyl)-1(3H)-isobenzofuranone, 9CI

[76-62-0]



$C_{20}H_{10}Br_4O_4$ M 633.913

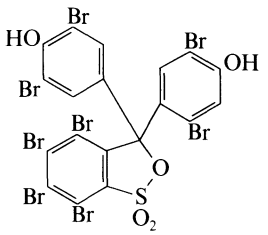
Used as acid-base indicator (pH range: 7.6 - 9.4, colour change: colourless → violet). Cryst. Sol. EtOH.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*, *ind*)

Tetrabromophenoltetrabromosulfonephthalein T-00020

4,5,6,7-Tetrabromo-1,1-bis(3,5-dibromo-4-hydroxyphenyl)-1,1-dihydro-3H-2,1-benzoxathiol-3-one, 1-oxide, 9CI

[61053-98-3]

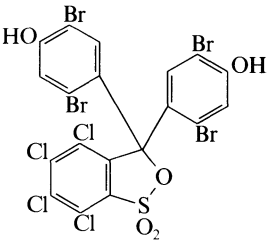


$C_{19}H_6Br_8O_5S$ M 985.551

Used as a soln. in 0.1*M* NaOH as acid-base indicator (pH range: 2.6-4.4; colour change: yellow → blue). Used for detn. of proteins in body fluids. pK_{a1} 3.56.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*, *ind*)
Ger. Pat., 2 510 633, (1976); *CA*, **85**, 188762g.

Tetrabromophenoltetrachlorosulfonephthalein T-00021

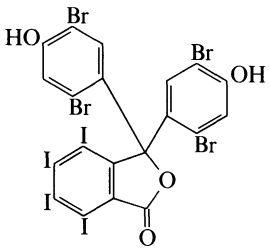


$C_{19}H_6Br_4Cl_4O_5S$ M 807.746

Used as a soln. in 0.1*M* NaOH as acid-base indicator (pH range: 2.6-4.4, colour change: yellow→blue). Pink cryst. Sol. EtOH. pK_{a1} 3.56.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*, *ind*)

Tetrabromophenoltetraiodophthalein T-00022



$C_{20}H_6Br_4I_4O_4$ M 1137.499

Used as acid-base indicator (pH range: 7.2 - 9.0, colour change: colourless → blue). Yellowish cryst. Spar. sol. EtOH.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*, *ind*)

Tetrabutylammonium(1+) T-00023

N,N,N-*Tributyl-1-butanaminium, 9CI*

[10549-76-5]

$(H_3CCH_2CH_2CH_2)_4N^{\oplus}$

$C_{16}H_{36}N^{\oplus}$ M 242.467 (ion)

Fluoride: [429-41-4].
$C_{16}H_{36}FN$ M 261.465
Catalyst for aldol condensations, acetylations etc. Fluoride ion source. Cryst. + $18H_2O$. Mp 37°. Also forms a hydrate with $32.8H_2O$, Mp 25°.

Azide: [993-22-6].
$C_{16}H_{36}N_4$ M 284.487
Relatively safe azide for synthetic use. Mp 80°.

Borohydride: [33725-74-5].
$C_{16}H_{40}BN$ M 257.310
Reagent for redn. of carboxylic acid to aldehydes. Sol. CH_2Cl_2, insol. Et_2O.

Formate: [35733-58-5].
$C_{17}H_{37}NO_2$ M 287.485
Reagent for OH-group epimerisations.

Iodotetrachloride:
$C_{16}H_{36}Cl_4IN$ M 511.182
Trans-chlorinating agent for alkenes. Mp 137-139° dec.

Chlorochromate: TBACC
$C_{16}H_{36}ClCrNO_3$ M 377.914
Mild, selective oxidising agent. Orange cryst. (EtOAc/hexane). Mp 184-185°.

Hydroxide: [2052-49-5].
$C_{16}H_{37}NO$ M 259.474
Strong base, suitable for use as nonaqueous titrant. Reagent for hydrol. of steroidal tosylates.
▷ BS5425000.

Bifluoride:
$C_{16}H_{37}F_2N$ M 281.472
Fluorinating agent. Mp 30-32°.

Perchlorate: [1923-70-2].
$C_{16}H_{36}ClNO_4$ M 341.917
Needles (EtOAc/pentane). Mp 212.5-213.5°.

Bromide: [1643-19-2].
$C_{16}H_{36}BrN$ M 322.371
Used for extraction-separation of Cd, Cr, Ir; extraction-photometric detn. of Au (λ_{max} 312 nm, $CHCl_3$). Prisms ($CHCl_3$/pet. ether). Mp 119-119.5°.
▷ BS5390000.

Tetrafluoroborate: [15553-52-3].
$C_{16}H_{36}BF_4N$ M 329.272
Needles (EtOAc/pentane). Mp 162-162.5°.

Acetate: [10534-59-5].
$C_{18}H_{39}NO_2$ M 301.512

Fine yellow cryst. (1,2-dimethoxyethane). Mp 75-83°. Further purification gave the AcOH solvate, Mp 112.5-114°.

Inorg. Synth., 1957, **5**, 176 (*iodotetrachloride*)
Cundiff, R.H. *et al*, *Anal. Chem.*, 1962, **34**, 584 (*use, hydroxide*)
Maeck, W.J. *et al*, *Anal. Chem.*, 1962, **34**, 1602 (*detn, Cr*)
Gutmann, V. *et al*, *Monatsh. Chem.*, 1964, **95**, 1034 (*azide*)
Wen, W.-Y. *et al*, *J. Phys. Chem.*, 1966, **70**, 1244 (*synth*)
Bravo, O. *et al*, *Anal. Chim. Acta*, 1969, **47**, 209 (*detn, Au*)
Soriano, J. *et al*, *Inorg. Nucl. Chem. Lett.*, 1969, **5**, 209 (*nmr*)
House, H.O. *et al*, *J. Org. Chem.*, 1971, **36**, 2371 (*synth, ir, pmr, bibl*)
Corey, E.J. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 6190 (*synth*)
Brandström, A. *et al*, *Tetrahedron Lett.*, 1972, 3173 (*borohydride*)
Cowell, D.B. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1974, 1505 (*use, hydroxide*)
Pless, J., *J. Org. Chem.*, 1974, **39**, 2644 (*fluoride*)
Kuwajima, J. *et al*, *Synthesis*, 1976, 602 (*fluoride*)
Boroch, E. *et al*, *Chem. Anal. (Warsaw)*, 1977, **22**, 295; 1980, **25**, 705 (*detn, Rh, Ir*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 563, 564; 1979, **7**, 353, 354; 1980, **8**, 467; 1981, **9**, 443, 444, 447 (*use*)
Ogilvie, K.K. *et al*, *Tetrahedron Lett.*, 1978, 1663 (*fluoride*)
Sharma, R.K. *et al*, *J. Org. Chem.*, 1983, **48**, 2112 (*props, bifluoride*)
Santaniello, E. *et al*, *Synthesis*, 1983, 749 (*chlorochromate, synth, use*)
Clark, J.H. *et al*, *Tetrahedron Lett.*, 1985, **26**, 2233 (*use, fluoride*)
Bosch, P. *et al*, *Tetrahedron Lett.*, 1987, **28**, 4733 (*bifluoride, synth, use*)
Camps, F. *et al*, *J. Org. Chem.*, 1989, **54**, 4294 (*bifluoride*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TBK500, TBK750.

Tetrabutylphosphonium(1+) T-00024

[15853-37-9]

$[P(CH_2CH_2CH_2CH_3)_4]^{\oplus}$

$C_{16}H_{36}P^{\oplus}$ M 259.434 (ion)

Chloride: [2304-30-5].
$C_{16}H_{36}ClP$ M 294.887
Used as a 0.3% aq. soln. for $ClO_4^{\ominus}$ extraction. Corrosion inhibitor. Protects bone marrow progenitor cells against mechlorethamine cytotoxicity. Cryst. Mp 67°, Mp 80-83°.
▷ TA2419000.

Bromide: [3115-68-2].
$C_{16}H_{36}BrP$ M 339.338
Polymerisation catalyst. Phase-transfer catalyst. Cryst. (Me_2CO/Et_2O). Mp 112°, Mp 100-103°.
▷ TA2417000.

Iodide: [3115-66-0].
$C_{16}H_{36}IP$ M 386.339
Phase-transfer catalyst. Cryst. (THF/Et_2O). Mp 98-99°.
▷ TA2420000.

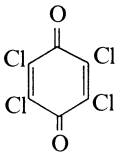
Acetate: [30345-49-4].
$C_{18}H_{39}O_2P$ M 318.479
Bactericide.

Speziale, A.J. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 1868 (*bromide*)
Kanai, K. *et al*, *Nippon Kagaku Zasshi*, 1965, **86**, 534; *CA*, **63**, 6586.
U.S. Pat., 3 341 580, (1967); *CA*, **68**, 13170 (*acetate*)
Fogg, A.G. *et al*, *Mikrochim. Acta*, 1970, 974 (*detn, $ClO_4^{\ominus}$*)
Swartz, W.E. *et al*, *Anal. Chem.*, 1971, **43**, 1066 (*nmr*)
Weigert, F.J. *et al*, *Inorg. Chem.*, 1973, **12**, 316 (*cmr*)
Tundo, P. *et al*, *Synthesis*, 1979, 952 (*iodide, use*)
Nanjokaitis, S.A. *et al*, *Chem. Biol. Interact.*, 1982, **40**, 133; *CA*, **97**, 86779 (*chloride*)
Landini, D. *et al*, *J. Org. Chem.*, 1982, **47**, 2264 (*bromide, use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TBL750, TBM000.

Tetrachloro-1,4-benzoquinone T-00025

2,3,5,6-Tetrachloro-2,5-cyclohexadeiene-1,4-dione, 9CI. Chloranil. Tetrachloroquinone

[118-75-2]

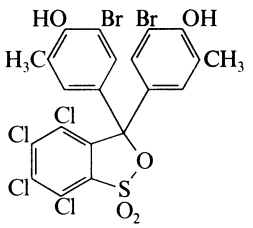


$C_6Cl_4O_2$ M 245.876
Dehydrogenation and allylic oxidn. reagent. Reagent for the spectrophotometric detn. of amines, amino acids and carboxylic acids. Golden-yellow leaflets (toluene). Mp 290° (sealed tube). Sublimes on careful heating.
▷ DK6825000.

Bouveault, M.L., *Ann. Chim. (Paris)*, 1908, **13**, 142 (*synth*)
Eller, W. *et al*, *Ber.*, 1922, **55**, 217 (*synth*)
Aplin, R.T. *et al*, *Chem. Ind. (London)*, 1966, 2009 (*ms*)
Stevenson, P.E., *J. Mol. Spectrosc.*, 1967, **23**, 191 (*uv*)
Kikot, B.S. *et al*, *J. Gen. Chem. USSR (Engl. Transl.)*, 1968, **38**, 883 (*ir*)
v. Weperen, K.J. *et al*, *Acta Crystallogr., Sect. B*, 1972, **28**, 338 (*cryst struct*)
Berger, S. *et al*, *Tetrahedron*, 1972, **28**, 3123 (*cmr*)
Al-Sulimany, F. *et al*, *Anal. Chim. Acta*, 1973, **66**, 195 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 75; **7**, 355.
Obtemperanskaya, S.I. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 707; *CA*, **99**, 32568b (*use*)
Smith, R.E. *et al*, *Anal. Chem.*, 1984, **56**, 2345 (*use*)
Muralikrishna, U., *J. Indian Chem. Soc.*, 1985, **62**, 1052 (*use, rev*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TBO500.

4,4′-(4,5,6,7-Tetrachloro-3*H*-2,1-benzoxathiol-3-ylidene)bis[2-bromo-6-methylphenol] *S,S*-dioxide T-00026

Dibromo-o-cresoltetrachlorosulfonephthalein



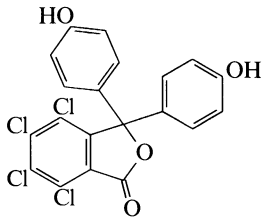
$C_{21}H_{12}Br_2Cl_4O_5S$ M 678.008
Acid-base indicator (pH range: 4.8-6.6; colour change: yellow → blue). Cryst. (AcOH). Sol. H_2O, dil. HCl. pK_a 5.64 (25°).

Harden, W.C. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 562.
Haring, M.M. *et al*, *J. Am. Chem. Soc.*, 1941, **63**, 1024 (*pKa*)

4,5,6,7-Tetrachloro-3,3-bis(4-hydroxyphenyl)-1(3*H*)-isobenzofuranone, 9CI T-00027

4,5,6,7-Tetrachloro-3,3-bis(4-hydroxyphenyl)phthalide

[639-44-1]



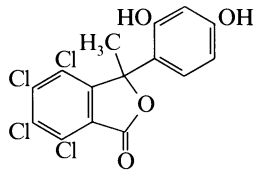
$C_{20}H_{10}Cl_4O_4$ M 456.107

Used as a 0.2% soln. in EtOH as adsorption indicator for argentometric titrimetric detn. of $Cl^{\ominus}$, $I^{\ominus}$. Cryst.

Singh, E., *J. Indian Chem. Soc.*, 1976, **53**, 948, 950 (*detn, $I^{\ominus}$, $Cl^{\ominus}$*)

4,5,6,7-Tetrachloro-3-(2,4-dihydroxyphenyl)-3-methyl-1(3*H*)-isobenzofuranone, 9CI T-00028

[10254-20-3]



$C_{15}H_8Cl_4O_4$ M 394.037

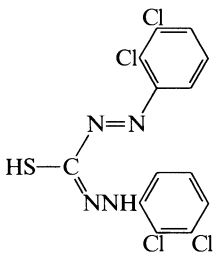
Used as a 0.1% soln. in EtOH as adsorption indicator in argentometric detn. of $Cl^{\ominus}$, $I^{\ominus}$, $Br^{\ominus}$, $SCN^{\ominus}$. Cryst. Mod. sol. EtOH.

Singh, E. *et al*, *Ann. Chim.* (*Paris*), 1972, 359 (*synth*)
Singh, E. *et al*, *J. Indian Chem. Soc.*, 1974, **51**, 822 (*use*)

2,2′,3,3′-Tetrachlorodithizone T-00029

(2,3-Dichlorophenyl)diazenecarbothioic acid 2-(2,3-dichlorophenylhydrazide), 9CI

[84592-11-0]



$C_{13}H_8Cl_4N_4S$ M 394.110

Used as a 0.01% soln. in $CHCl_3$ or CCl_4 for extraction-photometric detn. of Bi, Cd, Co, Cu, Hg, Ni, Pb, Tl, Zn ($CHCl_3$). Dark green cryst. powder. Sol. $CHCl_3$, CCl_4, EtOH, alkalis, insol. H_2O. pK_{a1} 4.87.

Mageed Kiwan, A. *et al*, *Anal. Chim. Acta*, 1982, **144**, 165; 1986, **182**, 245 (*use*)

2,2′,4,4′-Tetrachlorodithizone T-00030

(2,4-Dichlorophenyl)diazenecarbothioic acid 2-(2,4-dichlorophenylhydrazide), 9CI

[29674-82-6]

$C_{13}H_8Cl_4N_4S$ M 394.110

Used as a 0.01% soln. in $CHCl_3$ or CCl_4 for extraction-photometric detn. of Bi, Cd, Co, Cu, Hg, Ni, Pb, Tl, Zn ($CHCl_3$). Dark green cryst. powder. Sol. $CHCl_3$, CCl_4, EtOH, alkalis; insol. H_2O. pK_{a1} 5.8.

Mageed Kiwan, A. *et al*, *Anal. Chim. Acta*, 1982, **144**, 165; 1986, **182**, 245 (*use*)

2,2′,5,5′-Tetrachlorodithizone T-00031

(2,5-Dichlorophenyl)diazenecarbothioic acid 2-(2,5-dichlorophenylhydrazide), 9CI

[84592-10-9]

$C_{13}H_8Cl_4N_4S$ M 394.110

Used as a 0.01% soln. in $CHCl_3$ or CCl_4 for extraction-photometric detn. of Bi, Cd, Co, Cu, Hg, Ni, Pb, Tl, Zn ($CHCl_3$). Dark green cryst. powder. Sol. $CHCl_3$, CCl_4, EtOH, alkalis; insol. H_2O. pK_{a1} 5.08.

Mageed Kiwan, A. *et al*, *Anal. Chim. Acta*, 1982, **144**, 165; 1986, **182**, 245 (*use*)

2,2′,6,6′-Tetrachlorodithizone T-00032

(2,6-Dichlorophenyl)diazenecarbothioic acid 2-(2,6-dichlorophenylhydrazide), 9CI

[84592-09-6]

$C_{13}H_8Cl_4N_4S$ M 394.110

Used as a 0.01% soln. in $CHCl_3$ or CCl_4 for extraction-photometric detn. of Bi, Cd, Co, Cu, Hg, Ni, Pb, Tl, Zn ($CHCl_3$). Dark green cryst. powder. Sol. $CHCl_3$, CCl_4, EtOH, alkalis; insol. H_2O. pK_{a1} 3.67.

Mageed Kiwan, A. *et al*, *Anal. Chim. Acta*, 1982, **144**, 165 (*use*)

3,3′,4,4′-Tetrachlorodithizone T-00033

(3,4-Dichlorophenyl)diazenecarbothioic acid 2-(3,4-dichlorophenylhydrazide), 9CI

[84592-08-5]

$C_{13}H_8Cl_4N_4S$ M 394.110

Used as a 0.01% soln. in $CHCl_3$ or CCl_4 for extraction-photometric detn. of Bi, Cd, Co, Cu, Hg, Ni, Pb, Tl, Zn ($CHCl_3$). Dark green cryst. powder. Sol. $CHCl_3$, CCl_4, EtOH, alkalis; insol. H_2O. pK_{a1} 4.36.

Mageed Kiwan, A. *et al*, *Anal. Chim. Acta*, 1982, **144**, 165 (*use*)

3,3′,5,5′-Tetrachlorodithizone T-00034

(3,5-Dichlorophenyl)diazenecarbothioic acid 2-(3,5-dichlorophenylhydrazide), 9CI

[84592-07-4]

$C_{13}H_8Cl_4N_4S$ M 394.110

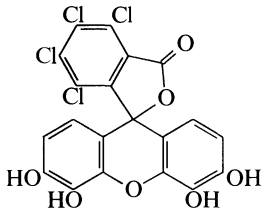
Used as a 0.01% soln. in $CHCl_3$ or CCl_4 for extraction-photometric detn. of Bi, Cd, Co, Cu, Hg, Ni, Pb, Tl, Zn ($CHCl_3$). Dark green cryst. powder. Sol. $CHCl_3$, CCl_4, EtOH, alkalis; insol. H_2O. pK_{a1} 5.95.

Mageed Kiwan, A. *et al*, *Anal. Chim. Acta*, 1982, **144**, 165 (*use*)

Tetrachlorogallein T-00035

4,5,6,7-Tetrachloro-3′,4′,5′,6-tetrahydroxyspiro[isobenzofuran-1(3H),9′-[9H]xanthen]-3-one, 9CI

[29817-83-2]



$C_{20}H_8Cl_4O_7$ M 502.090

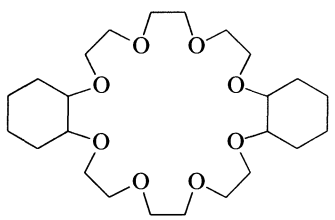
Used as a 1m*M* soln. in MeOH for photometric titrimetric detn. of In (λ_{max} 620 nm); as a 1m*M* aq. soln. for extraction-photometric detn. of Th (λ_{max} 660 nm, butanol). Sol. EtOH, Me_2CO, alkalis.

Mori, I. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1976, **25**, 239; 1982, **31**, 91 (*detn, In, Th*)

Tetracosahydrodibenz[*b,n*][1,4,7,10,13,16,19,22]octaoxacyclotetracosin, 9CI T-00036

Dicyclohexyl-24-crown-8. 2,5,8,11,18,21,24,27-Octatricyclo[26.4.0.0^{12,17}]dotriacontane

[17455-23-1]



$C_{24}H_{44}O_8$ M 460.607

Used as a complexing agent for alkali metal ions. Pale yellow viscous liq. Sol. EtOH, $CHCl_3$; sl. sol. H_2O. d_{20}^4 1.105. Mp <20°. n_{20} 1.49.

Pedersen, C.J., *J. Am. Chem. Soc.*, 1967, **89**, 7017 (*use*)

Cheng, R.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982 (*rev*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DGT300.

Tetracyanoethylene T-00037

Ethenetetracarbonitrile, 9CI. Tetracyanoethene

[670-54-2]

$$(NC)_2C{=}C(CN)_2$$

C_6N_4 M 128.093

Very reactive dienophile. Forms π-complexes with aromatic compds. Used for photometric detn. of tertiary amines, aromatic hydrocarbons and org. sulfur compds. Cryst. (chlorobenzene). Mp 198-200°. Bp 223°.

▷ Highly toxic. KM7300000.

Cairns, T.L. *et al*, *Angew. Chem.*, 1961, **73**, 520.

Org. Synth., Coll. Vol., **4**, 1963, 877 (*synth*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 567.

Obtemperanskaya, S. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 1618; 1982, **37**, 491 (*use*)

Tawa, R. *et al*, *Chem. Pharm. Bull.*, 1980, **28**, 541 (*use*)

Fatiadi, A.J., *Synthesis*, 1986, 249 (*rev*)

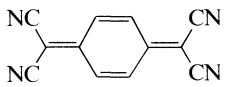
Petrowitz, H.J. *et al*, *Fresenius' Z. Anal. Chem.*, 1988, **330**, 126 (*use*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EEE500.

Tetracyanoquinodimethane T-00038

2,2′-(2,5-Cyclohexadiene-1,4-diylidene)bispropanedinitrile, 9CI. 2,5-Cyclohexadiene-Δ$^{1,\alpha;4,\alpha'}$-dimalononitrile, 8CI. 3,6-Bis(dicyanomethylene)-1,4-cyclohexadiene. TCNQ

[1518-16-7]



$C_{12}H_4N_4$ M 204.190

π-Acid complexing agent. Reagent for spectrophotometric anal. of amines. Used as a 0.5% soln. of Li or NH_4 salt in aq. EtOH as colour reagent in TLC of cations. Rust cryst. (MeCN or THF). Subl. 293.5-296°.

▷ GU4850000.

Compd. with anthracene (1:1): [1704-37-6]. Black needles. Subl. 282-283°.

Tetrathiofulvalene complex: [40210-84-2]. *Tetrathiafulvalene-tetracyanoquinodimethane. TTF-TCNQ* Charge-transfer complex. Shiny black needles.

Acker, D.S. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 3370 (*synth*)

Druding, L.F. *et al*, *Anal. Chem.*, 1963, **35**, 1582 (*use*)

Inorg. Synth., 1979, **19**, 32 (*synth, complex*)

Govers, H.A.J., *Acta Crystallogr., Sect. A*, 1982, **38**, 557 (*cryst struct*)

Obtemperanskaya, S.I. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 1894; *CA*, **98**, 118896y (*use*)

Crawford, R.J., *J. Org. Chem.*, 1983, **48**, 1366 (*synth*)

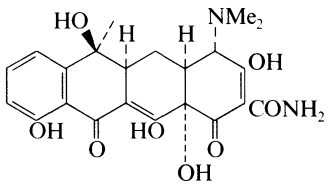
Yamaguchi, S. *et al*, *Bull. Chem. Soc. Jpn.*, 1989, **62**, 3036 (*synth*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TBW750.

Tetracycline, BAN, INN T-00039

4-(Dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-2-naphthacenecarboxamide, 9CI. Achromycin†. Orlycycline. Quatrimycin. Resteclin

[60-54-8]



$C_{22}H_{24}N_2O_8$ M 444.440

Prod. by *Streptomyces* spp. Antiamoebic, antibacterial and antirickettsial antibiotic. Used as a 1m*M* aq. soln. for fluorimetric detn. of Al, Be; fluorescent indicator in titrimetric detn. of Ca, Sr. Cryst. (toluene). Mp 170-175° dec. $[\alpha]_D^{25}$ −239° (MeOH). pK_{a1} 3.30; pK_{a2} 7.68; pK_{a3} 9.69 (H_2O, 25°), pK_{a1} 2.07; pK_{a2} 6.84; pK_{a3} 8.75; pK_{a4} 10.27; pK_{a5} 14.45. Other salts used as antibiotics.

▷ QI8750000.

B,HCl: [64-75-5]. *Tetracycline hydrochloride, USAN. Economycin. Numerous other synonyms* Cryst. (butanol/HCl). Mp 214° dec. $[\alpha]_D^{25}$ −257.9° (c, 0.5 in 0.1N HCl). Component of Tetrastatin.

▷ QI9100000.

Phosphate complex: [1336-20-5]. *Tetracycline phosphate complex, BAN, USAN. Numerous other synonyms*

Antibiotic. Yellow powder. Compound of Azotrex and Comycin.

4-Epimer; B,HCl: Epitetracycline hydrochloride, USAN
Component of Topicycline.

[79-85-6, 6416-04-2]

Ashton, A.A., *Anal. Chim. Acta*, 1966, **35**, 543 (*detn, Ca, Sr*)
Gurevich, A.I. *et al*, *Tetrahedron Lett.*, 1967, 131 (*synth*)
Barton, D.H.R. *et al*, *J. Chem. Soc. C*, 1971, 2164, 2166, 2175, 2184 (*synth*)
Alykova, T.V. *et al*, *Khim. Khim. Tekhnol. (Minsk)*, 1972, **15**, 1107 (*detn, Be*)
Tsherkesov, A.I. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 377 (*pKa, detn, Al*)
Asleson, G.L. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 4745 (*cmr*)
Stezowski, J.J., *J. Am. Chem. Soc.*, 1976, **98**, 6012 (*cryst struct*)
Caira, M.R. *et al*, *Acta Crystallogr., Sect. B*, 1977, **33**, 1171 (*cryst struct*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 168, 169, 170.
Ali, S.L., *Anal. Profiles Drug Subst.*, 1983, **13**, 597 (*pharmacol*)
Mitscher, L.A. *et al*, *Spectroscopy (Ottawa)*, 1983, **2**, 296 (*ms*)
Podojil, M. *et al*, *Drugs Pharm. Sci.*, 1984, **22**, 259 (*rev*)
Casy, A.F. *et al*, *J. Pharm. Biomed. Anal.*, 1984, **2**, 19 (*cmr*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 6510.
Curtis, R.D. *et al*, *Can. J. Chem.*, 1991, **69**, 834 (*N-15 nmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TBX000, TBX250.

1,1,3,3-Tetraethoxypropane, 9CI T-00040

Malonaldehyde bis(diethylacetal)

[122-31-6]

$(EtO)_2CHCH_2CH(OEt)_2$

$C_{11}H_{24}O_4$ M 220.308

Reagent used in the ms detn. of the amino acid sequence of arginine-containing peptides. Liq. d_4^{25} 0.916. Bp_8 92.3°, Bp_3 77-78°. n_D^{25} 1.4101.

▷ ON8750000.

McElvain, S.M. *et al*, *J. Am. Chem. Soc.*, 1947, **69**, 2657 (*synth*)
Shenyakin, M.M. *et al*, *Experientia*, 1967, **23**, 428 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MAN750.

Tetraethylammonium(1+) T-00041

Numerous proprietary names

[66-40-0]

$Et_4N^{\oplus}$

$C_8H_{20}N^{\oplus}$ M 130.253 (ion)

Various derivs. used as synthetic reagents as ion sources which are sol. in org. solvs. Ganglion blocking agent.

▷ BS5800000.

Bromide: [71-91-0]. *Tetrylammonium bromide, INN*
$C_8H_{20}BrN$ M 210.157
Cryst. (EtOH). V. sol. H_2O, EtOH, $CHCl_3$.
▷ BS5950000.

Bromide; Br_2 complex: Orange-red needles (EtOH). Mp 78° → dark red liq.

Chloride: [56-34-8]. *Etamon chloride*
$C_8H_{20}ClN$ M 165.705
Used for dehydrohalogenations. Very hygroscopic. V. sol. H_2O, EtOH, $CHCl_3$, Me_2CO.
▷ BS6125000.

Chloride, tetrahydrate: Prisms. Mp 37.5°.

Hydroxide: [77-98-5].
$C_8H_{21}NO$ M 147.260
Strong base. Used, e.g., in acetylation of nucleosides. Used to derivatise barbiturates for gc anal. Known only in soln. and in form of hydrates.
▷ KH3150000.

Hydroxide, tetrahydrate: Needles. V. sol. H_2O. Mp 49-50°.

Hydroxide, hexahydrate: Mp 55°.

Fluoride: [665-46-3].
$C_8H_{20}FN$ M 149.251
Reagent for deprotecting amino groups. Fluoride ion source. Cleaves Si-C bonds. Dihydrate.

Formate:
$C_9H_{21}NO_2$ M 175.270
Epimerising reagent for secondary alcohols. Hygroscopic cryst.

Crichton, D.C. *et al*, *J. Chem. Soc.*, 1907, **91**, 1794 (*synth, hydroxide*)
Wagner, L., *Z. Kristallogr.*, 1907, **43**, 190.
Walden, P., *Chem. Zentralbl.*, 1912, **1**, 1957.
Moe, G.K. *et al*, *Pharmacol. Rev.*, 1950, **2**, 61 (*rev, pharmacol*)
Kevill, D.N. *et al*, *J. Org. Chem.*, 1963, **28**, 567 (*use*)
Lohrman, R. *et al*, *J. Am. Chem. Soc.*, 1964, **86**, 4188 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 1137, 1138; **2**, 397; **6**, 568, 569; **7**, 356; **8**, 470.
MacGee, J., *Clin. Chem. (Winston-Salem, N.C.)*, 1971, **17**, 587 (*use*)
Carpino, L.A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1978, 358 (*use*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1062.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TCB725, TCC000, TCC250, TCC500.

Tetraethylborate(1−), 10CI, 9CI, 8CI T-00042

[44772-63-6]

$[Et_4B]^{\ominus}$

$C_8H_{20}B^{\ominus}$ M 127.057 (ion)

Li salt: [15003-13-1].
$C_8H_{20}BLi$ M 133.998
Battery electrolyte. Air- and moisture-sensitive.

Na salt: [15523-24-7]. *Sodium tetraethylborate*
$C_8H_{20}BNa$ M 150.047
Used for derivatisation of tri- and dimethyl lead, ionic alkyltin compounds in gc analysis; used to volatilise $Pb^{2\oplus}$ in purge-acid-trap detn. of Pb by graphite furnace AAS. White cryst. (toluene); sensitive to air, light, acid; highly hygroscopic. Sol. H_2O, Et_2O, THF, diglyme; insol. pentane; sl. sol. C_6H_6. Aqueous solns. alkaline.

Honeycutt, J.B. *et al*, *J. Am. Chem. Soc.*, 1961, **83**, 369 (*synth*)
Thompson, R.J. *et al*, *Inorg. Chem.*, 1965, **4**, 1464 (*props*)
Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*nmr*)
Binger, P. *et al*, *Justus Liebigs Ann. Chem.*, 1968, **717**, 21 (*use*)
Inorg. Synth., 1974, **15**, 136 (*synth, use*)
Horowitz, H.H. *et al*, *Proc. Electrochem. Soc.*, 1981, **81**, 131 (*use*)
Rapsomanikis, S. *et al*, *Anal. Chem.*, 1986, **58**, 35 (*detn, organo-Pb*)
Ashby, J.R. *et al*, *J. Anal. At. Spectrom.*, 1988, **3**, 735 (*detn, organometals*)
Sturgeon, R.E. *et al*, *Anal. Chem.*, 1989, **61**, 1867 (*detn, Pb*)
Ashby, J.R. *et al*, *Appl. Organomet. Chem.*, 1991, **5**, 173 (*detn, organo-Sn*)
Michel, P. *et al*, *Appl. Organomet. Chem.*, 1991, **5**, 393 (*detn, organo-Sn*)

Tetraethylene glycol T-00043

2,2′-[Oxybis(2,1-ethanediyloxy)]bisethanol, 9CI

[112-60-7]

$HOCH_2(CH_2OCH_2)_3CH_2OH$

$C_8H_{18}O_5$ M 194.227
Used in extraction of aromatics from petroleum and in resin manuf. Solv. for nitrocellulose. Bp 328°, Bp_2 157°.
▷ XC2100000.

Di-Me ether: [143-24-8]. *2,5,8,11,14-Pentaoxapentadecane, 8CI*
$C_{10}H_{22}O_5$ M 222.281
Used for extraction photometric detn. of Pd (λ_{max} 340 nm, 3-4*M* HCl, CH_2Cl_2). Liq. Sol. H_2O. d 1.009. Bp 275-276°.

Cyclic carbonate: Used in perfumery. Mp 42-44°. Bp 128-130°. Slight odour of musk.

Hill, J.W. *et al, J. Am. Chem. Soc.*, 1933, **55**, 5031 (*synth*)
Ziegler, M. *et al, Fresenius' Z. Anal. Chem.*, 1963, **197**, 354 (*detn, Pd*)
Ribeito, A.A. *et al, J. Phys. Chem.*, 1977, **81**, 957 (*nmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PBO500, TCE250.

Tetraethylenepentamine T-00044

N-(*2-Aminoethyl*)-N′-[*2-*[(*2-aminoethyl*)*amino*]*ethyl*]-*1,2-ethanediamine, 9CI. 1,4,7,10,13-Pentaazatridecane. Tetren*
[112-57-2]

$H_2NCH_2CH_2NHCH_2CH_2NHCH_2CH_2NHCH_2CH_2NH_2$

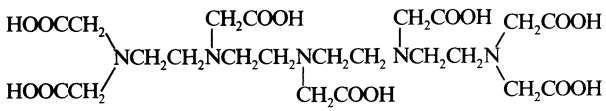
$C_8H_{23}N_5$ M 189.303
Organic base. Used in manuf. of lubricating oil additives. Used in the colorimetric anal. of nitro compds. Used as a 0.01*M* soln. in NaOH aq. for potentiometric titrimetric detn. of Cd, Cu, Hg, Ni, Zn. Masking agent. Viscous, hygroscopic liq. d_{20}^{20} 0.9980. Mp −40°. Bp 340°, Bp_1 151-152°.
▷ Irritant. KH8585000.

B,5HCl: [4961-41-5].
Cryst. (EtOH aq.). Mp 266-268°.

U.K. Pat., 753 489, (1956); *CA*, **51**, 5821f (*synth*)
Reilley, C.N. *et al, Anal. Chem.*, 1959, **31**, 243, 887 (*detn, Zn*)
Scrier, M. *et al, Mikrochim. Ichnoanal. Acta*, 1965, 1091; *CA*, **64**, 16632e (*use*)
Keana, J.F.W. *et al, J. Org. Chem.*, 1987, **52**, 2571 (*synth*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 498.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TCE500.

Tetraethylenepentaminehеptaacetic acid T-00045

N,N-*Bis*[*2-*[[*2-*[*bis*(*carboxymethyl*)*amino*]*ethyl*](*carboxymethyl*)*amino*]*ethyl*]*glycine, 9CI*
[3234-59-1]



$C_{22}H_{37}N_5O_{14}$ M 595.559
Tetra-Na salt: Used a a 0.01*M* aq. soln. for photometric detn. of lanthanides. Cryst.

Zaki, M. *et al, Analyst* (*London*), 1983, **108**, 531 (*use*)

Tetraethylphosphorodiamidic acid, 9CI, 8CI T-00046

$(Et_2N)_2P(O)OH$

$C_8H_{21}N_2O_2P$ M 208.240
Me ester: Methyl tetraethylphosphorodiamidate
$C_9H_{23}N_2O_2P$ M 222.267
Liq. Sol. H_2O. Bp_1 96°. n_D^{25} 1.4410.

Et ester: [3644-89-1]. *Ethyl tetraethylphosphorodiamidate*
$C_{10}H_{25}N_2O_2P$ M 236.293
Liq. Sol. H_2O. d_4^{20} 0.98. Bp_9 119-120°. n_D^{20} 1.4452.

Heptyl ester: [26084-39-9]. *Heptyl tetraethylphosphorodiamidate*
$C_{15}H_{35}N_2O_2P$ M 306.427
Used as a 0.02*M* soln. in C_6H_6 for extraction separation of Zr. Oily liq. Sol. common org. solvs., insol. H_2O. Bp_2 155°. n_D^{20} 1.4489.

Fluoride: [562-17-4].
$C_8H_{20}FN_2OP$ M 210.231
Liq. Bp_{22} 127-128°.
▷ TD3850000.

Isothiocyanate: Tetraethyl phosphor(*isothiocyanatidic*) *diamide*
$C_9H_{20}N_3OPS$ M 249.316
Liq. d_4^{20} 1.07. $Bp_{0.1}$ 82-84°. n_D^{20} 1.5030.

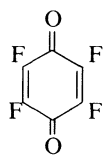
Isocyanate: [18025-89-3]. *Tetraethyl phosphor*(*isocyanatidic*) *diamide*
$C_9H_{20}N_3O_2P$ M 233.250
Reactive liq. d^{20} 1.08. Bp_1 112-114°. n_D^{20} 1.4629.

Azide: [59740-66-8].
$C_8H_{20}N_5OP$ M 233.253
Liq. $Bp_{0.8}$ 104°. n_D^{20} 1.4678.

Heap, R. *et al, J. Chem. Soc.*, 1948, 1313 (*fluoride*)
Loev, B. *et al, J. Org. Chem.*, 1957, **22**, 1186 (*esters, synth, props*)
Michalski, J. *et al, Pol. J. Chem.* (*Rocz. Chem.*), 1957, **31**, 879; *CA*, **52**, 8037 (*isothiocyanate*)
Cheymol, J. *et al, C. R. Hebd. Seances Acad. Sci.*, 1959, **249**, 1240 (*methyl ester*)
Scott, F.L. *et al, J. Org. Chem.*, 1962, **27**, 4255 (*azide, synth, ir*)
Shtepanek, A.S. *et al, CA*, 1968, **68**, 114695 (*isocyanate*)
Alimarin, I.P. *et al, Zh. Anal. Khim.*, 1969, **24**, 1386 (*heptyl ester, sepn, Zr*)
Abramov, V.S. *et al, Zh. Obshch. Khim.*, (*Engl. transl.* p. 974, 2180), 1969, **39**, 1003, 2234 (*ethyl ester*)
Litvincheva, A.S. *et al, Izv. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 1823), 1970, 1935 (*heptyl ester, use*)
Landau, M.A. *et al, Zh. Strukt. Khim.*, (*Engl. transl.* p. 467), 1970, **11**, 513 (*fluoride, struct*)

Tetrafluoro-1,4-benzoquinone T-00047

2,3,5,6-Tetrafluoro-2,5-cyclohexadiene-1,4-dione, 9CI
[527-21-9]



$C_6F_4O_2$ M 180.058
Spray reagent for thin-layer chromatog. detn. of alkaloids, penicillins, etc. Yellow cryst. Mp 182-185° (179°).

Wallenfels, K. *et al, Chem. Ber.*, 1957, **90**, 2819 (*synth*)
Nield, E. *et al, Tetrahedron*, 1960, **8**, 38 (*synth*)
Kikot, B.S. *et al, J. Gen. Chem. USSR* (*Engl. Transl.*), 1968, **38**, 883 (*ir*)
Meresse, A. *et al, Acta Crystallogr., Sect. B*, 1974, **30**, 524 (*cryst struct*)
Hudlicky, M. *et al, J. Fluorine Chem.*, 1975, **6**, 201 (*synth, nmr*)
Agarwal, S.P. *et al, J. Chromatogr.*, 1985, **323**, 424 (*use*)
Hagen, K. *et al, Acta Crystallogr., Sect. C*, 1987, **43**, 1959 (*cryst struct*)

Tetraheptylammonium(1+) T-00048

N,N,N-*Triheptylheptanaminium(1+), 9CI*

[35414-25-6]

$[H_3C(CH_2)_6]_4N^{\oplus}$

$C_{28}H_{60}N^{\oplus}$ M 410.789 (ion)

Hydroxide:

$C_{28}H_{61}NO$ M 427.796

Reagent for on-column heptylation of barbiturates for gc sepn. Prepd. in MeOH soln. from the iodide.

Chloride: [10247-90-2].

$C_{28}H_{60}ClN$ M 446.241

Yellow liq. d_{35} 0.8817. Mp −9°.

Bromide: [4368-51-8].

$C_{28}H_{60}BrN$ M 490.693

Used for prep. of liq. membranes for anion selective electrodes; used in chromatographic sepn. of steroids. Commercially available. Ion-pair agent used in sepn. of org. acids by ion-pair reversed-phase tlc. Hygroscopic flaky powder. Mp 87-89°.

▷ Irritant.

Iodide:

$C_{28}H_{60}IN$ M 537.693

Mp 121-122°.

Carbonate (1:2): [42485-81-4].

Used to extract $Br^{\ominus}$, $I^{\ominus}$, $Cl^{\ominus}$ from aq. soln. by gc.

Eriksen, S.P. *et al*, *J. Org. Chem.*, 1960, **25**, 849 (*synth, iodide*)
Reinsfelder, R.E. *et al*, *Anal. Chim. Acta*, 1973, **65**, 425 (*use*)
Matthews, D.R. *et al*, *Anal. Lett.*, 1973, **6**, 513 (*extn, $Br^{\ominus}$, $I^{\ominus}$, $Cl^{\ominus}$*)
Galli, R. *et al*, *CA*, 1975, **83**, 90423f (*use*)
Mattox, V.R. *et al*, *J. Chromatogr.*, 1975, **108**, 23 (*use*)
Giovanniello, T.J. *et al*, *Clin. Chem.* (*Winston-Salem, N.C.*), 1977, **23**, 2154 (*use, hydroxide*)
Poole, C.F. *et al*, *J. Chromatogr.*, 1986, **352**, 407 (*synth, chloride*)
Wilson, I.D., *J. Chromatogr.*, 1986, **354**, 99 (*use, bromide*)
Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 3269D.

Tetrahexylammonium(1+) T-00049

N,N,N-*Trihexylhexanaminium(1+), 9CI*

[20256-54-6]

$[H_3C(CH_2)_5]_4N^{\oplus}$

$C_{24}H_{52}N^{\oplus}$ M 354.681 (ion)

Hydroxide: [17756-56-8].

$C_{24}H_{53}NO$ M 371.689

Reagent for on-column hexylation of barbiturates for gc sepn. Prepd. in MeOH soln. from the iodide.

Chloride: [5922-92-9].

$C_{24}H_{52}ClN$ M 390.134

Used as a soln. in dichloroethane for extraction-separation of In. Cryst.

Iodide: [2138-24-1].

$C_{24}H_{52}IN$ M 481.586

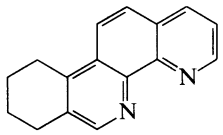
Used as a soln. in dichloroethane for extraction-separation of metal complexes with azo dyes. Cryst. Mp 102-103°.

[4328-13-6]

Eriksen, S.P. *et al*, *J. Org. Chem.*, 1960, **25**, 849 (*synth, iodide*)
Irving, H.M.N. *et al*, *Anal. Chim. Acta*, 1970, **50**, 277 (*detn, Ir*)
Woodward, C. *et al*, *Talanta*, 1973, **20**, 417 (*use*)
Giovanniello, T.J. *et al*, *Clin. Chim. Acta*, 1976, **67**, 7 (*use, hydroxide*)
Giovanniello, T.J. *et al*, *Clin. Chem.* (*Winston-Salem, N.C.*), 1977, **23**, 2154 (*use, hydroxide*)

7,8,9,10-Tetrahydrobenzo[*c*][1,10]phenanthroline T-00050

3,4-Cyclohexeno-1,10-phenanthroline



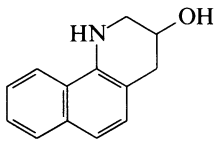
$C_{16}H_{14}N_2$ M 234.300

Used as a redox indicator. Cryst. (C_6H_6). Sol. EtOH, C_6H_6; spar. sol. H_2O. Mp 208-209°. pK_{a1} 5.66 (25°).

Case, F.A., *J. Org. Chem.*, 1956, **21**, 1069 (*synth*)
Schilt, A.A. *et al*, *J. Phys. Chem.*, 1956, **60**, 1546 (*pKa*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

1,2,3,4-Tetrahydrobenzo[*h*]quinolin-3-ol, 9CI T-00051

1,2,3,4-Tetrahydro-3-hydroxybenzo[h]*quinoline*



$C_{13}H_{13}NO$ M 199.252

(±)-***form*** [5423-67-6]

Reagent for the photometric detn. of amines. Cryst. (PhCl). Mp 151.9-152.2°.

B,HCl: [73579-26-7].

Cryst. (EtOH/Et_2O). Mp 245° dec.

Benzoyl: [30727-62-9].

$C_{20}H_{17}NO_2$ M 303.360

Cryst. (MeOH). Mp 124.7-125°.

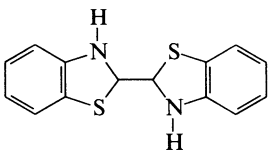
Benzoyl; B,HCl: Cryst. (EtOH). Mp 148.7-149.5°.

Vorozhtsov, N.N. *et al*, *Zh. Obshch. Khim.*, 1957, **27**, 2521; *CA*, **52**, 7317h (*synth*)
Kratochvil, V. *et al*, *CA*, 1986, **105**, 196392h; 1987, **107**, 190100f (*use*)

2,2′,3,3′-Tetrahydro-2,2′-bibenzothiazole, 9CI T-00052

2,2′-Bisbenzothiazoline

[19258-20-9]



$C_{14}H_{12}N_2S_2$ M 272.394

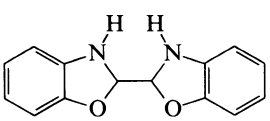
Used for photometric detn. of Cd. Cryst. (EtOH). Spar. sol. H_2O, EtOH, Me_2CO, C_6H_6.

Degushi, M., *Bunseki Kagaku* (*Jpn. Anal.*), 1969, **18**, 159.

2,2′,3,3′-Tetrahydro-2,2′-bibenzoxazole, 9CI T-00053

2,2′-Bibenzoxazoline

[26903-08-2]

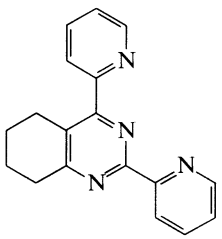


$C_{14}H_{12}N_2O_2$ M 240.261
Used for photometric detn. of Ca. Pale yellow cryst. (MeOH). Sol. C_6H_6, dioxan, MeOH; mod. sol. EtOH; insol. H_2O, $CHCl_3$. Mp 204°. Rearranges to glyoxal bis(2-hydroxyanil) in alkaline medium.

Murase, I., *Bull. Chem. Soc. Jpn.*, 1959, **32**, 827.
Sandell, E.B. *et al*, *Photometric Determination of Traces of Metals*, Wiley, New York, 1978.

5,6,7,8-Tetrahydro-2,4-bis(2-pyridyl) quinazoline T-00054

5,6,7,8-Tetrahydro-2,4-di-2-pyridylquinazoline, 8CI
[10198-86-4]

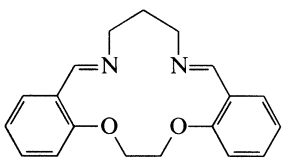


$C_{18}H_{16}N_4$ M 288.351
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 582 nm, ε 10500), Cu(*I*) (λ_{max} 438 nm, ε 2500). Cryst. (cyclohexanone). Sol. C_6H_6, dil. HCl. Mp 136-137°.

Lafferty, J.J. *et al*, *J. Org. Chem.*, 1967, **32**, 1591 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1969, **16**, 519 (*detn, Cu, Fe*)

8,9,17,18-Tetrahydro-7*H*-dibenzo[*e,n*][1,4,8,12]-dioxadiazacyclopentadecine, 9CI T-00055

5,6:14,15-Dibenzo-1,4-dioxa-8,12-diazacyclopentadeca-7,12-diene
[52026-37-6]

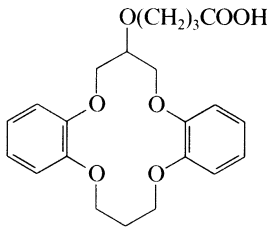


$C_{19}H_{20}N_2O_2$ M 308.379
Used as 0.5m*M* $CHCl_3$ soln. for extraction separation of Ag; extraction-photometric detn. of Ag. Cryst. Sol. $CHCl_3$, 1,2-dichloroethane, 1,2-dimethylbenzene, $PhNO_2$.

Armstrong, L.G. *et al*, *Inorg. Chem.*, 1975, **14**, 1322 (*synth*)
Morosanova, E.I. *et al*, *Mikrochim. Acta*, 1984, **3**, 389 (*extrn, Ag*)
Morosanova, E.I. *et al*, *Zh. Anal. Khim.*, 1988, **43**, 1614 (*detn, Ag*)

2-[(7,8,16,17-Tetrahydro-6*H*,15*H*-dibenzo[*b,i*][1,4,8,11] tetraoxacyclotetradecin-7-yl)oxy] butanoic acid, 9CI T-00056

4-(sym-Dibenzo-14-crown-4-oxy)butanoic acid
[124617-95-4]

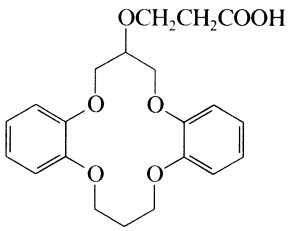


$C_{22}H_{26}O_7$ M 402.443
Used as 0.1m*M* $CHCl_3$ soln. for extraction separation of Ca, Sr, Ba. Cryst. (EtOH). Sol. CH_2Cl_2, $CHCl_3$, EtOH. Mp 115-118°.

Uhlemann, E. *et al*, *Anal. Chim. Acta*, 1989, **224**, 47 (*synth, use*)

3-[(7,8,16,17-Tetrahydro-6*H*,15*H*-dibenzo[*b,i*][1,4,8,11] tetraoxacyclotetradecin-7-yl)oxy] propanoic acid, 9CI T-00057

3-(sym-Dibenzo-14-crown-4-oxy)propanoic acid
[124617-93-2]

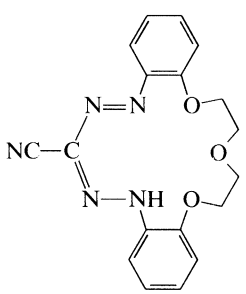


$C_{21}H_{24}O_7$ M 388.416
Used as 0.1m*M* $CHCl_3$ soln. for extraction separation of Ca, Sr, Ba. Cryst. (EtOH aq.). Sol. CH_2Cl_2, $CHCl_3$, EtOH. Mp 136-138°.

Uhlemann, E. *et al*, *Anal. Chim. Acta*, 1989, **224**, 47 (*synth, use*)

6,7,9,10-Tetrahydro-16*H*-dibenzo[*b,i*][1,11,14,4,5,7,8] trioxatetraazacyclohexadecine-18-carbonitrile, 9CI T-00058

2,3,5,6-Tetrahydro-7-cyano-5H-dibenzo[h,o]-1,4,7,10,11,13,14-trioxatetraazacyclohexadecine
[80473-46-7]



$C_{18}H_{17}N_5O_3$ M 351.364

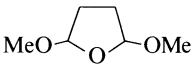
Used as Me_2CO soln. as a selective chelating reagent for alkali metals. Dark red cryst. Sol. C_6H_6, $CHCl_3$, DMF, Py, EtOH; insol. H_2O. Mp 163-164°.

Dziomko, V.M. *et al*, *Zh. Obshch. Khim.*, 1981, **51**, 2324 (*synth, use*)

Tetrahydro-2,5-dimethoxyfuran T-00059

2,5-Dimethoxytetrahydrofuran, 9CI. 2,5-Dimethoxyoxolane

[696-59-3]



$C_6H_{12}O_3$ M 132.159

Reagent for pyrrole synth. Used as a soln. in 1,2-dichloroethane for photometric detn. of NH_3 (λ_{max} 630 nm, ε 45200). Liq. Misc. EtOH, C_6H_6, Me_2CO, Et_2O. d^{20} 1.023. Bp 145-147°, Bp_{22} 52-54°.

Bazilevskaya, G.I. *et al*, *CA*, 1958, **52**, 18486g; 1959, **53**, 424a (*synth*)

East Ger. Pat., 25 656, (1963); *CA*, **60**, 10650e (*synth*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 144.

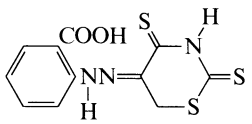
Gross, R.L. *et al*, *CA*, 1978, **89**, 168791y (*detn, NH_3*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DON800.

2-[(Tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo]benzoic acid, 9CI T-00060

Carboxybenzeneazothiopropiorhodanine

[64780-76-3]



$C_{11}H_9N_3O_2S_3$ M 311.409

Several tautomers possible. Used as 0.1% aq. soln. for photometric detn. of Ag, gives colour reactions with Ag, Au, Pd, Pt. Orange cryst. Sol. H_2O, EtOH, Me_2CO.

Gur'eva, R.F. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 632 (*synth, detn, Ag*)

Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1987, **34**, 87 (*rev*)

Tetrahydrofuran, 9CI T-00061

Tetramethylene oxide. Oxolan. Furanidine. THF

[109-99-9]

C_4H_8O M 72.107

A new process (1992) operated by Du Pont involves hardened-catalyst oxidn. of butane. Extensively-used solvent. Useful for reactions involving organo-Li compds. and Grignard reagents. Precursor for polyether glycols. Used as an extraction solvent e.g. for Fe(*III*)-SCN complex. Liq. with characteristic ethereal-type odour. Misc. most org. solvents; mod. sol. H_2O. d_4^{21} 0.888. Fp −65°. Bp 64-65°.

▷ Forms explosive peroxides. Irritant, TLV 590. Highly flammable. LU5950000.

Org. Synth., 1936, **16**, 77 (*synth*)

Specker, H. *et al*, *Fresenius' Z. Anal. Chem.*, 1953, **140**, 353; 1956, **149**, 97 (*use*)

U.S. Pat., 2 846 449, (1958) (*manuf*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 570.

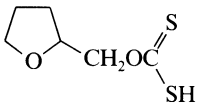
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 492.

Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 500.

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TCR750.

O-[(Tetrahydro-2-furanyl)methyl] carbonodithioate T-00062

(2-Tetrahydrofurfuryl)xanthate



$C_6H_{10}O_2S_2$ M 178.276

K salt: [96941-70-7].

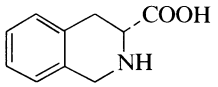
Used as a 0.2% aq. soln. for photometric detn. of Co (λ_{max} 350 nm, ε 16500), Ir (λ_{max} 380 nm, ε 5010), Ni (λ_{max} 420 nm, ε 3200). Cryst.

Hussain, M.F. *et al*, *Analyst (London)*, 1985, **110**, 1131.

1,2,3,4-Tetrahydro-3-isoquinolinecarboxylic acid T-00063

Porretine

[35186-99-3]



(R)-form

$C_{10}H_{11}NO_2$ M 177.202

Useful intermed. for synth. of biologically active compds.

(R)-form

Mp >280°. $[\alpha]_D^{21}$ +176.8° (c, 1 in 1*M* NaOH). Opt. rotn. erroneously given as (−) in one paper.

(S)-form [74163-81-8]

Reagent for the resoln. of chiral amino acids. Scales. Mp >280°. $[\alpha]_D^{19}$ −177.4° (c, 1 in 1*M* NaOH).

(±)-form [67123-97-1]

Picrate: Yellow cryst. (EtOH). Mp 204°.

Me ester:

$C_{11}H_{13}NO_2$ M 191.229

Liq. $Bp_{0.1}$ 95-98° (bulb to bulb).

Me ester; B,HCl: Cryst. ($MeOH/Et_2O$). Mp 302-303°.

Et ester: [55857-63-1].

$C_{12}H_{15}NO_2$ M 205.256

Oil. Bp_1 120°.

Amide:

$C_{10}H_{12}N_2O$ M 176.218

Solid. Mp 162-163°.

Amide; B,HCl: Cryst. ($MeOH/Et_2O$). Mp 294-295°.

[15912-55-7, 57060-86-3, 57060-88-5, 112794-29-3, 112794-30-6]

Julian, P. *et al*, *J. Am. Chem. Soc.*, 1948, **70**, 182 (*synth*)

Hein, G. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 4487 (*synth*)

Saxena, A.K. *et al*, *Indian J. Chem.*, 1975, **13**, 230 (*Me ester*)

Hayashi, K. *et al*, *Chem. Pharm. Bull.*, 1983, **31**, 312 (*synth, bibl*)

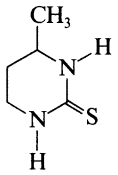
Grunewald, G.L. *et al*, *J. Med. Chem.*, 1988, **31**, 824 (*ester, amide, synth, ir, pmr, cmr, ms*)

Shinkai, H. *et al*, *J. Med. Chem.*, 1988, **31**, 2092 (*synth*)

Jeanneret-Aris, A. *et al*, *Chromatographia*, 1990, **29**, 449 (*use*)

Tetrahydro-4-methyl-2(1*H*)-pyrimidinethione, 9CI T-00064

[45644-14-2]



$C_5H_{10}N_2S$ M 130.213

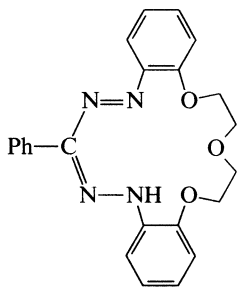
Used as 1% aq. soln. for extraction-photometric detn. of Bi (λ_{max} 405 nm, ε 12000, $CHCl_3$), Sb, Sn. Cryst. (EtOH). Sol. $CHCl_3$; mod. sol. H_2O. Mp 183-184.5°.

McKay, A.F. *et al*, *Can. J. Chem.*, 1954, **32**, 59 (*synth*)
Presnyak, I.S. *et al*, *Zh. Anal. Khim.*, 1990, **45**, 1548 (*synth, use*)

6,7,9,10-Tetrahydro-18-phenyl-16*H*-dibenzo[*b,i*][1,11,14,4,5,7,8]trioxatetraazacyclohexadecine, 9CI T-00065

Macrocyclic formazan III

[90906-68-6]



$C_{23}H_{22}N_4O_3$ M 402.452

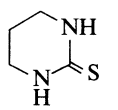
Used as 1m*M* soln. in $CHCl_3$ or 4-methyl-2-pentanone as a selective extraction reagent for Cu and Hg (in the presence of picrate); extraction of Cu. Cryst. Sol. $CHCl_3$, 4-methyl-2-pentanone, EtOH.

Niz'eva, N.V. *et al*, *Dokl. Akad. Nauk SSSR*, 1984, **274**, 611 (*synth, use*)
Isakova, N.V. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 1045 (*detn, Cu, Hg*)

Tetrahydro-2(1*H*)-pyrimidinethione T-00066

Hexahydropyrimidine-2-thione. Trimethylenethiourea

[2055-46-1]



$C_4H_8N_2S$ M 116.187

Used as 0.1% aq. soln. for extraction-photometric detn. of Bi (λ_{max} 430 nm, ε 13000, $CHCl_3$), Sb. Cryst. (EtOH). Mp 211-211.5°.

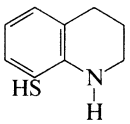
▷ UW5782000.

McKay, A.F. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 1618 (*synth*)
Behringer, H. *et al*, *Justus Liebigs Ann. Chem.*, 1957, **607**, 67 (*synth, uv*)
Presnyak, I.S. *et al*, *Zh. Anal. Khim.*, 1990, **45**, 1548 (*synth, use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TLS000.

1,2,3,4-Tetrahydro-8-quinolinethiol, 8CI T-00067

1,2,3,4-Tetrahydro-8-mercaptoquinoline

[21570-31-0]



$C_9H_{11}NS$ M 165.259

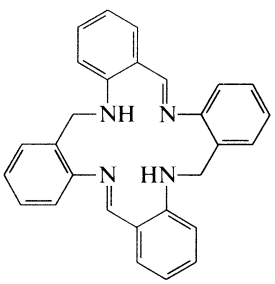
Used as a soln. in $CHCl_3$ for extraction-photometric detn. of Bi (λ_{max} 470 nm, ε 4700, $CHCl_3$). Cryst. Sol. common org. solvs. pK_{a1} 3.61; pK_{a2} 3.76; pK_{a3} 6.25; pK_{a4} 6.40.

Sturis, A. *et al*, *CA*, 1968, **69**, 90436y; **70**, 68091f, 77150b; **72**, 28061f (*pKa, props, ir, synth, use*)
Znika, I. *et al*, *CA*, 1968, **70**, 72283n (*ir*)

5,6,17,18-Tetrahydrotetrabenzo[*b,f,j,n*]-1,5,9,13-tetraazacyclohexadecine, 9CI T-00068

Tetrabenzo[b,f,j,n]-*1,5,9,13-tetraaza-8,16-cyclohexadecadiene*

[62609-23-8]



$C_{28}H_{24}N_4$ M 416.524

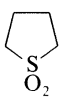
Used as 5m*M* soln. in $CHCl_3$ for selective extraction of Cu(*II*) (in the presence of picrate; pH 4.5-6.5). Cryst. Sol. $CHCl_3$.

Zolotov, Yu.A. *et al*, *Dokl. Akad. Nauk SSSR*, 1981, **258**, 889 (*synth*)
Zolotov, Yu.A. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 1543 (*detn, Cu*)

Tetrahydrothiophene-1,1-dioxide, 9CI T-00069

Sulfolane. Tetramethylene sulfone

[126-33-0]



$C_4H_8O_2S$ M 120.172

Constit. of the sponge/tunicate composite, *Batzella* sp./*Lissoclinum* sp. High-boiling polar aprotic solv. Used for extraction of aromatics from hydrocarbon mixts. Used as solvent for measuring polarographic half-wave potentials for alkali metals and Ba. Bitter tasting oil. d 1.261. Mp 27°. Bp 285°, Bp_{18} 153-154°.

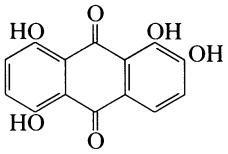
▷ Mod. toxic. XN0700000.

Arnett, E.M. *et al*, *J. Am. Chem. Soc.*, 1964, **86**, 409 (*use*)
Morrow, G.S., *CA*, 1970, **72**, 43508a (*rev*)
Coetzee, J.F. *et al*, *Anal. Chem.*, 1972, **44**, 1129 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 651.
Barrow, R.A. *et al*, *J. Nat. Prod.* (*Lloydia*), 1992, **55**, 1330 (*isol*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 495.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SNW500.

1,2,5,8-Tetrahydroxy-9,10-anthraquinone, 8CI T-00070

1,2,5,8-Tetrahydroxy-9,10-anthracenedione, 9CI. Quinalizarin. C.I. Mordant violet 26

[81-61-8]



$C_{14}H_8O_6$ M 272.214

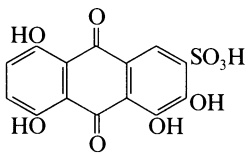
Used for photometric detn. of Be, B, Ge. Corrosion inhibitor. Red needles with green metallic lustre (AcOH). Mp >275°.

▷ CB8069900.

Schmidt, R.E., *J. Prakt. Chem.*, 1891, **43**, 237 (*synth*)
Gattermann, L., *J. Prakt. Chem.*, 1891, **43**, 246 (*synth*)
Allen, C.F.H., *J. Org. Chem.*, 1941, **6**, 742 (*synth*)
Ger. Pat., 1 165 180, (1964); *CA*, **60**, 15803b (*synth*)
Langmyhr, F.J. *et al*, *Anal. Chim. Acta*, 1966, **35**, 220 (*detn, B*)
Colour Index, 3rd Ed., 1971, **4**, 4519 (*rev*)
Gupta, H.K. *et al*, *Mikrochim. Acta*, 1971, 577 (*detn, B*)
Poluektov, N.S. *et al*, *Zh. Anal. Khim.*, 1973, **28**, 285 (*detn, Be*)
Flyantikova, G.V. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 814 (*detn, Ge*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TDD000.

3,4,5,8-Tetrahydroxyanthraquinone-2-sulfonic acid T-00071

9,10-Dihydro-1,2,5,8-tetrahydroxy-9,10-dioxo-3-anthracenesulfonic acid. Quinalizarin-3-sulfonic acid



$C_{14}H_8O_9S$ M 352.278

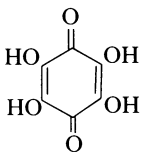
Used as 0.02% aq. soln. for photometric detn. of Zr (λ_{max} 565 nm, ε 10000). Cryst. Sol. H_2O.

Culkin, F. *et al*, *Anal. Chim. Acta*, 1965, **32**, 197 (*synth, use*)

Tetrahydroxy-1,4-benzoquinone T-00072

2,3,5,6-Tetrahydroxy-2,5-cyclohexadiene-1,4-dione, 9CI. ***Tetroquinone,*** **USAN, INN.** *Kelox. Terasin. HPEK 1. NSC 112931. THQ*

[319-89-1]



$C_6H_4O_6$ M 172.094

Systemic keratolytic and antimicrobial agent; also shows antitrypanosomal, antiviral and carcinostatic activity. Used as indicator for titrimetric detn. of Ba, $SO_4^{2\ominus}$. Black plates (2*M* HCl). Mp >300°. pK_{a1} 4.55; pK_{a2} 6.65 (25°).

Tetra-Ac: [20129-61-7].
$C_{14}H_{12}O_{10}$ M 340.243
Pale-yellow needles (MeOH). Mp 172-173°.

2,5-Di-Me ether: [62267-71-4]. *2,5-Dihydroxy-3,6-dimethoxy-2,5-cyclohexadiene-1,4-dione. 2,5-Dihydroxy-3,6-dimethoxy-1,4-benzoquinone*
$C_8H_8O_6$ M 200.148
Red-brown cryst. (MeOH). Mp 237-238°.

Tetra-Me ether: [3117-06-4]. *Tetramethoxy-1,4-benzoquinone*
$C_{10}H_{12}O_6$ M 228.201
Red needles (MeOH). Mp 135°.

Tetra-Et ether: [58535-78-7]. *Tetraethoxy-1,4-benzoquinone*
$C_{14}H_{20}O_6$ M 284.308
Cryst. (MeOH aq.). Mp 57°.

[1887-02-1, 5676-48-2]

Scroggins, L.H. *et al*, *J. Assoc. Off. Anal. Chem.*, 1957, **58**, 146 (*use*)
Eistert, B. *et al*, *Chem. Ber.*, 1959, **92**, 1239 (*synth, deriv*)
Skujins, S. *et al*, *Tetrahedron*, 1968, **24**, 4805 (*ms*)
Weuffen, W. *et al*, *Pharmazie*, 1970, **25**, 480 (*pharmacol*)
Org. Synth., Coll. Vol., 5, 1973, 1011.
v. Phillipsborn, W., *Pure Appl. Chem.*, 1974, **40**, 159 (*cmr*)
Junek, H. *et al*, *Z. Naturforsch., B*, 1978, **33**, 1201 (*synth, deriv*)
Hoffmann, M.E. *et al*, *Experientia*, 1987, **43**, 217 (*biochem*)

Tetrahydroxybutanedioic acid, 9CI T-00073

Dihydroxytartaric acid. Tetrahydroxysuccinic acid

[76-30-2]

$HOOCC(OH)_2C(OH)_2COOH$

$C_4H_6O_8$ M 182.087

Reagent for the detn. of Na; used for gravimetric detn. of La. Cryst. Sol. H_2O. Mp 114-115° (98° dec.).

Di-Na salt: [51274-49-8].
Mp 285-288°.

Di-Me ester: [73499-66-8].
$C_6H_{10}O_8$ M 210.140
Cryst. or solid. V. sol. H_2O. Mp 144-145° (dehyd.).

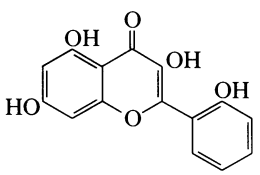
[866-17-1]

Fenton, H.J.H. *et al*, *J. Chem. Soc.*, 1895, **67**, 48 (*synth*)
Ohatov, A.P. *et al*, *CA*, 1929, **23**, 2424 (*synth*)
Holker, J.R., *J. Chem. Soc.*, 1955, 579 (*synth*)
Beck, G., *Mikrochim. Acta*, 1956, 1495 (*detn, La*)
Nguyen, D.A. *et al*, *Bull. Soc. Chim. Fr.*, 1976, 589 (*synth*)
Morvan, J. *et al*, *Bull. Soc. Chim. Fr.*, Part II, 1979, 575 (*synth*)

2′,3,5,7-Tetrahydroxyflavone T-00074

3,5,7-Trihydroxy-2-(2-hydroxyphenyl)-4H-1-benzopyran-4-one, 9CI. 2′,5,7-Trihydroxyflavonol. ***Datiscetin***

[480-15-9]



$C_{15}H_{10}O_6$ M 286.240

Isol. from *Datisca cannabina*. Widespread in the Ranunculaceae (Egger, 1959). Used as a 0.03% soln. in EtOH for fluorimetric detn. of Zr, B, Al; photometric detn. of Th. Yellow needles (AcOH aq.). Sol. Et_2O, EtOH, Me_2CO. Mp 277-278°.

3-O-β-D-Glucopyranoside: [83008-42-8]. ***Datiscanin***
$C_{21}H_{20}O_{11}$ M 448.382
Isol. from *D. cannabina*.

3-O-Rutinoside: [16310-92-2]. ***Datiscin***
$C_{27}H_{30}O_{15}$ M 594.525

Isol. from *D. cannabina*. Almost colourless platelets (H_2O). Mp 190-193°. $[\alpha]_D^{20}$ −48.6° (EtOH).

7-Me ether: [55051-98-4]. *2′,3,5-Trihydroxy-7-methoxyflavone.* ***Datin***
$C_{16}H_{12}O_6$ M 300.267
Isol. from roots of *D. cannabina*. Prisms (EtOH). Mp 240°.

2′-Me ether: [520-13-8]. *3,5,7-Trihydroxy-2′-methoxyflavone. Ptaeroxylol. Pteroxylol*
$C_{16}H_{12}O_6$ M 300.267
Yellow needles by subl. Mp 258-260°. Not fully characterised.

2′-Me ether, diglucoside: ***Ptaeroxylosin.*** *Pteroxylosin*
$C_{28}H_{32}O_{16}$ M 624.551
Isol. from *Ptaeroxylon obliquum*. Full struct. not known.

Tetra-Me ether: [14585-15-0]. *2′,3,5,7-Tetramethoxyflavone*
$C_{19}H_{18}O_6$ M 342.348
Needles (MeOH). Mp 137-139°.

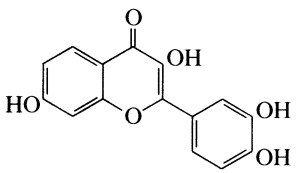
[1399-00-4]

Prista, L.N., *CA*, 1954, **48**, 8489 (*Ptaeroxylosin*)
Simpson, T.H. *et al*, *Chem. Ind. (London)*, 1954, 1111 (*synth*)
Egger, K., *Z. Naturforsch., B*, 1959, **14**, 401 (*occur*)
Golovina, A.P. *et al*, *Zh. Anal. Khim.*, 1962, **17**, 591; 1966, **21**, 163 (*detn, Zr, Al*)
Alimarin, I.P. *et al*, *CA*, 1963, **59**, 8117 (*detn, Th*)
Sim, K.Y., *J. Chem. Soc. C*, 1967, 976 (*Ptaeroxylol*)
Pangarova, T.T. *et al*, *Khim. Prir. Soedin.*, 1974, 788 (*isol, ir*)
Zapesochnaya, G.G. *et al*, *Khim. Prir. Soedin.*, 1982, **18**, 176, 180 (*Datiscanin, Datiscin*)

3,3′,4′,7-Tetrahydroxyflavone T-00075

2-(3,4-Dihydroxyphenyl)-3,7-dihydroxy-4H-1-benzopyran-4-one, 9CI. 3′,4′,7-Trihydroxyflavonol. ***Fisetin***

[528-48-3]



$C_{15}H_{10}O_6$ M 286.240
Colouring matter obtained from *Rhus* spp., also in *Trachylobium verrucosum, Anthyllis vulneraria, Butea frondosa, Gleditsia* spp., *Acacia* spp. and others. Used as EtOH soln. for photometric detn. of Al, B, Be, Bi, Cd, Cu, Fe, Pb, Sb, U, Zr, Cr and rare earths (λ_{max} 430 nm, ε 17000). Yellow cryst. Sol. EtOH, MeOH. Mp 330°. Shows brilliant yellow fluor.

▷ LK9250000.

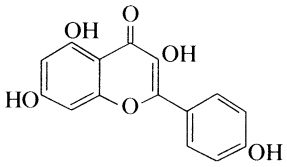
Tetra-Ac: Mp 201.5° (196-198°).

v. Auwers, K., *Ber.*, 1915, **48**, 85 (*bibl, synth*)
Allan, J., *J. Chem. Soc.*, 1926, 2334 (*synth*)
Deulofeu, V. *et al*, *Gazz. Chim. Ital.*, 1953, **83**, 449 (*synth*)
Jankowska, T. *et al*, *Acta Chim. Hung.*, 1962, **33**, 135 (*use, detn, rare earths*)
Batterham, T.J. *et al*, *Aust. J. Chem.*, 1964, **17**, 428 (*pmr*)
Katyal, M. *et al*, *Curr. Sci.*, 1965, **34**, 456 (*detn, Zr*)
Nevskaya, E.M. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 1699 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, FBW000.

3,4′,5,7-Tetrahydroxyflavone T-00076

3,5,7-Trihydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one, 9CI. 4′,5,7-Trihydroxyflavonol. ***Kaempferol.*** *Campherol. Populnetin. Robigenin. Rhamnolutin. Trifolitin. Nimbecetin. Kampherol. Swartziol*

[520-18-3]



$C_{15}H_{10}O_6$ M 286.240
Very widespread in the plant world, e.g. in Brassicaceae, Apocynaceae, Dilleniaceae, Ranunculaceae, Leguminosae, etc. Used as 0.3% aq. EtOH soln. for photometric detn. of Ga, In, Sn(*IV*) (λ_{max} 430 nm, ε 41000). Yellow needles (EtOH aq.). Sol. EtOH. Mp 276-278°.

▷ LK9275200.

Tetra-Ac: Mp 120°, Mp 178-180° dec. (double Mp).

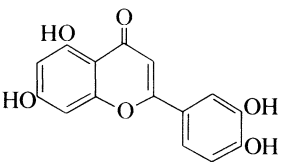
[27638-32-0, 28384-70-5, 60302-63-8, 61117-16-6, 69501-06-0]

Kostanecki, S. *et al*, *Ber.*, (footnote), 1901, **34**, 3723 (*struct*)
Garg, B.S. *et al*, *Talanta*, 1971, **18**, 761 (*detn, Ga, In*)
Garg, B.S. *et al*, *Microchem. J.*, 1973, **18**, 509 (*detn, Sn*)
Kingston, D.G.I. *et al*, *Tetrahedron*, 1973, **29**, 4038 (*ms*)
Markham, K.R. *et al*, *Tetrahedron*, 1978, **34**, 1389 (*cmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ICE000.

3′,4′,5,7-Tetrahydroxyflavone T-00077

2-(3,4-Dihydroxyphenyl)-5,7-dihydroxy-4H-1-benzopyran-4-one, 9CI. ***Luteolin.*** *Digitoflavone. Daphneflavonol. Flavopurpol*

[491-70-3]



$C_{15}H_{10}O_6$ M 286.240
Numerous Me and methylene ethers have separate entries. Occurs in many plants in Leguminosae, Resedaceae, Euphorbiaceae, Umbelliferae, Scrophulariaceae, Fabaceae, Asteraceae, Cistaceae, Passifloraceae, Yerbenaceae and Hepaticae. First isol. in 1832 from *Reseda luteola*. Shows virucidal activity. Used in EtOH soln. for colour reactions with Al, Be, Cd, Cu, Zr, B. Yellow needles. Mp 328-330° (325°).

▷ LK9275210.

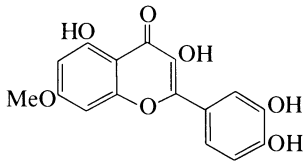
[18695-03-9, 54985-16-9, 62804-16-4, 98716-92-8]

Inouye, H. *et al*, *Chem. Ber.*, 1969, **102**, 3009 (*synth*)
Kingston, D.G.I., *Tetrahedron*, 1971, **27**, 2691 (*ms*)
Nevskaya, E.M., *Zh. Anal. Khim.*, 1972, **27**, 1699 (*use*)
Wagner, H. *et al*, *Tetrahedron Lett.*, 1976, 1799 (*nmr*)
Voirin, B., *Phytochemistry*, 1983, **22**, 2107 (*uv*)

3,3′,4′,5-Tetrahydroxy-7-methoxyflavone T-00078

2-(3,4-Dihydroxyphenyl)-3,5-dihydroxy-7-methoxy-4H-1-benzopyran-4-one, 9CI. 3′,4′,5-Trihydroxy-7-methoxyflavonol. ***Rhamnetin.*** *Quercetin 7-methyl ether. β-Rhamnocitrin*

[90-19-7]



$C_{16}H_{12}O_7$ M 316.267

Found in the fruit of *Rhamnus cathartica*, other *R.* spp., *Artemisia*, *Citrus* and many other plants. Used as a 0.4% aq. soln. for photometric detn. of U (λ_{max} 505 nm), Th, Fe. Yellow cryst. (EtOH). Sol. EtOH, H_2O. Mp 294-296°.

▷ LK8748000.

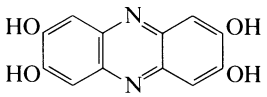
[55196-43-5, 62858-07-5]

Kuhn, R. *et al*, *Ber.*, 1944, **77**, 211 (*synth*)
Anand, N.K. *et al*, *J. Sci. Ind. Res.*, 1962, **21B**, 322 (*synth*)
Samsoni, Z., *CA*, 1963, **59**, 9300 (*detn, Fe, U, Th*)
Wagner, H. *et al*, *Tetrahedron Lett.*, 1976, 1799 (*cmr*)
The Flavonoids: Advances in Research since 1980, (Eds. Harborne, J.B. *et al*), Chapman and Hall, London, 1988.

2,3,7,8-Tetrahydroxyphenazine T-00079

2,3,7,8-Phenazinetetrol, 9CI

[22106-80-5]



$C_{12}H_8N_2O_4$ M 244.206

Used for photometric detn. of Ga (λ_{max} 548 nm, ε 120000), Sb (λ_{max} 538 nm, ε 40000), Ti, Zr (λ_{max} 585 nm, ε 36000). Dark green cryst. Sl. sol. conc. H_2SO_4; insol. H_2O, EtOH, Et_2O, C_6H_6, $CHCl_3$. Mp >320°.

Peters, J., *Fresenius' Z. Anal. Chem.*, 1968, **241**, 167 (*detn, Ga, Sb, Zr*)
Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1970, **249**, 106 (*detn, Ti*)

Tetraiodobismuthate(*III*)(1 –) T-00080

[14636-74-9]

$[BiI_4]^{\ominus}$

$BiI_4^{\ominus}$ M 716.598 (ion)

Tbp struct. with electron lone pair eq.

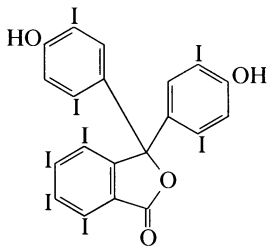
Tetrabutylammonium salt: [22364-17-6].
Suggested for gravimetric or spectrophotometric detn. of Bi. Red cryst. Insol. H_2O; sol. $CHCl_3$. Mp 161-163°.

Ph_4As salt: [59890-68-5].
Suggested for spectrophotometric detn. of Bi. Orange-yellow solid. Insol. H_2O; sol. 1,2-dichloroethane.

Gmelin Handbook Inorg. Chem., Syst. No. 19, 1964, 718 (*rev, bibl*)
Eve, A.J. *et al*, *Inorg. Chem.*, 1967, **6**, 331 (*uv*)
Spragg, R.A. *et al*, *J. Mol. Struct.*, 1969, **3**, 305 (*synth, struct*)
Ahlijah, G.Y. *et al*, *J. Chem. Soc. A*, 1970, 326 (*synth, ir, raman*)
Hasebe, K. *et al*, *Talanta*, 1982, **29**, 1135 (*uv*)
Burns, D.T. *et al*, *Anal. Chim. Acta*, 1987, **197**, 285; 1988, **211**, 305 (*anal*)

Tetraiodophenoltetraiodophthalein T-00081

3,3-Bis(2,5-diiodo-4-hydroxyphenyl)-4,5,6,7-tetraiodo-1(3H) isobenzofuranone. 2′,2″,4,5,5′,5″,6,7-Octaiodophenolphthalein



$C_{20}H_6I_8O_4$ M 1325.501

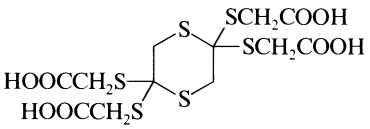
Used as acid-base indicator (pH range: 7.6-9.4, colour change: colourless → blue). Cryst. Spar. sol. EtOH.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 100 (*use, ind*)

2,2,5,5-Tetrakis(carboxymethylthio)-*p*-dithiane T-00082

2,2′,2″,2‴-[1,4-Dithiane-2,5-diylidenetetrakis(thio)] tetrakis[acetic acid], 9CI

[52959-43-0]



$C_{12}H_{16}O_8S_6$ M 480.650

Reagent for the detn. of carbohydrates and aromatic aldehydes. Mp 202-204°.

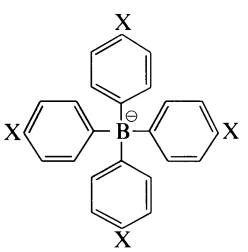
Tetra-Me ester:
$C_{16}H_{24}O_8S_6$ M 536.757
Cryst. (MeOH, EtOH). Mp 118-119°.

Tetra-Et ester:
$C_{20}H_{32}O_8S_6$ M 592.864
Cryst. (EtOH). Mp 92.5-93.5°.

Tetrahydrazide:
$C_{12}H_{24}N_8O_4S_6$ M 536.769
Cryst. (H_2O). Mp 210-212° dec.

Schoberl, A. *et al*, *Justus Liebigs Ann. Chem.*, 1955, **595**, 101 (*synth*)
Kunovits, G., *Anal. Chim. Acta*, 1974, **70**, 213 (*use*)

Tetrakis(4-chlorophenyl)borate(1 –), 10CI, 9CI T-00083



X = Cl

$C_{24}H_{16}BCl_4^{\ominus}$ M 457.012 (ion)

K salt: [14680-77-4].
$C_{24}H_{16}BCl_4K$ M 496.110
Used in ion-selective liq. membrane electrodes.

Vandeberg, J.T. *et al*, *Spectrochim. Acta, Part A*, 1971, **27**, 501 (*ir*)
Davies, J.E.W. *et al*, *Lab. Pract.*, 1973, **22**, 20; *CA*, **78**, 66226v (*use*)

Vandeberg, J.T. *et al*, *Org. Magn. Reson.*, 1973, **5**, 57 (*nmr*)
Ammann, D. *et al*, *CA*, 1980, **93**, 21884b (*use*)
Petranek, J. *et al*, *Anal. Chim. Acta*, 1981, **128**, 129.

Tetrakis(4-fluorophenyl)borate(1 −), 10CI T-00084

As Tetrakis(4-chlorophenyl)borate(1 −), T-00083 with

X = F

$C_{24}H_{16}BF_4^{\ominus}$ M 391.195 (ion)

Li salt: [68140-33-0].
$C_{24}H_{16}BF_4Li$ M 398.136
Used in battery electrolytes.

Na salt: [25776-12-9].
$C_{24}H_{16}BF_4Na$ M 414.185
Used as 1% aq. soln. for gravimetric detn. of Cs; pptn. of Ag, Cs, Rb, Tl(*I*). Cryst.

Moore, C.E. *et al*, *Anal. Chim. Acta*, 1966, **35**, 1 (*synth, use*)
Ger. Pat., 2 901 367, (1979); *CA*, **92**, 61799p (*use*)
U.S. Pat., 4 139 681, (1979); *CA*, **90**, 207210x (*use*)
Horowitz, H.H. *et al*, *Proc. Electrochem. Soc.*, 1981, **81**, 131.

Tetrakis(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato) europate(*III*)(1 −) T-00085

$[Eu(fod)_4]^{\ominus}$

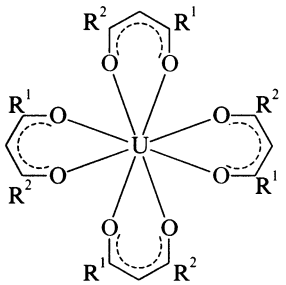
$C_{40}H_{40}EuF_{28}O_8^{\ominus}$ M 1332.671 (ion)

Ag salt: [79816-44-7].
Dark yellow solid. Sol. $CHCl_3$. Mp 85-90°.
Lanthanide(*III*)-silver(*I*) nmr shift reagent for olefins and aromatics.

Wenzel, T.J. *et al*, *J. Am. Chem. Soc.*, 1982, **104**, 382 (*synth, use*)

Tetrakis(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O,O′*)uranium(*IV*), 9CI T-00086

Tetrakis(hexafluoroacetylacetonato)uranium(IV).
Uranium(IV) *hexafluoroacetylacetonate*
[35185-40-1]



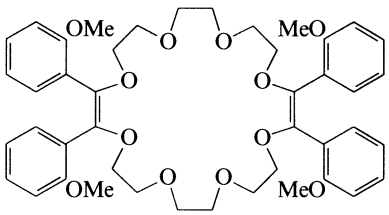
$R^1 = R^2 = CF_3$

$C_{20}H_4F_{24}O_8U$ M 1066.237
Obt. on uv photolysis of $UO_2(hfac)_2$. Nmr shift reagent. Sl. air-sensitive brown cryst. (EtOH/toluene). Sol. toluene, C_6H_6. Mp 60° (90°). $Bp_{0.001}$ 45°, $Bp_{0.001}$ 70°.

Haszeldine, R.N. *et al*, *J. Chem. Soc.*, 1951, 609 (*synth*)
Gilman, H. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 2790 (*synth*)
Mitchell, J.W. *et al*, *Anal. Chim. Acta*, 1971, **57**, 415 (*synth*)
Yoshimura, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1973, **46**, 2096 (*synth, ir*)
Fr. Pat., 2 231 289, (1974); *CA*, **83**, 18845 (*use*)
De Vito, V.L. *et al*, *J. Inorg. Nucl. Chem.*, 1980, **42**, 1719 (*synth, ir, ms, uv*)
Kramer, G.M. *et al*, *Inorg. Chem.*, 1981, **20**, 1421 (*synth*)

2,3,14,15-Tetrakis(2-methoxyphenyl)-1,4,7,10,13,16,19,22-octaoxacyclotetracosa-2,14-diene, 9CI T-00087

Di(o-*methoxy*)*stilbenzo-24-crown-8*
[118746-64-8]

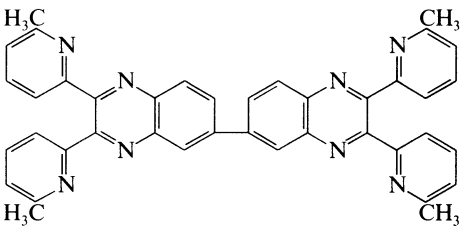


$C_{44}H_{52}O_{12}$ M 772.888
Used in Na ion-selective PVC membrane electrode. Cryst. (EtOAc/$CHCl_3$). Sol. EtOAc, $CHCl_3$. Mp 133°.

Zhou, X. *et al*, *Anal. Chim. Acta*, 1988, **212**, 325 (*synth, use*)

2,2′,3,3′-Tetrakis(6-methyl-2-pyridyl)-6,6′-biquinoxaline, 8CI T-00088

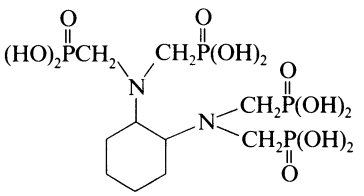
[17401-79-5]



$C_{40}H_{30}N_8$ M 622.731
Used as 0.1% EtOH soln. for extraction-photometric detn. of Cu(*I*) (λ_{max} 538 nm, ε 5150, pentanol). Cryst. (EtOH). Sol. EtOH, pet. ether. Mp 271°.

Stephen, W.I. *et al*, *Anal. Chim. Acta*, 1967, **39**, 357 (*synth, detn, Cu*)

N,N,N′,N′-Tetrakis(phosphonomethyl)-1,2-cyclohexanediamine T-00089



$C_{10}H_{26}N_2O_{12}P_4$ M 490.216
pK_{a1} 2.40; pK_{a2} 3.70; pK_{a3} 5.32; pK_{a4} 6.46; pK_{a5} 6.97; pK_{a6} 7.69; pK_{a7} 9.39; pK_{a8} 10.89 (μ = 0.1, 25°).

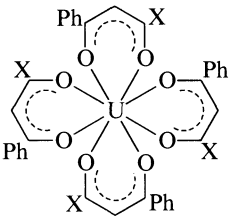
Octa-Na salt: Used for titrimetric detn. of Fe; complexing agent for many metals. Cryst.

Banks, C.V., *Anal. Chim. Acta*, 1959, **20**, 304 (*synth, pKa, use*)

Tetrakis(4,4,4-trifluoro-1-phenyl-1,3-butanedionato-*O,O'*)uranium T-00090

Tetrakis(benzoyltrifluoroacetylacetonato)uranium(IV)

[42730-81-4]



X = CF_3

$C_{40}H_{24}F_{12}O_8U$ M 1098.634

Dodecahedral geometry. Can be used as nmr shift reagent. Somewhat air-sensitive reddish-brown solid. Sol. butanol, CCl_4, C_6H_6, toluene, MeCN.

Yoshimura, J. *et al*, *Bull. Chem. Soc. Jpn.*, 1973, **46**, 2096 (*synth, ir*)
Fr. Pat., 2 231 289, (1973); *CA*, **83**, 18845.
Folcher, G. *et al*, *J. Chem. Soc., Chem. Commun.*, 1974, 3 (*synth, use*)
Myake, C. *et al*, *Chem. Phys. Lett.*, 1975, **36**, 158 (*pe*)
Naraza, A. *et al*, *Acta Crystallogr., Sect. B*, 1980, **36**, 696 (*cryst struct*)
De Vito, V.L. *et al*, *J. Inorg. Nucl. Chem.*, 1980, **42**, 1719 (*synth, ir, uv, ms*)
Martin-Rovet, D. *et al*, *J. Inorg. Nucl. Chem.*, 1981, **43**, 1227 (*nmr*)
Li, S.L. *et al*, *J. Chim. Phys. Phys.-Chim. Biol.*, 1984, **81**, 163 (*uv-vis*)
Blaise, A. *et al*, *J. Less-Common Met.*, 1986, **121**, 209 (*magnetism*)

N,N,N',N'-Tetrakis(trimethylsilyl)-1,2-ethanediamine, 9CI T-00091

2,2,7,7-Tetramethyl-3,6-bis(trimethylsilyl)-3,6-diaza-2,7-disilaoctane, *8CI*

[5577-69-5]

$(Me_3Si)_2NCH_2CH_2N(SiMe_3)_2$

$C_{14}H_{40}N_2Si_4$ M 348.825

Silylation reagent for gc. anal. of trace org. compds. Mp 51-52°. Bp_1 106-108°.

Kummer, D. *et al*, *J. Phys. Chem.*, 1963, **67**, 98 (*pmr*)
Kummer, D. *et al*, *Z. Anorg. Allg. Chem.*, 1963, **321**, 21 (*synth*)
Donike, M. *et al*, *J. Chromatogr.*, 1972, **74**, 121 (*use*)
Smith, R.G. *et al*, *J. Org. Chem.*, 1978, **43**, 2178 (*ms*)
Engelhardt, L.M. *et al*, *Aust. J. Chem.*, 1985, **38**, 1729 (*cryst struct*)

Tetramethylammonium(1+) T-00092

N,N,N-*Trimethylmethanaminium*, *9CI*

[51-92-3]

$Me_4N^{\oplus}$

$C_4H_{12}N^{\oplus}$ M 74.145 (ion)

Occurs naturally in plant and animal tissues.

Bromide: [64-20-0].
$C_4H_{12}BrN$ M 154.049
Used as a 5% aq. soln. for detn. of Bi. Volatile cryst. Bp >230° (subl., dec.).
▷ BS7600000.

Tribromide:
$C_4H_{12}Br_3N$ M 313.857
Mild brominating agent.

Iodide: [75-58-1]. *Tetrammonium iodide. Artilacer. Banikol. TMAI. Yodurtam*
$C_4H_{12}IN$ M 201.050
Ganglion blocking agent. Pale yellow cryst. Mp 230° dec.
▷ PA1050000.

Formate: [59138-84-0]. *Tetrammonium formate. Fibrogenina. Forgenin. Tonoformina*
Ganglion blocking agent, neurocardiotonic.
▷ BS7960000.

Hydroxide: [10424-65-4].
$C_4H_{13}NO$ M 91.153
Used as a gc derivatisation reagent for acids. Hygroscopic needles + $5H_2O$. Mp 63°. Absorbs CO_2 readily. Powerful base, comparable to NaOH. Gentle warming produces lower hydrates. Dec. on boiling.
▷ Caustic, highly irritant.

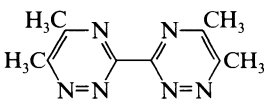
Borohydride:
$C_4H_{16}BN$ M 88.988
Reducing agent sol. in nonpolar solvs. and stable to alcohols. Microcryst. solid (MeCN or 2-propanol).

Triacetoxyborohydride: [109704-53-2].
$C_{10}H_{22}BNO_6$ M 263.098
Mild reducing agent, reduces acyclic β-hydroxyketones to the corresp. diols with high diastereoselectivity. Prismatic needles (CH_2Cl_2/EtOAc). Exceedingly hygroscopic.

Schmidt, E., *Justus Liebigs Ann. Chem.*, 1892, **267**, 254 (*synth*)
Walker, J. *et al*, *J. Chem. Soc.*, 1905, **87**, 955 (*synth*)
Potratz, A.H. *et al*, *Anal. Chem.*, 1949, **21**, 1276 (*detn, Bi*)
Japan. Pat., 60 11 754, (1960); *CA*, **56**, 4617i (*synth*)
Bailey, J.J., *Anal. Chem.*, 1967, **39**, 1485 (*use, hydroxide*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 1143, 1144.
Dunsmone, H.S. *et al*, *Lab. Pract.*, 1972, **21**, 791 (*synth*)
Kabisch, G., *J. Raman Spectrosc.*, 1980, **9**, 279 (*cryst struct*)
Llinares, J. *et al*, *Org. Magn. Reson.*, 1980, **14**, 20 (*cmr*)
Neef, C. *et al*, *Naunyn-Schmiedeberg's Arch. Pharmakol.*, 1984, **328**, 103, 111 (*pharmacol*)
Tsubaki, H. *et al*, *J. Pharmacobio-Dyn.*, 1986, **9**, 737 (*pharmacol*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TDJ750, TDK750.

5,5',6,6'-Tetramethyl-3,3-bi(1,2,4-triazine) T-00093

3,3'-Bi(5,6-dimethyl-1,2,4-triazine)



$C_{10}H_{12}N_6$ M 216.245

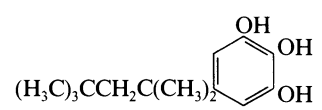
Used as a 6m*M* aq. soln. for photometric detn. of Fe(*II*) (λ_{max} 493 nm, ε 15000); redox indicator for titrimetric detn. of Cu(*I*), Fe(*II*). Cryst. (H_2O). Sol. EtOH, C_6H_6, Me_2CO, Et_2O,$CHCl_3$; mod. sol. H_2O. Mp 166°.

Jensen, R.E. *et al*, *Anal. Chim. Acta*, 1965, **32**, 235.

5-(1,1,3,3-Tetramethylbutyl)-1,2,3-benzenetriol, 9CI T-00094

5-tert-Octylpyrogallol

[30536-73-3]



$C_{14}H_{22}O_3$ M 238.326

Used as a 1% soln. in EtOH for extraction-photometric detn. of Mo. Cryst.

Caton, L. *et al*, *Rev. Chim. (Bucharest)*, 1970, **21**, 370.

2,2,6,6-Tetramethyl-3,5-heptanedione, 9CI, 8CI T-00095

Dipivaloylmethane

[1118-71-4]

$(H_3C)_3CCOCH_2COC(CH_3)_3$

$C_{11}H_{20}O_2$ M 184.278

Used for extraction-separation of lanthanides. Liq. Mp 22°. Bp_{18} 88°.

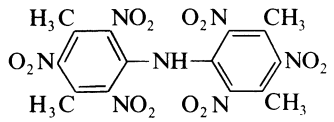
Cu complex: Purple cryst. Mp 196-197°.

Kopecky, K.R. *et al*, *J. Org. Chem.*, 1962, **27**, 1036 (*synth, bibl*)
Sweet, T.R. *et al*, *Anal. Chem.*, 1968, **40**, 1885.
Cornforth, J. *et al*, *Aust. J. Chem.*, 1984, **37**, 1453 (*synth*)

3,3′,5,5′-Tetramethyl-2,2′,4,4′,6,6′-hexanitrodiphenylamine, 9CI T-00096

2′,2′,4,4′,6,6′-Hexanitrodi-3,5-xylylamine, 8CI. Tetramethyldipicrylamine

[5369-24-4]



$C_{16}H_{13}N_7O_{12}$ M 495.318

Shows antibacterial activity. Yellow-orange cryst. (EtOH). Mp 231° dec.

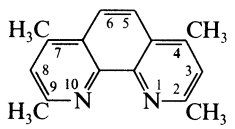
Na salt: [27919-43-3].

Used as a 1-2% aq. soln. for microscopic detn. of Cs, K, $NH_4^{\oplus}$, Rb; gravimetric detn. of K. Sol. alkalis; mod. sol. EtOH.

Moore, C.E. *et al*, *Talanta*, 1966, **13**, 171 (*use*)
Fritsch, A.J. *et al*, *Nature (London)*, 1968, **217**, 350.

2,4,7,9-Tetramethyl-1,10-phenanthroline, 9CI T-00097

[3309-33-9]



$C_{16}H_{16}N_2$ M 236.316

Used as redox indicator. Cryst. pK_{a1} 6.50 (25°).

Schilt, A.A. *et al*, *J. Phys. Chem.*, 1956, **60**, 1546 (*pKa*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

3,4,6,7-Tetramethyl-1,10-phenanthroline, 9CI T-00098

$C_{16}H_{16}N_2$ M 236.316

Used as a redox indicator. Cryst. pK_{a1} 6.45 (25°). E° +0.840 V (25°). λ_{max} 510 nm.

Brandt, W.W. *et al*, *Anal. Chem.*, 1949, **21**, 1313 (*use, ind*)
Schilt, A.A. *et al*, *J. Phys. Chem.*, 1956, **60**, 1546 (*pKa*)

3,4,6,8-Tetramethyl-1,10-phenanthroline, 9CI T-00099

$C_{16}H_{16}N_2$ M 236.316

Used as redox indicator. Cryst. pK_{a1} 6.02 (25°). E° +0.890V (25°). λ_{max} 504 nm.

Brandt, W.W. *et al*, *Anal. Chem.*, 1949, **21**, 1313 (*use, ind*)
Schilt, A.A. *et al*, *J. Phys. Chem.*, 1956, **60**, 1546 (*pKa*)

3,4,7,8-Tetramethyl-1,10-phenanthroline, 9CI T-00100

[1660-93-1]

$C_{16}H_{16}N_2$ M 236.316

Used as redox indicator. Cryst. pK_{a1} 6.31 (25°). E° +0.850 V (25°). λ_{max} 500 nm.

Brandt, W.W. *et al*, *Anal. Chem.*, 1949, **21**, 1313 (*use, ind*)
Schilt, A.A. *et al*, *J. Phys. Chem.*, 1956, **60**, 1546 (*pKa*)

3,5,6,8-Tetramethyl-1,10-phenanthroline, 9CI T-00101

[2747-15-1]

$C_{16}H_{16}N_2$ M 236.316

Used as redox indicator. Cryst. pK_{a1} 5.54 (25°).

Schilt, A.A. *et al*, *J. Phys. Chem.*, 1956, **60**, 1546 (*pKa*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)
Zak, B., *CA*, 1974, **80**, 95913p (*synth*)

Tetramethylphosphinous amide, 9CI T-00102

Dimethyl(dimethylamino)phosphine

[683-84-1]

Me_2PNMe_2

$C_4H_{12}NP$ M 105.119

Reagent for derivatising hydroxy steroids for gc-ms anal. Liq. Mp −97°. Bp 99.4°, Bp 98-99°.

B,MeI: Cryst. ($EtOH/Et_2O$). Mp 315-320° dec.

Burg, A.B. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 1107 (*synth*)
Issleib, K. *et al*, *Chem. Ber.*, 1959, **92**, 2681 (*synth*)
Maier, L., *Helv. Chim. Acta*, 1964, **47**, 2129 (*synth*)
Laurent, J.P. *et al*, *J. Inorg. Nucl. Chem.*, 1969, **31**, 1353 (*pmr, P nmr*)
Vogt, W. *et al*, *J. Chromatogr. Sci.*, 1974, **12**, 658 (*use*)
Jacob, K. *et al*, *Tetrahedron Lett.*, 1975, 1927 (*use*)
Jacob, K. *et al*, *Biomed. Mass Spectrom.*, 1976, **3**, 64 (*use*)
Barlos, K. *et al*, *Z. Naturforsch., B*, 1978, **33**, 515 (*N nmr*)
Gouesnard, J.-P. *et al*, *Can. J. Chem.*, 1980, **58**, 1295 (*N and P nmr*)

Tetramethylsilane T-00103

Silicon tetramethyl. TMS

[75-76-3]

$SiMe_4$

$C_4H_{12}Si$ M 88.224

Used as standard for pmr. Volatile liq. freezing to dimorphous solid. Mp −102.2° and −99.1°. Bp 26.6°.

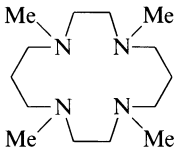
▷ Extremely flammable, flash pt. <0°. VV5705400.

Aston, J.G. *et al*, *J. Am. Chem. Soc.*, 1941, **63**, 2343 (*synth*)
Ger. Pat., 1 239 687, (1967); *CA*, **68**, 2989 (*synth*)
Tikhomirova, E.N. *et al*, *Opt. Spektrosk.*, 1969, **27**, 615; *CA*, **72**, 37301 (*ir*)
Wurst, M. *et al*, *Collect. Czech. Chem. Commun.*, 1971, **36**, 3497 (*glc*)
Morrison, J.A. *et al*, *Inorg. Chem.*, 1977, **16**, 2972 (*synth*)
Schraml, J. *et al*, *Collect. Czech. Chem. Commun.*, 1979, **44**, 854 (*nmr*)

Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 513.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TDV500.

1,4,8,11-Tetramethyl-1,4,8,11-tetrazacyclotetradecane, 9CI T-00104

[41203-22-9]



$C_{14}H_{32}N_4$ M 256.434

Used as a 0.01*M* soln. in dil. NaOH for extraction-photometric detn. of Cd (λ_{max} nm, ε 110000, $CHCl_3$). Cryst.

[53118-98-2]

Barefield, E.K. *et al*, *CA*, 1976, **85**, 71486d (*detn, Cd*)
Szczepaniak, W. *et al*, *Anal. Chim. Acta*, 1984, **156**, 235 (*detn, Cd*)

Tetramethylthiodicarbonic diamide, 9CI T-00105

Bis(dimethylthiocarbamoyl) sulfide, 8CI. Tetramethylthiuram sulfide

[97-74-5]

$C_6H_{12}N_2S_3$ M 208.372

Vulcanizing agent. Used as 0.2% EtOH soln. for gravimetric detn. of Se; extraction-photometric detn. of Te, Cu. Yellow cryst. (EtOH). V. sol. EtOH, $CHCl_3$; spar. sol. cold Et_2O. Mp 104°.

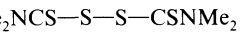
▷ Highly toxic orally. Emits toxic fumes when heated to dec.. WQ1750000.

v. Braun, J. *et al*, *Ber.*, 1903, **36**, 2280 (*synth*)
Cummings, A.D. *et al*, *Ind. Eng. Chem.*, 1928, **20**, 1173; *CA*, **23**, 1307 (*use*)
Michal, J. *et al*, *Collect. Czech. Chem. Commun.*, 1955, **20**, 305 (*detn, Cu, Se*)
Tutkuvene, V.E. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 564 (*detn, Te*)
Japan. Pat., 19 575, (1967); *CA*, **69**, 2531 (*manuf*)
Colapietro, M. *et al*, *Acta Crystallogr., Sect. B*, 1976, **32**, 2581 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BJL600.

Tetramethylthiuram disulfide T-00106

Tetramethylthioperoxydicarbonic diamide, 9CI. Bis(dimethylthiocarbamyl) disulfide, 8CI. ***Thiram,*** **USAN, INN.** *Arasan. Fernasan. Fernide. Pomarsol. Rezifilm. Tersan. Tetrathion. NSC 1771. SQ 1489*

[137-26-8]



$C_6H_{12}N_2S_4$ M 240.438

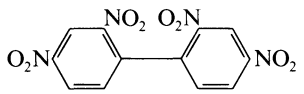
Fungicide, bacteriostat, rubber vulcanisation accelerator. Used as a soln. in $CHCl_3$ for extraction-photometric detn. of Cu. Cryst. ($CHCl_3$/EtOH). Insol. H_2O, sol. $CHCl_3$; mod. sol. EtOH, Me_2CO, C_6H_6. Mp 155-156°.

▷ Mod. toxic, mild allergen and irritant. JO1400000.

U.S. Pat., 3 147 308, (1964); *CA*, **61**, 14539e (*synth*)
Maroey, K., *Acta Chem. Scand.*, 1965, **19**, 1509 (*cryst struct*)
Mezaraups, G. *et al*, *CA*, 1967, **67**, 39816d.
Benson, W.R. *et al*, *J. Assoc. Off. Anal. Chem.*, 1968, **51**, 347 (*ms*)
Gore, R.C. *et al*, *J. Assoc. Off. Anal. Chem.*, 1971, **54**, 1040 (*ir, uv*)
Brinkhoff, H.C. *et al*, *Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1971, **90**, 252 (*pmr, ir*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 13330.
Keers Sÿpesteijn, A., *Symp. Br. Mycol. Soc.*, 1983, **9**, 135 (*rev, props*)
Wang, Y. *et al*, *Acta Crystallogr., Sect. C*, 1986, **42**, 1420 (*cryst struct*)
Jefferson, A. *et al*, *Chem. Ind. (London)*, 1986, 244 (*ms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TFS350.

2,2′,4,4′-Tetranitrobiphenyl T-00107

[1820-59-3]



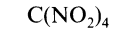
$C_{12}H_6N_4O_8$ M 334.201

Colorimetric reagent for active methylene compds. and for cardenolides. Yellow prisms (AcOH). Mp 165-166°.

Ullmann, F. *et al*, *Ber.*, 1901, **34**, 2177 (*synth*)
Gull, H.C. *et al*, *J. Chem. Soc.*, 1929, 491 (*synth*)
Nakadate, M. *et al*, *Chem. Pharm. Bull.*, 1964, **12**, 1138, 1276 (*use*)
Hofsommer, J.C. *et al*, *J. Chromatogr.*, 1968, **38**, 508 (*tlc*)
Rabitzch, G. *et al*, *Pharmazie*, 1969, **24**, 262 (*use*)
Thomas, C.B. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1972, 778 (*ms*)

Tetranitromethane, 9CI T-00108

[509-14-8]



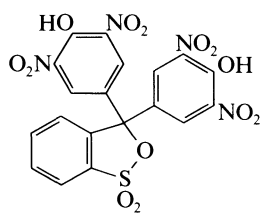
CN_4O_8 M 196.033

Used as an oxidiser in rocket propellants, as an explosive and for the detn. of double bonds in organic compds. and for detn. of sulfur compds. d_4^{25} 1.623. Mp 13.8°. Bp 126°, $Bp_{14.9}$ 30°. Steam-volatile.

▷ Highly toxic, TLV 8. LD_{50} 53 mg/kg (mouse, i.p.). Explosive. PB4025000.

Org. Synth., Coll. Vol., 3, 1955, 803 (*synth, use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 404.
Kawanami, J., *Mikrochim. Acta*, 1969, 106 (*use*)
Altukhov, K. *et al*, *Usp. Khim.*, 1976, **45**, 2050 (*rev*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 324.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TDY250.

3,3′,5,5′-Tetranitrophenolsulfonephthalein T-00109



$C_{19}H_{10}N_4O_{13}S$ M 534.373

Used as an acid-base indicator (pH range: 9.5-11.0, colour change: violet → red-yellow). Yellow cryst. Sol. EtOH. Mp 292-294°.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)

Tetraoctylammonium(1+) T-00110

N,N,N-*Trioctyl-1-octanaminium(1+), 9CI*

[19524-73-3]

$[H_3C(CH_2)_7]_4N^{\oplus}$

$C_{32}H_{68}N^{\oplus}$ M 466.896 (ion)

Bromide: [14866-33-2].

$C_{32}H_{68}BrN$ M 546.800

Used as an 8% soln. in $CHCl_3$ for extraction-separation of Nb, Ta, Ti. Cryst. Sol. common org. solvs. Mp 97-98°.

Chloride: [3125-07-3].

$C_{32}H_{68}ClN$ M 502.349

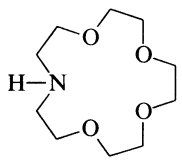
Used for extraction-separation of As(*V*), Cr(*VI*), Pb, V(*V*), Re. Cryst. Sol. common org. solvs.

Grimbat, N.I. *et al*, *CA*, 1976, **84**, 80411g (*detn, Cr, V*)
Tatarinov, V.A. *et al*, *CA*, 1976, **84**, 80459d (*detn, Pd*)
Pronin, V.A. *et al*, *CA*, 1976, **85**, 167328e (*detn, Ta, Ti, Nb*)
Ivanov, I.M. *et al*, *CA*, 1976, **85**, 37689u (*detn, As*)
Budesinsky, B.W. *et al*, *Analyst (London)*, 1980, **105**, 278 (*detn, Re*)

1,4,7,10-Tetraoxa-13-azacyclopentadecane T-00111

Aza-15-crown-5. Monoaza-15-crown-5

[66943-05-3]



$C_{10}H_{21}NO_4$ M 219.280

Soft, hygroscopic solid. Mp 30-32°.

B,HCl: [77102-02-4].

Brownish cryst. Mp 113-115°.

N-*Me:* [69978-46-7]. *13-Methyl-1,4,7,10-tetraoxa-13-azacyclopentadecane, 9CI*

$C_{11}H_{23}NO_4$ M 233.307

Used as 0.01*M* soln. in 95% MeOH for complexation of Li, Na, K, Ca, Sr (95% MeOH). Oil. Sol. MeOH. $Bp_{0.005}$ 88-90°. pK_{a1} 9.58 (95% MeOH).

N-*Ph:* [66750-10-5].

$C_{16}H_{25}NO_4$ M 295.378

Cryst. Mp 44-45°.

N-(*2-Methoxyethyl*): [79402-94-1].

$C_{13}H_{27}NO_5$ M 277.360

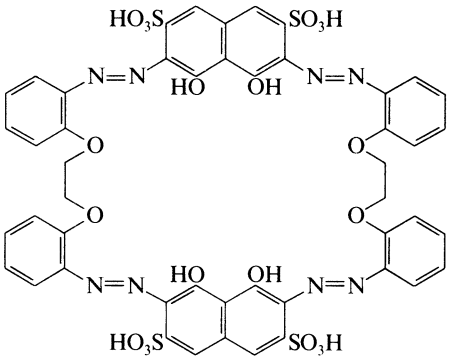
Used as 0.01*M* soln. in 95% MeOH for complexation of Li, Na, K, Ca, Sr (in 95% MeOH). Oil. Sol. MeOH. pK_a 8.82 (95% MeOH).

Dix, J.P. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1978, **17**, 857 (*synth, deriv*)
Johnson, M.R. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1979, 357 (*synth*)
Dix, J.P. *et al*, *Chem. Ber.*, 1981, **114**, 638 (*synth*)
Maeda, H. *et al*, *Tetrahedron*, 1982, **38**, 3359 (*synth*)
Wickstroem, T. *et al*, *Anal. Chim. Acta*, 1988, **211**, 223 (*synth, use*)

Tetraoxacycloazochrome T-00112

6,7,29,30-Tetrahydro-16,39,47,50-tetrahydroxy-15,18:38,41-dietheno-21,17:44,40-dimetheno-17H,40H-tetrabenzo[b,o,u,h][*1,17,20,36,4,5,13,14,23,24,32,33*] *tetraoxaoctaazacyclooctatriacontine-20,43,49,52-tetrasulfonic acid, 9CI*

[96927-42-3]



$C_{48}H_{36}N_8O_{20}S_4$ M 1173.118

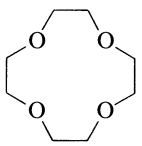
Used as 0.05% aq. soln. for photometric detn. of Mo (λ_{max} 620 nm, ε 52000, 0.1*M* HCl/20% Me_2CO). Dark brown cryst. powder. Sol. mod. H_2O, DMF; sl. sol. EtOH.

Petrova, T.V. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 603 (*synth, detn, Mo*)

1,4,7,10-Tetraoxacyclododecane, 9CI T-00113

12-Crown-4

[294-93-9]



$C_8H_{16}O_4$ M 176.212

Used for extraction separation of alkali metals (forms ion-pairs, CH_2Cl_2, $CHCl_3$, toluene). Complexing agent. Liq. Sol. $CHCl_3$, toluene, dichloroethane. d 1.089. Mp 16°.

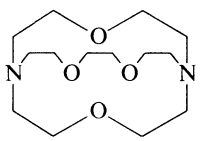
▷ XF0550000.

Dale, J. *et al*, *Acta Chem. Scand., Ser. B*, 1974, **28**, 378 (*synth*)
Groth, P., *Acta Chem. Scand., Ser. A*, 1978, **32**, 279 (*cryst struct*)
Kawakami, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1978, **51**, 3053 (*use*)
Pacey, G.E. *et al*, *Synth. Commun.*, 1981, **11**, 323 (*synth*)
Mason, E. *et al*, *Acta Crystallogr., Sect. B*, 1982, **38**, 1821 (*cryst struct*)
Pacey, G.E. *et al*, *Talanta*, 1984, **31**, 165 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, COD475.

4,7,13,18-Tetraoxa-1,10-diazabicyclo[8.5.5]eicosane, 9CI T-00114

Cryptand 2.1.1. Kryptofix 211

[31250-06-3]



$C_{14}H_{28}N_2O_4$ M 288.386

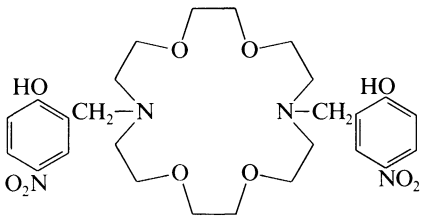
Used as 2.5 m*M* aq. soln. as complexing agent for alkali metal ions; used for extraction-photometric detn. of Na. Liq. Misc. H_2O. pK_{a1} 7.85; pK_{a2} 10.64 (H_2O, 25°).

Dietrich, B. *et al*, *Tetrahedron*, 1973, **29**, 1629, 1647.
Lehn, J.M. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 6700.
Tagaki, M. *et al*, *Anal. Chim. Acta*, 1981, **126**, 185 (*detn, Na*)
Yoshio, M. *et al*, *Anal. Lett.*, 1982, **15**, 1197 (*rev*)

2,2′-[1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diylbis(methylene)]bis[4-nitrophenol],9CI T-00115

N,N′-*Bis*(*2-hydroxy-5-nitrobenzyl*)*cryptand-22. 22-Koshland*

[77857-33-1]



$C_{26}H_{36}N_4O_{10}$ M 564.591

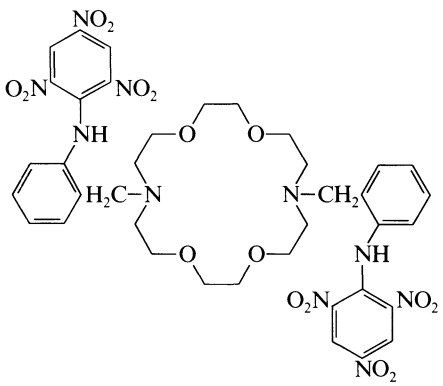
Used as 0.1m*M* soln. in 1,2-dichloroethane for extraction-photometric detn. of Pb (λ_{max} 406 nm, ε 45000), Ca (λ_{max} 406 nm, ε 55000); for detn. of Ca in blood serum. Pale yellow cryst. Sol. $CHCl_3$, 1,2-dichloroethane; insol. H_2O. Mp 164-165°.

Nishida, N. *et al*, *Mikrochim. Acta*, 1981, **1**, 281 (*synth, detn, Ca*)
Sakai, Y. *et al*, *Talanta*, 1986, **33**, 407 (*synth, detn, Pb*)

2,2′-[1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diylbis(methylene)]bis[*N*-(2,4,6-trinitrophenyl)]benzenamine, 9CI T-00116

N,N′-*Bis*(*2-picrylaminobenzyl*)*diaza-18-crown-6*

[105504-95-8]



$C_{38}H_{42}N_{10}O_{16}$ M 894.807

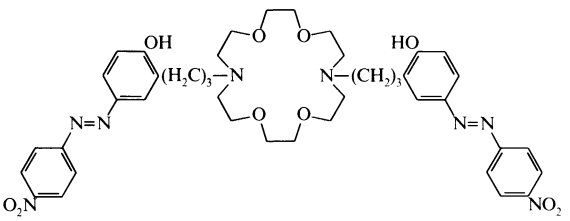
Used as 1,2-dichloroethane soln. for extraction separation of alkali metal ions. Orange cryst. ($CHCl_3$). Sol. $CHCl_3$, 1,2-dichloroethane, dioxan. Mp 207.0-207.7°.

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1986, **185**, 295 (*synth, use*)

2,2′-(1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diyldi-3,1-propanediyl)bis[4-[(4-nitrophenyl)azo]phenol], 9CI T-00117

N,N-*Bis*[*3*-[*5*-(*4-nitrophenylazo*)-*2-hydroxyphenyl*]*propyl*]*diaza-18-crown-6*

[115654-94-9]



$C_{42}H_{52}N_8O_{10}$ M 828.920

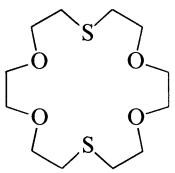
Used as 1,2-dichloroethane soln. for extraction of Ca, Sr, Ba; separation of Sr and Ba from Ca. Red cryst. Sol. $CHCl_3$, 1,2-dichloroethane. Mp 106.1-107.4°.

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1988, **204**, 113 (*synth, use*)

1,4,10,13-Tetraoxa-7,16-dithiacyclooctadecane, 9CI T-00118

1,10-Dithia-18-crown-6

[296-39-9]



$C_{12}H_{24}O_4S_2$ M 296.451

Used as 1m*M* soln. in $CHCl_3$ in potentiometry as a carrier in Pb-selective electrode. Cryst. Sol. $CHCl_3$.

Shpigun, L.K. *et al*, *Zh. Anal. Khim.*, 1986, **41**, 617 (*use*)

Tetraphenylarsonium(1+), 9CI T-00119

[15912-80-8]

$AsPh_4^{\oplus}$

$C_{24}H_{20}As^{\oplus}$ M 383.344 (ion)

▷ Toxic.

Chloride: [507-28-8].
$C_{24}H_{20}AsCl$ M 418.796
Used for extraction-photometric detn. of W (λ_{max} 406 nm, $CHCl_3$); extraction separation of $ReO_4^{\ominus}$ ($CHCl_3$), $GaCl_4^{\ominus}$, $IrCl_6^{2\ominus}$; gravimetric detn. of $ReO_4^{\ominus}$, $ClO_4^{\ominus}$, $IO_4^{\ominus}$, $Cr_2O_7^{2\ominus}$, Hg(*II*), Sn(*IV*), Cd, Zn, Tl(*III*), Te, Ge; titrimetric detn. of Te. Cryst. + $2H_2O$ ($EtOH/Et_2O$). Mp 258-260°. Loses $2H_2O$ at 100°.
▷ CI0600000.

Chloride hydrochloride: [21006-73-5]. *Tetraphenylarsonium hydrogen dichloride, 9CI*
Needles + $2H_2O$ (dil. HCl). Mp 205-209° dec.

Iodide: [7422-32-4].
$C_{24}H_{20}AsI$ M 510.248
White needles. Mp 312-313°, Mp 314-319°.

Bromide: [507-27-7].
$C_{24}H_{20}AsBr$ M 463.248
Used for detn. of Bi, Co, extraction of Co. Needles. Mp 273-275°.

Tribromide:
$C_{24}H_{20}AsBr_3$ M 623.056

Yellow cryst. Mp 215-216°.

Triiodide:

$C_{24}H_{20}AsI_3$ M 764.057

Reddish brown cryst. Mp 228-230°.

Blicke, F.F. *et al*, *J. Am. Chem. Soc.*, 1935, **57**, 720; 1939, **61**, 88 (*synth*)
Willard, H.H. *et al*, *Ind. Eng. Chem., Anal. Ed.*, 1939, **11**, 186 (*synth*)
Chatt, J. *et al*, *J. Chem. Soc.*, 1940, 1192 (*synth*)
Potratz, A.H. *et al*, *Anal. Chem.*, 1949, **21**, 1276 (*detn, Bi, Co*)
Rahaman, M.S. *et al*, *Anal. Chem.*, 1949, **21**, 2023 (*extrn, detn, Co*)
Tribalat, S., *Anal. Chim. Acta*, 1949, **3**, 113 (*detn, Re*)
Slater, R.C.L.M. *et al*, *Acta Crystallogr.*, 1959, **12**, 187 (*struct*)
Beyermann, K., *Fresenius' Z. Anal. Chem.*, 1962, **190**, 4 (*detn, Cr*)
Org. Synth., Coll. Vol., 4, 1963, 910 (*synth*)
Affsprung, H.E. *et al*, *Anal. Chim. Acta*, 1964, **30**, 501 (*detn, W*)
Harman, K.M. *et al*, *Inorg. Chem.*, 1968, **7**, 1921 (*ir*)
Finston, H.L. *et al*, *Mikrochim. Acta*, 1969, 78 (*detn, Ga*)
Bowd, A.J. *et al*, *Talanta*, 1969, **16**, 719 (*use, rev*)
Long, T.V. *et al*, *Inorg. Chem.*, 1971, **10**, 933 (*raman*)
Ellestaad, O.H. *et al*, *Acta Chem. Scand.*, 1972, **26**, 1721 (*ir, raman*)
Fogg, A.G. *et al*, *Analyst (London)*, 1975, **100**, 311 (*detn, Mo*)
Couldwell, M.C., *Cryst. Struct. Commun.*, 1979, **8**, 469 (*struct*)
Marczenko, Z. *et al*, *Anal. Chim. Acta*, 1982, **144**, 173 (*detn, Ir*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 489 (*use*)
Ouishi, H., *Photometric Determination of Traces of Metals, Part IIb, Individual Metals, Magnesium to Zinc*, John Wiley, New York, 4th Ed., 1989, 596.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TEA300.

Tetraphenylphosphonium(1+) T-00120

[18198-39-5]

$[PPh_4]^{\oplus}$

$C_{24}H_{20}P^{\oplus}$ M 339.396 (ion)

Chloride: [2001-45-8].

$C_{24}H_{20}ClP$ M 374.848

Used as 5m*M* $CHCl_3$ soln. for extraction of $ReO_4^{\ominus}$, $Mo/SCN^{\ominus}$, $Nb/C_2O_4^{2\ominus}$, $Ti(SCN)_6^{2\ominus}$. Cryst. ($EtOH/Et_2O$). Sol. H_2O, $CHCl_3$. Mp 265-267°, Mp 272°.

Bromide: [2751-90-8].

$C_{24}H_{20}BrP$ M 419.300

Used as 1% aq. soln. for colorimetric detn. of Bi, Co; for extraction of heavy metals; photometric detn. of Ti. Cryst. + $2H_2O$ (H_2O or $MeOH/Et_2O$). Sol. H_2O, common org. solvs. Mp 287-289°, Mp 295-298°. Forms CBr_4 adduct, also a tribromide.

Iodide: [2065-67-0].

$C_{24}H_{20}IP$ M 466.300

Cryst. ($CHCl_3/C_6H_6$ or $MeOH/Et_2O$). Mp 337° (330-332°).

Tribromide: [3138-57-6].

$C_{24}H_{20}Br_3P$ M 579.108

Orange needles.

Methoxide:

$C_{25}H_{23}OP$ M 370.430

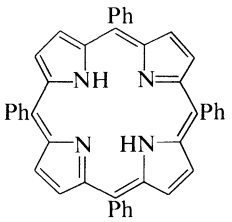
Cryst. (cyclohexane). Mp 162°. Stable in vacuo; instantly hydrolysed in air. At 170-180° → MeOH, C_6H_6, Ph_3P, and methoxybenzene.

Dodonow, J. *et al*, *Ber.*, 1928, **61**, 907 (*synth*)
Willard, H.H. *et al*, *J. Am. Chem. Soc.*, 1948, **70**, 737 (*chloride*)
Potratz, A.H. *et al*, *Anal. Chem.*, 1949, **21**, 1276 (*detn, Bi, Co*)
Tribalat, S., *Anal. Chim. Acta*, 1949, **3**, 113; 1950, **4**, 228 (*detn, Re*)
Wittig, G. *et al*, *Justus Liebigs Ann. Chem.*, 1970, **732**, 97 (*bromide, iodide*)
Goetz, H. *et al*, *Phosphorus Relat. Group V Elem.*, 1972, **1**, 217 (*iodide, nmr*)
Ohkuho, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1974, **47**, 557 (*uv, struct*)
Fluck, E. *et al*, *Z. Naturforsch., B*, 1974, **29**, 603 (*pe*)
Albright, T.A. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 2946 (*cmr, nmr*)
Razavaev, G.A. *et al*, *J. Organomet. Chem.*, 1975, **99**, 93 (*methoxide*)
Sīroki, M. *et al*, *Anal. Chem.*, 1976, **48**, 55 (*detn, Nb*)
Effenberger, F. *et al*, *Chem. Ber.*, 1976, **109**, 306 (*props*)
Lindner, H.J. *et al*, *Chem. Ber.*, 1976, **109**, 314 (*cryst struct*)
Tamhina, B. *et al*, *Mikrochim. Acta*, 1976, **1**, 553 (*detn, Mo*)
Tamhina, B. *et al*, *Microchem. J.*, 1977, **22**, 275 (*detn, Ti*)
Bogaard, M.P. *et al*, *Cryst. Struct. Commun.*, 1982, **11**, 175 (*perbromide, cryst struct*)
Cristau, H.J. *et al*, *J. Organomet. Chem.*, 1983, **241**, C1 (*props*)

meso-Tetraphenylporphyrin T-00121

α,β,γ,δ-Tetraphenylporphine. 5,10,15,20-Tetraphenyl-21H,23H-porphine

[917-23-7]



$C_{44}H_{30}N_4$ M 614.748

Prepd. by the condensation of Pyrrole with Benzaldehyde. Used as 0.05m*M* soln. in glac. AcOH for photometric detn. of Cu(*II*) (λ_{max} 414nm, ε 470000), Zn. Deep-purple prisms ($CH_2Cl_2/MeOH$). Sol. $CHCl_3$, C_6H_6, DMF; sl. sol. AcOH; insol. EtOH. Mp >240°, Mp 300°. $Subl._{0.0000001}$ 250°. Normally obt. contaminated with 8-10% of Chlorin which can be removed by oxidn. with DDQ.

Ball, R.H. *et al*, *J. Am. Chem. Soc.*, 1946, **68**, 2278 (*synth*)
Banks, C.V. *et al*, *Anal. Chem.*, 1957, **29**, 522 (*detn, Zn*)
Adler, A.D. *et al*, *J. Org. Chem.*, 1967, **32**, 476 (*synth*)
Barnett, G.H. *et al*, *Tetrahedron Lett.*, 1973, 2887 (*purifn*)
Smith, K.M., *Porphyrins and Metalloporphyrins*, Elsevier, Amsterdam, 1975, 769.
Ishii, H. *et al*, *Anal. Chim. Acta*, 1978, **101**, 423 (*detn, Cu*)
Lindsey, J.S. *et al*, *J. Org. Chem.*, 1987, **52**, 827 (*synth*)

Tetraphenylstibonium(1+) T-00122

[15912-81-9]

$[Ph_4Sb]^{\oplus}$

$C_{24}H_{20}Sb^{\oplus}$ M 430.172 (ion)

Used for extraction separation of $F^{\ominus}$.

Bromide: see *Bromotetraphenylantimony, B-00577*

Iodide: [16894-70-5].

$C_{24}H_{20}ISb$ M 557.076

Catalyst for synth of 1,3-oxazolidin-2-ones from oxiranes and isocyanates, and of the -2-thiones using azimidines and CO_2. Cryst. (H_2O). Mp 203-205°.

Azide: [36573-10-1].

$C_{24}H_{20}N_3Sb$ M 472.192

Synth. from Ph_5Sb + HN_3. Solid. Sol. C_6H_6, Et_2O. Mp 186-187° dec.

Tetrafluoroborate: [426-80-2].

Solid or cryst. (Me_2CO/Et_2O). Mp 300-301°, Mp 286° (275-276°).

Perchlorate: Solid. Ion pair struct.

▷ Potentially explosive.

Sulfate: Suggested as reagent for qual. analysis of org. acids. Sol. H_2O (>60 g per 100 ml).

Thiocyanate: [17701-02-9].
Solid. Sol. C_6H_6. Mp 236-238° dec.
Trifluoromethanesulfonate: [104316-49-6].
Catalyst for reactions between epoxides and amines to give α, β-aminoalcohols. Solid. Mp 255°.
Methanesulfonate: [104316-48-5].
Cryst. Mp 258°.
Benzenesulfonate: [104316-51-0].
$C_{30}H_{25}O_3SSb$ M 587.342
Cryst. + $1H_2O$ ($MeOH/CHCl_3$). Mp 98-101°. Distorted tbp struct. with largely ionic Sb—O bond.
4-Methylbenzenesulfonate: [104316-53-2].
$C_{31}H_{27}O_3SSb$ M 601.368
Solid. Mp 162-165°.
2,4-Dinitrobenzenesulfonate: [104316-54-3].
$C_{30}H_{23}N_2O_7SSb$ M 677.337
Solid. Mp 141-143°.
Trinitromethide: Synth. from Ph_4SbBr and $AgC(NO_2)_3$. Yellow cryst. Insol. H_2O.
Dimesylaminide: Solid.

[104316-52-1]

Affsprung, H.E. *et al*, *Anal. Chem.*, 1960, **32**, 1164 (*sulfate, synth, use*)
McEwen, W.E. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 7079 (*tetrafluoroborate*)
Schmidbaur, H. *et al*, *Z. Anorg. Allg. Chem.*, 1971, **386**, 139 (*thiocyanate, azide*)
Chermette, H. *et al*, *Anal. Chem.*, 1972, **44**, 857 (*sepn, $Fe^{\ominus}$*)
Tsentovskii, V.M. *et al*, *Zh. Obshch. Khim.*, 1972, **42**, 2145; *J. Gen. Chem. USSR* (*Engl. Transl.*), 1972, **42**, 2141 (*iodide*)
Gukasyan, S.E. *et al*, *Zh. Strukt. Khim.*, 1973, **14**, 650; *J. Struct. Chem.* (*Engl. Transl.*), 1973, **14**, 603 (*mössbauer*)
Nesmeyanov, N.A. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 724), 1977, **237**, 1111 (*tetrafluoroborate*)
Lorenz, I.P. *et al*, *Z. Naturforsch., B*, 1978, **33**, 47 (*sulfonates, ir, ms, pmr*)
Heste, S. *et al*, *J. Electron Spectrosc. Relat. Phenom.*, 1979, **17**, 191 (*iodide, pe*)
Erashko, V.I. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1985, 439; *Bull. Acad. Sci. USSR, Div. Chem. Sci.* (*Engl. Transl.*), 1985, 401 (*trinitromethide, ir, uv*)
Rüther, R. *et al*, *J. Organomet. Chem.*, 1985, **295**, 21 (*sulfonates, cryst struct, synth, pmr, ir*)
Ferguson, G. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1988, 731 (*perchlorate, cryst struct*)
Preut, H., *Acta Crystallogr., Sect. C*, 1989, **45**, 1006 (*dimesylaminide, cryst struct*)

Tetraphenyl-μ-sulfatodithallium, 8CI T-00123

Diphenylthallium sulfate. Bis(diphenylthallium)sulfate

[3003-07-4]

$(Ph_2TlO)_2SO_2$

$C_{24}H_{20}O_4STl_2$ M 813.252
Used as a 0.1*M* soln. in 0.1*M* H_2SO_4 as titrant in potentiometric detn. of $NO_3^{\ominus}$. Cryst. Sol. dil. H_2SO_4.
▷ Toxic.

DiGregorio, J.S. *et al*, *Anal. Lett.*, 1968, **1**, 811 (*synth, use*)
DiGregorio, J.S., *CA*, 1968, **70**, 16835g.
DiGregorio, J.S. *et al*, *Anal. Chem.*, 1970, **42**, 94 (*use*)

Tetrapropylammonium(1+) T-00124

N,N,N-*Tripropyl-1-propanaminium(1+)*, *9CI*

[13010-31-6]

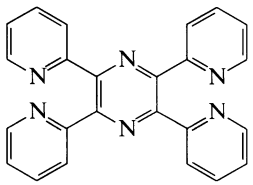
$(H_3CCH_2CH_2)_4N^{\oplus}$

$C_{12}H_{28}N^{\oplus}$ M 186.360 (ion)
Hydroxide:
$C_{12}H_{29}NO$ M 203.367
Used for extraction-photometric detn. of U (λ_{max} 452 nm, 4-methyl-2-pentanone), extraction of Tc. Cryst.
Bromide: [1941-30-6].
$C_{12}H_{28}BrN$ M 266.264
Mp 270° (dec.).

[5810-42-4]

Holzbecher, Z., *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TEC750.

2,3,5,6-Tetra(2-pyridyl)pyrazine T-00125



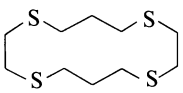
$C_{24}H_{16}N_6$ M 388.431
Used as a 1m*M* soln. in dil. HCl for photometric detn. of Fe(*II*) (λ_{max} 75 nm, ε 19800); extraction-photometric detn. of Fe(*II*) (λ_{max} 570 nm, ε 19200, $CHCl_3$; λ_{max} 573 nm, ε 17400, $PhNO_2$). Cryst. (Py). Sol. $CHCl_3$, $PhNO_2$, dil. HCl; insol. H_2O, 2-methoxyethanol. Mp 282-284°.

Goodwin, H. *et al*, *J. Am. Chem. Soc.*, 1959, **81**, 6415 (*synth*)
Pflaum, R.T. *et al*, *Anal. Chim. Acta*, 1964, **31**, 341 (*use*)

1,4,8,11-Tetrathiacyclotetradecane, 9CI T-00126

14-Thiacrown-4

[24194-61-4]



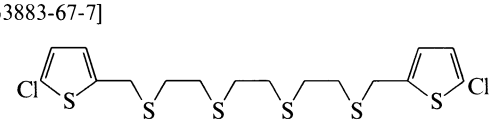
$C_{10}H_{20}S_4$ M 268.532
Used as 0.5m*M* 1,2-dichloroethane soln. for extraction-photometric detn. of Ag, Cu(*II*) (with use of ethyleosine as counter anion); as $CHCl_3$ soln. for extraction separation of Ag and Hg(*II*). Cryst. (Me_2CO), needles (EtOH). Sol. EtOH, 1,2-dichloroethane, $CHCl_3$. Mp 110-111°, Mp 119-120°.

Rosen, W. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 4694 (*synth*)
Ochrymowycz, L.A. *et al*, *J. Org. Chem.*, 1974, **39**, 2079 (*synth*)
de Simone, R.E. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 762 (*cryst struct*)
Sevdic, D. *et al*, *J. Inorg. Nucl. Chem.*, 1980, **42**, 885 (*sepn, Ag, Hg*)
Buter, J. *et al*, *J. Org. Chem.*, 1981, **46**, 4481 (*synth*)
Saito, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1984, **57**, 189 (*detn, Ag, Cu*)
Sekido, E. *et al*, *Anal. Sci.*, 1988, **4**, 511 (*detn, Cu*)

2,2′-(2,5,8,11-Tetrathiadodecane-1,12-diyl) bis[5-chlorothiophene], 9CI T-00127

1,2-Di(5-chloro-2-thienyl)-2,5,8,11-tetrathiadodecane

[133883-67-7]



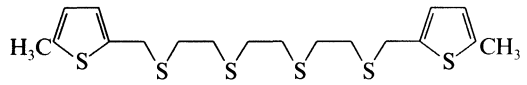
$C_{16}H_{20}Cl_2S_6$ M 475.635
Used as 2m*M* soln. in 1,2-dichloroethane for extraction separation of Cu(*I,II*). Cryst. (hexane or EtOAc). Sol. toluene, 1,2-dichloroethane, hexane. Mp 57-58°.

Abe, S. *et al*, *Mikrochim. Acta*, 1990, **3**, 171 (*synth, detn, Cu*)

2,2′-(2,5,8,11-Tetrathiadodecane-1,2-diyl) bis[5-methylthiophene], 9CI T-00128

1,12-Bis(5-methyl-2-thienyl)-2,5,8,11-tetrathiadodecane

[133883-66-6]



$C_{18}H_{26}S_6$ M 434.799

Used as 2m*M* soln. in 1,2-dichloroethane for extraction separation of Cu(*I,II*). Cryst. (hexane/EtOAc). Sol. toluene, 1,2-dichloroethane, hexane. Mp 67-68°.

Abe, S. *et al*, *Mikrochim. Acta*, 1990, **3**, 171 (*synth, sepn, Cu*)

3,6,10,13-Tetrathiapentadecane, 9CI T-00129

[57704-77-5]

$EtSCH_2CH_2SCH_2CH_2CH_2SCH_2CH_2SEt$

$C_{11}H_{24}S_4$ M 284.575

Used as a 5m*M* soln. in 1,2-dichloroethane for extraction separation of Cu(*I*), Ag (in the presence of picrate). Oil. Sol. $CHCl_3$, EtOAc, 1,2-dichloroethane.

Chayama, K. *et al*, *Anal. Sci.*, 1987, **3**, 535 (*synth, sepn, Ag, Cu*)

3,6,9,12-Tetrathia-1,14-tetradecanedithiol, 9CI T-00130

[124491-07-2]

$HSCH_2CH_2SCH_2CH_2SCH_2CH_2SCH_2CH_2SCH_2CH_2SH$

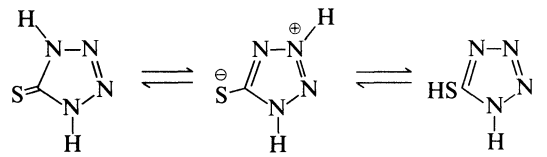
$C_{10}H_{22}S_6$ M 334.680

Used as a 5m*M* soln. in 1,2-dichloroethane for extraction separation of Cu(*I, II*), Pd(*II*), Hg(*II*), (pH 4-7). Cryst. ($CHCl_3$/EtOH). Sol. $CHCl_3$, 1,2-dichloroethane, EtOH. Mp 94.1-95.3°.

Sekido, E. *et al*, *Anal. Chim. Acta*, 1989, **221**, 99 (*synth, use*)

Tetrazole-5-thione T-00131

1,4-Dihydro-5H-tetrazole-5-thione, 9CI



1,4-Dihydro-*form* 1,3-Dihydro-*form* *SH-form*

CH_2N_4S M 102.120

1,4-Dihydro-form

Needles. Mp 205° dec. Major tautomer.

1-Me:

$C_2H_4N_4S$ M 116.146

Cryst. (Me_2CO). Mp 125-126°.

1-Et:

$C_3H_6N_4S$ M 130.173

Cryst. (Me_2CO). Mp 50°.

1-Ph: [86-93-1].

$C_7H_6N_4S$ M 178.217

Used as 0.05% $CHCl_3$ soln. for extraction-photometric detn. of Pd (λ_{max} 400 nm, ε 2600), Pt. Used as a 2% soln. in EtOH or Me_2CO for detn. of Bi. Faint-yellow cryst. (EtOH). Sol. $CHCl_3$, AcOH, EtOH. Mp 151-153°, Mp 150°. pK_{a1} 2.8 (25°).

▷ XF7700000.

1,4-Di-Me: [54986-14-0].

$C_3H_6N_4S$ M 130.173

Cryst. (pet. ether). Mp 99-100°, Mp 107°.

1-Me, 4-Ph: [1455-91-0].

$C_8H_8N_4S$ M 192.244

Cryst. Mp 47-49°.

N-(*4-Propenyl*): [7624-33-1]. *1-Allyl-2-tetrazoline-5-thione. 1,2-Dihydro-1-(2-propenyl)-5H-tetrazole-5-thione*

Used as 0.5% aq. soln. for detn. of $I^{\ominus}$, $IO_3^{\ominus}$, Bi(*III*). Cryst. Sol. EtOH, $CHCl_3$; sl. sol. H_2O. Mp 67-69°.

1,3-Dihydro-form

Minor tautomer.

3-Et, 1-Ph: [62681-14-5].

$C_9H_{10}N_4S$ M 206.271

Yellowish-white prisms (EtOAc/hexane). Mp 114.5-115°.

SH-form [18686-81-2]

1H-Tetrazole-5-thiol. 5-Mercapto-1H-tetrazole

S-*Me:* [29914-17-8].

$C_2H_4N_4S$ M 116.146

Prisms (dioxan). Mp 144-146°, Mp 151° dec.

S-*Et:*

$C_3H_6N_4S$ M 130.173

Plates (toluene). Mp 86-88°.

S-*Ph:* [28986-48-3].

$C_7H_6N_4S$ M 178.217

Prisms (toluene). Mp 92-93°.

1-N-*Ph*, S-*Me:* [1455-92-1].

$C_8H_8N_4S$ M 192.244

Plates (EtOH). Mp 78.5-80°, Mp 84°.

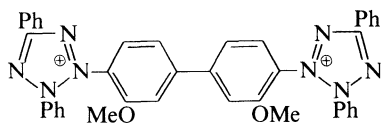
[1437-66-7]

Freund, M. *et al*, *Ber.*, 1901, **34**, 3110 (*synth*)
Kendall, J., *CA*, 1946, **40**, 611, 5350 (*synth*)
Lieber, E. *et al*, *Can. J. Chem.*, 1958, **36**, 801; 1959, **37**, 101 (*ir, struct, synth*)
Lieber, E. *et al*, *J. Org. Chem.*, 1961, **26**, 4472 (*deriv*)
Postovoskii, I.Ya. *et al*, *J. Gen. Chem. USSR* (*Engl. Transl.*), 1964, **34**, 254 (*struct, deriv*)
Chechneva, A.N., *Zh. Anal. Khim.*, 1968, **23**, 1059 (*detn, Pd*)
Johar, G.S. *et al*, *Curr. Sci.*, 1969, **38**, 492 (*detn, Bi*)
Johar, G.S. *et al*, *Mikrochim. Acta*, 1974, 633 (*use*)
Bartels-Keith, J.R. *et al*, *J. Org. Chem.*, 1977, **42**, 3725 (*deriv, cmr, struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PGJ750.

Tetrazolium blue T-00132

3,3′-(3,3′-Dimethoxy[1,1′-biphenyl]-4,4′-diyl)bis[2,5-diphenyl-2H-tetrazolium](2+), 9CI

[7703-11-9]



$C_{40}H_{32}N_8O_2^{2\oplus}$ M 656.745 (ion)

Strictly, the name Tetrazolium blue applies to the dichloride.

Dichloride: [1871-22-3].

$C_{40}H_{32}Cl_2N_8O_2$ M 727.651

Bacterial stain. Anal. reagent for corticosteroids. Used in the assay of reducing sugars. Used as 2m*M* aq. soln. for photometric detn. of As (λ_{max} 620 nm, red of As(*V*) to arsine with KBH_4) and various dehydrogenases. Pale-yellow solid (MeOH). Sol. H_2O, EtOH. Mp 244° dec.

▷ XF8050000.

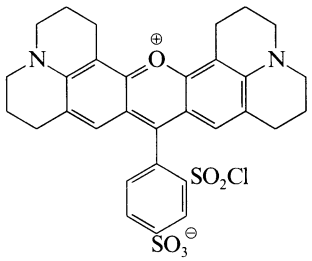
Rutenburg, A.M. *et al*, *Cancer Res.*, 1950, **10**, 113 (*synth*)
Ried, W. *et al*, *Justus Liebigs Ann. Chem.*, 1953, **581**, 16 (*purifn*)
Cheronis, N.D. *et al*, *J. Chem. Educ.*, 1956, **33**, 120.

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 61.
Landis, J.B., *Anal. Chim. Acta*, 1980, **114**, 155 (*use*)
Robin, J.P. *et al*, *Sci. Aliments*, 1981, **1**, 233 (*detn, sugars*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC. Press, Boca Raton,, 1983.
Kolesnikova, A.M. *et al*, *Zh. Anal. Khim.*, 1987, **42**, 1270 (*detn, As*)

Texas red T-00133

Sulforhodamine 101 sulfonyl chloride

[82354-19-6]



$C_{31}H_{29}ClN_2O_6S_2$ M 625.165

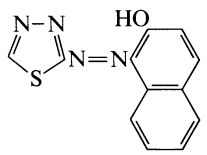
Fluorescent label for amino groups in proteins. Used in DNA sequence anal. Prob. a mixt. with 2-$SO_3^{\ominus}$, 4-SO_2Cl isomer.

Titus, J.A. *et al*, *J. Immunol. Methods*, 1982, **50**, 193 (*synth, use*)
Smith, L.M. *et al*, *Nature (London)*, 1986, **321**, 674 (*use*)
Morrison, L.E. *et al*, *Anal. Biochem.*, 1989, **183**, 231 (*use*)

1-(1,3,4-Thiadiazol-2-ylazo)-2-naphthalenol, 9CI T-00134

1,3,4-Thiadiazolylazo-β-naphthol

[14151-97-4]



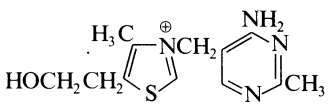
$C_{12}H_8N_4OS$ M 256.287

Used as a 0.1-0.3m*M* soln. in MeOH or acetate or borate buffer to give colour reactions with Fe, Ru, Ni, Co, Cu, Cd. Orange cryst. (MeOH). Sol. EtOH. Mp 193-194°. pK_{a1} 8.26.

Pollard, F.H. *et al*, *Talanta*, 1967, **14**, 123 (*detn, Fe, Ru*)
Domagalina, E., *Chem. Anal. (Warsaw)*, 1976, **21**, 105, 411 (*synth, pKa, detn, Co, Cu, Cd, Ni*)

Thiamine, INN T-00135

3-[(4-Amino-2-methyl-5-pyrimidinyl)methyl]-5-(2-hydroxyethyl)-4-methylthiazolium(1+), 9CI, 8CI. Vitamin B_1. Torulin. Oryzanin. Aneurine. Numerous proprietary names



$C_{12}H_{17}N_4OS^{\oplus}$ M 265.358 (ion)

Ubiquitous constit. of biol. materials. Produced by numerous bacterial spp. Essential vitamin. Used as aq. soln. for fluorimetric detn. of $PO_4^{2\ominus}$ (λ_{max} 440 nm, 5-100 ppb, via molybdatophosphate). Sol. H_2O; sl. sol. EtOH. pK_a 5.17. Thermolabile, readily dec. by alkalis.

Chloride: [59-43-8]. *Thiamine monochloride*

$C_{12}H_{17}ClN_4OS$ M 300.811

Cryst. + $1H_2O$ (H_2O). Mp 120-122° dec., 163-165° dec. (anhyd.). Infrequently encountered, hydrochloride more stable.

▷ XI6550000.

Chloride; B,HCl: [67-03-8]. ***Thiamine hydrochloride*, USAN.** *Bewon. Betaxin. Betalin S. Vinothiam*

$C_{12}H_{18}Cl_2N_4OS$ M 337.272

Clinically used vitamin source. Plates or cryst. (EtOH). V. sol. H_2O; spar. sol. EtOH; insol. Et_2O, C_6H_6. Mp is not a good criterion of purity.

▷ XI7350000.

Nitrate: [532-43-4]. ***Thiamine mononitrate*, USAN**

$C_{12}H_{17}N_5O_4S$ M 327.363

Clinically used vitamin source. Mp 164-165°, Mp 196-200°.

O-*Phosphate, chloride:* [532-90-1]. *Monophosphothiamine chloride*

$C_{12}H_{18}ClN_4O_4PS$ M 380.791

Vitamin B_1 deriv. used clinically. Mp *ca.* 200°.

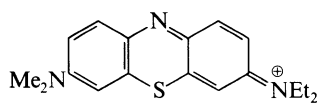
O-*Triphosphate: Thiamine triphosphate. Thiamine triphosphoric acid. TTP*

Isol. from animal tissues. Cryst. (EtOH aq.).

Todd, A.R. *et al*, *J. Chem. Soc.*, 1937, 364; 1938, 26 (*synth*)
Karrer, P. *et al*, *Helv. Chim. Acta*, 1946, **29**, 711 (*phosphate*)
Lenormant, H. *et al*, *Bull. Soc. Chim. Fr.*, 1954, 375 (*ir, uv*)
Greiling, H. *et al*, *Nature (London)*, 1958, **13**, 251 (*isol, triphosphate*)
Kotera, K., *Chem. Pharm. Bull.*, 1965, **13**, 440 (*pmr*)
Hesse, M. *et al*, *Helv. Chim. Acta*, 1967, **50**, 808 (*ms*)
Linnett, P.E. *et al*, *J. Chem. Soc. C*, 1967, 796 (*biosynth*)
Pletcher, J. *et al*, *Acta Crystallogr., Sect. B*, 1972, **28**, 2928 (*cryst struct*)
Karrer, W. *et al*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd Ed., Birkhäuser Verlag, Basel, 1972-1985, no. 2609.
Holzbecher, J. *et al*, *Anal. Chim. Acta*, 1973, **64**, 147 (*detn, P*)
Gallo, A.A., *J. Biol. Chem.*, 1974, **249**, 1382 (*cmr*)
Thiamine, [*Proc. Pap. Discuss. U.S.-Jpn. Semin.*], *2nd*, Wiley, N.Y., 1976 (*book*)
Oka, Y., *Kirk-Othmer Encycl. Chem. Technol.*, 3rd Edn., Wiley, N.Y., 1978-1984, **24**, 124 (*synth*)
Penttinen, H.K., *Methods Enzymol.*, 1979, **62**, 112 (*triphosphate*)
Brown, G.M. *et al*, *Adv. Enzymol. Relat. Areas Mol. Biol.*, 1982, **53**, 345 (*biosynth*)
Sable, H.Z. *et al*, *Ann. N.Y. Acad. Sci.*, 1982, **378**, 78, 378, 454 (*book, nmr, cryst struct, conformn*)
Uray, G., *Monatsh. Chem.*, 1982, **113**, 1475 (*synth*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7829, 7830.
Davis, R.E. *et al*, *Adv. Clin. Chem.*, 1983, **23**, 93 (*chemistry*)
Ishida, T. *et al*, *Acta Crystallogr., Sect. C*, 1984, **40**, 437 (*cryst struct*)
Gubler, C.J., *Food Sci. Technol.*, 1984, **13**, 245 (*rev*)
Karlson, P., *Trends Biochem. Sci.*, 1984, **9**, 536 (*struct*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 2515, 2540, 4574.
Contant, P. *et al*, *Helv. Chim. Acta*, 1990, **73**, 1300 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TES750, TET300, TET500.

Thiazine blue T-00136

3-(Diethylamino)-7-(dimethylamino)phenothiazin-5-ium(1+), 9CI. C.I. Basic blue 25. C.I. 52025



$C_{18}H_{22}N_3S^{\oplus}$ M 312.458 (ion)

Strictly, the name Thiazine blue refers to the chloride.

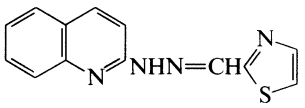
Chloride: [2391-29-9].

$C_{18}H_{22}ClN_3S$ M 347.911
Used as redox indicator. Cryst. Sol. H_2O; spar. sol. EtOH. E° +0.537 V (25°).

Meyer, H.W. *et al*, *Helv. Chim. Acta*, 1952, **35**, 1444 (*pKa, use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

2-Thiazolecarboxaldehyde 2-quinolinylhydrazone, 9CI T-00137

[97516-27-3]



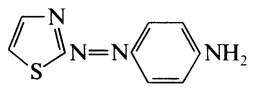
$C_{13}H_{10}N_4S$ M 254.315
Used as a 1m*M* soln. in C_6H_6 for extraction-photometric detn. of Pd (λ_{max} 625 nm, ε 19300, C_6H_6), Ni (λ_{max} 522 nm, ε 72000). Yellow needles (EtOH). Mp 215°.

Nakagawa, T. *et al*, *Analyst (London)*, 1985, **110**, 387 (*synth, detn, Pd*)
Otomo, M. *et al*, *Anal. Sci.*, 1986, **2**, 549 (*detn, Ni*)

4-(2-Thiazolylazo)aniline T-00138

4-(2-Thiazolylazo)benzenamine, 9CI. 2-(4-Aminophenylazo) thiazole

[82855-20-7]



$C_9H_8N_4S$ M 204.255
Dark red cryst. (toluene). Mp 188-189°.

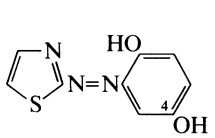
N,N-*Di-Et:* [52048-31-4]. N,N-*Diethyl-4-(2-thiazolylazo) benzenamine, 9CI. 1-(2-Thiazolylazo)-4-diethylaminobenzene. TAEA*
$C_{13}H_{16}N_4S$ M 260.362
Used as EtOH soln. for photometric detn. of Ag (λ_{max} 528 nm, pH 4-6). Cryst. (EtOH). Sol. EtOH.

Libman, D.D. *et al*, *J. Chem. Soc.*, 1954, 1565 (*synth*)
Ohshita, K. *et al*, *Anal. Chim. Acta*, 1985, **176**, 41 (*synth, detn, Ag*)

2-(2-Thiazolylazo)-1,4-benzenediol T-00139

2-(2,5-Dihydroxyphenylazo)thiazole

[37422-44-9]



$C_9H_7N_3O_2S$ M 221.239

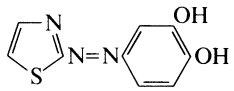
4-Me ether: [3012-52-0]. *4-Methoxy-2-(2-thiazolylazo) phenol, 9CI*
$C_{10}H_9N_3O_2S$ M 235.266
Used as a 0.01*M* soln. in EtOH or a 0.1m*M* soln. in $CHCl_3$ for extraction-photometric detn. of Hg ($CHCl_3$, λ_{max} 638 nm), Fe(*II*), U (4-methyl-2-butanone, λ_{max} 610 nm, ε 20900); metallochromic indicator for titrimetric detn. of Bi, Cd, Cu, Ga, In, Ni, Pd, Tl, lanthanides. Dark green cryst. (hot EtOH). Sol. DMF, EtOH, Me_2CO, $CHCl_3$; spar. sol. H_2O, Et_2O, dioxan. pK_{a1} <0.3; pK_{a2} 8.12 (7.90) (μ = 0.1, 30% EtOH).

Chromy, V. *et al*, *Talanta*, 1967, **14**, 393 (*detn, Bi, Cd, Cu, Ga, In, Tl, lanthanides, Pd*)
Sommer, L. *et al*, *Talanta*, 1968, **15**, 949 (*detn, U*)
Kai, F., *Anal. Chim. Acta*, 1969, **44**, 242 (*detn, Hg, pKa*)
Veda, K. *et al*, *Mikrochim. Acta*, 1984, **3**, 103 (*synth, detn, Fe*)

4-(2-Thiazolylazo)-1,2-benzenediol, 9CI T-00140

2-(3,4-Dihydroxyphenyl)thiazole. 4-(2-Thiazolylazo) pyrocatechol

[22525-25-3]



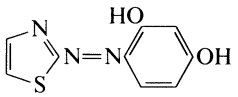
$C_9H_7N_3O_2S$ M 221.239
Used for photometric detn. of Al (λ_{max} 520 nm, ε 49500), Ti, W (λ_{max} 470 nm, ε 51000); indirect photometric detn. of P; as 1m*M* Me_2CO soln. for photometric detn. of Zr (λ_{max} 420 nm, ε 21000, pH 2-3); as 0.05% soln. in 0.5*M* NaOH in 50% EtOH for photometric detn. of Fe(*II*) (λ_{max} 590 nm, ε 34300). Orange-red cryst. Sol. EtOH, Me_2CO, alkalis, dioxan, DMF. pK_{a1} 6.96; pK_{a2} 11.15.

Purmale, V. *et al*, *Latv. PSR Zinat. Akad. Vestis, Khim. Ser.*, 1975, 373 (*pKa*)
Myasoedova, A.S. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 2398; 1977, **32**, 490; 1978, **33**, 326 (*detn, W*)
Putuina, I. *et al*, *Latv. PSR Zinat. Akad. Vestis, Khim. Ser.*, 1976, 346 (*props*)
Vilkova, O.M. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 716 (*synth, detn, Zr*)
Chkanikova, O.K. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 521 (*detn, P*)
Ivanov, V.M. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 2124 (*detn, Ti*)
Ueda, K. *et al*, *Mikrochim. Acta*, 1984, **3**, 103 (*synth, detn, Fe*)

4-(2-Thiazolylazo)-1,3-benzenediol, 9CI T-00141

4-(2-Thiazolylazo)resorcinol. 2-(2,4-Dihydroxyphenylazo) thiazole. TAR

[2246-46-0]



$C_9H_7N_3O_2S$ M 221.239
Metallochromic indicator for titrimetric detn. of Ca, Cd, Cu, Mg, Mn, Ni, Bi, Co (λ_{max} 570 nm, ε 25000), Mo, Nb, Sc, U(*VI*), Zr. Used as 1m*M* aq. soln. or 0.1% soln. in MeOH for photometric detn. of trace metals. Red needles. Sol. EtOH, Me_2CO, dioxan, $CHCl_3$; sl. sol. H_2O. Mp 218-219° (235° dec.), Mp 200-202° dec. pK_{a1} 6.23; pK_{a2} 9.44 (0.1*M* $NaClO_4$).

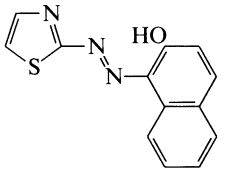
1-Me ether: [15574-54-6]. *5-Methoxy-2-(2-thiazolylazo) phenol, 9CI. 2-(2-Hydroxy-4-methoxyphenylazo)thiazole*
$C_{10}H_9N_3O_2S$ M 235.266
Used as 0.05% soln. in 0.5*M* NaOH in EtOH for photometric detn. of U(*VI*) (λ_{max} 530 nm, ε 20000, pH 4.5-5), Fe(*II*) (λ_{max} 720 nm, ε 15900, pH 8-9). Red cryst. Sol. EtOH, DMF, alkalis.

Jensen, B.S., *Acta Chem. Scand.*, 1960, **14**, 927 (*synth, use*)
Skytte Jensen, B., *Acta Chem. Scand.*, 1960, **14**, 927 (*use*)
Hnilickova, M. *et al*, *Talanta*, 1966, **13**, 667 (*use*)
Sommer, L. *et al*, *Talanta*, 1968, **15**, 949 (*detn, U*)
Sakai, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1969, **42**, 2718; 1979, **52**, 3559 (*use*)
Mushran, S.P. *et al*, *Collect. Czech. Chem. Commun.*, 1969, **34**, 3693; 1980, **45**, 1502 (*use*)
Kojima, I. *et al*, *Anal. Chim. Acta*, 1970, **52**, 35, 146; 1971, **57**, 460 (*use*)
Bergmann, S.R. *et al*, *Clin. Chim. Acta*, 1980, **104**, 53 (*use*)
Ueda, K., *Mikrochim. Acta*, 1984, **3**, 103 (*synth, detn, Fe*)

1-(2-Thiazolylazo)-2-naphthalenol, 9CI T-00142

2-(2-Hydroxy-1-naphthylazo)thiazole. TAN

[1147-56-4]



$C_{13}H_9N_3OS$ M 255.300

Used as 0.1% soln. in EtOH for extraction-photometric detn. of Cd, Co, Cu, Mn, Ni, Tl(*III*) (λ_{max} 580 nm, ε 35000), U(*VI*), Zn; indicator in EDTA titrations. Orange needles. Sol. EtOH, Me_2CO, $CHCl_3$; sl. sol. H_2O. Mp 139-141°. pK_a 8.71.

Jensen, B.S., *Acta Chem. Scand.*, 1960, **14**, 927 (*synth, use*)
Navratil, O., *Collect. Czech. Chem. Commun.*, 1964, **29**, 2490 (*use*)
Kawase, K., *Talanta*, 1965, **12**, 195 (*detn, Zn*)
Navratil, O. *et al*, *Anal. Chim. Acta*, 1970, **52**, 221 (*detn, Co*)
Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1535 (*detn, Tl*)

4-(2-Thiazolylazo)-1-naphthalenol, 9CI T-00143

2-(4-Hydroxy-1-naphthylazo)thiazole

[31042-79-2]

$C_{13}H_9N_3OS$ M 255.300

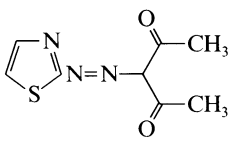
Used for extraction-photometric detn. of Pd (λ_{max} 635 nm, ε 16100), U(*VI*). Cryst.

Kawase, A. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1963, **12**, 714 (*detn, Pd*)
Anderson, R.G. *et al*, *Analyst* (*London*), 1967, **92**, 207 (*rev*)
Gusev, S.I. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 540 (*detn, U*)

3-(2-Thiazolylazo)-2,4-pentanedione, 9CI T-00144

2,3,4-Pentanetrione-2-(2-thiazolylhydrazone)

[118747-05-0]



$C_8H_9N_3O_2S$ M 211.244

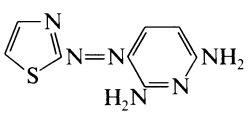
Several tautomers possible. Used as a 1m*M* soln. in 25% EtOH to give colour reactions with Cu, Ni,Co, Zn (suitable for photometric detns.). Yellow cryst. (30% EtOH). Sol. EtOH; spar. sol. H_2O. Mp 122°. pK_{a1} 3.56; pK_{a2} 7.82 (1% EtOH).

Ishizuki, T. *et al*, *Anal. Chim. Acta*, 1988, **212**, 253 (*synth, use*)

3-(2-Thiazolylazo)-2,6-pyridinediamine, 9CI T-00145

2-(2,6-Diamino-3-pyridylazo)thiazole

[22409-45-6]



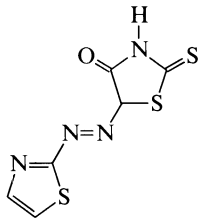
$C_8H_8N_6S$ M 220.257

Used as 1m*M* soln. in 1*M* $HClO_4$ for photometric detn. of Pd (λ_{max} 665 nm, ε 13700). Cryst. (EtOH aq.). Sol. acids, EtOH, MeOH; spar. sol. H_2O. Mp 206-209°.

Garcia Montelongo, F. *et al*, *Microchem. J.*, 1982, **27**, 194 (*synth, detn, Pd*)

5-(2-Thiazolylazo)-2-thioxo-4-thiazolidinone, 9CI T-00146

[36576-01-9]



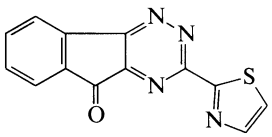
$C_6H_4N_4OS_3$ M 244.322

Various tautomers possible. Used as EtOH soln. for photometric detn. of Pt(*II*) (λ_{max} 500 nm, ε 17500). Red cryst. powder. Sol. DMF, EtOH.

Basurgin, N.N. *et al*, *Zavod. Lab.*, 1972, **38**, 260 (*synth, detn, Pt*)

3-(2-Thiazolyl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, 9CI T-00147

[37004-83-4]



$C_{13}H_6N_4OS$ M 266.283

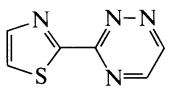
Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 563 nm, ε 6000). Cryst. (2-methoxyethanol). Sol. common org. solvs. Mp 256-257°.

Case, F.H., *J. Heterocycl. Chem.*, 1972, **9**, 457 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1977, **24**, 685 (*detn, Fe*)

3-(2-Thiazolyl)-1,2,4-triazine, 9CI T-00148

2-(1,2,4-Triazin-3-yl)thiazole

[30091-58-8]



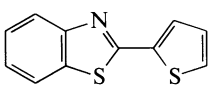
$C_6H_4N_4S$ M 164.190

Used as a 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 522, ε 13400, EtOH aq.). Cryst. (EtOH). Sol. common org. solvs. Mp 170-171°.

Case, F.H., *J. Heterocycl. Chem.*, 1970, **7**, 1001 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1974, **21**, 831 (*detn, Fe*)

2-(2-Thienyl)benzothiazole, 9CI T-00149

[34243-38-4]



$C_{11}H_7NS_2$ M 217.315

Used as 2.4m*M* $CHCl_3$ soln. for extraction-photometric detn. of Hg(*II*) (λ_{max} 375 nm, ε 170000, $CHCl_3$). Cryst. Sol. $CHCl_3$.

Capitan, F. *et al*, *Ann. Chim.* (*Rome*), 1987, **77**, 945 (*detn, Hg*)

1-(2-Thienyl)-1,3-butanedione, 9CI T-00150

2-(Acetoacetyl)thiazole

[3051-27-2]

$C_8H_8O_2S$ M 168.216

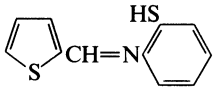
Used for photometric detn. of Fe(*III*). Cryst. Sol. common org. solvs.

Romero, J.M. *et al*, *An. Quim., Ser. B*, 1981, **77**, 182 (*detn, Fe*)

2-[(2-Thienylmethylene)amino] benzenethiol, 9CI T-00151

2-Thiophenecarboxaldehyde 2-mercaptoanil. 2-Mercapto-N-(2-thienylmethylene)anline

[7525-70-4]



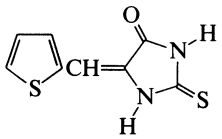
$C_{11}H_9NS_2$ M 219.331

Used as satd. soln. in $CHCl_3$ for detn. of Zn. Yellow cryst. (pet. ether). Mp 96-97°.

Thabet, S., *Anal. Chim. Acta*, 1966, **34**, 228 (*synth, detn, Zn*)

5-(2-Thienylmethylene)-2-thioxo-4-imidazolidinone, 9CI T-00152

[84071-21-6]



$C_8H_6N_2OS_2$ M 210.280

Used as 0.5m*M* EtOH soln. to give colour reactions with Pd, Cu, Ag, Hg(*II*) (pH 4.5). Orange cryst. (EtOH). Sol. EtOH, DMF. Mp 240°. pK_{a1} 7.4; pK_{a2} 13.1.

Montana Gonzalez, M.T. *et al*, *Mikrochim. Acta*, 1982, **2**, 363 (*synth, reactions*)

Thioacetanilide T-00153

N-*Phenylethanethioamide, 9CI*

[637-53-6]

$H_3CC(S)NHPh$

C_8H_9NS M 151.232

Used as a 2% soln. in AcOH for pptn. sepn. of Ir, Rh. Cryst. Mp 76-79°.

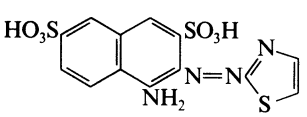
Jackson, E., *Analyst (London)*, 1959, **84**, 106 (*use*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TFA250.

Thioaminazo F T-00154

4-Amino-3-(2-thiazolylazo)-2,7-naphthalenedisulfonic acid, 9CI

[56624-78-3]



$C_{13}H_{10}N_4O_6S_3$ M 414.443

Used as aq. soln. for photometric detn. of Pd and Co (λ_{max} 490 nm). Dark red cryst. Sol. H_2O, EtOH.

Dedkov, Y.M. *et al*, *Zh. Anal. Khim.*, 1971, **26**, 558 (*detn, Pd*)

Kalenchenko, T.Y. *et al*, *CA*, 1974, **83**, 71008h (*detn, Co*)

Thiobenzoic acid, 8CI T-00155

Benzenecarbothioic acid, 9CI

[98-91-9]

PhCOSH

C_7H_6OS M 138.190

Used for extraction-separation of Co, Cu, Fe, Ni, Pd. Yellow oil cryst. on chilling in ice. Mp 15-18°, Mp 24°. pK_a 2.66 (H_2O).

▷ DH6839000.

O-*Me ester:* [5873-86-9].
C_8H_8OS M 152.217
Yellow liq. Bp_{10} 110-112°. pK_a 12.8.

S-*Me ester:* [5925-68-8].
C_8H_8OS M 152.217
Yellow liq. Bp 210-212°.

O-*Et ester:* [936-61-8].
$C_9H_{10}OS$ M 166.243
Yellow liq. Bp 240°, Bp_{11} 112-120°.

S-*Et ester:* [1484-17-9].
$C_9H_{10}OS$ M 166.243
Yellow oil. Bp 252.3°, Bp_{31} 146°.

O-*Ph ester:* [16911-57-2].
$C_{13}H_{10}OS$ M 214.287
Yellow prisms. Mp 32°.

S-*Ph ester:* [884-09-3].
$C_{13}H_{10}OS$ M 214.287
Cryst. (2-propanol). Mp 56-57°.

S-*Octyl ester:* [10489-23-3]. ***Tioctilate,* INN.** S-*Octylthiobenzoate. Scabexol*
$C_{15}H_{22}OS$ M 250.404
Acaricide. $Bp_{0.1}$ 125-130°. n_D^{29} 1.529.

S-*Benzyl ester:* [13402-51-2]. ***Tibenzate,* INN.** *Scabexan*
$C_{14}H_{12}OS$ M 228.314
Nematocide. Cryst. (EtOH). Mp 39.5°.

▷ DH6850000.

Chloride: Thiobenzoyl chloride
Reagent for dehydration of alcohols. Violet-red liq. Bp 88°. Unstable >78°.

▷ Lachrymator.

Hydrazide: [20605-40-7].
$C_7H_8N_2S$ M 152.220
Used as 0.01-0.02*M* soln. in EtOH for extraction-photometric detn. of Os (λ_{max} 385 nm, ε 13700), Re (λ_{max} 520 nm, ε 12400), Ru (λ_{max} 520 nm, ε 12000). Cryst. (Et_2O/pet. ether). Sol. H_2O, common org. solvs. Mp 68-70°.

Org. Synth., Coll. Vol., 4, 1963, 924 (*synth*)

Chablay, A., *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1966, **263**, 157 (*synth, Tioctilate*)

Holmes, J.L. *et al*, *Org. Mass Spectrom.*, (Suppl), 1970, **4**, 97 (*ms*)

Mori, M. *et al*, *Int. J. Sulfur Chem., Part A*, 1972, **2**, 79 (*esters*)

Alekperov, R.A. *et al*, *CA*, 1973, **79**, 73283k, 152554c; 1974, **80**, 127833f; **81**, 145333t (*detn, Co, Cu, Fe, Ni, Pd*)

Ganghopadhyay, S. *et al*, *Anal. Chim. Acta*, 1976, **83**, 409 (*detn, Re*)

Shome, S.C. *et al*, *Talanta*, 1976, **23**, 603 (*hydrazide, synth, detn, Os, Ru*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 582.

Pipyn, P. *et al*, *Experientia*, 1979, **35**, 480 (*metab, Tioctilate*)

Talley, J.J., *Synthesis*, 1981, 549 (*synth, Tioctilate*)

Evans, D.M. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1986, 1499 (*hydrazide*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, BFK750.

2,2′-Thiobisethanamine, 9CI T-00156

Di(2-aminoethyl) sulfide. Thioethylamine. Thiodiethylamine. 2,2′-Diaminodiethyl sulfide

[871-76-1]

$H_2NCH_2CH_2SCH_2CH_2NH_2$

$C_4H_{12}N_2S$ M 120.218
Misc. H_2O. Bp 231-233°, Bp_{12} 112-116°. Strong base.
B,2HCl: [16822-45-0].
Masking agent for Co, Cu, Hg, Ni, Zn. Cryst. Sol. EtOH, Me_2CO, C_6H_6. Mp 131°.
Picrate: Mp 212°.

Gabriel, S., *Ber.*, 1891, **24**, 1110 (*synth*)
Marxer, A. *et al*, *Helv. Chim. Acta*, 1951, **34**, 924 (*synth*)
Yamaguti, H. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1967, **16**, 703 (*use*)

2,2′-Thiobisethanethiol, 9CI T-00157

2-Mercaptoethyl sulfide. 2,2-Dimercaptodiethylsulfide

[3570-55-6]

$HSCH_2CH_2SCH_2CH_2SH$

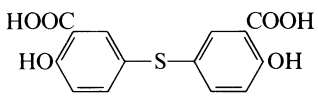
$C_4H_{10}S_3$ M 154.321
Used as 0.2*M* soln. in $CHCl_3$ or in aq. dioxan for extraction-photometric detn. of Ni (λ_{max} 520 nm), gives colour reactions with metals. Liq. Sol. dioxan, $CHCl_3$, CCl_4. d_4^{20} 1.12. Bp_{18} 135-137°.

Harley-Mason, J., *J. Chem. Soc.*, 1952, 146 (*synth*)
Segall, J. *et al*, *Analyst* (*London*), 1963, **88**, 314 (*detn, Ni*)
Corsini, A. *et al*, *Talanta*, 1973, **20**, 291 (*detn, Ni*)

3,3′-Thiobis[6-hydroxybenzoic acid], 9CI T-00158

5,5′-Thiodisalicylic acid. 4,4′-Dihydroxydiphenyldisulfide-3,3′-dicarboxylic acid

[1820-99-1]



$C_{14}H_{10}O_6S$ M 306.295
Used as 0.01*M* soln. in 0.02*M* NaOH for pptn. and colour reactions with metals; photometric detn. of Ti (λ_{max} 385 nm, ε 16000, pH 4.9); Pd (λ_{max} 452 nm, ε 11200) Rh, U(*VI*). Cryst. Sol. alkalis, EtOH.

Good, M.L. *et al*, *Talanta*, 1965, **12**, 181 (*detn, Pd, Rh, Cl*)
Capitan, F. *et al*, *Microchem. J.*, 1985, **32**, 313 (*detn, Ti*)

Thiocarbamic acid T-00159

Aminothioformic acid. Carbamothioic acid

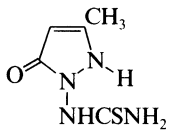
[19045-66-0]

$H_2NCOSH \rightleftharpoons H_2NCSOH$

CH_3NOS M 77.107
Free acid unknown. Forms two series of esters.
NH_4 salt: [16687-42-6].
Cryst. V. sol. H_2O; spar. sol. EtOH; insol. Et_2O.
S-*Me ester:* [21325-07-5].
C_2H_5NOS M 91.134
Prisms (Et_2O). Mp 107-108°.
S-*Me ester*, N-*Ac:* [34277-65-1].
$C_4H_7NO_2S$ M 133.171
Needles (C_6H_6). Mp 145.5-146°.
S-*Et ester:* [637-98-9]. S-*Ethyl carbamothioate*, *9CI*. S-*Ethyl thiocarbamate*, *8CI*. S-*Ethyl aminothioformate*. *Thiourethane*
C_3H_7NOS M 105.160
Has contraceptive props. Plates (C_6H_6). Sol. hot H_2O. Mp 108-109°. The name Thiourethane is applied to both the *S*-Et and *O*-Et (see below) esters.
S-*Et ester*, N-*Ac:* [57964-27-9]. S-*Ethyl acetylcarbamothioate*, *9CI*
$C_5H_9NO_2S$ M 147.198
Prisms (C_6H_6). Mp 98°.
S-*Ph ester:* [61642-86-2].
C_7H_7NOS M 153.204
Plates (C_6H_6 or H_2O). Mp 96-98°.
S-*Benzyl ester:* [42049-35-4].
C_8H_9NOS M 167.231
Plates (C_6H_6). Mp 125°.
O-*Me ester:* [683-63-6].
C_2H_5NOS M 91.134
Mp 43°.
O-*Me ester*, N-*Ac:*
$C_4H_7NO_2S$ M 133.171
Cryst. (pet. ether). Mp 79-80°.
O-*Et ester:* [625-57-0]. O-*Ethyl carbamothioate*, *9CI*. O-*Ethyl thiocarbamate*, *8CI*. O-*Ethyl aminothioformate*. *Xanthogenamide. Thiourethane*
C_3H_7NOS M 105.160
Fungicide. Volatile monoclinic cryst. Spar. sol. H_2O. Mp 40-41° (16°). Dec. on dist.
O-*Et ester*, N-*Ac:* [21406-25-7]. O-*Ethyl acetylcarbamothioate*, *9CI*. O-*Ethyl acetylthiocarbamate*, *8CI*
$C_5H_9NO_2S$ M 147.198
Prisms (H_2O). Mp 99.5-101°.
O-*Et ester*, N,N-*Di-Me:* [17996-38-2]. O-*Ethyl dimethylcarbamothioate*, *9CI*
$C_5H_{11}NOS$ M 133.214
Liq. with peculiar odour. d_4^{20} 1.028. Fp 15°. Bp 206°, Bp_{13} 88-89°.
O-*Ph ester:* [824-88-4].
C_7H_7NOS M 153.204
Needles (EtOH). Mp 132-132.5°.
O-*Isopropyl ester*, N-*Et:* [141-98-0]. O-*Isopropyl*-N-*ethylthiocarbamate*
$C_6H_{13}NOS$ M 147.241
Used as 2*M* soln. in $CHCl_3$ for extraction separation of Ag (in macro amounts from $NO_3^{\ominus}$ medium). Liq. Sol. $CHCl_3$ and other organic solvs. d 1.02.
N-*Ph*, S-*Ph ester:* [4910-32-1].
$C_{13}H_{11}NOS$ M 229.302
Mp 125.5-126°.

Weijland, J. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 1497.
Reimschneider, R. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 5905.
Reimscheider, R. *et al*, *Monatsh. Chem.*, 1953, **84**, 1238.
U.S. Pat., 2 602 813, (1953); *CA*, **47**, 7536.
Szekeres, L., *CA*, 1954, **48**, 11347.
U.K. Pat., 688 726, (1954); *CA*, **48**, 2091.
U.K. Pat., 811 861, (1959); *CA*, **53**, 20678e (*synth, props*)
Zil'berman, E.N. *et al*, *Zh. Obshch. Khim.*, 1963, **33**, 1023.
Walter, W. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1967, **6**, 281 (*rev, deriv*)
U.S. Pat., 4 066 681, (1975); *CA*, **88**, 136154.
Zolotov, Yu.A. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 317; 1979, **34**, 1720 (*sepn, Ag*)
Goerdeler, J. *et al*, *Chem. Ber.*, 1982, **115**, 1252 (*synth, ester*)
Jorgensen, K.A. *et al*, *Tetrahedron*, 1982, **38**, 1163 (*synth, ester*)

1-Thiocarbamido-3-methyl-5-pyrazolone T-00160



$C_5H_8N_4OS$ M 172.210
Used for photometric detn. of $OsO_4^{2\ominus}$, Fe(*III*), $UO_2^{2\oplus}$; gravimetric detn. of Pd. Cryst. Sol. EtOH, Me_2CO; sl. sol. cold H_2O.

Poddar, S.N., *Fresenius' Z. Anal. Chem.*, 1964, **203**, 333 (*use*)

S-(Thiocarbamoyl)dithiophosphoric acid T-00161

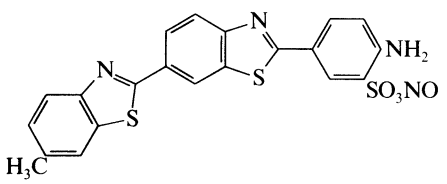
$(HO)_2P(S)SC(S)NH_2$

$CH_4NO_2PS_3$ M 189.220
O,O′-*Di-Me:* [69003-12-9].
$C_3H_8NO_2PS_3$ M 217.273
Used as 0.02*M* aq. soln. for extraction-polarographic detn. of Cu(*II*) and Pb ($CHCl_3/Me_2CO$). Cryst. Sol. H_2O.
O,O′-*Di-Et:* [69003-13-0].
$C_5H_{12}NO_2PS_3$ M 245.327
Used as 0.02*M* aq. soln. for extraction-polarographic detn. of Cu(*II*) and Pb(*II*) ($CHCl_3/Me_2CO$). Cryst. Sol. H_2O.
O,O′-*Dipropyl:* [86414-85-9].
$C_7H_{16}NO_2PS_3$ M 273.381
Used as 0.02*M* aq. soln. for extraction-polarographic detn. of Cu(*II*) and Pb ($CHCl_3/Me_2CO$). Cryst. Sol. H_2O.

Kutyrev, G.A. *et al*, *Zh. Obshch. Khim.*, 1979, **49**, 724 (*synth*)
Bubnikov, G.K. *et al*, *Zavod. Lab.*, 1980, **46**, 588 (*detn, Cu*)
Ulakhovich, N.A. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 671 (*detn, Cu, Pb*)

Thioflavine S T-00162

C.I. Direct yellow 7. C.I. 49010
[1326-12-1]



$C_{21}H_{14}N_4O_4S_3$ M 482.564
Used as adsorption indicator for detn. of $Br^{\ominus}$, $Cl^{\ominus}$, $I^{\ominus}$. Cryst. Sol.H_2O, EtOH, acids. λ_{max} 374 nm.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

Thioimidodicarbonic diamide, 9CI T-00163

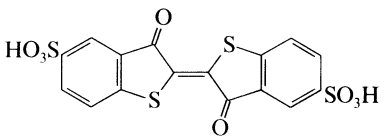
2,4-Dithiobiuret. 2-Thio-1-(thiocarbamoyl)urea. DTB
[541-53-7]

$H_2NCSNHCSNH_2$

$C_2H_5N_3S_2$ M 135.214
Insecticide, plasticiser; intermediate in production of thermoplastic resins. Needles (H_2O). Sol. H_2O (0.27 g per 100 cm^3 at 27°), EtOH (2.2 g per 100 cm^3), Me_2CO (34 g per 100 cm^3). Dec. 181°.
▷ Toxic by ingestion. LD_{50} 5 mg/kg (rat, oral).
N-*Me:* [6939-45-3]. *1-Methyl-2,4-dithiobiuret, 9CI*
$C_3H_7N_3S_2$ M 149.240
Used as a 1m*M* soln. in EtOH for titrimetric amperometric detn. of Bi, Cd, Co, Cu, Ni, Pb, Se, Te, Tl. Cryst.
N-*Ph:* [6635-73-0]. *1-Phenyl-2,4-dithiobiuret.* N-*Phenylthioimidodicarbonic diamide, 9CI*
$C_8H_9N_3S_2$ M 211.311
Used as 0.1% DMF soln. for photometric detn. of Re (λ_{max} 390 nm, ε 9300, $SnCl_2$, DMF). Cryst. Sol. DMF, EtOH.
N^1,N^3-*Ph:* [33951-45-0]. N,N′-*Diphenylthioimidodicarbonic diamide, 9CI. 1,5-Diphenyldithiobiuret*
$C_{14}H_{13}N_3S_2$ M 287.409
Used as 0.2% AcOH soln. for extraction-photometric detn. of Pt (λ_{max} 360 nm, ε 13000, pH 4-5, $CHCl_3$). Cryst. Sol. AcOH, hot EtOH, alkalis. Mp 149°.

Hecht, O., *Ber.*, 1892, **25**, 749 (*synth, deriv*)
U.S. Pat., 2 371 112, (1945); *CA*, **39**, 3556 (*synth*)
Kurzer, F. *et al*, *Org. Synth.*, 1955, **35**, 69 (*synth*)
Kurzer, F., *Chem. Rev.*, 1956, **56**, 138, 179 (*rev*)
Deshmukh, G.S. *et al*, *Chem. Ind. (London)*, 1969, **20**, 655 (*N-Me, detn, Cu, Pb*)
Deshmukh, G.S. *et al*, *Curr. Sci.*, 1969, **38**, 190, 512 (*N-Me, use, Bi, Co, Se, Te, Tl*)
Deshmukh, G.S. *et al*, *Fresenius' Z. Anal. Chem.*, 1969, **248**, 170 (*N-Me, detn, Cd, Cu, Ni*)
Spofford, W.A. *et al*, *J. Cryst. Mol. Struct.*, 1972, **2**, 151 (*cryst struct*)
Ray, A. *et al*, *Spectrochim. Acta, Part A*, 1975, **31**, 899 (*ir, raman*)
Bag, S.P. *et al*, *J. Indian Chem. Soc.*, 1977, **54**, 607 (*deriv, detn, Re*)
Radushev, A.V. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 742 (*synth, deriv, detn, Pt*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DXL800.

Thioindigo 5,5′-disulfonic acid T-00164



$C_{16}H_8O_8S_4$ M 456.498
Used as redox indicator. Cryst. pK_{a1} 4.27. E° +0.347 V (30°).

Meyer, H.W. *et al*, *Helv. Chim. Acta*, 1952, **35**, 1444.

2-Thio-2,4-pentanedione, 8CI T-00165

4-Thioxo-2-pentanone, 9CI. Thioacetylacetone
[14660-20-9]

$H_3CCSCH_2COCH_3$

C_5H_8OS M 116.184
Used as a derivatisation agent in gc detn. of Ni. Yellow oil. Bp_{13} 59-60°. Thermally unstable.

Yokoyama, A. *et al*, *Chem. Pharm. Bull.*, 1967, **15**, 540 (*synth*)
Duus, F. *et al*, *Acta Chem. Scand., Ser. B*, 1977, **31**, 40 (*synth*)
Uden, P.C. *et al*, *Inorg. Nucl. Chem. Lett.*, 1978, **14**, 161.

Thioperoxydicarbonic diamide, 9CI T-00166

Thiuram disulfide. Bis(thiocarbamoyl) disulfide
[504-90-5]

$H_2NCS—S—S—CSNH_2$

$C_2H_4N_2S_4$ M 184.331
Derivs. are used as vulcanisation accelerators. Plates ($Me_2CO/CHCl_3$). Sol. Me_2CO, hot EtOH, insol. H_2O, Et_2O, $CHCl_3$.

▷ JO1600000.

N-*Tetra-Me:* see *Tetramethylthiuram disulfide, T-00106*

N,N,N′,N′-*Tetraisopropyl:* [4136-91-8].

Bis(diisopropylthiocarbamoyl) disulfide, 8CI

$C_{14}H_{28}N_2S_4$ M 352.653

Used as a soln. in Me_2CO for gravimetric detn. of Co. Cryst. (CS_2).

N,N,N′,N′-*Tetraisobutyl:* [3064-73-1].

Bis(diisobutylthiocarbamoyl) disulfide, 9CI

$C_{18}H_{36}N_2S_4$ M 408.760

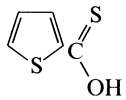
Used as a soln. in Me_2CO for gravimetric detn. of Co. Cryst. (CS_2). Mod. sol. EtOH, Me_2CO, C_6H_6; insol. H_2O.

Freund, M., *Justus Liebigs Ann. Chem.*, 1895, **285**, 184 (*synth*)
Contreras, G. *et al*, *Inorg. Nucl. Chem. Lett.*, 1970, **6**, 639 (*derivs, detn, Co*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TFS500.

2-Thiophenecarbothioic acid, 9CI T-00167

Thiophene-2-monothiocarboxylic acid

[49628-34-4]



$C_5H_4OS_2$ M 144.218

Yellow oil.

Hydrazide: [63528-68-7].

$C_5H_6N_2S_2$ M 158.248

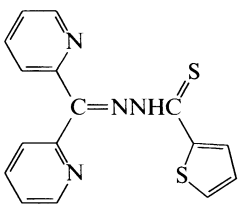
Used as 0.01*M* EtOH soln. for extraction-photometric detn. of Re(*VII*) (λ_{max} 600 nm, 0.5-0.8*M* HCl, $CHCl_3$), Ru(*III*), Os(*VI*, *VIII*), Pt(*IV*). Cryst. (hot H_2O or C_6H_6). Sol. EtOH, C_6H_6; mod. sol. H_2O. Mp 155-156°.

Shome, S.C. *et al*, *Mikrochim. Acta*, 1978, **2**, 343 (*synth, use*)
Hübner, J. *et al*, *Phosphorus, Sulfur, Silicon Relat. Elem.*, 1990, **47**, 367.

2-Thiophenecarbothioic acid (di-2-pyridinylmethylene)hydrazide, 9CI T-00168

Di-(2-pyridinyl)methanone 2-thiophenecarbothiohydrazone

[73697-17-3]



$C_{16}H_{12}N_4S_2$ M 324.430

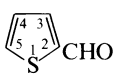
Used as 0.01*M* soln. in EtOH or Me_2CO for extraction-photometric detn. of Re (in the presence of $SnCl_2$, 4-methyl-2-pentanone). Orange red cryst. (EtOH). Sol. EtOH, Me_2CO, $CHCl_3$. Mp 113°.

Kettrup, A. *et al*, *Anal. Chim. Acta*, 1980, **115**, 383 (*synth, detn, Re*)

2-Thiophenecarboxaldehyde, 9CI T-00169

Thiophene-2-aldehyde. 2-Formylthiophene. 2-Thienal. α-Thenaldehyde. 2-Thienylaldehyde

[98-03-3]



C_5H_4OS M 112.152

Flavour ingredient. Derivatisation reagent for gc of amines. Liq. Bp_{20} 93-94°, Bp_1 44-45°. n_D^{20} 1.5917. Rapidly oxid. in air.

▷ XM8225000.

Oxime: [29683-84-9].

C_5H_5NOS M 127.167

Used as a 2% soln. in EtOH for gravimetric detn. of Pd. Sol. common org. solvs. Mp 111°. pK_a 10.76 (25°).

Semicarbazone: Mp 224° dec.

Phenylhydrazone: [39677-96-8].

Cryst. (EtOH). Mp 137-139°.

2,4-Dinitrophenylhydrazone: [24383-66-2].

Red cryst. (Py). Mp 242°.

Thiosemicarbazone: [5351-91-7].

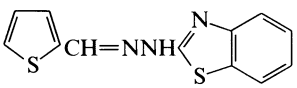
$C_6H_7N_3S_2$ M 185.273

Used. as a 0.5% EtOH soln. for gravimetric detn. of Ni, Pd and photometric detn. of Cu (λ_{max} 372 nm, ε 39000).

Campaigne, E. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 989 (*synth*)
Tandon, S.G. *et al*, *Anal. Chem.*, 1960, **32**, 194 (*oxime, detn, Pd*)
Org. Synth., Coll. Vol., 4, 1963, 915 (*synth, bibl*)
Munoz Leyva, J.A. *et al*, *An. Quim.*, 1973, **69**, 251 (*thiosemicarbazone, detn, Cu*)
Bag, S.P. *et al*, *J. Indian Chem. Soc.*, 1975, **52**, 30 (*pKa*)
Hoshika, Y., *J. Chromatogr.*, 1977, **136**, 253 (*use*)
Cano Pavon, J.H. *et al*, *An. Quim.*, 1978, **74**, 915 (*thiosemicarbazone, detn, Pd*)
Rosales, D. *et al*, *Analyst (London)*, 1982, **107**, 385 (*thiosemicarbazone, detn, Ni*)
Satonaka, H., *Bull. Chem. Soc. Jpn.*, 1983, **56**, 2463 (*pmr*)
Archer, W.J. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1983, 813 (*synth*)
Casarini, D. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1985, 1839 (*cmr*)
Koziol, A.E. *et al*, *J. Chem. Soc., Chem. Commun.*, 1988, 226 (*semicarbazone, cryst struct*)
Tenhosaari, A., *Org. Mass Spectrom.*, 1988, **23**, 236 (*ms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TFM500.

2-Thiophenecarboxaldehyde 2-benzothiazolylhydrazone T-00170

[53846-93-8]



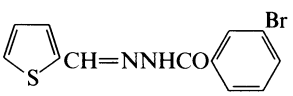
$C_{12}H_9N_3S_2$ M 259.355

Used as a 0.24m*M* soln. in C_6H_6 for extraction-photometric detn. of Cu (λ_{max} 422 nm, ε 44000, C_6H_6). Cryst. (EtOH). Mp 215-217°.

Odashima, T. *et al*, *Anal. Chim. Acta*, 1975, **74**, 61 (*synth, detn, Cu*)

2-Thiophenecarboxaldehyde 3-bromobenzoylhydrazone T-00171

[93418-14-5]



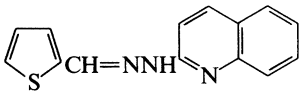
$C_{12}H_9BrN_2OS$ M 309.186

Used as a 0.01*M* soln. in 4-methyl-2-pentanone for extraction-separation of Cd, Co, Cu, Ni, Zn (pH 5-9). Cryst. Sol. 4-methyl-2-pentanone, xylene.

Tossidis, I.A. *et al*, *Chem. Chron.*, 1983, **12**, 181 (*synth*)
Arpadjan, S. *et al*, *Analyst (London)*, 1988, **113**, 1699 (*use*)

2-Thiophenecarboxaldehyde 2-quinolinylhydrazone T-00172

[85754-45-6]



$C_{14}H_{11}N_3S$ M 253.327

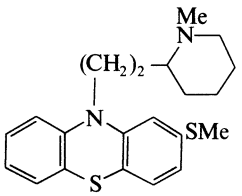
Used as a 1m*M* EtOH soln. for fluorimetric detn. of Zn (λ_{max} 552 nm, pH ~ 11). Brown cryst. Sol. EtOH. Mp 138.5°.

Geldard, J.F. *et al*, *Inorg. Chem.*, 1963, **2**, 270 (*synth*)
Martinez de la Barrera, M.R. *et al*, *Anal. Chim. Acta*, 1983, **147**, 303 (*detn, Zn*)

Thioridazine, BAN, USAN, INN, JAN T-00173

10-[2-(1-Methyl-2-piperidinyl)ethyl]-2-(methylthio)-10H-phenothiazine, 9CI. Mellaril. Other synonyms

[50-52-2]



$C_{21}H_{26}N_2S_2$ M 370.582

▷ SP2100000.

(±)-***form*** [57129-06-3]

Tranquilliser, neuroleptic agent. Cryst. (Me_2CO). Mp 72-74°. $Bp_{0.02}$ 230°.

B,HCl: [130-61-0]. *Mellaril hydrochloride*

Used as a 0.2% aq. soln. for photometric detn. of Pd (λ_{max} 490 nm, ε 3680). Cryst. (Me_2CO). Sol. H_2O. Mp 158-160°.

▷ SP2275000.

Fumarate: Cryst. (EtOH). Mp 158-160°.

Tartrate: [1257-76-7].

Mp 130° dec.

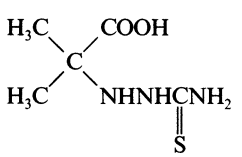
[52496-67-0]

Bourquin, J.-P. *et al*, *Helv. Chim. Acta*, 1958, **41**, 1072.
Haley, T.J. *et al*, *Toxicol. Appl. Pharmacol.*, 1959, **1**, 377 (*pharmacol*)
McDowell, J.J.H., *Acta Crystallogr., Sect. B*, 1975, **31**, 2256 (*cryst struct*)
Gowda, H.S. *et al*, *Fresenius' Z. Anal. Chem.*, 1975, **275**, 127 (*detn, Pd*)
Muusze, R.G. *et al*, *Eur. J. Clin. Pharmacol.*, 1977, **11**, 141 (*metab*)
Ryhage, R. *et al*, *Biomed. Mass Spectrom.*, 1978, **5**, 615 (*ms*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7115.
Reboul, J.P., *Eur. J. Med. Chem.*, 1984, **19**, 277 (*conformn*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 6205.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MOO250, MOO500.

α-Thiosemicarbazidoisobutyric acid T-00174

2-Methyl-2-(thiosemicarbazido)propionic acid, 8CI

[29039-64-3]



$C_5H_{11}N_3O_2S$ M 177.227

Amide:

$C_5H_{12}N_4OS$ M 176.242

Used as a 0.1% soln. in 1% NaOH for photometric detn. of Os. Cryst.

Nitrile:

$C_5H_{10}N_4S$ M 158.227

Used as a 0.1% soln. in 1% NaOH for photometric detn. of Os. Cryst.

Bailescu, G. *et al*, *Anal. Chim. Acta*, 1961, **24**, 463 (*detn, Os*)

Thiourea, 9CI T-00175

Thiocarbamide. Thiocarbonic diamide

[62-56-6]

H_2NCSNH_2

CH_4N_2S M 76.122

Metab. of *Verticillium albo-atrum* and *Botrytis cinera*. Also from seeds of *Laburnum anagyroides* and from *Citrus* spp. Photographic fixer. Forms separable inclusion complexes. Used in heterocyclic synth. Used as 10% aq. soln. for photometric detn. of Bi (λ_{max} 470 nm, ε 9000), Os, Ru, Re, Se, Te; reducing agent. Rhombohedra or needles (EtOH). Sol. H_2O, EtOH; spar. sol. Et_2O. Mp 175-177°, Mp 180°.

▷ An exp. carcinogen. YU2800000.

B,HCl: Mp 136-137°.

N-*Ac:* [591-08-2]. N-(*Aminothioxomethyl*)*acetamide, 9CI. 1-Acetyl-2-thiourea, 8CI*

Reagent for synth. of thiols. Needles. Mp 165°.

▷ Severe poison. YR7700000.

N,S-*Di-Ac:*

$C_5H_8N_2O_2S$ M 160.196

Yellow prisms (AcOH aq.). Mp 153°.

S-*Me:*

N-*Tri-Me:* [2489-77-2].

$C_4H_{10}N_2S$ M 118.202

Prisms (C_6H_6/ligroin). Mp 87-88°.

▷ YU4900000.

N-*Tetra-Et:* [4274-15-1].

$C_9H_{20}N_2S$ M 188.336

Bp 264-266°, Bp_{12} 130°.

N,N′-*Di*(tert-*butyl*): [4041-95-6]. N,N′-*Bis*(*1,1-dimethylethyl*)*thiourea, 9CI*

$C_9H_{20}N_2S$ M 188.336

Used as 0.05*M* $CHCl_3$ soln. for extraction-sepn. of noble metals (after treatment with $SnCl_2$). Cryst. (EtOH). Sol. EtOH, $CHCl_3$, C_6H_6.

N-*Hydroxy*, N-*Ph*, N′-*Me:* [26118-56-9]. N-*Hydroxy*-N′-*methyl*-N-*phenylthiourea, 9CI.* N-*Methylaminothioformyl*-N′-*phenylhydroxylamine*

$C_8H_{10}N_2OS$ M 182.246

Used for photometric and gravimetric detn. of Cu (λ_{max} 430 nm, ε 24600); extraction-photometric detn. of Ni (λ_{max} 440 nm, ε 27200). pK_{a1} 11.53.

N,N-*Di-Me*, N′-*benzoyl:* N,N-*Dimethyl*-N′-*benzoylthiourea*

$C_{10}H_{12}N_2OS$ M 208.284

Used as a 0.1*M* soln. in toluene for extraction-separation of platinum group metals. Cryst. (EtOH). Sol. toluene, $CHCl_3$. Mp 128°.

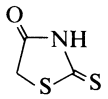
Ger. Pat., 1 957 202; *CA*, **75**, 35188t (*manuf*)
U.S. Pat., 2 006 762, (1935); *CA*, 1935, **29**, 5463 (*synth*)
Moore, M.L. *et al*, *J. Am. Chem. Soc.*, 1940, **62**, 3273 (*deriv, synth, tox*)
U.S. Pat., 2 337 882, (1944); *CA*, 1944, **38**, 3296 (*synth*)
Allan, W.J. *et al*, *Anal. Chem.*, 1952, **24**, 1608 (*detn, Os*)
Nielsch, W. *et al*, *Fresenius' Z. Anal. Chem.*, 1954, **142**, 321; **143**, 13, 168 (*detn, Bi*)

Lisicki, N.M. *et al*, *Anal. Chem.*, 1955, **27**, 1722 (*detn, Bi*)
Ryabchikov, D.I. *et al*, *Talanta*, 1963, **10**, 13 (*detn, Re*)
Sharma, C. *et al*, *Fresenius' Z. Anal. Chem.*, 1969, **248**, 34 (*deriv, detn, Cu*)
Kiba, T. *et al*, *Talanta*, 1972, **19**, 451 (*detn, Ru*)
Mathur, S.P. *et al*, *CA*, 1973, **78**, 48739k; 1975, **83**, 141428w, 172199b; 1976, **85**, 48739k (*deriv, pKa, detn, Cu, Ni*)
Mathur, S.P. *et al*, *CA*, 1973, **78**, 48739k; 1975, **83**, 141428w, 172199b; 1976, **85**, 48739k (*deriv, pKa, detn, Cu, Ni*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 7; **6**, 586.
Witanowski, M. *et al*, *Tetrahedron*, 1976, **32**, 2127 (*nmr*)
Zolotov, Yu.A. *et al*, *Anal. Chim. Acta*, 1978, **100**, 613 (*synth, sepn, noble metals*)
Koenig, K.H. *et al*, *Fresenius' Z. Anal. Chem.*, 1985, **321**, 457 (*N,N'-di-Me-N'-benzoyl, use*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, New York, 4th Ed., 1986, 329; *Part IIb: Individual Metals. Magnesium to Zinc*, 260.
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 313.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ADD250, ISR000, TMH750.

2-Thioxo-4-thiazolidinone, 9CI T-00176

Rhodanine. Rhodanic acid

[141-84-4]



$C_3H_3NOS_2$ M 133.195

Intermed. in Phenylalanine synth. Reagent for the photometric detn. of gallic acid. Pale-yellow prisms (EtOH). Mp 170°. pK_{a1} 5.18 (20°, 0.1*M* $NaClO_4$).

▷ Highly toxic. Emits toxic fumes when heated to dec.. VI7700000.

N-*Et:* [7648-01-3]. *3-Ethyl-2-thioxo-4-thiazolidinone, 9CI. 3-Ethylrhodanine*

$C_5H_7NOS_2$ M 161.248

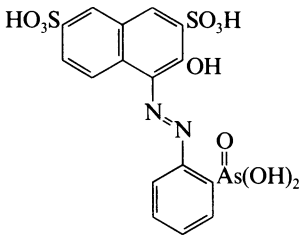
Reagent for the spectrophotometric anal. of *p*-quinones. Mp 36-36.5°.

Julian, P. *et al*, *J. Am. Chem. Soc.*, 1935, **57**, 1126[a] (*synth*)
Org. Synth., Coll. Vol., 3, 1955, 763 (*synth*)
van der Helm, D. *et al*, *Acta Crystallogr.*, 1962, **15**, 1227 (*cryst struct*)
Thies, M. *et al*, *Mikrochim. Acta*, 1973, 809 (*use*)
Condon, F.E. *et al*, *Org. Prep. Proced. Int.*, 1974, **6**, 37 (*N-Et, synth*)
Gattow, G. *et al*, *Z. Anorg. Allg. Chem.*, 1983, **506**, 140 (*synth, ir, pmr, ms*)
Asabe, Y. *et al*, *CA*, 1989, **110**, 127812m (*N-Et, use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, EPF500, RGZ550.

Thorin T-00177

4-[(2-Arsonophenyl)azo]-3-hydroxy-2,7-naphthalenedisulfonic acid, 9CI. 2-(2-Hydroxy-3,6-disulfo-1-naphthylazo) benzenearsonic acid. Naphtharson. Thoron

[132-33-2]



$C_{16}H_{13}AsN_2O_{10}S_2$ M 532.340

Used for photometric detn. of Th, Zr, Li. Red solid. pK_{a3} 3.7; pK_{a4} 8.3; pK_{a5} 11.8.

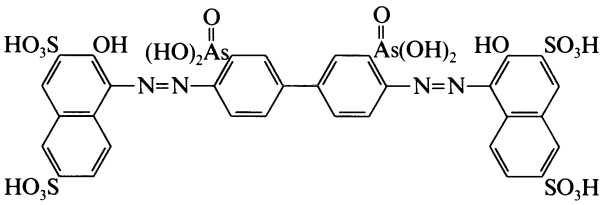
[3688-92-4]

Margerum, D.W. *et al*, *Anal. Chem.*, 1953, **25**, 1219 (*synth*)
Horton, A.D. *et al*, *Anal. Chem.*, 1953, **25**, 1331 (*use*)
Trautman, J.K. *et al*, *Talanta*, 1983, **30**, 587 (*detn, Li*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, New York, 4th Ed., 1986, 863.
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Ellis Horwood, Chichester, 1986, 574.

Thoron II T-00178

4,4'-[(4,4'-Diarsono[1,1'-biphenyl]-3,3'-diyl)bis(azo)]bis[3-hydroxy-2,7-naphthalenedisulfonic acid], 9CI

[3626-49-1]



$C_{32}H_{24}As_2N_4O_{20}S_4$ M 1062.664

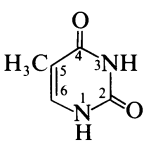
Used as 0.05% aq. soln. to give colour reactions with U(*VI*), Ti, Zr, Sn, Sb, Nb, Fe; photometric detn. of Th, Y, La, Sc. Cryst. Sol. H_2O, EtOH.

Kuznetsov, V.I., *Radiokhimiya*, 1959, **1**, 583 (*synth, reactions, detn, Th*)
Kuznetsov, V.I., *Zh. Anal. Khim.*, 1959, **14**, 7 (*use*)
Sentyurina, N.N., *Zh. Anal. Khim.*, 1962, **17**, 442 (*detn, Y, La, Sc*)

Thymine T-00179

5-Methyl-2,4(1H,3H)-pyrimidinedione, 9CI. 5-Methyluracil

[65-71-4]



$C_5H_6N_2O_2$ M 126.115

Component of nucleic acids. Used as a 0.25% aq. soln for pptn. sepn. of Hg. Plates (H_2O). Cryst. Spar. sol. H_2O (0.6-0.8 g per 100 cm^3). Mp 326°, Mp 340°. pK_{a1} 9.90 (25°).

▷ XP2100000.

1-N-*Benzoyl:* [90330-19-1].

$C_{12}H_{10}N_2O_3$ M 230.223

Cryst. Mp 212-213°.

3-N-Benzoyl: [4330-20-5].
$C_{12}H_{10}N_2O_3$ M 230.223
Cryst. Mp 150-152°.

1N,3N-Dibenzoyl:
$C_{19}H_{14}N_2O_4$ M 334.331
Cryst.

1,3-Di-Me: [4401-71-2].
$C_7H_{10}N_2O_2$ M 154.168
Needles (EtOH). Mp 153°.

1-α-D-Xylofuranosyl: [89618-08-6].
$C_{10}H_{14}N_2O_6$ M 258.230
Cryst. (EtOH). Mp 196-197°. $[\alpha]_D^{20}$ −56.7° (c, 0.97 in DMSO).

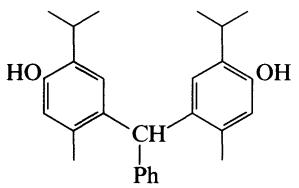
1-β-D-Xylofuranosyl: [52486-19-8].
$C_{10}H_{14}N_2O_6$ M 258.230
Cryst. (MeOH). Mp 160° (softens at 98°). $[\alpha]_D^{20}$ + 0° (c, 0.83 in H_2O).

Scherp, H.W., *J. Am. Chem. Soc.*, 1946, **68**, 912 (*synth*)
Rice, J.M. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 4569 (*ms*)
Ozeki, K. *et al*, *Acta Crystallogr., Sect. B*, 1969, **25**, 1038 (*cryst struct*)
Veydeman, E.V. *et al*, *Khim. Khim. Tekhnol. (Minsk)*, 1969, **12**, 718 (*sepn, Hg*)
Wong, J.L. *et al*, *J. Org. Chem.*, 1970, **35**, 3786 (*synth, pmr, uv*)
Tarpley, A.R. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 3573 (*nmr*)
Ellis, P.D. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 4398 (*cmr*)
Cruickshank, K.A. *et al*, *Tetrahedron Lett.*, 1984, **25**, 681 (*derivs, pmr, cmr, ir*)
Gosselin, G. *et al*, *J. Med. Chem.*, 1986, **29**, 203 (*deriv, synth, uv, pmr, ms, bibl*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TFX800.

Thymolbenzein T-00180

4-[[4-Hydroxy-2-methyl-5-(1-methylethyl)phenyl]phenylmethylene]-5-methyl-2-(1-methylethyl)-2,5-cyclohexadiene-1-one, 9CI. 6-[α-(5-Hydroxycarvacryl)benzylidene]-p-mentha-1,4-dien-3-one, 8CI

[5811-49-4]



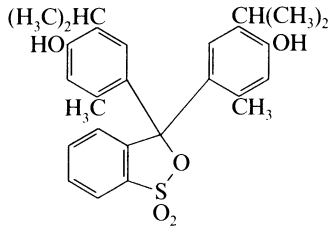
$C_{27}H_{32}O_2$ M 388.549
Used as a 0.1% soln. in MeOH as acid-base indicator (pH range: 1.5-2.5; colour change: red → yellow; pH range: 7.6-9.0; colour change: yellow → blue). Red cryst. (EtOH). Sol. Me_2CO, AcOH, MeOH, formic acid; insol. H_2O, C_6H_6, Et_2O, pet. ether. Mp 184°.

Orndorff, W.R. *et al*, *J. Am. Chem. Soc.*, 1927, **49**, 818.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

Thymol blue T-00181

4,4'-(3H-2,1-Benzoxathiol-3-ylidene)bis[5-methyl-2-(1-methylethyl)phenol], S,S-*dioxide*, *9CI. Thymolsulfonephthalein*

[76-61-9]



$C_{27}H_{30}O_5S$ M 466.597
Used as 0.1% EtOH soln. as an acid-base indicator (pH 1.2-2.8 and 8.0-9.6); kinetic detn. of Cu. Green cryst. powder. Sol. EtOH. Mp 221-224° dec.

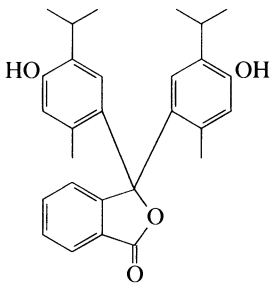
[81012-93-3]

Zikolov, P. *et al*, *Talanta*, 1973, **20**, 487 (*use*)
Harper, G.B., *Anal. Chem.*, 1975, **47**, 348 (*use*)

Thymolphthalein T-00182

3,3-Bis[4-hydroxy-2-methyl-5-(1-methylethyl)phenyl]-1(3H)-isobenzofuranone, 9CI. 5',5''-Diisopropyl-2',2''-dimethylphenolphthalein

[125-20-2]



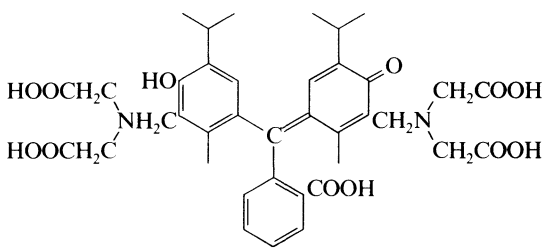
$C_{28}H_{30}O_4$ M 430.543
Indicator, laxative. Used as 0.1% soln. in 50% EtOH as an acid base indicator (pH range: 9.4-10.6; colour change: colourless → blue). Cryst. (EtOH). Sol. EtOH, Me_2CO, alkalis; insol. H_2O. Mp 246-247°.

Willstätter, R. *et al*, *Ber.*, 1923, **56**, 488.
Hubacher, H.H. *et al*, *J. Am. Pharm. Assoc.*, 1953, **42**, 23.
U.S.S.R. Pat., 159 539, (1962); *CA*, **60**, 14441.
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976, 331 (*use*)

Thymolphthalexon T-00183

Thymolphthalein complexon. 3,3'-Bis[N,N-di(carboxymethyl)aminomethyl]thymolphthalein. N,N'-[(3-*Oxo-1(3H)-isobenzofuranylidene)bis[[6-hydroxy-2-methyl-5-(1-methylethyl)-3,1-phenylene]methylene]]bis*[N-(*carboxymethyl*)]*glycine*

[1913-93-5]

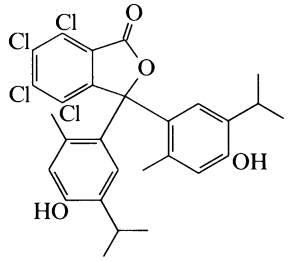


$C_{38}H_{44}N_2O_{12}$ M 720.772
Used as 0.1% aq. soln. for photometric detn. of V(*V*) (λ_{max} 610 nm, ε 5700); indicator in EDTA titrations of Ca, Mg (pH 10.2-10.5). Cryst. powder. Sol. H_2O (as sodium salt); insol. EtOH.

Budesinsky, B.W., *Microchem. J.*, 1975, **20**, 17 (*use, indicator*)
Cherkesov, A.I. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 517 (*detn, V*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 221 (*use*)

Thymoltetrachlorophthalein T-00184

4,5,6,7-Tetrachloro-3,3-bis[4-hydroxy-2-methyl-5-(1-methylethyl)phenyl]-1(3H)-isobenzofuranone

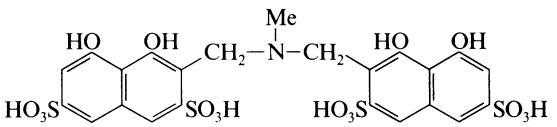


$C_{28}H_{26}Cl_4O_4$ M 568.322
Used as acid-base indicator (pH range: 9.2-10.0; colour change : colourless → blue). Needles. Sol. EtOH, Me_2CO; insol. H_2O. Mp 266°.

Cornwall, R.T. *et al*, *J. Am. Chem. Soc.*, 1927, **49**, 826 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972.

Tichromin T-00185

3,3'-[(Methylimino)bis(methylene)]bis[4,5-dihydroxy-2,7-naphthalenedisulfonic acid], 9CI. N-Methyl-N,N-bis(methylenechromotropic acid)amine



$C_{23}H_{21}NO_{16}S_4$ M 695.680
Strictly the name Tichromin applies to the tetrasodium salt.

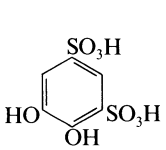
Tetra-Na salt; B,HCl: [24437-20-5].
Used as a 1m*M* aq. soln. for extraction-photometric detn. of Nb, Ti (λ_{max} 470 nm, ε 10200). Grey cryst. Sol. H_2O.

Basargin, N.N. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 384; 1975, **30**, 177 (*synth, detn, Ti*)
Nikitina, L.P. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 1521 (*detn, Ti*)
Basargin, N.N. *et al*, *Zavod. Lab.*, 1971, **37**, 142 (*detn, Nb*)

Tiron T-00186

4,5-Dihydroxy-1,3-benzenedisulfonic acid, 9CI. Pyrocatechol-3,5-disulfonic acid

[149-45-1]

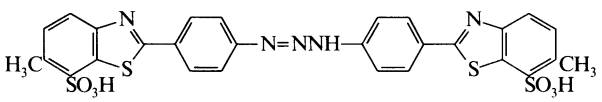


$C_6H_6O_8S_2$ M 270.241
Used as 0.2*M* aq. soln. for photometric detn. of Fe, V(*IV*), Nb, Ti (λ_{max} 390 nm, ε 15000); metal indicator for Fe. Needles. Sol. H_2O; sl. sol. EtOH. Mp >300°. pK_{a1} 7.66; pK_{a2} 12.6 (20°, 0.1*M* KCl).

Schwarzenbach, G. *et al*, *Helv. Chim. Acta*, 1951, **34**, 528 (*use, indicator*)
Korkisch, J., *Mikrochim. Acta*, 1961, 262 (*detn, Ti*)
Clark, L.J., *Anal. Chem.*, 1970, **42**, 694 (*detn, Ti*)
Wakamatsu, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1974, **47**, 761 (*detn, V*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 63 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DXH300.

Titan yellow T-00187

2,2'-(1-Triazene-1,3-diyldi-4,1-phenylene)bis[6-methyl-7-benzothiazolesulfonic acid], 9CI. Thiazol yellow. Clayton yellow. C.I. Direct yellow 9. C.I. 19540



$C_{28}H_{21}N_5O_6S_4$ M 651.768
The name Titan yellow strictly refers to the disodium salt.

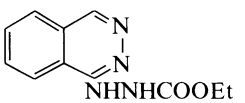
Di-Na salt: [1829-00-1].
Used as 0.01% aq. soln. for photometric detn. of Mg (λ_{max} 545 nm, ε 36000). Yellow brown powder. Sol. H_2O, EtOH.

Van Wesemael, J.C., *Anal. Chim. Acta*, 1961, **25**, 238.
Bradfield, E.G., *Anal. Chim. Acta*, 1962, **27**, 262.
Hall, R.J. *et al*, *Analyst (London)*, 1966, **91**, 102.
King, H.G. *et al*, *Analyst (London)*, 1967, **92**, 83, 695.

Todralazine, BAN, INN T-00188

Ethyl 2-(1-phthalazinyl)hydrazine carboxylate, 9CI. Ethyl 3-phthalazin-1-yl carbazate, 8CI. Ecarazine. Numerous proprietary names

[14679-73-3]



$C_{11}H_{12}N_4O_2$ M 232.241
Antihypertensive agent. Used mainly as hydrochloride.

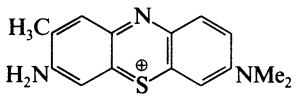
▷ FE2778000.

B,HCl: [3778-76-5]. *Ecarazine hydrochloride, JAN. Binazine*
Used as a 1% aq. soln. for photometric detn. of Cu, Fe, Mn (λ_{max} 420 nm, ε 11000). Cryst. + $1H_2O$. Mp 212° dec.

Biniecki, S. *et al*, *Bull. Acad. Pol. Sci., Ser. Sci. Chim.*, 1958, **6**, 227; *CA*, **52**, 18424 (*synth*)
East Ger. Pat., 31 884, (1965); *CA*, **64**, 2102 (*synth*)
Ishii, A. *et al*, *Yakugaku Zasshi*, 1973, **93**, 1383 (*synth, metab*)
Chojnacki, J. *et al*, *Pol. J. Chem. (Rocz. Chem.)*, 1975, **49**, 1163 (*cryst struct*)
Playle, A.C., *Med. Actual.*, 1976, **12**, 468 (*rev, pharmacol*)
Reiterer, W. *et al*, *Arzneim.-Forsch.*, 1977, **27**, 2163 (*use*)
Sikorska-Tomicka, H., *Chem. Anal. (Warsaw)*, 1977, **22**, 761; *CA*, **88**, 176880t (*use*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 13358.
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 1926.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CBS000, TGJ150.

Toluidine blue T-00189

3-Amino-7-(dimethylamino)-2-methylphenothiazin-5-ium(1+), 9CI. C.I. Basic blue 17, 8CI. Tolonium(1+). Toluidine blue O. C.I. 52040



$C_{15}H_{16}N_3S^{\oplus}$ M 270.377 (ion)

The name Toluidine blue strictly applies to the chloride salt.

Chloride: [92-31-9]. *Tolonium chloride, INN. Blutene chloride. Gabilin. Klot. Menodin. Tolazul*

$C_{15}H_{16}ClN_3S$ M 305.830

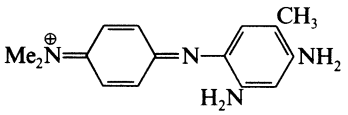
Used as a redox indicator. Antiheparinic agent. Diagnostic agent, dyestuff. Dark green powder with bronze lustre. Sol. H_2O giving a blue to violet soln. pK_{a1} 4.81; pK_{a2} 5.41. E° +0.534V (20°).

▷ SG1225000.

U.S. Pat., 2 809 913, (1957); *CA*, **52**, 3275c (*synth, pharmacol*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)
Burke, D.H. *et al*, *J. Pharm. Sci.*, 1974, **63**, 451 (*pharmacol*)
Dean, W.W. *et al*, *J. Chromatogr.*, 1976, **124**, 387 (*hplc*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2152.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, AJP250.

Toluylene blue T-00190

N-[*4-[(2,4-Diamino-5-methylphenyl)imino]2,5-cyclohexadien-1-ylidene*]-N-*methylmethanaminium(1+). C.I. 49410 Basic dye*



$C_{15}H_{19}N_4^{\oplus}$ M 255.342 (ion)

Chloride: [97-26-7].

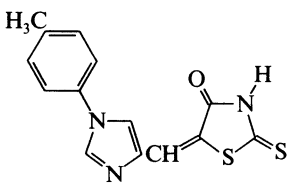
$C_{15}H_{19}ClN_4$ M 290.795

Used as redox indicator. Biological stain. Cryst. Sol. H_2O, EtOH. pK_{a1} 3.80; pK_{a2} 10.48. E° +0.601 (30°).

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

5-[(1-*p*-Tolylimidazol-4-yl)methylene] rhodanine, 8CI T-00191

[34321-57-8]



$C_{14}H_{11}N_3OS_2$ M 301.392

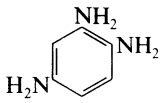
Used as a 0.002% soln. in EtOH for photometric detn. of Pd (λ_{max} 440 nm, ε 23400). Dark orange cryst. Sl. sol. dioxan, EtOH, Me_2CO; insol. H_2O. Mp 300° (dec.).

Garrido Fernandez, A. *et al*, *Inf. Quim. Anal.*, 1971, **25**, 99; *CA*, **75**, 115513k (*detn, Pd*)

1,2,4-Triaminobenzene T-00192

1,2,4-Benzenetriamine

[615-71-4]



$C_6H_9N_3$ M 123.157

Used as a cross-linking agent in epoxy resins. Plates ($CHCl_3$). Mp 95-98°. Bp *ca.* 340°.

▷ DC1951540.

1-N-Ac: 2,4-Diaminoacetanilide
$C_8H_{11}N_3O$ M 165.194
Prisms. Mp 158-159°.

1,4-N-Di-Ac:
$C_{10}H_{13}N_3O_2$ M 207.232
Cryst. Mp 231-232°.

1,2,4-N-Tribenzoyl:
$C_{27}H_{21}N_3O_3$ M 435.481
Needles (AcOH). Mp 260°.

1-N-Di-Me: 2,4-Diamino-N-dimethylaniline
$C_8H_{13}N_3$ M 151.211
Needles (ligroin). Mp 44°. Bp_{90} 218-219°, Bp_{22} 178°.

1-N-Di-Me; B,2HCl: Cryst. Mp 225°.

1-N-Di-Me, 2,4-di-N-Ac:
$C_{12}H_{17}N_3O_2$ M 235.285
Cryst. + $1\frac{1}{2}$ H_2O (H_2O), cryst. (C_6H_6 or EtOAc). Mp 82° (hydrate), Mp 153° (anhyd.).

4-N-Di-Me: 4-Dimethylamino-1,2-phenylenediamine
$C_8H_{13}N_3$ M 151.211
Used as a 0.3% soln. in 4*N* HCl for photometric detn. of Se(*IV*) (λ_{max} 500 nm).

4-N-Di-Me; B,HCl: [16058-93-8].
Cryst. (dil. aq. HCl). Sol. aq. HCl. Mp 70° dec.

2,2,4,4-N-Tetra-Me:
$C_{10}H_{17}N_3$ M 179.264
Bp_{112} 209.4°, Bp_{45} 180.5°.

2,2,4,4-N-Tetra-Me; B,2HCl: Cryst. powder. Mp 164°.

N-*Hexa-Me:*
$C_{12}H_{21}N_3$ M 207.318
Liq. Bp_{136} 210°, Bp_{40} 184°.

4-N-Ph: see *2,4-Diaminodiphenylamine, D-00085*

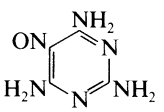
[615-47-4, 66248-00-8]

Wurster, C. *et al*, *Ber.*, 1879, **12**, 1803 (*synth*)
Hinsberg, O., *Ber.*, 1886, **19**, 1253 (*synth*)
Demeyere, D. *et al*, *Anal. Chim. Acta*, 1962, **27**, 288 (*synth, detn, Se*)
Neilson, T. *et al*, *J. Chem. Soc.*, 1962, 371 (*synth*)
Gemzova, I. *et al*, *Collect. Czech. Chem. Commun.*, 1967, **32**, 2740 (*chromatog*)

2,4,6-Triamino-5-nitrosopyrimidine T-00193

5-Nitroso-2,4,6-pyrimidinetriamine

[1006-23-1]



$C_4H_6N_6O$ M 154.131

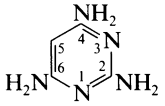
Used for photometric detn. of Co (λ_{max} 380 nm, ε 14000), Fe(*III*) (λ_{max} 640 nm, ε 20000), Ir (λ_{max} 375 nm, ε 4000), Ru (λ_{max} 510 nm, ε 19000). Cryst.

Singh, A.K. *et al*, *J. Indian Chem. Soc.*, 1976, **53**, 691 (*use*)

2,4,6-Triaminopyrimidine, 8CI T-00194

2,4,6-Pyrimidinetriamine, 9CI

[1004-38-2]



$C_4H_7N_5$ M 125.133

Reagent for detn. of primary aromatic amines. Prisms (EtOH). Sol. H_2O; spar. sol. EtOH, Et_2O. Mp 249-251°. pK_{a1} 6.72; pK_{a2} 1.31 (20°), pK_{a2} 1.72 (H_2SO_4, 20°).

B,2HCl: Prisms.

Picrate: Needles. Mp 290°.

N^4-*Me:* [24867-24-1].

$C_5H_9N_5$ M 139.160

Yellow cryst. (EtOH). Mp 192-194°. pK_{a1} 7.21; pK_{a2} 1.05 (20°).

N^4-*Me*, N^1-*oxide:* [55973-02-9].

$C_5H_9N_5O$ M 155.159

Cryst. (MeOH/MeCN). Mp 188° dec.

N^4-*Et:* [91502-44-2].

$C_6H_{11}N_5$ M 153.186

Cryst. (CH_2Cl_2/Me_2CO). Mp 155-156°. pK_{a1} 7.20.

N^2,N^2-*Di-Me:* [49810-25-5].

$C_6H_{11}N_5$ M 153.186

Cryst. (C_6H_6). Mp 153-155°.

N^4,N^4-*Di-Me:* [24867-25-2].

$C_6H_{11}N_5$ M 153.186

Cryst. (EtOH). Mp 193-194.5°. pK_{a1} 7.21; pK_{a2} 0.68 (20°).

N^4,N^6-*Di-Me:*

$C_6H_{11}N_5$ M 153.186

Cryst. (as hydrochloride). Mp 326° (hydrochloride).

N^4,N^6-*Di-Et:*

$C_8H_{15}N_5$ M 181.240

Needles (C_6H_6). Mp 135.5-136°.

N^2,N^2,N^4,N^4-*Tetra-Me:* [3549-10-8].

$C_8H_{15}N_5$ M 181.240

Cryst. (C_6H_6). Mp 116-117°. pK_{a1} 7.18; pK_{a2} 0.80 (20°).

N^4,N^4,N^6,N^6-*Tetra-Me:* [24867-28-5].

$C_8H_{15}N_5$ M 181.240

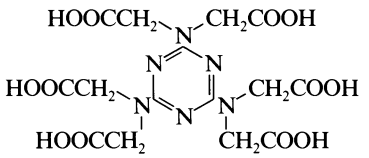
Descr. by Roth *et al* but synth. apparently not publ.

Sadtler Standard Infrared Spectra, 22088 (*ir*)
Sadtler Standard NMR Spectra, 29686 (*pmr*)
Traube, W., *Chem. Ber.*, 1901, **34**, 3363; 1904, **37**, 4544 (*synth*)
Roth, B. *et al*, *J. Am. Chem. Soc.*, 1950, **72**, 1914 (N^4-*Me*, N^4,N^4-*di-Me*)
Forrest, H.S. *et al*, *J. Chem. Soc.*, 1951, **3** (N^4,N^6-*di-Et*)
Elion, G.B. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 4311 (N^4,N^6-*di-Me*)
Thompson, W.K., *J. Chem. Soc.*, 1962, 617 (N^2,N^2-*di-Me*, *ir*)
Roth, B. *et al*, *J. Org. Chem.*, 1970, **35**, 2696 (*derivs*, *props*, *uv*)
McCall, J.M. *et al*, *J. Org. Chem.*, 1975, **40**, 3304 (*oxides*)
Riand, J. *et al*, *Org. Magn. Reson.*, 1977, **9**, 572 (*cmr*, *pmr*)
Staedeli, W. *et al*, *Helv. Chim. Acta*, 1980, **63**, 504 (*N-15 nmr*)
Schwalbe, C.H. *et al*, *Acta Crystallogr., Sect. B*, 1982, **38**, 1840 (*cryst struct*)
Wells, C.H.J., *Org. Magn. Reson.*, 1982, **20**, 274 (*pmr*, *derivs*)
Riand, J. *et al*, *J. Heterocycl. Chem.*, 1983, **20**, 1187 (*ms*)
Cowden, W.B., *Aust. J. Chem.*, 1984, **37**, 1195 (N^4-*Et*)
Narita, J. *et al*, *Chem. Pharm. Bull.*, 1985, **33**, 4928 (*use*)

2,4,6-Triamino-1,3,5-triazine-*N*,*N*,*N*′,*N*′,*N*″,*N*″-hexaacetic acid T-00195

(1,3,5-Triazine-2,4,6-triyltrinitrilo)hexaacetic acid, 9CI

[1258-71-5]

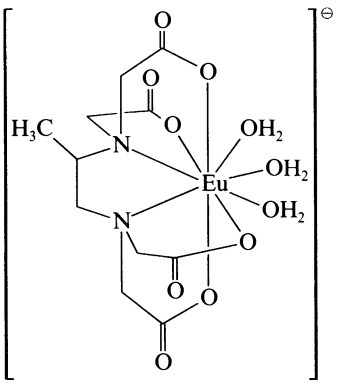


$C_{15}H_{18}N_6O_{12}$ M 474.340

Used as complexing agent for many transition metals. Cryst. (hot H_2O). Sol. hot H_2O, alkalis; spar. sol. cold H_2O; insol. Me_2CO, C_6H_6, $CHCl_3$, Et_2O.

Lastovskij, R.P. *et al*, *Zh. Anal. Khim.*, 1960, **15**, 419 (*synth*, *use*)
Cordes, H., *CA*, 1971, **74**, 76455a (*synth*)

Triaqua[[*N*,*N*′-(1-methyl-1,2-ethanediyl)bis[*N*-(carboxymethyl)glycinato]](4−)-*N*,*N*′-*O*,*O*′,O^N,$O^{N'}$]europate(1−) T-00196



$C_{11}H_{20}EuN_2O_{11}^{\ominus}$ M 508.251 (ion)

Na salt: [90540-78-6].

$C_{11}H_{20}EuN_2NaO_{11}$ M 531.240

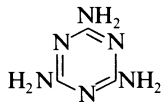
Chiral shift reagent in aq. soln.: permits assignment of abs. config. of hydroxy-, amino- and carboxylic acids.

Kabuto, K. *et al*, *J. Chem. Soc., Chem. Commun.*, 1984, 316; 1987, 670 (*use*)

1,3,5-Triazine-2,4,6-triamine, 9CI T-00197

Melamine, 8CI. 2,4,6-Triamino-s-triazine. Cyanuramide. Cynuric triamide

[108-78-1]



$C_3H_6N_6$ M 126.121

Used in synthesis of melamine resins. Used as a 0.2% aq. soln. for photometric detn. of Pd. Reference material used in elemental microanalysis. Cryst. Sol. H_2O, hot EtOH. Mp 347° dec. Subl. when gently heated.

▷ Irritant, causes dermatitis. Emits highly toxic fumes when heated to decomposition. OS0700000.

B,HCl: [16274-76-3].

Needles. Insol. EtOH.

N,N′,N″-*Tri-Ac:*

$C_9H_{12}N_6O_3$ M 252.232

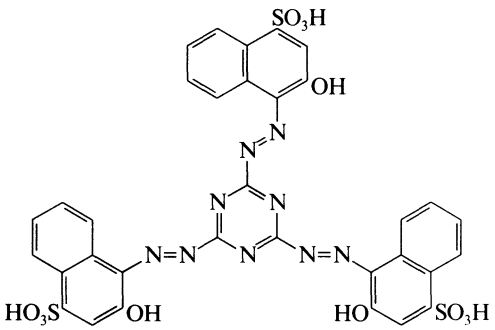
Mp 289-291°.

Tribenzoyl:
$C_{24}H_{18}N_6O_3$ M 438.445
Rhombic prisms or needles (Me_2CO or EtOAc). Mp 142-143°.

Morimoto, G., *Nippon Kagaku Zasshi*, 1966, **87**, 785, 797 (*uv, ir*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Hashmi, M.N. *et al*, *Microchem. J.*, 1972, **17**, 18 (*detn, Pd*)
Green, R.V., *Handb. Ind. Chem.*, 7th Ed., Van Nostrand-Reinhold, N.Y., 1974, 75 (*rev, synth, use*)
Larson, A.C. *et al*, *J. Chem. Phys.*, 1974, **60**, 185 (*cryst struct*)
Kim, Y.H. *et al*, *Chem. Ind. (London)*, 1990, 622 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MCB000.

4,4′,4″-[1,3,5-Triazine-2,4,6-triyltris(azo)]tris[3-hydroxy-1-naphthalenesulfonic acid], 9CI T-00198

2,4,6-Tris(2-hydroxy-4-sulfo-1-naphthylazo)-1,3,5-triazine
[109672-90-4]



$C_{33}H_{21}N_9O_{12}S_3$ M 831.780
Used as 1m*M* aq. soln. for photometric detn. of Bi (λ_{max} 530 nm, ε 55000, pH 4-6.5); In (λ_{max} 530 nm, ε 84000, pH 3.5-4.5). Dark red cryst. Sol. H_2O.

Singh, I. *et al*, *Analyst (London)*, 1985, **110**, 309 (*synth*)
Singh, I. *et al*, *Bull. Chem. Soc. Jpn.*, 1988, **61**, 3689 (*detn, Bi, In*)

1,2,4-Triazole T-00199

s-*Triazole*
[288-88-0]

$C_2H_3N_3$ M 69.066
Catalyses peptide bond formations. Used for photometric detn. of sulbactam (λ_{max} 326 nm).

1H-form
Needles (Et_2O or C_6H_6). Mp 120-121°. Major tautomer.

1-Ac:
$C_4H_5N_3O$ M 111.103
Cryst. Mp 40-42°. Bp_{16} 78-79°.

1-Benzoyl: [60718-51-6].
$C_9H_7N_3O$ M 173.174
Cryst. Mp 76-76.5° (58°).

1-Benzyl:
$C_9H_9N_3$ M 159.190
Cryst. Mp 54-55°.

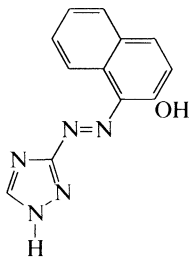
4H-form [63598-71-0]
Minor tautomer.

4-Benzyl:
$C_9H_9N_3$ M 159.190
Cryst. (C_6H_6). Mp 108-109°, Mp 114-115°.

Org. Synth., 1960, **40**, 99 (*synth*)
Wilshire, J.F.K., *Aust. J. Chem.*, 1966, **19**, 1935 (*deriv, pmr*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 423.
Saito, H. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 324 (*nmr*)
Blackman, A.J. *et al*, *Org. Mass Spectrom.*, 1973, **7**, 57 (*ms*)
Gais, H. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1977, **16**, 244 (*1-benzoyl*)
Haginaka, J. *et al*, *Analyst (London)*, 1984, **109**, 1057 (*use*)
Haginaka, J. *et al*, *J. Chromatogr.*, 1985, **341**, 115 (*use*)

1-(1*H*-1,2,4-Triazol-3-ylazo)-2-naphthalenol, 9CI T-00200

3-(2-Hydroxy-1-naphthylazo)-1,2,4-triazole
[53003-96-6]



$C_{12}H_9N_5O$ M 239.236
Used as a 0.03% soln. in EtOH for photometric detn. of Cd (λ_{max} 515 nm, ε 28000), Hg (λ_{max} 530 nm, ε 27000); gives colour reactions with transition metals. Orange cryst. (DMF). Sol. dil. alkalis, conc. acids; spar. sol. common org. solvs. Mp 270°. pK_a 0.95; pK_{a2} 8.35; pK_{a3} 10.05 (40% aq. EtOH, μ = 0.1).

Shegal, I.L., *CA*, 1974, **81**, 25609r (*synth*)
Cacho, J. *et al*, *Anal. Chim. Acta*, 1981, **131**, 271 (*synth, pKa, detn, Cd, Hg*)

Tribenzylamine T-00201

N,N-*Bis(phenylmethyl)benzenemethanamine, 9CI. TBA*
[620-40-6]

$(PhCH_2)_3N$

$C_{21}H_{21}N$ M 287.404
Used as 3% soln. in $CHCl_3$ for extraction separation of ion-associates with anionic complexes (e.g. $SbCl_6^{\ominus}$, $Cr_2O_7^{2\ominus}$); extraction-sepn. of V(*III*), Cd; extraction-photometric detn. of Mo (λ_{max} 465 nm, $CHCl_3$). Plates or prisms (Et_2O). Sol. Et_2O, $CHCl_3$. Mp 92°. Bp_{13} 230°.

B,HCl: Prisms (EtOH). Mp 227-228°.
B,MeI: Mp 184°.
Picrate: Mp 191°.

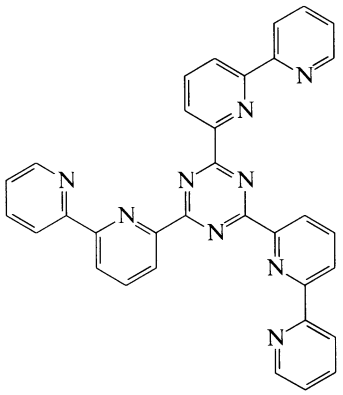
Sekiya, M., *Chem. Pharm. Bull.*, 1967, **15**, 802 (*synth*)
Suga, K. *et al*, *Chem. Ind. (London)*, 1969, 78 (*synth*)
Iwasaki, F. *et al*, *Acta Crystallogr., Sect. B*, 1972, **28**, 3370 (*cryst struct*)
Yatirajam, V. *et al*, *Mikrochim. Acta*, 1974, 671 (*detn, Mo*)
Singh, O.V. *et al*, *J. Inorg. Nucl. Chem.*, 1975, **37**, 609 (*detn, Cd*)
Yatirajam, V. *et al*, *Anal. Chim. Acta*, 1976, **86**, 209 (*detn, V*)
Sandell, E.B. *et al*, *Photometric Determination of Traces of Metals*, General Aspects: Analytical Separations, Wiley, New York, 1978 (*use*)
Donaldson, E.M., *Talanta*, 1980, **27**, 779 (*detn, Cr*)

Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press Inc., Boca Raton, Florida, 1983 (*use*)
Vorbrüggen, H. *et al*, *Chem. Ber.*, 1984, **117**, 1523 (*synth*)

2,4,6-Tri(2,2′-bipyridin-6-yl)-1,3,5-triazine T-00202

2,4,6-Tris[6-(2-pyridyl)-2-pyridyl]-s-triazine, 8CI

[10495-76-8]



$C_{33}H_{21}N_9$ M 543.589

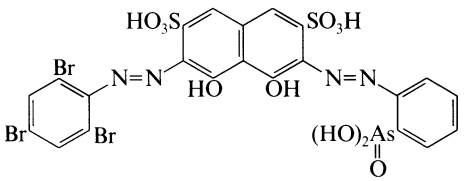
Used as 5m*M* soln. in aq. EtOH for photometric detn. of Fe(*II*) (λ_{max} 556 nm, ε 6400). Cryst. (DMF). Sol. common org. solvs. Mp 312-313°.

Case, F.H., *J. Org. Chem.*, 1966, **31**, 2398 (*synth*)
Schilt, A.A. *et al*, *Talanta*, 1968, **15**, 475 (*detn, Fe*)

Tribromoarsenazo T-00203

3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-[(2,4,6-tribromophenyl)azo]-2,7-naphthalenedisulfonic acid, 9CI

[94075-19-1]



$C_{22}H_{14}AsBr_3N_4O_{11}S_2$ M 889.138

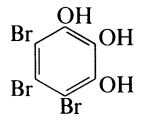
Used as a 0.02% aq. soln. for photometric detn. of rare earth elements. Dark red cryst. powder. Mod. sol. H_2O.

Li, W. *et al*, *CA*, 1985, **102**, 20594z (*use*)

4,5,6-Tribromo-1,2,3-benzenetriol, 9CI, 8CI T-00204

1,2,3-Tribromo-4,5,6-trihydroxybenzene. Tribromopyrogallol

[17345-74-3]



$C_6H_3Br_3O_3$ M 362.800

Used as 10% EtOH soln. for photometric detn. of Nb (λ_{max} 410 nm, ε 6200). Red-brown cryst. + $1H_2O$ (EtOH aq.). Mp 168-170°.

1,3-Di-Me ether: 3,4,5-Tribromo-2,6-dimethoxyphenol
$C_8H_7Br_3O_3$ M 390.853
Cryst. Mp 168-170°.

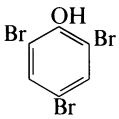
Tri-Me ether: 1,2,3-Tribromo-4,5,6-trimethoxybenzene
$C_9H_9Br_3O_3$ M 404.880
Cryst. Mp 81-85°.

Moore, P.A. *et al*, *J. Am. Chem. Soc.*, 1917, **39**, 987 (*synth*)
Friedman, D. *et al*, *J. Org. Chem.*, 1958, **23**, 16 (*synth*)
Ackermann, G. *et al*, *Talanta*, 1962, **9**, 1015 (*synth, detn, Nb*)

2,4,6-Tribromophenol, 9CI T-00205

Bromol

[118-79-6]



$C_6H_3Br_3O$ M 330.801

Stronger antiseptic than phenol or thymol. Used as 5-7% soln. in KOH for gravimetric detn. of Pd(*II*) or Pt(*II*) (in NH_3 soln., as $[M(NH_3)_4][OC_6H_2Br_3]_2$). Needles (EtOH), prisms (C_6H_6). Sol. alkalis, EtOH, ligroin. Mp 87-89°. Subl. 95-96°.

▷ Highly irritant. SN1225000.

Ac: [607-95-4].
$C_8H_5Br_3O_2$ M 372.838
Plates or needles (EtOH). Mp 87°.

Benzoyl: [24003-13-2].
$C_{13}H_7Br_3O_2$ M 434.909
Mp 81°.

4-Methylbenzenesulfonyl: Cryst. (EtOH). Mp 113°.

Me ether: [607-99-8]. *1,3,5-Tribromo-2-methoxybenzene. 2,4,6-Tribromoanisole*
$C_7H_5Br_3O$ M 344.828
Needles (EtOH). Mp 88°.

Et ether: 1,3,5-Tribromo-2-ethoxybenzene. 2,4,6-Tribromophenetole
$C_8H_7Br_3O$ M 358.855
Prisms (EtOH). Mp 72-73°.

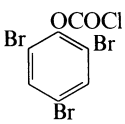
[2666-53-7, 3784-04-1, 78697-30-0]

Buraway, A. *et al*, *J. Chem. Soc.*, 1952, 2310 (*uv*)
Dyall, L.K., *Aust. J. Chem.*, 1961, **14**, 493 (*ir*)
Hutton, H.M. *et al*, *Can. J. Chem.*, 1962, **40**, 1758 (*nmr*)
Kaemmerer, H., *Spectrochim. Acta, Part A*, 1968, **44**, 2059 (*uv*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 424.
Reio, L., *J. Chromatogr.*, 1970, **47**, 60.
Volkov, V.E. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 1853 (*detn, Pd, Pt*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, THV750.

2,4,6-Tribromophenyl chloroformate T-00206

2,4,6-Tribromophenyl carbonochloridate, 9CI

[54060-68-3]



$C_7H_2Br_3ClO_2$ M 393.256

Derivatisation reagent for gc anal. of amines. Mp 47-50°. Bp_{34} 193-197°.

Raiford, I.C. *et al*, *J. Am. Chem. Soc.*, 1934, **56**, 1586 (*synth*)
Ahnfelt, A.O. *et al*, *Chromatographia*, 1982, **16**, 60 (*use*)

Tributylacetohydroxamic acid T-00207

2,2-Dibutyl-N-hydroxyhexanamide, 9CI

[52061-82-2]

$(H_3CCH_2CH_2CH_2)_3CCONHOH$

$C_{14}H_{29}NO_2$ M 243.389

Used as 0.05m*M* soln. in C_6H_6 for extraction separation of Zr (from 4*M* HCl). Cryst. Sol. C_6H_6.

Desideri, D. *et al*, *Anal. Chim. Acta*, 1985, **176**, 269 (*detn, Zr*)

Tributylamine, 8CI T-00208

N,N-*Dibutyl-1-butanamine, 9CI*

[102-82-9]

$(H_3CCH_2CH_2CH_2)_3N$

$C_{12}H_{27}N$ M 185.352

Used as 25% soln. in HCl for extraction separation as ion-associates with anionic complexes, e.g. $FeCl_4^{\ominus}$, $PbI_4^{\ominus}$. (CH_2Cl_2). Hygroscopic liq. with characteristic odour. Spar. sol. H_2O, v. sol. Et_2O, EtOH. d 0.778. Bp 216-217°, Bp_9 91-92°.

▷ Toxic, irritant. YA0350000.

Picrate: Mp 105°.

B,PhCH$_2$Cl: [23616-79-7]. *Benzyltributylammonium chloride* Reagent for ion-pair extraction of inorganic anions. Mp 185°.

Borrows, E.T. *et al*, *J. Chem. Soc.*, 1947, 197 (*synth*)
Ziegler, M. *et al*, *Fresenius' Z. Anal. Chem.*, 1960, **172**, 105; **175**, 321; 1961, **180**, 351 (*detn, Pb, Nb, Ag*)
U.S. Pat., 3 022 349, (1962); *CA*, **56**, 15364h (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 41, 601.
Barber, W.E. *et al*, *J. Chromatogr.*, 1984, **301**, 25 (*use, deriv*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 218.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, THX250.

Tributylchlorosilane, 9CI T-00209

[995-45-9]

$(H_3CCH_2CH_2CH_2)_3SiCl$

$C_{12}H_{27}ClSi$ M 234.883

Silylation reagent for preparing derivs. for gc and ms. Liq. Bp_{16} 134-139°, Bp_1 80-84°.

Gilman, H. *et al*, *J. Org. Chem.*, 1959, **24**, 219.
Pike, R.M., *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1962, **81**, 28.
Semlyen, J.A. *et al*, *J. Chem. Soc.*, 1964, 4948.
Dao-Huy-Giao, *C. R. Hebd. Seances Acad. Sci.*, 1965, **260**, 6937.
Khudobin, Y.I. *et al*, *CA*, 1974, **81**, 49728.
Harvey, D.J. *et al*, *J. Chromatogr.*, 1975, **109**, 73 (*use*)
Harvey, D.J., *Org. Mass Spectrom.*, 1977, **12**, 473 (*use*)

Tributyl(hexadecyl)phosphonium(1+), 9CI T-00210

[66997-36-2]

$(H_3CCH_2CH_2CH_2)_3P^{\oplus}(CH_2)_{15}CH_3$

$C_{28}H_{60}P^{\oplus}$ M 427.756 (ion)

Used as 1% soln. in aq. MeOH for extraction-photometric detn. of Bi (forms ion-associate with $BiI_4^{\ominus}$, 20% benzophenone in Me_2CO). Salts can behave as phase transfer agents.

Chloride: [41272-12-2].
$C_{28}H_{60}ClP$ M 463.208
No phys. props. reported.

Bromide: [14937-45-2].
$C_{28}H_{60}BrP$ M 507.660
Cryst. (hexane). Mp 54°.

Iodide: [56772-64-6].
$C_{28}H_{60}IP$ M 554.660
Cryst. (hexane). Mp 57-58°.

[112011-36-6]

Starks, C.M., *J. Am. Chem. Soc.*, 1971, **93**, 195 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1975, **5**, 322; **6**, 271; **7**, 166 (*use*)
Landini, D. *et al*, *Synthesis*, 1975, 430 (*use*)
Landini, D. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 2796 (*use*)
Burns, D.T. *et al*, *Anal. Chim. Acta*, 1987, **197**, 285 (*detn, Bi*)

Tributyl phosphate, 9CI, 8CI T-00211

TBP

[126-73-8]

$(H_3CCH_2CH_2CH_2O)_3P{=}O$

$C_{12}H_{27}O_4P$ M 266.317

Used in extraction of lanthanide and actinide elements and in nuclear fuel reprocessing. Plasticiser for cellulose esters, lacquers, plastics and vinyl resins. Used neat or as a soln. in $CHCl_3$, hexane or CCl_4 as an extraction solvent for the coordinatively solvated salts ($NO_3^{\ominus}$, $Cl^{\ominus}$) e.g. $UO_2(NO_3)_2^{\ominus}$ $(TBP)_2$. Odourless liq. Mod. sol. H_2O, misc. org. solvs. d_4^{20} 0.98. Mp $< -80°$. Bp 289° dec., Bp_{50} 196°, Bp_9 148-150°. n_D^{20} 1.4246.

▷ Mod. toxic. TC7700000.

Gerrard, W., *J. Chem. Soc.*, 1940, 1464 (*synth*)
Cox, J.R. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 5441 (*synth*)
Coleman, C.F. *et al*, *Talanta*, 1962, **9**, 297 (*use*)
Michell, J.W. *et al*, *Talanta*, 1972, **19**, 1157, 1972 (*use*)
Brown, C. *et al*, *Phosphorus Sulfur Relat. Elem.*, 1979, **6**, 481 (*synth*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, Boca Raton, CRC Press, 1982 (*use*)
Cload, P.A. *et al*, *Org. Mass Spectrom.*, 1983, **18**, 57 (*ms*)
Suzuki, T. *et al*, *J. Agric. Food Chem.*, 1984, **32**, 603, 1278 (*metab*)
Sci. Technol. Tributyl Phosphate, (Ed. W.W. Schulz and J.D. Narratil), CRC Press, Florida, 1986 (*rev, bibl*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TIA250.

Tributylphosphine, 9CI, 8CI T-00212

[998-40-3]

$P(CH_2CH_2CH_2CH_3)_3$

$C_{12}H_{27}P$ M 202.319

Reagent for deoxygenation of epoxides and peroxides, and desulfurizations of thiiranes, and polysulfides. Ligand for metals of Groups IB, IIB, IVB, VB, VIB, VIII. Used as C_6H_6 soln. for extraction-separation of In (as ion-associate with $InBr_4^{\ominus}$, diisopropyl ether). Liq. with garlic-like odour. Misc. org. solvs. Fp 40°. Bp 240°, Bp_{20} 130°. n_D^{20} 1.4635.

▷ Pyrophoric.

B,MeI: Tributylmethylphosphonium iodide
$C_{13}H_{30}IP$ M 344.258
Solid. Mp 130-133°.

Oxide: see *Tributylphosphine oxide, T-00213*

Sulfide: see *Tributylphosphine sulfide, T-00214*

Telluride: [2935-46-8].
$C_{12}H_{27}PTe$ M 329.919
Yellow cryst. (pet. ether). Mp 35-35.5°. Rather unstable to light and glass with liberation of Te.

Inorg. Synth., 1960, **6**, 87 (*synth*)
Fritzsche, H. *et al*, *Chem. Ber.*, 1964, **97**, 1988; 1965, **98**, 171 (*synth*)
Cumper, C.W.R. *et al*, *J. Chem. Soc.*, 1964, 430 (*synth*)
Zingaro, R.A., *J. Organomet. Chem.*, 1965, **4**, 320 (*telluride*)
Maier, L., *Helv. Chim. Acta*, 1966, **49**, 2458 (*synth*)
Fluck, E. *et al*, *Z. Naturforsch., B*, 1967, **22**, 1095 (*nmr, deriv*)
Mironova, Z.N. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 2614), 1967, **37**, 2747 (*synth*)

Mieczkowska, E., *Chem. Anal. (Warsaw)*, 1969, **14**, 683; 1970, **15**, 509 (*detn, In*)
Chremos, G.N. *et al, J. Organomet. Chem.*, 1970, **22**, 637 (*telluride, ir*)
Kostyanovskii, R.G. *et al, Org. Mass Spectrom.*, 1972, **6**, 1183 (*ms*)
Quin, L.D. *et al, Org. Magn. Reson.*, 1974, **6**, 503 (*cmr*)
Fluck, E. *et al, Z. Naturforsch., B*, 1974, **29**, 603 (*pe*)
Goetz, H. *et al, Phosphorus Relat. Group V Elem.*, 1978, **4**, 309 (*struct*)
Butler, I.S. *et al, Spectrochim. Acta, Part A*, 1979, **35**, 425 (*ir, raman*)

Tributylphosphine oxide, 9CI, 8CI T-00213

[814-29-9]

$(H_3CCH_2CH_2CH_2)_3P{=}O$

$C_{12}H_{27}OP$ M 218.318
Ligand for metals of Groups IIIA, IVA, IIIB, VB, VIB, and VIII, as well as rare earth metals. Used as soln. in 1,2-dichloroethane for extraction separation of Ti. Hygroscopic needles. Sol. 1,2-dichloroethane. Mp 68-69°. Bp 300°, Bp_2 134-135°. pK_a 8.75 ($MeNO_2$).
▷ SZ1575000.

Cumper, C.W.N. *et al, J. Chem. Soc.*, 1964, 430 (*synth, props*)
Cuddy, B.D. *et al, Tetrahedron Lett.*, 1971, 4433 (*pmr*)
Quin, L.D. *et al, Org. Magn. Reson.*, 1974, **6**, 503 (*cmr*)
Albright, T.A. *et al, J. Org. Chem.*, 1975, **40**, 3437 (*cmr, nmr*)
Fluck, E. *et al, Z. Anorg. Allg. Chem.*, 1975, **412**, 47 (*pe*)
Roland, G. *et al, Anal. Chim. Acta*, 1976, **85**, 331 (*detn, Ti*)
Pudovik, A.N. *et al, Izv. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 2461), 1979, 2644 (*synth, ir, nmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TNE750.

Tributylphosphine sulfide, 9CI, 8CI T-00214

[3084-50-2]

$(H_3CCH_2CH_2CH_2)_3P{=}S$

$C_{12}H_{27}PS$ M 234.385
Converts oxiranes to thiiranes. Used as a 5% soln. in CCl_4 for extraction of metal ions. Pale-yellow oil. Sol. common org. solvs. d_4^{24} 1.03. $Bp_{0.1}$ 111°. n_D^{20} 1.5045.
▷ SZ2800000.

Kosolapoff, G.M., *Organophosphorus Compds.*, Wiley, N.Y., 1950 (*synth*)
Christen, P.J. *et al, Recl. Trav. Chim. Pays-Bas (J. R. Neth. Chem. Soc.)*, 1959, **78**, 161 (*synth, ir*)
Zingaro, R.A. *et al, J. Org. Chem.*, 1961, **26**, 5205 (*synth, ir*)
Hitchcock, R.B. *et al, Anal. Chem.*, 1963, **35**, 254 (*use*)
Handley, T.H., *Talanta*, 1965, **12**, 893 (*use*)
Inorg. Synth., 1967, **9**, 71 (*synth*)
Chan, T.H. *et al, J. Am. Chem. Soc.*, 1972, **94**, 2880 (*use*)
Quin, L.D. *et al, Org. Magn. Reson.*, 1974, **6**, 503 (*cmr*)
Albright, T.A. *et al, J. Org. Chem.*, 1975, **40**, 3437 (*cmr, nmr*)
Cattrall, R.W., *J. Inorg. Nucl. Chem.*, 1978, **40**, 687 (*complexes*)
Timokhin, B.V. *et al, Zh. Obshch. Khim.*, (*Engl. transl.* p. 1083), 1979, **49**, 1235 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TIA450.

O,O,O-Tributyl phosphorothioate, 9CI, 8CI T-00215

O,O,O-*Tributyl thiophosphate*

[78-47-7]

$(H_3CCH_2CH_2CH_2O)_3P{=}S$

$C_{12}H_{27}O_3PS$ M 282.383
Used as 15% soln. in CCl_4 for extraction-separation of Ag and Hg(*II*) (from HNO_3 or $HClO_4$ medium). Liq. Sol. CCl_4. Bp_{11} 156-157°. n_D^{20} 1.4497.

Michalski, J. *et al, Bull. Acad. Pol. Sci., Ser. Sci. Chim.*, 1957, **5**, 917 (*synth*)
Handley, T.H. *et al, Anal. Chem.*, 1960, **32**, 1878 (*sepn, Ag, Hg*)
Fluck, E. *et al, Z. Anorg. Allg. Chem.*, 1967, **354**, 139 (*P nmr*)
Engel, R.R. *et al, J. Chem. Soc. C*, 1970, 523 (*props*)

N,N′,N″-Tributylphosphorous triamide, 9CI T-00216

Tris(butylamino)phosphine. Tri(butylamino)phosphine

$(H_3CCH_2CH_2CH_2NH)_3P$

$C_{12}H_{30}N_3P$ M 247.363
Oxide: [23344-69-6]. N,N′,N″-*Tributylphosphoric triamide*
$C_{12}H_{30}N_3OP$ M 263.362
Has been used in extraction of uranium. pK_{a1} 12.16; pK_{a2} 7.00 ($MeNO_2$).
Sulfide: [53364-04-8]. N,N′,N″-*Tributylphosphorothioic triamide*
$C_{12}H_{30}N_3PS$ M 279.429
Cryst. (pet. ether). Mp 54°.

Wise, G. *et al, J. Am. Chem. Soc.*, 1952, **74**, 529 (*sulfide*)
Healy, J.D. *et al, Phosphorus Sulfur Relat. Elem.*, 1978, **5**, 239 (*sulfide*)

Tributyltin hydroxide T-00217

Tributylhydroxystannane, 9CI

[1067-97-6]

$(H_3CCH_2CH_2CH_2)_3SnOH$

$C_{12}H_{28}OSn$ M 307.063
Used as a 0.25*M* soln. in trichloroethylene for extraction of $CN^{\ominus}$. Waxy solid or oil. Mp 15-16°.

Wroński, M., *Talanta*, 1981, **28**, 255 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TID500.

Trichloroacetic acid, 9CI, 8CI T-00218

[76-03-9]

Cl_3CCOOH

$C_2HCl_3O_2$ M 163.387
Strong acid. Used as 25% aq. soln. for extraction of the Zr-alizarin S compound into butanol; indirect detn. of $F^{\ominus}$. Deliquescent cryst. Sol. H_2O, EtOH. Mp 57-58°. Bp 196-197°, Bp_{25} 141-142°.
▷ Highly irritant, causes severe burns. TLV 1. NH_4 salt is highly toxic and carcinogenic. AJ7875000.

Me ester: [598-99-2].
$C_3H_3Cl_3O_2$ M 177.414
Bp 153.8°, Bp_{12} 52-54°.
▷ AJ8380000.

Et ester: [515-84-4]. *Ethyl trichloroacetate*
$C_4H_5Cl_3O_2$ M 191.440
Dichlorocarbene source. Bp_{12} 55-58°.

Allyl ester: [6304-34-3].
$C_5H_5Cl_3O_2$ M 203.451
Bp_{766} 183-184°.

Vinyl ester: [7062-87-5].
$C_4H_3Cl_3O_2$ M 189.425
Bp 149°.

Phenyl ester: [10112-13-7].
$C_8H_5Cl_3O_2$ M 239.484
Bp 254-255° dec.

Benzyl ester: [26827-38-3].
$C_9H_7Cl_3O_2$ M 253.511
Viscous oil. Bp_{50} 178.5°.
Chloride: [76-02-8].
C_2Cl_4O M 181.832
Used as derivatisation reagent in gc of sympathomimetic amines. Bp 118°.
▷ Irritant, causes severe burns. AO7140000.
Bromide: [34069-94-8].
C_2BrCl_3O M 226.284
Bp 143°.
Iodide:
C_2Cl_3IO M 273.284
Bp *ca.* 180°, Bp_{30} 74°.
Anhydride: [4124-31-6].
$C_4Cl_6O_3$ M 308.758
Bp 222-224° dec., Bp_{110} 140°.
Amide: [594-65-0]. *2,2,2-Trichloroacetamide, 9CI, 8CI*
$C_2H_2Cl_3NO$ M 162.402
Cryst. (H_2O). Sol. EtOH, Et_2O; spar. sol. H_2O. Mp 141°. $Subl._{746}$ 238-239°.
▷ AC9275000.
Methylamide: [23170-77-6].
$C_3H_4Cl_3NO$ M 176.429
Cryst. (Et_2O). Mp 105-106°.
Dimethylamide: [7291-33-0].
$C_4H_6Cl_3NO$ M 190.456
Bp 230-233° slight dec.
Anilide: [2563-97-5]. *2,2,2-Trichloro-N-phenylacetamide, 9CI*
$C_8H_6Cl_3NO$ M 238.500
Cryst. (EtOH aq.). Mp 95-97°.
▷ AE7875000.
Nitrile: [545-06-2]. *Trichloroacetonitrile. Trichlorocyanomethane*
C_2Cl_3N M 144.387
Has insecticidal props. Liq. d_4^{25} 1.44. Mp 44°. Bp 85.7°.
▷ Strong irritant to eyes and skin. AM2450000.
Amidine:

Kolbe, H., *Justus Liebigs Ann. Chem.*, 1845, **54**, 183 (*synth*)
Rowley, R.J. *et al*, *Ind. Eng. Chem., Anal. Ed.*, 1937, **9**, 551 (*detn, $F^{\ominus}$*)
Parkes, G.D. *et al*, *Chem. Ind. (London)*, 1954, 222 (*synth*)
U.S. Pat., 2 832 803, (1958); *CA*, **52**, 18217 (*synth*)
Carpenter, W.R., *J. Org. Chem.*, 1962, **27**, 2085 (*nitrile*)
Dragulescu, C. *et al*, *Talanta*, 1964, **11**, 747 (*detn, Zr*)
Anggard, E. *et al*, *Acta Chem. Scand.*, 1969, **23**, 3110 (*chloride, use*)
Noonan, J.S. *et al*, *J. Pharmacol. Exp. Ther.*, 1969, **168**, 205 (*chloride, use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 233, 520; **7**, 380.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 512.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, MQC150, TII000, TII250, TII750, TIJ150.

2,2,2-Trichloroacetohydroxamic acid, 8CI T-00219

[29289-98-3]

$Cl_3CCONHOH$

$C_2H_2Cl_3NO_2$ M 178.401
Used for extraction-photometric detn. of Mo (λ_{max} 270 nm, ε 1600). pK_{a1} 8.0.

Molot, L.A. *et al*, *Khim. Khim. Tekhnol. (Minsk)*, 1970, **13**, 628 (*detn, Mo*)

Trichloroacetyl isocyanate, 9CI T-00220

Trichloroacetic acid anhydride with isocyanic acid, 8CI

[3019-71-4]

$Cl_3CCONCO$

$C_3Cl_3NO_2$ M 188.397
Used for classification of alcohols and derivatisation of thiols for nmr anal. Liq. Bp_{20} 80-85°.
▷ Lachrymator.

Speziale, A.J. *et al*, *J. Org. Chem.*, 1962, **27**, 3742; 1963, **28**, 1805 (*synth*)
Goodlett, V.W., *Anal. Chem.*, 1965, **37**, 431 (*use*)
Trehan, I.R. *et al*, *Tetrahedron Lett.*, 1968, 67 (*use*)
Ramirez, F. *et al*, *J. Org. Chem.*, 1969, **34**, 376 (*synth*)
Bose, A.K. *et al*, *Tetrahedron*, 1975, **31**, 3025 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 382.
Akteries, B. *et al*, *Chem. Ber.*, 1986, **119**, 83 (*synth, cmr*)

2,2,2-Trichloro-*tert*-butyloxycarbonyl chloride T-00221

Carbonochloridic acid 2,2,2-trichloro-1,1-dimethylethyl ester, 9CI. TCBOC

[66270-36-8]

$Cl_3CC(CH_3)_2OCOCl$

$C_5H_6Cl_4O_2$ M 239.912
Reagent for protecting amino acids. Derivatisation reagent for gas chromatog. anal. of amines. Liq. Bp_{12} 77-81°.

Eckert, H. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1978, **17**, 361.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 499.
Ahnfelt, N.O. *et al*, *Chromatographia*, 1982, **16**, 60 (*use*)

2,2,2-Trichloroethanol, 9CI, 8CI T-00222

[115-20-8]

Cl_3CCH_2OH

$C_2H_3Cl_3O$ M 149.403
Hypnotic. Used as protecting group for carboxylic acid and to esterify acids for chromatog. Rhombic plates or hygroscopic liq. with ethereal odour. Sol. H_2O, EtOH, Et_2O. d_{20}^{20} 1.55. Mp 19°. Bp 151-153°, Bp_{125} 94-97°. pK_a 12.24 (25°).
▷ KM3850000.
4-Nitrobenzoyl: Prisms (EtOH). Mp 71°.
1-Naphthylurethane:
$C_{13}H_{10}Cl_3NO_2$ M 318.586
Cryst. (ligroin). Mp 120°.
Urethane: [107-69-7]. *Trichloroethanol carbamate, 9CI. Carbamina. Trichloroethylurethan. Trichlorourethan. Voluntal*
$C_3H_4Cl_3NO_2$ M 192.428
In former use as soporific. Needles (ligroin). Mp 64-65°.
▷ FD1750000.

Dean, P.M. *et al*, *J. Am. Chem. Soc.*, 1936, **58**, 332 (*synth*)
Org. Synth., Coll. Vol., 2, 1943, 598 (*synth*)
Sroog, C.E. *et al*, *J. Am. Chem. Soc.*, 1949, **71**, 1710 (*synth*)
Smith, R.V. *et al*, *J. Chromatogr.*, 1971, **61**, 29 (*use*)
Alley, C.C. *et al*, *Anal. Chem.*, 1976, **48**, 387 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 605.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TIN500, TIO500.

2,2,2-Trichloroethyl chloroformate T-00223

Carbonochloridic acid 2,2,2-trichloroethyl ester, 9CI. Chloroformic acid 2,2,2-trichloroethyl ester, 8CI. β,β,β-Trichloroethoxycarbonyl chloride

[17341-93-4]

$ClCOOCH_2CCl_3$

$C_3H_2Cl_4O_2$ M 211.858

Acylating agent, reagent for protection of aminoacids with the trichloroethoxycarbonylurethane (troc-urethane) group. Reagent for gc anal. of tertiary amines. Liq. d_4^{25} 1.54. Bp 171-172°, Bp_{60} 75-76°.

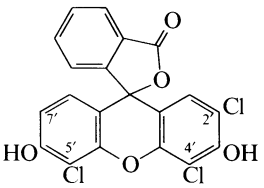
▷ Lachrymator.

Windholz, T.B. *et al*, *Tetrahedron Lett.*, 1967, 2555 (*synth, bibl*)
Hartvig, P. *et al*, *Acta Pharm. Suec.*, 1976, **13**, 181 (*use*)
Hartvig, P. *et al*, *J. Chromatogr.*, 1976, **121**, 235; 1977, **133**, 367 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 383.
Carson, J.F., *Synthesis*, 1981, 268 (*use*)

2′,4′,5′-Trichlorofluorescein T-00224

2′,4′,5′-Trichloro-3′,6′-dihydroxyspiro[isobenzofuran-1(3H),9′-[9H]xanthen]-3-one, 9CI

[2861-41-8]



$C_{20}H_9Cl_3O_5$ M 435.646

Used as a 1m*M* soln. in MeOH for photometric and fluorimetric detn. of Ag (λ_{max} 545 nm). Orange-red cryst. (EtOH). Sol. EtOH, Me_2CO, alkalis.

Mori, I. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1973, **22**, 1202 (*detn, Ag*)

2′,4′,7′-Trichlorofluorescein T-00225

2′,4′,7′-Trichloro-3′,6′-dihydroxyspiro[isobenzofuran-1-(3H),9′-[9H]xanthen]-3-one, 9CI

[2455-80-3]

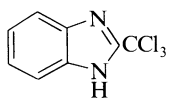
$C_{20}H_9Cl_3O_5$ M 435.646

Used as a 1m*M* soln. in MeOH for photometric and fluorimetric detn. of Ag (λ_{max} 545 nm). Orange-red cryst. (EtOH). Sol. EtOH, Me_2CO, alkalis.

Mori, I. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1973, **22**, 1202 (*detn, Ag*)

2-(Trichloromethyl)-1*H*-benzimidazole, 9CI T-00226

[3584-65-4]



$C_8H_5Cl_3N_2$ M 235.499

Chromogenic reagent for the detn. of azines. Cryst. (AcOH). Mp 360°.

▷ DE1125000.

Cramer, F. *et al*, *Chem. Ber.*, 1958, **91**, 1049 (*synth*)
Crank, G. *et al*, *Aust. J. Chem.*, 1982, **35**, 775 (*synth*)
Konopski, L. *et al*, *J. Chromatogr.*, 1986, **363**, 394 (*use*)

1,1,1-Trichloro-3,3,3-trifluoro-2-propanone, 9CI T-00227

1,1,1-Trichloro-3,3,3-trifluoroacetone

[758-42-9]

Cl_3CCOCF_3

$C_3Cl_3F_3O$ M 215.386

Trifluoroacetylating agent. Liq. Bp 83.5-84.5°.

Panetta, C.A. *et al*, *J. Org. Chem.*, 1970, **35**, 4275 (*synth, use*)
Murto, J. *et al*, *Finn. Chem. Lett.*, 1976, 50 (*raman, ir*)
Org. Synth., 1977, **56**, 122 (*synth*)
Abdel-Baky, S. *et al*, *J. Org. Chem.*, 1986, **51**, 3390 (*use*)

6,8-Tridecanedione, 9CI T-00228

Dicaproylmethane

[32743-88-7]

$H_3C(CH_2)_4COCH_2CO(CH_2)_4CH_3$

$C_{13}H_{24}O_2$ M 212.331

Used as soln. in C_6H_6 for extraction separation of Cu(*II*), Fe(*III*). Liq. Bp 162-164°.

Hauser, C.R. *et al*, *J. Am. Chem. Soc.*, 1944, **66**, 1220 (*synth*)
Koshimura, H. *et al*, *Anal. Chim. Acta*, 1971, **55**, 163 (*sepn, Cu, Fe*)

N-Tridecyl-1-tridecanamine, 9CI T-00229

Di(tridecyl)amine

[5910-75-8]

$[H_3C(CH_2)_{12}]_2NH$

$C_{26}H_{55}N$ M 381.727

Used for extraction-separation of Pa(*V*). Cryst. powder. Sol. EtOH, Et_2O.

▷ JP6650000.

Awwal, M.A., *Nucl. Sci. Appl., Ser. B*, 1973, **6**, 23; *CA*, **81**, 69086x.
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DXQ000.

Tridodecylamine T-00230

N,N-*Didodecyl-1-dodecanamine, 9CI. Trilaurylamine*

[102-87-4]

$[H_3C(CH_2)_{11}]_3N$

$C_{36}H_{75}N$ M 521.995

Used for extraction-separation of Hg, Mo, W. d 0.823. Mp 15.7°. $Bp_{0.03}$ 220-228°. n_D^{25} 1.4567.

N-Oxide: [20587-64-8].
$C_{36}H_{75}NO$ M 537.995
Used as 0.01*M* soln. in C_6H_6 for extraction separation of Hg(*II*) (from 0.5*M* HCl). Cryst. (Me_2CO). Sol. C_6H_6. Mp 50-53°.

B,HCl: [2486-89-7]. *Trilaurylammonium chloride. Tridodecylammonium chloride, 9CI*
Used as soln. in toluene for extraction separation of Zn (from NaCl/HCl). Cryst. (Me_2CO). Sol. toluene. Mp 84-85°.

B,HBr: [5810-40-2]. *Trilaurylammonium bromide. Tridodecylammonium bromide, 9CI*
$C_{36}H_{76}BrN$ M 602.907

Used as a 2m*M* soln. in CCl_4 or xylene for extraction-photometric detn. of Bi (λ_{max} 564 nm, ε 33100, xylene), Ga (λ_{max} 595 nm, ε 80000, xylene), In (λ_{max} 600 nm, ε 82000, xylene), Sb (λ_{max} 530 nm, ε 33200, CCl_4), V, W. Cryst. (Me_2CO). Sol. common org. solvs. Mp 86-87°.

Ralston, A. *et al*, *J. Org. Chem.*, 1944, **9**, 259 (*synth*)
Mayer, I. *et al*, *J. Inorg. Nucl. Chem.*, 1967, **29**, 1377 (*synth, cryst struct, salts*)
Alian, A. *et al*, *Talanta*, 1967, **14**, 659 (*use*)
Tseryuta, Y.S. *et al*, *CA*, 1973, **79**, 108619d; 1974, **80**, 87883p (*detn, Mo, W*)
Kliger, G.A. *et al*, *CA*, 1973, **79**, 41815u (*synth*)
Muhammed, M. *et al*, *Chem. Scr.*, 1974, **6**, 61 (*synth*)
Chimboulev, M. *et al*, *J. Radioanal. Chem.*, 1976, **30**, 397 (*sepn, Hg*)
Shijo, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1981, **54**, 143, 700; 1983, **56**, 105 (*detn, V, Bi, Ga, In, Sb, W*)
Bui-The-Khai, *et al*, *J. Org. Chem.*, 1981, **46**, 1759 (*synth*)
Rashid, M. *et al*, *Mikrochim. Acta*, 1986, **1**, 191 (*detn, Hg*)
Masana, A. *et al*, *Anal. Sci.*, 1988, **4**, 63 (*sepn, Zn*)

Triethylamine T-00231

N,N-*Diethylethanamine, 9CI*

[121-44-8]

Et_3N

$C_6H_{15}N$ M 101.191

Useful org. base. Used as 1,2-dichloroethane soln. for extraction-photometric detn. of Ti (ε 80000, thiocyanate complex). Liq. d_4^{20} 0.7275. Mp −114.75°. Bp 89.4°. pK_a 11.01 (18°, H_2O).

▷ Irritant, TLV 100. Highly flammable, flash p. −7°. YE0175000.

B,HCl: [554-68-7].
Cryst. (EtOH). Mp 253-254°.

B,HBr: [636-70-4].
Cryst. ($CHCl_3$ or EtOH). Mp 248°.

B,HI: [4636-73-1].
Cryst. Mp 181°.

Hofmann, A.W., *Justus Liebigs Ann. Chem.*, 1850, **73**, 91.
Rakshit, J.N., *J. Am. Chem. Soc.*, 1913, **35**, 1782 (*synth*)
Vogel, A.I., *J. Chem. Soc.*, 1948, 1825.
Tananaiko, M.M. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 844 (*detn, Ti*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 385 (*use*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 608.
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 517.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TJO000.

Triethylenetetramine, 8CI T-00232

N,N′-*Bis(2-aminoethyl)-1,2-ethanediamine, 9CI.* ***Trientine, BAN.*** *Trien*

[112-24-3]

$H_2NCH_2CH_2NHCH_2CH_2NHCH_2CH_2NH_2$

$C_6H_{18}N_4$ M 146.235

Org. base with widespread uses, esp. manuf. of wet-strength resins and epoxy-resin curing agents. Complexing agent for metals. Used to treat Wilson's disease. Used as 0.5*M* aq. soln. of disulfate salt for photometric detn. of Cu(*II*) (λ_{max} 580 nm, pH 9-11). Oil. Sol. H_2O, acids. d_{20} 0.975. Mp 12°. Bp 272°, Bp_{20} 157°. n_D^{20} 1.4961. Forms monohydrate, Fp 47°.

▷ Irritant, causes burns. YE6650000.

B,2HCl: [38260-01-4]. *Trientine hydrochloride, USAN. Cuprid. MK 681*
Mp 115-118°.

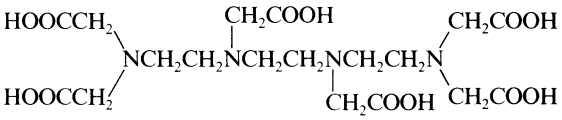
B,4HCl: [4961-40-4].
Needles (EtOH/HCl). Mp 266-270°.

Peacock, D.H., *J. Chem. Soc.*, 1936, 1518 (*synth*)
v. Alphen, J., *Recl. Trav. Chim. Pays-Bas* (*J. R. Neth. Chem. Soc.*), 1936, **55**, 412 (*synth*)
Ger. Pat., 1 075 118, (1960); *CA*, **55**, 12302b (*purifn, props*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 1204.
Goydish, B.L., *Mikrochim. Acta*, 1971, 675 (*detn, Cu*)
Smith, G., *Experientia*, 1975, **31**, 84 (*pharmacol*)
Spitz, R.D., *Kirk-Othmer Encycl. Chem. Technol.*, 3rd Ed., Wiley, N.Y., 1978-1984, **7**, 580 (*rev*)
Haslam, R.H. *et al*, *Dev. Pharmacol. Ther.*, 1980, **1**, 318 (*pharmacol*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 13377.
Med. Lett., 1986, **28**, 67 (*rev, pharmacol*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 518.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TJR000.

Triethylenetetramine-*N,N,N′,N″,N‴,N‴*-hexaacetic acid T-00233

[*Nitrilotris(ethylenenitrilo)*]*hexaacetic acid, 8CI*

[2783-89-3]



$C_{18}H_{30}N_4O_{12}$ M 494.455

Used as a 0.05*M* soln. of di-Na salt in dil. NaOH as complexing agent for many metals. Cryst. Mp 226° (dec.). pK_{a1} 2.42; pK_{a2} 2.95; pK_{a3} 4.16; pK_{a4} 6.16; pK_{a5} 9.40; pK_{a6} 10.19.

Pribil, R. *et al*, *Talanta*, 1962, **9**, 939 (*use*)
Hoyer, E. *et al*, *CA*, 1969, **70**, 91298n (*use*)
Cheng, K.L., *Handbook of Organic Analytical Reagents*, CRC Press Inc. Boca Raton, Florida, 1983 (*use*)

Triethylphenylammonium(1+) T-00234

N,N,N-*Triethylbenzenaminium(1+), 9CI*

[310-24-7]

$PhN^{\oplus}Et_3$

$C_{12}H_{20}N^{\oplus}$ M 178.297 (ion)

Hydroxide: [7620-71-5].
$C_{12}H_{21}NO$ M 195.304
Reagent for flash-heater ethylation of drugs for anal.

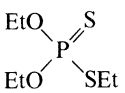
Iodide: [1010-19-1].
$C_{12}H_{20}IN$ M 305.201
Cryst. Mp 125-127°.

Pressman, D. *et al*, *J. Am. Chem. Soc.*, 1946, **68**, 250 (*synth, iodide*)
Friel, P. *et al*, *Clin. Chem.* (*Winston-Salem, N.C.*), 1975, **21**, 751 (*use*)

O,O,S-Triethyl phosphorodithioate, 9CI, 8CI T-00235

O,O,S-*Triethyl dithiophosphate*

[2524-09-6]



$C_6H_{15}O_2PS_2$ M 214.289

Used as mixt. with EtOH for photometric detn. of Mo (in the presence of thiocyanate). Sol. EtOH. Bp_{16} 121-123°, Bp_2 74-77°. n_D^{20} 1.5010.

McIvor, R.A. *et al*, *Can. J. Chem.*, 1958, **36**, 820 (*ir*)
Lippman, A.E., *J. Org. Chem.*, 1966, **31**, 471 (*synth, P nmr*)
Busev, A.I. *et al*, *Anal. Lett.*, 1970, **3**, 235 (*detn, Mo*)
Ishmaeva, E.A. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 2582), 1974, **44**, 2625 (*synth, conformn*)
Meyer, H.J. *et al*, *Bull. Soc. Chim. Belg.*, 1978, **87**, 517 (*ms*)
Zimin, M.G. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 930), 1978, **48**, 1020 (*synth, P nmr*)

Triethylsulfonium(1+), 9CI T-00236

[29245-61-2]

$Et_3S^{\oplus}$

$C_6H_{15}S^{\oplus}$ M 119.250 (ion)

Iodide: [1829-92-1].
$C_6H_{15}IS$ M 246.155
Used as 5% aq. soln. for detn. of Bi (gravimetric indicator).

[36552-72-4]

Masson, O. *et al*, *J. Chem. Soc.*, 1889, **55**, 135 (*synth*)
Potratz, A.H. *et al*, *Anal. Chem.*, 1949, **21**, 1276 (*use*)

Triethyltelluronium, 9CI T-00237

$Et_3Te^{\oplus}$

$C_6H_{15}Te^{\oplus}$ M 214.784 (ion)

Bromide:
$C_6H_{15}BrTe$ M 294.688
Used for extraction separation of anions; pptn. separation of anions. Cryst. Sol. H_2O.

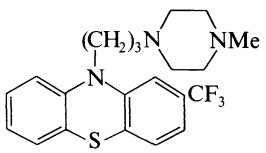
[51169-69-8]

Shinagawa, M. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1954, **3**, 204.
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Inc., Boca Raton, Florida, 1982.

Trifluoperazine, BAN, INN T-00238

10-[3-(4-Methyl-1-piperazinyl)propyl]-2-(trifluoromethyl)-10H-phenothiazine, 9CI. Trifluoroperazine. Trifluperazine. Triphthazinum. Numerous other synonyms

[117-89-5]



$C_{21}H_{24}F_3N_3S$ M 407.502
Tranquilliser, antiemetic, neuroleptic agent. $Bp_{0.7}$ 202-210°.
▷ SP1500000.

B,2HCl: [440-17-5]. *Trifluoperazine hydrochloride, USAN. Stelazine*
Used as a 0.25% aq. soln. for photometric detn. of Os (λ_{max} 502 nm, ε 16700). Cryst. (EtOH). Sol. H_2O. Mp 242-243°.
▷ SP1750000.

Maleate: [605-75-4]. *Asterfenazine*
▷ SP1752000.

[605-75-4]

Craig, P.N. *et al*, *J. Org. Chem.*, 1957, **22**, 709 (*synth*)
Yale, H.L. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 2039.
Feil, D. *et al*, *Nature* (*London*), 1965, **207**, 285 (*cryst struct*)
Huang, H.L. *et al*, *J. Pharm. Sci.*, 1968, **57**, 1511 (*metab*)
West, N.R., *Arch. Int. Pharmacodyn. Ther.*, 1975, **215**, 318 (*pharmacol*)
Gowda, H.S. *et al*, *Fresenius' Z. Anal. Chem.*, 1976, **282**, 141 (*detn, Os*)
Breyer, U. *et al*, *Drug Metab. Dispos.*, 1977, **5**, 97 (*metab*)
McDowell, J.J.H., *Acta Chem. Scand., Ser. B*, 1980, **36**, 2178 (*cryst struct*)
Post, A. *et al*, *Anal. Profiles Drug Subst.*, 1980, **9**, 543 (*rev, props, synth, pharmacol, metab*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 7120.
Shetty, H. *et al*, *Biomed. Mass Spectrom.*, 1983, **10**, 601 (*ms*)
Aravagiri, M. *et al*, *J. Pharm. Sci.*, 1985, **74**, 1196 (*metab*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 6126.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TJW600, TKE500, TKK250.

Trifluoroacetic acid, 9CI, 8CI T-00239

Trifluoroethanoic acid

[76-05-1]

CF_3COOH

$C_2HF_3O_2$ M 114.024
Strong acid used in synthesis. Derivatisation reagent used for gc. anal. of amino acids and for nmr anal. of amines. Colourless liq. Misc. H_2O. Fp −15.3°. Bp 70.5-72°, Bp_{734} 71.1°. pK_a 0.23 (25°, H_2O).
▷ Mod. toxic, causes severe burns. AJ9625000.

Me ester: [431-47-0].
$C_3H_3F_3O_2$ M 128.051
Trifluoroacetylating agent for NH_2 groups. Used in ms sequence analysis of peptides. Liq. Bp 43-44°.

Et ester: [383-63-1].
$C_4H_5F_3O_2$ M 142.077
Liq. Bp 60-62°.

tert-*Butyl ester:* [400-52-2].
$C_6H_9F_3O_2$ M 170.131
Bp 83°.

Ph ester: [500-73-2]. *Phenyl trifluoroacetate*
$C_8H_5F_3O_2$ M 190.121
Reagent used to prepare *N*-trifluoroacetyl derivs. of amino acids etc. Bp 148-149°.

Amide: [354-38-1]. *Trifluoroacetamide*
$C_2H_2F_3NO$ M 113.039
Cryst. ($CHCl_3$). Mp 73.5-74.5°.

Anhydride: [407-25-0].
$C_4F_6O_3$ M 210.033
Trifluoroacetylating agent with several other synthetic uses. Used to derivatise amines etc. for gc. Bp 39.5°.
▷ Mod. toxic, causes severe burns. Reacts explosively with DMSO. AJ9800000.

Gilman, H. *et al*, *J. Am. Chem. Soc.*, 1943, **65**, 1458 (*amide, Et ester*)
Allen, D.R., *J. Org. Chem.*, 1961, **26**, 923 (*synth, props*)
U.S. Pat., 3 162 633, (1965); *CA*, **62**, 7780 (*synth*)
Weygand, F. *et al*, *Z. Naturforsch., B*, 1965, **20**, 1169 (*ester, use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 850; 1975, **5**, 57; 1979, **7**, 246, 389; 1980, **8**, 503.
Darbre, A. *et al*, *Biochem. J.*, 1968, **106**, 923 (*anhydride, use*)
Bayer, E. *et al*, *J. Chromatogr.*, 1969, **7**, 95 (*ester, use*)
Irvine, W.J. *et al*, *J. Chromatogr.*, 1969, **43**, 129 (*anhydride, use*)
Berney, C.V., *J. Am. Chem. Soc.*, 1973, **95**, 708 (*spectra*)
Mozayenii, F., *Appl. Spectrosc.*, 1979, **33**, 520 (*use*)
Effenberger, F. *et al*, *Chem. Ber.*, 1980, **113**, 2100 (*tert*-Butyl ester)
Michael, G., *J. Chromatogr.*, 1980, **196**, 160 (*use*)
Gamerith, G., *J. Chromatogr.*, 1985, **318**, 65 (*anhydride, use*)
Roberts, D.D. *et al*, *J. Org. Chem.*, 1988, **53**, 2573 (*amide*)

Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 520.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TJX000, TKA250.

N-(Trifluoroacetyl)glycine, 9CI T-00240

[383-70-0]

$F_3CCONHCH_2COOH$

$C_4H_4F_3NO_3$ M 171.076
Used in peptide synthesis. Cryst. ($CHCl_3$/pet. ether). Mp 118-119°.

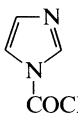
Chloride: [383-69-7]. [(*Trifluoroacetyl*)*amino*]*acetyl chloride*, *9CI*
$C_4H_3ClF_3NO_2$ M 189.521
Derivatisation reagent for the gc resoln. of diols.

Et ester: [367-62-4].
$C_6H_8F_3NO_3$ M 199.129
Cryst. (pet. ether). Mp 51.5°.

Weygand, F. *et al*, *Chem. Ber.*, 1954, **87**, 248 (*synth*)
Steglich, W. *et al*, *Synthesis*, 1976, 399 (*synth*)
Koppenhoefer, B. *et al*, *J. Chromatogr.*, 1986, **358**, 159 (*use, chloride*)

1-(Trifluoroacetyl)-1*H*-imidazole, 9CI T-00241

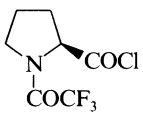
[1546-79-8]



$C_5H_3F_3N_2O$ M 164.087
Trifluoroacetylating derivatisation reagent used for gc. Liq. Bp_{14} 45-46°.

Staab, H.A. *et al*, *Ber.*, 1962, **95**, 2070 (*synth*)
Knights, B.A., *Anal. Lett.*, 1973, **6**, 495 (*use*)
Brugaard, G. *et al*, *J. Chromatogr.*, 1978, **147**, 476 (*use*)

1-(Trifluoroacetyl)-2-pyrrolidinecarbonyl chloride, 9CI T-00242



(*S*)-*form*

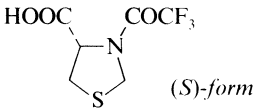
$C_7H_7ClF_3NO_2$ M 229.586

(*S*)-*form* [36724-68-2]
N-(*Trifluoroacetyl*)-L-*prolyl chloride*
Difficult to prepare in an optically pure form. Reagent for sepn. and anal. of amino acids. Thin, yellow liq. Bp_2 82-83°.

[71890-93-2, 92076-92-1]

Dabrowiak, J.C. *et al*, *Anal. Chem.*, 1971, **43**, 791 (*synth, use*)
Iwase, H. *et al*, *Chem. Pharm. Bull.*, 1974, **22**, 8, 2075; 1978, **25**, 285, 1215 (*use*)
Tomida, I. *et al*, *Agric. Biol. Chem.*, 1975, **39**, 469; 1979, **43**, 925 (*synth, use*)
Payan, I.L. *et al*, *Anal. Biochem.*, 1985, **149**, 484 (*use*)

3-(Trifluoroacetyl)-4-thiazolidinecarboxylic acid, 9CI T-00243



(*S*)-*form*

$C_6H_6F_3NO_3S$ M 229.179

(*R*)-*form* [59668-82-5]
Cryst. (pet. ether/Et_2O). Mp 60-61°.

(*S*)-*form*

Chloride: [61578-72-1].
$C_6H_5ClF_3NO_2S$ M 247.625
Reagent used for resoln. of amino acids and other amines.

Halpern, B. *et al*, *Biochem. Biophys. Res. Commun.*, 1965, **20**, 710 (*use, chloride*)
Iwase, H., *Chem. Pharm. Bull.*, 1974, **22**, 1663 (*use, chloride*)
Souter, R.W., *J. Chromatogr.*, 1975, **114**, 307 (*use, chloride*)
Paul, B. *et al*, *J. Med. Chem.*, 1976, **19**, 1002 (*synth*)

1,1,1,-Trifluoro-5,5-dimethyl-2,4-hexanedione, 9CI T-00244

Pivaroyltrifluoroacetone

[22767-90-4]

$(H_3C)_3CCOCH_2COCF_3$

$C_8H_{11}F_3O_2$ M 196.169
Used for extraction of Li; gc separation of V, Zn. Oily liq. Sol. Me_2CO, EtOH, $CHCl_3$, C_6H_6. Bp_6 68-71°. pK_{a1} 8.98.

Shigematsu, T. *et al*, *CA*, 1974, **81**, 85500h (*detn, Zn*)
Sokolov, D.N. *et al*, *Zh. Anal. Khim.*, 1975, **30**, 2377 (*detn, V*)
Komarov, V.A., *J. Anal. Chem. USSR* (*Engl. Transl.*), 1976, **31**, 309 (*detn, Zn*)
Seeley, F.G. *et al*, *J. Inorg. Nucl. Chem.*, 1976, **38**, 1049 (*detn, Li*)

2,2,2-Trifluoroethanol, 9CI, 8CI T-00245

[75-89-8]

CF_3CH_2OH

$C_2H_3F_3O$ M 100.040
Used as a non-nucleophilic ionising solvent, and as protecting group for carboxylic acids. Used as a derivatisation reagent for gc of carboxylic acids. Liq. d^{20} 1.468. Bp_{742} 103-105°. pK_a 12.37 (25°).

▷ KM5250000.

3,5-Dinitrobenzoate: Mp 62°.

Woodward, R.B. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 852 (*use*)
Fr. Pat., 1 573 705, (1970); *CA*, **72**, 100009 (*synth*)
Hagen, D.F. *et al*, *Spectrochim. Acta, Part B*, 1985, **40**, 335 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TKA350.

O-(2,2,2-Trifluoroethyl)carbonodithioate, 9CI T-00246

Trifluoromethyl xanthate

[24658-33-1]

$HSC(S)OCH_2CF_3$

$C_3H_3F_3OS_2$ M 176.183
Used as 0.2% soln. in aq. DMF for photometric detn. of Au (λ_{max} 452 nm, ε 1090), Te (λ_{max} 410 nm, ε 6700); pptn. sepn. of Te. Cryst. Mp 200° dec.

[60564-16-1]

Hussain, M.F. *et al*, *Analyst (London)*, 1984, **109**, 1151, 1291 (*detn, Au, Te*)

Trifluoroethylxanthic acid T-00247

Carbonodithioic acid O-(2,2,2-trifluoroethyl)ester, 9CI

F_3CCH_2OCSSH

$C_3H_3F_3OS_2$ M 176.183

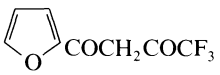
K salt: [60564-16-1].
Used as 0.2% soln. in 2% aq. DMF for photometric detn. of Au (λ_{max} 452 nm), Co (λ_{max} 352 nm, ε 29000), Cu (λ_{max} 430 nm, ε 15000). Yellow cryst. Sol. H_2O, DMF.

Hussain, M.F. *et al*, *Analyst (London)*, 1984, **109**, 1151 (*detn, Au*)
Hussain, M.F. *et al*, *Mikrochim. Acta*, 1985, **1**, 227 (*detn, Co, Cu*)

4,4,4-Trifluoro-1,2-furanyl-1,3-butanedione, 9CI T-00248

2-Furoyltrifluoroacetone

[326-90-9]



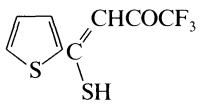
$C_8H_5F_3O_3$ M 206.121
Used as 5% soln. in EtOH for extraction-photometric detn. of Cu. Cryst. Sol. alcohols.

Berg, E.W. *et al*, *Anal. Chim. Acta*, 1958, **18**, 578 (*detn, Cu*)

1,1,1-Trifluoro-4-mercapto-4-(2-thienyl)-3-buten-2-one, 9CI T-00249

Monothio-TTA

[4552-64-1]



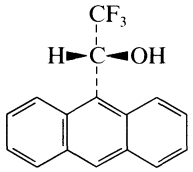
$C_8H_5F_3OS_2$ M 238.254
Used as 0.2*M* soln. in EtOH or 1m*M* soln. in $CHCl_3$ for extraction-photometric detn. of Cd, Co, Cu, Hg, Pb, Pd, Zn; tlc sepn. of Co, Cu, Ni, Pb, Rh; extraction sepn. of Cu, Fe; gravimetric detn. of Co. Red needles (C_6H_6). Sol. C_6H_6, CCl_4; sl. sol. EtOH, DMF, dioxan. Mp 72-74° (62-64°). pK_{a1} 3.96. λ_{max} 370 nm (xylene).

Berg, E.W., *Anal. Chim. Acta*, 1966, **36**, 372 (*synth, use*)
Shinde, V.M. *et al*, *Anal. Chem.*, 1969, **41**, 342 (*detn, Cu*)
Uhleman, E. *et al*, *Anal. Chim. Acta*, 1969, **48**, 117; 1971, **56**, 185 (*detn, Co, Cu*)
Hashitani, H. *et al*, *Bunseki Kagaku (Jpn. Anal.)*, 1970, **19**, 355 (*use, Hg*)
Akki, S.B. *et al*, *Bull. Chem. Soc. Jpn.*, 1972, **45**, 167 (*detn, Pb*)
Honjyo, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1972, **45**, 185 (*detn, Co*)
Müller, H. *et al*, *Anal. Chim. Acta*, 1973, **49**, 2246 (*chromatog*)
Honjo, Y. *et al*, *Anal. Chem.*, 1977, **49**, 2241, 2246 (*sepn, Cu, Fe*)

α-(Trifluoromethyl)-9-anthracenemethanol, 9CI T-00250

1-(9-Anthryl)-2,2,2-trifluoroethanol

[65487-67-4]



(R)-form

$C_{16}H_{11}F_3O$ M 276.257
▷ Irritant.

(R)-form [58531-34-3]
Shift reagent used in the detn. of optical purity of lactones by pmr. Cryst. Mp 130.5-133°.

(S)-form [60646-30-2]
Cryst. (pet. ether). Mp 142-145° (135-136°). $[\alpha]_D^{26}$ +27.2° (c, 6.25 in $CHCl_3$).

(±)-form [60686-64-8]
Mp 140-142°.

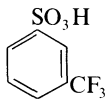
Ac:
$C_{18}H_{13}F_3O_2$ M 318.295
Mp 97-98°.

Pirkle, W.H. *et al*, *J. Org. Chem.*, 1977, **42**, 384 (*synth, use*)
Lebourgne, A. *et al*, *Tetrahedron Lett.*, 1983, **24**, 1027 (*use*)
Ben Hassine, B. *et al*, *Bull. Soc. Chim. Belg.*, 1985, **94**, 425 (*synth, pmr, cmr*)
Chong, J.M. *et al*, *J. Org. Chem.*, 1991, **56**, 893 (*synth*)

3-(Trifluoromethyl)benzenesulfonic acid T-00251

α,α,α-Trifluoro-m-toluenesulfonic acid

[1643-69-2]



$C_7H_5F_3O_3S$ M 226.176
Cryst. (H_2O). Mp 42-44°.

S-Benzythiuronium salt: [2342-60-1].
Mp 138-139°.

Et ester: [55400-68-5].
$C_9H_9F_3O_3S$ M 254.229
$Bp_{0.08}$ 66°. n_D^{25} 1.4576.

Ph ester: [55400-60-7].
$C_{13}H_9F_3O_3S$ M 302.273
$Bp_{0.2}$ 103-104°.

Chloride: [777-44-6].
$C_7H_4ClF_3O_2S$ M 244.621
Reagent used in glc anal. of nitrosamines. Bp_6 88-90°.
▷ Lachrymator.

Amide:
$C_7H_6F_3NO_2S$ M 225.191
Mp 121-122°, Mp 111-112°.

Anhydride:
$C_{14}H_8F_6O_5S_2$ M 434.337
Bp_3 65-66°.

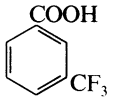
Yagupol'skii, L.M. *et al*, *J. Gen. Chem. USSR (Engl. Transl.)*, 1959, **29**, 549 (*synth*)
Yale, H.L. *et al*, *J. Org. Chem.*, 1960, **25**, 1824 (*deriv*)
Dannley, R.L. *et al*, *J. Org. Chem.*, 1975, **40**, 2278 (*deriv, synth*)
Org. Synth., 1981, **60**, 121 (*deriv*)

Crumrine, D.S. *et al*, *J. Org. Chem.*, 1986, **51**, 5013 (*synth, nmr*)
Hamada, T. *et al*, *Synthesis*, 1986, 852 (*deriv, synth, pmr, ms*)
Idowu, O.R. *et al*, *Talanta*, 1987, **34**, 441 (*chloride, use*)

3-(Trifluoromethyl)benzoic acid, 9CI T-00252

α,α,α-*Trifluoro*-m-*toluic acid, 8CI*

[454-92-2]



$C_8H_5F_3O_2$ M 190.121
Reference material used in elemental microanalysis. Mp 103°.

Chloride:
$C_8H_4ClF_3O$ M 208.567
Oil. Bp_{16} 79-80°.

Nitrile: 1-Cyano-3-(trifluoromethyl)benzene
$C_8H_4F_3N$ M 171.121
Bp_{40} 94-95°.

Burger, A. *et al*, *J. Org. Chem.*, 1953, **18**, 192 (*synth*)
Inukai, K. *et al*, *CA*, 1964, **61**, 807 (*synth, deriv*)
Analyst (*London*), 1972, **97**, 740 (*microanal*)

4-(Trifluoromethyl)benzoic acid, 9CI T-00253

α,α,α-*Trifluoro*-p-*toluic acid, 8CI*

[455-24-3]

$C_8H_5F_3O_2$ M 190.121
Mp 220-221°.

Chloride: [329-15-7].
$C_8H_4ClF_3O$ M 208.567
Used for derivatise amines for gc analysis. Liq. d_4^{20} 1.4035. Bp_{16} 78-79°, Bp_{12} 74-75°. n_D^{20} 1.4755.

Nitrile: 1-Cyano-4-(trifluoromethyl)benzene
$C_8H_4F_3N$ M 171.121
Oil. Bp_{20} 80-81°.

Burger, A. *et al*, *J. Org. Chem.*, 1953, **18**, 192 (*synth, deriv*)
Yagupol'skii, L.M. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1957, **23**, 634; *CA*, **52**, 9980a (*synth*)
Inukai, K. *et al*, *CA*, 1964, **61**, 807, 9418g (*synth, deriv*)
Anggard, E. *et al*, *Acta Chem. Scand.*, 1969, **23**, 3110 (*use*)

[α-(Trifluoromethyl)benzyl]hydrazine, 8CI T-00254

[*2,2,2-Trifluoro-1-phenylethyl*]*hydrazine, 9CI*

[5042-24-0]

$PhCH(CF_3)NHNH_2$

$C_8H_9F_3N_2$ M 190.168

(+)-form
Reagent for the separation of diastereoisomeric hydrazones by gc. Yellow oil. Bp_9 105-107°, $Bp_{0.03}$ 50°. $[\alpha]_D^{27}$ +36.2° (c, 0.915 in EtOH). pK_a 4.88.

Pereira, W.E. *et al*, *Aust. J. Chem.*, 1971, **24**, 1103 (*synth, use*)

1,1,1-Trifluoro-7-methyl-2,4-octanedione, 9CI T-00255

[14189-31-2]

$F_3CCOCH_2COCH_2CH_2CH(CH_3)_2$

$C_9H_{13}F_3O_2$ M 210.196

Used for solv. extraction of Th, In, Co, Zn, Sc, Ag, Hg. Liq. Sol. nonpolar org. solvs. d_{22} 1.30. Bp_3 50.53°. n_D^{21} 1.4153.

Cu salt: Cryst. Mp 87-88°.

Schweitzer, G.K. *et al*, *Anal. Chim. Acta*, 1966, **36**, 77 (*use*)

(3-Trifluoromethylphenyl) trimethylammonium(1+) T-00256

N,N,N-*Trimethyl-3-(trifluoromethyl)benzeneaminium(1+), 9CI*

$C_{10}H_{13}F_3N^{\oplus}$ M 204.215 (ion)

Hydroxide: [68254-41-1].
$C_{10}H_{14}F_3NO$ M 221.222
Reagent for methylation of fatty acids for glc anal.

Iodide: [27389-57-7].
$C_{10}H_{13}F_3IN$ M 331.119
Mp 242-243°.

Sommer, H.Z. *et al*, *J. Org. Chem.*, 1971, **36**, 824 (*synth, iodide*)
MacGee, J. *et al*, *J. Chromatogr.*, 1974, **100**, 35 (*synth, use, hydroxide*)
McCreary, D.K. *et al*, *J. Chromatogr.*, 1978, **16**, 329 (*use, hydroxide*)

1,1,1-Trifluoro-2,4-pentanedione, 9CI T-00257

Trifluoroacetylacetone

[367-57-7]

$H_3CCOCH_2COCF_3$

$C_5H_5F_3O_2$ M 154.088
Used as a 0.1*M* soln. in $CHCl_3$ for extraction-separation of Al, Be, Cu, Fe(*III*). Liq. Sol. common org. solvs. Bp_{740} 105-106°. n_D^{25} 1.3864.

Scribner, W.G. *et al*, *Anal. Chem.*, 1965, **37**, 1136; 1966, **38**, 1779 (*detn, Al, Cu, Fe, Be*)

Trifluoroperacetic acid T-00258

Trifluoroethaneperoxoic acid, 9CI

[359-48-8]

$F_3CCOOOH$

$C_2HF_3O_3$ M 130.023
Chromatographic derivatisation reagent for nitrosamines. Powerful oxidant. Prepd. *in situ.*

Emmons, W.B., *J. Am. Chem. Soc.*, 1953, **76**, 3468 (*synth*)
Althorpe, J. *et al*, *J. Chromatogr.*, 1970, **53**, 371 (*use*)
Telling, G.M., *J. Chromatogr.*, 1972, **73**, 79 (*use*)
Holbert, G.W. *et al*, *J. Chem. Soc., Chem. Commun.*, 1978, 248 (*use*)
Takamoto, T. *et al*, *J. Chem. Soc., Chem. Commun.*, 1978, 350 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 505 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PCO250.

2,2,2-Trifluoro-*N*-phenylacetamide, 9CI T-00259

α,α,α-*Trifluoroacetanilide*

[404-24-0]

$F_3CCONHPh$

$C_8H_6F_3NO$ M 189.137

Reference material used in elemental microanalysis. Cryst. (EtOH aq.). Mp 88.5-90°.

Bourne, E.J. *et al*, *J. Chem. Soc.*, 1952, 4014 (*synth*)
Ungnade, H.E., *J. Am. Chem. Soc.*, 1954, **76**, 5133 (*synth*)
Analyst (*London*), 1972, **97**, 740 (*microanal*)

4,4,4-Trifluoro-1-phenyl-1,3-butanedione, 9CI T-00260

Benzoyltrifluoroacetone

[326-06-7]

$PhCOCH_2COCF_3$

$C_{10}H_7F_3O_2$ M 216.159

Used as a 0.03% soln. in butyl propionate for extraction-photometric detn. of U. Cryst. Sol. EtOH, Me_2CO; insol. H_2O.

Shigematsu, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1964, **37**, 1333.
Marsh, S.F. *et al*, *Anal. Chim. Acta*, 1979, **105**, 439.

2,2,2-Trifluoro-1-phenylethylamine T-00261

α-(Trifluoromethyl)benzenemethanamine, 9CI

[51586-24-4]

$PhCH(NH_2)CF_3$

$C_8H_8F_3N$ M 175.153

(S)-form [62197-94-8]

Resolving agent for alcohols. Liq. Bp_{20} 88°.

[13652-09-0, 22038-85-3, 65732-17-4]

Shepard, R.A. *et al*, *J. Org. Chem.*, 1967, **32**, 3197 (*synth*)
Pirkle, H.W. *et al*, *J. Org. Chem.*, 1977, **42**, 2436 (*synth*, *use*)

1,1,1-Trifluoro-4-phenyl-4-thioxo-2-butanone, 9CI T-00262

Monothiobenzoyltrifluoroacetone

[53657-07-1]

F_3CCOCH_2CSPh

$C_{10}H_7F_3OS$ M 232.226

Used as a 1m*M* soln. in $CHCl_3$ for extraction-photometric detn. of U(*VI*) (λ_{max} 375 nm, ε 9900, $CHCl_3$). Pale yellow cryst. Sol. $CHCl_3$.

Rao, G.N. *et al*, *Food Farming Agric.*, 1977, **9**, 19; *CA*, **89**, 122418a.
Rao, G.N. *et al*, *Indian J. Chem., Sect. A*, 1978, **16**, 177 (*detn*, *U*)

4,4,4-Trifluoro-1-selenophen-2-yl-1,3-butanedione, 9CI T-00263

2-(4,4,4-Trifluoro-1,3-dioxobutyl)selenophene. Selenoyltrifluoroacetone

[713-15-5]

$C_8H_5F_3O_2Se$ M 269.081

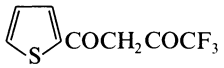
Used as a satd. soln. in EtOH or a 5m*M* soln. in C_6H_6 for extraction-photometric detn. of Cu (λ_{max}350 nm, ε 15800); extraction-separation of Hf, Zr. Sol. common org. solvs. Mp 32-33°. Bp_{11} 118-119°.

Yurev, Y.K. *et al*, *Zh. Obshch. Khim.*, 1961, **31**, 1449 (*synth*, *detn*, *Cu*)
Mel'chakova, N.V. *et al*, *CA*, 1967, **66**, 14495q (*sepn. Hf, Zr*)

4,4,4-Trifluoro-1-(2-thienyl)-1,3-butanedione T-00264

Thenoyltrifluoroacetone. HTTA

[326-91-0]



$C_8H_5F_3O_2S$ M 222.187

Forms chelate complexes with lanthanide and actinide elements, which are useful in their isolation, separation and estimation. Used as 0.15*M* C_6H_6 soln. or 0.5*M* soln. in xylene for extraction separation of Cr(*III*), Fe(*III*), Mn, Sc, Zn, Ca, Pu(*VI*), Tl(*III*), Ti, V, Zr; photometric detn. of Ce(*IV*) (λ_{max} 450 nm, ε 2500), Co, Ga, In, Pd; extraction-photometric detn. of Fe(*II*), Ir, Pu(*VI*). Cryst. Mp 42.5-43.2°. Bp_8 96-98°. pK_{a1} 6.53 (25°, μ = 1.0).

Oxime:

$C_8H_6F_3NO_2S$ M 237.202

Cryst. (EtOH aq.). Mp 134°. Not known whether 1 or 3 oxime.

Cu complex: Cryst. (EtOH aq.). Mp 242-243°.

Reid, J.C. *et al*, *J. Am. Chem. Soc.*, 1950, **72**, 2948 (*synth*)
Khopkar, S.M., *Anal. Chem.*, 1960, **32**, 478 (*detn*, *Ce*)
Marsh, S.F. *et al*, *Anal. Chem.*, 1961, **33**, 870 (*detn*, *Zr*)
Onishi, H. *et al*, *Anal. Chem.*, 1963, **35**, 1887 (*detn*, *Ce*)
Sekine, T. *et al*, *Anal. Chim. Acta*, 1967, **37**, 217 (*detn*, *Sc*)
Lobanov, F.I. *et al*, *CA*, 1973, **78**, 20770g (*detn*, *Ti*)
Kawamoto, H. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1974, **23**, 495 (*detn*, *Fe*)
Shakhova, N.V. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 682 (*detn*, *Ca*)
Roland, G. *et al*, *Anal. Chim. Acta*, 1976, **85**, 331 (*detn*, *Ti*)
Nash, K.L. *et al*, *CA*, 1976, **85**, 52441u (*detn*, *Zn*)
Joshi, K.C. *et al*, *Indian J. Chem., Sect. B*, 1976, **14**, 1004 (*synth*)
Shukla, J.P. *et al*, *J. Radioanal. Chem.*, 1976, **29**, 61 (*detn*, *Pu*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 419 (*use*)

1,1,1-Trifluoro-4-thioxo-2-pentanone, 9CI T-00265

Monothiotrifluoroacetylacetone. 1,1,1-Trifluoro-4-mercapto-3-penten-2-one

[35431-81-3]

$F_3CCOCH_2CSCH_3$

$C_5H_5F_3OS$ M 170.155

Used for extraction-photometric detn. of Ni. Dark red liq. Sol. EtOH, $CHCl_3$, hexane. Bp_{20} 50°.

Ho, R.K.Y. *et al*, *Aust. J. Chem.*, 1966, **19**, 1179 (*synth*)
Barratt, R.S. *et al*, *Anal. Chim. Acta*, 1972, **58**, 107 (*detn*, *Ni*)

2,2,2-Trifluoro-*N*-(trimethylsilyl) ethanimidic acid trimethylsilyl ester T-00266

*2,2,2-Trifluoro-*N*-(trimethylsilyl)acetamidic acid trimethylsilyl ester, 8CI*

[25561-30-2]

$Me_3SiN{=}C(CF_3)OSiMe_3$

$C_8H_{18}F_3NOSi_2$ M 257.402

Silylating agent, esp. for preparing derivs. of amino acids for glc. Liq. d_4^{20} 0.97. Mp −41°. Bp_{14} 47-50°, Bp 142°.

Stalling, D.L. *et al*, *Biochem. Biophys. Res. Commun.*, 1968, **31**, 616 (*synth*)
Von Halasz, S.P. *et al*, *Chem. Ber.*, 1970, **103**, 553 (*synth*)
Yoder, C.H. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 4283 (*struct*)
Lidy, W. *et al*, *Chem. Ber.*, 1976, **109**, 2542 (*synth*)
Schraml, J. *et al*, *Collect. Czech. Chem. Commun.*, 1977, **42**, 1165 (*nmr*)
Bassindale, A.R. *et al*, *J. Organomet. Chem.*, 1979, **175**, 273 (*nmr*)

N,N',N''-Trihexylphosphorothioic triamide, 9CI T-00267

[1186-15-8]

$[H_3C(CH_2)_5NH]_3P{=}S$

$C_{18}H_{42}N_3PS$ M 363.590

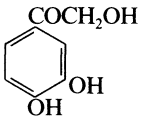
Used as 25m*M* soln. in $CHCl_3$ for extraction separation of Cu(*I*), Hg(*II*), Ag, Pd (from 0.1-6*M* aq. mineral acids). Needles. Sol. $CHCl_3$; insol. H_2O, acids. Mp 50-51°.

Handley, T.H., *Anal. Chem.*, 1964, **36**, 2467 (*use*)
Hornbeck, R.F., *J. Chromatogr.*, 1967, **30**, 438 (*use*)

2,3',4'-Trihydroxyacetophenone, 8CI T-00268

1-(3,4-Dihydroxyphenyl)-2-hydroxyethanone, 9CI. α,3,4-Trihydroxyacetophenone. 3,4-Dihydroxyphenacyl alcohol

[29477-54-1]



$C_8H_8O_4$ M 168.149

Found in insect cuticle. Used as 1m*M* aq. soln. for photometric detn. of Ca (λ_{max} 540 nm, pH ~11.5), Ba (λ_{max} 560 nm, pH 11.8-12.4). Cryst. (H_2O). Mp 195°.

3',4'-Di-Ac:
$C_{12}H_{12}O_6$ M 252.223
Plates (EtOH). Mp 86-87°.

2,3',4'-Tri-Ac:
$C_{14}H_{14}O_7$ M 294.260
Plates (MeOH). Mp 95°.

3'-Me ether: 2,4'-Dihydroxy-3'-methoxyacetophenone. α-Hydroxypropiovanillone
$C_9H_{10}O_4$ M 182.176
Component of lignins of conifers and from *Lycopodium* spp. Cyrst. (C_6H_6). Mp 109-110°.

3',4'-Di-Me ether: [37803-48-8]. *2-Hydroxy-3',4'-dimethoxyacetophenone. Veratroylcarbinol*
$C_{10}H_{12}O_4$ M 196.202
Cryst. Mp 86-87°.

3',4'-Di-Me ether, 2-Ac: [39561-76-7].
$C_{12}H_{14}O_5$ M 238.240
Plates (Et_2O). Mp 91-92°.

2,3',4'-Tri-Me ether: [22341-22-6]. *2,3',4'-Trimethoxyacetophenone*
$C_{11}H_{14}O_4$ M 210.229
Prisms (C_6H_6/pet. ether). Mp 62°. Bp_{15} 190°.

2,3',4'-Tri-Me ether, semicarbazone: Cryst. (MeOH). Mp 178°.

Voswinckel, H., *Ber.*, 1909, **42**, 4651.
Robinson, R. *et al*, *J. Chem. Soc.*, 1925, **127**, 170.
Cramer, A.B. *et al*, *J. Am. Chem. Soc.*, 1939, **61**, 509, 516, 2204 (*isol, synth, deriv*)
Towers, G.H.N. *et al*, *Phytochemistry*, 1965, **4**, 57 (*isol, deriv*)
Deshpande, N.V. *et al*, *Microchem. J.*, 1975, **20**, 165 (*detn, Ca*)
Deshpande, N.V. *et al*, *J. Indian Chem. Soc.*, 1977, **54**, 410 (*detn, Ba*)

2',3',4'-Trihydroxyacetophenone, 8CI T-00269

1-(2,3,4-Trihydroxyphenyl)ethanone, 9CI. Gallacetophenone. 4-Acetylpyrogallol. Alizarine yellow C

[528-21-2]

$C_8H_8O_4$ M 168.149

Used as 0.2% EtOH soln. for photometric detn. of U. Needles or leaflets (H_2O). Mp 173°.

▷ AN0527000.

Oxime: [5349-83-7].
$C_8H_9NO_4$ M 183.163
Mp 162-163°.

Semicarbazone: [22107-33-1].
Mp 225° (rapid heat).

Tri-Ac: [72712-20-0].
$C_{14}H_{14}O_7$ M 294.260
Mp 85°.

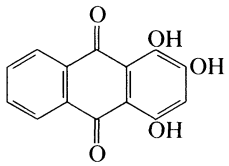
Tri-Me ether: [13909-73-4]. *2',3',4'-Trimethoxyacetophenone*
$C_{11}H_{14}O_4$ M 210.229
Mp 15-17°. Bp 295-297°, Bp_{12} 165°.

Perkin, W.H., *J. Chem. Soc.*, 1895, **67**, 997.
Perkin, W.H. *et al*, *J. Chem. Soc.*, 1928, 232.
Badhwar, I.C. *et al*, *Org. Synth.*, 1934, **14**, 40 (*synth*)
Hart, M.C. *et al*, *J. Am. Chem. Soc.*, 1936, **58**, 1957.
Org. Synth., Coll. Vol., 2, 1943, 304.
Price, P. *et al*, *J. Org. Chem.*, 1964, **29**, 2800.
Popa, G. *et al*, *Mikrochim. Acta*, 1972, 883 (*detn, U*)
Parmar, S.S. *et al*, *J. Pharm. Sci.*, 1974, **63**, 1152.
Schlemper, E.O. *et al*, *Acta Crystallogr., Sect. C*, 1986, **42**, 755 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TKN250.

1,2,4-Trihydroxyanthraquinone T-00270

1,2,4-Trihydroxy-9,10-anthracenedione, 9CI. ***Purpurin*†.** *Madder purple. Verantin. Oxylizarinic acid*

[81-54-9]



$C_{14}H_8O_5$ M 256.214

A flavanone has also been named Purpurin. Found in madder root as glucoside, common plant pigment. Isol. from tissue cultures of *Galium mollugo* and *Cinchona ledgeriana*. Used as textile dye. Used as 0.4m*M* soln. in 4-methyl-2-pentanone for extraction-photometric detn. of Ge and Fe (*III*) (λ_{max} 595 nm). Long orange-red or orange-yellow needles + $1H_2O$ (EtOH aq.), dark-red needles (EtOH). Spar. sol. hot H_2O. Mp 259°. Sol. H_2SO_4, alkalis → red solns. Forms cryst. Na, K, Pb salts.

▷ CB8200000.

2,4-Di-Ac:
$C_{18}H_{12}O_7$ M 340.289
Mp 175-178°.

Tri-Ac: [10228-14-5].
$C_{20}H_{14}O_8$ M 382.326
Pale-yellow needles. Mp 198-200°. Sinters at 193°.

1-Me ether: [94099-66-8]. *2,4-Dihydroxy-1-methoxyanthraquinone.* ***Purpurin 1-methyl ether***
$C_{15}H_{10}O_5$ M 270.241
Isol. from *C. ledgeriana* and *C. pubescens*. Cryst. (EtOH aq.). Mp 230°.

1,4-Di-Me ether: 2-Hydroxy-1,4-dimethoxyanthraquinone
$C_{16}H_{12}O_5$ M 284.268
Cryst. (EtOH aq.). Mp 229.5°.

2,4-Di-Me ether: 1-Hydroxy-2,4-dimethoxyanthraquinone
$C_{16}H_{12}O_5$ M 284.268
Orange needles. Mp 186-189°.

Dimroth, O. *et al*, *Ber.*, 1920, **53**, 481.
Perkin, A.G. *et al*, *J. Chem. Soc.*, 1928, 229; 1929, 1399.
Marshall, P.G., *J. Chem. Soc.*, 1931, 3206.
Tanuka, O., *Chem. Pharm. Bull.*, 1958, **6**, 18 (*ir*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 284 (*detn, Ge*)

Roman Ceba, M. *et al*, *Talanta*, 1982, **29**, 142 (*detn, Fe*)
Wijnsma, R. *et al*, *Phytochemistry*, 1984, **23**, 2307; 1986, **25**, 1123 (*isol, Purpurin 1-methyl ether*)
Simoneau, B. *et al*, *Tetrahedron*, 1986, **42**, 3767 (*deriv, synth, ir, uv, pmr, ms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TKN750.

1,2,7-Trihydroxyanthraquinone T-00271

1,2,7-Trihydroxy-9,10-anthracenedione, 9CI. Anthrapurpurin. Isopurpurin

[602-65-3]

$C_{14}H_8O_5$ M 256.214

Used for photometric detn. of Ca, Mg. Orange needles (EtOH). Sol. alkalis; spar. sol. Et_2O, H_2O; insol. C_6H_6. Mp 369°. Bp 462° part. dec., Subl. 170°. Violet soln. in alkali, reddish-brown in H_2SO_4.

Tri-Ac:
$C_{20}H_{14}O_8$ M 382.326
Pale yellow. Mod. sol. AcOH, spar. sol. EtOH. Mp 223°.

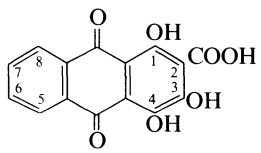
Tri-Me ether: 1,2,7-Trimethoxyanthraquinone
$C_{17}H_{14}O_5$ M 298.295
Yellow needles (EtOH). Spar. sol. EtOH, sol. $CHCl_3$, C_6H_6. Mp 201°.

Perkin, A.G., *J. Chem. Soc.*, 1880, **37**, 554; 1928, 229.
Offerman, H., *Justus Liebigs Ann. Chem.*, 1894, **280**, 1.
Nolting, E. *et al*, *Ber.*, 1906, **39**, 642.
Grandmougin, E., *C. R. Hebd. Seances Acad. Sci.*, 1921, **173**, 1176.
Bloom, H. *et al*, *J. Chem. Soc.*, 1959, 178 (*ir*)
Capitan, F. *et al*, *Inf. Quim. Anal.*, 1968, **22**, 65 (*use, detn, Ca*)
Roman Ceba, M. *et al*, *Anal. Lett.*, 1977, **120**, 907 (*detn, Mg*)

1,3,4-Trihydroxyanthraquinone-2-carboxylic acid T-00272

9,10-Dihydro-1,3,4-trihydroxy-9,10-dioxo-2-anthracenecarboxylic acid, 9CI. 9,10-Dihydro-1,3,4-trihydroxy-9,10-dioxo-2-anthroic acid, 8CI. ***Pseudopurpurin.*** *Purpurin-3-carboxylic acid. 1,2,4-Trihydroxy-3-anthraquinonecarboxylic acid*

[476-41-5]



$C_{15}H_8O_7$ M 300.224

Present in *Rubia tinctorum* (madder root) and tissue cultures of *Galium mollugo*. Also in *R. cordifolia*, *Relbunium antherodes* and *Galium* spp. Used in manuf. of acid and chrome dyes. Used as 0.25m*M* soln. in 9*M* H_2SO_4 for fluorimetric detn. of $BrO_3^{\ominus}$ (λ_{max} 585 nm); as 0.25*M* soln. in EtOH for photometric detn. of $BrO_3^{\ominus}$ (λ_{max} 520 nm), $IO_3^{\ominus}$ (λ_{max} 520 nm), Pd (λ_{max} 670 nm, ε 77000). Red leaflets (EtOH). Cryst. Sol. alkalis; sl. sol. H_2O. Mp 222-224° dec.

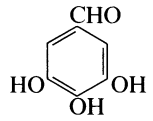
O^4-*Primeveroside:* [517-75-9]. ***Galiosin.*** *Galicide*
$C_{26}H_{26}O_{16}$ M 594.482
Constit. of *Rubia tinctorum*, *R. peregrina* (*Galium verum*), *Crucianella maritima* and *Relbunium* spp. Bright-yellow needles + $6H_2O$ (H_2O). Mp >100° dec.

Hill, R. *et al*, *J. Chem. Soc.*, 1936, 1714 (*Galiosin, struct, synth*)
Hirose, Y. *et al*, *Chem. Pharm. Bull.*, 1968, **16**, 1377 (*synth*)
Burnett, A.R. *et al*, *J. Chem. Soc. C*, 1968, **19**, 2437 (*biosynth*)
Berg, W. *et al*, *Pharmazie*, 1975, **30**, 330 (*isol, synth, ir, ms, pmr*)
Bauch, H.J. *et al*, *Planta Med.*, 1978, **33**, 105 (*isol, biosynth*)
Roman Ceba, M. *et al*, *An. Quim., Ser. B*, 1984, **80**, 332 (*detn, $IO_3^{\ominus}$*)
Roman Ceba, M. *et al*, *Microchem. J.*, 1984, **29**, 19, 275 (*detn, $BrO_3^{\ominus}$, Pd*)
Salinas, F. *et al*, *Mikrochim. Acta*, 1984, **2**, 75 (*detn, $BrO_3^{\ominus}$*)

3,4,5-Trihydroxybenzaldehyde, 9CI T-00273

Gallaldehyde. Gallic aldehyde

[13677-79-7]



$C_7H_6O_4$ M 154.122

Constit. of the fungus *Boletus scaber*. Cryst. + $1H_2O$ (H_2O). Mp 212° dec. (rapid heat).

Tri-Ac:
$C_{13}H_{12}O_7$ M 280.234
Mp 107-108°.

Oxime: [53148-14-4].
$C_7H_7NO_4$ M 169.137
Mp 195-200°.

2,4-Dinitrophenylhydrazone: [13677-81-1].
Red needles (EtOH). Mp 315°.

3-Me ether: [3934-87-0]. *3,4-Dihydroxy-5-methoxybenzaldehyde*
$C_8H_8O_4$ M 168.149
Needles (C_6H_6). Mp 130-131°.
▷ CU5620000.

4-Me ether: [29865-85-8]. *3,5-Dihydroxy-4-methoxybenzaldehyde*
$C_8H_8O_4$ M 168.149
Mp 139-140°.

3,4-Di-Me ether: [29865-90-5]. *3-Hydroxy-4,5-dimethoxybenzaldehyde*
$C_9H_{10}O_4$ M 182.176
Mp 70-72°. $Bp_{0.5}$ 140°.

3,5-Di-Me ether: [134-96-3]. *4-Hydroxy-3,5-dimethoxybenzaldehyde. Syringic aldehyde. Syringaldehyde. Cedar aldehyde*
$C_9H_{10}O_4$ M 182.176
Widespread in woods and wood products, eg. sulfite liquor, maple syrup. A degradn. prod. of lignin. Reagent for the spectrophotometric anal. of aromatic amines.
Mp 113-114°. Bp_{14} 192-193°.
▷ CU5760000.

3,5-Di-Me ether, oxime: [5032-13-3].
Mp 91°.
▷ CU5770000.

Tri-Me ether: [86-81-7]. *3,4,5-Trimethoxybenzaldehyde*
$C_{10}H_{12}O_4$ M 196.202
Isol. from oil of *Cymbopogon* spp. and *Libanotis transcaucasica*. Needles (H_2O). Mp 78°. Bp_{10} 163-165°.

Tri-Me ether, oxime: [39201-89-3].
$C_{10}H_{13}NO_4$ M 211.217
Mp 83-84°. Bp_{10} 198-200°.

Tri-Me ether, 2,4-dinitrophenylhydrazone: Cryst. (AcOH). Mp 246°.

4-O-β-D-Glucopyranoside: [67783-19-1]. *Neocrenatin. MP-10*
$C_{13}H_{16}O_9$ M 316.264
Prod. of enzymic hydrol. of Neocretanin. Hygroscopic powder.

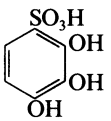
3-O-[6-O-(3,4,5-Trihydroxybenzoyl)-β-D-glucopyranoside]: [115355-99-2]. ***Castamollissin***
$C_{20}H_{20}O_{13}$ M 468.370

Isol. from the leaves of *Castanea mollissima*. Needles + $2H_2O$ (H_2O). Mp 209-211°. $[\alpha]_D^{20}$ −58.8° (c, 1.06 in Me_2CO aq.).

Rosenmund, K.W. *et al*, *Ber.*, 1918, **51**, 594; 1922, **55**, 2357.
Nierenstein, M., *J. Prakt. Chem.*, 1932, **132**, 200 (*bibl*)
Buchanan, G.L. *et al*, *J. Chem. Soc.*, 1944, 322.
Pearl, I.A., *J. Org. Chem.*, 1957, **22**, 1229.
Edwards, R.L. *et al*, *J. Chem. Soc. C*, 1967, 410 (*isol*)
Org. Synth., 1971, **51**, 8 (*deriv*)
Battersby, A.R. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1972, 1730.
Hansson, C. *et al*, *Synthesis*, 1976, **3**, 191.
Ozawa, T. *et al*, *Agric. Biol. Chem.*, 1977, **41**, 1257; 1978, **42**, 1213 (*Neocrenatin*)
Schwartz, A. *et al*, *J. Org. Chem.*, 1982, **47**, 2213 (*synth*)
Rao, D.V. *et al*, *Synthesis*, 1983, 308 (*synth*)
Sastry, C.S.P. *et al*, *J. Indian Chem. Soc.*, 1986, **63**, 1009 (*use, syringaldehyde*)
Feng, H. *et al*, *Phytochemistry*, 1988, **27**, 1185 (*Castamollissin*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DOF600.

2,3,4-Trihydroxybenzenesulfonic acid, 9CI T-00274

Pyrogallol-4-sulfonic acid



$C_6H_6O_6S$ M 206.176

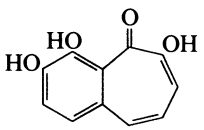
Na salt: [49792-10-1].
Used as 2% aq. soln. for photometric detn. of Nb, Ta, Ti (λ_{max} 360 nm, ε 12200). Cryst. Sol. H_2O.

Horak, J. *et al*, *Collect. Czech. Chem. Commun.*, 1963, **28**, 2563 (*synth, detn, Nb, Ta*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 1283 (*detn, Ti*)

3,4,6-Trihydroxy-5*H*-benzocyclohepten-5-one, 8CI T-00275

3',4'-Dihydroxybenzotropolone

[947-60-4]



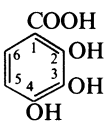
$C_{11}H_8O_4$ M 204.182
Gives colour reaction with Mo, Th, U(*VI*), Zr. Dark red needles. Mp 189-190°.

Dutt, Y. *et al*, *Indian J. Chem.*, 1963, **1**, 471 (*detn, Zr*)
Dutt, Y. *et al*, *Talanta*, 1969, **16**, 1369 (*synth, detn, Mo, Th, Zr*)

2,3,4-Trihydroxybenzoic acid, 9CI T-00276

Pyrogallol-4-carboxylic acid

[610-02-6]



$C_7H_6O_5$ M 170.121
Used as 0.5 - 1% aq. soln. for extraction-photometric detn. of Ti (in the presence of antipyrine), Ge; gravimetric detn. of Ge. Needles + H_2O (H_2O). Mp 207-208° dec.

Me ester: [56128-66-6].
$C_8H_8O_5$ M 184.148
Needles + $2\frac{1}{2}$ H_2O (H_2O). Mp 151-152°.

Et ester:
$C_9H_{10}O_5$ M 198.175
Cryst. + $1H_2O$ (H_2O). Mp 102° (anhyd.).

Tri-Ac:
$C_{13}H_{12}O_8$ M 296.233
Prisms (xylene). Mp 164°.

Bane, O. *et al*, *J. Org. Chem.*, 1954, **19**, 510 (*synth*)
Weygand, F. *et al*, *Chem. Ber.*, 1957, **90**, 1879 (*synth*)
Cooke, R.G. *et al*, *Aust. J. Chem.*, 1969, **22**, 2395 (*deriv*)
Busev, A.I. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 1781 (*detn, Ti*)
Sagaradze, G.P. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1009 (*detn, Ge*)

3,4,5-Trihydroxybenzoic acid T-00277

Gallic acid

[149-91-7]

$C_7H_6O_5$ M 170.121
Isol. by Scheele in 1786 from fermented galls. Occurs in many tannins. Specific flowering inhibitor in leaves of *Kalenchoe bloesfeldiana*. Used in tanning, as anal. reagent and photographic developer. Astringent. Used as 2% soln. in Me_2CO for photometric detn. of Nb (in the presence of aniline), Th, Ti, Ce, Cu. Needles (MeOH or $CHCl_3$), cryst. + $1H_2O$ (H_2O). Sol. Me_2CO, EtOH; spar. sol. H_2O; insol. C_6H_6, $CHCl_3$. Mp 253° dec., Mp 235-240° , 225°. pK_{a1} 3.13; pK_{a2} 8.84; pK_{a3} 12.4 (20°, 0.1*M* KNO_3).

▷ LW7525000.

Me ester: [99-24-1]. *Methyl gallate. Gallicin*
$C_8H_8O_5$ M 184.148
Found in *Koelerenteria paniculata*. Mp 157°. pK_{a1} 7.88 (25°, 0.1*M* KNO_3).

▷ LW8000000.

Propyl ester: [121-79-9]. *Propyl gallate*
$C_{10}H_{12}O_5$ M 212.202
Antioxidant used in food flavouring. Used as a 0.1*M* soln. in aq. Me_2CO for photometric detn. of Nb. Cryst. Sol. Me_2CO, 2-butanol. Mp 150°.

▷ LW8400000.

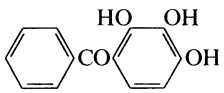
Dodecyl ester: [1166-52-5]. *Dodecyl gallate*
$C_{19}H_{30}O_5$ M 338.443
Used for gravimetric detn. of U. Sol. EtOH, Me_2CO.

Welcher, J.F., *Organic Analytical Reagents*, van Nostrand, N.Y., 1947, **1**, 200 (*use*)
Takahashi, T. *et al*, *Agric. Biol. Chem.*, 1966, **30**, 617 (*isol, deriv*)
Mishra, R.K. *et al*, *Indian J. Appl. Chem.*, 1968, **31**, 233; *CA*, **71**, 77046t (*dodecyl ester, detn, U*)
Jasim, F., *Talanta*, 1970, **17**, 103 (*propyl ester, detn, Nb*)
Ali-Zade, T.D. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 739 (*detn, Nb*)
Shipchandler, M.T. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1975, 1400 (*synth*)
Rodd's Chem. Carbon Compd. (2nd Ed.), IIID, 1976, 193 (*bibl*)
Reddy, K.A., *Indian J. Chem.*, 1978, **12**, 35 (*synth, use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DXX200, GBE000, MKI100, PNM750.

2,3,4-Trihydroxybenzophenone, 8CI T-00278

(2,3,4-Trihydroxyphenyl)phenylmethanone, 9CI. Gallobenzophenone. 4-Benzoylpyrogallol. Alizaric yellow A

[1143-72-2]



$C_{13}H_{10}O_4$ M 230.220
Used as 0.2% EtOH soln. for photometric detn. of Mo. Yellow needles (EtOH aq.). Sol. EtOH. Mp 140-141°.

Tri-Ac:
$C_{19}H_{16}O_7$ M 356.331
Mp 117-118°.
Tri-Ac, oxime:
$C_{19}H_{17}NO_7$ M 371.346
Mp 130°.
4-Me ether: [35836-41-0]. *2,3-Dihydroxy-4-methoxybenzophenone*
$C_{14}H_{12}O_4$ M 244.246
Cryst. (MeOH). Mp 167.5-168.5°.

Phadke, R. *et al*, *J. Indian Chem. Soc.*, 1950, **27**, 349 (*synth*)
Klemm, L.H. *et al*, *J. Org. Chem.*, 1959, **24**, 952 (*deriv*)
Price, P. *et al*, *J. Org. Chem.*, 1964, **29**, 2800 (*synth*)
Popa, G. *et al*, *Chim. Anal.* (*Bucharest*), 1971, **1**, 215 (*detn, Mo*)
Popa, G. *et al*, *Mikrochim. Acta*, 1972, 883 (*detn, Mo*)

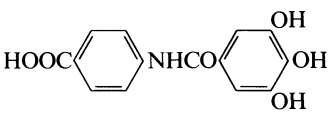
2,4,4′-Trihydroxybenzophenone, 8CI T-00279

(2,4-Dihydroxyphenyl)(4-hydroxyphenyl)methanone, 9CI
[1470-79-7]
$C_{13}H_{10}O_4$ M 230.220
Used as EtOH soln. for fluorimetric detn. of B (λ_{max} 426 nm) and Te(*IV*). Yellow needles (H_2O). Sol. EtOH; sl. sol. H_2O. Mp 200°.
Tri-Ac:
$C_{19}H_{16}O_7$ M 356.331
Needles (H_2O). Mp 96-98°.
4-Me ether: [33257-86-2]. *2,4′-Dihydroxy-4-methoxybenzophenone*
$C_{14}H_{12}O_4$ M 244.246
Yellow cryst. (EtOH). Mp 200°.
4′-Me ether: [5298-27-1]. *2,4-Dihydroxy-4′-methoxybenzophenone*
$C_{14}H_{12}O_4$ M 244.246
Cryst. (EtOH). Mp 158-159°.
Tri-Me ether: [4038-15-7]. *2,4,4′-Trimethoxybenzophenone*
$C_{16}H_{16}O_4$ M 272.300
Needles (EtOH). Mp 73-74°.

Komarowski, A. *et al*, *Ber.*, 1894, **27**, 1997.
Usgaonkar, U.R., *J. Indian Chem. Soc.*, 1963, **40**, 27.
Ray, S. *et al*, *Indian J. Chem.*, 1971, **9**, 619.
Bovay, M. *et al*, *Anal. Chim. Acta*, 1975, **80**, 180 (*detn, B*)
Prashad, M. *et al*, *Indian J. Chem., Sect. B*, 1978, **16**, 142.

4-[(3,4,5-Trihydroxybenzoyl)amino]benzoic acid, 9CI T-00280

p-*Carboxygallanilide*
[35388-09-1]

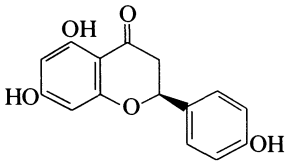


$C_{14}H_{11}NO_6$ M 289.244
Used as a 1.5% soln. in EtOH for photometric detn. of Ti(*IV*), Mo. Cryst. powder. Sol. EtOH, Me_2CO, dioxan; spar. sol. H_2O. Mp 287-289°.

Slusarev, A.G. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1960, **26**, 364 (*synth*)
Pashchenko, E.N. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 400 (*detn, Mo, Ti*)

4′,5,7-Trihydroxyflavanone T-00281

Naringenin. *Floribundigenin. Naringetol. Salipurpol. BE 14348A. Antibiotic BE 14348A*
[67604-48-2]



(*S*)-*form*

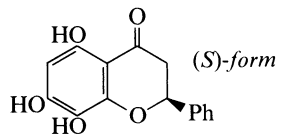
$C_{15}H_{12}O_5$ M 272.257
(***S*)-*form*** [480-41-1]
Most widely distributed flavanone, found in the Compositae, Labiatae, Theaceae, Chrysobalanaceae, Leguminosae, Solanaceae, Cactaceae, Coniferae, Salicaceae, Acanthaceae, Verbenaceae, Anacardiaceae, Athyriaceae, Capparaceae, Dilleniaceae, Dryopteridaceae, Equisetaceae, Lauraceae, Meliaceae, Pinaceae, Myrtaceae, Cruciferae, Balanophoraceae, and Fagaceae. Also prod. by *Streptomyces graminofaciens*. Antagonist to gibberellins in dormant peach buds. Used as 0.5% soln. in EtOH for photometric detn. of Al, Be, Cu, F, Sb, Sn, Fe, Zr, Th, Bi, Pb. Yellowish cryst. Sol. EtOH, alkalis; sl. sol. H_2O. Mp 250-251° (227-228°). $[\alpha]_D^{27}$ −22.5° (MeOH). Originally isol. in 1907 but incorr. descr. as a chalcone.

[13238-06-7, 17257-04-4, 18196-14-0, 23711-00-4, 26207-67-0, 58001-41-5, 61823-56-1, 66074-95-1, 102101-05-3]

Phillips, D.J., *J. Exp. Bot.*, 1962, **13**, 213 (*use*)
Korkuć, A., *Wiad. Chem.*, 1969, **23**, 345; *CA*, **71**, 56224j (*rev*)
Gaffield, W., *Tetrahedron*, 1970, **26**, 4093 (*ord, abs config*)
Nevskaya, A.N. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 1699 (*use*)
Markham, K.R. *et al*, *Tetrahedron*, 1976, **32**, 2607 (*cmr*)
Wenkert, E. *et al*, *Phytochemistry*, 1977, **16**, 1811 (*nmr*)
Shin, W. *et al*, *Acta Crystallogr., Sect. C*, 1986, **42**, 626 (*cryst struct*)

5,7,8-Trihydroxyflavanone T-00282

*2,3-Dihydro-5,7,8-trihydroxy-2-phenyl-4*H*-1-benzopyran-4-one. Dihydronorwogonin*



$C_{15}H_{12}O_5$ M 272.257
(S)*-*form
7-O-Glucuronopyranoside:
$C_{21}H_{20}O_{11}$ M 448.382
Isol. from *Scutellaria galericulata*. Used as EtOH soln. for photometric detn. of U; analytical reactions with some metals. Sol. EtOH.

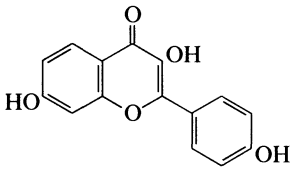
[64551-85-5, 75041-39-3]

Chopin, J. *et al*, *Bull. Soc. Chim. Fr.*, 1957, 192 (*isol*)
Massicot, J. *et al*, *Bull. Soc. Chim. Fr.*, 1962, 1962 (*pmr*)
Katyal, M., *Talanta*, 1968, **15**, 95 (*detn, U*)
Korkuć, A., *Wiad. Chem.*, 1969, **23**, 345; *CA*, **71**, R56224j (*reactions*)
Popova, T.P. *et al*, *Rastit. Resur.*, 1976, **12**, 232.
Vieira, P.C. *et al*, *Planta Med.*, 1980, **39**, 153 (*derivs*)
Rani, I., *Indian J. Chem., Sect. B*, 1987, **26**, 1080 (*synth*)

3,4′,7-Trihydroxyflavone T-00283

3,7-Dihydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one. 4′,7-Dihydroxyflavonol. ***Resokaempferol.*** *5-Deoxykaempferol*

[2034-65-3]



$C_{15}H_{10}O_5$ M 270.241

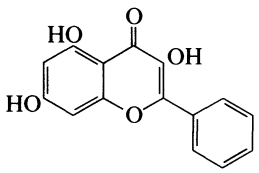
Isol. from *Schinopsis lorentzii, Cicer arietinum, Rhus succedanea* and others. Used for fluorimetric detn. of Th. Light-yellow needles (EtOH or AcOH aq.). Mp 310° (304-306°).

Kirby, K.S. *et al, Biochem. J.*, 1955, **60**, 582 (*isol, struct, synth*)
Feik, F. *et al, Mikrochim. Acta*, 1967, 900 (*detn, Th*)
Holzbecher, Z., *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976.

3,5,7-Trihydroxyflavone, 8CI T-00284

3,5,7-Trihydroxy-2-phenyl-4H-1-benzopyran-4-one, 9CI. 5,7-Dihydroxyflavonol. ***Galangin.*** *Norizalpinin*

[548-83-4]



$C_{15}H_{10}O_5$ M 270.241

Constit. of Galanga root (*Alpinia officinarum*) and many other plants. Used as 0.1m*M* EtOH soln. for photometric detn. of U (λ_{max} 450 nm), Zr (λ_{max} 410 nm, pH 4.5), Th (λ_{max} 410 nm). Yellow needles (EtOH). Sol. EtOH, MeOH. Mp 214-215°, Mp 217-218°.

▷ LK9275500.

Tri-Ac: Mp 142°.

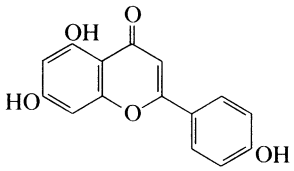
[19184-08-8]

Chavan, J.J. *et al, J. Chem. Soc.*, 1933, 368 (*synth*)
Khimura, *et al, Yakugaku Zasshi*, 1935, **55**, 229 (*isol*)
Katyal, M. *et al, J. Indian Chem. Soc.*, 1962, **39**, 585; 1963, **40**, 121 (*detn, U, Th*)
Katyal, M. *et al, Proc. - Indian Acad. Sci., Sect. A*, 1963, **57**, 259 (*detn, Zr*)
Batterham, T.J. *et al, Aust. J. Chem.*, 1964, **17**, 428 (*pmr*)
Nevskaya, E.M. *et al, Zh. Anal. Khim.*, 1972, **27**, 1899 (*detn, Al, Be, Ti, U, Zr*)
Chawla, H.M. *et al, Tetrahedron Lett.*, 1976, 2171 (*synth, uv*)
Gaydou, E.M. *et al, Ann. Chim. (Paris)*, 1977, **2**, 303 (*synth, uv, cmr*)
Wenkert, E. *et al, Phytochemistry*, 1977, **16**, 1811 (*cmr*)
Looker, J.H. *et al, J. Org. Chem.*, 1978, **43**, 2344 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, GAZ000.

4′,5,7-Trihydroxyflavone T-00285

5,7-Dihydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one, 9CI. ***Apigenin***

[520-36-5]



$C_{15}H_{10}O_5$ M 270.241

Found free or as glycosides in the stems, roots, leaves, seeds or fruit of a very wide range of plant spp. Found also in some fossil leaf tissues. Used as EtOH soln. for photometric detn. of Al (λ_{max} 380 nm, ε 23000) rare earth elements, Be, Zr, Cd. Yellow needles (Py aq.). Sol. EtOH, MeOH. Mp 352°.

▷ LK9276000.

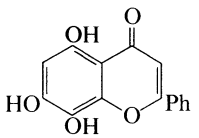
[14134-41-9, 41375-89-7, 88083-10-7]

Batterham, T.J. *et al, Aust. J. Chem.*, 1964, **17**, 428 (*pmr*)
Nowicka-Jankowska, T. *et al, Chem. Anal. (Warsaw)*, 1965, **10**, 129 (*detn, Al, rare earths*)
Nevskaya, E.M. *et al, Zh. Anal. Khim.*, 1972, **27**, 1699 (*detn, Al, Be, Zr, Cd*)
Wagner, H. *et al, Tetrahedron Lett.*, 1976, 1799 (*cmr*)
Srivastava, S. *et al, Indian J. Chem., Sect. B*, 1987, **26**, 57 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CDH250.

5,7,8-Trihydroxyflavone T-00286

5,7,8-Trihydroxy-2-phenyl-4H-1-benzopyran-4-one, 9CI. ***Norwogonin***

[4443-09-8]



$C_{15}H_{10}O_5$ M 270.241

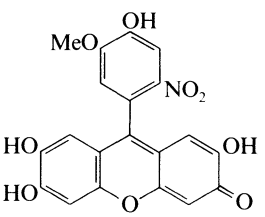
Isol. from the roots of *Scutellaria* spp. Used as soln. in EtOH aq. for photometric detn. of U and Th (at pH 2.7-3.9 and 2.7-5.0). Yellow prisms (EtOH). Sol. EtOH, MeOH. Mp 258-260°.

Shah, R.C. *et al, J. Chem. Soc.*, 1938, 1555 (*synth, derivs*)
Rao, K.V. *et al, Proc. Indian Acad. Sci., Sect A*, 1947, **25A**, 427; 1949, **30A**, 340 (*synth*)
Pillon, D., *Bull. Soc. Chim. Fr.*, 1954, 9 (*synth*)
Katyal, M. *et al, J. Indian Chem. Soc.*, 1963, **40**, 191 (*detn, U, Th*)
Goudard, M. *et al, Phytochemistry*, 1979, **18**, 186 (*ms*)
Iinuma, M. *et al, Chem. Pharm. Bull.*, 1980, **28**, 708 (*cmr*)

2,6,7-Trihydroxy-9-(4-hydroxy-5-methoxy-2-nitrophenyl)-3*H*-xanthen-3-one, 9CI T-00287

9-(4-Hydroxy-3-methoxy-6-nitrophenyl)fluorone. Nitrovanillylfluorone

[37569-52-1]



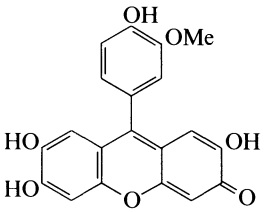
$C_{20}H_{13}NO_9$ M 411.324
Used as 0.05% EtOH soln. for photometric detn. of Al (λ_{max} 535 nm, ε 29000), Ga, In, Sn, Sb, Nb. Cryst. Sol. EtOH.

Biryuk, E.E. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 459 (*detn, Al*)
Nazarenko, V.A., *Trihydroxyfluorones*, Nauka, Moscow, 1973 (*use*)

2,6,7-Trihydroxy-9-(4-hydroxy-3-methoxyphenyl)-3*H*-xanthen-3-one, 9CI T-00288

Vanillylfluorone

[6098-77-7]



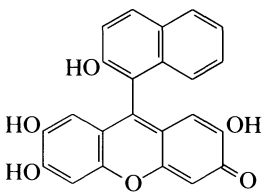
$C_{20}H_{14}O_7$ M 366.326
Used as 1m*M* EtOH soln. for photometric detn. of Ge (ε 24000), Al, Ga, Sn, Sb, Mo. Cryst. Sol. EtOH.

Nazarenko, V.A. *et al*, *Zavod. Lab.*, 1959, **25**, 899 (*detn, Ge*)
Shustova, M.B. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 964 (*detn, Mo*)
Nazarenko, V.A. *et al*, *Trihydroxyfluorones*, Izd. Nauka, Moscow, 1973 (*synth, use*)

2,6,7-Trihydroxy-9-(2-hydroxy-1-naphthalenyl)-3*H*-xanthen-3-one, 9CI T-00289

2-Hydroxy-1-naphthylfluorone

[6098-78-8]



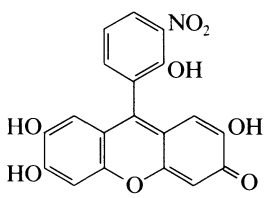
$C_{23}H_{14}O_6$ M 386.360
Used as 1m*M* EtOH soln. for photometric detn. of Al, Ga, Ge, Sn, Zr, Mo. Red cryst. Sol. EtOH, Me_2CO.

Shustova, M.B. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 964 (*detn, Mo*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1968, **23**, 1332 (*detn, Zr*)
Nazarenko, V.A. *et al*, *Trihydroxyfluorones*, Izd. Nauka, Moscow, 1973 (*synth, use*)

2,6,7-Trihydroxy-9-(2-hydroxy-3-nitrophenyl)-3*H*-xanthen-3-one, 9CI T-00290

3-Nitrosalicylfluorone

[6098-84-6]



$C_{19}H_{11}NO_8$ M 381.298
Used as 0.05% EtOH soln. for photometric detn. of Al, In, Ge, Sn, Sb, Nb, W; as 1m*M* EtOH soln. for photometric detn. of V(*IV*) (λ_{max} 556 nm, ε 33000). Cryst. (EtOH). Sol. EtOH.

Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1955, **10**, 289.
Nazarenko, V.A. *et al*, *Trihydroxyfluorones*, Nauka, Moscow, 1973.
Antonovich, V.P. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 289 (*detn, V*)

2,6,7-Trihydroxy-9-(2-hydroxy-5-nitrophenyl)-3*H*-xanthen-3-one, 9CI T-00291

2-Hydroxy-5-nitrophenylfluorone

[6098-85-7]

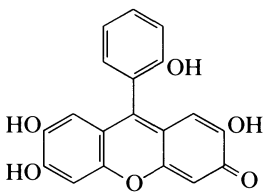
$C_{19}H_{11}NO_8$ M 381.298
Used as 1m*M* EtOH soln. for photometric detn. of V(*IV*) (λ_{max} 560 nm, ε 33000, 30% EtOH, pH 4-6). Cryst. (EtOH). Sol. EtOH.

Antonovich, V.P. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 289 (*detn, V*)

2,6,7-Trihydroxy-9-(2-hydroxyphenyl)-3*H*-xanthen-3-one, 9CI T-00292

Salicylfluorone

[3569-82-2]



$C_{19}H_{12}O_6$ M 336.300
Used as 2m*M* EtOH soln. acidified with HCl for extraction-photometric detn. of Ge (λ_{max} 530 nm, ε 120000), V (λ_{max} 528 nm, ε 42000, pentanol/$CHCl_3$), Sb, Mo, Sn, Ti, Ta, W, Te. Orange cryst. Sol. alkalis; sl. sol. EtOH.

Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1979, **34**, 2359; 1981, **36**, 1351 (*detn, Te, V*)
Antonovich, V.P. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 2197 (*detn, W*)
Amelin, V.G. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 1446; 1984, **39**, 1436 (*detn, Ta, Ge*)

2,6,7-Trihydroxy-9-(3-hydroxyphenyl)-3*H*-xanthen-3-one, 9CI T-00293

3-Hydroxyphenylfluorone

[40636-55-3]

$C_{19}H_{12}O_6$ M 336.300
Used as 1m*M* EtOH soln. to give colour reactions with Sb and other metals. Red cryst. Sol. EtOH, MeOH, Me_2CO.

Gillis, J., *Anal. Chim. Acta*, 1953, **8**, 97 (*use*)
Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1965, **208**, 189 (*detn, Sb*)
Nazarenko, V.A. *et al*, *Trihydroxyfluorones*, Izd. Nauka, Moscow, 1973 (*synth, use*)

2,6,7-Trihydroxy-9-(4-hydroxyphenyl)-3*H*-xanthen-3-one, 9CI T-00294

4-Hydroxyphenylfluorone

[6098-76-6]

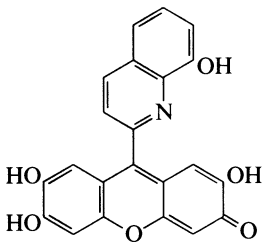
$C_{19}H_{12}O_6$ M 336.300
Used as 1m*M* EtOH soln. to give colour reactions with Sb and other metals. Red cryst. Sol. EtOH, MeOH, Me_2CO.

Gillis, J., *Anal. Chim. Acta*, 1953, **8**, 97 (*use*)
Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1965, **208**, 189 (*detn, Sb*)
Nazarenko, V.A. *et al*, *Trihydroxyfluorones*, Izd. Nauka, Moscow, 1973 (*synth, use*)

2,6,7-Trihydroxy-9-(8-hydroxy-2-quinolinyl)-3*H*-xanthen-3-one, 9CI T-00295

8-Hydroxyquinolylfluorone

[54267-83-3]



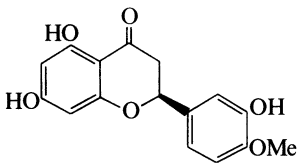
$C_{22}H_{13}NO_6$ M 387.348

Used as 1m*M* EtOH soln. for photometric detn. of V(*IV*) (λ_{max} 565 nm, ε 19000, 30% EtOH, pH 4.5-6.0). Cryst. (EtOH). Sol. EtOH.

Antonovich, V.P. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 289 (*detn, V*)

3′,5,7-Trihydroxy-4′-methoxyflavanone T-00296

2,3-Dihydro-5,7-dihydroxy-2-(3-hydroxy-4-methoxyphenyl)-4H-1-benzopyran-4-one, 9CI. 5,7,3′-Trihydroxy-4′-methoxyflavanone. ***Hesperetin.*** *Hesperitin*



$C_{16}H_{14}O_6$ M 302.283

(S)-form [520-33-2]

Isol. from *Brickellia vernicosa*, *Persica vulgaris*, *Citrus* and *Mentha* spp. Used as 0.01*M* MeOH soln. for fluorimetric detn. of Al; photometric detn. of U(*VI*), Fe(*III*), Be, Cd, Sb, Th, Zr. Plates (EtOH). Sol. EtOH, alkalis. Mp 228-230°. $[\alpha]_D^{27}$ −37.6° (c, 1.8 in EtOH).

Tri-Ac: Mp 130-132°. $[\alpha]_D^{26}$ +21.1° (c, 1.28 in $CHCl_3$).

(±)-form [41001-90-5]

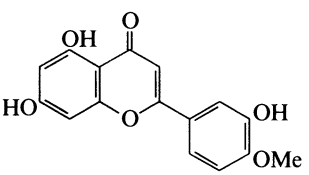
Prisms (EtOH). Mp 226-228°.

Bognar, R. *et al*, *Ber.*, 1942, **75**, 1043; 1943, **76**, 773 (*synth*)
Arakawa, H. *et al*, *Justus Liebigs Ann. Chem.*, 1961, **636**, 111 (*struct, abs config*)
Batterham, T.J. *et al*, *Aust. J. Chem.*, 1964, **17**, 428 (*pmr*)
Golovina, P.A. *et al*, *Zh. Anal. Khim.*, 1966, **21**, 163 (*detn, Al*)
Korkuć, A., *Chem. Anal.* (*Warsaw*), 1970, **15**, 441 (*detn, Fe*)
Nevskaya, E.M. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 1699 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, HBU000.

3′,5,7-Trihydroxy-4′-methoxyflavone T-00297

Diosmetin. *Salinigricoflavonol. Vitamin P*

[520-34-3]



$C_{16}H_{12}O_6$ M 300.267

Isol. from aerial parts of *Valeriana* spp., leaves of *Digitalis* spp., peel of *Citrus limon* and others. Used as 0.01*M* soln. in MeOH for photometric detn. of Fe(*III*) (λ_{max} 480 nm, ε 14000, pH 6.5). Pale-yellow cryst. (EtOH). Sol. MeOH, EtOH. Mp 258-259° (250-253°), Mp 228-230°.

7-O-*Rutinoside:* [520-27-4]. ***Diosmin,*** **INN.** *Barosmin. Daflon. Ven-Detrex. Salinigricoflavonoloside*

$C_{28}H_{32}O_{15}$ M 608.552

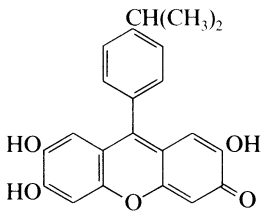
Isol. from *Zanthoxylum avicennae*, *Diosma crenulata* and others, first isol. from parsley. Bioflavonoid used medicinally. Antihaemorrhagic, venotonic. Fine needles + $1H_2O$ (Py aq.). Mp 280° dec. (*in vacuo*).

Narasimhachari, N. *et al*, *Proc. - Indian Acad. Sci., Sect. A*, 1950, **32**, 17 (*synth*)
Pankajamani, K.S. *et al*, *J. Indian Chem. Soc.*, 1954, **31**, 565 (*synth*)
Rösler, H. *et al*, *J. Org. Chem.*, 1965, **30**, 4346 (*pmr*)
Korkuć, A., *Pol. J. Chem.* (*Rocz. Chem.*), 1969, **43**, 9 (*detn, Fe*)
Korkuć, A., *Chem. Anal.* (*Warsaw*), 1970, **15**, 44 (*detn, Fe*)
Wagner, H. *et al*, *Tetrahedron Lett.*, 1976, 1799 (*cmr*)

2,6,7-Trihydroxy-9-[4-(1-methylethyl)phenyl]-3*H*-xanthen-3-one, 9CI T-00298

4-Isopropylphenylfluorone

[72007-64-8]



$C_{22}H_{18}O_5$ M 362.381

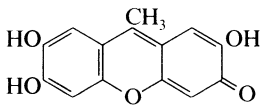
Used as 0.02m*M* MeOH soln. for photometric detn. of Ge, Sn(*IV*), Ti, Pb, Cu and U(*VI*). Cryst. Sol. MeOH, EtOH; sl. sol. H_2O.

Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1979, **298**, 150 (*synth, use*)

2,6,7-Trihydroxy-9-methyl-3*H*-xanthen-3-one, 9CI T-00299

Methylfluorone

[5407-46-5]



$C_{14}H_{10}O_5$ M 258.230

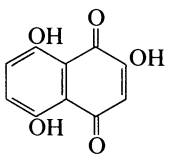
Used as soln. in EtOH/dil. H_2SO_4 mixture for photometric detn. of Sb (λ_{max} 350 nm, ε 40000), Mo, Ti, Zr. Cryst. (EtOH). Sol. EtOH, MeOH.

Majumdar, A.K. *et al*, *Anal. Chim. Acta*, 1960, **22**, 158 (*detn, Mo*)
Majumdar, A.K. *et al*, *Fresenius' Z. Anal. Chem.*, 1961, **178**, 352 (*detn, Zr*)
Meyer, S. *et al*, *Fresenius' Z. Anal. Chem.*, 1961, **179**, 175 (*detn, Sb*)
Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1963, **197**, 413 (*detn, Ti*)

2,5,8-Trihydroxy-1,4-naphthoquinone T-00300

Naphthopurpurin

[13379-22-1]



$C_{10}H_6O_5$ M 206.154

Isol. from *Pseudomonas putida*. Used as a 0.2% aq. soln. as a metallochromic indicator for titrimetric detn. of Th. Red needles (C_6H_6), brown leaflets. Sol. hot H_2O. Mp 205-210° dec. Potentially tautomeric but the 2,5,8-tri-OH-form greatly predominates.

Tri-Ac: [78226-66-1].
$C_{16}H_{12}O_8$ M 332.266
Cryst. (MeOH). Mp 164°.

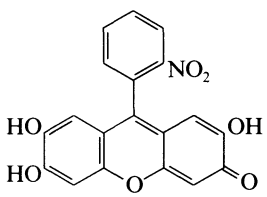
2-Me ether: [14918-66-2]. *2-Methoxy-5,8-dihydroxy-1,4-naphthoquinone*
$C_{11}H_8O_5$ M 220.181
Mp 179°.

Ger. Pat., 167 641, (1906); *Chem. Zentralbl.*, 1906, **1**, 1126.
Dimroth, O. *et al*, *Justus Liebigs Ann. Chem.*, 1927, **456**, 177.
Fieser, L.F., *J. Am. Chem. Soc.*, 1928, **50**, 439; 1937, **59**, 1076 (*synth*)
Lugg, J.W.H. *et al*, *J. Chem. Soc.*, 1937, 1597.
Kato, T. *et al*, *CA*, 1960, **54**, 11849 (*use*)
Lewis, J.R. *et al*, *Z. Naturforsch., B*, 1977, **32**, 1473 (*synth, pmr, tautom*)
Bekaert, A. *et al*, *Bull. Soc. Chim. Fr.*, 1986, 314 (*synth, ir, pmr*)
Mueller, U. *et al*, *Hoppe Seyler's Z. Physiol. Chem.*, 1988, **369**, 1031 (*isol*)

2,6,7-Trihydroxy-9-(2-nitrophenyl)-3*H*-xanthen-3-one, 9CI T-00301

2-Nitrophenylfluorone

[6098-81-3]



$C_{19}H_{11}NO_7$ M 365.298

Used as 3m*M* soln. in EtOH for extraction-photometric detn. of Mo (λ_{max} 584 nm, ε 56000), W, Nb (λ_{max} 530 nm, ε 150000). Cryst. Sol. EtOH.

Shustova, M.B. *et al*, *Zh. Anal. Khim.*, 1963, **18**, 964 (*detn, Mo*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1977 (*detn, Nb*)
Ganago, L.I. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 1138 (*detn, Mo*)
Ivanova, T.F. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 1259 (*detn, W*)

2,6,7-Trihydroxy-9-(3-nitrophenyl)-3*H*-xanthen-3-one, 9CI T-00302

3-Nitrophenylfluorone

[6217-25-0]

$C_{19}H_{11}NO_7$ M 365.298

Used as 0.06% soln. in acidified EtOH for photometric detn. of Zr (λ_{max} 550 nm), Sn, Sb. Cryst. Sol. EtOH, cyclohexanol.

Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1955, **10**, 289 (*detn, Sn, Sb*)
Sano, H., *Bull. Chem. Soc. Jpn.*, 1958, **31**, 974; 1959, **32**, 299 (*synth, detn, Zr*)
Sano, H., *Talanta*, 1959, **2**, 187 (*synth*)

2,6,7-Trihydroxy-9-(4-nitrophenyl)-3*H*-xanthen-3-one, 9CI T-00303

4-Nitrophenylfluorone

[981-81-7]

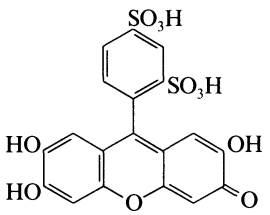
$C_{19}H_{11}NO_7$ M 365.298

Used as 0.05% soln. in EtOH for photometric detn. of Sn, Sb. Cryst. Sol. EtOH.

Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1955, **10**, 289 (*detn, Sn, Sb*)
Sano, H., *Bull. Chem. Soc. Jpn.*, 1958, **31**, 974 (*use*)
Nazarenko, V.A. *et al*, *Zavod. Lab.*, 1962, **28**, 268 (*detn, Sn*)

4-(2,6,7-Trihydroxy-3-oxo-3*H*-xanthen-9-yl)-1,3-benzenedisulfonic acid, 9CI T-00304

[73008-86-3]



$C_{19}H_{12}O_{11}S_2$ M 480.429

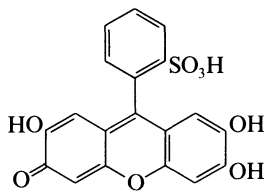
Used in photometric detn. of Ge and Ti. Cryst. Sol. H_2O.

Nazarenko, V.A. *et al*, *Zavod. Lab.*, 1959, **25**, 898 (*detn, Ge*)
Savvin, S.B. *et al*, *Zh. Anal. Khim.*, 1981, **36**, 9 (*detn, Ti*)

2-(2,6,7-Trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzenesulfonic acid, 9CI T-00305

Hydroxyhydroquinonesulfonephthalein

[36480-50-9]

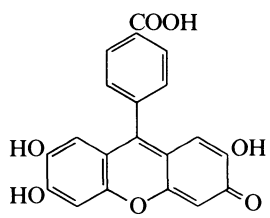


$C_{19}H_{12}O_8S$ M 400.365

Used as metallochromic indicator for titrimetric detn. of Bi, Th; for photometric detn. of Ti. Dark red cryst. powder. Sol. EtOH, alkalis.

Zaibovskii, F.V. *et al*, *CA*, 1961, **55**, 11178 (*detn, Bi, Th*)
Abromaityte, D. *et al*, *CA*, 1972, **76**, 121140y (*detn, Ti*)

p-(2,6,7-Trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid T-00306



$C_{20}H_{12}O_7$ M 364.311

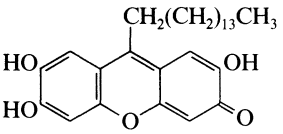
Me ester: p-*Methoxycarbonylphenylfluorone*

$C_{21}H_{14}O_7$ M 378.337
Used as 1m*M* MeOH soln. to give colour reactions with Cu(*II*), Sb(*III*), W, Mo (pH 2). Red cryst. Sol. MeOH.

Vrbsky, J. *et al*, *Collect. Czech. Chem. Commun.*, 1970, **35**, 2497 (*synth, use*)

2,6,7-Trihydroxy-9-pentadecyl-3*H*-xanthen-3-one, 9CI T-00307

Pentadecylfluorone. Palmitylfluorone
[52000-06-3]

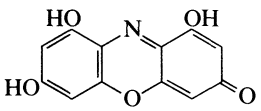


$C_{28}H_{38}O_5$ M 454.605
Used as a 1m*M* soln. in EtOH for photometric detn. of Ga, Te, Zn (λ_{max} 560 nm, ε 27200, pH 8-9, 30% EtOH), V(*IV*) (λ_{max} 520 nm, ε 37000, pH 4-5, 30% EtOH). Red cryst. Spar. sol. EtOH; sol. Me_2CO. pK_{a1} 2.9; pK_{a2} 6.3 (25°).

Nazarenko, V.A. *et al*, *Trihydroxyfluorones*, Izd. Nauka, Moscow, 1973 (*synth, detn, Ga, Te*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1850; 1978, **33**, 903 (*detn, Te, Zn*)
Antonovich, V.P. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 289 (*detn, V*)

1,7,9-Trihydroxy-3*H*-phenoxazin-3-one, 8CI T-00308

1,9-Dihydroxyresorufin. Phlorein. Florin
[22914-89-2]

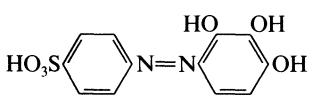


$C_{12}H_7NO_5$ M 245.191
Used as a 0.5m*M* soln. in EtOH for detn. of Hg, lanthanides, Pb, In, Bi. Orange cryst. (EtOH). Sol. EtOH.

Benedikt, R., *Justus Liebigs Ann. Chem.*, 1875, **178**, 92 (*synth*)
Ružička, E. *et al*, *Mikrochim. Acta*, 1969, 290; 1971, 57; 1972, 467 (*detn, Hg, Pb, Bi*)
Lasovsky, J. *et al*, *Collect. Czech. Chem. Commun.*, 1973, **38**, 2238 (*lanthanides*)
Ružička, E. *et al*, *Chem. Zvesti*, 1974, **28**, 621 (*detn, In*)

4-[(2,3,4-Trihydroxyphenyl)azo]benzenesulfonic acid, 9CI T-00309

2′,3′,4′-Trihydroxyazobenzene-4-sulfonic acid
[64789-21-5]

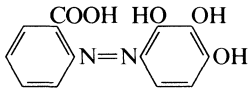


$C_{12}H_{10}N_2O_6S$ M 310.287
Used as a 1m*M* aq. soln. for photometric detn. of Bi (λ_{max} 460 nm, ε 50000), Mo (λ_{max} 460 nm, ε 25000), Th (λ_{max} 440 nm), W (λ_{max} 460 nm, ε 43000). Brown cryst. Sol. H_2O; spar. sol. Me_2CO; insol. EtOH, $CHCl_3$, CCl_4, C_6H_6. Mp 294° (dec.). pK_{a1} 5.44; pK_{a2} 7.04; pK_{a3} 9.08.

Gambarov, D.G. *et al*, *Zh. Anal. Khim.*, 1978, **33**, 1343; 1984, **39**, 837, 1440 (*detn, Mo, Bi, Th*)
Gambarov, D.G. *et al*, *Zavod. Lab.*, 1979, **45**, 794; 1980, **46**, 297 (*detn, Bi, W*)

2-[(2,3,4-Trihydroxyphenyl)azo]benzoic acid T-00310

2′,3′,4′-Trihydroxyazobenzene-2-carboxylic acid. 2-Carboxyphenylazopyrogallol

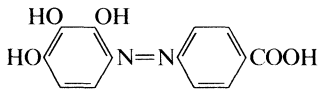


$C_{13}H_{10}N_2O_5$ M 274.232
Used as a 1m*M* aq. soln. for photometric detn. of Ti (λ_{max} 490 nm). Red cryst. (H_2O). Sol. EtOH, Me_2CO; sl. sol. H_2O.

Gambarov, D.G. *et al*, *Azerb. Khim. Zh.*, 1975, 122; *CA*, **83**, 157382n (*detn, Ti*)

4-[(2,3,4-Trihydroxyphenyl)azo]benzoic acid, 9CI T-00311

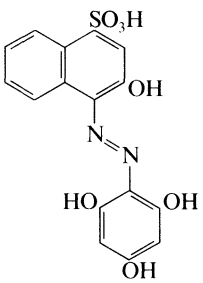
2′,3′,4′-Trihydroxyazobenzene-4-carboxylic acid
[80527-64-6]



$C_{13}H_{10}N_2O_5$ M 274.232
Used as 1m*M* Me_2CO soln. for photometric detn. of Mo(*VI*) (λ_{max} 460 nm, ε 41200, 0.01-0.05*M* HCl). Dark brown powder. Sol. Me_2CO, EtOH.

Gambarov, D.G. *et al*, *Zh. Anal. Khim.*, 1982, **37**, 2190 (*synth, detn, Mo*)

4-[(2,4,6-Trihydroxyphenyl)azo]-3-hydroxy-1-naphthalenesulfonic acid T-00312

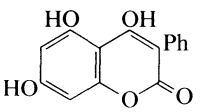


$C_{16}H_{12}N_2O_7S$ M 376.346
Used as a 0.1% soln. in EtOH to give colour reactions with Al, Ga, Zn. Cryst.

Poluektov, N.S. *et al*, *Zh. Anal. Khim.*, 1958, **13**, 555 (*use*)

4,5,7-Trihydroxy-3-phenyl-2*H*-1-benzopyran-2-one, 9CI T-00313

4,5,7-Trihydroxy-3-phenylcoumarin
[4222-02-0]



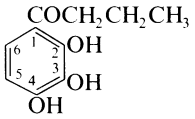
$C_{15}H_{10}O_5$ M 270.241
Used as a 0.5-1% soln. in EtOH as chromatographic spray reagent in cation analysis. Cryst.

Dhar, M.L. *et al*, *Curr. Sci.*, 1972, **41**, 177 (*use*)

1-(2,3,4-Trihydroxyphenyl)-1-butanone, 9CI T-00314

2′,3′,4′-Trihydroxybutyrophenone, 8CI. 4-Butyrylpyrogallol

[2437-61-8]



$C_{10}H_{12}O_4$ M 196.202

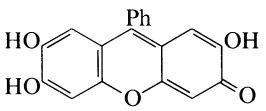
Used as 0.2% soln. in EtOH for photometric detn. of Mo(*V*) (λ_{max} 360 nm, ε 3650). Yellow needles (EtOH). Sol. EtOH, Me_2CO. Mp 100°.

Price, P. *et al*, *J. Org. Chem.*, 1964, **29**, 2800 (*synth*)
Mezheritskii, V.V. *et al*, *Zh. Org. Khim.*, 1969, **5**, 515; *CA*, **71**, 12750 (*synth*)
Dumitrescu, V. *et al*, *Rev. Chim. (Bucharest)*, 1977, **28**, 268; *CA*, **88**, 57899w (*detn, Mo*)

2,6,7-Trihydroxy-9-phenyl-3*H*-xanthen-3-one, 8CI T-00315

2,3,7-Trihydroxy-9-phenyl-6-fluorone. Phenylfluorone

[975-17-7]



$C_{19}H_{12}O_5$ M 320.301

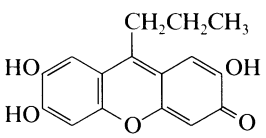
Used as 0.01% soln. in MeOH for photometric detn. of Mo, Ta, Ge (λ_{max} 510 nm, ε 53000), Sn (λ_{max} 510 nm, ε 77000), Sb, Zr, Fe, In, Ti, V, W. Orange powder. Sol. alkalis; sl. sol. EtOH, MeOH. Mp >300°.

Gillis, J. *et al*, *Anal. Chim. Acta*, 1947, **1**, 302 (*synth, detn, Ge*)
Cluley, H.J. *et al*, *Analyst (London)*, 1951, **76**, 523, 530 (*detn, Ge*)
Luke, C.L. *et al*, *Anal. Chem.*, 1956, **28**, 1273; 1976 (*detn, Ga, Sn*)
Luke, C.L. *et al*, *Anal. Chim. Acta*, 1967, **37**, 97 (*detn, Sn*)
Kulkarni, V.H. *et al*, *Anal. Chem.*, 1978, **50**, 973 (*detn, Sn*)
Snell, F.D., *Photometric and Fluorimetric Methods of Analysis, Metals, Part II*, John Wiley, New York, 1978, 1311, 1486.
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982, 29 (*use*)
Donaldson, E.M., *Talanta*, 1984, **31**, 997 (*detn, Ge*)
Onishi, H., *Photometric Determination of Traces of Metals, Part IIa: Individual Metals. Aluminium to Lithium*, John Wiley, New York, 4th Ed., 1986, 607.
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 292, 582 (*use*)

2,6,7-Trihydroxy-9-propyl-3*H*-xanthen-3-one, 9CI T-00316

Propylfluorone

[966-64-3]



$C_{16}H_{14}O_5$ M 286.284

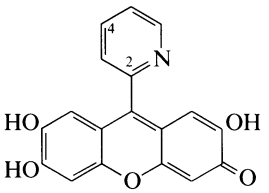
Used as 1m*M* acidified EtOH soln. for photometric detn. of Ti (λ_{max} 520 nm, ε 128000) Sn, Mo, Sc. Brown cryst. Sol. EtOH.

Nazarenko, V.A. *et al*, *Zavod. Lab.*, 1962, **28**, 401 (*detn, Sc*)
Antonovich, V.P. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 100, 307 (*detn, Mo*)
Ganago, L.I. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 1470 (*detn, Ti*)

2,6,7-Trihydroxy-9-(2-pyridinyl)-3*H*-xanthen-3-one, 9CI T-00317

2′-Pyridylfluorone

[7638-43-9]



$C_{18}H_{11}NO_5$ M 321.289

Used as 1m*M* EtOH soln. for photometric detn. of Sb and Ti. Red cryst. Sol. Me_2CO, EtOH, MeOH. Mp >350° dec.

Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1966, **216**, 391 (*synth, use*)

2,6,7-Trihydroxy-9-(3-pyridinyl)-3*H*-xanthen-3-one, 8CI T-00318

2,6,7-Trihydroxy-9-(3-pyridyl)fluorone. 3′-Pyridylfluorone

[7638-44-0]

$C_{18}H_{11}NO_5$ M 321.289

Used as 0.05m*M* MeOH soln. for photometric detn. of Sn(*II*) (λ_{max} 540 nm, ε 110000), V, Sb, Ti. Orange cryst. Sol. alkalis; mod. sol. MeOH, EtOH. pK_{a1} 1.4; pK_{a2} 3.2; pK_{a3} 6.0.

Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1966, **216**, 391; **223**, 401; 1971, **255**, 186; **256**, 276; 1972, **259**, 269 (*synth, detn, Sb, Ti, Sn, V*)

2,6,7-Trihydroxy-9-(4-pyridinyl)-3*H*-xanthen-3-one, 9CI T-00319

4-Pyridylfluorone

[7638-45-1]

$C_{18}H_{11}NO_5$ M 321.289

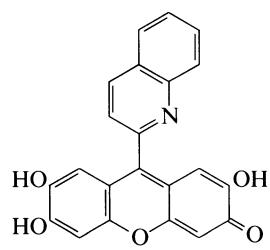
Used as 1m*M* EtOH soln. for photometric detn. of Sb (λ_{max} 578 nm, ε 45000), Ti. Red cryst. Sol. Me_2CO, EtOH, MeOH. Mp >350° dec.

Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1966, **216**, 391 (*synth, use*)
Savranskii, L.I. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1971, **37**, 345 (*props*)

2,6,7-Trihydroxy-9-(2-quinolinyl)-3*H*-xanthen-3-one, 9CI T-00320

2′-Quinolylfluorone

[43192-61-6]



$C_{22}H_{13}NO_5$ M 371.348

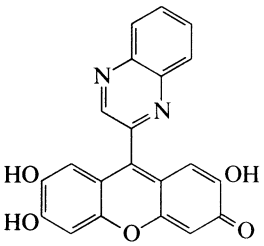
Used as 1m*M* soln. in EtOH for photometric detn. of Te, Zr (λ_{max} 569 nm, ε 165000). Dark red cryst. Spar. sol. EtOH. pK_{a1} 0.64 (1*M* KCl); pK_{a2} 2.65; pK_{a3} 6.15; pK_{a4} 10.05 (0.1*M* KNO_3); pK_{a5} 11.72.

Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1973, **265**, 260, 267 (*detn, Zr*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1974, **29**, 1478, 1850 (*synth, pKa, detn, Te*)

2,6,7-Trihydroxy-9-(2-quinoxalinyl)-3*H*-xanthen-3-one, 9CI T-00321

Quinoxalylfluorone

[54267-84-4]



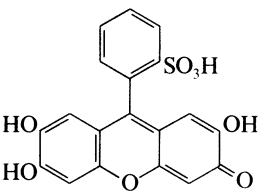
$C_{21}H_{12}N_2O_5$ M 372.336

Used as 1m*M* EtOH soln. for photometric detn. of V(*IV*) (λ_{max} 555 nm, ε 28500, 30% EtOH, pH 4.5-5.2). Cryst. (EtOH). Sol. EtOH.

Antonovich, V.P. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 289 (*detn, V*)

2,6,7-Trihydroxy-9-(2-sulfophenyl)-3*H*-xanthen-3-one T-00322

2-Sulfophenylfluorone



$C_{19}H_{12}O_8S$ M 400.365

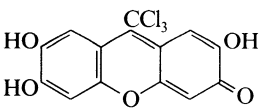
Used as 1m*M* EtOH soln. for photometric detn. of Ge, Ti, Zr. Sol. EtOH, Me_2CO.

Sano, H., *Bull. Chem. Soc. Jpn.*, 1958, **31**, 974 (*synth, use*)
Nazarenko, V.A. *et al*, *Trihydroxyfluorones*, Izd.Nauka, Moscow, 1973 (*use*)

2,6,7-Trihydroxy-9-(trichloromethyl)-3*H*-xanthen-3-one, 9CI T-00323

Trichloromethylfluorone

[6098-74-4]



$C_{14}H_7Cl_3O_5$ M 361.564

Used as 1m*M* EtOH soln. for photometric detn. of Al, Ga, In, Ge, Sn(*IV*), Ti, Nb, Mo. Cryst. Sol. EtOH.

Antonovich, V.P. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 100 (*detn, Mo*)
Nazarenko, V.A. *et al*, *Zh. Anal. Khim.*, 1972, **27**, 307 (*detn, Mo*)
Nazarenko, V.A. *et al*, *Trihydroxyfluorones*, Izd. Nauka, Moscow, 1973 (*synth, use*)

Trimethylacetohydroxamic acid T-00324

N-*Hydroxy-2,2-dimethylpropanamide, 9CI.*
Pivalohydroxamic acid

[29740-67-8]

$(H_3C)_3CCONHOH$

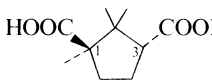
$C_5H_{11}NO_2$ M 117.147

Used as EtOH soln. for colour reactions with Cu, Fe(*III*), U(*VI*), V(*V*), Ti. Cryst. by subl. Sol. EtOH, Me_2CO. Mp 160-161° (154-156°).

Me ester: [64214-63-7].
$C_6H_{13}NO_2$ M 131.174
Viscous oil. $Bp_{0.8}$ 72-74°.

Bass, V.C. *et al*, *Talanta*, 1966, **13**, 735 (*use*)
Johnson, J.E. *et al*, *J. Org. Chem.*, 1985, **50**, 993 (*synth, ir, pmr*)

1,2,2-Trimethyl-1,3-cyclopentanedicarboxylic acid T-00325



(1*R*,3*R*)-*form*

$C_{10}H_{16}O_4$ M 200.234

▷ Irritant, orally toxic.

(***1R,3R*)-*form*** [595-32-4]
(−)-*Isocamphoric acid*
Cryst. (EtOH aq.). Mp 173°. $[\alpha]_D$ −48° (EtOH).

(***1R,3S*)-*form*** [124-83-4]
(+)-*Camphoric acid*
Cryst. (EtOH aq.). Mp 187°. $[\alpha]_D$ +47.7° (EtOH). pK_{a1} 4.65; pK_{a2} 5.83 (25°).
Anhydride:
$C_{10}H_{14}O_3$ M 182.219
Bp >270°. $[\alpha]_D$ −7.7° (C_6H_6).
Imide: 1,8,8-Trimethyl-3-azabicyclo[3.2.1]octane-2,4-dione. Camphorimide
$C_{10}H_{15}NO_2$ M 181.234
Needles (AcOH aq.). Sol. hot H_2O. Mp 248°. Bp 300°. $[\alpha]_D^{23}$ +1.6° ($CHCl_3$). Subl. above 120°.
1-[1-(4-Methylphenyl)ethyl] ester: [115-66-2]. ***Tocamphyl,* INN.** *Bilagen. Biliphorin. Gallogen. Hepasynthyl. Hepatoxane. Licarbin. Lymethol. Syncuma. Syntabil. Synthobilin*
$C_{19}H_{26}O_4$ M 318.412
Choleretic drug. Administered as diethanolamine salt.

(***1S,3R*)-*form***
(−)-*Camphoric acid*
Cryst. (EtOH aq.). Mp 187°. $[\alpha]_D^{25}$ −48° (EtOH).
Anhydride: Cryst. (EtOH). Mp 223.5°.

(***1S,3S*)-*form***
(+)-*Isocamphoric acid*
Cryst. (EtOH aq.). Mp 171-172°. $[\alpha]_D$ −47.6° (EtOH aq.).

(***1RS,3SR*)-*form*** [5394-83-2]
(±)-*Camphoric acid*
Used for gravimetric detn. of Ga. Prisms (EtOH aq.). Sol. cold H_2O (1%), hot H_2O (10%), EtOH, Et_2O; spar. sol. $CHCl_3$. Mp 202-203°. pK_{a1} 4.64 (25°); pK_{a2} 6.14 (100°).

▷ EX1319000.

Anhydride: [7216-27-5].
Cryst. (EtOH), rhombohedra. Mp 226°.
Imide: Needles (H_2O). Mp 249° (245°).

Perkin, W.H. *et al*, *J. Chem. Soc.*, 1906, **89**, 795 (*anhydrides*)
Evans, W.C. *et al*, *J. Chem. Soc.*, 1910, **97**, 2237 (*imide*)
Toivonen, N.J. *et al*, *Acta Chem. Scand.*, 1948, **2**, 597 (*anhydrides*)
Gunter, M.J. *et al*, *J. Pharmacol. Exp. Ther.*, 1950, **99**, 465 (*Tocamphyl*)
Takahashi, T. *et al*, *Yakugaku Zasshi*, 1964, **84**, 911; *CA*, **62**, 4055 (*imide*)
Baker, K.M. *et al*, *Tetrahedron*, 1968, **24**, 1663 (*pmr*)
Brienne, M.-J. *et al*, *Tetrahedron*, 1970, **26**, 5087 (*abs config*)
Filippo, J.S. *et al*, *J. Org. Chem.*, 1976, **41**, 1077 (*synth*)

Holzbecher, J. *et al*, *Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*use*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 3750 (*Tocamphyl*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 466.

Trimethyl(dimethylamino)silane T-00326

Pentamethylsilanamine, 9CI. N-*Trimethylsilyldimethylamine*

[2083-91-2]

Me_3SiNMe_2

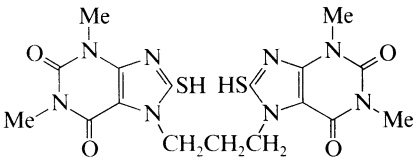
$C_5H_{15}NSi$ M 117.266

Silylation reagent for amino acids for gc anal. Liq. d_4^{20} 0.74. Bp 85°. n_D^{20} 1.3958.

Ebsworth, E.A.V. *et al*, *J. Chromatogr. Sci.*, 1958, 2150 (*synth*)
Jarvie, A.W. *et al*, *J. Chem. Soc.*, 1963, 1073 (*synth*)
Mack, J. *et al*, *Inorg. Chem.*, 1969, **8**, 278 (*ir, nmr*)
Smith, E.D. *et al*, *J. Chromatogr. Sci.*, 1969, **7**, 704 (*use*)
Noeth, H. *et al*, *Chem. Ber.*, 1974, **107**, 518 (*nmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DQE900.

7,7′-Trimethylenebis[1,3-dimethyl-8-thiouric acid], 8CI T-00327

1,3-Bis(8-mercaptotheophyllinyl)propane



$C_{17}H_{20}N_8O_4S_2$ M 464.528

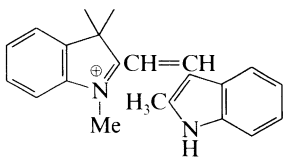
Na salt: [16492-25-4].

Used as 0.5% aq. soln. for extraction-photometric detn. of Bi. Cryst. (H_2O). Sol. H_2O.

Asmus, E. *et al*, *Fresenius' Z. Anal. Chem.*, 1967, **225**, 252.

1,3,3-Trimethyl-2-[2-(2-methyl-1*H*-indol-3-yl)ethylene]-3*H*-indolium(1+), 9CI T-00328

Astrazon orange G. C.I. Basic orange 21. C.I 48035



$C_{22}H_{23}N_2^{\oplus}$ M 315.437 (ion)

Strictly the name Astrazon orange G refers to the chloride.

Chloride: [3056-93-7].

$C_{22}H_{23}ClN_2$ M 350.890

Used as a 8.5m*M* aq. soln. for extraction-photometric detn. of Sn(*IV*) (λ_{max} 505 nm, C_6H_6/Me_2CO); photometric detn. of Pb; acid-base indicator. Orange cryst. (HCl aq.). Sol. H_2O, EtOH; insol. C_6H_6, CCl_4. pK_a 9.71.

Colour Index, 3rd Ed., 1971, **4**, 4438 (*synth*)
Abbadi, M.A. *et al*, *Zh. Org. Khim.*, 1972, **18**, 2409 (*use*)
Popa, G. *et al*, *Rev. Chim. (Bucharest)*, 1979, **30**, 686 (*detn, Sn*)
Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1989, **44**, 313 (*detn, Pb*)

Trimethyloxonium, 9CI, 8CI T-00329

$Me_3O^{\oplus}$

$C_3H_9O^{\oplus}$ M 61.103 (ion)

Powerful alkylating agent.

Tetrafluoroborate: [420-37-1]. *Trimethyloxonium tetrafluoroborate, 9CI, 8CI*

Methylating agent. Used as a derivatisation reagent in anal. of haemins. Commercially available. Colourless cryst. (CH_2Cl_2). Sol. CH_2Cl_2. Mp 141-143° dec.

2,4,6-Trinitrobenzenesulfonate: Powerful alkylating agent. Cryst. (EtOAc/Me_2CO). Mp 115-120° dec. (remelts at 181-183°).

Pettit, D.J. *et al*, *J. Org. Chem.*, 1963, **28**, 2932.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1969, **2**, 435; **6**, 630.
Org. Synth., Coll. Vol., 5, 1973, 1099.
Dean, R.T. *et al*, *Anal. Biochem.*, 1976, **76**, 1 (*use*)

2,2,4-Trimethyl-1,3-pentanediol, 9CI T-00330

[144-19-4]

$(H_3C)_2CHCH(OH)C(CH_3)_2CH_2OH$

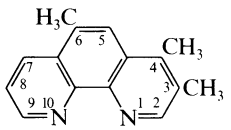
$C_8H_{18}O_2$ M 146.229

(±)-form

Used as a 1% soln. in $CHCl_3$ for extraction of B. Cryst. Mp 52-56°. Bp 232°.

Aznarez, J. *et al*, *Talanta*, 1985, **32**, 1156 (*detn, B*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TLY750.

3,4,6-Trimethyl-1,10-phenanthroline, 9CI T-00331



$C_{15}H_{14}N_2$ M 222.289

Used as redox indicator. Cryst. (C_6H_6). Mp 217-218°. pK_a 5.93 (25°). E° +0.920 V (25°). λ_{max} 510 nm.

Brandt, W.W. *et al*, *Anal. Chem.*, 1949, **21**, 1313 (*use*)
Case, F.H., *J. Am. Chem. Soc.*, 1949, **71**, 1828 (*synth*)
Schilt, A.A. *et al*, *J. Phys. Chem.*, 1956, **60**, 1546 (*pKa*)

3,4,7-Trimethyl-1,10-phenanthroline, 9CI T-00332

$C_{15}H_{14}N_2$ M 222.289

Used as a redox indicator. Cryst. (MeOH aq.). Mp 222-223°. pK_a 5.99 (25°). E° +0.880 V (25°). λ_{max} 504 nm.

Brandt, W.W. *et al*, *Anal. Chem.*, 1949, **21**, 1313 (*use*)
Case, F.H., *J. Am. Chem. Soc.*, 1949, **71**, 1828 (*synth*)
Schilt, A.A. *et al*, *J. Phys. Chem.*, 1956, **60**, 1546 (*pKa*)
Badger, G.M. *et al*, *Aust. J. Chem.*, 1963, **16**, 840 (*synth*)

3,5,6-Trimethyl-1,10-phenanthroline T-00333

$C_{15}H_{14}N_2$ M 222.289

Used as a redox indicator. Cryst. (C_6H_6). Mp 196-197°. pK_a 5.34 (25°). E° +0.950 V (1*M* H_2SO_4, 25°).

Case, F.H., *J. Am. Chem. Soc.*, 1948, **70**, 3994 (*synth*)
Brandt, W.W. *et al*, *Anal. Chem.*, 1949, **21**, 1313 (*use*)
Schilt, A.A. *et al*, *J. Phys. Chem.*, 1956, **60**, 1546 (*pKa*)

3,5,7-Trimethyl-1,10-phenanthroline, 9CI T-00334

$C_{15}H_{14}N_2$ M 222.289

Used as a redox indicator. Cryst. (C_6H_6). Mp 201-202°. pK_{a1} 5.90 (25°). E° +0.930 V (25°). λ_{max} 507 nm.

Brandt, W.W. *et al*, *Anal. Chem.*, 1949, **21**, 1313 (*use*)
Case, F.H., *J. Am. Chem. Soc.*, 1949, **71**, 821 (*synth*)
Schilt, A.A. *et al*, *J. Phys. Chem.*, 1956, **60**, 1546 (*pKa*)

3,5,8-Trimethyl-1,10-phenanthroline, 9CI T-00335

$C_{15}H_{14}N_2$ M 222.289
Used as a redox indicator. Cryst. (C_6H_6). Mp 185-186°. pK_{a1} 5.27 (25°). E° +0.990 V (25°). λ_{max} 500 nm.

Brandt, W.W. *et al*, *Anal. Chem.*, 1949, **21**, 1313 (*use*)
Case, F.H., *J. Am. Chem. Soc.*, 1949, **71**, 821 (*synth*)
Schilt, A.A. *et al*, *J. Phys. Chem.*, 1956, **60**, 1546 (*pKa*)

Trimethylphenylammonium(1+), 8CI T-00336

N,N,N-*Trimethylbenzenaminium(1+)*, *9CI*.
Phenyltrimethylammonium(1+)
[3426-74-2]

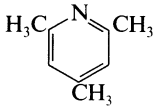
$[PhNMe_3]^{\oplus}$

$C_9H_{14}N^{\oplus}$ M 136.216 (ion)
Iodide: [98-04-4].
$C_9H_{14}IN$ M 263.121
Mp 230-231°.
▷ BT2450000.
Ethoxide:
$C_{11}H_{19}NO$ M 181.277
Selective *O*-methylating agent.
Perchlorate: [2525-18-0].
$C_9H_{14}ClNO_4$ M 235.667
Mp 178-179°.
Tribromide: [4207-56-1]. *PTAB*
$C_9H_{14}Br_3N$ M 375.928
Stable brominating agent. Bright-orange. Mp 115.5-116.5°.
Hydroxide: [1899-02-1]. *Trimethylanilinium hydroxide*
Reagent for flash methylation of carboxylic acids for gc anal.
▷ BT2275000.

Johnson, W.S. *et al*, *Tetrahedron*, 1963, **19**, 861 (*synth*, *perbromide*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 854; **4**, 386.
Sommer, H.Z. *et al*, *J. Org. Chem.*, 1971, **36**, 824 (*synth*)
Fodor, G. *et al*, *Tetrahedron*, 1973, **29**, 3309 (*synth*)
Kralovsky, J. *et al*, *J. Chromatogr.*, 1978, **147**, 404 (*use*, *hydroxide*)
Kevill, D.N. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 4515 (*synth*)
Steinborn, D. *et al*, *Z. Anorg. Allg. Chem.*, 1982, **492**, 103 (*synth*)
Holzer, G. *et al*, *J. Chromatogr.*, 1988, **468**, 181 (*use*, *hydroxide*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TMB500, TMB750.

2,4,6-Trimethylpyridine T-00337

s-*Collidine*
[108-75-8]



$C_8H_{11}N$ M 121.182
Found in low-temp. coal tar and coal soot. Catalyst. Forms complexes. Base for dehydrohalogenations. Used in extraction, separation of Zr and Sc as ternary complexes with salicylic acid and collidine ($CHCl_3$). Liq. Sol. acids, $CHCl_3$. d 0.917. Mp 42°. Bp 175-178°. pK_a 6.69 (25°).
B,HI: Prisms. Mp 250° dec.
B_2,H_2SO_4: Needles or prisms. Mp 205°.
Picrate: [6148-01-2].
Yellow needles (H_2O). Mp 155-156°.
1-Oxide: [3376-50-9].
Oil or cryst. Mp 31°. $Bp_{0.5}$ 72-73°. Hygroscopic. Forms hydrate, Mp 42°.
1-Oxide, picrate: Yellow cryst. (EtOH). Mp 170-172°.

U.S. Pat., 2 426 442, (1947); *CA*, **42**, 226i (*isol*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 155.
McDonald, F.R. *et al*, *Appl. Spectrosc.*, 1968, **22**, 325, 329 (*pmr*, *struct*)
Pedersen, C.L. *et al*, *Acta Chem. Scand.*, 1970, **24**, 3435 (*oxide*)
Buschmann, E. *et al*, *Angew. Chem.*, 1974, **86**, 414 (*synth*)
Kochetkova, S.K. *et al*, *Zh. Anal. Khim.*, 1976, **31**, 44 (*use*)

N-(Trimethylsilyl)acetamide, 9CI T-00338

[13435-12-6]

$Me_3SiNHAc$

$C_5H_{13}NOSi$ M 131.249
Derivatisation reagent for ascorbic acid for gc anal. Mp 52-54°. Bp_{18} 84°.
▷ AD0250000.

Birkhofer, L. *et al*, *Chem. Ber.*, 1963, **96**, 1473; 1964, **97**, 2196 (*synth*, *use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 1235.
Vecchi, M. *et al*, *J. Chromatogr.*, 1967, **26**, 22 (*use*)
Kormoriya, A. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 5285 (*pmr*)
Pudovik, M.A. *et al*, *Zh. Obshch. Khim.*, 1978, **48**, 2648; *CA*, **90**, 152297 (*synth*)
Bassindale, A.R. *et al*, *J. Organomet. Chem.*, 1979, **175**, 273 (*nmr*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TME750.

Trimethylsilylacetic acid, 9CI, 8CI T-00339

[2345-38-2]

Me_3SiCH_2COOH

$C_5H_{12}O_2Si$ M 132.234
Versatile synthon. Cryst. Mp 40-42°. pK_{a1} 10.00 (MeOH), pK_{a1} 5.22 (H_2O).
Et ester: [4071-88-9]. *Ethyl trimethylsilylacetate. ETSA*
$C_7H_{16}O_2Si$ M 160.288
Silylating agent, also undergoes Reformatsky-type reactions. Bp_{40} 76-77°.
tert-*Butyl ester:* [41108-81-0]. tert-*Butyl trimethylsilylacetate*
$C_9H_{20}O_2Si$ M 188.341
Bp_{13} 67°.
Chloride: [63877-23-6]. *(Trimethylsilyl)acetyl chloride, 10CI*
$C_5H_{11}ClOSi$ M 150.680

Fessenden, R.J. *et al*, *J. Org. Chem.*, 1967, **32**, 3535.
Rathke, M.W. *et al*, *Synth. Commun.*, 1973, **3**, 67 (*synth*, *deriv*)
Kozlova, N.V. *et al*, *Izv. Sib. Otd. Akad. Nauk SSSR, Ser. Khim. Nauk*, 1974, 102; *CA*, **82**, 42491 (*ir*, *raman*, *uv*)
Ruden, R.A. *et al*, *J. Org. Chem.*, 1974, **39**, 3607 (*deriv*, *synth*, *nmr*, *uv*)
Grieco, P. *et al*, *J. Chem. Soc., Chem. Commun.*, 1975, 537.
Nakamura, E. *et al*, *Tetrahedron Lett.*, 1976, 1699; 1978, 2079 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 631; **5**, 371; **8**, 509 (*synth*, *use*)
Lucast, D.H. *et al*, *Tetrahedron Lett.*, 1977, 1103 (*deriv*, *use*)
Kostyuk, A.S. *et al*, *Zh. Obshch. Khim.*, 1979, **49**, 1543 (*deriv*)
Greene, A.G. *et al*, *J. Org. Chem.*, 1980, **45**, 2713 (*use*)

(Trimethylsilyl)ethenone, 9CI T-00340

Trimethylsilylketene

[4071-85-6]

$Me_3SiCH{=}C{=}O$

$C_5H_{10}OSi$ M 114.219

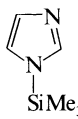
Acylates hindered amines to produce amides in almost quantitative yields. Tertiary alcohols are converted into esters. Derivatives with amines and alcohols are used in chromatog. Bp 81-82°. Stable under N_2 for many weeks at 25°. n_D^{20} 1.4120 (1.4440).

Ruden, R.A., *J. Org. Chem.*, 1974, **39**, 3607 (*synth, use, uv, pmr*)
Knaws, E.E. *et al, J. Chromatogr. Sci.*, 1976, **14**, 525 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 635 (*use*)
Brady, W.T. *et al, J. Organomet. Chem.*, 1977, **137**, 287.
Brady, W.T. *et al, J. Org. Chem.*, 1979, **44**, 733; 1980, **45**, 727 (*synth, use*)

1-(Trimethylsilyl)-1*H*-imidazole, 9CI T-00341

TMSI

[18156-74-6]



$C_6H_{12}N_2Si$ M 140.260

Used for trimethylsilylation of biological materials for glc analysis. Synthetic reagent. d 0.956. Bp_{14} 93-94°.

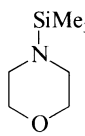
▷ Suspected carcinogen. NI8700000.

Birkhofer, L. *et al, Angew. Chem., Int. Ed. Engl.*, 1965, **4**, 417 (*synth*)
Inorg. Synth., 1974, **15**, 207 (*synth*)
Gleispach, H., *J. Chromatogr.*, 1974, **91**, 407 (*use*)
Torocheshnikov, V.N. *et al, J. Organomet. Chem.*, 1974, **70**, 347 (*cmr, pmr*)
Birkhofer, L. *et al, Org. Mass Spectrom.*, 1974, **8**, 347 (*ms*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 399.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TMF250.

4-(Trimethylsilyl)morpholine, 9CI T-00342

1-Morpholinyltrimethylsilane

[13368-42-8]



$C_7H_{17}NOSi$ M 159.303

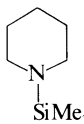
Silylation reagent used in gc analysis. Liq. d^{20} 0.9014. Bp 160°, Bp_{18} 61-62°. n_D^{20} 1.4385.

Pike, R.A. *et al, J. Org. Chem.*, 1962, **27**, 2190 (*synth*)
Lukevics, E. *et al, Zh. Obshch. Khim.*, 1970, **40**, 620 (*synth*)
Piekos, R. *et al, J. Chromatogr.*, 1976, **116**, 315 (*use*)

1-(Trimethylsilyl)piperidine, 9CI T-00343

Trimethyl(piperidino)silane

[3768-56-7]



$C_8H_{19}NSi$ M 157.330

Silylating agent for gc anal. Used as silylating reagent for glc detn. of organic compds. with hydroxy, carboxy, amino, imino and mercapto groups. Liq. Bp 158-160°. pK_a 11.1-11.2 (25°). n_D^{25} 1.4403.

Fessenden, R. *et al, J. Org. Chem.*, 1961, **26**, 4638 (*synth*)
Nogaideli, A.I. *et al, Soobshch. Akad. Nauk Gruz. SSR*, 1972, **68**, 605; *CA*, **78**, 84205 (*ir*)
Orlov, V.Y. *et al, Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2251; *CA*, **86**, 71160 (*ms*)
Piekos, R. *et al, J. Chromatogr.*, 1976, **116**, 315 (*use*)
Heinz, B. *et al, Z. Naturforsch., B*, 1977, **32**, 163 (*nmr*)

3-(Trimethylsilyl)-1-propanesulfonic acid, 9CI T-00344

2,2-Dimethyl-2-silapentane-5-sulfonic acid

$Me_3SiCH_2CH_2CH_2SO_3H$

$C_6H_{16}O_3SSi$ M 196.342

Na salt: [2039-96-5]. *DSS*

Pmr standard, reagent for detn. of Hg. Hydrated cryst. Sol. H_2O. Mp 125° dec.

Donaldson, B.R. *et al, J. Chem. Soc. B*, 1968, 395 (*pmr*)
Live, D.H. *et al, Org. Magn. Reson.*, 1973, **5**, 275 (*pmr*)
Pachler, K.G.R. *et al, Carbohydr. Res.*, 1976, **47**, 155 (*nmr*)
Lam, Y.F. *et al, FEBS Lett.*, 1977, **78**, 181 (*nmr*)
De Marco, A., *J. Magn. Reson.*, 1977, **26**, 527 (*nmr*)
Cross, B.P. *et al, Org. Magn. Reson.*, 1977, **10**, 82 (*nmr*)
Huckerby, T.N., *Org. Magn. Reson.*, 1983, **21**, 67 (*nmr*)

3-(Trimethylsilyl)propanoic acid, 9CI T-00345

$Me_3SiCH_2CH_2COOH$

$C_6H_{14}O_2Si$ M 146.261

Na salt: [37013-20-0]. *TSP*

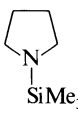
Pmr standard for use with D_2O solns. or at high temps. Sol. H_2O. Mp >300°.

Live, D.H. *et al, Org. Magn. Reson.*, 1973, **5**, 275 (*pmr*)
Aldrich Library of NMR Spectra, 2nd Ed., 1974, **2**, 1001D.
Aldrich Library of FT-IR Spectra, 1st Ed., 1975, **2**, 1114B.

1-(Trimethylsilyl)pyrrolidine, 9CI T-00346

Trimethyl(1-pyrrolidinyl)silane

[15097-49-1]



$C_7H_{17}NSi$ M 143.303

Used as silylating reagent for glc detn. of organic compds. with hydroxy, carboxy, amino, imino and mercapto groups. Liq. Bp 141-142°.

Itoh, K. *et al, J. Org. Chem.*, 1966, **31**, 3948 (*ir, synth*)
Noeth, H. *et al, Chem. Ber.*, 1974, **107**, 518 (*nmr*)
Orlov, V.Y. *et al, Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2251; *CA*, **86**, 71160 (*ms*)
Piekos, R. *et al, J. Chromatogr.*, 1976, **116**, 315 (*use*)

Trimethylsulfonium(1+), 9CI, 8CI T-00347

[676-84-6]

$Me_3S^{\oplus}$

$C_3H_9S^{\oplus}$ M 77.170 (ion)

Chloride: [3086-29-1].

C_3H_9ClS M 112.623

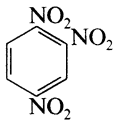
Cryst. V. sol. EtOH. Mp 100° dec. V. hygroscopic.

Bromide: [3084-53-5].
C_3H_9BrS M 157.074
Cryst. (H_2O or EtOH). Mp 201-202° dec. (sealed tube), Mp 172° dec.
Iodide: [2181-42-2].
C_3H_9IS M 204.075
Used as a 5% aq. soln. for detn. of Bi; extraction separation of $ClO_4^{\ominus}$, $MnO_4^{2\ominus}$, $ReO_4^{\ominus}$ $Cr_2O_7^{2\ominus}$, $I^{\ominus}$; amperometric titrimetric detn. of Bi, Hg. Cryst. (EtOH). Mp 211-212.5° dec.
▷ WR8750000.

Steinkopf, W. *et al*, *Ber.*, 1923, **56**, 1926 (*synth, bromide*)
Emeleus, H.J. *et al*, *J. Chem. Soc.*, 1946, 1126 (*iodide*)
Potratz, A.H. *et al*, *Anal. Chem.*, 1949, **21**, 1276 (*detn, Bi*)
Swain, C.G. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 4089 (*iodide*)
Hatch, M.J., *J. Org. Chem.*, 1969, **34**, 2133 (*chloride*)
Bowd, A.J. *et al*, *Talanta*, 1969, **16**, 719 (*use, rev*)
Martin, D. *et al*, *J. Prakt. Chem.*, 1970, **312**, 683 (*bromide, pmr*)
Byrne, B. *et al*, *Tetrahedron Lett.*, 1986, **27**, 1233 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TMG500.

1,2,4-Trinitrobenzene, 9CI, 8CI T-00348

[610-31-1]



$C_6H_3N_3O_6$ M 213.106
Used as spectrophotometric reagent for thiols. Pale-yellow prisms (MeOH aq. or mod. conc. HNO_3). Mp 61-62°.

Borsche, W., *Ber.*, 1923, **56**, 1498 (*synth*)
Parker, R.E. *et al*, *J. Chem. Soc.*, 1962, 9.
Takahashi, S. *et al*, *Chem. Lett.*, 1983, 1445 (*use*)
Dale, J. *et al*, *Acta Chem. Scand., Ser. B*, 1988, **42**, 354 (*synth, pmr*)

1,3,5-Trinitrobenzene, 9CI, 8CI T-00349

[99-35-4]

$C_6H_3N_3O_6$ M 213.106
Forms π-complexes with reactive hydrocarbons useful for characterisation and isolation. Used as 0.1% EtOH soln. as an acid-base indicator (pH range: 12-14; colour change: colourless → orange). Dimorphic cryst. (EtOH or HNO_3). Mp 61°, Mp 122.5°.

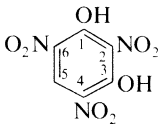
▷ Explosive. DC3850000.

Org. Synth., Coll. Vol., 1, 1932, 541 (*synth*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 1237.
Choi, S.C. *et al*, *Acta Crystallogr., Sect. B*, 1972, **28**, 193 (*cryst struct*)
Olah, G.A. *et al*, *Synthesis*, 1974, 444 (*synth*)
Holzbecher, Z. *et al*, *Handbook of Organic Reagents in Inorganic Analysis*, Horwood, Chichester, 1976 (*use, ind*)
Lyčka, A. *et al*, *Collect. Czech. Chem. Commun.*, 1987, **52**, 2946 (*pmr, cmr, N nmr*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 555.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TMK500.

2,4,6-Trinitro-1,3-benzenediol T-00350

Styphnic acid. 2,4,6-Trinitroresorcinol. 1,3-Dihydroxy-2,4,6-trinitrobenzene

[82-71-3]



$C_6H_3N_3O_8$ M 245.105
Forms addn. complexes (styphnates) with aromatic hydrocarbons and related substances. Reagent for detn. of K. Yellow cryst. (EtOAc). Sol. EtOH, Et_2O. Mp 179-180°. pK_{a1} 0.06 (25°, 0.1*M* NH_4ClO_4), pK_{a1} 1.74; pK_{a2} 4.86 (0.5*M* $NaClO_4$).

▷ Explodes on rapid heating. VH3540000.

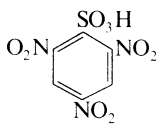
Di-Me ether:
$C_8H_7N_3O_8$ M 273.159
Needles (EtOH). Mp 124-125°.
Me-Et ether:
$C_9H_9N_3O_8$ M 287.185
Mp 92°.
Di-Et ether:
$C_{10}H_{11}N_3O_8$ M 301.212
Leaflets (EtOH). Mp 121°.

Kametani, T. *et al*, *Chem. Pharm. Bull.*, 1967, **15**, 893 (*synth*)
Bydal, B.A., *Org. Prep. Proced. Int.*, 1973, **5**, 271 (*synth*)
Burns, D.T. *et al*, *Reactions of the Elements and their Compounds*, Ellis Horwood, 1981.
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 556.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, SMP500.

2,4,6-Trinitrobenzenesulfonic acid, 9CI, 8CI T-00351

Picrylsulfonic acid

[2508-19-2]



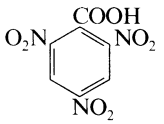
$C_6H_3N_3O_9S$ M 293.170
Reagent for characteristation of amino acids and amines. Used as a 0.2% aq. soln. for detn. of N_2H_4 and its derivs. Cryst. (1*M* HCl). Mp 180°. n_D^{20} 1.3400.

▷ DB8400000.

Golumbic, C. *et al*, *J. Org. Chem.*, 1946, **11**, 518 (*synth*)
Okuyama, T. *et al*, *J. Biochem. (Tokyo)*, 1960, **47**, 454 (*use*)
Satake, K. *et al*, *J. Biochem. (Tokyo)*, 1960, **47**, 654 (*use*)
La Rue, T.A., *Talanta*, 1967, **14**, 1344 (*detn, N_2H_4*)
Snyder, S.L. *et al*, *Anal. Biochem.*, 1975, **64**, 284 (*use*)
Caudill, W.L. *et al*, *Anal. Chim. Acta*, 1982, **141**, 269 (*use*)
Al-Hajjaji, M.A., *Anal. Chim. Acta*, 1986, **181**, 227 (*use*)
Lyčka, A. *et al*, *Collect. Czech. Chem. Commun.*, 1987, **52**, 2946 (*pmr, cmr, N nmr*)

2,4,6-Trinitrobenzoic acid, 9CI, 8CI T-00352

[129-66-8]



$C_7H_3N_3O_8$ M 257.116

Used as 1% aq. soln. for photometric detn. of $SO_3^{2\ominus}$ (λ_{max} 450 nm, pH 6.5). Rhombohedra (H_2O). Sol. H_2O, EtOH. Mp 228°. Decarboxylates at Mp.

▷ DI0920000.

Me ester: [15012-38-1].
$C_8H_5N_3O_8$ M 271.143
Orange-yellow plates (EtOH aq.). Mp 160-161°.

Chloride: [7500-86-9].
$C_7H_2ClN_3O_7$ M 275.561
Plates (C_6H_6). Mp 163°.
▷ DM6825000.

Amide: [51226-42-7].
$C_7H_4N_4O_7$ M 256.131
Cryst. (Me_2CO/pet. ether). Mp 264°.

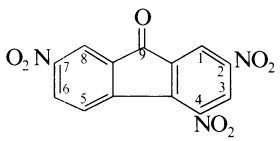
Anhydride:
$C_{14}H_4N_6O_{15}$ M 496.217
Needles. Mp 270°.

[53145-53-2, 63467-66-3, 72061-97-3]

Org. Synth., Coll. Vol., 1, 1932, 528 (*synth, bibl*)
Blasius, E. *et al, Fresenius' Z. Anal. Chem.*, 1974, **269**, 15 (*detn, $SO_3^{2\ominus}$*)
Lyčka, A. *et al, Collect. Czech. Chem. Commun.*, 1987, **52**, 2946 (*pmr, cmr, N nmr, bibl*)
Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 616.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TML000, TML250.

2,4,7-Trinitro-9*H*-fluoren-9-one, 9CI T-00353

[129-79-3]



$C_{13}H_5N_3O_7$ M 315.198

Forms π-complexes with reactive aromatic hydrocarbons which are used for characterisation. Pale-yellow needles (AcOH or C_6H_6). Mp 176°.

▷ Causes exp. neoplasms. LL9100000.

Oxime:
$C_{13}H_6N_4O_7$ M 330.213
Needles (EtOH). Mp 260° dec.

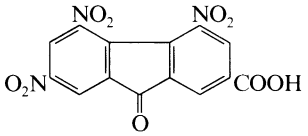
Semicarbazone: Pale-yellow cryst. Mp 299° dec.

Phenylhydrazone: Violet leaflets. Mp 276° dec.

Schmidt, J. *et al, Ber.*, 1905, **38**, 3758.
Bell, F., *J. Chem. Soc.*, 1928, 1990.
Orchin, M., *J. Am. Chem. Soc.*, 1947, **69**, 1225.
Org. Synth., Coll. Vol., 3, 1955, 837.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley. 1967, **1**, 1237.
Dorset, D.L. *et al, Acta Crystallogr., Sect. B*, 1972, **28**, 3122 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TMM250.

4,5,7-Trinitro-9-oxo-9*H*-fluorene-2-carboxylic acid, 9CI T-00354

[24929-25-7]



$C_{14}H_5N_3O_9$ M 359.208
Mp 267-275°.

Me ester: [24867-49-0].
$C_{15}H_7N_3O_9$ M 373.235
Yellow cryst. Mp 175-178°.

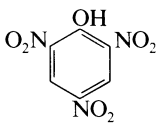
Chloride: [53410-48-3].
$C_{14}H_4ClN_3O_8$ M 377.654
Derivatisation reagent for hplc separation of amine and amino acid enantiomers on chiral stationary phases.

Sulzberg, T. *et al, J. Org. Chem.*, 1970, **35**, 2762 (*synth*)
Yamashita, J. *et al, Tokyo Ika Daigaku Kiyo*, 1990, **16**, 1; *CA*, **115**, 21270w (*use, deriv*)

2,4,6-Trinitrophenol, 9CI T-00355

Picric acid, 8CI

[88-89-1]



$C_6H_3N_3O_7$ M 229.106

Used as aq. alkaline soln. for detn. of HCN, Bi, Fe, Ti, Zr. Used in explosives, textile and leather industries. Ion-pairing agent in extraction-photometric detn. of Cu, Ag, Li, K, Na using crown ethers. Yellow leaflets (H_2O), colourless cryst. (ligroin or conc. HCl). Mod. sol. H_2O. Mp 122.5°. pK_a 0.33 (25°). Metastable forms, Mp 101° and 75°, exist. Forms cryst. addn. compds. (picrates) with many hydrocarbons and other org. compds.

▷ Toxic by inhalation and skin absorption TLV(skin) 0.1. Explosive, forms very sensitive explosive salts with many metals. TJ7875000.

Ac: [7614-96-2].
$C_8H_5N_3O_8$ M 271.143
Cryst. (Et_2O). Mp 75-76°, Mp 96.5-97.5°.

Benzoyl: [58156-44-8].
$C_{13}H_7N_3O_8$ M 333.214
Golden-yellow leaflets. Mp 163-164°.

O-*Me:* [606-35-9]. *2-Methoxy-1,3,5-trinitrobenzene. 2,4,6-Trinitroanisole*
$C_7H_5N_3O_7$ M 243.132
Leaflets (EtOH). Mp 69°.
▷ BZ9656000.

O-*Et:* [4732-14-3].
$C_8H_7N_3O_7$ M 257.159
Needles (EtOH). Mp 80°.

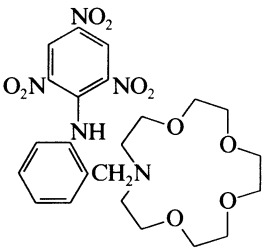
Sadtler Standard C-13 NMR Spectra, 7852 (*cmr*)
Sadtler Standard Infrared Spectra, 397 (*ir*)
Sadtler Standard NMR Spectra, 1753 (*pmr*)
Sadtler Standard Ultraviolet Spectra, 1181 (*uv*)
Bachmann, W.E. *et al, J. Org. Chem.*, 1948, **13**, 390 (*synth*)
Welcher, F.J., *Organic Analytical Reagents*, Van Nostrand, New York, 1948, **4**, 27 (*synth, use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1974, **4**, 391.
Reilly, D.A., *Anal. Chem.*, 1977, **49**, 322 (*detn, HCN*)
EPA/NIH Mass Spectral Data Base, (NBS), 1978, 1538 (*ms*)

Takagi, M. *et al*, *Anal. Chim. Acta*, 1981, **126**, 185 (*detn, Na*)
Wu, Y.P. *et al*, *Anal. Chim. Acta*, 1984, **162**, 285 (*detn, Li*)
Saito, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1984, **54**, 189 (*detn, Cu, Ag*)
Shabanov, A.L. *et al*, *Zh. Anal. Khim.*, 1984, **39**, 1621 (*detn, K*)
Lyčka, A. *et al*, *Collect. Czech. Chem. Commun.*, 1987, **52**, 2946 (*pmr, cmr, N-15 nmr*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 448.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PID000, PID250, PID750.

2,4,6-Trinitro-*N*-[2-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-ylmethyl)phenyl]benzenamine, 9CI T-00356

N-(*2-Picrylaminobenzyl*)*monoaza-15-crown-5*

[105488-58-2]



$C_{23}H_{29}N_5O_{10}$ M 535.510

Used as 1,2-dichloroethane soln. for extraction of Li, Na, K; sepn. of Na from K and I. Orange cryst. (cyclohexane). Sol. $CHCl_3$, cyclohexane, 1,2-dichloroethane, dioxan. pK_{a1} 5.55; pK_{a2} 10.2.

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1986, **185**, 295 (*synth, use*)

Trioctylamine, 8CI T-00357

N,N-*Dioctyl-1-octanamine*, *9CI. Tricaprylamine*

[1116-76-3]

$[H_3C(CH_2)_7]_3N$

$C_{24}H_{51}N$ M 353.674

Used as 10% soln. in CCl_4 for extraction separation of Ce, Cr, Co, Ge, (as ion-associates with the reagent). Viscous oily liq. Sol. common org. solvs.; insol. H_2O. d 0.809. Bp 365-367°, $Bp_{0.7}$ 164-168°. n_D^{20} 1.4485.

▷ RG8225000.

B,HBr: [14846-47-0].
Mp 252-253°.

Borrows, E.T. *et al*, *J. Chem. Soc.*, 1947, 197 (*synth*)
Goszczynski, S. *et al*, *CA*, 1964, **61**, 2956 (*synth*)
Green, H., *Talanta*, 1964, **11**, 1561; 1973, **20**, 139 (*use*)
Ioffe, E.S. *et al*, *Zavod. Lab.*, 1967, **33**, 1502 (*detn, Co*)
Andrianov, A.M. *et al*, *Zh. Anal. Khim.*, 1969, **24**, 117 (*detn, Ge*)
Adam, J. *et al*, *Talanta*, 1971, **18**, 91 (*detn, Cr*)
Eggert, H. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 3710 (*cmr*)
Kliger, G.A. *et al*, *Neftekhimiya*, 1973, **13**, 265 (*synth*)
Bui, T.K. *et al*, *J. Org. Chem.*, 1981, **46**, 1759 (*synth*)
Mu, G. *et al*, *CA*, 1984, **101**, 26612 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, DVL000.

Trioctylphosphine, 9CI T-00358

[4731-53-7]

$P[(CH_2)_7CH_3]_3$

$C_{24}H_{51}P$ M 370.641

Metal extractant. Exhibits synergistic activity with other extractants. Extracts mineral acids (HCl, HBr, HNO_3, H_2SO_4, $HClO_4$) from aq. soln. Used in catalysts for prep. of polymers, and for the dimerization of alkenes. Mp 30°, Mp 48°. Bp_1 194-195°, 234°. n_D^{25} 1.4666.

B,MeI: Methyltrioctylphosphonium iodide
$C_{25}H_{54}IP$ M 512.580
Liq.

Oxide: [78-50-2]. *Trioctylphosphine oxide*, *9CI. TOPO*
$C_{24}H_{51}OP$ M 386.640
Extracts carboxylic acids from aq. solns. Widely used as a metal extractant, particularly for rare earth metals, and in the chromatography of these. Employed in catalysts for the cyclotrimerization of butadiene and for the cross-linking of epoxy resins. Cryst. (cyclohexane). Sol. cyclohexanone (35.6g per 100 cm^3, 25°), common org. solvs. Mp 49-50°, Mp 59.5-60.0°. Bp_3 225-228°. pK_{a1} 8.80 ($MeNO_2$).

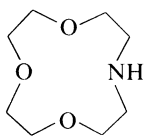
Sulfide: [2551-53-3].
$C_{24}H_{51}PS$ M 402.707
Selective metal extractant. Possesses bactericidal and fungicidal activity. Liq. Bp_1 226-228°.

Horner, L. *et al*, *Chem. Ber.*, 1959, **92**, 2088 (*synth*)
Pass, F. *et al*, *Monatsh. Chem.*, 1959, **90**, 792 (*synth*)
Rauhut, M.M. *et al*, *J. Org. Chem.*, 1961, **26**, 5138 (*synth*)
Zakharkin, L.I. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, (*Engl. transl.* p. 1913), 1962, 2002 (*oxide, synth*)
Elliott, D.E. *et al*, *Anal. Chim. Acta*, 1965, **33**, 237 (*sulfide, use*)
Burdett, J.L. *et al*, *Can. J. Chem.*, 1966, **44**, 111 (*oxide, ir, nmr, use*)
Kirsanov, A.V. *et al*, *CA*, 1969, **70**, 58003q (*synth, sulfide*)
Blednov, B.P. *et al*, *CA*, 1970, **73**, 49070u (*detn, Pd*)
Borbat, V.F. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1970, **36**, 1068 (*detn, noble metals*)
Mazepa, I.K. *et al*, *CA*, 1971, **74**, 64305p (*synth*)
Venkateswarlu, K.S. *et al*, *Indian J. Chem.*, 1972, **10**, 748 (*use*)
Saraiya, V.N., *Indian J. Chem.*, 1973, **11**, 490 (*use*)
Wang, S.-M., *CA*, 1974, **80**, 148891 (*use*)
Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press Inc., Boca Raton, Florida, 1982, 439 (*use, oxide*)
Bodner, G.M. *et al*, *J. Organomet. Chem.*, 1982, **226**, 85 (*cmr*)

1,4,7-Trioxa-10-azacyclododecane T-00359

Aza-12-crown-4

[41775-76-2]



$C_8H_{17}NO_3$ M 175.227
Needles by subl. Mp 59-60°. $Bp_{0.01}$ 72-74°.

N-*Me:* [69978-45-6]. *10-Methyl-1,4,7-trioxa-10-azacyclodecane*, *9CI*
$C_9H_{19}NO_3$ M 189.254
Used as 0.01*M* soln. in MeOH for complexation of Li, Na, K, Ca, Sr. Oil. Sol. MeOH. $Bp_{0.1}$ 65-67°. pK_a 9.92 (MeOH).

N-*Benzyl:*
$C_{15}H_{23}NO_3$ M 265.352
Oil. $Bp_{0.05}$ 140-143°.

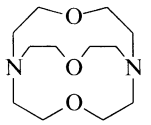
N-(*2-Methoxyethyl*): [80649-19-0]. *10-(2-Methoxyethyl)-1,4,7-trioxa-10-azacyclododecane*, *9CI*
$C_{11}H_{23}NO_4$ M 233.307
Used as 0.01*M* soln. in MeOH for complexation of Li, Na, K, Ca, Sr. Oil. Sol. MeOH. $Bp_{0.005}$ 100-102°. pK_a 8.96 (MeOH).

Calverley, M.J. *et al*, *Acta Chem. Scand., Ser. B*, 1982, **36**, 241 (*synth, derivs*)

Wickstroem, T. *et al*, *Anal. Chim. Acta*, 1988, **211**, 223 (*use*)
Arnold, K.A. *et al*, *J. Org. Chem.*, 1988, **53**, 5652 (*synth, use*)
Nakatsuji, Y. *et al*, *J. Org. Chem.*, 1989, **54**, 2988 (*deriv, synth, ir, pmr, ms, use*)

4,10,15-Trioxa-1,7-diazabicyclo[5.5.5]heptadecane, 9CI T-00360

Cryptand 1.1.1. Kryptofix 111
[37095-49-1]

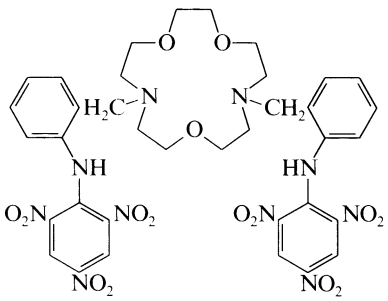


$C_{12}H_{24}N_2O_3$ M 244.333
Used as complexing agent and for extraction-sepn. of alkali metal ions. Hygroscopic cryst. (H_2O). Misc. H_2O. Mp 79-82°.

Yoshio, M. *et al*, *Anal. Lett.*, 1982, **15**, 1197.

N,N'-[1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diylbis(methylene-2,1-phenylene)]bis[2,4,6-trinitrobenzenamine], 9CI T-00361

N,N-*Bis(2-picrylaminobenzyl)diaza-15-crown-5*
[105488-60-6]

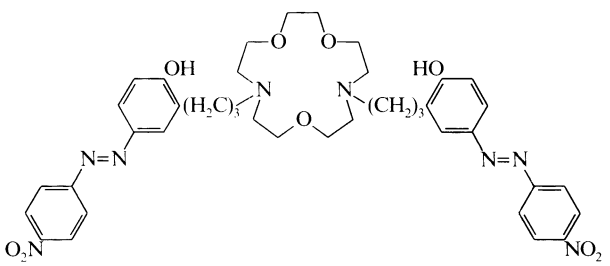


$C_{36}H_{38}N_{10}O_{15}$ M 850.754
Used for extraction sepn. of Ba, Ca, Sr (1,2-dichloroethane). Orange cryst. ($CHCl_3$). Sol. $CHCl_3$, 1,2-dichloroethane, dioxan.

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1986, **185**, 295 (*synth, use, sepn, Ba, Ca, Sr*)

2,2'-(1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diyldi-3,1-propanediyl)bis[4-[(4-nitrophenyl)azo]phenol], 9CI T-00362

N,N-*Bis[3-[5-(4-nitrophenylazo)-2-hydroxyphenyl]propyl]diaza-15-crown-5*
[115654-93-8]



$C_{40}H_{48}N_8O_9$ M 784.867
Used as 1,2-dichloroethane soln. for extraction of Ca, Sr, Ba; separation of Ba from Ca. Red cryst. ($CHCl_3$/EtOH). Sol. $CHCl_3$, 1,2-dichloroethane. Mp 87.0-88.1°.

Katayama, Y. *et al*, *Anal. Chim. Acta*, 1988, **204**, 113 (*synth, use*)

Triphenylarsine, 9CI T-00363

Arsenic triphenyl
[603-32-7]

$AsPh_3$

$C_{18}H_{15}As$ M 306.238
Used as 1% soln. in cyclohexane for extraction-photometric detn. of Pd. Plates (EtOH). Sol. cyclohexane. Mp 60.5°. Bp 360°, Bp_{14} 232-234°.

▷ Highly toxic.

B,MeI: see *Methyltriphenylarsonium(1+), M-00334*
Oxide: see *Triphenylarsine oxide, T-00364*

Trotter, J. *et al*, *Can. J. Chem.*, 1962, **46**, 1878 (*cryst struct*)
Org. Synth., Coll. Vol., 4, 1963, 910 (*synth*)
Senise, P. *et al*, *Anal. Chim. Acta*, 1964, **30**, 509 (*detn, Pd*)
Armstrong, R. *et al*, *Aust. J. Chem.*, 1967, **20**, 2771 (*oxide*)
Milicev, S., *Spectrochim. Acta, Part A*, 1974, **30**, 255 (*ir, raman*)
Jones, A.G. *et al*, *Spectrochim. Acta, Part A*, 1974, **30**, 563 (*ir, raman*)
Bodner, G.M. *et al*, *J. Organomet. Chem.*, 1975, **101**, 63 (*cmr*)
Bahl, M.K. *et al*, *J. Chem. Phys.*, 1976, **64**, 1210.
Mills, J.L. *et al*, *J. Organomet. Chem.*, 1976, **116**, 128 (*pmr, cmr*)
Glidewell, C., *J. Organomet. Chem.*, 1976, **116**, 199 (*synth, ms*)
Bahl, M.K. *et al*, *Surf. Sci.*, 1976, **54**, 540 (*esca*)
Hoste, S. *et al*, *J. Electron Spectrosc. Relat. Phenom.*, 1979, **17**, 191 (*xps*)
Bornancini, E.R. *et al*, *J. Organomet. Chem.*, 1984, **270**, 177 (*synth*)
Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 185.

Triphenylarsine oxide T-00364

[1153-05-5]

$Ph_3As{=}O$

$C_{18}H_{15}AsO$ M 322.237
Ligand for transition metals and lanthanides. Used as 1% soln. in $CHCl_3$ for extraction-separation of Th, U. Mp 198-200°. Forms 1:1 and 2:1 adducts with HX (X = Cl, Br, I). Complexes with I_2 and IX (X = Cl, Br, CN). Forms a monohydrate, formerly described as Dihydroxytriphenylarsenic.

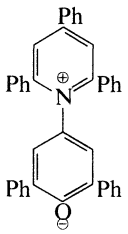
2B,HBr: [33756-32-0].
$C_{36}H_{31}As_2BrO_2$ M 725.387
Solid. Sol. CH_2Cl_2, Me_2CO. Mp 170-172°.

Loach, L.W., *Anal. Chim. Acta*, 1969, **45**, 93 (*uv*)
Keil, R., *Fresenius' Z. Anal. Chem.*, 1969, **244**, 165; 1979, **297**, 384; 1981, **305**, 374 (*detn, U, Th*)
Ferguson, G. *et al*, *J. Chem. Soc. A*, 1969, 1 (*deriv, cryst struct*)
Deacon, G.B. *et al*, *Spectrochim. Acta, Part A*, 1969, **25**, 355 (*ir, complexes*)
Stec, W.J. *et al*, *Inorg. Chem.*, 1972, **11**, 219 (*pe*)
Brandes, D. *et al*, *J. Organomet. Chem.*, 1974, **73**, 217 (*synth*)
Milićev, S., *Spectrochim. Acta, Part A*, 1974, **30**, 255 (*ir, raman*)
Glidewell, C., *J. Organomet. Chem.*, 1976, **116**, 199 (*synth, ms*)
Belsky, V.K., *J. Organomet. Chem.*, 1981, **213**, 435 (*cryst struct*)
Olah, G.A. *et al*, *J. Org. Chem.*, 1983, **48**, 1760 (*synth*)

2,4,6-Triphenyl-*N*-(3,5-diphenyl-4-oxidophenyl)pyridinium betaine T-00365

1-(2′-Hydroxy[1,1′:3′,1″-terphenyl]-5′-yl)-2,4,6-triphenylpyridinium hydroxide inner salt, 9CI. 2,4,6-Triphenylpyridinium 4-oxo-3,5-diphenyl-2,5-cyclohexadien-1-ylide. Reichardt's dye

[10081-39-7]



$C_{41}H_{29}NO$ M 551.686

Used in detn. of solvent polarity (Kosower Z values). Used as 1m*M* soln. for photometric detn. of H_2O in org. solvs. (EtOH, 2-propanol, Me_2CO, MeCN, dioxan). Violet-black cryst. + $2H_2O$ (MeOH aq.). Mp 205-276° dec. Highly solvatochromic.

B,HClO₄: Yellow plates (AcOH or MeOH). Mp 273-274°.

[43085-74-1]

Dimroth, K. *et al, Justus Liebigs Ann. Chem.*, 1963, **661**, 1 (*synth, ir, uv, derivs*)
Kumoi, S. *et al, Talanta*, 1970, **17**, 319 (*use*)
Reichardt, C. *et al, Justus Liebigs Ann. Chem.*, 1983, 721 (*props, use, bibl*)
Johnson, B.P. *et al, Anal. Lett.*, 1986, **19**, 939 (*synth, props, use*)
Kessler, M.A. *et al, Synthesis*, 1988, 635 (*synth*)

N,N′,N″-Triphenylguanidine, 9CI T-00366

1,2,3-Triphenylguanidine, 8CI

[101-01-9]

$(PhNH)_2C{=}NPh$

$C_{19}H_{17}N_3$ M 287.363

Used as 0.025*M* soln. in $CHCl_3$ for extraction-photometric detn. of Nb (λ_{max} 390 nm, ε 41000), Ta (ε 26000). Cryst. (EtOH). Sol. $CHCl_3$. Mp 143°.

▷ MF6825000.

B,HCl: [59283-92-0].
Prisms + $1H_2O$. Mp 241-242°.
▷ MF7175000.

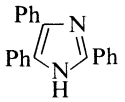
Picrate: Yellow cryst. (EtOH). Mp 180°.

Connolly, J.M. *et al, J. Chem. Soc.*, 1935, 680 (*synth*)
Verdizade, N.A. *et al, Zh. Anal. Khim.*, 1989, **44**, 671 (*detn, Nb, Ta*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TMS500.

2,4,5-Triphenylimidazole T-00367

Lophine

[484-47-9]



$C_{21}H_{16}N_2$ M 296.371

Used as 0.4% soln. in EtOH as an acid-base chemiluminescent indicator (pH 8.9-9.4). Sol. EtOH. Mp 275-276.5°.

▷ NI8710000.

B,HCl: Cryst. + $\frac{1}{2}$ H_2O. Mp 155° (anhyd.).

N-*Et:*
$C_{23}H_{20}N_2$ M 324.424
Cryst. (EtOH). Mp 234°.

Erdey, L. *et al, Anal. Chim. Acta*, 1956, **15**, 322 (*use, ind*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use, ind*)
Bader, H. *et al, Chimia*, 1975, **29**, 264 (*synth*)
Giordao, C. *et al, Synthesis*, 1975, 167 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TMS750.

Triphenylmethanol, 8CI T-00368

α,α-Diphenylbenzenemethanol, 9CI. Triphenylcarbinol. α-Hydroxytriphenylmethane. Tritanol. Trityl alcohol

[76-84-6]

Ph_3COH

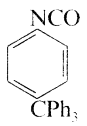
$C_{19}H_{16}O$ M 260.335

Used as 0.1% soln. in $MeNO_2$ as an acid-base indicator in Ac_2O medium. Cryst. (EtOH or C_6H_6). Sol. EtOH, C_6H_6. Mp 164-165°. Bp 360-380°.

Orndorff, W.R. *et al, J. Am. Chem. Soc.*, 1927, **49**, 1543 (*uv*)
Fritz, J.S. *et al, Anal. Chem.*, 1953, **25**, 1837 (*use, ind*)
Org. Synth., Coll. Vol., 3, 1955, 839 (*synth*)
Dubsky, G.J. *et al, Helv. Chim. Acta*, 1970, **53**, 1965 (*synth*)

4-(Triphenylmethyl)phenyl isocyanate T-00369

4-Isocyanatotetraphenylmethane



$C_{26}H_{19}NO$ M 361.442

Reagent for characterisation of alcohols. Cryst. (pet. ether). Mp 168-169°.

Witten, B. *et al, J. Am. Chem. Soc.*, 1947, **69**, 2470 (*use*)

Triphenylphosphine T-00370

[603-35-0]

Ph_3P

$C_{18}H_{15}P$ M 262.290

Nucleophile with many synthetic uses; deoxygenating and desulfurising reagent, reagent for alkene synth. by double extrusion. Converted by alkyl halides into quaternary triphenylphosphonium salts used to prepare ylides for Wittig reactions. Reagent for the deoxygenation of nitroso and nitro compds.(often with the formn. of *N*-containing heterocyclic compds.), oxiranes and peroxides, and for the desulfurization of thiiranes and di- and polysulfides. Reagent for the dehalogenation of 1,2-dihalogenoalkanes. Used in conjunction with CCl_4 or CBr_4 to convert alcohols into alkyl chlorides or bromides, and carboxamides into nitriles. Used in conjunction with diethyl azodicarboxylate in phosphorylations. Used for extraction separation of Ag; photometric detn. of NH_3; extraction-photometric detn. of Pd ($PdCl_4^{2\ominus}$ associated with the reagent). Reference material used in elemental microanalysis. Plates or prisms (Et_2O). Mp 80°. Bp >360° (under N_2). Triboluminescent.

▷ Mod. toxic. SZ3500000.

B,HF: Liq.
B,2HCl: Solid. Mp 60.5-61°.
B,HBr: [6399-81-1].
Mp 191-196°.

B,HI: [6396-08-3].
Solid. Mp 226-228°.
Telluride:
$C_{18}H_{15}PTe$ M 389.890
Rather unstable solid. Mp 83-85° dec.

Williams, D.H. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 966 (*ms*)
Hashmi, M.H. *et al*, *Mikrochim. Acta*, 1968, 860 (*detn, NH_3*)
Analyst (London), 1972, **97**, 740 (*microanal*)
Austad, T. *et al*, *Acta Chem. Scand.*, 1973, **27**, 1939 (*telluride*)
Spalding, T.R., *Org. Mass Spectrom.*, 1976, **11**, 1019 (*ms*)
Starzewskii, K.A.O. *et al*, *Phosphorus Relat. Group V Elem.*, 1976, **6**, 177; *J. Am. Chem. Soc.*, 1976, **98**, 8486 (*cmr, pe*)
Masaki, M. *et al*, *Chem. Lett.*, 1977, 151 (*synth*)
Grim, S.O. *et al*, *J. Org. Chem.*, 1977, **42**, 1236 (*nmr*)
Olah, G.A. *et al*, *J. Org. Chem.*, 1977, **42**, 2190 (*synth*)
Clark, D.A. *et al*, *Synthesis*, 1977, 628 (*deriv, synth, use*)
Krasiejko, M. *et al*, *Chem. Anal. (Warsaw)*, 1979, **24**, 1037 (*detn, Ag*)
Hoste, S. *et al*, *J. Electron Spectrosc. Relat. Phenom.*, 1979, **17**, 191 (*pe*)
Jakobsen, H.J. *et al*, *J. Magn. Reson.*, 1979, **33**, 477 (*cmr*)
Mojski, M. *et al*, *Microchem. J.*, 1979, **24**, 117 (*detn, Pd*)
Ratovskii, G.V. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 479), 1979, **49**, 548 (*uv, raman*)
Marshall, G. *et al*, *Org. Mass Spectrom.*, 1981, **16**, 272 (*ms*)
Mitsunoba, O., *Synthesis*, 1981, 1 (*rev, use*)
Allman, T. *et al*, *Can. J. Chem.*, 1982, **60**, 716 (*pmr, cmr, props*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1982, **10**, 447 (*use*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TMU000.

Triphenyl phosphite, 9CI, 8CI **T-00371**

[101-02-0]

$(PhO)_3P$

$C_{18}H_{15}O_3P$ M 310.288
Reagent for peptide synth., particularly in combination with imidazole. Used in conjunction with other reagents e.g. halogens, MeI, for synth. of alkyl and aryl halides. Used as soln. in CCl_4 for extraction separation of Cu. Solid or liq. d_{25}^{25} 1.18. Mp 21-23°. Bp_1 183-184°. n_D^{25} 1.5890. Easily hydrolysed. Forms stable quaternary salts.

▷ Skin sensitizer. TH1575000.

Walsh, E.N., *J. Am. Chem. Soc.*, 1959, **81**, 3023 (*synth*)
Handley, T.H. *et al*, *Anal. Chem.*, 1961, **33**, 1087 (*detn, Cu*)
Bochkarev, V.N. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 2345), 1972, **42**, 2348 (*ms*)
Mitin, Yu.V. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 199), 1973, **43**, 203 (*use*)
Hudson, H.R. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1974, 982 (*props, adducts*)
Yamazaki, N. *et al*, *Tetrahedron*, 1974, **30**, 1326 (*use*)
Bodner, G.M. *et al*, *J. Organomet. Chem.*, 1975, **101**, 63 (*cmr, complexes*)
Cadogan, J.I.G. *et al*, *Organophosphorus Reagents in Org. Synth.*, Academic Press, 1979 (*rev, use*)
Barlett, P.D. *et al*, *J. Am. Chem. Soc.*, 1983, **105**, 1984 (*derivs*)
Cload, P.A. *et al*, *Org. Mass Spectrom.*, 1983, **18**, 57 (*ms*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TMU250.

Triphenylpropylphosphonium(1+), 9CI **T-00372**

Propyltriphenylphosphonium(1+)

[15912-75-1]

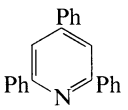
$Ph_3P^{\oplus}CH_2CH_2CH_3$

$C_{21}H_{22}P^{\oplus}$ M 305.378 (ion)
Treatment with $NaNH_2$ or butyllithium gives the ylide. Used as aq. soln. for extraction-separation of $[Fe(CN)_6]^{3\ominus}$.
Chloride: [16721-43-0].
$C_{21}H_{22}ClP$ M 340.831
Solid. Mp 221-223° dec.
Bromide: [6228-47-3].
$C_{21}H_{22}BrP$ M 385.282
Cryst. (CH_2Cl_2/AcOH or CH_2Cl_2/EtOAc). Mp 238-240°.
Iodide: [14350-50-6].
$C_{21}H_{22}IP$ M 432.283
Solid. Mp 203-204° dec.
Ylide: [16666-78-7].
$C_{21}H_{21}P$ M 304.371
Wittig reagent.

Grim, S.O. *et al*, *J. Chem. Soc., Chem. Commun.*, 1967, 1191 (*nmr*)
Schlosser, M. *et al*, *Justus Liebigs Ann. Chem.*, 1967, **708**, 1 (*synth*)
Bergelson, L.D. *et al*, *Tetrahedron*, 1967, **23**, 2709 (*ylide, props*)
Senyavina, L.B. *et al*, *Zh. Obshch. Khim.*, (*Engl. transl.* p. 469), 1967, **37**, 499 (*synth, ir, pmr*)
Grim, S.O. *et al*, *J. Org. Chem.*, 1968, **33**, 2993 (*ylide, uv*)
Wood, W.G. *et al*, *J. Org. Chem.*, 1975, **40**, 636 (*ms*)
Senise, P. *et al*, *Anal. Chim. Acta*, 1976, **81**, 419 (*use*)
Doleschall, G., *Synthesis*, 1981, 478 (*iodide*)
Schlosser, M. *et al*, *Chimia*, 1982, **36**, 396 (*ylide*)
Le Bigot, Y. *et al*, *Synth. Commun.*, 1982, **12**, 107 (*ylide, use*)

2,4,6-Triphenylpyridine **T-00373**

[580-35-8]

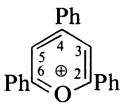


$C_{23}H_{17}N$ M 307.394
Prisms (EtOH). V. spar. sol. EtOH. Mp 137.5°.
Picrate: Yellow needles (EtOH). Mp 192.5°.
1-Oxide: [23022-74-4].
$C_{23}H_{17}NO$ M 323.393
Cryst. (cyclohexane). Mp 186-189°.
N-*Ph: 1,2,4,6-Tetraphenylpyridinium, 9CI*
$C_{29}H_{22}N^{\oplus}$ M 384.499 (ion)
N-*Ph, acetate (salt):* [59836-77-0].
$C_{31}H_{25}NO_2$ M 443.544
Used as a 1m*M* soln. in EtOH for gravimetric detn. of $ClO_4^{\ominus}$, $ReO_4^{\ominus}$, $MnO_4^{\ominus}$, $WO_4^{2\ominus}$; extraction-photometric detn. of Tl (λ_{max} 310 nm, ε 31400). Cryst. Sol. H_2O.
N-*Ph, perchlorate (salt):* [25506-69-8].
$C_{29}H_{22}ClNO_4$ M 483.950
Mp 275-276°.

Dimroth, K. *et al*, *Newer Methods of Preparative Organic Chemistry*, Academic Press, 1964, **3**, 413 (*synth*)
Pedersen, C. *et al*, *Acta Chem. Scand.*, 1970, **24**, 3435 (*oxide*)
Bowie, J.H., *Aust. J. Chem.*, 1973, **26**, 1043 (*ms*)
Chalk, A.J., *Tetrahedron*, 1974, **30**, 1387 (*cmr*)
Chadwick, T.C. *et al*, *Anal. Chem.*, 1976, **48**, 1201 (*use*)
Tewari, R.S. *et al*, *Synthesis*, 1981, 314 (*synth*)
Pérez-Ruiz, T. *et al*, *Analyst (London)*, 1982, **107**, 185 (*synth, detn, Tl*)

2,4,6-Triphenylpyrylium(1+) T-00374

[15959-35-0]



$C_{23}H_{17}O^{\oplus}$ M 309.387 (ion)

Chloride: [40836-01-9].
$C_{23}H_{17}ClO$ M 344.839
Used for gravimetric detn. of Au, Pt, $ClO_4^{\ominus}$, $BF_4^{\ominus}$; extraction-photometric detn. of $I^{\ominus}$ (λ_{max} 545 nm, $CHCl_3$). Cryst. Mp 217-219°.

Bromide: [13179-84-5].
$C_{23}H_{17}BrO$ M 389.291
Cryst. Mp 229-230°.

Iodide: [3495-60-1].
$C_{23}H_{17}IO$ M 436.291
Converts amines to iodides. Cryst. Mp 221-222°.

Perchlorate: [1484-88-4].
$C_{23}H_{17}ClO_5$ M 408.837
Deaminates benzylic and allylic amines, converts acid hydrazides to isocyanates. Cryst. Mp 270-272°.

Tetrafluoroborate:
$C_{23}H_{17}BF_4O$ M 396.191
Converts primary amines to acetates or benzoates and hydrazides to isocyanates. Yellow needles (1,2-dichloroethane). Mp 251-257°.

Lombard, R. *et al*, *Bull. Soc. Chim. Fr.*, 1958, 1458 (*synth*)
Kanai, K. *et al*, *CA*, 1963, **59**, 13934g (*synth*)
Balaban, A.T. *et al*, *Tetrahedron*, 1966, **7**, 1 (*synth*)
Maroni-Bernard, Y. *et al*, *Bull. Soc. Chim. Fr.*, 1971, 546 (*nmr, ir*)
Duffield, A.M. *et al*, *Org. Mass Spectrom.*, 1971, **5**, 87 (*ms*)
Chadwick, T.C., *Anal. Chem.*, 1973, **45**, 985; 1974, **46**, 1326; 1975, **47**, 933 (*detn, $ClO_4^{\ominus}$, $BF_4^{\ominus}$, Au, Pt, $I^{\ominus}$*)
Org. Synth., Coll. Vol., 5, 1973, 1135.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1979, **7**, 408; **8**, 519, 520.

Triphenylselenonium(1+), 9CI T-00375

[25929-33-3]

$Ph_3Se^{\oplus}$

$C_{18}H_{15}Se^{\oplus}$ M 310.276 (ion)

Chloride: [6158-73-2].
$C_{18}H_{15}ClSe$ M 345.729
Used as a 5% aq. soln. for detn. of Bi, Co, $ClO_4^{\ominus}$; extraction-photometric detn. of Hg; amperometric titrimetric detn. of Bi. Cryst. + $1H_2O$ (2-butanone). Sol. H_2O. Mp 230° dec. Also forms a dimeric dihydrate.

Bromide: [18987-44-5].
$C_{18}H_{15}BrSe$ M 390.180
Cryst. ($CHCl_3$/MeOH). Mp 236° dec.

Iodide: [18987-45-6].
$C_{18}H_{15}ISe$ M 437.181
Cryst. (H_2O). Mp 237.5° dec.

Leicester, H.M. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 3587 (*synth*)
Portratz, A.H. *et al*, *Anal. Chem.*, 1949, **21**, 1276 (*detn, Bi, Co*)
Bowd, A.J. *et al*, *Talanta*, 1969, **16**, 719 (*rev*)
Lee, J.S. *et al*, *J. Cryst. Mol. Struct.*, 1976, **6**, 279 (*cryst struct, Cl dihydrate*)
Mitcham, R.V. *et al*, *Inorg. Chem.*, 1979, **18**, 3498 (*cryst struct, Cl monohydrate*)
Iwama, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1981, **54**, 2065 (*synth*)

Triphenylsulfonium(1+) T-00376

$[Ph_3S]^{\oplus}$

$C_{18}H_{15}S^{\oplus}$ M 263.382 (ion)

Chloride: [4270-70-6].
$C_{18}H_{15}ClS$ M 298.835
Cryst. Mp 297-298°. Hygroscopic.

Bromide: [3353-89-7].
$C_{18}H_{15}BrS$ M 343.286
Used as a 5% aq. soln. for detn. of Bi, Co. Cryst. ($Me_2CO/CHCl_3$). Sol. H_2O. Mp 292.5° (285-287°).

Iodide: [3744-08-9].
$C_{18}H_{15}IS$ M 390.287
Solid. Mp 248-250°.

Hexafluoroantimonate: [57840-38-7].
$C_{18}H_{15}F_6SSb$ M 499.123
Cryst. (EtOH/2-propanol). Mp 177-178°.

Trifluoromethanesulfonate: [13891-29-7].
$C_{19}H_{15}F_3O_3S_2$ M 412.453
Cryst. Mp 135-137°.

Nitrate: [19600-48-7].
$C_{18}H_{15}NO_3S$ M 325.387
Prisms ($Me_2CO/CHCl_3$). Mp 227-227.5°.

Courtot, C. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1933, **197**, 1227 (*synth*)
Potratz, A.H. *et al*, *Anal. Chem.*, 1949, **21**, 1276 (*detn, Bi, Co*)
Wildi, B.S. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 1965 (*synth*)
Bonner, W.A. *et al*, *J. Am. Chem. Soc.*, 1952, **74**, 5078 (*synth*)
Okamoto, T. *et al*, *Chem. Pharm. Bull.*, 1981, **29**, 3753 (*synth*)
Miller, R.D. *et al*, *J. Org. Chem.*, 1988, **53**, 5571 (*synth, bibl*)
Dektar, J.L. *et al*, *J. Am. Chem. Soc.*, 1990, **112**, 6004 (*synth, pmr, ir, uv*)

Triphenyltelluronium(1+), 9CI T-00377

$Ph_3Te^{\oplus}$

$C_{18}H_{15}Te^{\oplus}$ M 358.916 (ion)

Iodide:
$C_{18}H_{15}ITe$ M 485.821
Used as satd. aq. soln. for detn. of Bi, Co (gravimetric indicator).

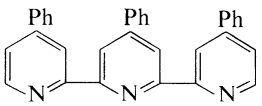
[31426-14-9, 49690-36-0]

Lederer, C., *Ber.*, 1911, **44**, 2289 (*synth*)
Portratz, A.H. *et al*, *Anal. Chem.*, 1949, **21**, 1276 (*detn, Bi, Co*)
Bowd, A. *et al*, *Talanta*, 1969, **16**, 719 (*use*)

4,4′,4″-Triphenyl-2,2:6′,2″-terpyridine, 9CI T-00378

2,6-Bis(4-phenyl-2-pyridyl)-4-phenylpyridine. Terosite

[24368-63-6]



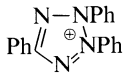
$C_{33}H_{23}N_3$ M 461.565

Photometric reagent for detn. of Fe and other metal ions. Cryst. ($EtNO_2$). Mp 257-258°. Related reagents Terosine (4′-phenylterphenyl) and Terosole (4,4″-dimethyl-4′-phenylterphenyl) appear to be out of use.

Wilkins, D.H. *et al*, *Anal. Chim. Acta*, 1953, **9**, 338.
Schilt, A.A. *et al*, *Anal. Chim. Acta*, 1956, **15**, 567 (*synth, use*)
Case, F.H. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 5842 (*synth*)

2,3,5-Triphenyl-2*H*-tetrazolinium(1+) T-00379

Tetrazolium



$C_{19}H_{15}N_4^{\oplus}$ M 299.354 (ion)

Chloride: [298-96-4]. *TTC. Red tetrazolium. TPTZ. RT. Vitastain. Uvoscreen*

$C_{19}H_{15}ClN_4$ M 334.807

Used in testing viability of seeds and in detection of urinary infection. Distinguishes α-ketols and aldehydes. Used as alkaline soln. for photometric detn. of As, Co, $IO_3^{\ominus}$. Used in detn. of reducing sugars and corticosteroids. Long needles ($CHCl_3$). Insol. Et_2O; sol. alkalis. Mp 243° dec. Darkens on exp. to light.

▷ XF8100000.

Pechmann, H. *et al*, *Ber.*, 1894, **27**, 2920 (*synth*)
Kuhn, R. *et al*, *Ber.*, 1941, **74**, 941 (*synth*)
Atkinson, E.H. *et al*, *Science* (*Washington, D.C.*), 1950, **111**, 385 (*synth*)
Hashmi, M.H. *et al*, *Anal. Chem.*, 1964, **36**, 2471 (*detn*, $IO_3^{\ominus}$)
Alexandrov, A., *Mikrochim. Acta*, 1967, 579; 1972, 664 (*detn, Co*)
Mehra, M.C. *et al*, *Microchem. J.*, 1979, **24**, 435.
Lazarev, A.I. *et al*, *Zavod. Lab.*, 1980, **46**, 291 (*detn, As*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TMV500.

Tripropylamine, 8CI T-00380

N,N-*Dipropylpropanamine, 9CI*

[102-69-2]

$(H_3CCH_2CH_2)_3N$

$C_9H_{21}N$ M 143.272

Used as a titrant for the detn. of weak acids in the presence of their anhydrides. Liq. Mp −94°. Bp 156.5°.

▷ Highly toxic, flammable. TX1575000.

B,HCl: [14488-44-9].
Hygroscopic needles. Mp 90°.

B,HBr: [7359-95-7].
Needles. Mp 180°.

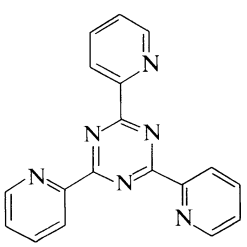
Picrate: Mp 116°.

B,MeI: Methyltripropylammonium iodide
Leaflets (EtOH/Et_2O). Mp 207-208°.

Skita, A. *et al*, *Monatsh. Chem.*, 1929, **53-4**, 753 (*synth*)
Siggia, S. *et al*, *Anal. Chem.*, 1953, **25**, 797 (*use*)
Striegler, A. *et al*, *J. Prakt. Chem.*, 1965, **29**, 281 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TMY250.

2,4,6-Tri-2-pyridinyl-1,3,5-triazine T-00381

[3682-35-7]

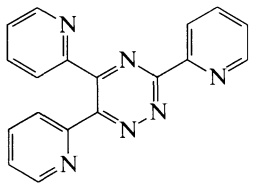


$C_{18}H_{12}N_6$ M 312.333

Used as 1m*M* soln. in dil. HCl for photometric detn. of Fe(*II*) (λ_{max} 595 nm, ε 25000), Ru, Co, $SO_3^{2\ominus}$ (indirectly). Cryst. + 3 or $4H_2O$. Sol. acids. Mp 243-245°.

Collins, P. *et al*, *Anal. Chem.*, 1959, **31**, 1862 (*detn, Fe*)
Case, F.H. *et al*, *J. Am. Chem. Soc.*, 1959, **81**, 905 (*synth*)
Buchanan, E.B. *et al*, *Talanta*, 1966, **13**, 903 (*detn, Fe*)
Vagg, R.S. *et al*, *Aust. J. Chem.*, 1967, **20**, 1841 (*synth, use*)
Embry, W.A. *et al*, *Anal. Chem.*, 1968, **40**, 1499 (*detn, Ru*)
Stephens, B.G. *et al*, *Analyst* (*London*), 1970, **95**, 70 (*detn, SO_3*)
Barclay, G.A. *et al*, *Acta Crystallogr., Sect. B*, 1977, **33**, 3487 (*cryst struct, bibl*)
Sasaki, Y., *Anal. Chim. Acta*, 1978, **98**, 335 (*detn, Ru*)
Llobera, A. *et al*, *Synthesis*, 1985, 95 (*synth*)
Forsberg, J.H. *et al*, *J. Heterocycl. Chem.*, 1988, **25**, 767 (*synth*)

3,5,6-Tri-2-pyridinyl-1,2,4-triazine T-00382



$C_{18}H_{12}N_6$ M 312.333

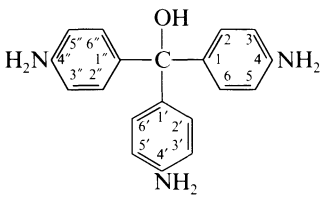
Used as 0.01*M* soln. in EtOH for photometric detn. of Fe(*II*) (λ_{max} 562 nm, ε 21800), Cu(*I*) (λ_{max} 500 nm, ε 4700). Cryst. (2-methoxyethanol). Sol. 2-methoxyethanol, EtOH. Mp 186-187°.

Case, F.H., *J. Org. Chem.*, 1965, **30**, 931 (*synth*)
Schilt, A.A., *Talanta*, 1966, **13**, 895 (*use*)

Tris(4-aminophenyl)methanol T-00383

4,4′,4″-Triaminotriphenylcarbinol. Tris(p-*aminophenyl*)*methanol. Pararosaniline base. C.I. 42500. C.I. Basic red 9. Magenta 0. Basic parafuchsin*

[25620-78-4]



$C_{19}H_{19}N_3O$ M 305.379

Used as 0.16% soln. in dil. HCl for photometric detn. of $SO_3^{2\ominus}$ (λ_{max} 560 nm, ε 30000), O_3, $SCN^{\ominus}$ (dec. to S(*IV*)). Purple cryst. Mp *ca.* 205°.

Me ether:
$C_{20}H_{21}N_3O$ M 319.405
Cryst. + $1Et_2O$ (Et_2O), cryst. + $1C_6H_6$ (C_6H_6). Mp 105° (Et_2O), Mp 135° (C_6H_6).

*4,4′,4″-Tri-*N*-Ac:*
$C_{25}H_{25}N_3O_4$ M 431.490
Cryst. (Me_2CO/Et_2O). Mp 192°.

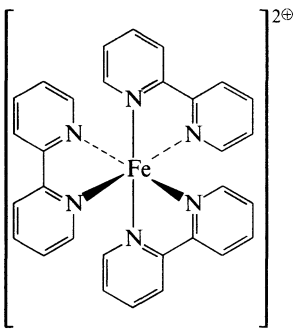
Compd. with 4,4′-methylenebis(3-hydroxy-2-naphthoate) (2:1): [7232-51-1]. ***Pararosaniline pamoate*, USAN.** *Pararosaniline embonate, INN. C.I. 403A. CN 15575-23A. NSC 107529. PS 1286*
Antischistosomal. Solid + $3H_2O$.

Wieland, H. *et al*, *Ber.*, 1921, **54**, 2527.
Stora, C. *et al*, *C. R. Hebd. Seances Acad. Sci.*, 1949. **229**, 766 (*cryst struct*)
West, P.W. *et al*, *Anal. Chem.*, 1956, **28**, 1816 (*detn, S*)
Nauman, R.V. *et al*, *Anal. Chem.*, 1960, **32**, 1307 (*detn, S*)
U.K. Pat., 908 634, (1962); *CA*, **58**, 3278 (*pharmacol*)
Sachdev, S.L. *et al*, *Anal. Chim. Acta*, 1972, **58**, 141 (*detn, O_3*)
Majewski, T. *et al*, *Anal. Chim. Acta*, 1982, **141**, 329 (*detn, $SCN^{\ominus}$*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 13079.
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 540.

Tris(2,2′-bipyridine-*N,N′*)iron(*II*)(2+), 9CI T-00384

Tris(α,α′-*bipyridyl*)*iron*(II)

[15025-74-8]



Δ-form

$C_{30}H_{24}FeN_6^{2\oplus}$ M 524.407 (ion)

Low spin octahedral ion. May be resolved. Synth. from $Fe^{2\oplus}$ + bipy in H_2O or other solvs. Electrocatalyst; redox catalyst; used for precipitation of large anions. Redox indicator. Used as a 3m*M* aq. soln. for extraction-photometric detn. of Tl(*III*) (λ_{max} 524 nm, dichloroethane), $ClO_4^{\ominus}$ ($PhNO_2$), Fe. Salts are red.

Δ-form [55122-50-4]

Abs. config. assigned by cd methods and by analogy with Tris(1,10-phenanthroline-N^1,N^{10})iron(*II*)(2+), T-00412. Racemises rapidly in aq. soln., $t_{\frac{1}{2}}$ ~ 30 mins.

(±)-form

Dichloride: [14751-83-8].
Synth. from $FeCl_2$ + bipy in H_2O or aq. EtOH. Red cryst.

Diiodide: [15388-60-0].
Catalyst. Red cryst.

Bis-tetrafluoroborate: [28966-86-1].
Red cryst.

Bis-hexafluorophosphate: [70811-29-9].
Red cryst.

Diperchlorate: [15388-48-4].
Oxidation catalyst. Red cryst.

Bis-tetraphenylborate: [54111-78-3].
Red powder.

Dithiocyanate: [36319-81-0].
Catalyst for esterification of alcohols.

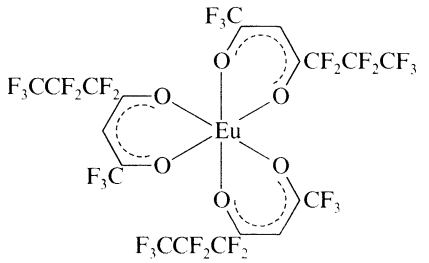
[24162-11-6]

Blau, F., *Monatsh. Chem.*, 1898, **19**, 647 (*synth*)
Werner, A., *Ber.*, 1912, **45**, 433 (*synth, resol*)
Yamamoto, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1964, **37**, 785 (*detn, $ClO_4^{\ominus}$*)
Kotsuji, K. *et al*, *Anal. Chim. Acta*, 1968, **42**, 225 (*detn, Tl*)
Koenig, E., *Coord. Chem. Rev.*, 1968, **3**, 471 (*rev, bibl*)
McWhinnie, W.R. *et al*, *Adv. Inorg. Chem. Radiochem.*, 1969, **12**, 135 (*rev, bibl*)
Dollberg, D.D. *et al*, *Inorg. Chem.*, 1975, **14**, 1888 (*abs config, kinetics*)
Healy, P.C. *et al*, *Aust. J. Chem.*, 1983, **36**, 2057 (*synth, struct*)
Griffiths, L. *et al*, *J. Chem. Soc., Dalton Trans.*, 1983, 305 (*raman*)
Satake, M. *et al*, *Analyst (London)*, 1984, **109**, 31 (*use, detn, Fe*)
Weiss, H. *et al*, *Z. Naturforsch., B*, 1984, **39**, 1453 (*synth, struct*)
Ferguson, J. *et al*, *Coord. Chem. Rev.*, 1985, **64**, 21 (*uv-vis*)
Thomson, A.J. *et al*, *J. Chem. Soc., Dalton Trans.*, 1985, 1781 (*mcd*)
Compr. Coord. Chem., Pergamon, Oxford, 1987, **4**, 1217 (*rev, bibl*)
Garcia, E. *et al*, *Inorg. Chem.*, 1988, **27**, 4377 (*electrochem*)
Constable, E.C., *Adv. Inorg. Chem.*, 1989, **34**, 1 (*rev, bibl*)

Tris(1,1,1,5,5,6,6,7,7,7-decafluoro-2,4-heptanedionato-*O,O′*)europium(*III*), 9CI T-00385

Eu(*dfhd*)$_3$

[60149-84-0]



$C_{21}H_3EuF_{30}O_6$ M 1073.168

Nmr chemical shift reagent. Dihydrate which loses H_2O on heating. More sol. in polar solvs. than (fod) complexes.

Richardson, M.F. *et al*, *Inorg. Chem.*, 1971, **10**, 498 (*synth*)
Sievers, R.E. *et al*, *Adv. Chem. Ser.*, No. 150, 1976, 222 (*use*)
Gmelin Handbook Inorg. Chem., Syst. No. 39, 1981, **D3**, 122 (*rev*)

Tris(decyl)ethylammonium(1+) T-00386

$[H_3C(CH_2)_9]_3N^{\oplus}Et$

$C_{32}H_{68}N^{\oplus}$ M 466.896 (ion)

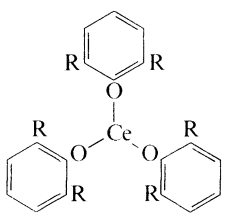
Bromide:
$C_{32}H_{68}BrN$ M 546.800
Used as a 0.8m*M* soln. in xylene for extraction-photometric detn. of Fe(*III*) (λ_{max} 613 nm, ε 173000, xylene). Cryst.

Shijo, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1975, **48**, 2793 (*detn, Fe*)

Tris(2,6-di-*tert*-butylphenoxy)cerium(*III*) T-00387

Tris[*2,6-bis*(*1,1-dimethylethyl*)*phenolato*]*cerium*(III)

[113034-77-8]



R = $C(CH_3)_3$

$C_{42}H_{63}CeO_3$ M 756.073

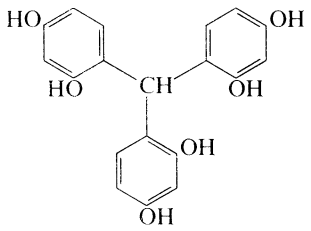
Forms adduct with Lewis bases, eg. THF, R_2CO, R_3PO, RNH_2, R_2NH, RCN, RNC; acts as an nmr shift reagent. Yellow-green cryst. Sol. C_6H_6, THF. Subl.$_{0.00001}$ 180-190°.

Bis(tert-*butyl isocyanide*) *complex:* [113034-80-3].
$C_{52}H_{81}CeN_2O_3$ M 922.338
Yellow cryst.

Stecher, H.A. *et al*, *Inorg. Chem.*, 1988, **27**, 1130 (*synth, cryst struct*)

Tris(2,4-dihydroxyphenyl)methane T-00388

4,4′,4″-Methylidynetris-1,3-benzenediol. 2,2′,2″,4,4′,4″-Hexahydroxytriphenylmethane



$C_{19}H_{16}O_6$ M 340.332

2,2′,2″-Tri-Me ether: [4503-82-6]. *4,4′,4″-Methylidynetris[2-methoxyphenol], 9CI. Triguaiacylmethane*

$C_{22}H_{22}O_6$ M 382.412

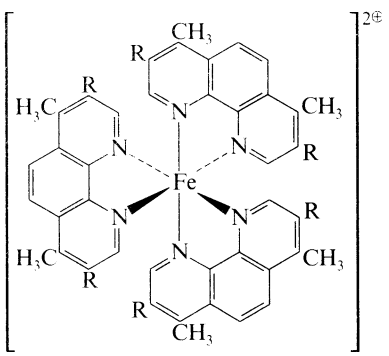
Used as an acid-base indicator (colour change: red → violet). Cryst.

Amal, H. *et al, Istanbul Univ. Fen Fak. Mecm.*, 1950, **15A**, 119.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 125 (*use*)

Tris(4,7-dimethyl-1,10-phenanthroline-N^1,N^{10})iron(*II*)(2+), 11CI T-00389

4,7-Dimethylferroin

[15226-33-2]



R = H

$C_{42}H_{36}FeN_6^{2\oplus}$ M 680.634 (ion)

Octahedral low spin cation. Synth. from aq. Fe(*II*) salt + ligand.

Diperchlorate: [15712-32-0].

Red cryst. Spar. sol. H_2O.

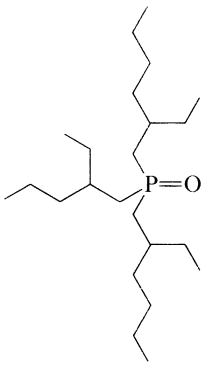
Sulfate: [21263-92-3].

Fungicide. Used as 0.6m*M* aq. soln. for photometric detn. of O_2. Red solid. Sol. H_2O.

Epstein, L.M., *J. Chem. Phys.*, 1964, **40**, 435 (*mössbauer*)
McWhinnie, W.R. *et al, Adv. Inorg. Chem. Radiochem.*, 1969, **12**, 135 (*rev, bibl*)
Poe, D.P. *et al, Talanta*, 1974, **21**, 1065 (*detn, O_2*)
Koenig, E. *et al, Inorg. Chim. Acta*, 1982, **59**, 285 (*magnetism, mössbauer*)

Tris(2-ethylhexyl)phosphine oxide, 9CI T-00390

[2785-32-2]



$C_{24}H_{51}OP$ M 386.640

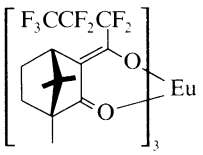
Used as a 0.01*M* soln. in cyclohexane for extraction separation of Sn(*IV*).

Ross, W.J. *et al, Anal. Chem.*, 1961, **33**, 424 (*detn, Sn*)

Tris(3-heptafluorobutyryl-*d*-camphorato) europium(*III*) T-00391

*Tris[3-(2,2,3,3,4,4,4-heptafluoro-1-oxobutyl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-onato-O,O′]europium, 9CI. Tris[3-(heptafluoropropylhydroxymethylene)-*d*-camphorato] europium*(III). *Eu(hfc)*$_3$. *Eu(hfbc)*$_3$

[34788-82-4]



$C_{42}H_{42}EuF_{21}O_6$ M 1193.722

Commercially available nmr chiral shift reagent. Gives enantiomeric excess in some Diels-Alder synths. and cyclocondensation of aldehydes with siloxydienes. Hygroscopic volatile yellow-orange solid. Insol. H_2O. Mp 158-165°. Presumed to be 6-coord.

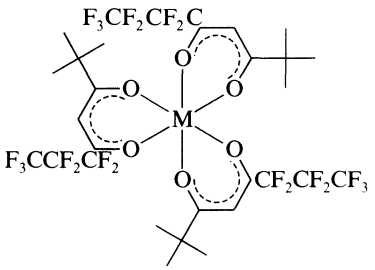
Fraser, R.R. *et al, J. Chem. Soc., Chem. Commun.*, 1971, 1450 (*use*)
Goering, H.L. *et al, J. Am. Chem. Soc.*, 1974, **96**, 1493 (*synth, use*)
Bednarski, M. *et al, Tetrahedron Lett.*, 1983, **24**, 3451 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1986, **12**, 561; **14**, 341 (*use*)
Quimpère, M. *et al, J. Chem. Soc., Chem. Commun.*, 1987, 676 (*use*)

Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*) chromium(*III*), 11CI

T-00392

Tris(1,1,1,2,2,3,3-heptafluoro-7,7-dimethyl-4,6-octanedionato)chromium(III). *Cr(fod)*$_3$

[17966-86-8]



M = Cr

$C_{30}H_{30}CrF_{21}O_6$ M 937.526

Useful in chromatog. sepn. of metals. Sol. C_6H_6, $CHCl_3$, hexane. Mp 101-106°. Subl.$_{0.5}$ 95-105°.

[101469-88-9, 101470-48-8]

Eisentraut, K.J. *et al*, *J. Inorg. Nucl. Chem.*, 1967, **29**, 1931.
Inorg. Synth., 1970, **12**, 73 (*synth*)
Belcher, R. *et al*, *Talanta*, 1970, **17**, 455 (*use*)
Fontaine, R. *et al*, *Bull. Soc. Chim. Fr.*, 1972, 3011 (*vp*)
Mikhailenko, V.P. *et al*, *J. Chromatogr.*, 1980, **191**, 231 (*chromatog*)
Wenclawiak, B. *et al*, *J. Chromatogr.*, 1985, **349**, 469 (*chromatog*)

Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*) dysprosium(*III*), 9CI

T-00393

Dy(fod)$_3$. *Resolve-Al DyFOD*

[18323-98-3]

As Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*)chromium(*III*), T-00392 with

M = Dy

$C_{30}H_{30}DyF_{21}O_6$ M 1048.030

Commercially available. Forms binuclear nmr shift reagents with Ag(*I*) compds. Hygroscopic white cryst. (CH_2Cl_2). Sol. $CHCl_3$, CH_2Cl_2. Mp 180-188°. Forms adducts with Lewis bases. Volatile *in vacuo*.

Monohydrate: [18284-87-2].
White solid. Sol. CH_2Cl_2, MeOH. Mp 103-107°. Loses H_2O *in vacuo* over P_2O_5.
Dihydrate: [35887-41-3].
White solid.

Springer, C.S. *et al*, *Inorg. Chem.*, 1967, **6**, 1105 (*synth*)
Karraker, D.G., *J. Inorg. Nucl. Chem.*, 1971, **33**, 3713 (*synth*)
Risby, T.H. *et al*, *Anal. Chem.*, 1974, **46**, 726 (*ms*)
Gmelin Handbook Inorg. Chem., Syst. No. 39, 1981, **D3**, 155 (*rev*)
Wenzel, T.J., *J. Org. Chem.*, 1984, **49**, 1834 (*use*)

Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*) europium(*III*), 9CI

T-00394

Sievers' reagent. Resolve-Al EuFOD. Eu(fod)$_3$

[17631-68-4]

As Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*)chromium(*III*), T-00392 with

M = Eu

$C_{30}H_{30}EuF_{21}O_6$ M 1037.495

Nmr chiral downfield shift reagent. Resolves diastereotopic protons, e.g. in *β*-lactams. Distinguishes between thiocyanates + isothiocyanates. Applicable to carboxylic acids and phenols. Catalyses epoxide ring opening with thiols, also aldol addn., cyanohydrin formation and oxirane ring opening reactions. Commercially available. Catalyses [4+2] cycloaddition of methoxybutadiene to carbonyl compds., and hetero-Diels-Alder reactions. Does not catalyse diene polym. Hygroscopic, volatile bright-yellow cryst. Insol. H_2O. Mp 205-212° dec., Mp 203-207°. Intense red fluor. in uv light.

Hemihydrate: [35887-40-2].
White cryst. (CH_2Cl_2). Mp 59-67°.
Monohydrate: [49792-35-0].
Colourless solid. Sol. CH_2Cl_2, MeOH. Loses H_2O *in vacuo* over P_2O_5.

[18284-89-4, 49792-35-0]

Springer, C.S. *et al*, *Inorg. Chem.*, 1967, **6**, 1522 (*synth, ir, nmr*)
Rondeau, R. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 1522 (*use*)
Karraker, D.G., *J. Inorg. Nucl. Chem.*, 1971, **33**, 3713.
Bose, A.K. *et al*, *Tetrahedron Lett.*, 1972, 3599 (*use*)
Marians, P.S. *et al*, *Tetrahedron Lett.*, 1972, 5305 (*use*)
Cockerill, A.F. *et al*, *Chem. Rev.*, 1973, **73**, 553 (*rev*)
Mayo, B.C., *Chem. Soc. Rev.*, 1973, **2**, 49 (*rev*)
Risby, T.H. *et al*, *Anal. Chem.*, 1974, **46**, 726 (*ms*)
Werstler, D.D. *et al*, *Anal. Chem.*, 1975, **47**, 144 (*use*)
Schoffner, J.P., *Anal. Chem.*, 1975, **47**, 341 (*use*)
De Puy, C.H. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 276 (*use*)
Gmelin Handbook Inorg. Chem., Syst. No. 39, 1981, **D3**, 155 (*rev, bibl*)
Bednarski, M. *et al*, *J. Am. Chem. Soc.*, 1983, **105**, 3716 (*use*)
Jurczak, J. *et al*, *Synthesis*, 1985, 928 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1986, **12**, 559 (*use*)
Vougioukas, A.E. *et al*, *Tetrahedron Lett.*, 1987, **28**, 5513, 6065 (*uses*)

Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*) gadolinium(*III*)

T-00395

Gd(fod)$_3$. *Resolve-Al GdFOD*

[17631-67-3]

As Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*)chromium(*III*), T-00392 with

M = Gd

$C_{30}H_{30}F_{21}GdO_6$ M 1042.780

Can be used as shift reagent in ^{13}C nmr. Commercially available. Hygroscopic white solid. Sol. $CHCl_3$, CH_2Cl_2. Mp 203-213° dec., Mp 138° dec. Forms adducts with Lewis bases. Volatile *in vacuo*.

Monohydrate: [18284-88-3].
White solid (CH_2Cl_2). Sol. CH_2Cl_2, MeOH. Mp 60-65°. Loses H_2O *in vacuo* over P_2O_5.

Springer, C.S. *et al*, *Inorg. Chem.*, 1967, **6**, 1105 (*synth*)
Karraker, D.G., *J. Inorg. Nucl. Chem.*, 1971, **33**, 3713 (*synth*)
Risby, T.H. *et al*, *Anal. Chem.*, 1974, **46**, 726 (*ms*)
Ajisaka, K. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 330 (*use*)
Gmelin Handbook Inorg. Chem., Syst. No. 39, 1981, **D3**, 155 (*rev*)

Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*) holmium(*III*), 9CI

T-00396

Ho(fod)$_3$. *Resolve-Al HoFOD*

[18323-97-2]

As Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)chromium(*III*), T-00392 with

M = Ho

$C_{30}H_{30}F_{21}HoO_6$ M 1050.460
Commercially available. Pmr shift reagent. Hygroscopic beige solid (white). Sol. $CHCl_3$, CH_2Cl_2. Mp 172-178°. Forms adducts with Lewis bases. Volatile *in vacuo*.

Monohydrate: White solid. Sol. CH_2Cl_2, MeOH. Mp 103-111°. Loses H_2O *in vacuo* over P_2O_5.

Springer, C.S. *et al*, *Inorg. Chem.*, 1967, **6**, 1105 (*synth*)
Karraker, D.G. *et al*, *J. Inorg. Nucl. Chem.*, 1971, **33**, 3713 (*synth*)
Rondeau, R.E. *et al*, *Anal. Chem.*, 1973, **45**, 2145 (*use*)
Risby, T.H. *et al*, *Anal. Chem.*, 1974, **46**, 726 (*ms*)
Gmelin Handbook Inorg. Chem., Syst. No. 39, 1981, **D3**, 155 (*rev*)
Dambska, A. *et al*, *J. Magn. Reson.*, 1984, **59**, 13 (*use*)

Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)iron(*III*), 10CI T-00397

Tris(1,1,1,2,2,3,3-heptafluoro-7,7-dimethyl-4,6-octanedionato)iron(III). *Fe(fod)*$_3$

[30304-08-6]

As Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)chromium(*III*), T-00392 with

M = Fe

$C_{30}H_{30}F_{21}FeO_6$ M 941.377
Synth. from elemental Fe + HL. Trace amounts of H_2O act as catalyst. Also synth. from $FeCl_3$ + HL in EtOH. Prepn. of compd. from elemental Fe is basis for simple method of Fe microanalysis. Red cryst. Thermally stable. Insol. H_2O; sol. alcohols, $CHCl_3$, CH_2Cl_2, CCl_4, Et_2O, Me_2CO. Mp 73-75°. Subl.$_{0.5}$ 95-110°.

Hazeldine, R.N. *et al*, *J. Chem. Soc.*, 1951, 609 (*synth*)
Inorg. Synth., 1970, **12**, 70 (*synth*)
Wolf, W.R. *et al*, *J. Chromatogr.*, 1977, **134**, 159 (*anal, use*)
Dilli, S. *et al*, *J. Chromatogr.*, 1979, **176**, 305 (*use*)

Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)lanthanum(*III*) T-00398

La(fod)$_3$

[19106-89-9]

As Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)chromium(*III*), T-00392 with

M = La

$C_{30}H_{30}F_{21}LaO_6$ M 1024.435
Nmr shift reagent. Hygroscopic white solid. Sol. $CHCl_3$, C_6H_6, EtOH. Mp 118-125° dec.

Monohydrate: [18284-86-1].
$C_{30}H_{32}F_{21}LaO_7$ M 1042.450
White solid. Sol. CH_2Cl_2, MeOH. Mp 215-230° dec. Loses H_2O on storage over P_2O_5 *in vacuo*.

Sievers, R.E. *et al*, *Adv. Chem. Ser.*, 1967, **71**, 141 (*synth*)
Springer, C.S. *et al*, *Inorg. Chem.*, 1967, **6**, 1105 (*synth*)
Karraker, D.G., *J. Inorg. Nucl. Chem.*, 1971, **33**, 3713 (*synth*)
Eisenhart, J.M. *et al*, *J. Org. Chem.*, 1985, **50**, 4108 (*use*)

Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)neodymium(*III*), 9CI T-00399

Nd(fod)$_3$

[17978-76-6]

As Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)chromium(*III*), T-00392 with

M = Nd

$C_{30}H_{30}F_{21}NdO_6$ M 1029.770
Nmr shift reagent. Hygroscopic blue solid. Sol. $CHCl_3$, C_6H_6, EtOH, DMSO, toluene. Mp 210-215° dec. Solvation changes can be detected by monitoring hypersensitive transitions. Forms adducts with range of Lewis bases.

Monohydrate: [18284-90-7].
$C_{30}H_{32}F_{21}NdO_7$ M 1047.785
Blue solid. Sol. CH_2Cl_2, MeOH. Mp 210-215° dec. Loses H_2O *in vacuo* over P_2O_5.

Pyrazole complex: [82915-58-0].
$C_{33}H_{34}F_{21}N_2NdO_6$ M 1097.848
Violet cryst. Sol. EtOH, hexane. Mp 118°. Paramagnetic; $\mu_{eff} = 3.81\mu_B$.

Imidazole complex: [96511-68-1].
$C_{33}H_{34}F_{21}N_2NdO_6$ M 1097.848
Violet cryst. Sol. EtOH. Mp 187-188°. $\mu_{eff} = 3.82\mu_B$.

Bipy complex: [79466-61-8].
$C_{40}H_{38}F_{21}N_2NdO_6$ M 1185.956
Violet cryst. + $2H_2O$. Sol. EtOH; sl. sol. hexane. Mp 80°.

Phen complex:
$C_{42}H_{38}F_{21}N_2NdO_6$ M 1209.978
Violet cryst. Mp 106°. $\mu_{eff} = 3.40\mu_B$.

Springer, C.S. *et al*, *Inorg. Chem.*, 1967, **6**, 1105 (*synth*)
Swain, H.A. *et al*, *J. Inorg. Nucl. Chem.*, 1971, **33**, 2851 (*vp*)
Karraker, D.G., *J. Inorg. Nucl. Chem.*, 1971, **33**, 3713 (*uv-vis*)
Rondeau, R.E. *et al*, *Anal. Chem.*, 1973, **45**, 2145 (*use*)
Risby, T.H. *et al*, *Anal. Chem.*, 1974, **46**, 726 (*ms*)
Evans, D.F. *et al*, *J. Chem. Soc., Dalton Trans.*, 1974, 765 (*use*)
Ajisaka, K. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 330 (*nmr*)
Sayeed, M. *et al*, *J. Inorg. Nucl. Chem.*, 1981, **43**, 3197 (*adducts*)
Iftikher, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1982, **55**, 2258 (*adducts*)
Iftikher, K. *et al*, *Inorg. Chem.*, 1982, **21**, 80 (*adducts synth, ir, uv-vis*)
Iftikher, K. *et al*, *Polyhedron*, 1985, **4**, 333 (*adducts synth, ir, uv-vis*)

Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)praseodymium(*III*), 9CI T-00400

Pr(fod)$_3$. *Rondeau's reagent. Resolve-Al PrFOD*

[17978-77-7]

As Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)chromium(*III*), T-00392 with

M = Pr

$C_{30}H_{30}F_{21}O_6Pr$ M 1026.437
Nmr upfield chiral shift reagent; resolves diastereotopic protons in β-lactams. Induces shift diffence in triglycerides, fatty acid residues. Commercially available. Hygroscopic, volatile green cryst. + $\frac{1}{2}$ H_2O (CH_2Cl_2). Insol. H_2O; sol. $CHCl_3$,C_6H_6, EtOH. Mp 218-225° dec. Forms 2:1 adducts in soln. with various donor ligands.

Monohydrate: [49792-34-9].
Green solid. Sol. CH_2Cl_2, MeOH. Mp 218-225° dec. Loses H_2O *in vacuo* over P_2O_5. Dimeric $Pr_2(fod)_6.2H_2O$ struct.

Springer, C.S. *et al*, *Inorg. Chem.*, 1967, **6**, 105, 1522 (*synth, ir, nmr*)
de Villiers, J.P.R. *et al*, *Acta Crystallogr., Sect. B*, 1971, **27**, 692 (*cryst struct*)
Rondeau, R. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 1522 (*use*)
Karraker, D.G., *J. Inorg. Nucl. Chem.*, 1971, **33**, 3713.
Bose, A.K. *et al*, *Tetrahedron Lett.*, 1972, 3599 (*use*)

Cockerill, A.F. *et al*, *Chem. Rev.*, 1973, **73**, 553 (*rev*)
Mayo, B.C., *Chem. Soc. Rev.*, 1973, **2**, 49 (*rev*)
Bruder, A.A. *et al*, *Inorg. Chem.*, 1974, **13**, 880.
Evans, D.F. *et al*, *J. Chem. Soc., Dalton Trans.*, 1974, 765 (*pmr*)
Frost, D.J. *et al*, *Chem. Phys. Lipids*, 1975, **14**, 189 (*use*)
Wenjel, T.J. *et al*, *J. Am. Chem. Soc.*, 1980, **102**, 5903 (*use*)
Gmelin Handbook Inorg. Chem., Syst. No. 39, 1981, **D3**, 155 (*rev*)

Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*) terbium(*III*), 9CI T-00401

Tb(fod)$_3$

[17631-66-2]

As Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*)chromium(*III*), T-00392 with

M = Tb

$C_{30}H_{30}F_{21}O_6Tb$ M 1044.455

Nmr shift reagent. Hygroscopic white solid with green fluorescence. Sol. $CHCl_3$, CH_2Cl_2. Mp 190-196°. Forms adducts with Lewis bases. Volatile *in vacuo*.

Monohydrate: [18716-25-1].
Cryst. Sol. CH_2Cl_2, MeOH. Mp 92-97°. Fluorescent. Loses H_2O *in vacuo* over P_2O_5.

Springer, C.S. *et al*, *Inorg. Chem.*, 1967, **6**, 1105 (*synth*)
Karraker, D.G., *J. Inorg. Nucl. Chem.*, 1971, **33**, 3713 (*synth*)
Risby, T.H. *et al*, *Anal. Chem.*, 1974, **46**, 726 (*ms*)
Gmelin Handbook Inorg. Chem., Syst. No. 39, 1981, **D3**, 155 (*rev*)

Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*) ytterbium(*III*), 9CI T-00402

Resolve-Al YbFOD. Yb(fod)$_3$

[18323-96-1]

As Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*)chromium(*III*), T-00392 with

M = Yb

$C_{30}H_{30}F_{21}O_6Yb$ M 1058.570

Used in conjunction with Ag(fod)$_3$ as nmr downfield shift reagent for aromatic protons. Commercially available. Hygroscopic white cryst. Insol. H_2O; sol. $CHCl_3$. Mp 125-132°. Volatile *in vacuo*. Forms adducts with Lewis bases.

Monohydrate: [17633-07-7].
White cryst. (CH_2Cl_2). Sol. CH_2Cl_2, MeOH. Mp 112-115°.

▷ Deflagrates >100° or in vacuo.

Springer, C.S. *et al*, *Inorg. Chem.*, 1967, **6**, 1105, 1522 (*synth*)
Karraker, D.G., *J. Inorg. Nucl. Chem.*, 1971, **33**, 3713 (*spectra*)
Cockerill, A.F., *Chem. Rev.*, 1973, **73**, 533 (*rev*)
Mayo, B.C., *Chem. Soc. Rev.*, 1973, **2**, 49 (*rev*)
Risby, T.H. *et al*, *Anal. Chem.*, 1974, **46**, 726 (*ms*)
Evans, D.F. *et al*, *J. Chem. Soc., Dalton Trans.*, 1974, 765 (*adducts*)
Lenkinski, R.E. *et al*, *J. Magn. Reson.*, 1976, **21**, 47 (*use*)
Wenzel, T.J. *et al*, *J. Am. Chem. Soc.*, 1980, **102**, 5903 (*use*)
Gmelin Handbook Inorg. Chem., Syst. No. 39, *Suppl. vol.*, 1981, **D3**, 155 (*rev*)

Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*) yttrium(*III*) T-00403

Y(fod)$_3$

[63835-31-4]

As Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*)chromium(*III*), T-00392 with

M = Y

$C_{30}H_{30}F_{21}O_6Y$ M 974.436

Nmr shift reagent. Hygroscopic white solid. Sol. $CHCl_3$. Mp 162-167°.

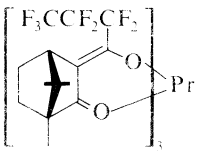
Monohydrate: [17633-09-9].
$C_{30}H_{32}F_{21}O_7Y$ M 992.451
White solid. Sol. CH_2Cl_2, MeOH. Mp 108-112°. Loses H_2O on storage *in vacuo* over P_2O_5.

Springer, C.S. *et al*, *Inorg. Chem.*, 1967, **6**, 1105 (*synth, ir, pmr*)

Tris[3-(heptafluoropropylhydroxymethylene)-*d*-camphorato]praseodymium(*III*) T-00404

*Tris[3-(2,2,3,3,4,4,4-heptafluoro-1-oxobutyl)-1,7,7-trimethylbicyclo[2.2.1]heptan-2-onato-O,O']praseodymium, 9CI. Tris(3-heptafluorobutyryl-*d*-camphorato) praseodymium*(III). *Pr(hfc)*$_3$, *Pr(hfbc)*$_3$

[38832-94-9]



$C_{42}H_{42}F_{21}O_6Pr$ M 1182.664

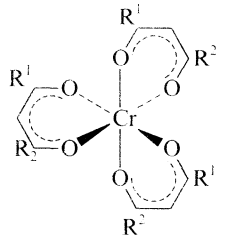
Nmr chiral shift reagent. Light-tan powder. Indefinite Mp >100°.

Goering, H.L. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 5913 (*use*)
Fraser, R.R. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 3253 (*use*)
Goering, H.L. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 1493 (*synth, use*)

Tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O,O'*)chromium(*III*) T-00405

Chromium(III) *hexafluoroacetylacetonate*

[14592-80-4]



$R^1 = R^2 = CF_3$

$C_{15}H_3CrF_{18}O_6$ M 673.152

Octahedral coordination with Cr—O 195.7 pm. Nmr shift reagent. Analytical applns. Dark violet cryst. Sol. CCl_4, C_6H_6. Mp 84-85°.

Jarrett, H.S., *J. Chem. Phys.*, 1957, **27**, 1298 (*esr*)
Morris, M.L. *et al*, *Inorg. Chem.*, 1963, **2**, 411; 1981, **20**, 2737 (*synth, ms, ir*)
De Armond, K. *et al*, *Spectrochim. Acta*, 1963, **19**, 1393.
Fatta, A.M. *et al*, *Inorg. Chem.*, 1971, **10**, 478 (*synth, uv-vis*)
Fontaine, R. *et al*, *Bull. Soc. Chim. Fr.*, 1972, 3011 (*vp*)
Allen, G.C. *et al*, *Inorg. Chim. Acta*, 1976, **16**, 41 (*pe*)
Thomas, B.G. *et al*, *Inorg. Chem.*, 1978, **17**, 2901 (*ed*)
Veillon, C. *et al*, *Anal. Chem.*, 1979, **51**, 1022 (*use*)

Tris(2-hydroxyethyl)amine T-00406

2,2',2''-Nitrilotrisethanol, 9CI. 2,2',2''-Nitritotriethanol, 8CI. 2,2',2''-Trihydroxytriethylamine. Triethanolamine. Tricolamine. ***Trolamine,*** **USAN.** *Sting-Kill*

[102-71-6]

$N(CH_2CH_2OH)_3$

$C_6H_{15}NO_3$ M 149.189

Catalyst for condensation reacns. Pharmaceutic aid, analgesic. Used as 10% aq. soln. of chloride salt for photometric detn. of CS_2; as a masking agent for Fe(*III*), Al. Hygroscopic, viscous liq. Misc. H_2O, MeOH, Me_2CO. Mp 21.6°. Bp 335.4°. pK_a 9.50. Not volatile in steam. Darkens in air.

▷ KL9275000.

B,HCl: [637-39-8].
Cryst. (EtOH). Spar. sol. H_2O, EtOH. Mp 177°.

Tri-Ac: [3002-18-4].
$C_{12}H_{21}NO_6$ M 275.301
Mobile oil. V. sol. EtOH, Et_2O, insol. H_2O. $Bp_{2.0}$ 206-207°.

N-*Oxide:* [7529-23-9].
$C_6H_{15}NO_4$ M 165.189
Large cryst. V. sol. H_2O, EtOH, insol. EtOAc, ligroin. Mp 104-105.5°.

Wurtz, *Justus Liebigs Ann. Chem.*, 1862, **121**, 227 (*synth*)
Jones, L.W. *et al*, *J. Am. Chem. Soc.*, 1925, **47**, 2966 (*synth, props*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 1196.
U.K. Pat., 1 092 499, (1967); *CA*, **68**, 49030 (*synth, props*)
Hunt, E.C. *et al*, *Analyst (London)*, 1973, **98**, 585 (*detn, CS_2*)
Martindale, The Extra Pharmacopoeia, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 218, 9593.
Reiter, L.G. *et al*, *Zh. Anal. Khim.*, 1983, **38**, 1270 (*use*)
Mootz, D. *et al*, *Acta Crystallogr., Sect. C*, 1989, **45**, 754 (*cryst struct*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TKP500.

[Tris[(hydroxymethyl)methyl]amino]acetic acid T-00407

N-*Tris(hydroxymethyl)methylglycine.* N-*[2-Hydroxy-1,1-bis(hydroxymethyl)ethyl]glycine, 9CI*

[5704-04-1]

$(HOCH_2)_3CNHCH_2COOH$

$C_6H_{13}NO_5$ M 179.172

Good's buffer with pH range 7.8-8.8. Hygroscopic cryst. (EtOH aq.). Sol. H_2O. Mp 182-184° dec. pK_a 8.15 (20°).

[43058-97-5]

Good, N.E. *et al*, *Biochemistry*, 1966, **5**, 467 (*use*)
Stinson, R.A. *et al*, *Can. J. Biochem.*, 1968, **46**, 43 (*use*)
Good, N.E. *et al*, *Methods Enzymol.*, 1968, **24B**, 53 (*synth*)
Bates, R.G. *et al*, *Anal. Chem.*, 1973, **45**, 1663 (*use*)
McGlothlin, C.D. *et al*, *Anal. Lett.*, 1976, **9**, 245 (*props*)
Monthony, J.F. *et al*, *Clin. Chem. (Winston-Salem, N.C.)*, 1978, **24**, 1825 (*use*)

Tris(6-methylheptyl)amine T-00408

N,N-*Diisooctylisooctanamine, 8CI. Triisooctylamine*

[25549-16-0]

$[(H_3C)_2CH(CH_2)_5]_3N$

$C_{24}H_{51}N$ M 353.674

B,HCl: [25429-07-6].
Used for extraction separation of Co, Mo, U(*VI*). d 0.816. Fp >110°. n_D^{20} 1.4501.

Vieux, A.S. *et al*, *J. Inorg. Nucl. Chem.*, 1975, **37**, 2313 (*detn, U*)
Krishnan, G.U. *et al*, *Indian J. Chem., Sect. A*, 1976, **14**, 139 (*detn, Co*)
Vieux, A.S. *et al*, *Inorg. Chem.*, 1976, **15**, 722 (*detn, Mo*)

Tris(2-methylpropyl)amine T-00409

*2-Methyl-*N,N-*bis(2-methylpropyl)-1-propanamine, 9CI. Triisobutylamine, 8CI*

[1116-40-1]

$[(H_3C)_2CHCH_2]_3N$

$C_{12}H_{27}N$ M 185.352

Used as 1m*M* soln. in dil. HCl for extraction separation of Pt, Pd and Ir from Rh (HCl medium). Liq. Immisc. H_2O. $d_4^{17.3}$ 0.771. Fp −24°. Bp 191.5°. $n_D^{17.3}$ 1.4252.

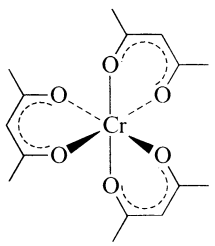
Methochloroplatinate: Mp 174°.

Ladenburg, A., *Ber.*, 1879, **12**, 949.
Timmermans, J., *Bull. Soc. Chim. Belg.*, 1921, **30**, 69.
Rao, M.R.A. *et al*, *J. Indian Inst. Sci.*, 1957, **39**, 138.
Borbat, V.F. *et al*, *Zh. Anal. Khim.*, 1965, **20**, 192 (*use*)
Pollak, I.E. *et al*, *J. Org. Chem.*, 1967, **32**, 2892.

Tris(2,4-pentanedionato-*O,O'*) chromium(*III*), 9CI T-00410

Tris(acetylacetonato)chromium(III). *Chromium*(III) *acetylacetonate*

[13681-82-8]



Δ-*form*

$C_{15}H_{21}CrO_6$ M 349.323

Spin relaxant. Many catalytic applns. Used to detect Cr by isotope dilution technique. Red-violet (deep maroon) cryst. Forms various solvates. Insol. H_2O; sol. C_6H_6, $CHCl_3$, esters. Mp 216°. Subl. *ca.* 340°. Readily undergoes electrophilic substitution. with e.g. Br, NO_2, Cl, I.

Λ-form [31378-25-3]
(−)-*form*
Red-purple cryst.

[21679-31-2, 55820-17-2, 56551-89-4, 56551-90-7, 56551-91-8]

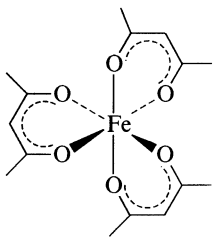
Reihlen, H. *et al*, *Chem. Ber.*, 1925, **58B**, 12 (*reactions*)
Inorg. Synth., 1957, **5**, 130 (*synth*)
Sievers, R.T. *et al*, *Inorg. Chem.*, 1963, **2**, 693 (*resoln*)
Morosin, B.R., *Acta Crystallogr.*, 1965, **19**, 131 (*cryst struct*)
Collman, J.P., *Angew. Chem., Int. Ed. Engl.*, 1965, **4**, 132 (*rev*)
Lintvedt, R.L. *et al*, *Inorg. Chem.*, 1970, **9**, 491; 1971, **10**, 478 (*uv-vis*)
Yoshida, I. *et al*, *Bull. Chem. Soc. Jpn.*, 1974, **47**, 2203 (*dta, dec*)
Cotton, F.A. *et al*, *Inorg. Chem.*, 1975, **14**, 703 (*use*)
Klotz, W.L. *et al*, *Inorg. Chem.*, 1975, **14**, 3125 (*esr*)
Levy, G.C. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 4482 (*use*)
Brauer, G., *Handbuch Präp. Anorg. Chem.*, 3rd Ed., Ferdinand Enke Verlag, 1975-1981, **3**, 1520 (*synth*)
Mehrotra, R.C. *et al*, *Metal β-Diketonates and Allied Derivatives*, London, 1978 (*rev*)
Kuroda, R. *et al*, *J. Chem. Soc., Dalton Trans.*, 1979, 273 (*cryst struct, abs config*)
Van Dam, H. *et al*, *J. Electron Spectrosc. Relat. Phenom.*, 1979, **13**, 353 (*pe*)

Pierce, J.L. *et al*, *Inorg. Chem.*, 1982, **21**, 2597 (*ms*)
Chaudhuri, M.K. *et al*, *Synth. React. Inorg. Met.-Org. Chem.*, 1982, **12**, 879 (*synth*)
Shaefer, W. *et al*, *Fresenius' Z. Anal. Chem.*, 1983, **315**, 475 (*use*)
Peacock, R.D., *J. Chem. Soc., Dalton Trans.*, 1983, 291 (*cd*)
Drake, A.F. *et al*, *Polyhedron*, 1983, **2**, 537 (*resoln*)
Kolesov, B.A. *et al*, *Koord. Khim.*, 1985, **11**, 485 (*raman*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TNN250.

Tris(2,4-pentanedionato-*O,O'*)iron(*III*), 11CI T-00411

Tris(acetylacetonato)iron(III). *Ferric acetylacetonate*

[14024-18-1]



$C_{15}H_{21}FeO_6$ M 353.174

Octahedral. Synth. by various methods from Fe(0) or Fe(*III*). Combustion, oxidation, polym. coupling catalyst; bonding agent; curing accelerator; synthetic intermed. NMR relaxation reagent. Red cryst. (EtOH). Sl. sol. H_2O; sol. EtOH, Me_2CO, $CHCl_3$, CH_2Cl_2. Mp 175°.

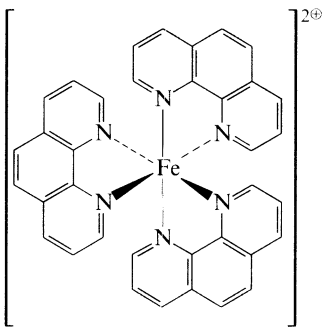
▷ Irritant. NO8960000.

Charles, R.G. *et al*, *J. Phys. Chem.*, 1958, **62**, 315 (*synth*)
Nakamoto, K. *et al*, *J. Am. Chem. Soc.*, 1961, **83**, 1066 (*ir*)
Dunne, T.G. *et al*, *Inorg. Chem.*, 1963, **2**, 263 (*synth, magnetism*)
Iball, J. *et al*, *Acta Crystallogr.*, 1967, **23**, 239 (*struct*)
Bancroft, G.M. *et al*, *Inorg. Chem.*, 1968, **7**, 870 (*ms*)
Larsson, R. *et al*, *Acta Chem. Scand.*, 1969, **23**, 1765 (*ir*)
Lintvedt, R.L. *et al*, *Inorg. Chem.*, 1970, **9**, 491 (*uv, electronic struct*)
Hancock, R.D. *et al*, *Theor. Chim. Acta*, 1970, **18**, 67 (*uv, nmr, ir, bonding*)
Levy, G.C. *et al*, *J. Magn. Reson.*, 1973, **10**, 231 (*use*)
Chaudhuri, M.K. *et al*, *J. Chem. Soc., Dalton Trans.*, 1983, 839 (*synth*)
Nekhoroshkov, V.P. *et al*, *Koord. Khim.*, 1984, **10**, 459 (*ir*)
Yamauchi, S. *et al*, *Bull. Chem. Soc. Jpn.*, 1985, **58**, 442 (*mössbauer*)
Kolesov, B.A. *et al*, *Koord. Khim.*, 1985, **11**, 485 (*raman*)
Srivastava, S. *et al*, *Polyhedron*, 1985, **4**, 409 (*pe*)
Hedewy, S. *et al*, *Phys. Status Solidi A*, 1986, **97**, 129 (*esr*)
Collison, D. *et al*, *Inorg. Chem.*, 1990, **29**, 4735 (*esr*)
Ustinov, A.Y. *et al*, *Zh. Fiz. Khim.*, 1991, **65**, 1811; *CA*, **115**, 265866m (*pe*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, IGL000.

Tris(1,10-phenanthroline-N^1,N^{10})iron(*II*) (2+), 11CI T-00412

Ferroin

[14708-99-7]



Absolute configuration

Δ-form

$C_{36}H_{24}FeN_6^{2\oplus}$ M 596.473 (ion)

Stable low spin complex. May be resolved. Synth. from aq. Fe(*II*) salts + phen. Catalyst; redox agent; electrocatalyst; extractant; reagent for spectrophotometric detn. of Fe, Sb, As, Pd, Ir, B, $SCN^{\ominus}$, $ClO_4^{\ominus}$; redox indicator. lg K_1 5.8; lg K_2 5.2; lg K_3 10.0. $E°$ −1.10v. Reacts with strong nucleophiles, $X^{\ominus}$, to form $Fe(phen)_2X_2$. $E°$ +1.11 V (pH ~ 0).

Δ-form [24324-38-7]

(+)-*form*. d-*form*

Optical forms stable in solid state for months, but racemise rapidly in aq. soln., $t_{\frac{1}{2}}$ ~ 60 min.

Diperchlorate: [40424-84-8].

Red cryst. + $2H_2O$ or + $3H_2O$. $[\alpha]_D^6$ +1432° (approx. 60% e.e.).

Λ-form [47836-89-5]

(−)-*form*. l-*form*

Diperchlorate: Red microprismatic needles + $3H_2O$. Sol. H_2O, v. sol. Me_2CO, spar. sol. EtOH. $[\alpha]_D^6$ −1416° (approx. 60% e.e).

(2R,3R)-*Antimonytartrate salt:* [40354-54-9]. *Bis*[μ-[2,3-*dihydroxybutanedioato*(4−)-O^1,O^2, O^3,O^4]] *diantimonate*(2−) *salt*, *9CI*

Used to resolve cation enantiomers; and in detn. of abs. config. Dark red cryst. + $8H_2O$. V. insol. H_2O. $[\alpha]_D^6$ −950°.

(±)-form

Many salts known.

Dichloride: [14978-15-5].

Oxidation catalyst. Red.

Dibromide: [15406-79-8].

Red.

Diodide: [15553-89-6].

Red cryst. + $2H_2O$ (H_2O).

Diperchlorate: [14586-54-0].

Red cryst. Forms various hydrates.

Sulfate: [14634-91-4].

[13408-69-0, 24324-38-7, 24717-44-0, 36608-42-1, 38703-10-5, 39561-36-9, 40424-82-6, 41062-51-5, 41494-23-9, 42992-96-1, 47836-89-5, 51174-98-2]

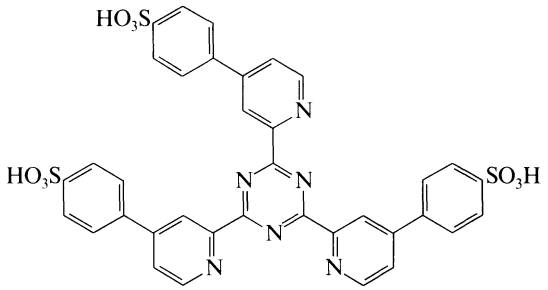
Blau, F., *Monatsh. Chem.*, 1898, **19**, 647 (*synth*)
Dwyer, F.P. *et al*, *J. Proc. R. Soc. N.S.W.*, 1950, **83**, 263 (*synth, resol*)
Koenig, L., *Coord. Chem. Rev.*, 1968, **3**, 471 (*rev, bibl*)
McWhinnie, W.R. *et al*, *Adv. Inorg. Chem. Radiochem.*, 1969, **12**, 135 (*rev, bibl*)
Kolthoff, I.M. *et al*, *Quant. Chem. Anal.*, MacMillan, London, 1969 (*indic*)

Zalkin, A. *et al*, *Inorg. Chem.*, 1973, **12**, 1641 (*cryst struct, abs config*)
Johansson, L., *Chem. Scr.*, 1976, **9**, 30 (*synth*)
Johansson, L. *et al*, *Inorg. Chim. Acta*, 1978, **31**, 117 (*cryst struct*)
O'Brien, P., *Polyhedron*, 1983, **2**, 233 (*kinetics, racemisn, rev*)
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986 (*use*)
Compr. Coord. Chem., Pergamon, Oxford, 1987, **4**, 1214, 1216 (*rev, bibl*)

2,4,6-Tris[4-(4-sulfophenyl)-2-pyridyl]-*s*-triazine T-00413

4,4′,4″-(1,3,5-Triazine-2,4,6-triyltri-2,4-pyridinediyl) trisbenzenesulfonic acid, 9CI

[76948-54-4]



$C_{36}H_{24}N_6O_9S_3$ M 780.818

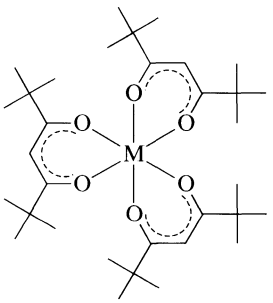
Used as a 1m*M* aq. soln. for photometric detn. of Fe(*II*) (λ_{max} 607 nm, ε 29800). Cryst. (H_2O). Mp >300° dec.

Hoyle, W.C. *et al*, *Talanta*, 1980, **27**, 963 (*detn, Fe*)

Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O′*)chromium(*III*), 11CI T-00414

Chromium(III) *dipivaloylmethanide*

[14434-47-0]



M = Cr

$C_{33}H_{57}CrO_6$ M 601.806

Relaxation reagent. Dark purple cryst. or ruby red needles (EtOH). Sol. C_6H_6, EtOH, Me_2CO. Mp 230° (229°). Subl.$_{0.0001}$ 180°.

Hammond, G.S. *et al*, *Inorg. Chem.*, 1963, **2**, 73 (*synth*)
Hancock, R.D. *et al*, *J. Mol. Struct.*, 1969, **4**, 361 (*ir*)
Fatta, A.M. *et al*, *Inorg. Chem.*, 1971, **10**, 478 (*synth, uv-vis*)
Berg, E.W. *et al*, *Anal. Chim. Acta*, 1972, **60**, 117 (*synth, ir*)
Yoshida, I. *et al*, *Bull. Chem. Soc. Jpn.*, 1974, **47**, 2203 (*synth, dta*)
Levy, G.C. *et al*, *J. Magn. Reson.*, 1975, **19**, 259 (*use*)
Schildcrout, S.M., *Inorg. Chem.*, 1980, **19**, 224 (*ms*)
Inorg. Synth., 1986, **24**, 183 (*synth*)

Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O′*)dysprosium(*III*) T-00415

Tris(dipivaloylmethanido)dysprosium(III). *Dysprosium tris(dipivaloylmethane). Resolve-AlDy. Dy(thd)*$_3$

[15522-69-7]

As Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O′*) chromium(*III*), T-00414 with

M = Dy

$C_{33}H_{57}DyO_6$ M 712.310

Can be either monomeric or dimeric in solid state. Commercially available. Nmr upfield shift reagent. Hygroscopic white cryst. (hexane). Sol. C_6H_6, CCl_4, $CHCl_3$, MeOH, EtOH, EtOAc, hexane. Mp 180-183.5° (182-183°). Subl. 180° *in vacuo*. Paramagnetic, μ_{eff} = 10.3μ_B.

Monohydrate:
$C_{33}H_{59}DyO_7$ M 730.325
White cryst.

Py complex: [33135-12-5].
$C_{38}H_{62}DyNO_6$ M 791.411
White cryst. Sol. Py, C_6H_6. Mp 135-137°. μ_{eff} = 10.7μ_B.

Bipy complex: [33135-13-6].
$C_{43}H_{65}DyN_2O_6$ M 868.496
White cryst. Sol. CCl_4, hexane. Mp 193°. μ_{eff} = 10.2 μ_B.

Phen complex: [33135-14-7].
$C_{45}H_{65}DyN_2O_6$ M 892.518
White cryst. Sol. CCl_4, hexane. Mp 250°. μ_{eff} = 10.0μ_B.

y.

Eisentraut, K.J. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 5254 (*synth, glc*)
Inorg. Synth., 1968, **11**, 94 (*synth, ir*)
Mode, V.A. *et al*, *J. Inorg. Nucl. Chem.*, 1969, **31**, 1857 (*cryst struct*)
Crump, D.R. *et al*, *Tetrahedron Lett.*, 1970, 4419 (*use*)
Selbin, J. *et al*, *Inorg. Chem.*, 1971, **10**, 1383 (*synth, deriv, magnetism, uv, vis*)
Erasmus, C.S. *et al*, *J. Cryst. Mol. Struct.*, 1971, **1**, 83, 297.
Cockerill, A.F. *et al*, *Chem. Rev.*, 1973, **73**, 553 (*rev*)
Orchard, A.F. *et al*, *J. Electron Spectrosc. Relat. Phenom.*, 1977, **10**, 1 (*pe*)
Kluzinger, J.P. *et al*, *Org. Magn. Reson.*, 1980, **13**, 464 (*use*)
Gmelin Handbook Inorg. Chem., Syst. No. 39, 1981, **D3**, 125 (*rev*)
Gavrishchuk, E.M. *et al*, *Zh. Neorg. Khim.*, 1983, **28**, 871; *Russ. J. Inorg. Chem.* (*Engl. Transl.*), 1983, **28**, 493 (*ms*)

Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O′*)europium(*III*) T-00416

Europium(III) *dipivaloylmethanide. Resolve-Al. Eu(thd)*$_3$

[15522-71-1]

As Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O′*) chromium(*III*), T-00414 with

M = Eu

$C_{33}H_{57}EuO_6$ M 701.775

Commercially available. Nmr shift reagent. Resolves mixts. of steroidal diastereoisomers. Generally forms 1:1 adducts with Lewis bases. Dimeric in solid state.

Dimer: [35185-03-6].
$C_{66}H_{114}Eu_2O_{12}$ M 1403.549
Yellow cryst. Sol. C_6H_6, $CHCl_3$, CCl_4, MeOH, EtOAc, hexane. Mp 187-189° (190-191°). Subl. 180° *in vacuo*. Paramagnetic, μ_{eff} = 3.4μB.

Eisentraut, K.J. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 5254 (*synth, glc*)
Inorg. Synth., 1968, **11**, 94 (*synth, ir*)
Sanders, J.K.M. *et al*, *J. Chem. Soc., Chem. Commun.*, 1970, 422 (*use*)
Crump, D.R. *et al*, *Tetrahedron Lett.*, 1970, 4419 (*use*)

Joseph-Nathan, P. *et al*, *Can. J. Chem.*, 1973, **50**, 2788.
Cockerill, A.F. *et al*, *Chem. Rev.*, 1973, **73**, 553 (*rev*)
Mayo, B.C., *Chem. Soc. Rev.*, 1973, **2**, 49 (*rev*)
Dyer, D.S. *et al*, *NMR Shift Reagents*, (Ed. Sievers, R.E.), Academic Press, N.Y., 1973, 21 (*complex*)
Cramer, R.E. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 4125 (*use*)
Gmelin Handbook Inorg. Chem., Syst. No. 39, 1981, **D3**, 125 (*rev*)
Gavrishchuk, E.M. *et al*, *Zh. Neorg. Khim.*, 1983, **28**, 871; *Russ. J. Inorg. Chem.* (*Engl. Transl.*), **28**, 493 (*ms*)

Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*)gadolinium(*III*) T-00417

Tris(dipivaloylmethanido)gadolinium. Resolve-Al Gd. Gd(thd)$_3$

[14768-15-1]

As Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*) chromium(*III*), T-00414 with

M = Gd

$C_{33}H_{57}GdO_6$ M 707.060
Dimeric in solid state. Commercially available. Nmr shift reagent. Used as a spin label in ^{15}N nmr.

Dimer:
$C_{66}H_{114}Gd_2O_{12}$ M 1414.119
Hygroscopic white solid. Sol. C_6H_6, $CHCl_3$, MeOH, EtOH, CCl_4, EtOAc, hexane. Mp 182-184°.
Paramagnetic, μ_{eff} = 7.6, 7.8μ_B.

Py complex: [33134-16-6]. (*Pyridine*)*tris(2,2,6,6-tetramethyl-3,5-heptanedionato*-O,O')*gadolinium*(III)
$C_{38}H_{62}GdNO_6$ M 786.161
White cryst. Sol. Py, C_6H_6. Mp 134-135°. Paramagnetic, μ_{eff} = 7.8μ_B.

Bipy complex: [33134-17-7]. (*2,2'-Bipyridine*-N,N') *tris(2,2,6,6-tetramethyl-3,5-heptanedionato*-O,O') *gadolinium*(III)
$C_{43}H_{65}GdN_2O_6$ M 863.246
White cryst. Sol. Py, hexane. Mp 192-193°.
Paramagnetic, μ_{eff} = 7.9μ_B.

Phen complex: [33134-18-8]. (*1,10-Phenanthroline*-N^1,N^{10}) *tris(2,2,6,6-tetramethyl-3,5-heptanedionato*-O,O') *gadolinium*(III)
$C_{45}H_{65}GdN_2O_6$ M 887.268
White cryst. Sol. CCl_4, hexane. Mp 225-228°.
Paramagnetic, μ_{eff} = 8.0μ_B.

Eisentraut, K.J. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 5254 (*synth, ir*)
Inorg. Synth., 1968, **11**, 94 (*synth, ir*)
Mode, V.A. *et al*, *J. Inorg. Nucl. Chem.*, 1969, **31**, 1857 (*cryst struct*)
Selbin, J. *et al*, *Inorg. Chem.*, 1971, **10**, 1383 (*synth, derivs, magnetism, uv-vis*)
Levy, G.C. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 2308 (*use*)
Gmelin Handbook Inorg. Chem., Syst. No. 39, *Suppl. Vol.*, 1981, **D3**, 125 (*rev*)
Hirayama, C. *et al*, *Thermochim. Acta*, 1985, **88**, 407 (*ms*)

Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*)holmium(*III*) T-00418

Tris(dipivaloylmethanido)holmium(III). *Resolve-Al Ho. Ho(thd)*$_3$

[15522-73-3]

As Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*) chromium(*III*), T-00414 with

M = Ho

$C_{33}H_{57}HoO_6$ M 714.740
Commercially available nmr shift reagent. Hygroscopic yellow-white cryst. Sol. C_6H_6, CCl_4, $CHCl_3$, MeOH, EtOH, EtOAc, hexane. Mp 180-182.5° (178-180°).

Py complex: [33088-21-0]. (*Pyridine*)*tris(2,2,6,6-tetramethyl-3,5-heptanedionato*-O,O')*holmium*(III)
$C_{38}H_{62}HoNO_6$ M 793.841
White cryst. Sol. Py, C_6H_6. Mp 134-135°. Paramagnetic, μ_{eff} = 10.3μ_B.

Bipy complex: [33135-15-8]. (*2,2'-Bipyridine*-N,N') *tris(2,2,6,6-tetramethyl-3,5-heptanedionato*-O,O') *holmium*(III)
$C_{43}H_{65}HoN_2O_6$ M 870.927
Light yellow cryst. Sol. CCl_4, hexane. Mp 188-190°.
Paramagnetic, μ_{eff} = 10.5μ_B.

Phen complex: [33293-87-7]. (*1,10-Phenanthroline*-N,N') *tris(2,2,6,6-tetramethyl-3,5-heptanedionato*-O,O') *holmium*(III)
$C_{45}H_{65}HoN_2O_6$ M 894.949
Light yellow cryst. Sol. CCl_4, hexane. Mp 246-248°.
Paramagnetic, μ_{eff} = 10.3μ_B.

Bis(4-picoline) complex: [34430-71-2].
$C_{45}H_{71}HoN_2O_6$ M 900.996
Cryst. Sol. 4-picoline. Square antiprismatic struct.

Eisentraut, K.J. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 5254 (*synth*)
Inorg. Synth., 1968, **11**, 94 (*synth, ir*)
Belcher, R. *et al*, *J. Inorg. Nucl. Chem.*, 1969, **31**, 471 (*ms*)
Crump, D.R. *et al*, *Tetrahedron Lett.*, 1970, 4419 (*use*)
Tomic, L. *et al*, *Croat. Chem. Acta*, 1971, **43**, 267 (*use*)
Selbin, J. *et al*, *Inorg. Chem.*, 1971, **10**, 1383 (*synth, derivs, magnetism, uv-vis*)
Horrocks, W. de W. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 5258 (*picoline complex, cryst struct*)
Gmelin Handbook Inorg. Chem., Syst. No 39, *Suppl. Vol*, 1981, **D3**, 125 (*rev*)
Gavrishchuk, E.M. *et al*, *Zh. Neorg. Khim.*, 1983, **28**, 871; *Russ. J. Inorg. Chem.* (*Engl. Transl.*), 1983, **28**, 493 (*ms*)

Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*)lanthanum(*III*) T-00419

Tris(dipivaloylmethanido)lanthanum(III). *Resolve-Al La. La(thd)*$_3$

[14319-13-2]

As Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*) chromium(*III*), T-00414 with

M = La

$C_{33}H_{57}LaO_6$ M 688.715
Dimeric in solid state. Commercially available. Nmr shift reagent.

Dimer:
$C_{66}H_{114}La_2O_{12}$ M 1377.430
Hygroscopic colourless cryst. (DMF). Sol. $CHCl_3$, C_6H_6, EtOAc, EtOH, CCl_4, hexane. Mp 238-248° (sealed tube) (148-149°).

DMF complex (1:1): [17979-38-3]. (*Dimethylformamide*) *tris(2,2,6,6-tetramethyl-3,5-heptanedionato*-O,O') *lanthanum*(III)
$C_{36}H_{64}LaNO_7$ M 761.810
Colourless cryst. Sol. DMF. Mp 118-235°. Dec. >115° with loss of DMF.

Hammond, G.S. *et al*, *Inorg. Chem.*, 1963, **2**, 73 (*synth*)
Eisentraut, K.J. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 5254 (*synth, ir, pmr*)
Inorg. Synth., 1968, **11**, 94 (*synth*)
Mode, V.A. *et al*, *Inorg. Nucl. Chem. Lett.*, 1972, **8**, 357 (*ir*)
Vebel, J.J. *et al*, *Tetrahedron Lett.*, 1973, 4383 (*use*)
Gmelin Handbook Inorg. Chem., Syst. No. 39 *Suppl. Vol.*, 1981, **D3**, 125 (*rev*)
Korsun, V.R. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1983, **49**, 577 (*ir*)
Gavrishchuk, E.M. *et al*, *Zh. Neorg. Khim.*, 1983, **28**, 871; *Russ. J. Inorg. Chem.* (*Engl. Transl.*), 1983, **28**, 493 (*ms*)

Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*)praseodymium(*III*) T-00420

Praseodymium(III) *dipivaloylmethanide. Pr(thd)*$_3$. *Resolve-Al Pr*

[15492-48-5]

As Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*) chromium(*III*), T-00414 with

M = Pr

$C_{33}H_{57}O_6Pr$ M 690.717

Possesses dimeric struct. in solid state. Commercially available. Nmr upfield shift reagent. Hygroscopic cryst. (hexane). Mp 219-221°, Mp 222-224° (sealed capillary). Subl. 180° *in vacuo*.

Dimer: [32573-81-2].
$C_{66}H_{114}O_{12}Pr_2$ M 1381.435
Pale green cryst. (hexane). Sol. C_6H_6, $CHCl_3$, MeOH, EtOH, EtOAc, CCl_4, hexane. Mp 222-224°. 7-Coord.; paramagnetic, μ_{eff} = 3.6μ_B.

Ph_3PO complex (1:1): [68199-99-5]. *Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O')*(triphenylphosphine oxide)praseodymium*(III)
$C_{51}H_{72}O_7PPr$ M 969.007
Green monoclinic cryst.

Py complex (1:1): [33378-63-1]. *Pyridinetris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O')*praseodymium*(III)
$C_{38}H_{62}NO_6Pr$ M 769.819
Green cryst. Sol. Py, C_6H_6.

Bipy complex: [33134-02-0]. *(2,2'-Bipyridine-*N,N') *tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O') *praseodymium*(III)
$C_{43}H_{65}N_2O_6Pr$ M 846.904
Green cryst. Sol. CCl_4, hexane. Mp 191-193°. μ_{eff} = 3.6μ_B.

Phen complex: [33134-06-4]. *(1,10-Phenanthroline) tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O') *praseodymium*(III)
$C_{45}H_{65}N_2O_6Pr$ M 870.926
Green. solid. Sol. CCl_4, hexane. Mp 221-222°. μ_{eff} = 3.6μ_B.

[65366-39-4]

Eisentraut, K.J. *et al, J. Am. Chem. Soc.*, 1965, **87**, 5254 (*synth, glc*)
Inorg. Synth., 1968, **11**, 94 (*synth, ir*)
Erasmus, C.S. *et al, Acta Crystallogr., Sect. B*, 1970, **26**, 1843 (*cryst struct*)
Crump, D.R. *et al, Tetrahedron Lett.*, 1970, 4419 (*use*)
Selbin, J. *et al, Inorg. Chem.*, 1971, **10**, 1383 (*derivs, synth, uv-vis, magnetism*)
Cockerill, A.F. *et al, Chem. Rev.*, 1973, **73**, 553 (*rev*)
Mayo, B.C., *Chem. Soc. Rev.*, 1973, **2**, 49 (*rev*)
Aslanov, L.A. *et al, Koord. Khim.*, 1978, **4**, 1427; *Sov. J. Coord. Chem.* (*Engl. Transl.*), 1978, **4**, 1089; *CA*, **89**, 207560 (*Ph_3PO complex, cryst struct*)
Gmelin Handbook Inorg. Chem., Syst. No. 39, 1981, **D3**, 125 (*rev*)
Gavrishchuk, E.M. *et al, Zh. Neorg. Khim.*, 1983, **28**, 871; *Russ. J. Inorg. Chem.* (*Engl. Transl.*), 1983, **28**, 493 (*ms*)

Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*)ytterbium(*III*) T-00421

Tris(dipivaloylmethanido)ytterbium(III). *Resolve-Al Yb. Yb(thd)*$_3$

[15492-52-1]

As Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*) chromium(*III*), T-00414 with

M = Yb

$C_{33}H_{57}O_6Yb$ M 722.850

Commercially available nmr downfield shift reagent. Hygroscopic white cryst. (hexane). Sol. C_6H_6, CCl_4, $CHCl_3$, MeOH, EtOH, EtOAc, hexane. Mp 166-169° (165-167°). Subl. 180° *in vacuo*. Paramagnetic, μ_{eff} = 4.3μ_B.

Py complex: [33135-19-2].
$C_{38}H_{62}NO_6Yb$ M 801.951
White cryst. Sol. CCl_4, C_6H_6. Mp 130-132°. μ_{eff} = 4.3, 4.5μ_B.

Bipy complex: [33293-88-8].
$C_{43}H_{65}N_2O_6Yb$ M 879.036
White cryst. Sol. CCl_4, hexane. Mp 167-168°. μ_{eff} = 4.3μ_B.

Phen complex: [33293-89-9].
$C_{45}H_{65}N_2O_6Yb$ M 903.058
White cryst. Sol. CCl_4, hexane. μ_{eff} = 4.3μ_B.

Eisentraut, K.J. *et al, J. Am. Chem. Soc.*, 1965, **87**, 5254 (*synth, glc*)
Inorg. Synth., 1968, **11**, 94 (*synth ir*)
Crump, D.R. *et al, Tetrahedron Lett.*, 1970, 4419 (*use*)
Selbin, J. *et al, Inorg. Chem.*, 1971, **10**, 1383 (*synth, derivs, magnetism*)
Holik, M., *Chem. Listy*, 1972, **66**, 449 (*rev*)
Buse, A.K. *et al, Tetrahedron Lett.*, 1972, 3599 (*use*)
Cockerill, A.F. *et al, Chem. Rev.*, 1973, **73**, 553 (*rev*)
Mayo, B.C., *Chem. Soc. Rev.*, 1973, **2**, 49 (*rev*)
Servis, R.L. *et al, J. Am. Chem. Soc.*, 1975, **97**, 73 (*use*)
Gmelin Handbook Inorg. Chem., Syst. No. 39, 1981, **D3**, 125 (*rev*)
Gavrishchuk, E.M. *et al, Zh. Neorg. Khim.*, 1983, **28**, 871; *Russ. J. Inorg. Chem.* (*Engl. Transl.*), 1983, **28**, 493 (*ms*)

Tris(tetraphenylimidodiphosphinato) praseodymium T-00422

Tris[N-(*diphenylphosphinyl*)-P,P-*diphenylphosphinicamidato*-O,O']*praseodymium, 9CI*

[106150-44-1]

$[[Ph_2P(O)]_2N]_3Pr$

$C_{72}H_{60}N_3O_6P_6Pr$ M 1390.032

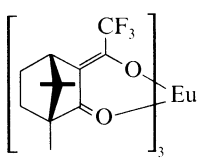
Pmr shift reagent useful for the anal. of fatty acids. V. sol. $CHCl_3$, Me_2CO.

Rodriguez, I. *et al, J. Chem. Soc., Chem. Commun.*, 1987, 1502 (*synth*)
Alvarez, C. *et al, J. Chem. Soc., Chem. Commun.*, 1988, 1002 (*use*)

Tris(3-trifluoroacetyl-*d*-camphorato) europium(*III*) T-00423

Tris[*1,7,7-trimethyl-3-(trifluoroacetyl)bicyclo*[*2.2.1*]*heptan-2-onato*-O,O']*europium, 9CI. Tris*[*3-(trifluoromethylhydroxymethylene)*-d-*camphorato*] *europium*(III). *Eu(facam)*$_3$. *Eu(tfc)*$_3$

[34830-11-0]



$C_{36}H_{42}EuF_9O_6$ M 893.675

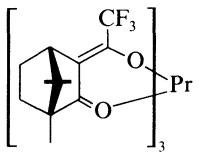
Nmr chiral shift reagent. Yellow-orange powder (pentane). Insol. H_2O. Subl.$_{0.1}$ 250°. Hygroscopic. Indefinite Mp.

Goering, H.L. *et al, J. Am. Chem. Soc.*, 1971, **93**, 5913 (*use, synth*)
Feibush, B. *et al, J. Am. Chem. Soc.*, 1972, **94**, 6717 (*glc*)
McCreary, M.D. *et al, J. Am. Chem. Soc.*, 1974, **96**, 1038 (*use*)
Goering, H.L. *et al, J. Am. Chem. Soc.*, 1974, **96**, 1493 (*synth, use*)

Tris(3-trifluoroacetyl-*d*-camphorato) praseodymium(*III*) T-00424

Tris[1,7,7-trimethyl-3-(trifluoroacetyl)bicyclo[2.2.1]heptan-2-onato-O,O']praseodymium, 9CI. Tris[3-(trifluoromethylhydroxymethylene)-d-camphorato] praseodymium(III). *Pr(facam)*$_3$. *Pr(tfc)*$_3$

[38053-99-5]



$C_{36}H_{42}F_9O_6Pr$ M 882.617

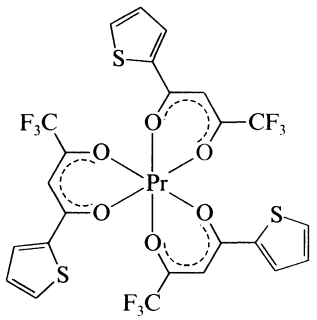
Nmr chiral shift reagent. Light-tan powder (hexane). Mp 211.5-213.5°. $[\alpha]_D^{20}$ +222° (c, 1.3 in CCl_4). A solvated form of indefinite Mp slowly dehydrates at 105° *in vacuo*. Hygroscopic, volatile.

Feibush, B. *et al, J. Am. Chem. Soc.*, 1972, **94**, 6717 (*synth, glc*)
McCreary, M.D. *et al, J. Am. Chem. Soc.*, 1974, **96**, 1038 (*use*)
Goering, H.L. *et al, J. Am. Chem. Soc.*, 1974, **96**, 1493 (*synth, use*)

Tris[4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedionato-*O,O'*]praseodymium(*III*), 10CI T-00425

Praseodymium(III) *thenoyltrifluoroacetonate*

[14644-86-1]



$C_{24}H_{12}F_9O_6PrS_3$ M 804.446

Used with corresp. Ag complex as nmr shift reagent for alkenes and aromatics. Brown cryst. Sol. C_6H_6. Mp 164°.

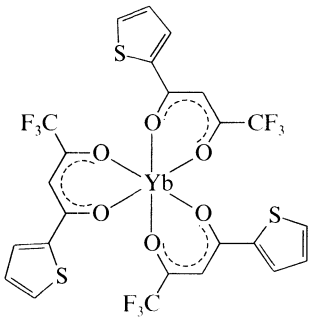
Dihydrate: [32269-66-2].
Light green cryst. Sol. MeOH, EtOH. μ_{eff} = 3.35 μ_B (298K).

Purushottam, D. *et al, Anal. Chim. Acta*, 1965, **33**, 182 (*synth, ir, uv-vis*)
Gmelin Handbook Inorg. Chem., Syst. No. 39, *Suppl. Vol.*, 1981, **D3**, 217 (*rev, bibl*)
Sayeed, M. *et al, J. Inorg. Nucl. Chem.*, 1981, **43**, 3197 (*complex*)
Wenzel, T.J. *et al, J. Org. Chem.*, 1983, **48**, 1951 (*use*)
Hamer, A.M. *et al, Transition Met. Chem. (London)*, 1983, **8**, 298; 1984, **9**, 433 (*synth, ms, magnetism, uv-vis*)

Tris[4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedionato-*O,O'*]ytterbium(*III*), 9CI T-00426

Ytterbium(III) *thenoyltrifluoroacetonate*

[14644-89-4]



$C_{24}H_{12}F_9O_6S_3Yb$ M 836.579

Used with corresp. Ag complex as nmr shift reagent for alkenes and aromatics. Yellow cryst. Sol. C_6H_6, MeOH. Mp 145°.

Dihydrate: Colourless cryst. Sol. MeOH, EtOH. On heating does not lose H_2O, but dec. Paramagnetic μ_{eff} = 4.30μ_B (298K).

Phen complex: Cryst. Sol. C_6H_6. Mp 199-200°. μ_{eff} = 4.47μ_B.

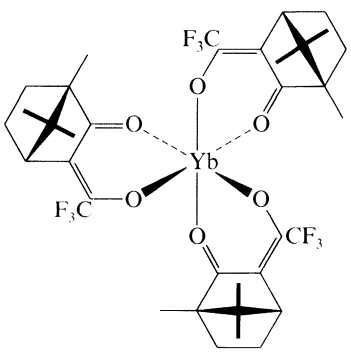
[32269-75-3, 41942-11-4]

Purushottam, D. *et al, Anal. Chim. Acta*, 1965, **33**, 182 (*synth*)
Gmelin Handbook Inorg. Chem., Syst. No. 39, *Suppl. Vol.*, 1981, **D3**, 217 (*rev*)
Sayeed, M. *et al, J. Inorg. Nucl. Chem.*, 1981, **43**, 3197 (*complex*)
Wenzel, T.J. *et al, J. Org. Chem.*, 1983, **48**, 1951 (*use*)
Hamer, A.M. *et al, Transition Met. Chem. (London)*, 1983, **8**, 298; 1984, **9**, 433 (*synth, ms, magnetism*)

Tris[1,7,7-trimethyl-3-(trifluoroacetyl) bicyclo[2.2.1]heptan-2-onato-*O,O'*] ytterbium, 9CI T-00427

Yb(ftc)$_3$. *Tris[3-(trifluoromethylhydroxymethylene) camphorato]ytterbium*

[38054-03-4]



$C_{36}H_{42}F_9O_6Yb$ M 914.750

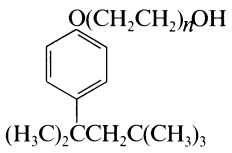
Chiral nmr shift reagent. Yellow solid.

Schurig, V., *Tetrahedron Lett.*, 1972, 3297 (*synth, use*)
Liu, J.H. *et al, Analyst (London)*, 1982, **107**, 544 (*use*)

Triton X 100 T-00428

Polyethylene glycol tert-*octylphenyl ether*

[9002-93-1]



$n \sim 10$

Non-ionic detergent. CAS number also refers to Triton X 305 below. Used for photometric detn. of Co. d 1.082. n_D^{20} 1.4900.

Hexahydro: [101013-07-4].
Non-ionic detergent. Used for extraction of proteins from human erythrocyte membranes. d 1.029. n_D^{20} 1.4720.

Okawa, S. *et al*, *Bunseki Kagaku* (*Jpn. Anal.*), 1982, **31**, 373 (*detn, Co*)
Tiller, G.E. *et al*, *Anal. Biochem.*, 1984, **141**, 262 (*sepn, proteins*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, PKF500.

Triton X 305 T-00429

α-[4-(1,1,3,3-Tetramethylbutyl)phenyl]-ω-hydroxypoly(oxy-1,2-ethanediyl), 9CI

Non-ionic surfactant. Used as a 1% aq. soln. for photometric detn. of As. Sol. H_2O.

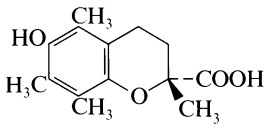
[9002-93-1]

Wu, Q. *et al*, *Talanta*, 1983, **30**, 275.

Trolox C T-00430

3,4-Dihydro-6-hydroxy-2,5,7,8-tetramethyl-2H-1-benzopyran-2-carboxylic acid, 9CI

[56305-04-5]



(*R*)-*form*

$C_{14}H_{18}O_4$ M 250.294
Antioxidant used in food industry.

(***R*)-*form*** [53101-49-8]
Cryst. (Et_2O/pet. ether). Mp 159-161° dec. $[\alpha]_D^{25}$ +66.1° (c, 1 in EtOH).

Me ester: [70897-16-4].
Cryst. (MeOH aq.). Mp 132-134.5°. $[\alpha]_D^{25}$ +61.4° (c, 4.91 in MeOH).

(***S*)-*form*** [53174-06-4]
Cryst. (Et_2O/pentane). Mp 161°. $[\alpha]_D^{20}$ −64.8° (c, 1.01 in EtOH).

Me ester: [70897-17-5].
$[\alpha]_D^{24}$ −60.5° (c, 1.02 in MeOH).

Me ether: [135806-59-6].
Derivatisation reagent for gc anal. of enantiomers of aliphatic alcohols. Cryst. (Et_2O/hexane). Mp 144-145°. $[\alpha]_D^{20}$ −69.2°.

(±)-***form*** [53188-07-1]
Cryst. (H_2O). Mp 190-192°.

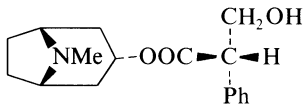
Me ester: [53101-52-3].
Cryst. (Me_2CO/Et_2O). Mp 158.5-161.5°.

Et ester: [53174-07-5].
Cryst. (Et_2O). Mp 124-126°.

Scott, J.W. *et al*, *J. Am. Oil Chem. Soc.*, 1974, **51**, 200; 1975, **52**, 174 (*synth, antioxidant*)
Yoda, H. *et al*, *Chem. Lett.*, 1989, 465 (*synth*)
Walther, W. *et al*, *Chimia*, 1991, **45**, 121 (*synth, use, Me ether*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TNR625.

Tropine tropate T-00431

α-(Hydroxymethyl)benzeneacetic acid 8-methyl-8-azabicyclo[3.2.1]oct-3-yl ester, 9CI



(*S*)-*form*

$C_{17}H_{23}NO_3$ M 289.374

(***S*)-*form*** [101-31-5] ***Hyoscyamine, USAN, BAN.*** *Daturine. Duboisine*
Alkaloid from *Atropa, Datura, Duboisia, Hyoscyamus* and *Scopolia* spp. and several other genera in the Solanaceae, esp. some strains of *Duboisia myoporoides*. Used in medicine as a mydriatic. Mp 108-111°. $[\alpha]_D^{15}$ −22° (50% EtOH aq.). Racemises slowly in EtOH to Atropine, more rapidly in alkali or on melting; sometimes occurs naturally as partial racemate.
▷ Highly toxic. NH0875000.

B,HBr: [306-03-6]. *Hyoscyamine hydrobromide, USAN*
Mp 151°. Deliquescent. Component of Dolonil and Pyridium Plus.

(±)-***form*** [51-55-8] ***Atropine, USAN, INN***
Alkaloid from *A. belladonna, Datura stramonium* and other Solanaceae. Mydriatic, antispasmodic and cycloplegic agent. Used in preanaesthetic medication to prevent reflex brachycardia and bronchospasm and to decrease gland secretions. Reduces rigidity in parkinsonism. Antidote to poisoning with parasympathomimetic agents, e.g. nerve gases, organophosphorus insecticides. Cause of deliberate and accidental poisoning of humans and livestock. Nontoxic to some spp., e.g. rabbits. Reference material used in elemental microanalysis. Mp 116-117°. In many cases, Atropine may be an artifact of the extraction procedure.
▷ Highly toxic. Human lethal dose ~100 mg. Occasional hypersensitivity occurs. CK0700000.

B,HBr: [6415-90-3].
Mp 163-164°.

Picrate: Mp 175-176°.

N-*Oxide:* [4438-22-6]. *Aminoxytropine tropate.* ***Atropine oxide, INN.*** *Genatropine*
$C_{17}H_{23}NO_4$ M 305.373
Mp 127-128°. Dec. at 135°.

N-*Oxide; B,HCl:* [4574-60-1]. *Atropine oxide hydrochloride, USAN. Atropigen. Tropinox. Xtro*
Prisms (EtOH). Mp 192-193°.

[620-61-1, 31610-87-4, 56362-77-7, 56362-78-8]

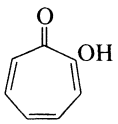
Leete, E. *et al*, *Can. J. Chem.*, 1954, **32**, 1116; 1955, **33**, 1853 (*isol, biosynth*)
Cannon, J.R. *et al*, *Aust. J. Chem.*, 1969, **22**, 221 (*pmr*)
Fales, H.M. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 1590 (*ms*)
Takeuchi, Y. *et al*, *Chem. Pharm. Bull.*, 1971, **19**, 2603 (*synth*)
Kussäther, E. *et al*, *Acta Crystallogr., Sect. B*, 1972, **28**, 2896 (*cryst struct*)
Analyst (*London*), 1972, **97**, 740 (*microanal*)
Phillipson, J.D. *et al*, *Phytochemistry*, 1975, **14**, 999 (*oxides*)
Sternberg, V.I. *et al*, *J. Heterocycl. Chem.*, 1977, **14**, 225 (*cmr*)
Pfister, J.R., *J. Org. Chem.*, 1978, **43**, 4373 (*synth*)
Shutt, L.E. *et al*, *Anaesthesia*, 1979, **34**, 476 (*rev, pharmacol*)
Kanto, J., *Int. J. Clin. Pharmacol., Ther. Toxicol.*, 1983, **21**, 92 (*rev*)

Al-Badr, A.A. *et al*, *Anal. Profiles Drug Subst.*, 1985, **14**, 325 (*rev, uv, ir, pmr, cmr, ms, anal*)
Seeger, R. *et al*, *Dtsch. Apoth. -Ztg.*, 1986, **126**, 1930 (*rev, pharmacol*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 6th Ed., Van Nostrand-Reinhold, 1984, 328, 1602, 1804.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, ARR000, ARR500, HOU000, MGR500.

Tropolone, 8CI T-00432

2-Hydroxy-2,4,6-cycloheptatrien-1-one, 9CI

[533-75-5]



$C_7H_6O_2$ M 122.123

Isol. from *Pseudomonas plantari*. Used as 0.01*M* aq. soln. for photometric detn. of Ru(*III*) (λ_{max} 415 nm, ε 18700), Rh(*III*), Cr(*III*). Needles (hexane or pet. ether). Mp 49-50°. pK_{a1} −0.53; pK_{a2} 6.67 (25°).

▷ GU4075000.

Picrate: Mp 119-120°.

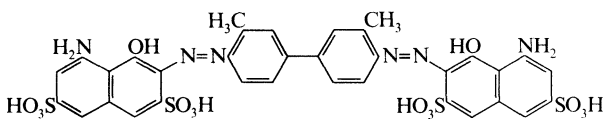
Ac: [33739-54-7].
$C_9H_8O_3$ M 164.160
Mp 67°.
▷ YN2346000.

Me ether: [2161-40-2].
$C_8H_8O_2$ M 136.150
Cryst. (Et_2O or CCl_4) + $0.5H_2O$. Mp 41°. Anhyd. form is an oil which rapidly hydrates in air.

Dewar, J., *Nature (London)*, 1945, **155**, 50 (*synth*)
Cook, J.W. *et al*, *J. Chem. Soc.*, 1951, **73**, 4136 (*synth*)
Hosoya, H. *et al*, *Tetrahedron*, 1962, **18**, 859 (*uv*)
Ikegami, Y., *Bull. Chem. Soc. Jpn.*, 1963, **36**, 1118 (*ir, raman*)
Sugiyama, H., *CA*, 1969, **70**, 15855 (*nmr*)
Shimanouchi, H. *et al*, *Tetrahedron Lett.*, 1970, 2421 (*cryst struct*)
Rizvi, G.H. *et al*, *Anal. Chim. Acta*, 1971, **54**, 295.
Rizvi, G.H. *et al*, *Mikrochim. Acta*, 1972, 459; 1983, **3**, 21 (*detn, Ru, Rh, Cr*)
Ozawa, H. *et al*, *Yakugaku Zasshi*, 1972, **92**, 19; *CA*, **76**, 149003 (*pharmacol*)
Shimanouchi, H. *et al*, *Acta Crystallogr., Sect. B*, 1973, **29**, 81 (*cryst struct*)
Org. Synth., 1977, **57**, 117 (*synth*)
Brown, R.S. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 3157 (*struct*)
Singh, P.H. *et al*, *Spectrosc. Lett.*, 1979, **10**, 1001 (*cmr*)
Bass, R.J. *et al*, *Synth. Commun.*, 1985, **15**, 225 (*synth, ethers*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TNV550.

Trypan blue T-00433

3,3'-[(3,3'-Dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)]bis[5-amino-4-hydroxy-2,7-naphthalenedisulfonic acid], 9CI. C.I. Direct blue 14. Niagara blue 3B. C.I. 23850



$C_{34}H_{28}N_6O_{14}S_4$ M 872.891

Strictly, the name Trypan blue applies to the tetrasodium salt.

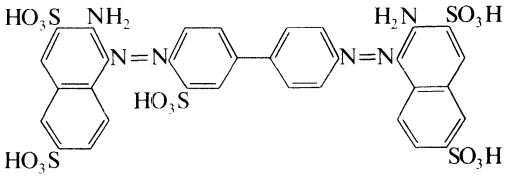
▷ QJ6475000.

Tetra Na salt: [72-57-1].
Used as 0.05*M* soln. in 1*M* HCl for photometric detn. of $F^{\ominus}$ (using insol. Zr-trypan blue complex, AcOH aq.). Dark blue cryst. powder. Sol. H_2O, acids. Mp >300°.

Bhatt, A. *et al*, *Microchem. J.*, 1985, **31**, 325 (*detn, $F^{\ominus}$*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, CMO250.

Trypan red T-00434

4,4'-[(3-Sulfo[1,1'-biphenyl]-4,4'-diyl)bis(azo)]bis[3-amino-2,7-naphthalenedisulfonic acid], 9CI. C.I. 22850



$C_{32}H_{24}N_6O_{15}S_5$ M 892.903

Usually obt. as penta-Na salt. Biological stain, veterinary trypanocide. Sol. H_2O.

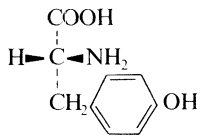
Penta-Na salt: [574-64-1].
Used as adsorption fluorescent indicator for detn. of $Br^{\ominus}$, $Cl^{\ominus}$, $I^{\ominus}$, $SCN^{\ominus}$. Reddish-brown powder. Sol. H_2O; prac. insol. EtOH.

Krauss, R.B. *et al*, *J. Am. Chem. Soc.*, 1914, **36**, 961 (*synth*)
Colour Index, 3rd Edn., 1971, **4**, 4181 (*synth*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972, 444 (*use*)
Thoma, K. *et al*, *Pharm. Ind.*, 1975, **37**, 455 (*anal*)

Tyrosine T-00435

2-Amino-3-(4-hydroxyphenyl)propanoic acid. 4-Hydroxy-α-aminohydrocinnamic acid. 3-p-Hydroxyphenyl-α-alanine. p-Tyrosine

[556-03-6]



(*R*)-*form*

$C_9H_{11}NO_3$ M 181.191

(R)-form [556-02-5]
D-form
Cryst. $[\alpha]_D^{20}$ +8.64° (21% HCl). *N*-Protected derivs. useful in peptide synth. are listed alphabetically elsewhere.

(S)-form [60-18-4]
L-form
Widely distributed in plant and animal proteins. Needles (H_2O). Mp 290-295° dec. (slow heat), Mp 314-318° dec. (rapid heat). $[\alpha]_D^{20}$ −8.07° (21% HCl); −9.01° (11.6% KOH).
▷ YP2275600.

Me ester:
$C_{10}H_{13}NO_3$ M 195.218
Prisms (EtOAc). Mp 135-136°. $[\alpha]_D^{20}$ +25.75° (MeOH).
Me ester; B,HCl: Mp 190°. $[\alpha]_D^{22.5}$ −4.3° (Py).
Hydrazide:
$C_9H_{13}N_3O_2$ M 195.221
Resolving agent for DL-aminoacids. Mp 195.5°.

(±)-***form***

Used as 1% soln. in 0.1*M* NaOH for selective photometric detn. of ClO_2 (λ_{max} 485 nm, pH ~ 4.8). Plates or needles (H_2O). Sol. alkalis; insol. cold EtOH, Et_2O. Mp 290-295° dec. (slow heat), Mp 340° dec. (rapid heat).

Et ester; B,HCl: Mp 166° (105-106°).

Fischer, E., *Ber.*, 1899, **32**, 3644; 1901, **34**, 451.
Curtius, T. *et al*, *J. Prakt. Chem.*, 1917, **95**, 349.
Hodgden, H.W. *et al*, *Anal. Chem.*, 1954, **26**, 1224 (*detn*, ClO_2)
Greenstein, J.P. *et al*, *Chemistry of the Amino Acids*, Wiley, N.Y., 1961, **3** (*rev*)
Parasarathy, R., *Acta Crystallogr.*, 1962, **15**, 41 (*cryst struct*)
Hooker, T.M. *et al*, *J. Am. Chem. Soc.*, 1964, **86**, 4989 (*ord*)
Voellmin, J. *et al*, *Microchem. J.*, 1966, **11**, 73 (*ms*)
Tumanova, T.A. *et al*, *Zavod. Lab.*, 1970, **36**, 1036 (*detn*, ClO_2)
Mostad, A. *et al*, *Acta Chem. Scand.*, 1971, **25**, 1145; 1972, **26**, 3819; 1973, **27**, 401.
Mostad, A. *et al*, *Tetrahedron Lett.*, 1971, 2131.
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1972, **3**, 330 (*hydrazide*)
Shiraiwa, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1987, **60**, 1465 (*resoln*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, TOG300.

U

5,7-Undecanedione, 9CI **U-00001**

[1942-48-9]

$H_3CCH_2CH_2CH_2COCH_2COCH_2CH_2CH_2CH_3$

$C_{11}H_{20}O_2$ M 184.278

Used as soln. in C_6H_6 for extraction separation of Cu(*II*), Fe(*III*). Sol. common org. solvs.

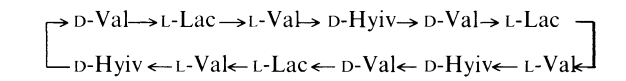
Koshimura, H. *et al*, *Anal. Chim. Acta*, 1971, **55**, 163 (*sepn, Cu, Fe*)

V

Valinomycin V-00001

Cyclic(D-α-hydroxyisovaleryl-D-valyl-L-lactoyl-L-valyl-D-α-hydroxyisovalerly-D-valyl-L-lactoyl-L-valyl-D-α-hydroxyisovaleryl-D-valyl-L-lactoyl-L-valyl)

[2001-95-8]



$C_{54}H_{90}N_6O_{18}$ M 1111.334

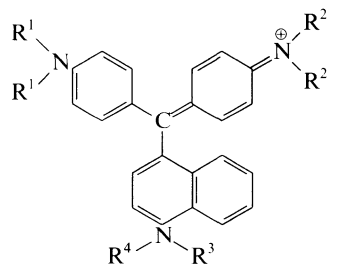
Cyclodepsipeptide antibiotic. Isol. from *Streptomyces* sp. Used in complexation of K and its transport through a mitochondrial membrane. Cryst. (diisobutyl ether). Mp 187°. $[\alpha]_D$ +32.8° (c, 1.25 in C_6H_6).

▷ YV9468000.

Brockmann, H. *et al*, *Chem. Ber.*, 1955, **88**, 57 (*isol*)
Moore, C. *et al*, *Biochem. Biophys. Res. Commun.*, 1964, **15**, 1964 (*use*)
Rothe, M. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1973, **12**, 1012 (*synth*)
Ovchinnikov, A. *et al*, *Membrane-Active Complexones*, Elsevier, Amsterdam, 1974 (*rev*)
Karle, I.L., *J. Am. Chem. Soc.*, 1975, **97**, 4379 (*cryst struct*)
Smith, G.D. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 7242 (*cryst struct*)
Servis, K.L. *et al*, *Tetrahedron*, 1975, **31**, 1359 (*conformn*)
Asher, I.M. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 2032.
Zeggaf, C. *et al*, *Tetrahedron*, 1989, **45**, 5039 (*synth*)
Dory, Y.L. *et al*, *Tetrahedron Lett.*, 1989, **30**, 1695 (*synth*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, VBZ000.

Victoria blue B V-00002

N-[*4*-[[*4*-(*Dimethylamino*)*phenyl*][*4*-(*phenylamino*)-*1*-*naphthalenyl*]*methylene*]-*2,5*-*cyclohexadien*-*1*-*ylidene*]-N-*methylmethanaminium*(*1*+), *9CI. C.I. Basic blue 26. C.I. 44045*



$R^1 = R^2 = Me$
$R^3 = Ph$, $R^4 = H$

$C_{33}H_{32}N_3^{\oplus}$ M 470.636 (ion)

Strictly the name Victoria blue B applies to the chloride salt.

Chloride: [2580-56-5].
$C_{33}H_{32}ClN_3$ M 506.089
Used as 1m*M* aq. soln. for extraction-photometric detn. of Cd (λ_{max} 331 nm, ε 89600, C_6H_6/TBP), Ta (λ_{max} 635 nm, ε 93000), Zn, Tl(*III*), Hg, Pt. Cryst. (MeOH). Sol. EtOH, H_2O.

Kirkbright, G.F. *et al*, *Anal. Chem.*, 1968, **40**, 2210 (*detn, Ta*)
Pilipenko, A.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1971, **37**, 186 (*detn, Zn*)
Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1977, **32**, 482 (*detn, Cd*)
Marczenko, Z. *et al*, *Anal. Chim. Acta*, 1983, **153**, 219 (*detn, Pt*)

Victoria blue 4R V-00003

N-[*4*-[[*4*-(*Dimethylamino*)*phenyl*][*4*-(*methylphenylamino*)-*1*-*naphthalenyl*]*methylene*]-*2,5*-*cyclohexadien*-*1*-*ylidene*]-N-*methylmethanaminium*(*1*+), *9CI. C.I. Basic blue 8. C.I. 42563*

As Victoria blue B, V-00002 with

$R^1 = R^2 = R^4 = Me$, $R^3 = Ph$

$C_{34}H_{34}N_3^{\oplus}$ M 484.663 (ion)

Strictly the name Victoria blue 4R applies to the chloride salt.

Chloride: [2185-87-7].
$C_{34}H_{34}ClN_3$ M 520.115
Used as 1m*M* aq. soln. for extraction-photometric detn. of Te (λ_{max} 602 nm, ε 80000, $CHCl_3$), Zn, Cd, Ga, Au(*III*), Tl(*III*), Pb, Pt, Re. Blue cryst. powder. Sol. EtOH, H_2O.

Dragulescu, C. *et al*, *Rev. Roum. Chim.*, 1965, **10**, 67, 1267 (*detn, Ga*)
Kish, P.P. *et al*, *Zh. Anal. Khim.*, 1970, **25**, 2260; 1984, **39**, 1226 (*detn, Te, Pb*)
Pilipenko, A.T. *et al*, *Ukr. Khim. Zh.* (*Russ. Ed.*), 1971, **37**, 477 (*detn, Re*)

Victoria pure blue BO V-00004

N-[*4*-[[*4*-(*Diethylamino*)*phenyl*][*4*-(*ethylamino*)-*1*-*naphthalenyl*]*methylene*]-*2,5*-*cyclohexadien*-*1*-*ylidene*]-N-*ethylethanaminium*(*1*+), *9CI. C.I. Basic blue 7. C.I. 42595*

As Victoria blue B, V-00002 with

$R^1 = R^2 = R^3 = Et$, $R^4 = H$

$C_{33}H_{40}N_3^{\oplus}$ M 478.699 (ion)

Strictly the name Victoria pure blue BO applies to the choride salt.

Chloride: [2390-60-5].
$C_{33}H_{40}ClN_3$ M 514.152
Used as EtOH soln. for extraction-photometric detn. of Tl(*III*) (λ_{max} 625 nm, ε 110000, C_6H_6), Ga. Dark blue cryst. Sol. EtOH; sl. sol. H_2O.

Constantinescu, C., *Rev. Chim.* (*Bucharest*), 1973, **24**, 565, 740 (*detn, Tl, Ga*)
Constantinescu, C. *et al*, *Rev. Roum. Chim.*, 1980, **25**, 1411 (*use*)

Vinyl chloroformate V-00005

Ethenyl carbonochloridate, 9CI

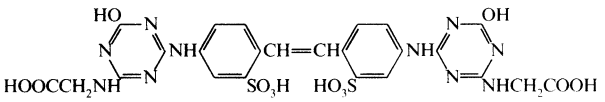
$H_2C{=}CHOOCCl$

$C_3H_3ClO_2$ M 106.508

Reagent for protecting $-NH_2$ and —OH groups. Reagent for dealkylation of tertiary amines. Used in hplc anal. of tertiary amines. Liq. d^{25} 1.160. Bp 67-69°.

Lee, L.-H., *J. Org. Chem.*, 1965, **30**, 3943 (*synth, ir*)
Olafson, R.A. *et al*, *Tetrahedron Lett.*, 1977, 1567, 1571 (*use*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1980, **8**, 530 (*use*)
Maibaum, J., *J. Chromatogr.*, 1988, **436**, 269 (*use*)

N,N'-[Vinylenebis[(3-sulfo-*p*-phenylene)imino(6-hydroxy-*s*-triazine-4,2-diyl)]] diglycine, 8CI V-00006



$C_{24}H_{22}N_{10}O_{12}S_2$ M 706.630

Tetra-Na salt: [19393-55-6].

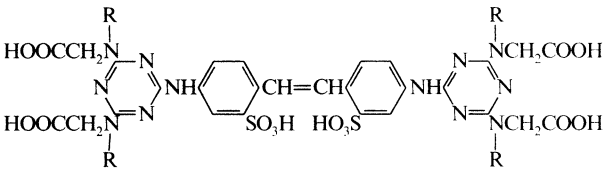
Used as a 0.08m*M* aq. soln. for luminescent detn. of Cr. Cryst.

Tiemkina, V.Y. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 632, 1830 (*use*)

[Vinylenebis[[(3-sulfo-*p*-phenylene)imino-*s*-triazine-6,2,4-triyl]dinitrilo]]octaacetic acid, 8CI V-00007

4,4'-Bis-(3,5-diamino-1,3,5-triazinylamino)-2,2'-styrenedisulfonic acid-N-*octaacetic acid*

[18299-07-5]



R = CH_2COOH

$C_{36}H_{36}N_{12}O_{22}S_2$ M 1052.880

Hexa-Na salt: [6806-03-7].

Used as a 0.1% aq. soln. for luminescence detn. of Cr; fluorescent acid-base indicator.

Tiemkina, V.Y. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 632, 1830 (*use*)
Tiemkina, V.Y. *et al*, *CA*, 1968, **69**, 27392r (*use*)

N,N',N'',N'''-[Vinylenebis[(3-sulfo-*p*-phenylene)imino-*s*-triazine-6,2,4-triyl]] tetrasarcosine, 8CI V-00008

4,4'-Bis[3,5-[3,5-bis(methylamino)-1,3,5-triazinylamino]]-2,2'-styrenedisulfonic acid-N-*tetraacetic acid*

[18969-97-6]

As [Vinylenebis[[(3-sulfo-*p*-phenylene)imino-*s*-triazine-6,2,4-triyl]dinitrilo]]octaacetic acid, V-00007 with

R = Me

$C_{32}H_{36}N_{12}O_{14}S_2$ M 876.840

Di-Na salt: [21482-14-4].

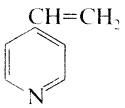
Used as a 0.1% aq. soln. for luminescence detn. of Cr; fluorescent acid-base indicator.

Tiemkina, V.Y. *et al*, *Zh. Anal. Khim.*, 1967, **22**, 632, 1830 (*use*)

4-Vinylpyridine V-00009

4-Ethenylpyridine, 9CI. *4-Pyridylethylene*

[100-43-6]



C_7H_7N M 105.139

Used in polymer manuf. Reagent for anal. of cysteinyl-containing peptides. Liq. Bp_7 54°.

Picrate: Yellow leaflets (C_6H_6). Mp 197-198°.

[3283-40-7]

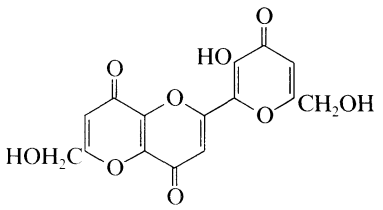
Meisenheimer, J., *Justus Liebigs Ann. Chem.*, 1920, **420**, 208 (*synth*)
Saunders, K.J., *Org. Polym. Chem.*, Chapman and Hall, London, 1973, 440 (*use*)
Moroney, J.V. *et al*, *J. Biol. Chem.*, 1984, **259**, 7281 (*use*)

W

Wood's reagent W-00001

*2-[3-Hydroxy-6-(hydroxymethyl)-4-oxo-4*H*-pyran-2-yl]-6-(hydroxymethyl)pyrano[3,2-*b*]pyran-4,8-dione, 9CI*

[1047-14-9]



$C_{15}H_{10}O_9$ M 334.239

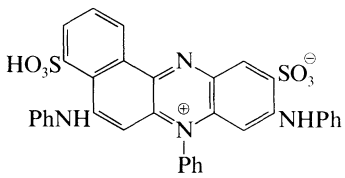
Used as a 0.015*M* aq. soln. for photometric detn. of Fe (λ_{max} 408 nm). Cryst. (EtOH). Mp 157°.

Wilson, R.F., *Fresenius' Z. Anal. Chem.*, 1962, **187**, 100 (*synth, detn, Fe*)

Wool fast blue BL W-00002

7-Phenyl-5,9-bis(phenylamino)-4,10-disulfobenzo[a]*phenazinium hydroxide inner salt. C.I. 50320. Acid blue 102*

[6378-88-7]



$C_{34}H_{25}N_4O_6S_2$ M 649.727

Strictly, the name Wool fast blue BL applies to the sodium salt.

Na salt: Used as a 0.1% aq. soln. as an indicator in bromatometric detn. of As(*III*); ceriometric, dichrometric titrimetric detn. of Fe(*II*), As(*III*), V(*IV*). Dark reddish blue cryst. powder. Sol. H_2O, EtOH.

Rao, N.V. *et al*, *Fresenius' Z. Anal. Chem.*, 1977, **285**, 125 (*bromatometry*)

Rao, N.V. *et al*, *Curr. Sci.*, 1978, **47**, 50 (*ceriometry*)

Rao, N.V. *et al*, *J. Indian Chem. Soc.*, 1979, **56**, 430 (*dichrometry*)

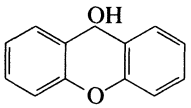
Ramana, P.V. *et al*, *J. Indian Chem. Soc.*, 1980, **57**, 235 (*bromatometry*)

X

9*H*-Xanthen-9-ol, 10CI X-00001

9-Hydroxyxanthene. Xanthydrol. Xanthenol

[90-46-0]



$C_{13}H_{10}O_2$ M 198.221

Used for characterization of urea and other primary amides. Needles (EtOH aq.). Mp 123°. Conc. H_2SO_4 → yellow soln. with green fluor.

▷ ZD5710000.

4-Methylbenzenesulfonyl: Cryst. (AcOH). Mp 206-208°.

Org. Synth., Coll. Vol., 1, 1932, 539 (*synth*)
Phillips, R.F. *et al*, *J. Am. Chem. Soc.*, 1943, **65**, 1355 (*use*)
Goldberg, A.A. *et al*, *J. Chem. Soc.*, 1957, 4823 (*synth*)
Capuano, L. *et al*, *Chem. Ber.*, 1970, **103**, 3459 (*derivs*)
Reverdy, G., *Bull. Soc. Chim. Fr.*, 1976, 1136 (*derivs*)
Pindur, U., *Dtsch. Apoth. -Ztg.*, 1983, **123**, 1035 (*use, rev*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, XBJ000.

Xanthic acid X-00002

Xanthogenic acid. O-*Ethyl carbonodithioate, 9CI*

[151-01-9]

H_3CCH_2OCSSH

$C_3H_6OS_2$ M 122.212

Used in ore flotation. Unstable, oily liq. Fp *ca.* −53.° pK_a 2.56. Dec. at 25° to CS_2 and EtOH.

▷ FG1370000.

NH_4 salt: [19779-49-8].
Unstable powder.

K salt: Used as a soil fumigant and for extraction-separation of heavy metals (Sb, Bi, Cu, Hg, Zn, Cd); photometric detn. of Mo. Cryst. Sol. H_2O, EtOH, prac. insol. Et_2O. Dec. by boiling H_2O or heat.

▷ FG1575000.

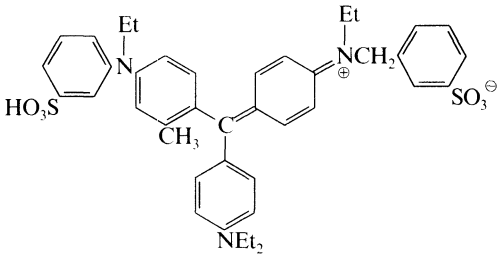
S-*Me ester:* [623-54-1]. S-*Methyl* O-*ethyl xanthate*
$C_4H_8OS_2$ M 136.239
Pale-yellow oil. Sol. EtOH, Et_2O, insol. H_2O. Bp 182-183°, Bp_{20} 70°.

Anhydride: [2905-52-4].
$C_6H_{10}O_2S_3$ M 210.342
Golden-yellow needles (EtOH). V. sol. EtOH, sol. Et_2O, insol. H_2O. Mp 55°.

Willcox, O.W., *J. Am. Chem. Soc.*, 1906, **28**, 1031 (*anhydride*)
Ragg, M., *Chem.-Ztg.*, 1910, **34** , 82 (*derivs*)
Welcher, F.J., *Organic Analytical Reagents*, Vol. 4, Van Nostrand, New York, 1948.
Tomita, K. *et al*, *Chem. Pharm. Bull.*, 1969, **17**, 2442.
Ryaboi, V.I. *et al*, *CA*, 1974, **80**, 111071 (*synth*)
Arunachalam, M.K., *Talanta*, 1974, **21**, 355 (*detn, Mo*)
Katritzky, A.R. *et al*, *J. Chem. Soc., Chem. Commun.*, 1978, 133 (*ester*)
Sasaki, Y. *et al*, *Anal. Chim. Acta*, 1981, **127**, 209; 1982, **138**, 419 (*detn, Cd*)
Chakravarti, A.K. *et al*, *Talanta*, 1984, **31**, 215 (*detn, Zn*)

Xylene brilliant blue FBR X-00003

N-[*4*-[[*4*-(*Diethylamino*)*phenyl*][*4*-[*ethyl*[(*3-sulfophenyl*) *methyl*]*amino*]-*2-methylphenyl*]*methylene*]-*3-methyl-2,5-cyclohexadien-1-ylidene*]-N-*ethyl-3-sulfobenzenemethanaminium hydroxide inner salt, 9CI. C.I. Acid blue 104. C.I. 42735*



$C_{41}H_{44}N_3O_6S_2$ M 738.947

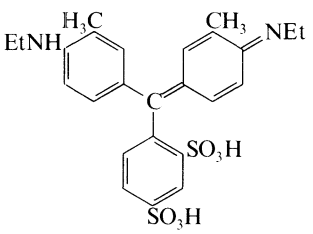
Strictly, the name Xylene brilliant blue FBR applies to the sodium salt.

Na salt: [6505-30-2].
Used as a 0.1% aq. soln. as redox indicator. Cryst. Sol. H_2O, EtOH, alkalis, acids.

Brazier, J.N. *et al*, *Anal. Chim. Acta*, 1965, **33**, 625 (*use*)
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

Xylene cyanole FF X-00004

4-[[*4*-(*Ethylamino*)-*3-methylphenyl*][*4*-(*ethylimino*)-*3-methyl-2,5-cyclohexadien-1-ylidene*]*methyl*]-*1,3-benzenedisulfonic acid, 9CI. C.I. Acid blue 147. C.I. 42135. Acidine pure blue C extra. Cyanol extra. Disulfone blue FFN 200. Erioglaucine FFX. Kiton pure blue FF. Mercantine blue FF*



$C_{25}H_{28}N_2O_6S_2$ M 516.638

Strictly, the name Xylene cyanole FF applies to the sodium salt.

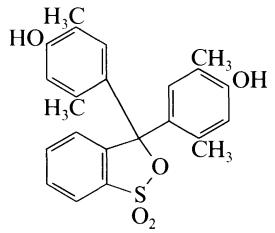
Na salt: [2650-17-1].
Used as a 0.1% aq. soln. as redox indicator. Cryst. Sol. H_2O.

Brazier, J.N. *et al*, *Anal. Chim. Acta*, 1965, **33**, 635 (*use*)
Colour Index, 3rd Edn., 1971, **4**, 4386.
Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*)

Xylenol blue X-00005

4,4′-(3H-2,1-Benzoxathiol-3-ylidene)bis[2,5-dimethylphenol] S,S-dioxide, *9CI*. p-*Xylenolsulfonephthalein*

[125-31-5]



$C_{23}H_{22}O_5S$ M 410.490

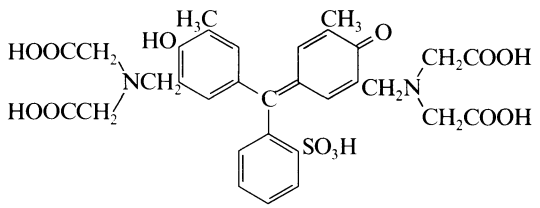
Used as a soln. in 0.1*M* NaOH as acid-base indicator (pH range: 1.1-2.8, colour change: red → yellow; pH range 8.0-9.6, colour change: yellow → blue); titrimetric detn. of As, Sb. Dark red or brownish black cryst. Sol. H_2O, EtOH. Mp 212°.

Bishop, E., *Indicators*, Pergamon, Oxford, 1972 (*use*, *ind*)
Vytras, K., *Chem. Zvesti*, 1974, **28**, 252 (*props*)
Dragulescu, C. *et al*, *CA*, 1975, **93**, 201439n (*detn*, *As*, *Sb*)

Xylenol orange X-00006

N,N′-[*3H-2,1-Benzoxathiol-3-ylidenebis*[(*6-hydroxy-5-methyl-3,1-phenylene*)*methylene*]]*bis*[N-(*carboxymethyl*) *glycine*] S,S-*dioxide*, *9CI*. *3,3′-Bis*[N,N-*di*(*carboxymethyl*) *aminomethyl*]-o-*cresolsulfonephthalein*. o-*Cresolphthalexone S*

[1611-35-4]



$C_{31}H_{32}N_2O_{13}S$ M 672.665

Used as 0.05% aq. soln. for spectrophotometric detn. of Bi (λ_{max} 545 nm, ε 24000), Zr (λ_{max} 535 nm, ε 35000), Hg, Nb, Sc, Y, Zn, Al, Th, Ga, U, V; as an indicator in EDTA titrations. Mono- and tetrasodium salts are also used. Dark red cryst. powder. Sol. H_2O. Mp 286° dec. pK_{a5} 2.58; pK_{a7} 6.40; pK_{a8} 10.5 (25°).

Mono-Na salt: [63721-83-5].

Dark red cryst. powder. Mp 210° dec. λ_{max} 580 nm.

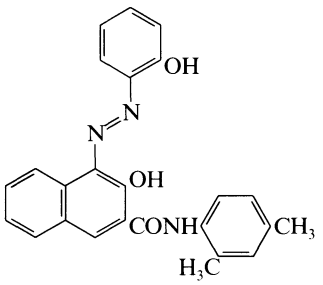
[3618-43-7]

Körbl, J. *et al*, *Chem. Anal.* (*Warsaw*), 1956, **45**, 102 (*indicator*)
Cheng, K.L., *Talanta*, 1959, **2**, 61, 266; **3**, 81 (*detn*, *Zr*, *Hf*)
Budešinsky, B., *Collect. Czech. Chem. Commun.*, 1962, **27**, 226 (*detn*, *Th*)
Cabrera-Martin, A. *et al*, *Talanta*, 1969, **16**, 1023 (*detn*, *Hg*)
Leong, C.L., *Anal. Chem.*, 1973, **45**, 21 (*detn*, *U*)
Snell, F.D., *Photometric and Fluorimetric Methods of Analysis*, *Metals*, *Part I*, John Wiley, New York, 1978, 523; *Metals*, *Part II*, 1062, 1167, 1923.
Onishi, H., *Photometric Determination of Traces of Metals*, *Part IIa*, *Individual Metals. Aluminium to Lithium*, John Wiley, New York, 4th Ed., 1986, 787; *Part IIb*, *Individual Metals. Magnesium to Zinc*, John Wiley, New York, 4th Ed., 1989, 164, 357, 767.
Marczenko, Z., *Separation and Spectrophotometric Determination of Elements*, Horwood, Chichester, 1986, 172, 501, 648 (*use*)

Xylidine blue II X-00007

N-(*2,4-Dimethylphenyl*)-*3-hydroxy-4*-[(*2-hydroxyphenyl*)*azo*]-*2-naphthalenecarboxamide*, *9CI*

[523-67-1]



$C_{25}H_{21}N_3O_3$ M 411.459

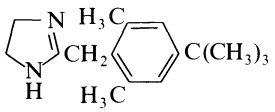
Used as 0.01% soln. in EtOH for photometric detn. of Mg (λ_{max} 505 nm). Red cryst. (EtOH). Sol. common org. solvs.; insol. H_2O. Mp 246-247°.

Mann, C.K. *et al*, *Anal. Chim. Acta*, 1957, **16**, 155 (*synth*, *detn*, *Mg*)
Maurice, M.J., *Anal. Chim. Acta*, 1959, **20**, 181 (*detn*, *Mg*)
Bialek, E., *Diagn. Lab.*, 1975, **11**, 393 (*detn*, *Mg*)

Xylometazoline, BAN, INN X-00008

2-[[4-(1,1-Dimethylethyl)-2,6-dimethylphenyl]methyl]-4,5-dihydro-1H-imidazole, *9CI*. *2-(4-*tert-*Butyl-2,6-dimethylbenzyl)-2-imidazoline*

[526-36-3]



$C_{16}H_{24}N_2$ M 244.379

Vasoconstrictor, nasal decongestant, adrenergic agent. Cryst. (C_6H_6/pet. ether). Mod. sol. H_2O. Mp 131-133°.

▷ NJ2380000.

B,HCl: [1218-35-5]. *Xylometazoline hydrochloride*, *USAN*. *Novorin*. *Olynth*. *Otrivine*. *Otrix*. *Other proprietary names*

Used as 0.01*M* aq. soln. for extraction-photometric detn. of V(*V*) (λ_{max} 540 nm, ε 45600), Cr(*III*) (λ_{max} 530 nm, ε 48000, $CHCl_3$). Cryst. Sol. H_2O. Mp 327-329° dec.

▷ LD_{50} 75 mg/kg (mouse, oral).

Anjaneyulu, Y. *et al*, *Analyst* (*London*), 1955, **111**, 1167 (*detn*, *Cr*)
U.S. Pat., 2 868 802, (1959); *CA*, **53**, 10253.
Boon, P.F.G. *et al*, *J. Pharm. Pharmacol.*, *Suppl.*, 1967, **19**, 88 (*glc*)
Mollica, J.A. *et al*, *Anal. Chem.*, 1973, **45**, 1859 (*hplc*)
Martindale, *The Extra Pharmacopoeia*, 28th/29th Ed., Pharmaceutical Press, London, 1982/1989, 2114.
Golander, Y. *et al*, *Anal. Profiles Drug Subst.*, 1985, **14**, 135 (*rev*, *synth*, *pharmacol*, *anal*)
Ghose, S. *et al*, *Acta Crystallogr.*, *Sect. C*, 1986, **42**, 1524 (*cryst struct*)
Yerramilli, A. *et al*, *Anal. Chem.*, 1986, **58**, 1451 (*detn*, *V*)
Negwer, M., *Organic-Chemical Drugs and their Synonyms*, 6th Ed., Akademie-Verlag, Berlin, 1987, 4150.
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th Ed., Van Nostrand-Reinhold, 1992, OKO500.

Z

Zephiramine Z-00001

Benzyldimethyltetradecylammonium(1+). N,N-*Dimethyl*-N-*tetradecylbenzenemethanaminium(1+)*, *9CI*

$H_3C(CH_2)_{13}N^{\oplus}Me_2CH_2Ph$

$C_{23}H_{42}N^{\oplus}$ M 332.591 (ion)

Chloride: [16287-71-1].

$C_{23}H_{42}ClN$ M 368.044

Used as 0.2% aq. soln. to increase sensitivity in photometric detn. of metals (e.g. Al, Be, Ga, Th, Zr) with some chelating reagents (e.g. chromazurol S, phenylfluorone) (forms ternary complexes).

Commercially available as dihydrate. Colourless or pale yellow powder. Sol. H_2O, EtOH, Me_2CO. Mp 63-65° (dihydrate).

[139-08-2]

Cheng, K.L. *et al*, *Handbook of Organic Analytical Reagents*, CRC Press, Boca Raton, 1982 (*use*)

Sigma-Aldrich Library of Chemical Safety Data, 1988, **1**, 387.

Name Index

The Name Index lists in alphabetical order all names and synonyms contained in the Dictionary.

Each index term refers the user to a Dictionary Number consisting of a single letter of the alphabet followed by five digits. The letter is the first letter of the relevant Dictionary Name.

A Dictionary Number which follows immediately upon an index term means that the term is itself used as the Entry Name.

A Dictionary Number which is preceded by the word '*see*' means that the term is a synonym to an Entry Name.

A Dictionary Number which is preceded by the word '*in*' means that the term is embedded within an Entry, usually as a synonym to a particular stereoisomeric form or to a derivative.

The symbol ▷ preceding an index term indicates that the Dictionary Entry contains information on toxic or hazardous properties of the compound.

Name Index

Molecular Formula Index

The Molecular Formula Index lists the molecular formulae of all reagents in the Dictionary whether they occur as main Entry compounds or as derivatives.

Where a molecular formula applies to a derivative the Dictionary Number is prefixed by the word '*in*'.

The Symbol ▷ preceding an index term indicates the Dictionary Entry contains information on toxic or hazardous properties of the compound.

Molecular Formula Index

$C_4H_{13}NO$
▷ Tetramethylammonium(1+); Hydroxide, *in* T-00092

$C_4H_{13}N_3$
▷ Diethylenetriamine, D-00345

$C_4H_{15}NSi_2$
N-(Dimethylsilyl)-1,1-dimethylsilanamine, D-00915

$C_4H_{16}BN$
Tetramethylammonium(1+); Borohydride, *in* T-00092

$C_5H_2ClN_3O_4$
2-Chloro-3,5-dinitropyridine, C-00107

$C_5H_2F_6O_2$
Hexafluoroacetylacetone, H-00030

$C_5H_2O_5$
4,5-Dihydroxy-4-cyclopentene-1,2,3-trione, D-00571

$C_5H_3BrO_2$
5-Bromo-2-furancarboxaldehyde, B-00507

$C_5H_3ClO_2$
▷ 2-Furancarboxylic acid; Chloride, *in* F-00050

$C_5H_3FN_2O_2$
▷ 2-Fluoro-3-nitropyridine, F-00031

$C_5H_3F_3N_2O$
1-(Trifluoroacetyl)-1*H*-imidazole, T-00241

$C_5H_3F_6NO_2$
N-Methylbis(trifluoroacetamide), *in* B-00461

$C_5H_3F_7O_2$
Heptafluorobutanoic acid; Me ester, *in* H-00004

C_5H_3NO
2-Cyanofuran, *in* F-00050

$C_5H_3NO_4$
▷ 5-Nitro-2-furancarboxaldehyde, N-00109

$C_5H_3N_3$
Pyrazinecarbonitrile, *in* P-00285

$C_5H_3N_3O$
Pyrazinecarboxylic acid; Nitrile, 1-oxide, *in* P-00285

C_5H_4ClN
▷ 2-Chloropyridine, C-00252

$C_5H_4ClNO_2$
5-Chloro-3-hydroxy-2(1*H*)-pyridinone, C-00151

$C_5H_4Cl_2O_2$
▷ 2-Methylenebutanedioic acid; Dichloride, *in* M-00176

$C_5H_4N_2O_2$
Pyrazinecarboxylic acid, P-00285

$C_5H_4N_2O_3$
2,6-Dihydroxy-3-nitrosopyridine, D-00673
4-Hydroxy-3-nitroso-2(1*H*)-pyridinone, H-00419
Pyrazinecarboxylic acid; 1-Oxide, *in* P-00285

$C_5H_4N_2O_3S$
6-Hydroxy-2-mercapto-4-pyrimidinecarboxylic acid, H-00261

$C_5H_4N_2O_4$
5-Nitro-2-furancarboxaldehyde; (*E*)-Oxime, *in* N-00109
▷ Orotic acid, O-00045

$C_5H_4N_4O$
▷ Hypoxanthine, H-00564

$C_5H_4N_4OS$
6-Hydroxy-8-mercaptopurine, H-00260

$C_5H_4N_4O_2$
▷ Hypoxanthine; 1-Oxide, *in* H-00564
1*H*-Pyrazolo[3,4-*d*]pyrimidine-4,6(5*H*,7*H*)-dione, P-00302

$C_5H_4N_4S$
1,3-Dihydro-2*H*-purine-2-thione, D-00478

C_5H_4OS
▷ 2-Thiophenecarboxaldehyde, T-00169

$C_5H_4OS_2$
2-Thiophenecarbothioic acid, T-00167

C_5H_4OSe
2-Selenophenecarboxaldehyde, S-00006

$C_5H_4O_2$
▷ 2-Furancarboxaldehyde, F-00042
3-Furancarboxaldehyde, F-00043

$C_5H_4O_2S$
2-Furancarbothioic acid, F-00040

$C_5H_4O_3$
▷ 2-Furancarboxylic acid, F-00050
2-Methylenebutanedioic acid; Anhydride, *in* M-00176

$C_5H_4O_4$
1-Hydroxy-2-methoxycyclobutenedione, *in* D-00569

$C_5H_5ClO_3$
Fumaric acid; Mono-Me ester; B,HCl, *in* F-00038

$C_5H_5Cl_3O_2$
Trichloroacetic acid; Allyl ester, *in* T-00218

$C_5H_5F_3OS$
1,1,1-Trifluoro-4-thioxo-2-pentanone, T-00265

$C_5H_5F_3O_2$
1,1,1-Trifluoro-2,4-pentanedione, T-00257

$C_5H_5F_5O_2$
Pentafluoropropanoic acid; Et ester, *in* P-00021

C_5H_5N
▷ Pyridine, P-00316

C_5H_5NO
▷ Pyridine *N*-oxide, P-00356
Pyrrole; *N*-Formyl, *in* P-00436

C_5H_5NOS
1-Hydroxy-2(1*H*)-pyridinethione, *in* P-00357
3-Hydroxy-2(1*H*)-pyridinethione, H-00520
2-Pyridinethiol *N*-oxide, *in* P-00357
1*H*-Pyrrole-2-carbothioic acid, P-00437
2-Thiophenecarboxaldehyde; Oxime, *in* T-00169

C_5H_5NOSe
2-Selenophenecarboxaldehyde; Oxime, *in* S-00006

$C_5H_5NO_2$
3-Furancarboxaldehyde; Oxime, *in* F-00043
2-Furancarboxaldehyde; (*E*)-Oxime, *in* F-00042
2-Furancarboxamide, *in* F-00050
3-Hydroxy-2(1*H*)-pyridinone, H-00521
Methyl β-cyanoacrylate, *in* F-00038
▷ 1*H*-Pyrrole-2,5-dione; *N*-Me, *in* P-00439

$C_5H_5NO_2S$
N-Hydroxy-2-thiophenecarboxamide, H-00554

$C_5H_5NO_3$
1,3-Dihydroxy-2(1*H*)-pyridinone, *in* H-00521
2-Furohydroxamic acid, F-00064

C_5H_5NS
▷ 2(1*H*)-Pyridinethione, P-00357

$C_5H_5N_3O$
▷ Pyrazinecarboxamide, *in* P-00285

$C_5H_5N_3O_2S$
2-Amino-6-mercapto-4-pyrimidinecarboxylic acid, A-00231

$C_5H_5N_3O_4$
▷ 5-Aminoorotic acid, A-00290
2,4,5,6(1*H*,3*H*)-Pyrimidinetetrone 5-oxime; Me ether, *in* P-00428

C_5H_6
▷ 2-Methyl-1-buten-3-yne, M-00149

$C_5H_6Br_2N_2O_2$
▷ 1,3-Dibromo-5,5-dimethyl-2,4-imidazolidinedione, D-00185

$C_5H_6Cl_2N_2O_2$
▷ 1,3-Dichloro-5,5-dimethyl-2,4-imidazolidinedione, *in* D-00866

$C_5H_6Cl_4O_2$
2,2,2-Trichloro-*tert*-butyloxycarbonyl chloride, T-00221

$C_5H_6I_2N_2O_2$
▷ 1,3-Diiodo-5,5-dimethyl-2,4-imidazolidinedione, *in* D-00866

$C_5H_6N_2$
▷ 2-Aminopyridine, A-00333

$C_5H_6N_2O$
▷ *N*-Acetylimidazole, *in* I-00001
2-Amino-3-hydroxypyridine, A-00216

$C_5H_6N_2OS$
2,3-Dihydro-2-thioxo-4(1*H*)-pyrimidinone; 1-Me, *in* D-00494
2,3-Dihydro-2-thioxo-4(1*H*)-pyrimidinone; 3-Me, *in* D-00494
5-Ethylidene-2-thioxo-4-imidazolidinone, E-00095
2-Furanthiocarboxhydrazide, *in* F-00040
2-(Methylthio)-4(1*H*)-pyrimidinone, *in* D-00494

$C_5H_6N_2OS_2$
4,5-Dihydro-3-methyl-5-oxo-1*H*-pyrazole-4-carbodithioic acid, D-00440

$C_5H_6N_2O_2$
1,2-Dihydro-3,6-pyridazinedione; 1-Me, *in* D-00481
▷ 2-Furoylhydrazine, *in* F-00050
1*H*-Imidazole; *N*-Methoxycarbonyl, *in* I-00001
▷ Thymine, T-00179

$C_5H_6N_2O_4$
4,5-Dihydro-1*H*-pyrazole-3,4-dicarboxylic acid, D-00480

$C_5H_6N_2S_2$
2-Cyano-3-iminodithiobutyric acid, C-00328
2-Thiophenecarbothioic acid; Hydrazide, *in* T-00167

$C_5H_6N_4O_2S_2$
(4-Methyl-5-nitro-2-thiazolyl)thiourea, M-00208

$C_5H_6O_2$
1,2-Cyclopentanedione, C-00362
2-Pentenedial, P-00038

$C_5H_6O_3$
2,3,4-Pentanetrione, P-00033

$C_5H_6O_4$
2,3-Dioxobutanoic acid; Me ester, *in* D-00986
Fumaric acid; Mono-Me ester, *in* F-00038
2-Methylenebutanedioic acid, M-00176

$C_5H_7ClO_4$
3-[(Chlorocarbonyl)oxy]butanoic acid, C-00078

$C_5H_7IN_2$
Pyrazine; B, MeI, *in* P-00283

C_5H_7NOS
4-Methyl-2(3*H*)-thiazolone; *N*-Me, *in* M-00316

$C_5H_7NOS_2$
3-Ethyl-2-thioxo-4-thiazolidinone, *in* T-00176

$C_5H_7NO_2$
1,2-Cyclopentanedione; Oxime, *in* C-00362
▷ Ethyl cyanoacetate, *in* C-00324
Glutarimide, G-00014

$C_5H_7NO_3$
2,3,4-Pentanetrione; 2-Oxime, *in* P-00033

$C_5H_7NO_4S_2$
Bis(carboxymethyl)dithiocarbamic acid, B-00279

$C_5H_7NS_2$
2-Mercapto-4,5-dimethylthiazole, M-00029

$C_7H_4N_2O_7$
2-Hydroxy-3,5-dinitrobenzoic acid, H-00154

$C_7H_4N_4O_3$
2-Nitrobenzoic acid; Azide, *in* N-00091
3-Nitrobenzoic acid; Azide, *in* N-00092
4-Nitrobenzoic acid; Azide, *in* N-00093

$C_7H_4N_4O_7$
2,4,6-Trinitrobenzoic acid; Amide, *in* T-00352

$C_7H_4O_7$
3-Hydroxy-4-oxo-4*H*-pyran-2,6-dicarboxylic acid, H-00435

$C_7H_5BrN_2O_4$
1-Bromomethyl-2,4-dinitrobenzene, B-00522

$C_7H_5BrO_2$
▷ 4-Bromobenzoic acid, B-00488
5-Bromo-2-hydroxybenzaldehyde, B-00509

$C_7H_5Br_3O$
1,3,5-Tribromo-2-methoxybenzene, *in* T-00205

$C_7H_5ClHgO_2$
▷ (4-Carboxyphenyl)chloromercury, C-00039

C_7H_5ClO
▷ Benzoyl chloride, *in* B-00059

$C_7H_5ClO_2$
▷ 2-Chlorobenzoic acid, C-00066
▷ 4-Chlorobenzoic acid, C-00067
3-(5-Chloro-2-furanoyl)-2-propenal, C-00120
4-Chloro-2-hydroxybenzaldehyde, C-00121
▷ 5-Chloro-2-hydroxybenzaldehyde, C-00122
5-Chloro-2-hydroxy-2,4,6-cycloheptatrien-1-one, C-00127

$C_7H_5ClO_3$
▷ 3-Chloroperbenzoic acid, C-00193

$C_7H_5ClO_5S$
2-Hydroxy-5-sulfobenzoic acid; Sulfonyl chloride, *in* H-00538

$C_7H_5Cl_2NO$
▷ 2,4-Dichlorobenzaldehyde; Oxime, *in* D-00247
2,4-Dichlorobenzoic acid; Amide, *in* D-00249

$C_7H_5FO_2$
4-Fluorobenzoic acid, F-00024

$C_7H_5F_3O_3S$
3-(Trifluoromethyl)benzenesulfonic acid, T-00251

$C_7H_5IO_2$
4-Iodobenzoic acid, I-00041

$C_7H_5IO_3$
2-Iodosylbenzoic acid, I-00053

$C_7H_5IO_4$
▷ 2-Iodylbenzoic acid, I-00055

C_7H_5NO
▷ Phenyl isocyanate, P-00138

C_7H_5NOS
2(3*H*)-Benzothiazolone, B-00090
▷ 2(3*H*)-Benzoxazolethione, B-00113
2-Hydroxybenzothiazole, H-00125
4-Hydroxybenzothiazole, H-00126
6-Hydroxybenzothiazole, H-00127

$C_7H_5NO_3$
▷ 2-Nitrobenzaldehyde, N-00081
▷ 4-Nitrobenzaldehyde, N-00082

$C_7H_5NO_3S$
▷ Saccharin, S-00001

$C_7H_5NO_4$
2-Hydroxy-4-nitrobenzaldehyde, H-00379
2-Hydroxy-5-nitrobenzaldehyde, H-00380
4-Hydroxy-2-nitrobenzaldehyde, H-00381
2-Hydroxy-5-nitro-2,4,6-cycloheptatrien-1-one, H-00388
2-Hydroxy-3-nitrosobenzoic acid, H-00406
▷ 2-Nitrobenzoic acid, N-00091
▷ 3-Nitrobenzoic acid, N-00092
▷ 4-Nitrobenzoic acid, N-00093
3-(5-Nitro-2-furanyl)-2-propenal, N-00110
4-Nitrophenyl formate, *in* F-00037
2,6-Pyridinedicarboxylic acid, P-00353

$C_7H_5NO_5$
2-Hydroxy-5-nitrobenzoic acid, H-00383

C_7H_5NS
▷ Phenyl isothiocyanate, P-00139

$C_7H_5NS_2$
2-Benzothiazolethiol, B-00089

$C_7H_5N_3O$
α-(Hydroxyimino)-2-pyridineacetonitrile, H-00251

$C_7H_5N_3O_5$
3,5-Dinitrobenzamide, *in* D-00948
3,4-Dinitrobenzoic acid; Amide, *in* D-00947

$C_7H_5N_3O_6$
3,5-Dinitrobenzohydroxamic acid, D-00946
2-Hydroxy-3,5-dinitrobenzoic acid; Amide, *in* H-00154

$C_7H_5N_3O_7$
▷ 2-Methoxy-1,3,5-trinitrobenzene, *in* T-00355

$C_7H_5N_3S_3$
3-(2-Pyridinyl)-1,3,4-thiazolidine-2,5-dithione, P-00407

$C_7H_5N_5O_8$
▷ *N*-Methyl-*N*,2,4,6-tetranitroaniline, M-00312

C_7H_6BrI
1-Bromo-4-(iodomethyl)benzene, B-00514

C_7H_6BrNO
Benzamide; *N*-Bromo, *in* B-00008
▷ 4-Bromobenzamide, *in* B-00488

$C_7H_6BrNO_2$
5-Bromo-2-hydroxybenzaldehyde; Oxime, *in* B-00509
4-Bromo-*N*-hydroxybenzamide, B-00510
1-(Bromomethyl)-4-nitrobenzene, B-00530

$C_7H_6BrNO_3$
5-Bromo-*N*,2-dihydroxybenzamide, B-00503
2-(Bromomethyl)-4-nitrophenol, B-00531

C_7H_6ClNO
3-Aminobenzoic acid; Chloride, *in* A-00104
2-Chlorobenzamide, *in* C-00066
4-Chlorobenzamide, *in* C-00067
N-Chlorobenzamide, *in* B-00008
m-Chloroformanilide, *in* C-00059
p-Chloroformanilide, *in* C-00060

$C_7H_6ClNO_2$
2-Chlorobenzohydroxamic acid, C-00064
4-Chlorobenzohydroxamic acid, C-00065
5-Chloro-2-hydroxybenzaldehyde; Oxime, *in* C-00122
▷ 1-Chloromethyl-4-nitrobenzene, C-00178

$C_7H_6ClNO_5S$
4-Chloro-3-methyl-5-nitrobenzenesulfonic acid, C-00179

$C_7H_6Cl_2$
▷ 1-Chloro-2-(chloromethyl)benzene, C-00079
▷ 1-Chloro-4-(chloromethyl)benzene, C-00080

$C_7H_6Cl_2N_2O_3$
4,5-Dichloro-6-oxo-1(6*H*)-pyridazinepropanoic acid, D-00287

C_7H_6FNO
4-Fluorobenzoic acid; Amide, *in* F-00024

$C_7H_6F_3NO_2S$
3-(Trifluoromethyl)benzenesulfonic acid; Amide, *in* T-00251

$C_7H_6HgO_3$
▷ (2-Carboxyphenyl)hydroxymercury, C-00041

C_7H_6INO
4-Iodobenzoic acid; Amide, *in* I-00041

$C_7H_6INO_2$
2-Iodobenzohydroxamic acid, I-00040
1-Iodomethyl-4-nitrobenzene, I-00047

$C_7H_6N_2$
Phenyldiazomethane, P-00111

$C_7H_6N_2O$
4-Amino-2-hydroxybenzonitrile, *in* A-00184

$C_7H_6N_2O_3$
2-Nitrobenzaldehyde; (*E*)-Oxime, *in* N-00081
4-Nitrobenzaldehyde; (*E*)-Oxime, *in* N-00082
▷ 2-Nitrobenzoic acid; Amide, *in* N-00091
3-Nitrobenzoic acid; Amide, *in* N-00092
4-Nitrobenzoic acid; Amide, *in* N-00093

$C_7H_6N_2O_3S$
Saccharin; Oxime, *in* S-00001

$C_7H_6N_2O_4$
2-Hydroxy-5-nitrobenzaldehyde; Oxime, *in* H-00380
2-Nitrobenzohydroxamic acid, N-00089
3-Nitrobenzohydroxamic acid, N-00090
p-Nitrobenzohydroxamic acid, *in* N-00093

$C_7H_6N_2O_4S$
2,4-Dinitrothioanisole, *in* D-00945

$C_7H_6N_2O_5$
3,5-Dinitrobenzyl alcohol, D-00950
1-Methoxy-2,3-dinitrobenzene, *in* D-00957
▷ 1-Methoxy-2,4-dinitrobenzene, *in* D-00958
2-Methoxy-1,3-dinitrobenzene, *in* D-00960
▷ 2-Methoxy-1,4-dinitrobenzene, *in* D-00959
4-Methoxy-1,2-dinitrobenzene, *in* D-00961

$C_7H_6N_2O_6$
2-Methoxy-3,4-dinitrophenol, *in* D-00941
2-Methoxy-3,5-dinitrophenol, *in* D-00942
2-Methoxy-4,6-dinitrophenol, *in* D-00942
3-Methoxy-2,6-dinitrophenol, *in* D-00940
6-Methoxy-2,3-dinitrophenol, *in* D-00941

$C_7H_6N_2S$
▷ 2-Aminobenzothiazole, A-00113
2-Mercaptobenzimidazole, M-00022

$C_7H_6N_4S$
1*H*-Tetrazole-5-thiol; *S*-Ph, *in* T-00131
▷ Tetrazole-5-thione; 1-Ph, *in* T-00131

C_7H_6O
▷ Benzaldehyde, B-00004

C_7H_6OS
2-Mercapto-2,4,6-cycloheptatrien-1-one, M-00027
▷ Thiobenzoic acid, T-00155

$C_7H_6OS_2$
2-Hydroxydithiobenzoic acid, H-00175
4-Hydroxydithiobenzoic acid, H-00176

$C_7H_6O_2$
▷ Benzoic acid, B-00059
3-(2-Furanyl)-2-propenal, F-00060
▷ 2-Hydroxybenzaldehyde, H-00101
▷ 4-Hydroxybenzaldehyde, H-00102
Phenol; Formyl, *in* P-00060
▷ Tropolone, T-00432

$C_7H_6O_2S$
2-Hydroxybenzenecarbothioic acid, H-00110
▷ 2-Mercaptobenzoic acid, M-00023

$C_7H_6O_2S_2$
2,4-Dihydroxybenzenecarbodithioic acid, D-00522

$C_7H_6O_3$
2,4-Dihydroxybenzaldehyde, D-00517
2,5-Dihydroxybenzaldehyde, D-00518
▷ 3,4-Dihydroxybenzaldehyde, D-00519
▷ 2-Hydroxybenzoic acid, H-00112
▷ 4-Hydroxybenzoic acid, H-00113

$C_7H_6O_3S$
2,4-Dihydroxybenzenecarbothioic acid, D-00523
3-(2-Furanyl)-2-mercapto-2-propenoic acid, F-00054

$C_7H_6O_4$
▷ 2,4-Dihydroxybenzoic acid, D-00531
▷ 2,5-Dihydroxybenzoic acid, D-00532
2,6-Dihydroxybenzoic acid, D-00533
▷ 3,5-Dihydroxybenzoic acid, D-00534
3,4,5-Trihydroxybenzaldehyde, T-00273

$C_7H_6O_5$
4,5-Dimethoxy-4-cyclopentene-1,2,3-trione, *in* D-00571

5-Hydroxy-4-oxo-4*H*-pyran-2-carboxylic acid; Me ester, *in* H-00434
5-Methoxy-4-oxo-4*H*-pyran-2-carboxylic acid, *in* H-00434
2,3,4-Trihydroxybenzoic acid, T-00276
▷ 3,4,5-Trihydroxybenzoic acid, T-00277

$C_7H_6O_5S$
4-Hydroxy-5-oxo-1,3,6-cycloheptatriene-1-sulfonic acid, H-00429

$C_7H_6O_6S$
▷ 2-Hydroxy-5-sulfobenzoic acid, H-00538

$C_7H_6O_7S$
2,4-Dihydroxy-5-sulfobenzoic acid, D-00731

$C_7H_6S_2$
Dithiobenzoic acid, D-01117

C_7H_7Br
▷ Benzyl bromide, B-00174

$C_7H_7BrO_2$
2-Bromo-5-methoxyphenol, *in* B-00486
4-Bromo-3-methoxyphenol, *in* B-00486

$C_7H_7BrO_3S$
4-Bromobenzenesulfonic acid; Me ester, *in* B-00487

C_7H_7Cl
▷ Chloromethylbenzene, C-00173

$C_7H_7ClF_3NO_2$
1-(Trifluoroacetyl)-2-pyrrolidinecarbonyl chloride, T-00242

$C_7H_7ClN_2O$
2-Chlorobenzoic acid; Hydrazide, *in* C-00066
4-Chlorobenzoic acid; Hydrazide, *in* C-00067

C_7H_7ClO
1-Chloro-4-methoxybenzene, *in* C-00196

$C_7H_7ClO_2$
4-Chloro-3-methoxyphenol, *in* C-00061

$C_7H_7ClO_2S$
Tosyl chloride, *in* M-00130

$C_7H_7Cl_2NO_2S$
N,*N*-Dichloro-4-methylbenzenesulfonamide, D-00285

$C_7H_7FO_2S$
▷ 4-Methylbenzenesulfonic acid; Fluoride, *in* M-00130

C_7H_7I
▷ Benzyl iodide, B-00186

C_7H_7N
4-Vinylpyridine, V-00009

C_7H_7NO
2-Acetylpyridine, A-00039
2-Aminobenzaldehyde, A-00096
▷ 4-Aminobenzaldehyde, A-00097
α-Benzaldoxime, *in* B-00004
▷ Benzamide, B-00008
6-Methyl-2-pyridinecarboxaldehyde, M-00266

C_7H_7NOS
Thiocarbamic acid; *O*-Ph ester, *in* T-00159
Thiocarbamic acid; *S*-Ph ester, *in* T-00159
Thiosalicylamide, *in* M-00023

$C_7H_7NO_2$
▷ 2-Aminobenzoic acid, A-00103
▷ 3-Aminobenzoic acid, A-00104
▷ 4-Aminobenzoic acid, A-00105
▷ 2-Hydroxybenzamide, *in* H-00112
▷ *N*-Hydroxybenzamide, H-00109
2-Hydroxyformanilide, *in* A-00300
3-Methoxy-2-pyridinecarboxaldehyde, *in* H-00518
5-Methyl-2-nitrosophenol, M-00207
6-Methyl-2-pyridinecarboxaldehyde; 1-Oxide, *in* M-00266
6-Methyl-2-pyridinecarboxylic acid, M-00271
2-Pyridinecarboxylic acid; Me ester, *in* P-00342
▷ Salicylaldoxime, *in* H-00101

$C_7H_7NO_2S$
1-Acetoxy-2(1*H*)-pyridinethione, *in* P-00357
N-Hydroxy-3-(2-thienyl)-2-propenamide, H-00553

$C_7H_7NO_2S_3$
(Phenylsulfonyl)carbonimidodithioic acid, P-00195

$C_7H_7NO_3$
▷ 4-Amino-2-hydroxybenzoic acid, A-00184
1,2-Dihydro-6-methyl-2-oxo-3-pyridinecarboxylic acid, D-00441
2,5-Dihydroxybenzaldehyde; Oxime, *in* D-00518
3,4-Dihydroxybenzaldehyde; Oxime, *in* D-00519
3-(2-Furanyl)-*N*-hydroxy-2-propenamide, F-00053
3-Hydroxy-2(1*H*)-pyridinone; 3-Ac, *in* H-00521
▷ 1-Methoxy-2-nitrobenzene, *in* N-00117
▷ 1-Methoxy-3-nitrobenzene, *in* N-00118
▷ 1-Methoxy-4-nitrobenzene, *in* N-00119
▷ 3-Methoxy-4-nitrosophenol, *in* N-00156
5-Methoxy-2-nitrosophenol, *in* N-00156
2-Methyl-4-nitroso-1,3-benzenediol, M-00206
6-Methyl-2-pyridinecarboxylic acid; 1-Oxide, *in* M-00271
4-Nitrobenzyl alcohol, N-00097
Resorcylaldoxime, *in* D-00517
β-Resorcylamide, *in* D-00531
Salicylhydroxamic acid, *in* H-00112

$C_7H_7NO_4$
2,6-Dihydroxy-4-pyridinecarboxylic acid; Me ester, *in* D-00721
▷ 2-Methoxy-4-nitrophenol, *in* N-00087
2-Methoxy-5-nitrophenol, *in* N-00087
3,4,5-Trihydroxybenzaldehyde; Oxime, *in* T-00273

$C_7H_7NO_5S$
2-Hydroxy-5-sulfobenzoic acid; Sulfonamide, *in* H-00538

$C_7H_7NO_6S$
3-Amino-2-hydroxy-5-sulfobenzoic acid, A-00221

$C_7H_7N_3O_2$
o-Nitrobenzylidenehydrazine, *in* N-00081
▷ Phenylurea; 1-*N*-Nitroso, *in* P-00211

$C_7H_7N_3O_3$
N-Hydroxy-3-nitrobenzenecarboximidamide, H-00382
p-Nitrobenzhydrazide, *in* N-00093

$C_7H_7N_3O_5$
2-Amino-4,6-dinitrophenol; *N*-Me, *in* A-00164
2-Methoxy-3,5-dinitroaniline, *in* A-00164

$C_7H_7N_3S$
5-Amino-2-benzimidazolethiol, A-00102
▷ 2-Hydrazinobenzothiazole, H-00083

$C_7H_7N_7$
2,4-Diamino-6-(3-pyridazinyl)-1,3,5-triazine, D-00117
2,4-Diamino-6-(2-pyrimidinyl)-1,3,5-triazine, D-00123
2,4-Diamino-6-(4-pyrimidinyl)-1,3,5-triazine, D-00124

$C_7H_8BrNO_2S$
N-Bromo-4-methylbenzenesulfonamide, *in* M-00130

C_7H_8ClN
2-Chloroaniline; *N*-Me, *in* C-00058
3-Chloroaniline; *N*-Me, *in* C-00059
4-Chloroaniline; *N*-Me, *in* C-00060
▷ 3-Chloro-4-methylaniline, C-00171

$C_7H_8ClNO_2S$
▷ Chloramine T, *in* M-00130

$C_7H_8N_2$
Benzamidine, B-00009
Benzylidenehydrazine, *in* B-00004

$C_7H_8N_2O$
Acepox, *in* A-00039
2-Aminobenzaldehyde; Oxime, *in* A-00096
4-Aminobenzaldehyde; Oxime, *in* A-00097
2-Aminobenzamide, *in* A-00103
▷ 3-Aminobenzoic acid; Amide, *in* A-00104
4-Aminobenzoic acid; Amide, *in* A-00105
2-Aminopyridine; 2-*N*-Ac, *in* A-00333
Benzoylhydrazine, *in* B-00059
2-Hydroxybenzaldehyde; Hydrazone, *in* H-00101
6-Methyl-2-pyridinecarboxaldehyde; (*E*)-Oxime, *in* M-00266
4-Nitrosoaniline; *N*-Me, *in* N-00154
▷ Phenylurea, P-00211

$C_7H_8N_2OS$
o-Hydroxythiobenzhydrazide, *in* H-00110
2-Mercapto-*N*-2-pyridinylacetamide, M-00055

$C_7H_8N_2O_2$
2-Amino-*N*-hydroxybenzamide, *in* A-00103
3,4-Diaminobenzoic acid, D-00050
▷ 3,5-Diaminobenzoic acid, D-00051
1,2-Diamino-4,5-methylenedioxybenzene, D-00103
4-Hydrazinobenzoic acid, H-00082
4-Hydroxybenzoic acid; Hydrazide, *in* H-00113
1-Hydroxy-1-phenylurea, *in* P-00211
3-Hydroxy-2-pyridinecarboxaldehyde; Me ether, oxime, *in* H-00518
1-Methoxy-2-phenyldiazene 2-oxide, *in* H-00471
4-Nitroaniline; *N*-Me, *in* N-00077
4-Nitrobenzylamine, N-00098
Salicylamidoxime, *in* H-00112
▷ Salicyloyl hydrazide, *in* H-00112

$C_7H_8N_2O_3$
O-(*p*-Nitrobenzyl)hydroxylamine, N-00099

$C_7H_8N_2O_3S$
2-(Ethylthio)-6-hydroxy-4-pyrimidinecarboxylic acid, *in* H-00261
6-Methoxy-2-methylthio-4-pyrimidinecarboxylic acid, *in* H-00261

$C_7H_8N_2O_4$
Orotic acid; 1,3-Di-Me, *in* O-00045
Orotic acid; Et ester, *in* O-00045

$C_7H_8N_2S$
6-Methylthiopicolinamide, *in* M-00271
▷ Phenylthiourea, P-00201
Thiobenzoic acid; Hydrazide, *in* T-00155

$C_7H_8N_2S_2$
2-Aminophenylcarbamodithioic acid, A-00320
4-Aminophenylcarbamodithioic acid, A-00321

$C_7H_8N_2Se$
Selenourea; *N*-Ph, *in* S-00009

$C_7H_8N_4O$
6-Hydroxy-7,9-dimethyl-7*H*-purinium hydroxide inner salt, *in* H-00564
Hypoxanthine; 1,7-Di-Me, *in* H-00564
Hypoxanthine; 1,9-Di-Me, *in* H-00564
Hypoxanthine; 3,7-Di-Me, *in* H-00564

$C_7H_8N_4OS$
3-Hydroxy-2-pyridinecarboxaldehyde; Thiosemicarbazone, *in* H-00518

$C_7H_8N_4O_2$
1*H*-Pyrazolo[3,4-*d*]pyrimidine-4,6(5*H*,7*H*)-dione; 1,5-Di-Me, *in* P-00302
1*H*-Pyrazolo[3,4-*d*]pyrimidine-4,6(5*H*,7*H*)-dione; 5,7-Di-Me, *in* P-00302

$C_7H_8N_4S$
▷ 2-(3-Pyridinylmethylene) hydrazinecarbothioamide, *in* P-00319

$C_7H_8N_4Se$
2-Pyridinecarboxaldehyde; Selenosemicarbazone, *in* P-00318

C_7H_8O
▷ Methoxybenzene, M-00078

C_7H_8OS
2-Mercapto-4-methylphenol, M-00035

$C_7H_8OS_3$
2,6-Dimercapto-3,5-dimethyl-4*H*-thiopyran-4-one, D-00754

C_7H_8OSe
1-(2-Selenophenyl)-2-propanone, S-00007

$C_7H_8O_2$
▷ 2-Methoxyphenol, M-00102
▷ 4-Methoxyphenol, *in* B-00022
▷ *m*-Methoxyphenol, *in* B-00021
3-Methyl-1,2-benzenediol, M-00127
▷ 5-Methyl-1,3-benzenediol, M-00128

$C_7H_8O_2S$
▷ Benzenesulfinic acid; Me ester, *in* B-00025

$C_7H_8O_3$
▷ 2-Furancarboxylic acid; Et ester, *in* F-00050
2-Methoxy-1,3-benzenediol, *in* B-00034
2-Methoxy-1,4-benzenediol, *in* B-00035
3-Methoxy-1,2-benzenediol, *in* B-00034
4-Methoxy-1,3-benzenediol, *in* B-00035
2-Oxo-3-butynoic acid; Isopropyl ester, *in* O-00058
2-Pentenedial; Ac, *in* P-00038

$C_7H_8O_3S$
Benzenesulfonic acid; Me ester, *in* B-00026
▷ 4-Methylbenzenesulfonic acid, M-00130

$C_7H_8O_4$
3,4-Dioxocyclohexanecarboxylic acid, D-00989
Pyruvaldehyde; Di-Ac, *in* P-00446

$C_7H_8O_6$
Aconitic acid; α-Mono-Me ester, *in* A-00061
Aconitic acid; β-Mono-Me ester, *in* A-00061
Aconitic acid; γ-Mono-Me ester, *in* A-00061

C_7H_8S
▷ 2-Methylbenzenethiol, M-00131
3-Methylbenzenethiol, M-00132
▷ 4-Methylbenzenethiol, M-00133

$C_7H_8S_2$
▷ 4-Methyl-1,2-benzenedithiol, M-00129

$C_7H_9ClN_2O$
▷ Nicotinamide methochloride, *in* A-00134

$C_7H_9IN_2O$
Nicotinamide methiodide, *in* A-00134

C_7H_9N
▷ Benzylamine, B-00163
▷ 2-Methylaniline, M-00123
▷ 4-Methylaniline, M-00124
Pyrrole; *N*-(2-Propenyl), *in* P-00436

C_7H_9NO
▷ 4-Aminophenol; *N*-Me, *in* A-00302
O-Benzylhydroxylamine, B-00184
▷ 2-Methoxyaniline, M-00072
▷ 4-Methoxyaniline, M-00073

C_7H_9NOS
3-Methoxy-2-(methylthio)pyridine, *in* H-00520
1*H*-Pyrrole-2-carbothioic acid; *S*-Et ester, *in* P-00437
1*H*-Pyrrole-2-carbothioic acid; 1-Me, *S*-Me ester, *in* P-00437

$C_7H_9NO_2$
2,3-Dimethoxypyridine, *in* H-00521
2,5-Pyrrolidinedione; *N*-(2-Propenyl), *in* P-00442

$C_7H_9NO_2S$
▷ 4-Methylbenzenesulfonic acid; Amide, *in* M-00130

$C_7H_9NO_3S$
4-Aminobenzenesulfonic acid; Me ester, *in* A-00100
N-(2-Hydroxyphenyl)methanesulfonamide, *in* A-00300
2-(Methylamino)benzenesulfonic acid, *in* A-00099
4-(Methylamino)benzenesulfonic acid, *in* A-00100

$C_7H_9NO_4$
1-(1-Oxopropoxy)-2,5-pyrrolidinedione, *in* P-00442

$C_7H_9NO_5$
2,5-Dioxo-4-oxazolidinepropanoic acid; Me ester, *in* D-00993
1-[(Ethoxycarbonyl)oxy]-2,5-pyrrolidinedione, E-00054

C_7H_9NS
2-Aminobenzenethiol; *N*-Me, *in* A-00101
o-Thioanisidine, *in* A-00101

$C_7H_9N_2O^{\oplus}$
▷ 3-(Aminocarbonyl)-1-methylpyridinium(1+), A-00134

$C_7H_9N_3$
2-Acetylpyridine; Hydrazone, *in* A-00039

$C_7H_9N_3O$
2,6-Diaminopyridine; *N*-Ac, *in* D-00119
▷ 3-Hydroxy-3-methyl-1-phenyltriazene, H-00317
6-Methyl-2-pyridinecarboxamidoxime, *in* M-00271
2-Phenylsemicarbazide, P-00192
4-Phenylsemicarbazide, P-00193

$C_7H_9N_3OS$
5-Methyl-2-furancarboxaldehyde thiosemicarbazone, *in* M-00179

$C_7H_9N_3O_2$
1,2-Diamino-4-nitrobenzene; 1-*N*-Me, *in* D-00108
1,2-Diamino-4-nitrobenzene; 2-*N*-Me, *in* D-00108

$C_7H_9N_3O_3$
Orotic acid dimethylamide, *in* O-00045

$C_7H_9N_3O_4S$
4-Pyridinecarboxylic acid 2-(sulfomethyl) hydrazide, *in* I-00069

$C_7H_9N_3S$
▷ 1-Phenylthiosemicarbazide, P-00199
▷ 4-Phenylthiosemicarbazide, P-00200

$C_7H_9N_5$
2-Pyridinecarboxaldehyde guanylhydrazone, P-00325

$C_7H_9N_5O_2$
2,6-Pyridinediamidoxime, *in* P-00353

$C_7H_9O_2P$
Methyl phenylphosphinate, *in* P-00163

$C_7H_{10}IN$
2-Picoline methiodide, *in* M-00264

$C_7H_{10}NOPS$
P-Methylphosphonamidothioic acid; *O*-Ph ester, *in* M-00243

$C_7H_{10}N_2$
1,3-Diaminobenzene; *N*-Me, *in* D-00047
▷ 1,2-Diamino-4-methylbenzene, D-00101
2-(Dimethylamino)pyridine, *in* A-00333
2-(Ethylamino)pyridine, *in* A-00333
1-Methyl-1-phenylhydrazine, M-00229

$C_7H_{10}N_2O$
3,5-Dimethyl-1*H*-pyrazole; *N*-Ac, *in* D-00904
2-Furancarboxaldehyde; Dimethylhydrazone, *in* F-00042

$C_7H_{10}N_2O_2$
4-Acetyl-2,4-dihydro-2,5-dimethyl-3*H*-pyrazol-3-one, A-00015
Glycylproline; Lactam, *in* G-00020
Thymine; 1,3-Di-Me, *in* T-00179

$C_7H_{10}N_2O_2S$
2-Aminobenzenesulfonic acid; *N*-Me, amide, *in* A-00099
4-Aminobenzenesulfonic acid; *N*-Me, amide, *in* A-00100
▷ *p*-Toluenesulfonylhydrazine, *in* M-00130

$C_7H_{10}N_2O_3$
5,5-Dimethyl-2,4-imidazolidinedione; 3-*N*-Ac, *in* D-00866

$C_7H_{10}N_2O_4$
4-Carboxynioxime, *in* D-00989
4,5-Dihydro-1*H*-pyrazole-3,4-dicarboxylic acid; Di-Me ester, *in* D-00480

$C_7H_{10}N_2S$
4-(Methylthio)-1,2-benzenediamine, M-00325

$C_7H_{10}N_4$
6-Methyl-2-pyridinecarboximidic acid hydrazide, M-00270

$C_7H_{10}N_4O_2S_2$
N,*N*-Dimethyl-*N*′-(4-methyl-5-nitro-2-thiazolyl)thiourea, D-00870

$C_7H_{10}O_2$
1,2-Cycloheptanedione, C-00333
3-Methyl-1,2-cyclohexanedione, M-00156
4-Methyl-1,2-cyclohexanedione, M-00157

$C_7H_{10}O_3$
4-Hydroxy-3-penten-2-one; Ac, *in* P-00030
2-Oxocyclopentanecarboxylic acid; Me ester, *in* O-00060

$C_7H_{10}O_4$
2-Methylenebutanedioic acid; Di-Me ester, *in* M-00176

$C_7H_{11}ClO$
Cyclohexanecarboxylic acid; Chloride, *in* C-00336

$C_7H_{11}N$
Cyclohexanecarbonitrile, *in* C-00336
Pyrrole; *N*-Isopropyl, *in* P-00436
Pyrrole; *N*-Propyl, *in* P-00436

$C_7H_{11}NO$
▷ 1-Cyanocyclohexanol, *in* H-00146

$C_7H_{11}NO_2$
tert-Butyl cyanoacetate, *in* C-00324
3-Methyl-1,2-cyclohexanedione; 1-Oxime, *in* M-00156
4-Methyl-1,2-cyclohexanedione; 1-Oxime, *in* M-00157
4-Methyl-1,2-cyclohexanedione; 2-Oxime, *in* M-00157

$C_7H_{11}NO_3$
4-(2-Methylpropyl)-2,5-oxazolidinedione, M-00261
Proline; *N*-Ac, *in* P-00257

$C_7H_{11}NO_5S$
Glucopyranosyl isothiocyanate, G-00012

$C_7H_{11}NS_2$
2-Amino-1-cyclohexene-1-dithiocarboxylic acid, A-00146

$C_7H_{11}N_3$
2,6-Bis(methylamino)pyridine, *in* D-00119

$C_7H_{12}N_2$
(Diazomethyl)cyclohexane, D-00149

$C_7H_{12}N_2O_2$
Heptoxime, *in* C-00333
3-Methylnioxime, *in* M-00156
▷ 4-Methylnioxime, *in* M-00157
Proline; Amide, *N*-Ac, *in* P-00257

$C_7H_{12}N_2O_3$
Glycylproline, G-00020

$C_7H_{12}N_2S$
3,4-Dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, D-00504

$C_7H_{12}N_4O_2$
4,5-Dihydro-1*H*-pyrazole-3,4-dicarboxylic acid; Diamide, *N*-di-Me, *in* D-00480

$C_7H_{12}O$
▷ Cycloheptanone, C-00334

$C_7H_{12}O_2$
▷ Cyclohexanecarboxylic acid, C-00336
1,4-Dioxaspiro[4.4]nonane, *in* C-00364

$C_7H_{12}O_3$
1-Hydroxycyclohexanecarboxylic acid, H-00146

$C_8H_5F_3O_2S$
4,4,4-Trifluoro-1-(2-thienyl)-1,3-butanedione, T-00264

$C_8H_5F_3O_2Se$
4,4,4-Trifluoro-1-selenophen-2-yl-1,3-butanedione, T-00263

$C_8H_5F_3O_3$
4,4,4-Trifluoro-1,2-furanyl-1,3-butanedione, T-00248

C_8H_5NO
Benzoyl cyanide, *in* O-00055

$C_8H_5NO_2$
4-Hydroxy-5-oxo-1,3,6-cycloheptatriene-1-carbonitrile, *in* H-00428
▷ Isatin, I-00056
▷ Phthalimide, P-00223

$C_8H_5NO_2S_2$
5-(2-Furanylmethylene)-2-thioxo-4-thiazolidinone, F-00056

$C_8H_5NO_4$
4,7-Dihydroxy-1*H*-isoindole-1,3 (2*H*)-dione, D-00636

$C_8H_5NO_6$
▷ 3-Nitro-1,2-benzenedicarboxylic acid, N-00085
4-Nitro-1,2-benzenedicarboxylic acid, N-00086

$C_8H_5NS_2$
1*H*-Isoindole-1,3(2*H*)-dithione, I-00068

$C_8H_5N_3O_2S_2$
1,4-Dihydro-6-nitro-2,3-quinoxalinedithione, D-00461

$C_8H_5N_3O_8$
2,4,6-Trinitrobenzoic acid; Me ester, *in* T-00352
2,4,6-Trinitrophenol; Ac, *in* T-00355

$C_8H_5N_5O_6$
Purpuric acid, P-00281

C_8H_6
▷ Phenylacetylene, P-00077

$C_8H_6BrNO_3$
2-Bromo-4′-nitroacetophenone, B-00539

$C_8H_6Br_2O$
▷ 2,4′-Dibromoacetophenone, D-00176

$C_8H_6Br_2O_4$
2,5-Dibromo-3,6-dimethoxy-1,4-benzoquinone, *in* D-00182

$C_8H_6Br_4O_2$
1,2,3,4-Tetrabromo-5,6-dimethoxybenzene, *in* T-00012

$C_8H_6ClF_3$
1-(Chloromethyl)-3-(trifluoromethyl)benzene, C-00186

$C_8H_6ClF_5Si$
Chlorodimethyl(pentafluorophenyl)silane, C-00100

C_8H_6ClNO
p-Chloromandelonitrile, *in* C-00222

$C_8H_6ClNO_3$
(4-Nitrophenyl)acetic acid; Chloride, *in* N-00120

$C_8H_6ClNO_4$
2-Hydroxy-5-nitrobenzoic acid; Me ether, chloride, *in* H-00383

$C_8H_6Cl_2O_2$
2,4-Dichlorobenzoic acid; Me ester, *in* D-00249
3′,5′-Dichloro-2′-hydroxyacetophenone, D-00277

$C_8H_6Cl_2O_4$
2,5-Dichloro-3,6-dimethoxy-1,4-benzoquinone, *in* D-00262

$C_8H_6Cl_3NO$
▷ 2,2,2-Trichloro-*N*-phenylacetamide, *in* T-00218

$C_8H_6FN_3O_5$
5-Fluoro-2,4-dinitroaniline; *N*-Ac, *in* F-00026

$C_8H_6F_3NO$
2,2,2-Trifluoro-*N*-phenylacetamide, T-00259

$C_8H_6F_3NO_2S$
4,4,4-Trifluoro-1-(2-thienyl)-1,3-butanedione; Oxime, *in* T-00264

$C_8H_6I_2O_3$
3,5-Diiodosalicylic acid; Me ester, *in* D-00745

$C_8H_6N_2$
1,5-Naphthyridine, N-00056

$C_8H_6N_2O$
1*H*-Benzimidazole-2-carboxaldehyde, B-00039
5-Hydroxyquinoxaline, H-00536
▷ Indole; *N*-Nitroso, *in* I-00033
1,5-Naphthyridine; 1-Oxide, *in* N-00056

$C_8H_6N_2OS_2$
5-(1*H*-Pyrrol-2-ylmethylene)-2-thioxo-4-thiazolidinone, P-00445
5-(2-Thienylmethylene)-2-thioxo-4-imidazolidinone, T-00152

$C_8H_6N_2O_2$
▷ 1-(Cyanomethyl)-4-nitrobenzene, *in* N-00120
Isatin; 2-Oxime, *in* I-00056
▷ Isatin; 3-Oxime, *in* I-00056
1,5-Naphthyridine; 1,5-Dioxide, *in* N-00056
Phthalimide; Monoxime, *in* P-00223

$C_8H_6N_2O_2S_2$
6-Nitro-2(3*H*)-benzothiazolethione; *S*-Me, *in* N-00096

$C_8H_6N_2O_3S_4$
Bismuthiol II sulfonic acid, *in* M-00060

$C_8H_6N_2O_5$
3-Nitro-1,2-benzenedicarboxylic acid; 1-Amide, *in* N-00085

$C_8H_6N_2O_6$
3,4-Dinitrobenzoic acid; Me ester, *in* D-00947
3,5-Dinitrobenzoic acid; Me ester, *in* D-00948
2,4-Dinitrophenol; Ac, *in* D-00958

$C_8H_6N_2O_7$
2-Hydroxy-3,5-dinitrobenzoic acid; Me ester, *in* H-00154
2-Methoxy-3,5-dinitrobenzoic acid, *in* H-00154

$C_8H_6N_2S$
3-Amino-1*H*-isoindole-1-thione, A-00229

$C_8H_6N_2S_2$
▷ 1,4-Dihydro-2,3-quinoxalinedithione, D-00489

$C_8H_6N_2S_3$
Bismuthiol II, *in* M-00060

$C_8H_6N_4$
2,2′-Bipyrazine, B-00218
3,3′-Bipyridazine, B-00219
2,2′-Bipyrimidine, B-00235
3-(2-Pyridinyl)-1,2,4-triazine, P-00411

$C_8H_6N_4O_2S$
2-(2,4-Dihydroxyphenylazo)-1,3,4-thiadiazole, D-00703

$C_8H_6N_4O_2S_2$
2-Mercapto-5-(2,4-dihydroxyphenylazo)-1,3,4-thiadiazole, M-00028

$C_8H_6N_4O_3$
▷ (4-Nitrophenyl)acetic acid; Azide, *in* N-00120

$C_8H_6N_8S_2$
1,1′-[1,3-Phenylene]bis-2-tetrazoline-5-thione, P-00122
1,1′-[1,4-Phenylene]bis-2-tetrazoline-5-thione, P-00123

$C_8H_6O_2$
▷ 1,2-Benzenedicarboxaldehyde, B-00016
Phenylglyoxal, P-00132

$C_8H_6O_3$
▷ α-Oxobenzeneacetic acid, O-00055

$C_8H_6O_4$
▷ 1,2-Benzenedicarboxylic acid, B-00018
▷ 1,3-Benzenedicarboxylic acid, B-00019
4,5-Dihydroxy-1,3-benzenedicarboxaldehyde, D-00524
6,7-Dihydroxy-3(2*H*)-benzofuranone, D-00530
4-Hydroxy-5-oxo-1,3,6-cycloheptatriene-1-carboxylic acid, H-00428

$C_8H_6O_6$
3,6-Dihydroxy-1,2-benzenedicarboxylic acid, D-00525

$C_8H_7BrN_2O_3$
2-Bromo-4′-nitroacetophenone; Oxime, *in* B-00539

$C_8H_7BrN_2O_4$
2-(Bromoacetamido)-4-nitrophenol, B-00482

C_8H_7BrO
▷ 2-Bromoacetophenone, B-00483
4-Methylbenzoic acid; Bromide, *in* M-00138

$C_8H_7BrO_2$
4-Bromobenzoic acid; Me ester, *in* B-00488
▷ 2-Bromo-4′-hydroxyacetophenone, B-00508
5-Bromo-2-methoxybenzaldehyde, *in* B-00509

$C_8H_7BrO_3$
2-Bromo-2′,4′-dihydroxyacetophenone, B-00501
2-Bromo-2′,5′-dihydroxyacetophenone, B-00502
2-(4-Bromophenyl)-2-hydroxyacetic acid, B-00550

$C_8H_7Br_2NO$
2,4′-Dibromoacetophenone; Oxime, *in* D-00176

$C_8H_7Br_3O$
1,3,5-Tribromo-2-ethoxybenzene, *in* T-00205

$C_8H_7Br_3O_3$
3,4,5-Tribromo-2,6-dimethoxyphenol, *in* T-00204

C_8H_7ClO
▷ 2-Chloroacetophenone, C-00055
3-Methylbenzoic acid; Chloride, *in* M-00137
▷ 4-Methylbenzoic acid; Chloride, *in* M-00138

$C_8H_7ClO_2$
▷ Anisoyl chloride, *in* M-00079
2-Chlorobenzoic acid; Me ester, *in* C-00066
4-Chlorobenzoic acid; Me ester, *in* C-00067
4-Chloro-2-methoxybenzaldehyde, *in* C-00121
▷ 4-Chlorophenol; Ac, *in* C-00196
2-Hydroxy-3-methylbenzoic acid; Chloride, *in* H-00278
Phenyl chloroacetate, *in* C-00054

$C_8H_7ClO_3$
2-(3-Chlorophenyl)-2-hydroxyacetic acid, C-00221
2-(4-Chlorophenyl)-2-hydroxyacetic acid, C-00222

$C_8H_7Cl_2NO_2$
3′,5′-Dichloro-2′-hydroxyacetophenone; Oxime, *in* D-00277

$C_8H_7Cl_2NO_3$
2,4-Dichlorophenoxyacetohydroxamic acid, D-00288

$C_8H_7FO_2$
4-Fluorobenzoic acid; Me ester, *in* F-00024

$C_8H_7IO_2$
4-Iodobenzoic acid; Me ester, *in* I-00041

C_8H_7N
▷ Benzeneacetonitrile, *in* P-00076
▷ 1-Cyano-3-methylbenzene, *in* M-00137
▷ Indole, I-00033
▷ *p*-Tolunitrile, *in* M-00138

C_8H_7NO
2-Cyano-4-methylphenol, *in* H-00279
2-Cyano-6-methylphenol, *in* H-00278
4-Methoxybenzonitrile, *in* M-00079

C_8H_7NOS
2(3*H*)-Benzoxazolethione; 3-Me, *in* B-00113

2,5-Dihydroxybenzoic acid; Me ester, *in* D-00532
2,6-Dihydroxybenzoic acid; Me ester, *in* D-00533
3,5-Dihydroxybenzoic acid; Me ester, *in* D-00534
▷ 3,4-Dihydroxy-5-methoxybenzaldehyde, *in* T-00273
3,5-Dihydroxy-4-methoxybenzaldehyde, *in* T-00273
▷ (3,4-Dihydroxyphenyl)acetic acid, D-00687
2,5-Dimethoxy-1,4-benzoquinone, *in* D-00540
2-Hydroxy-6-methoxybenzoic acid, *in* D-00533
3-Hydroxy-5-methoxybenzoic acid, *in* D-00534
2,3′,4′-Trihydroxyacetophenone, T-00268
▷ 2′,3′,4′-Trihydroxyacetophenone, T-00269

$C_8H_8O_5$
5-Ethoxy-4-oxo-4*H*-pyran-2-carboxylic acid, *in* H-00434
5-Hydroxy-4-oxo-4*H*-pyran-2-carboxylic acid; Et ester, *in* H-00434
▷ Methyl gallate, *in* T-00277
2,3,4-Trihydroxybenzoic acid; Me ester, *in* T-00276

$C_8H_8O_6$
2,5-Dihydroxy-3,6-dimethoxy-2,5-cyclohexadiene-1,4-dione, *in* T-00072

$C_8H_8S_2$
Benzeneethane(dithioic) acid, B-00023
Dithiobenzoic acid; Me ester, *in* D-01117

C_8H_9Br
▷ 1-(Bromomethyl)-4-methylbenzene, B-00527

$C_8H_9BrO_2$
1-Bromo-2,4-dimethoxybenzene, *in* B-00486

$C_8H_9BrO_3S$
4-Bromobenzenesulfonic acid; Et ester, *in* B-00487

C_8H_9ClO
1-Chloro-4-ethoxybenzene, *in* C-00196
[(Chloromethoxy)methyl]benzene, C-00167

$C_8H_9ClO_2$
1-Chloro-2,4-dimethoxybenzene, *in* C-00061

$C_8H_9F_3N_2$
[α-(Trifluoromethyl)benzyl]hydrazine, T-00254

$C_8H_9F_7O_2$
Heptafluorobutanoic acid; Butyl ester, *in* H-00004

C_8H_9I
1-(Iodomethyl)-4-methylbenzene, I-00046

C_8H_9NO
▷ Acetanilide, *in* A-00368
Acetophenone; (*E*)-Oxime, *in* A-00008
Acetophenone; (*Z*)-Oxime, *in* A-00008
2-Acetyl-4-methylpyridine, A-00023
2-Acetyl-6-methylpyridine, A-00024
▷ 4′-Aminoacetophenone, A-00091
2-Aminobenzaldehyde; *N*-Me, *in* A-00096
4-Aminobenzaldehyde; *N*-Me, *in* A-00097
▷ Benzeneacetamide, *in* P-00076
4-Methylaniline; *N*-Formyl, *in* M-00124
4-Methylbenzoic acid; Amide, *in* M-00138
m-Toluamide, *in* M-00137

C_8H_9NOS
1-Acetoxy-4-methyl-2(1*H*)-pyridinethione, *in* M-00274
2-Aminobenzenethiol; *N*-Ac, *in* A-00101
▷ 2-Mercapto-*N*-phenylacetamide, *in* M-00016
Thiocarbamic acid; *S*-Benzyl ester, *in* T-00159

$C_8H_9NO_2$
▷ 2-Acetamidophenol, *in* A-00300
2-Acetyl-4-methoxypyridine, A-00021
2-Aminobenzoic acid; *N*-Me, *in* A-00103
▷ 2-Aminobenzoic acid; Me ester, *in* A-00103
3-Aminobenzoic acid; Me ester, *in* A-00104
α-Anisaldoxime, *in* M-00075
β-Anisaldoxime, *in* M-00075
Anisamide, *in* M-00079
▷ 4-Hydroxyacetanilide, *in* A-00302
2′-Hydroxyacetophenone; Oxime, *in* H-00089
4′-Hydroxyacetophenone; Oxime, *in* H-00090
2-Hydroxy-5-methylbenzaldehyde; Oxime, *in* H-00277
2-Hydroxy-3-methylbenzamide, *in* H-00278
2-Hydroxy-5-methylbenzoic acid; Amide, *in* H-00279
N-Hydroxy-*N*-phenylacetamide, *in* P-00135
2-Methoxybenzaldehyde; (*E*)-Oxime, *in* M-00074
4-(Methylamino)benzoic acid, *in* A-00105
2-Methylbenzohydroxamic acid, M-00135
4-Methylbenzohydroxamic acid, M-00136
6-Methyl-2-pyridinecarboxylic acid; Me ester, *in* M-00271
4-Methylsalicylaldoxime, *in* H-00276
2-Pyridinecarboxylic acid; Et ester, *in* P-00342

$C_8H_9NO_2S$
[(4-Aminophenyl)thio]acetic acid, A-00327
N-Hydroxy-4-methoxybenzenecarbothioamide, H-00265
N-(3-Hydroxyphenyl)-2-mercaptoacetamide, H-00476

$C_8H_9NO_3$
4-Amino-2-hydroxybenzoic acid; Me ester, *in* A-00184
4-Amino-2-methoxybenzoic acid, *in* A-00184
2′,4′-Dihydroxyacetophenone; Oxime, *in* D-00507
2′,5′-Dihydroxyacetophenone; Oxime, *in* D-00508
3,4-Dihydroxybenzaldehyde; 3-Me ether, oxime, *in* D-00519
α,*N*-Dihydroxybenzeneacetamide, D-00521
2,4-Dimethoxy-1-nitrosobenzene, *in* N-00156
▷ 1-Ethoxy-2-nitrobenzene, *in* N-00117
1-Ethoxy-3-nitrobenzene, *in* N-00118
▷ 1-Ethoxy-4-nitrobenzene, *in* N-00119
2-Hydroxy-5-anisaldoxime, *in* D-00518
N-Hydroxy-2-methoxybenzamide, H-00263
N-Hydroxy-4-methoxybenzamide, H-00264
Pyridoxal, P-00414

$C_8H_9NO_4$
3-Acetyl-4-hydroxy-6-methyl-2*H*-pyran-2-one; Oxime, *in* A-00019
1,2-Dimethoxy-4-nitrobenzene, *in* N-00087
2′,3′,4′-Trihydroxyacetophenone; Oxime, *in* T-00269

$C_8H_9NO_4S$
N-(Phenylsulfonyl)glycine, P-00196

$C_8H_9NO_4S_2$
4-[(Mercaptoacetyl)amino]benzenesulfonic acid, M-00017

C_8H_9NS
▷ Thioacetanilide, T-00153

$C_8H_9N_3$
1*H*-Benzotriazole; 1-Et, *in* B-00110
2,3-Dihydro-5-(2-pyridinyl)-1*H*-imidazole, D-00482

$C_8H_9N_3O$
N-(Aminoiminomethyl)benzamide, A-00226

$C_8H_9N_3OS$
3-(2-Furanyl)-2-propenal; Thiosemicarbazone, *in* F-00060
▷ 2-Hydroxybenzaldehyde; Thiosemicarbazone, *in* H-00101

$C_8H_9N_3O_2$
2-Hydroxybenzaldehyde; Semicarbazone, *in* H-00101

$C_8H_9N_3O_2S$
2,4-Dihydroxybenzaldehyde; Thiosemicarbazone, *in* D-00517
3-(2-Thiazolylazo)-2,4-pentanedione, T-00144

$C_8H_9N_3O_3$
Acetic acid; 2-(4-Nitrophenylhydrazide), *in* A-00006
2-Amino-4-nitroacetanilide, *in* D-00108
2-Amino-5-nitroacetanilide, *in* D-00108
2,4-Dihydroxybenzaldehyde; Semicarbazone, *in* D-00517
2,5-Dihydroxybenzaldehyde; Semicarbazone, *in* D-00518
2-(3-Hydroxy-3-methyl-1-triazenyl)benzoic acid, H-00332
(2-Nitrophenyl)hydrazine; Ac, *in* N-00137

$C_8H_9N_3O_5$
2-Amino-4,6-dinitrophenol; *N*-Di-Me, *in* A-00164

$C_8H_9N_3O_7$
5-Amino-2,4,6-pyrimidinetrione-N^5,N^5-diacetic acid, A-00338

$C_8H_9N_3S$
▷ MBTH, *in* B-00090

$C_8H_9N_3S_2$
1-Phenyl-2,4-dithiobiuret, *in* T-00163

$C_8H_9O_3P$
2-Phenylethenylphosphonic acid, P-00129

$C_8H_{10}ClN$
2-Chloroaniline; *N*-Di-Me, *in* C-00058
3-Chloroaniline; *N*-Di-Me, *in* C-00059
4-Chloroaniline; *N*-Di-Me, *in* C-00060
2-Chloroaniline; *N*-Et, *in* C-00058
3-Chloroaniline; *N*-Et, *in* C-00059
4-Chloroaniline; *N*-Et, *in* C-00060

$C_8H_{10}NO_6P$
▷ Pyridoxal phosphate, P-00416

$C_8H_{10}N_2$
Acetophenone; Hydrazone, *in* A-00008

$C_8H_{10}N_2O$
▷ Acetic acid 2-phenylhydrazide, *in* P-00134
2-Acetyl-4-methylpyridine; Oxime (*E*-), *in* A-00023
2-Acetyl-6-methylpyridine; Oxime (*E*-), *in* A-00024
4′-Aminoacetophenone; Oxime, *in* A-00091
▷ 1,3-Diaminobenzene; *N*-Ac, *in* D-00047
▷ *N*,*N*-Dimethyl-4-nitrosoaniline, D-00876
2′-Hydroxyacetophenone; Hydrazone, *in* H-00089
N-Hydroxy-4-methylbenzenecarboximidamide, *in* M-00138
N-Hydroxy-*N*′-phenylethanimidamide, *in* A-00004
4-Methoxybenzaldehyde; Hydrazone, *in* M-00075
4-Methoxybenzamidine, M-00077
4-Methylbenzoic acid; Hydrazide, *in* M-00138
Phenylhydrazine; N^1-Ac, *in* P-00134

$C_8H_{10}N_2OS$
N-Hydroxy-*N*′-methyl-*N*-phenylthiourea, *in* T-00175

$C_8H_{10}N_2O_2$
2-Acetyl-4-methoxypyridine; Oxime (*Z*-), *in* A-00021
N-(*p*-Aminophenyl)glycine, A-00323
6-Amino-3-pyridinecarboxylic acid; Et ester, *in* A-00334
3,4-Diaminobenzoic acid; Me ester, *in* D-00050
2,3-Dihydro-1,4-benzodioxin-6,7-diamine, D-00371
5-(Dimethylamino)-2-nitrosophenol, D-00804
4-Nitroaniline; *N*-Di-Me, *in* N-00077
4-Nitroaniline; *N*-Et, *in* N-00077
1-(4-Nitrophenyl)ethylamine, N-00135

$C_8H_{10}N_2O_3$
Pyridoxal; Oxime, *in* P-00414

$C_8H_{10}N_2O_3S$
N-Methanesulfonylbenzamidoxime, M-00067
▷ Sulfacetamide, *in* A-00100

$C_8H_{10}N_2O_4$
Orotic acid; 1,3-Di-Me, Me ester, *in* O-00045

$C_8H_{10}N_2S$
▷ 2-Benzyl-2-thiopseudourea, B-00193
▷ 2-Ethyl-4-pyridinecarbothioamide, E-00107
5-Ethyl-2-pyridinecarbothioamide, E-00108
▷ *N*-Methyl-*N*′-phenylthiourea, *in* P-00201

$C_8H_{14}O_2$
▷ Cyclohexanecarboxylic acid; Me ester, *in* C-00336
5,5-Dimethyl-2,4-hexanedione, D-00863
4,5-Octanedione, O-00033

$C_8H_{14}O_3$
▷ Butanoic acid; Anhydride, *in* B-00604
1-Hydroxycyclohexanecarboxylic acid; Me ester, *in* H-00146

$C_8H_{14}O_4$
2,3-Butanediol; Di-Ac, *in* B-00586
▷ Diethyl succinate, *in* S-00034
▷ Hexanedioic acid; Di-Me ester, *in* H-00062

$C_8H_{14}O_4S$
Mercaptobutanedioic acid; Di-Et ester, *in* M-00026

$C_8H_{14}O_4S_2$
Succimer; Di-*S*-Me, di-Me ester, *in* D-00751

$C_8H_{15}BrO_2$
2-Bromobutanoic acid; Isobutyl ester, *in* B-00496

$C_8H_{15}ClO$
Octanoic acid; Chloride, *in* O-00036

$C_8H_{15}N$
▷ Octanenitrile, *in* O-00036

$C_8H_{15}NO_2$
4-(Aminomethyl)cyclohexanecarboxylic acid, A-00238
4,5-Octanedione; Oxime, *in* O-00033

$C_8H_{15}N_5$
2,4,6-Triaminopyrimidine; N^4,N^6-Di-Et, *in* T-00194
2,4,6-Triaminopyrimidine; N^2,N^2,N^4,N^4-Tetra-Me, *in* T-00194
2,4,6-Triaminopyrimidine; N^4,N^4,N^6,N^6-Tetra-Me, *in* T-00194

$C_8H_{15}O_2PS_2$
Phosphorodithioic acid *O*,*O*-bis(2-methylallyl) ester, P-00216

$C_8H_{16}N_2O_2$
Dipropylglyoxime, *in* O-00033
1,6-Hexanediamine; *N*,*N*′-Diformyl, *in* H-00061
N-Hydroxy-*N*-nitrosocyclooctylamine, H-00412
Tetramethylsuccinamide, *in* S-00034

$C_8H_{16}N_2O_4$
N,*N*′-1,2-Ethanediylbisalanine, E-00029

$C_8H_{16}N_4$
1,2-Cyclooctanedione; Dihydrazone, *in* C-00361

$C_8H_{16}O_2$
3,3-Dimethyl-2-butanol; Ac, *in* D-00844
▷ Octanoic acid, O-00036

$C_8H_{16}O_4$
Glyoxylic acid; Di-Et acetal, Et ester, *in* G-00038
▷ 1,4,7,10-Tetraoxacyclododecane, T-00113

$C_8H_{17}BO_2$
Dimethyl cyclohexylboronate, *in* C-00352

$C_8H_{17}ClO_2S$
1-Octanesulfonic acid; Chloride, *in* O-00034

$C_8H_{17}ClSi$
1-Chloro-1-*tert*-butylsilacyclopentane, C-00076

$C_8H_{17}NO$
Octanoic acid; Amide, *in* O-00036

$C_8H_{17}NO_2$
N-Hydroxyoctanamide, H-00424

$C_8H_{17}NO_3$
1,4,7-Trioxa-10-azacyclododecane, T-00359

$C_8H_{17}NO_3S$
2-(Cyclohexylamino)ethanesulfonic acid, C-00348

$C_8H_{18}F_3NOSi_2$
2,2,2-Trifluoro-*N*-(trimethylsilyl)ethanimidic acid trimethylsilyl ester, T-00266

$C_8H_{18}NO_3P$
Diethylphosphoramidic acid cyclic 1-methyltrimethylene ester, D-00354

$C_8H_{18}N_2O_4S$
4-(2-Hydroxyethyl)-1-piperazineethanesulfonic acid, H-00180

$C_8H_{18}N_2O_6S_2$
1,4-Piperazinediethanesulfonic acid, P-00240

$C_8H_{18}O$
2-Ethyl-1-hexanol, E-00083
▷ 2-Octanol, O-00037

$C_8H_{18}O_2$
2-Butanone; Di-Et acetal, *in* B-00608
▷ 2,2,4-Trimethyl-1,3-pentanediol, T-00330

$C_8H_{18}O_3S$
1-Heptanesulfonic acid; Me ester, *in* H-00011
1-Octanesulfonic acid, O-00034

$C_8H_{18}O_5$
▷ Tetraethylene glycol, T-00043

$C_8H_{19}AsO_2$
▷ Dibutylarsinic acid, D-00226

$C_8H_{19}N$
▷ Dibutylamine, D-00223

$C_8H_{19}NO_3$
2-[Bis(2-hydroxyethyl)amino]-2-methyl-1-propanol, B-00372
N,*N*-Bis(2-hydroxypropyl)ethanolamine, B-00393

$C_8H_{19}NO_5$
2-[Bis(2-hydroxyethyl)amino]-2-(hydroxymethyl)-1,3-propanediol, B-00370

$C_8H_{19}NS$
▷ 2-Aminoethanethiol; *N*-Diisopropyl, *in* A-00170

$C_8H_{19}NSi$
1-(Trimethylsilyl)piperidine, T-00343

$C_8H_{19}O_2PS$
O,*O*-Dibutyl phosphonothioate, D-00240

$C_8H_{19}O_2PS_2$
O,*O*-Bis(2-methylpropyl) phosphorodithioate, B-00413
O,*O*-Dibutyl phosphorodithioate, D-00241

$C_8H_{19}O_3P$
Diethyl (2-methylpropyl)phosphonate, *in* M-00262

$C_8H_{19}O_3PS$
O,*O*-Dibutyl phosphorothioate, D-00242

$C_8H_{19}O_4P$
▷ Dibutyl phosphate, D-00237
Mono(2-ethylhexyl) phosphate, M-00339

$C_8H_{20}B^{\ominus}$
Tetraethylborate(1−), T-00042

$C_8H_{20}BLi$
Tetraethylborate(1−); Li salt, *in* T-00042

$C_8H_{20}BNa$
Sodium tetraethylborate, *in* T-00042

$C_8H_{20}BrN$
▷ Tetrylammonium bromide, *in* T-00041

$C_8H_{20}ClN$
▷ Etamon chloride, *in* T-00041

$C_8H_{20}FN$
Tetraethylammonium(1+); Fluoride, *in* T-00041

$C_8H_{20}FN_2OP$
▷ Tetraethylphosphorodiamidic acid; Fluoride, *in* T-00046

$C_8H_{20}N^{\oplus}$
▷ Tetraethylammonium(1+), T-00041

$C_8H_{20}NO_3P$
Diethyl diethylphosphoramidate, D-00340

$C_8H_{20}N_2$
N,*N*′-Dimethyl-1,6-hexanediamine, *in* H-00061

$C_8H_{20}N_5OP$
Tetraethylphosphorodiamidic acid; Azide, *in* T-00046

$C_8H_{21}NO$
▷ Tetraethylammonium(1+); Hydroxide, *in* T-00041

$C_8H_{21}NOSi_2$
▷ *N*,*O*-Bis(trimethylsilyl)acetamide, B-00470

$C_8H_{21}N_2O_2P$
Tetraethylphosphorodiamidic acid, T-00046

$C_8H_{23}N_5$
▷ Tetraethylenepentamine, T-00044

$C_8H_{24}N_2O_{12}P_4$
1,4-Butanediamine-*N*,*N*,*N*′,*N*′-tetrakis(methylphosphonic acid), B-00585

$C_9HClF_{16}O$
2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-Hexadecafluorononanoic acid; Chloride, *in* H-00022

$C_9HF_{16}N$
2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-Hexadecafluorononanoic acid; Nitrile, *in* H-00022

$C_9H_2F_{16}O_2$
2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-Hexadecafluorononanoic acid, H-00022

$C_9H_3Cl_2NO_2$
6,7-Dichloro-5,8-quinolinedione, D-00302

$C_9H_3Cl_2NO_3$
6,7-Dichloro-5,8-quinolinedione; *N*-Oxide, *in* D-00302

$C_9H_3F_{15}O_2$
Pentadecafluorooctanoic acid; Me ester, *in* P-00008

$C_9H_3F_{16}NO$
2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-Hexadecafluorononanoic acid; Amide, *in* H-00022

$C_9H_3N_3$
1,2,3-Benzenetricarbonitrile, *in* B-00031
1,2,4-Tricyanobenzene, *in* B-00032

$C_9H_4O_3$
1,2,3-Indanetrione, I-00025

$C_9H_4O_5$
1,2,3-Benzenetricarboxylic acid; Anhydride, *in* B-00031
▷ 1,3-Dihydro-1,3-dioxo-5-isobenzofurancarboxylic acid, *in* B-00032

$C_9H_5Br_2NO$
▷ 5,7-Dibromo-8-hydroxyquinoline, D-00193

$C_9H_5Br_2NO_2$
5,7-Dibromo-8-hydroxyquinoline; *N*-Oxide, *in* D-00193

C_9H_5ClINO
▷ 5-Chloro-8-hydroxy-7-iodoquinoline, C-00134

$C_9H_5ClN_2O_2$
3-Chloro-2-quinoxalinecarboxylic acid, C-00260

$C_9H_5ClN_2O_4$
2-(Chloromethyl)-5-nitro-1*H*-isoindole-1,3(2*H*)-dione, C-00180

$C_9H_5ClO_4S$
2-Oxo-2*H*-1-benzopyran-6-sulfonyl chloride, *in* O-00057

$C_9H_5Cl_2NO$
5,7-Dichloro-8-hydroxyquinoline, D-00283

$C_9H_5Cl_2NO_2$
5,7-Dichloro-8-hydroxyquinoline; 1-Oxide, *in* D-00283

3-[(4-Oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, O-00075
4-[(4-Oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, O-00076

$C_9H_7N_3O_5S$
2-[[(Aminothioxomethyl)amino]carbonyl]-6-nitrobenzoic acid, A-00361

$C_9H_7N_3S$
6-Phenyl-1,2,4-triazine-3(2*H*)-thione, P-00205

$C_9H_7N_5O_3S$
5-Amino-2-(5-nitro-2-thiazolylazo)phenol, A-00289

$C_9H_7N_5O_7S_2$
2-Hydroxy-3-[(2-imino-4-oxo-5-thiazolidinyl) azo]-5-nitrobenzenesulfonic acid, H-00249
2-Hydroxy-5-nitro-3-[(2-thioxo-4-oxopyrrolidinyl)azo]benzenesulfonic acid, H-00423

$C_9H_7N_5O_7S_3$
3-[(3-Amino-4-oxo-2-thioxo-5-thiazolidinyl) azo]-2-hydroxy-5-nitrobenzenesulfonic acid, *in* H-00391

$C_9H_8AsN_3O_3S_3$
5-[(2-Arsonophenyl)azo]-2,4-thiazolidinedithione, A-00443

$C_9H_8AsN_3O_4S_2$
5-[(2-Arsonophenyl)azo]-2-thioxo-4-thiazolidinone, A-00444

$C_9H_8F_3NO_2$
2-Hydroxy-2-phenyl-3,3,3-trifluoropropanoic acid; Amide, *in* H-00512

$C_9H_8I_2O_3$
3,5-Diiodosalicylic acid; Et ester, *in* D-00745

$C_9H_8NO_3P$
2-Quinolinylphosphonic acid, Q-00036

$C_9H_8N_2$
▷ 8-Aminoquinoline, A-00340

$C_9H_8N_2O$
Cyanoacetanilide, *in* C-00324
Hippuric acid; Nitrile, *in* H-00078

$C_9H_8N_2OS$
2-Aminobenzothiazole; 2-*N*-Ac, *in* A-00113
2-Aminobenzothiazole; 3-*N*-Ac, *in* A-00113

$C_9H_8N_2OS_3$
3-(*p*-Methoxyphenyl)-5-mercapto-1,3,4-thiadiazole-2-thione, M-00111

$C_9H_8N_2O_2$
1,3-Indanedione; Dioxime, *in* I-00024

$C_9H_8N_2O_2S_2$
6-Nitro-2(3*H*)-benzothiazolethione; *S*-Et, *in* N-00096

$C_9H_8N_2O_3S$
2-[[(Aminothioxomethyl)amino]carbonyl] benzoic acid, *in* B-00018

$C_9H_8N_2O_4$
N-Glyoxyloylanthranilic acid; Monooxime, *in* G-00039

$C_9H_8N_2O_6$
3,4-Dinitrobenzoic acid; Et ester, *in* D-00947
3,5-Dinitrobenzoic acid; Et ester, *in* D-00948

$C_9H_8N_2O_7$
3,4-Dinitro-1,2-benzenediol; 1-Me ether, Ac, *in* D-00941
3,4-Dinitro-1,2-benzenediol; 2-Me ether, Ac, *in* D-00941
3,5-Dinitro-1,2-benzenediol; 2-Me ether, Ac, *in* D-00942
2-Hydroxy-3,5-dinitrobenzoic acid; Et ester, *in* H-00154
2-Hydroxy-3,5-dinitrobenzoic acid; Me ether, Me ester, *in* H-00154

$C_9H_8N_2S$
3-Amino-2(1*H*)-quinolinethione, A-00341
4-Phenyl-2-mercaptoimidazole, P-00140

$C_9H_8N_4$
3-(4-Methyl-2-pyridinyl)-1,2,4-triazine, M-00294

$C_9H_8N_4OS$
2-(4-Amino-2-hydroxyphenylazo)thiazole, A-00214
2-Amino-6-(2-thiazolylazo)phenol, A-00360
4-Methyl-2-(1,3,4-thiadiazol-2-ylazo)phenol, M-00314

$C_9H_8N_4OS_2$
2-Mercapto-5-(2-hydroxy-5-methylphenylazo)-1,3,4-thiadiazole, M-00032

$C_9H_8N_4O_2S$
6-Hydroxy-3-[(4-methyl-2-thiazolyl)azo]-2(1*H*)-pyridinone, H-00331
o-Phenolazothiohydantoin, P-00061

$C_9H_8N_4O_2S_2$
3-Amino-5-[(4-hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, *in* H-00462

$C_9H_8N_4O_4S_3$
3-[(3-Amino-4-oxo-2-thioxo-5-thiazolidinyl) azo]benzenesulfonic acid, *in* O-00075

$C_9H_8N_4S$
2-Pyridinecarboxaldehyde 2-thiazolylhydrazone, P-00340
4-(2-Thiazolylazo)aniline, T-00138

$C_9H_8N_4S_2$
2-(3-Mercapto-2-quinoxalinyl)-2-thiopseudourea, M-00058

$C_9H_8N_6OS_2$
1-(1,5-Di-2-thiazolylformazanyl)ethanone, D-01112

$C_9H_8N_6O_2$
5-[(4-Aminophenyl)azo]-1*H*-1,2,4-triazole-3-carboxylic acid, A-00317

$C_9H_8N_6O_3$
5-(4-Amino-2-hydroxyphenylazo)-1*H*-1,2,4-triazole-3-carboxylic acid, A-00215

C_9H_8O
▷ 3-Phenyl-2-propenal, P-00168

$C_9H_8O_2$
5-(2-Furanyl)-2,4-pentadienal, F-00058
▷ 3-Phenyl-2-propenoic acid, P-00169

$C_9H_8O_2S$
2-Mercapto-2,4,6-cycloheptatrien-1-one; *S*-Ac, *in* M-00027
2-Mercapto-3-phenyl-2-propenoic acid, M-00049

$C_9H_8O_3$
2,3-Dihydro-2-hydroxy-4*H*-1-benzopyran-4-one, D-00406
2,3-Dihydro-3-hydroxy-4*H*-1-benzopyran-4-one, D-00407
2,3-Dihydro-5-hydroxy-4*H*-1-benzopyran-4-one, D-00408
Glyoxylic acid; Benzyl ester, *in* G-00038
4-Hydroxybenzaldehyde; Ac, *in* H-00102
3-(2-Hydroxyphenyl)-2-propenoic acid, H-00500
α-Oxobenzeneacetic acid; Me ester, *in* O-00055
2-Oxo-3-phenylpropanoic acid, O-00068
3-Oxo-3-phenylpropanoic acid, O-00069
▷ Tropolone; Ac, *in* T-00432

$C_9H_8O_3S$
▷ Thioaspirin, *in* M-00023

$C_9H_8O_4$
▷ 2-Acetoxybenzoic acid, A-00010
1,2-Benzenedicarboxylic acid; Mono-Me ester, *in* B-00018
1,3-Benzenedicarboxylic acid; Mono-Me ester, *in* B-00019
▷ 3-(3,4-Dihydroxyphenyl)-2-propenoic acid, D-00716
4-Hydroxy-5-methoxy-1,3-benzenedicarboxaldehyde, *in* D-00524
6-Hydroxy-2-methyl-7-oxo-1,3,5-cycloheptatriene-1-carboxylic acid, H-00298

$C_9H_8O_7$
3-Hydroxy-4-oxo-4*H*-pyran-2,6-dicarboxylic acid; Di-Me ester, *in* H-00435

$C_9H_9BrO_2$
4-Bromobenzoic acid; Et ester, *in* B-00488
2-Bromo-4′-methyoxyacetophenone, *in* B-00508

$C_9H_9BrO_3$
2-(4-Bromophenyl)-2-hydroxyacetic acid; Me ester, *in* B-00550

$C_9H_9Br_3O_3$
1,2,3-Tribromo-4,5,6-trimethoxybenzene, *in* T-00204

$C_9H_9ClN_2O_3$
N-(4-Chloro-2-methoxyphenyl)-2-(hydroxyimino)acetamide, C-00169

$C_9H_9ClN_4S_2$
S-(3-Mercapto-2-quinoxalinyl) thiuronium(1+); Chloride, *in* M-00059

C_9H_9ClO
2,4-Dimethylbenzoic acid; Chloride, *in* D-00835
2-Phenylpropanoic acid; Chloride, *in* P-00167

$C_9H_9ClO_2$
2-Chlorobenzoic acid; Et ester, *in* C-00066
4-Chlorobenzoic acid; Et ester, *in* C-00067
2-Chloroethanol; Benzoyl, *in* C-00114
5-Chloro-2-hydroxy-4-methylacetophenone, C-00135
α-Methoxybenzeneacetyl chloride, *in* M-00007

$C_9H_9ClO_3$
2-(4-Chlorophenyl)-2-hydroxyacetic acid; Me ether, *in* C-00222
(3-Chlorophenyl)methoxyacetic acid, *in* C-00221

$C_9H_9FN_4O_5$
2-[(5-Fluoro-2,4-dinitrophenyl)amino] propanamide, F-00028

$C_9H_9FO_2$
4-Fluorobenzoic acid; Et ester, *in* F-00024

$C_9H_9F_3O_3S$
3-(Trifluoromethyl)benzenesulfonic acid; Et ester, *in* T-00251

$C_9H_9IO_2$
4-Iodobenzoic acid; Et ester, *in* I-00041

C_9H_9N
1-Cyano-2,4-dimethylbenzene, *in* D-00835
α-Methylbenzeneacetonitrile, *in* P-00167

C_9H_9NO
(1-Isocyanoethyl)benzene, I-00067
3-Phenyl-2-propenal; (*E,E*)-Oxime, *in* P-00168

C_9H_9NOS
2(3*H*)-Benzoxazolethione; 3-Et, *in* B-00113
2(3*H*)-Benzoxazolethione; *S*-Et, *in* B-00113
1-Ethoxybenzothiazole, *in* H-00125
β-Oxobenzenepropanethioamide, O-00056

$C_9H_9NO_2$
2-Aminobenzaldehyde; *N*-Ac, *in* A-00096
4-Aminobenzaldehyde; *N*-Ac, *in* A-00097
2,6-Diacetylpyridine, D-00035
▷ *N*-Hydroxy-3-phenylpropenamide, H-00499
2-Oxo-3-phenylpropanoic acid; Amide, *in* O-00068
3-Oxo-3-phenylpropanoic acid; Amide, *in* O-00069
2,6-Pyridinediacetaldehyde, P-00352

$C_9H_9NO_3$
3-Aminobenzoic acid; *N*-Ac, *in* A-00104
▷ Hippuric acid, H-00078
α-(Hydroxyimino)benzenepropanoic acid, *in* O-00068

$C_9H_9NO_3S$
Saccharin; *N*-Et, *in* S-00001

1-(2,4-Dihydroxyphenyl)-1-propanone; Oxime, *in* D-00715
Tyrosine, T-00435

$C_9H_{11}NO_3S$
N-(Ethylsulfonyl)benzamide, E-00113
4-Nitrobenzaldehyde; Di-Me thioacetal, *in* N-00082

$C_9H_{11}NO_4$
1-(Dimethoxymethyl)-2-nitrobenzene, *in* N-00081
1-(Dimethoxymethyl)-4-nitrobenzene, *in* N-00082

$C_9H_{11}NO_4S$
3-(Benzenesulfonylamino)propanoic acid, B-00027

$C_9H_{11}NO_5$
3-(Aminomethyl)furan-*N*,*N*-diacetic acid, A-00242

$C_9H_{11}NS$
1,2,3,4-Tetrahydro-8-quinolinethiol, T-00067

$C_9H_{11}N_3O$
2,3-Butanedione mono(2-pyridinylhydrazone), B-00600

$C_9H_{11}N_3OS$
2′-Hydroxyacetophenone; Thiosemicarbazone, *in* H-00089
2-Hydroxy-5-methylbenzaldehyde; Thiosemicarbazone, *in* H-00277
4-Methoxybenzaldehyde; Thiosemicarbazone, *in* M-00075
3-(5-Methyl-2-furanyl)-2-propenal; Thiosemicarbazone, *in* M-00182

$C_9H_{11}N_3O_2$
3-(2-Acetophenyl)methyltriazene *N*-oxide, A-00009
2,6-Diacetylpyridine; Dioxime, *in* D-00035
2,6-Diaminopyridine; 2,6-*N*-Di-Ac, *in* D-00119
Hippuric acid; Hydrazide, *in* H-00078
2-Hydroxy-5-methylbenzaldehyde; Semicarbazone, *in* H-00277
2-[(2-Hydroxy-4-methylphenyl)methylene] hydrazinecarboxamide, *in* H-00276
2,6-Pyridinediacetoxime, *in* P-00352

$C_9H_{11}N_3O_2S$
2′,4′-Dihydroxyacetophenone; Thiosemicarbazone, *in* D-00507
▷ 2-[(4-Hydroxy-3-methoxyphenyl)methylene] hydrazinecarbothioamide, H-00271

$C_9H_{11}N_3O_3$
2,6-Diaminopyridine; 2,6-*N*-Di-Ac, 1-oxide, *in* D-00119
2′,4′-Dihydroxyacetophenone; Semicarbazone, *in* D-00507

$C_9H_{11}N_3S_2$
N,*N*′-Dimethyl-2,6-pyridinedicarbothioamide, D-00908

$C_9H_{11}O_3P$
Methyl hydrogen (2-phenylethenyl) phosphonate, *in* P-00129

$C_9H_{12}BrNO_3S$
(2-Hydroxy-5-nitrobenzyl) dimethylsulfonium(1+); Bromide, *in* H-00384

$C_9H_{12}ClNO_3S$
(2-Hydroxy-5-nitrobenzyl) dimethylsulfonium(1+); Chloride, *in* H-00384

$C_9H_{12}NO_3S^{\oplus}$
(2-Hydroxy-5-nitrobenzyl) dimethylsulfonium(1+), H-00384

$C_9H_{12}N_2O$
Acetamidoxime; *O*-Benzyl, *in* A-00004
2-Acetyl-4-ethylpyridine; Oxime (*Z*-), *in* A-00016
4-(Dimethylamino)benzaldehyde; (*E*)-Oxime, *in* D-00779
N-Hydroxy-2,4-dimethylbenzenecarboximidamide, *in* D-00835

$C_9H_{12}N_2O_2$
3,4-Diaminobenzoic acid; Et ester, *in* D-00050
3,5-Diaminobenzoic acid; Et ester, *in* D-00051

$C_9H_{12}N_2O_3S$
N-(Ethylsulfonyl)benzamide; Oxime, *in* E-00113

$C_9H_{12}N_2O_4$
2-Amino-1-(4-nitrophenyl)-1,3-propanediol, A-00284
5,5-Dimethyl-2,4-imidazolidinedione; 1,3-*N*-Di-Ac, *in* D-00866

$C_9H_{12}N_2S$
N,*N*-Dimethyl-*N*′-phenylthiourea, *in* P-00201

$C_9H_{12}N_4O$
2,3-Butanedione; Monoxime, 2-pyridylhydrazone, *in* B-00587

$C_9H_{12}N_6O_3$
1,3,5-Triazine-2,4,6-triamine; *N*,*N*′,*N*″-Tri-Ac, *in* T-00197

$C_9H_{12}O$
1-Methoxy-2,4-dimethylbenzene, *in* D-00884
2-Methoxy-1,3-dimethylbenzene, *in* D-00885
4-Methoxy-1,2-dimethylbenzene, *in* D-00886

$C_9H_{12}OS_3$
3,5-Diethyl-2,6-dimercapto-4*H*-thiopyran-4-one, D-00342
3-Methyl-5-propyl-2,6-dimercapto-4*H*-thiopyran-4-one, M-00258

$C_9H_{12}O_2$
1,2-Dimethoxy-3-methylbenzene, *in* M-00127
1,3-Dimethoxy-5-methylbenzene, *in* M-00128
1-Ethoxy-2-methoxybenzene, *in* B-00020
1-Ethoxy-3-methoxybenzene, *in* B-00021
1-Ethoxy-4-methoxybenzene, *in* B-00022
▷ 1-Methyl-1-phenylethyl hydroperoxide, M-00228

$C_9H_{12}O_2S$
3-Phenylthio-1,2-propanediol, *in* M-00050

$C_9H_{12}O_3$
2,5-Dimethoxybenzyl alcohol, D-00768
1,2,3-Trimethoxybenzene, *in* B-00034
1,2,4-Trimethoxybenzene, *in* B-00035

$C_9H_{12}O_3S$
▷ 4-Methylbenzenesulfonic acid; Et ester, *in* M-00130

$C_9H_{12}O_6$
Aconitic acid; Tri-Me ester, *in* A-00061
5,6-*O*-Isopropylidene-L-*threo*-hex-2-enono-1,4-lactone, *in* A-00446

$C_9H_{12}S$
1-(Ethylthio)-2-methylbenzene, *in* M-00131
1-Methyl-4-(ethylthio)benzene, *in* M-00133

$C_9H_{13}F_3O_2$
1,1,1-Trifluoro-7-methyl-2,4-octanedione, T-00255

$C_9H_{13}N$
▷ Benzylamine; *N*,*N*-Di-Me, *in* B-00163
2,3-Dimethylaniline; *N*-Me, *in* D-00827
2,5-Dimethylaniline; *N*-Me, *in* D-00828
2,6-Dimethylaniline; *N*-Me, *in* D-00829
▷ 4-Methylaniline; *N*-Et, *in* M-00124
1-Phenylethylamine; *N*-Me, *in* P-00130
1-Phenylethylamine; *N*-Me, *in* P-00130
▷ 1-Phenyl-2-propylamine, P-00172

$C_9H_{13}NO$
1-(Dimethylamino)-2-methoxybenzene, *in* A-00300
4-Methoxy-*N*,*N*-dimethylaniline, *in* M-00073
2-[(Phenylmethyl)amino]ethanol, P-00144

$C_9H_{13}NO_3$
▷ Adrenaline, A-00066

$C_9H_{13}NS$
2-Aminobenzenethiol; *N*,*N*,*S*-Tri-Me, *in* A-00101

$C_9H_{13}N_3$
6-Methyl-2-pyridinecarboxaldehyde; Dimethylhydrazone, *in* M-00266

$C_9H_{13}N_3O$
2-(Dimethylamino)benzoic acid hydrazide, D-00780
4-Phenylsemicarbazide; 1,1-Di-Me, *in* P-00193
2-Phenylsemicarbazide; 4-Et, *in* P-00192

$C_9H_{13}N_3O_2$
Tyrosine; Hydrazide, *in* T-00435

$C_9H_{13}O_2P$
Isopropyl phenylphosphinate, *in* P-00163

$C_9H_{14}Br_3N$
PTAB, *in* T-00336

$C_9H_{14}ClNO_4$
Trimethylphenylammonium(1+); Perchlorate, *in* T-00336

$C_9H_{14}IN$
▷ Trimethylphenylammonium(1+); Iodide, *in* T-00336

$C_9H_{14}N^{\oplus}$
Trimethylphenylammonium(1+), T-00336

$C_9H_{14}NO_4P$
[(Ethylamino)(2-hydroxyphenyl)methyl] phosphonic acid, E-00065

$C_9H_{14}N_2$
1,3-Diaminobenzene; *N*,*N*,*N*′-Tri-Me, *in* D-00047
1,2-Diamino-4-methylbenzene; 1,2-*N*-Di-Me, *in* D-00101
1,2-Diamino-4-methylbenzene; 1-*N*-Di-Me, *in* D-00101

$C_9H_{14}N_2O$
1-[(2-Aminophenyl)amino]-2-propanol, A-00305

$C_9H_{14}N_2O_4$
4,5-Dihydro-1*H*-pyrazole-3,4-dicarboxylic acid; Di-Et ester, *in* D-00480

$C_9H_{14}N_4O_2S$
5,5-Dimethyl-1,2,3-cyclohexanetrione; 2-Oxime, 3-thiosemicarbazone, *in* D-00848

$C_9H_{14}N_4O_2S_2$
N,*N*-Diethyl-*N*′-(4-methyl-5-nitro-2-thiazolyl) thiourea, D-00349

$C_9H_{14}O_2$
1,2-Cyclononanedione, C-00360
4-Isopropyl-1,2-cyclohexanedione, I-00071

$C_9H_{14}O_2S$
3-Cyclohexyl-2-mercapto-2-propenoic acid, C-00355

$C_9H_{14}O_4$
2-Methylenebutanedioic acid; Di-Et ester, *in* M-00176

$C_9H_{14}O_5S$
3-Mercapto-1,2-propanediol; Tri-Ac, *in* M-00050

$C_9H_{14}O_7$
Trimethyl citrate, *in* C-00299

$C_9H_{15}ClO_4$
3-[(Chlorocarbonyl)oxy]butanoic acid; *tert*-Butyl ester, *in* C-00078

$C_9H_{15}NO_6$
Nitrilotriacetic acid; Tri-Me ester, *in* N-00074

$C_9H_{15}N_3OS$
6-Hexyl-4,5-dihydro-5-thioxo-1,2,4-triazin-3(2*H*)-one, H-00074

$C_9H_{15}N_5O_2S$
2-[2,3-Bis(hydroxyimino)-5,5-dimethylcyclohexylidene] hydrazinecarbothioamide, *in* D-00848

$C_9H_{15}O_2PSi$
Trimethylsilyl phenylphosphinate, *in* P-00163

$C_{10}H_7BrN_4O_2S$
5-Amino-2-(5-bromo-2-thiazolylazo)benzoic acid, A-00128

$C_{10}H_7BrO_3$
4-(Bromomethyl)-7-hydroxy-2*H*-1-benzopyran-2-one, B-00524

$C_{10}H_7Br_2NO$
5,7-Dibromo-8-hydroxy-2-methylquinoline, D-00190
5,7-Dibromo-8-methoxyquinoline, *in* D-00193

$C_{10}H_7Br_2P$
Dibromo-1-naphthylphosphine, *in* N-00055

$C_{10}H_7ClN_2O_2$
4-Chloro-1,2-naphthoquinone; Dioxime, *in* C-00187
6-Chloro-1,2-naphthoquinone; Dioxime, *in* C-00188

$C_{10}H_7ClN_4O_7S$
Lumomagneson, L-00016

$C_{10}H_7ClO_2S$
2-Naphthalenesulfonic acid; Chloride, *in* N-00015

$C_{10}H_7Cl_2NO$
▷ 5,7-Dichloro-8-hydroxy-2-methylquinoline, D-00280

$C_{10}H_7Cl_2P$
Dichloro-1-naphthylphosphine, *in* N-00055

$C_{10}H_7FO_2S$
2-Naphthalenesulfonic acid; Fluoride, *in* N-00015

$C_{10}H_7F_3OS$
1,1,1-Trifluoro-4-phenyl-4-thioxo-2-butanone, T-00262

$C_{10}H_7F_3O_2$
4,4,4-Trifluoro-1-phenyl-1,3-butanedione, T-00260

$C_{10}H_7F_5O_3$
2,3,4,5,6-Pentafluoro-α-methoxy-α-methylbenzeneacetic acid, P-00019

$C_{10}H_7NO$
2-Quinolinecarboxaldehyde, Q-00009

$C_{10}H_7NOS$
2-Pyridinyl-2-thienylmethanone, P-00408
5-(4-Pyridinyl)-2-thiophenecarboxaldehyde, P-00409

$C_{10}H_7NOS_2$
5-Phenylmethylene-2-thioxo-4-thiazolidinone, P-00148

$C_{10}H_7NO_2$
▷ 1-Nitroso-2-naphthol, N-00160
▷ 2-Nitroso-1-naphthol, N-00161
▷ 2-Quinolinecarboxylic acid, Q-00017
8-Quinolinecarboxylic acid, Q-00018

$C_{10}H_7NO_2S_2$
5-[3-(2-Furanyl)-2-propenylidene]-2-thioxo-4-thiazolidinone, F-00061
5-[(2-Hydroxyphenyl)methylene]-2-thioxo-4-thiazolidinone, H-00486
5-[(3-Hydroxyphenyl)methylene]-2-thioxo-4-thiazolidinone, H-00487

$C_{10}H_7NO_3$
1,3-Dioxo-2-indanecarboxylic acid; Amide, *in* D-00991
α-(Hydroxymethylene)-2-benzoxazoleacetaldehyde, H-00286
6-Hydroxy-4-quinolinecarboxylic acid, H-00527
▷ Isatin; *N*-Ac, *in* I-00056
1-Nitroso-2,7-naphthalenediol, N-00159
Phthalimide; *N*-Ac, *in* P-00223
2-Quinolinecarboxylic acid; *N*-Oxide, *in* Q-00017
2,3,4(1*H*)-Quinolinetrione; 1-Me, *in* Q-00022

$C_{10}H_7NO_4$
▷ Di(2-furyl)ethanedione; Monoxime, *in* D-00364
6,7-Dihydroxy-1-isoquinolinecarboxylic acid, D-00637
5-Hydroxy-3-phenyl-4-isoxazolecarboxylic acid, H-00475
Isatin; 1-Methoxycarbonyl, *in* I-00056

$C_{10}H_7NO_5S$
4-Hydroxy-3-nitroso-1-naphthalenesulfonic acid, H-00415

$C_{10}H_7NO_8S_2$
▷ 3-Hydroxy-4-nitroso-2,7-naphthalenedisulfonic acid, H-00414

$C_{10}H_7NO_9S_2$
4,5-Dihydroxy-3-nitroso-2,7-naphthalenedisulfonic acid, D-00672

$C_{10}H_7NS_2$
4-Quinolinecarbodithioic acid, Q-00008

$C_{10}H_7N_3$
1*H*-Naphtho[2,3-*d*]triazole, N-00039

$C_{10}H_7N_3O_2S$
1,2,3-Indanetrione; 2-(Thiosemicarbazone), *in* I-00025

$C_{10}H_8$
▷ Azulene, A-00481
▷ Naphthalene, N-00001

$C_{10}H_8BrNO_3$
3-(Bromomethyl)-7-methoxy-2*H*-1,4-benzoxazin-2-one, B-00525

$C_{10}H_8ClF_3O_2$
2-Hydroxy-2-phenyl-3,3,3-trifluoropropanoic acid; Me ether, chloride, *in* H-00512

$C_{10}H_8ClNO_3S$
8-Methoxy-5-quinolinesulfonyl chloride, M-00121

$C_{10}H_8ClN_3O_4S_4$
5-Chloro-2-hydroxy-3-[(tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo] benzenesulfonic acid, C-00163

$C_{10}H_8MgN_2O_6S_3$
Bispyrithione magsulfex, *in* D-01122

$C_{10}H_8N_2$
▷ 2,2′-Bipyridine, B-00220
▷ 2,3′-Bipyridine, B-00221
▷ 4,4′-Bipyridine, B-00222

$C_{10}H_8N_2O$
2,2′-Bipyridine; 1-Oxide, *in* B-00220
2,3′-Bipyridine; 1′-Oxide, *in* B-00221
4,4′-Bipyridine; *N*-Oxide, *in* B-00222
1*H*-Imidazole; *N*-Benzoyl, *in* I-00001
2-Quinolinecarboxaldehyde; Oxime, *in* Q-00009
2-Quinolinecarboxamide, *in* Q-00017

$C_{10}H_8N_2OS$
5-Benzyl-2-thioxo-4-imidazolidinone, B-00194
2-Pyridyl-2-thienyl-β-ketoxime, *in* P-00408

$C_{10}H_8N_2OS_2$
3-[(Phenylmethylene)amino]-2-thioxo-4-thiazolidinone, P-00146

$C_{10}H_8N_2O_2$
2,2′-Bipyridine; 1,1′-Dioxide, *in* B-00220
2,3′-Bipyridine; 1,1′-Dioxide, *in* B-00221
4,4′-Bipyridine; *N*,*N*′-Dioxide, *in* B-00222
1,2-Dihydro-3,6-pyridazinedione; 1-Phenyl, *in* D-00481
3-Methyl-1-phenyl-1*H*-pyrazole-4,5-dione, M-00239
1,4-Naphthoquinone; Dioxime, *in* N-00032
1,2-Naphthoquinone; Dioxime (1*Z*,2*E*), *in* N-00031
Neocupferron, N-00061
N-2-Pyridinyl-2-furancarboxamide, P-00390

$C_{10}H_8N_2O_2S$
5-[(2-Hydroxyphenyl)methylene]-2-thioxo-4-imidazolidinone, H-00485

$C_{10}H_8N_2O_2S_2$
Dipyrithione, *in* D-01122

$C_{10}H_8N_2O_3$
5-Hydroxy-1,2-naphthoquinone; Dioxime, *in* H-00372
7-Hydroxy-1,2-naphthoquinone; Dioxime, *in* H-00373

$C_{10}H_8N_2O_4$
▷ α-Furildioxime, *in* D-00364

$C_{10}H_8N_2O_5S$
5,6-Dihydro-5,6-bis(hydroxyimino)-1-naphthalenesulfonic acid, *in* N-00034
5,6-Dihydro-5,6-bis(hydroxyimino)-2-naphthalenesulfonic acid, *in* N-00035
7,8-Dihydro-7,8-bis(hydroxyimino)-2-naphthalenesulfonic acid, *in* N-00036
1,2-Naphthoquinone-4-sulfonic acid; Dioxime, *in* N-00033

$C_{10}H_8N_2O_8$
3,5-Dinitro-1,2-benzenediol; Di-Ac, *in* D-00942

$C_{10}H_8N_2S_2$
▷ 2,2′-Dithiobispyridine, D-01122
4,4′-Dithiobispyridine, D-01123

$C_{10}H_8N_4$
1*H*-Naphtho[2,3-*d*]triazole; 1-Amino, *in* N-00039

$C_{10}H_8N_4O_2S$
6-Amino-2,3-dihydro-5-nitroso-1-phenyl-2-thioxo-4(1*H*)-pyrimidinone, A-00153
5-Amino-2-(2-thiazolylazo)benzoic acid, A-00359

$C_{10}H_8N_4O_5$
▷ Picrolonic acid, P-00235

$C_{10}H_8N_4O_6S_4$
2-Hydroxy-5-nitro-3-[(tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo]benzenesulfonic acid, H-00422

$C_{10}H_8O$
▷ 1-Naphthol, N-00025
▷ 2-Naphthol, N-00026

$C_{10}H_8O_2$
▷ 4-Methyl-2*H*-1-benzopyran-2-one, M-00141
3-Methyl-1,2-indandione, M-00194
▷ 1,2-Naphthalenediol, N-00007
▷ 1,3-Naphthalenediol, N-00008
1,8-Naphthalenediol, N-00009
▷ 2,3-Naphthalenediol, N-00010
▷ 2,7-Naphthalenediol, N-00011

$C_{10}H_8O_2Se$
2-Naphthaleneselenic acid, N-00014

$C_{10}H_8O_3$
5-Hydroxy-2-methyl-4*H*-1-benzopyran-4-one, H-00281
5-Hydroxy-3-methyl-4*H*-1-benzopyran-4-one, H-00282
▷ 7-Hydroxy-4-methyl-2*H*-1-benzopyran-2-one, H-00283
1-Phenyl-1,2,3-butanetrione, P-00109

$C_{10}H_8O_3S$
▷ 2-Naphthalenesulfonic acid, N-00015

$C_{10}H_8O_4$
4,5-Dihydroxy-2*H*-1-benzopyran-2-one; 4-*O*-Me, *in* D-00537
4,5-Dihydroxy-2*H*-1-benzopyran-2-one; 5-*O*-Me, *in* D-00537
3,5-Dihydroxy-2-methyl-4*H*-1-benzopyran-4-one, D-00644
5,7-Dihydroxy-2-methyl-4*H*-1-benzopyran-4-one, D-00645
5,7-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00646
6,7-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00647
▷ 7,8-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00648
▷ Furoin, F-00065
7-Hydroxy-4-(hydroxymethyl)-2*H*-1-benzopyran-2-one, H-00209

5-Amino-1-naphthalenesulfonic acid; Amide, *in* A-00265
6-Amino-1-naphthalenesulfonic acid; Amide, *in* A-00267
8-Amino-2-naphthalenesulfonic acid; Amide, *in* A-00270
N-8-Quinolinylmethanesulfonamide, *in* A-00340

$C_{10}H_{10}N_2O_3$
Benzoylmethylglyoxime, *in* P-00109

$C_{10}H_{10}N_2O_4$
4,4′-Ethylidenebis[3-methyl-2-isoxazolin-5-one], E-00094

$C_{10}H_{10}N_2S_2$
4,5-Dihydro-3-phenyl-1*H*-pyrazole-1-carbodithioic acid, D-00468

$C_{10}H_{10}N_4$
4,4′-Diamino-2,2′-bipyridine, D-00061
5,5′-Dimethyl-3,3′-bipyridazine, D-00838
6,6′-Dimethyl-3,3′-bipyridazine, D-00839
5,6-Dimethyl-3-(2-pyridinyl)-1,2,4-triazine, D-00911
3-Isoquinolinecarboximidic acid hydrazide, I-00086

$C_{10}H_{10}N_4O$
3(5)-Amino-1,2,4-triazole; 1-Ph, 3-*N*-Ac, *in* A-00364

$C_{10}H_{10}N_4O_2$
5,6-Diamino-2,4(1*H*,3*H*)-pyrimidinedione; 1-Phenyl, *in* D-00120
6,6′-Dimethoxy-3,3′-bipyridazine, D-00773
2-(4-Methyl-3-imidazolylazo)-1,4-benzenediol, M-00191

$C_{10}H_{10}N_4S$
2-Acetylpyridine 2-thiazolylhydrazone, A-00047

$C_{10}H_{10}N_6$
2-Acetylpyrazine pyrazinylhydrazone, A-00034
2-Acetylpyrazine 2-pyrimidinylhydrazone, A-00035
2(1*H*)-Pyrazinone [1-(3-pyridazinyl)ethylidene] hydrazone, P-00293
3-(2-Pyridinylazo)-2,6-pyridinediamine, P-00379

$C_{10}H_{10}OS$
3-Mercapto-1-phenyl-2-buten-1-one, M-00044
1-Phenyl-3-thioxo-1-butanone, P-00202
4-Phenyl-4-thioxo-2-butanone, P-00203

$C_{10}H_{10}O_2$
1,2-Diacetylbenzene, D-00032
3,4-Dihydro-5-hydroxy-1(2*H*)-naphthalenone, D-00413
▷ Methyl cinnamate, *in* P-00169
1-Phenyl-1,3-butanedione, P-00107

$C_{10}H_{10}O_2S$
2-Mercapto-3-phenyl-2-butenoic acid, M-00043
2-Mercapto-3-phenyl-2-propenoic acid; *S*-Me, *in* M-00049

$C_{10}H_{10}O_3$
2,3-Dihydro-5-hydroxy-2-methyl-4*H*-1-benzopyran-4-one, *in* H-00281
2′-Hydroxyacetophenone; Ac, *in* H-00089
3-(2-Methoxyphenyl)-2-propenoic acid, *in* H-00500
3-Oxo-3-phenylpropanoic acid; Me ester, *in* O-00069

$C_{10}H_{10}O_3S$
2-Mercapto-3-(4-methoxyphenyl)-2-propenoic acid, M-00034
2-Mercaptopropanoic acid; *S*-Benzoyl, *in* M-00051

$C_{10}H_{10}O_4$
2-Acetoxybenzoic acid; Me ester, *in* A-00010
▷ 1,3-Benzenedicarboxylic acid; Di-Me ester, *in* B-00019
1,3-Benzenedicarboxylic acid; Mono-Et ester, *in* B-00019
1,2-Benzenediol; Di-Ac, *in* B-00020
▷ 1,3-Benzenediol; Di-Ac, *in* B-00021
1,4-Benzenediol; Di-Ac, *in* B-00022
Benzoic ethylcarbonic anhydride, B-00067
Caffeic acid; Me ester, *in* D-00716
4,5-Dimethoxy-1,3-benzenedicarboxaldehyde, *in* D-00524
▷ Dimethyl phthalate, *in* B-00018
3-(3-Hydroxy-4-methoxyphenyl)-2-propenoic acid, *in* D-00716
2-Hydroxy-3-methylbenzoic acid; Ac, *in* H-00278
4-Hydroxy-5-oxo-1,3,6-cycloheptatriene-1-carboxylic acid; Me ester, Me ether, *in* H-00428

$C_{10}H_{10}O_6$
3,6-Dihydroxy-1,2-benzenedicarboxylic acid; Di-Me ester, *in* D-00525
3,6-Dimethoxy-1,2-benzenedicarboxylic acid, *in* D-00525
5-Hydroxy-4-oxo-4*H*-pyran-2-carboxylic acid; Et ester, Ac, *in* H-00434

$C_{10}H_{11}BFeO_2$
Ferrocenyldihydroxyborane, F-00005

$C_{10}H_{11}BrN_2O_2$
3-(Bromomethyl)-2,5,6-trimethyl-1*H*,7*H*-pyrazolo[1,2-*a*]pyrazole-1,7-dione, B-00535

$C_{10}H_{11}BrO_3$
2-(4-Bromophenyl)-2-hydroxyacetic acid; Et ester, *in* B-00550

$C_{10}H_{11}Br_2NO_4$
2,6-Dibromo-3,4,5-trihydroxybenzoic acid; Tri-Me ether, amide, *in* D-00220

$C_{10}H_{11}ClN_2O_2$
1,2-Diamino-4-chlorobenzene; 1,2-*N*-Di-Ac, *in* D-00064

$C_{10}H_{11}ClO$
2-Phenylbutanoic acid; Chloride, *in* P-00110

$C_{10}H_{11}F_7O_2$
6,6,7,7,8,8,8-Heptafluoro-2,2-dimethyl-3,5-octanedione, H-00006

$C_{10}H_{11}N$
2-Phenylbutanoic acid; Nitrile, *in* P-00110

$C_{10}H_{11}NO$
3-(4-Hydroxyphenyl)propanoic acid; Me ether, nitrile, *in* H-00497

$C_{10}H_{11}NOS$
3-Oxo-*N*-phenylbutanethioamide, O-00065

$C_{10}H_{11}NO_2$
N-Acetyl-*N*-phenylacetamide, *in* A-00368
4′-Aminoacetophenone; *N*-Ac, *in* A-00091
▷ 3,4-Dimethoxyphenylacetonitrile, *in* D-00687
N-Phenylcrotonohydroxamic acid, *in* H-00143
1,2,3,4-Tetrahydro-3-isoquinolinecarboxylic acid, T-00063

$C_{10}H_{11}NO_2S$
2-Aminobenzenethiol; *N*,*S*-Di-Ac, *in* A-00101

$C_{10}H_{11}NO_3$
Alanine; *N*-Benzoyl, *in* A-00074
Ethyl oxanilate, *in* O-00048
Hippuric acid; Me ester, *in* H-00078
3-(2-Hydroxybenzylideneamino)propanoic acid, H-00130
N-Hydroxy-3-(4-methoxyphenyl)-2-propenamide, H-00272
N-Phenylhydroxylamine; *N*,*O*-Di-Ac, *in* P-00135

$C_{10}H_{11}NO_4$
(4-Nitrophenyl)acetic acid; Et ester, *in* N-00120

$C_{10}H_{11}N_3$
2-(3,5-Dimethyl-1*H*-pyrazol-1-yl)pyridine, D-00905

$C_{10}H_{11}N_3OS$
2-[5-(2-Furanyl)-2,4-pentadienylidene] hydrazinecarbothioamide, *in* F-00058
5-[(6-Methyl-2-pyridinyl)methylene]-2-thioxo-4-imidazolidinone, M-00291

$C_{10}H_{11}N_3O_2$
6-(Dimethylamino)-2,3-dihydro-1,4-phthalazinedione, *in* A-00156

$C_{10}H_{11}N_3O_4$
1,2-Diamino-4-nitrobenzene; 1,2-*N*-Di-Ac, *in* D-00108
(2-Nitrophenyl)hydrazine; Di-Ac, *in* N-00137

$C_{10}H_{11}N_3O_8$
2,4,6-Trinitro-1,3-benzenediol; Di-Et ether, *in* T-00350

$C_{10}H_{11}N_3S$
▷ 3-Phenyl-2-propenal; Thiosemicarbazone, *in* P-00168

$C_{10}H_{11}N_5S$
2-Methyl-4-(2-thiazolylazo)-1,3-benzenediamine, M-00317

$C_{10}H_{11}N_7O_2S_2$
4,7-Dihydroxy-1*H*-isoindole-1,3 (2*H*)-dione; Dithiosemicarbazone, *in* D-00636

$C_{10}H_{11}N_7S_2$
Phthalimide; Dithiosemicarbazone, *in* P-00223

$C_{10}H_{12}ClNO_6S$
3-Amino-4-hydroxybenzenesulfonic acid; *O*,*N*-Di-Ac; B,HCl, *in* A-00183

$C_{10}H_{12}FN_3O_4$
FDNDEA, *in* F-00026

$C_{10}H_{12}N_2O$
1,2,3,4-Tetrahydro-3-isoquinolinecarboxylic acid; Amide, *in* T-00063

$C_{10}H_{12}N_2OS$
N,*N*-Dimethyl-*N*′-benzoylthiourea, *in* T-00175

$C_{10}H_{12}N_2O_2$
Benzylmethylglyoxime, *in* P-00107
1,2-Diacetylbenzene; Dioxime, *in* D-00032
1,3-Diaminobenzene; *N*,*N*′-Di-Ac, *in* D-00047
Phenylhydrazine; N^1,N^2-Di-Ac, *in* P-00134

$C_{10}H_{12}N_2O_2S$
β-Benzoyl-*α*-(ethanol)thiourea, B-00129
S-Carbamidothioglycollic acid *N*-methylanilide, *in* C-00019

$C_{10}H_{12}N_2O_3$
3-[[(2-Aminoethyl)imino]methyl]-2-hydroxybenzoic acid, A-00175
2,5-Diaminophenol; 2,5-*N*-Di-Ac, *in* D-00111

$C_{10}H_{12}N_2O_4$
4,5-Diamino-1,2-benzenediol; Di-Ac, *in* D-00049
2,3-Pyrazinedicarboxylic acid; Di-Et ester, *in* P-00286

$C_{10}H_{12}N_2O_5$
▷ 6-Isopropyl-3-methyl-2,4-dinitrophenol, I-00073

$C_{10}H_{12}N_2O_6$
2,4-Dinitro-1,3-benzenediol; Di-Et ether, *in* D-00940

$C_{10}H_{12}N_4OS$
▷ Thiacetazone, *in* A-00097

$C_{10}H_{12}N_4O_2$
3-Pyridine-[2-(hydroxyimino)-1-methylpropylidene]carboxylic acid, P-00355

$C_{10}H_{12}N_4O_3$
2,3-Butanedione; Monoxime, (4-nitrophenyl) hydrazone, *in* B-00587
2,3-Butanedione oxime 4-nitrophenylhydrazone, B-00601

$C_{10}H_{12}N_6$
▷ Ethylenediamine tetraacetonitrile, *in* E-00078
5,5′,6,6′-Tetramethyl-3,3-bi(1,2,4-triazine), T-00093

$C_{10}H_{12}N_6S_2$
1,2-Benzenedicarboxaldehyde bis(thiosemicarbazone), B-00017

$C_{10}H_{12}O_2$
2,4-Dimethylbenzoic acid; Me ester, *in* D-00835

$C_{11}H_9N_5O_3$
2-Amino-4-[(4-nitrophenyl)azo]-3-pyridinol, A-00283

$C_{11}H_{10}BrN_5$
4-[(5-Bromo-2-pyridinyl)azo]-1,3-benzenediamine, B-00562

$C_{11}H_{10}IN_5$
4-[(5-Iodo-2-pyridinyl)azo]-1,3-benzenediamine, I-00052

$C_{11}H_{10}N_2$
1-Naphthalenecarboxaldehyde; Hydrazone, *in* N-00003

$C_{11}H_{10}N_2O$
8-Aminoquinoline; 8-*N*-Ac, *in* A-00340
N-Hydroxy-1-naphthalenecarboximidamide, *in* N-00005

$C_{11}H_{10}N_2O_2$
6-Methoxy-2-phenyl-1(2*H*)-pyridazinone, *in* D-00481

$C_{11}H_{10}N_2O_3S_2$
5-[[3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]-2-thioxo-4-thiazolidinone, H-00220

$C_{11}H_{10}N_2O_4$
1-[[(Phenylamino)carbonyl]oxy]-2,5-pyrrolidinedione, P-00081

$C_{11}H_{10}N_2S$
1-Naphthalenethiocarboxhydrazide, N-00016

$C_{11}H_{10}N_4$
Di-2-pyridinylmethanone; Hydrazone, *in* D-01071
2-Pyridinecarboxaldehyde 2-pyridylhydrazone, P-00335

$C_{11}H_{10}N_4O$
5-Amino-2-(2-pyridinylazo)phenol, A-00336
α-(Hydroxyimino)-1,5-dimethyl-1*H*-benzimidazole-2-acetonitrile, H-00244
3-(3-Hydroxy-3-phenyl-1-triazenyl)pyridine, H-00509
2-Pyrazinyl-1-(2-pyridinyl)ethanone; Oxime, *in* P-00299

$C_{11}H_{10}N_4O_2$
5*H*-Imidazole-4-carboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, I-00002

$C_{11}H_{10}N_4O_2S$
5-Amino-2-(4-methyl-2-thiazolylazo)benzoic acid, A-00258
6-Amino-5-nitroso-2-[(phenylmethyl)thio]-4(1*H*)-pyrimidinone, A-00286

$C_{11}H_{10}N_4O_4S$
4-[(2-Amino-3-hydroxy-4-pyridinyl)azo] benzenesulfonic acid, A-00217

$C_{11}H_{10}N_4S$
2-Quinolinecarboxaldehyde thiosemicarbazone, *in* Q-00009

$C_{11}H_{10}N_6$
[4,5-Dihydro-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]pyrazine, D-00484
3-[4,5-Dihydro-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]pyridazine, D-00485
4-[4,5-Dihydro-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]pyrimidine, D-00486

$C_{11}H_{10}O_2$
3,3-Dimethyl-1,2-indanedione, D-00868
1-Methoxy-2-naphthol, *in* N-00007
3-Methoxy-2-naphthol, *in* N-00010
4-Methoxy-2-naphthol, *in* N-00008
7-Methoxy-2-naphthol, *in* N-00011
8-Methoxy-1-naphthol, *in* N-00009

$C_{11}H_{10}O_2S$
2-Mercapto-5-phenyl-2,4-pentadienoic acid, M-00046

$C_{11}H_{10}O_3$
2-Ethyl-5-hydroxy-4*H*-1-benzopyran-4-one, E-00084
3-Ethyl-5-hydroxy-4*H*-1-benzopyran-4-one, E-00085
5-Hydroxy-2,3-dimethyl-4*H*-1-benzopyran-4-one, H-00150
7-Hydroxy-4,8-dimethyl-2*H*-1-benzopyran-2-one, H-00151
5-Methoxy-2-methyl-4*H*-1-benzopyran-4-one, *in* H-00281
7-Methoxy-4-methyl-2*H*-1-benzopyran-4-one, *in* H-00283

$C_{11}H_{10}O_3S$
2-Naphthalenesulfonic acid; Me ester, *in* N-00015

$C_{11}H_{10}O_4$
4,5-Dihydroxy-2*H*-1-benzopyran-2-one; Di-*O*-Me, *in* D-00537
5,7-Dihydroxy-2,6-dimethyl-4*H*-1-benzopyran-4-one, D-00575
2,2-Dimethoxy-1,3-indanedione, *in* N-00071
5-Hydroxy-7-methoxy-2-methyl-4*H*-1-benzopyran-4-one, *in* D-00645
4-(Hydroxymethyl)-7-methoxy-2*H*-1-benzopyran-2-one, *in* H-00209
3-(2-Hydroxyphenyl)-2-propenoic acid; Ac, *in* H-00500

$C_{11}H_{10}O_5$
2,4-Dihydroxybenzaldehyde; Di-Ac, *in* D-00517
2,5-Dihydroxybenzaldehyde; Di-Ac, *in* D-00518
3,4-Dihydroxybenzaldehyde; Di-Ac, *in* D-00519

$C_{11}H_{10}O_6$
1,2,3-Benzenetricarboxylic acid; 1,3-Di-Me ester, *in* B-00031
1,2,4-Benzenetricarboxylic acid; 1,2-Di-Me ester, *in* B-00032
2,4-Dihydroxybenzoic acid; Di-Ac, *in* D-00531
3,5-Dihydroxybenzoic acid; Di-Ac, *in* D-00534

$C_{11}H_{11}ClO_3$
6,7-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+); Chloride, *in* D-00576
7,8-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+); Chloride, *in* D-00577

$C_{11}H_{11}F_5O_2$
Pentafluorobenzaldehyde; Di-Et acetal, *in* P-00010

$C_{11}H_{11}N$
2-Naphthylamine; *N*-Me, *in* N-00042
1-Naphthylmethylamine, N-00051
Pyrrole; *N*-Benzyl, *in* P-00436

$C_{11}H_{11}NO$
1-Amino-2-naphthalenol; Me ether, *in* A-00273
1,2-Cyclopentanedione; Monoanil, *in* C-00362
8-Ethoxyquinoline, *in* H-00525
8-Methoxy-2-methylquinoline, *in* H-00326

$C_{11}H_{11}NO_3$
5-Hydroxy-1*H*-indole-2-carboxylic acid; Et ester, *in* H-00253

$C_{11}H_{11}NO_6$
2-[Bis(carboxymethyl)amino]benzoic acid, B-00276
2,6-Dihydroxy-4-pyridinecarboxylic acid; Di-Ac, Me ester, *in* D-00721

$C_{11}H_{11}NS$
8-Quinolinethiol; *S*-Et, *in* Q-00021

$C_{11}H_{11}N_3OS$
2,3-Butanedione (2-benzothiazolyl)hydrazone, B-00588
2,4-Dimethyl-6-(2-thiazolylazo)phenol, D-00923
2-(2-Hydroxy-5-methylphenylazo)-4-methylthiazole, H-00301
2-(2-Methoxy-4-methylphenylazo)thiazole, *in* M-00324

$C_{11}H_{11}N_3OS_2$
6-[(Benzylmercapto)methyl]-5-hydroxy-3-mercapto-1,2,4-triazine, B-00187

$C_{11}H_{11}N_3O_2S$
4-Methoxy-2-[(4-methyl-2-thiazolyl)azo] phenol, *in* M-00318
2-Methyl-4-[(4-methyl-2-thiazolyl)azo]-1,3-benzenediol, M-00202

$C_{11}H_{11}N_5$
2-Acetylpyridine 2-pyrazinylhydrazone, A-00043
2-Acetylpyridine 2-pyrimidinylhydrazone, A-00044
[2,2′-Bipyridine]-6-carboximidic acid hydrazide, B-00223
2(1*H*)-Pyridinone (1-pyrazinylethylidene) hydrazone, P-00366
2(1*H*)-Pyridinone [1-(3-pyridazinyl)ethylidene] hydrazone, P-00369
4-(2-Pyridinylazo)-1,3-benzenediamine, P-00372

$C_{11}H_{11}N_5O_3S$
5-(Dimethylamino)-2-[(5-nitro-2-thiazolyl)azo] phenol, *in* A-00289

$C_{11}H_{11}O_3^{\oplus}$
6,7-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+), D-00576
7,8-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+), D-00577

$C_{11}H_{12}ClN$
1,2-Dimethylquinolinium(1+); Chloride, *in* D-00913

$C_{11}H_{12}IN$
▷ 1,2-Dimethylquinolinium(1+); Iodide, *in* D-00913

$C_{11}H_{12}N^{\oplus}$
1,2-Dimethylquinolinium(1+), D-00913

$C_{11}H_{12}N_2$
2,4-Dimethyl-1*H*-1,5-benzodiazepine, D-00834

$C_{11}H_{12}N_2O$
▷ 1,2-Dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00392

$C_{11}H_{12}N_2O_2$
3,3-Dimethyl-1,2-indanedione; Dioxime, *in* D-00868

$C_{11}H_{12}N_2O_4$
3,4-Diaminobenzoic acid; 3,4-*N*-Di-Ac, *in* D-00050

$C_{11}H_{12}N_2S$
1,2-Dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione, D-00391

$C_{11}H_{12}N_4$
5,6-Dimethyl-3-(4-methyl-2-pyridinyl)-1,2,4-triazine, D-00871

$C_{11}H_{12}N_4OS$
5-Amino-2-[(4,5-dimethyl-2-thiazolyl)azo] phenol, A-00163
2,3-Butanedione (2-benzothiazolyl)hydrazone; Oxime, *in* B-00588
5-(Dimethylamino)-2-(2-thiazolylazo)phenol, *in* A-00214
4,5-Dimethyl-2-[(5-methyl-1,3,4-thiadiazol-2-yl)azo]phenol, D-00872

$C_{11}H_{12}N_4O_2$
4-Methoxy-2-[(5-methylimidazol-4-yl)azo] phenol, *in* M-00191
▷ Todralazine, T-00188

$C_{11}H_{12}N_4O_2S$
2-[(5-Ethyl-1,3,4-thiadiazol-2-yl)azo]-4-methoxyphenol, E-00116

$C_{11}H_{12}N_4O_4$
Dihydro-5-[3-(1,2,3,4-tetrahydro-6-hydroxy-4-oxo-5-pyrimidinyl)-2-propenylidene]-4,6(1*H*,5*H*)-pyrimidinedione, D-00490

$C_{11}H_{12}N_4O_4S_2$
2-[[3-Hydroxy-4-(2-thiazolylazo)phenyl]amino] ethanesulfonic acid, H-00550

N-(2-Hydroxyphenyl)-2-pyridinecarbothioamide, H-00502
5-(3-Phenyl-2-propenylidene)-2-thioxo-4-imidazolidinone, P-00170

$C_{12}H_{10}N_2O_2$
2,2′-Dihydroxyazobenzene, D-00514
3,4-Dihydroxyazobenzene, D-00515
4,4′-Dihydroxyazobenzene, D-00516
1,2-Di(2-pyridyl)ethylene; *N*,*N*′-Dioxide, *in* D-01090
2-[[(2-Hydroxyphenyl)methylene]amino]-3-pyridinol, H-00480
▷ 2-Nitrodiphenylamine, N-00104
▷ 4-Nitrodiphenylamine, N-00105
4-[(4-Nitrophenyl)methyl]pyridine, N-00139
Pyridoin, P-00412

$C_{12}H_{10}N_2O_3$
4-[(2-Hydroxyphenyl)azo]-1,3-benzenediol, H-00449
4-(Phenylazo)-1,2,3-benzenetriol, P-00092
Thymine; 1-*N*-Benzoyl, *in* T-00179
Thymine; 3-*N*-Benzoyl, *in* T-00179

$C_{12}H_{10}N_2O_3S$
Azobenzene-4-sulfonic acid, A-00468
2-(Benzylthio)-6-hydroxy-4-pyridimidinecarboxylic acid, *in* H-00261
5-Salicylidene-1-acetyl-2-thioimidazole, *in* H-00485

$C_{12}H_{10}N_2O_5S$
4-[(2,4-Dihydroxyphenyl)azo]benzenesulfonic acid, D-00688

$C_{12}H_{10}N_2O_6$
1,8-Dimethoxy-2,4-dinitronaphthalene, *in* D-00582

$C_{12}H_{10}N_2O_6S$
3-[(2,4-Dihydroxyphenyl)azo]-4-hydroxybenzenesulfonic acid, D-00693
4-[(2,3,4-Trihydroxyphenyl)azo]benzenesulfonic acid, T-00309

$C_{12}H_{10}N_2O_{10}S_2$
Chrome red brown 5RD, C-00284

$C_{12}H_{10}N_2S$
N-Phenyl-2-thiopicolinamide, *in* P-00317
N-2-Pyridinylbenzenecarbothioamide, P-00383

$C_{12}H_{10}N_2S_2$
2,3-Dihydro-2-(2-mercaptophenyl)-1,2,3-benzothiadiazole, D-00425

$C_{12}H_{10}N_3S^{\oplus}$
Lauth's violet, L-00003

$C_{12}H_{10}N_4$
2-(4-Methyl-2-pyridyl)-1*H*-imidazo[4,5-*c*]pyridine, M-00300
2-Pyridinecarboxaldehyde (2-pyridinylmethylene)hydrazone, P-00334

$C_{12}H_{10}N_4O$
1-Phenyl-1,2-ethanedione 2-(2-pyrazinyl) hydrazone, P-00128
3-Pyridinecarboxylic acid (2-pyridinylmethylene)hydrazide, P-00351

$C_{12}H_{10}N_4O_2$
4-Amino-4′-nitroazobenzene, A-00281
[2,2′-Bipyridine]-4,4′-dicarboxylic acid; Diamide, *in* B-00224
2,2′-Dipyridyl-α-glyoxime, *in* D-01063
3-Hydroxy-2-pyridinecarboxaldehyde [(3-hydroxy-2-pyridinyl)methylene]hydrazone, H-00519
2-Pyridinecarboxaldehyde 4-nitrophenylhydrazone, P-00329

$C_{12}H_{10}N_4O_3$
3-Hydroxy-1-(2-nitrophenyl)-3-phenyl-1-triazene, H-00403
3-Hydroxy-1-(4-nitrophenyl)-3-phenyl-1-triazene, H-00404

$C_{12}H_{10}N_4O_4$
2-(4-Amino-2-hydroxyphenylazo)-4-nitrophenol, A-00213

$C_{12}H_{10}N_4O_5S$
4-[3-(4-Nitrophenyl)-1-triazenyl] benzenesulfonic acid, N-00145

$C_{12}H_{10}N_6$
1-(4,6-Diamino-1,3,5-triazin-2-yl)isoquinoline, D-00130
3-(4,6-Diamino-1,3,5-triazin-2-yl)isoquinoline, D-00131

$C_{12}H_{10}N_6O_5$
2-[(2,4-Diaminophenyl)azo]-4,6-dinitrophenol, D-00112

$C_{12}H_{10}O$
▷ 2-Biphenylol, B-00210
▷ 4-Biphenylol, B-00211

$C_{12}H_{10}OS_3$
3-Benzyl-2,6-dimercapto-4*H*-thiopyran-4-one, B-00178
2,6-Dimercapto-3-methyl-5-phenyl-4*H*-thiopyran-4-one, D-00757

$C_{12}H_{10}OSe$
Diphenyl selenoxide, D-01049

$C_{12}H_{10}O_2$
1-Acetyl-2-naphthol, A-00025
2-Acetyl-1-naphthol, A-00026
▷ 4,4′-Biphenyldiol, B-00208
2-Methoxy-1-naphthaldehyde, *in* H-00336
1-Naphthol; Ac, *in* N-00025
2-Naphthol; Ac, *in* N-00026
▷ (1-Naphthyl)acetic acid, N-00040

$C_{12}H_{10}O_2S$
▷ Diphenyl sulfone, D-01052

$C_{12}H_{10}O_3$
1-(2-Furanyl)-2-hydroxy-2-phenylethanone, F-00052
α-Hydroxy-2-naphthaleneacetic acid, H-00338
1-Hydroxy-2-naphthoic acid; Me ester, *in* H-00369
3-Hydroxy-2-naphthoic acid; Me ester, *in* H-00370
▷ 2-(1-Oxopropyl)-1*H*-indene-1,3(2*H*)-dione, O-00071

$C_{12}H_{10}O_3S$
Benzenesulfonic acid; Ph ester, *in* B-00026

$C_{12}H_{10}O_3S_2$
Benzenesulfinic acid; Anhydride, *in* B-00025

$C_{12}H_{10}O_3Se_2$
Benzeneseleninic anhydride, *in* B-00024

$C_{12}H_{10}O_4$
6-Acetyl-7-hydroxy-4-methyl-2*H*-1-benzopyran-2-one, A-00018
1,3-Dioxo-2-indanecarboxylic acid; Et ester, *in* D-00991
7-Hydroxy-4-methyl-2*H*-1-benzopyran-2-one; Ac, *in* H-00283

$C_{12}H_{10}O_5$
3-Acetyl-5-hydroxy-2-methyl-4*H*-1-benzopyran-4-one, *in* D-00644
7-Hydroxy-4-methyl-2-oxo-2*H*-1-benzopyran-3-acetic acid, H-00295
7-Hydroxy-2-oxo-2*H*-1-benzopyran-3-carboxylic acid; Et ester, *in* H-00426
7-Hydroxy-2-oxo-2*H*-1-benzopyran-3-carboxylic acid; Me ether, Me ester, *in* H-00426

$C_{12}H_{10}O_5S_2$
Benzenesulfonic acid; Anhydride, *in* B-00026

$C_{12}H_{10}O_6$
[(7-Hydroxy-4-methyl-2-oxo-2*H*-1-benzopyran-6-yl)oxy]acetic acid, *in* D-00647

$C_{12}H_{10}O_8$
1,2,4,5-Benzenetetracarboxylic acid; 1,4-Di-Me ester, *in* B-00029

$C_{12}H_{10}S$
▷ Diphenyl sulfide, D-01051

$C_{12}H_{11}BrN_4O$
5-Amino-2-[(5-bromo-2-pyridinyl)azo]-4-methylphenol, A-00125

$C_{12}H_{11}BrO_4$
4-(Bromomethyl)-6,7-dimethoxy-2*H*-1-benzopyran-2-one, B-00519

$C_{12}H_{11}BrO_5$
2-Bromo-2′,5′-dihydroxyacetophenone; Di-Ac, *in* B-00502

$C_{12}H_{11}Br_2N_5$
5-(3,5-Dibromo-2-pyridylazo)-2,4-diaminotoluene, D-00210

$C_{12}H_{11}ClN_2O_4$
3,4-Dihydro-6,7-dimethoxy-4-methyl-3-oxo-2-quinoxalinecarbonyl chloride, *in* D-00379

$C_{12}H_{11}ClN_4$
4-[(4-Chlorophenyl)azo]-1,3-benzenediamine, C-00199

$C_{12}H_{11}Cl_2N_5$
4-[(3,5-Dichloro-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, D-00301

$C_{12}H_{11}N$
▷ 2-Aminobiphenyl, A-00116
▷ 4-Aminobiphenyl, A-00117
2-Benzylpyridine, B-00192
▷ Diphenylamine, D-01000

$C_{12}H_{11}NO$
N-1-Naphthylacetamide, *in* N-00041
▷ (1-Naphthyl)acetic acid; Amide, *in* N-00040
▷ 2-Naphthylamine; Ac, *in* N-00042

$C_{12}H_{11}NOS$
Benzenesulfinic acid; Anilide, *in* B-00025
2-Mercapto-*N*-2-naphthylacetamide, M-00038

$C_{12}H_{11}NO_2$
8-Acetoxyquinaldine, *in* H-00326
2-Acetyl-1-naphthol; Oxime, *in* A-00026
α-Amino-1-naphthaleneacetic acid, A-00261
1-Amino-2-naphthalenol; *N*-Ac, *in* A-00273
8-Amino-2-naphthalenol; *N*-Ac, *in* A-00274
3-Amino-1-naphthoic acid; Me ester, *in* A-00279
3-Amino-2-naphthoic acid; Me ester, *in* A-00280
1-Ethoxy-2-nitrosonaphthalene, *in* N-00161
2-Ethoxy-1-nitrosonaphthalene, *in* N-00160
2-Hydroxy-1-acetonaphthonoxime, *in* A-00025
3-Hydroxy-2-methyl-1-phenyl-4(1*H*)-pyridinone, H-00315
N-Hydroxy-1-naphthaleneacetamide, H-00337
2-Quinolinecarboxylic acid; Et ester, *in* Q-00017
8-Quinolinecarboxylic acid; Et ester, *in* Q-00018

$C_{12}H_{11}NO_2S$
▷ Benzenesulfonic acid; Anilide, *in* B-00026
N-Hydroxy-2-thiophenecarboxamide; *N*-(4-Methylphenyl), *in* H-00554

$C_{12}H_{11}NO_3$
Benzfuroin oxime, *in* F-00052
6-Ethoxy-4-quinolinecarboxylic acid, *in* H-00527
N-Hydroxy-*N*-(4-methylphenyl)-2-furancarboxamide, *in* F-00064
6-Hydroxy-4-quinolinecarboxylic acid; Et ester, *in* H-00527
6-Hydroxy-4-quinolinecarboxylic acid; Me ether, Me ester, *in* H-00527

$C_{12}H_{11}NO_3S$
4-Aminophenylbenzenesulfonic acid, A-00319
Diphenylamine-4-sulfonic acid, *in* A-00100
N-Hydroxy-*N*-(2-methoxyphenyl)-2-thiophenecarboxamide, *in* H-00554

$C_{12}H_{11}NO_3S_2$
8-(2-Propenylthio)-5-quinolinesulfonic acid, *in* M-00057

$C_{12}H_{11}NO_4$
6,7-Dimethoxy-1-isoquinolinecarboxylic acid, *in* D-00637

$C_{12}H_{13}NO$
2-Amino-8-ethoxynaphthalene, *in* A-00274
2-Isopropyl-8-quinolinol, I-00078

$C_{12}H_{13}NO_2$
N-Hydroxy-*N*-phenyl-2,4-hexadienamide, *in* H-00185
2-Oxo-*N*-phenylcyclopentanecarboxamide, *in* O-00060

$C_{12}H_{13}NO_2S$
5-(Dimethylamino)-1-naphthalenesulfinic acid, D-00794

$C_{12}H_{13}NO_3$
5-Hydroxy-1*H*-indole-2-carboxylic acid; Me ether, Et ester, *in* H-00253
2-[(1-Methyl-3-oxobutylidene)amino]benzoic acid, M-00214

$C_{12}H_{13}NO_3S$
5-Dimethylamino-1-naphthalenesulfonic acid, *in* A-00265

$C_{12}H_{13}NO_6$
3-Nitro-1,2-benzenedicarboxylic acid; Di-Et ester, *in* N-00085

$C_{12}H_{13}N_3$
▷ 2,4-Diaminodiphenylamine, D-00085
4,4′-Diaminodiphenylamine, D-00086

$C_{12}H_{13}N_3OS$
5-[[4-(Dimethylamino)phenyl]methylene]-2-thioxo-4-imidazolidinone, D-00819

$C_{12}H_{13}N_3O_4S_2$
4,4′-Diaminodiphenyldisulfimide, D-00088

$C_{12}H_{13}N_5$
4-Methyl-6-(2-pyridinylazo)-1,3-benzenediamine, M-00277

$C_{12}H_{13}N_5O_6$
1,3-Dimethyl-5-[(tetrahydro-1,3-dimethyl-2,4,6-trioxo-5(2*H*)-pyrimidinylidene)amino]-2,4,6(1*H*,3*H*, 5*H*)-pyrimidinetrione, *in* P-00281

$C_{12}H_{13}O_2P$
Dimethyl 1-naphthylphosphonite, *in* N-00055

$C_{12}H_{14}Cl_2N_2$
▷ Paraquat dichloride, *in* D-00841

$C_{12}H_{14}N_2$
▷ *N*-(1-Naphthyl)ethylenediamine, N-00050

$C_{12}H_{14}N_2^{2\oplus}$
▷ 1,1′-Dimethyl-4,4′-bipyridinium(2+), D-00841

$C_{12}H_{14}N_2O_3S$
2-Isocyanato-1-[(4-methylphenyl)sulfonyl]pyrrolidine, I-00062

$C_{12}H_{14}N_2O_3Se$
N-Benzoyl-*N*′-(ethoxycarbonylmethyl)selenourea, B-00130

$C_{12}H_{14}N_2O_4$
2,5-Diaminophenol; 1,2,5-Tri-Ac, *in* D-00111
2,3-Dioxobutanoic acid; 2-(2-Hydroxyphenyl)hydrazone, Et ester, *in* D-00986

$C_{12}H_{14}N_4$
N,*N*′-Bis(1*H*-pyrrol-2-ylmethylene)-1,2-ethanediamine, B-00448
▷ 3,3′,4,4′-Tetraaminobiphenyl, T-00007

$C_{12}H_{14}N_4OS$
5-Dimethylamino-2-[(4-methyl-2-thiazolyl)azo]phenol, D-00793
2-(Ethylamino)-4-methyl-2-(2-thiazolylazo)phenol, E-00066

$C_{12}H_{14}N_4O_4S_2$
2-[[3-Hydroxy-4-[methyl-2-thiazolylazo]phenyl]amino]ethanesulfonic acid, H-00329
3-[[3-Hydroxy-4-(2-thiazolylazo)phenyl]amino]-1-propanesulfonic acid, H-00551

$C_{12}H_{14}N_8S_4$
2,2′-Diacetyl-4,4′-bithiazolebis(thiosemicarbazone), D-00033

$C_{12}H_{14}O_3$
▷ Aceteugenol, *in* M-00120

$C_{12}H_{14}O_4$
▷ 1,3-Benzenedicarboxylic acid; Di-Et ester, *in* B-00019

$C_{12}H_{14}O_5$
o-Methoxybenzylidene diacetate, *in* M-00074
2,3′,4′-Trihydroxyacetophenone; 3′,4′-Di-Me ether, 2-Ac, *in* T-00268

$C_{12}H_{14}O_6$
3,6-Dihydroxy-1,2-benzenedicarboxylic acid; Di-Et ester, *in* D-00525
3,6-Dihydroxy-1,2-benzenedicarboxylic acid; Di-Me ether, di-Me ester, *in* D-00525

$C_{12}H_{15}N$
Indole; *N*-Butyl, *in* I-00033

$C_{12}H_{15}NO$
▷ Piperidine; 1-Benzoyl, *in* P-00241

$C_{12}H_{15}NO_2$
1,2,3,4-Tetrahydro-3-isoquinolinecarboxylic acid; Et ester, *in* T-00063

$C_{12}H_{15}NO_4$
Methyl 4-(acetylamino)-2-ethoxybenzoate, *in* A-00184

$C_{12}H_{15}NO_7S$
Arabinopyranosyl isothiocyanate; 2,3,4-Tri-Ac, *in* A-00399

$C_{12}H_{15}N_3O_2$
6-(Diethylamino)-2,3-dihydro-1,4-phthalazinedione, *in* A-00156

$C_{12}H_{15}N_3O_2S$
Dansylhydrazine, *in* A-00265

$C_{12}H_{15}N_3O_3$
5-(*p*-Ethoxyanilino)-5,6-dihydrouracil, E-00052

$C_{12}H_{15}N_3S$
3,4-Dihydro-4,4,6-trimethyl-1-(2-pyridinyl)-2(1*H*)-pyrimidinethione, D-00503

$C_{12}H_{15}N_5$
4-[[5-(*p*-Dimethylamino)phenyl]azo]-5-methylimidazole, D-00809

$C_{12}H_{15}N_5O$
5-(Dimethylamino)-2-[(5-methylimidazol-4-yl)azo]phenol, D-00789

$C_{12}H_{16}F_5NSi$
(Diethylamino)dimethyl(pentafluorophenyl)silane, D-00316

$C_{12}H_{16}N_2O$
Anabasine; *N*-Ac, *in* P-00244

$C_{12}H_{16}N_2OS$
N,*N*-Diethyl-*N*′-benzoylthiourea, D-00338

$C_{12}H_{16}N_2O_2$
1,2-Diamino-4,5-dimethylbenzene; 1,2-*N*-Di-Ac, *in* D-00080

$C_{12}H_{16}N_2O_3S$
N′-Benzoyl-*N*,*N*-[bis(2-hydroxyethyl)]thiourea, B-00124

$C_{12}H_{16}N_2O_5$
Corynecin II, *in* A-00284

$C_{12}H_{16}N_2O_6$
2,5-Bis(2-hydroxyethylamino)-1,4-benzenedicarboxylic acid, B-00368

$C_{12}H_{16}O_2$
2-Isopropyl-5-methylphenol; Ac, *in* I-00075

$C_{12}H_{16}O_3$
▷ 2,2-Diethoxy-1-phenylethanone, *in* P-00132

$C_{12}H_{16}O_4$
Benzo-12-crown-4, B-00052
(3,4-Dihydroxyphenyl)acetic acid; Di-Me ether, Et ester, *in* D-00687

$C_{12}H_{16}O_6$
5,6-*O*-Cyclohexylidene-L-*threo*-hex-2-enono-1,4-lactone, *in* A-00446

$C_{12}H_{16}O_7$
1,2-Benzenediol; *O*-β-D-Glucopyranosyl, *in* B-00020

$C_{12}H_{16}O_8$
Dianthoside, *in* H-00323

$C_{12}H_{16}O_8S_6$
2,2,5,5-Tetrakis(carboxymethylthio)-*p*-dithiane, T-00082

$C_{12}H_{17}ClN_4OS$
▷ Thiamine monochloride, *in* T-00135

$C_{12}H_{17}NO$
▷ *N*-Butylacetanilide, *in* B-00617
▷ Diethyltoluamide, *in* M-00137

$C_{12}H_{17}NO_2$
Ephedrine; *N*-Ac, *in* M-00122
N-Hydroxy-*N*-phenylhexanamide, *in* H-00186
2-Methylamino-1-phenyl-1-propanol; *N*-Ac, *in* M-00122

$C_{12}H_{17}N_3O_2$
1,2,4-Triaminobenzene; 1-*N*-Di-Me, 2,4-di-*N*-Ac, *in* T-00192

$C_{12}H_{17}N_3O_3$
Leucyl-*p*-nitroanilide, L-00006

$C_{12}H_{17}N_4OS^{\oplus}$
Thiamine, T-00135

$C_{12}H_{17}N_5O_4S$
Thiamine mononitrate, *in* T-00135

$C_{12}H_{17}O_3P$
Diethyl (2-phenylethenyl)phosphonate, *in* P-00129

$C_{12}H_{18}ClN_4O_4PS$
Monophosphothiamine chloride, *in* T-00135

$C_{12}H_{18}Cl_2N_4OS$
▷ Thiamine hydrochloride, *in* T-00135

$C_{12}H_{18}N_2O_5S$
3-[(3-Hydroxy-4-nitrosophenyl)propylamino]-1-propanesulfonic acid, H-00417

$C_{12}H_{18}O$
2-Ethoxy-1-isopropyl-4-methylbenzene, *in* I-00075

$C_{12}H_{18}O_2$
▷ 4-Hexyl-1,3-benzenediol, H-00071

$C_{12}H_{18}O_6$
2,3-Butanedione; Trimer, *in* B-00587

$C_{12}H_{18}O_6S_2$
Dithioerythritol; Tetra-Ac, *in* D-00752

$C_{12}H_{19}BrN_2O_2$
4-Bromo-*N*,*N*′-bis(2-hydroxypropyl)-1,2-benzenediamine, B-00494

$C_{12}H_{19}NO_2$
1,1′-(Phenylimino)bis-2-propanol, P-00136

$C_{12}H_{19}NO_3S$
3-[Ethyl-(2-methylphenyl)amino]-1-propanesulfonic acid, E-00098
3-[Ethyl-(3-methylphenyl)amino]-1-propanesulfonic acid, E-00099
3-[Ethyl-(4-methylphenyl)amino]-1-propanesulfonic acid, E-00100

$C_{12}H_{19}NO_4S$
3-[Ethyl(3-methoxyphenyl)amino]-1-propanesulfonic acid, E-00097

$C_{12}H_{20}IN$
Triethylphenylammonium(1+); Iodide, *in* T-00234

$C_{12}H_{20}N^{\oplus}$
Triethylphenylammonium(1+), T-00234

$C_{12}H_{20}N_2O_2$
N,*N*′-Bis(2-hydroxypropyl)-1,2-benzenediamine, B-00392
4,4′-(1,2-Ethanediyldinitrilo)bis[(2-pentanone)], E-00037

$C_{13}H_9BrN_4OS$
5-Amino-2-[(6-bromo-2-benzothiazolyl)azo] phenol, A-00123

$C_{13}H_9ClO_2$
2-Chlorobenzoic acid; Ph ester, *in* C-00066
4-Chlorobenzoic acid; Ph ester, *in* C-00067
4-Chlorophenol; Benzoyl, *in* C-00196

$C_{13}H_9ClO_2S$
9*H*-Fluorene-2-sulfonyl chloride, *in* F-00014

$C_{13}H_9ClO_3$
4′-Chloro-2,4-dihydroxybenzophenone, C-00095

$C_{13}H_9Cl_2N$
N-(2,4-Dichlorobenzylidene)aniline, *in* D-00247

$C_{13}H_9Cl_2NO_2$
5-Chloro-2-hydroxy-*N*-(2-hydroxy-5-chlorobenzylidene)aniline, C-00130
2,6-Dichloro-4-[(4-hydroxy-3-methylphenyl) imino]-2,5-cyclohexadien-1-one, D-00279
2,4-Dichloro-*N*-hydroxy-*N*-phenylbenzamide, D-00281

$C_{13}H_9Cl_2N_5O_2$
1,5-Bis(2-chlorophenyl)-3-nitroformazan, B-00288

$C_{13}H_9F_3O_3S$
3-(Trifluoromethyl)benzenesulfonic acid; Ph ester, *in* T-00251

$C_{13}H_9N$
▷ Acridine, A-00062
▷ Benzo[*f*]quinoline, B-00073

$C_{13}H_9NO$
Acridine; *N*-Oxide, *in* A-00062
1-Hydroxyacridine, H-00091
4-Hydroxyacridine, H-00092
9-Hydroxyacridine, H-00093
4-Isocyanato-1,1′-biphenyl, I-00060

$C_{13}H_9NOS$
2(3*H*)-Benzoxazolethione; *S*-Ph, *in* B-00113

$C_{13}H_9NO_2$
Benz[*cd*]indol-2-(1*H*)-one; *N*-Ac, *in* B-00050
1*H*-Benz[*de*]isoquinoline-1,3(2*H*)-dione; *N*-Me, *in* B-00051
9*H*-Carbazole-9-carboxylic acid, C-00020
4-Hydroxyacridone, H-00095
▷ 2-(2-Hydroxyphenyl)benzoxazole, H-00467

$C_{13}H_9NO_2S$
2-Phenoxathiincarboxaldehyde; Oxime, *in* P-00074

$C_{13}H_9NO_3$
Dibenzo[*b*,*e*][1,4]dioxin-2-carboxaldehyde; Oxime, *in* D-00162
7-Hydroxy-3*H*-phenoxazin-3-one; Me ether, *in* H-00443
2-Methoxy-3*H*-phenoxazin-3-one, *in* H-00442

$C_{13}H_9NO_4$
Benzoic acid 2-nitrophenyl ester, *in* N-00117
7-Hydroxy-3*H*-phenoxazin-3-one; Me ether, 10-oxide, *in* H-00443
3-Nitrophenol; *O*-Benzoyl, *in* N-00118
4-Nitrophenol; *O*-Benzoyl, *in* N-00119

$C_{13}H_9N_3$
4-Cyanoazobenzene, *in* A-00467
2-(2-Pyridyl)quinazoline, P-00423

$C_{13}H_9N_3O$
1*H*-Benzotriazole; *N*-Benzoyl, *in* B-00110

$C_{13}H_9N_3OS$
2-(2-Oxo-1(2*H*)-acenaphthylenylidene) hydrazinecarbothioamide, *in* A-00001
1-(2-Thiazolylazo)-2-naphthalenol, T-00142
4-(2-Thiazolylazo)-1-naphthalenol, T-00143

$C_{13}H_9N_3O_2S$
4-(2-Benzothiazolylazo)-1,2-benzenediol, B-00091
4-(2-Benzothiazolylazo)-1,3-benzenediol, B-00092

$C_{13}H_9N_3O_4$
4′-Nitro-4-azobenzenecarboxylic acid, N-00080

$C_{13}H_9N_3O_4S$
4-Cyano-5-[(3,4-dihydroxyphenyl)azo]-3-methyl-2-thiophenecarboxylic acid, C-00326

$C_{13}H_9N_3O_4S_2$
6-Hydroxy-5-(2-thiazolylazo)-2-naphthalenesulfonic acid, H-00549

$C_{13}H_9N_3O_5$
▷ Alizarine chrome orange G, A-00075
Alizarine yellow G, A-00082
2-Hydroxy-4-(4-nitrophenylazo)benzoic acid, H-00393

$C_{13}H_9N_3O_6$
2-Amino-4,6-dinitrophenol; *N*-Benzoyl, *in* A-00164
2-Amino-4,6-dinitrophenol; *O*-Benzoyl, *in* A-00164
2-Hydroxy-3,5-dinitrobenzoic acid; Anilide, *in* H-00154
N-Hydroxy-3,5-dinitro-*N*-phenylbenzamide, *in* D-00946

$C_{13}H_9N_3O_7S_3$
3-Hydroxy-4-(2-thiazolylazo)-2,7-naphthalenedisulfonic acid, H-00548

$C_{13}H_9N_3O_8S_3$
4,5-Dihydroxy-3-[(2-thiazolyl)azo]-2,7-naphthalenedisulfonic acid, D-00739

$C_{13}H_9N_3S$
▷ (4-Isothiocyanatophenyl)phenyldiazene, I-00099

$C_{13}H_9N_5O_8$
2-[(2-Hydroxy-5-methyl-3-nitrophenyl)azo]-4,6-dinitrophenol, H-00293

$C_{13}H_{10}BrNO_2$
2-Hydroxy-*N*-(2-hydroxy-5-bromobenzylidene)aniline, H-00193

$C_{13}H_{10}BrNO_2S$
N-(4-Bromophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, B-00552

$C_{13}H_{10}BrNO_3$
N-(4-Bromophenyl)-2,6-dihydroxybenzamide, *in* D-00533

$C_{13}H_{10}BrN_3OS$
N-Benzoyl-*N*′-(5-bromo-2-pyridyl)thiourea, B-00125

$C_{13}H_{10}Br_2N_4S$
2,2′-Dibromodithizone, D-00186
4,4′-Dibromodithizone, D-00187

$C_{13}H_{10}ClN$
3-Chloroaniline; *N*-Benzylidene, *in* C-00059
4-Chloroaniline; *N*-Benzylidene, *in* C-00060

$C_{13}H_{10}ClNO$
2-Chloroaniline; *N*-Benzoyl, *in* C-00058
3-Chloroaniline; *N*-Benzoyl, *in* C-00059
4-Chloroaniline; *N*-Benzoyl, *in* C-00060

$C_{13}H_{10}ClNO_2$
1,4-Benzoquinone *O*-(2-chlorobenzyl)oxime, B-00077
1,4-Benzoquinone *O*-(4-chlorobenzyl)oxime, B-00078
4-Chloro-2-(2-hydroxybenzylideneamino) phenol, C-00125
4-Chloro-2-hydroxy-*N*-(2-hydroxybenzylidene) aniline, C-00129
N-(2-Chlorophenyl)-*N*-hydroxybenzamide, *in* H-00109
2-Hydroxy-*N*-(2-hydroxy-3-chlorobenzylidene) aniline, H-00195
2-Hydroxy-*N*-(2-hydroxy-5-chlorobenzylidene) aniline, H-00196
N-Hydroxy-*N*-phenyl-2-chlorobenzamide, H-00470

$C_{13}H_{10}ClNO_2S$
N-(4-Chlorophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, C-00234

$C_{13}H_{10}ClNO_3$
N-(4-Chlorophenyl)-3-(2-furanyl)-*N*-hydroxy-2-propenamide, *in* F-00053
N-(4-Chlorophenyl)-3-(2-furanyl)-*N*-hydroxy-2-propenamide, C-00220

$C_{13}H_{10}Cl_2N_2$
2-Chloro-*N*-(4-chlorophenyl)benzamidine, C-00082

$C_{13}H_{10}Cl_2N_4S$
2,2′-Dichlorodithizone, D-00270
4,4′-Dichlorodithizone, D-00271

$C_{13}H_{10}Cl_3NO_2$
2,2,2-Trichloroethanol; 1-Naphthylurethane, *in* T-00222

$C_{13}H_{10}F_2N_4S$
2,2′-Difluorodithizone, D-00360
4,4′-Difluorodithizone, D-00361

$C_{13}H_{10}F_3IO_3S$
Diphenyliodonium(1+); Trifluoromethanesulfonate, *in* D-01028

$C_{13}H_{10}INO_2$
2-Hydroxy-*N*-(2-hydroxy-5-iodobenzylidene) aniline, H-00204
N-(*o*-Iodobenzoyl)phenylhydroxylamine, *in* I-00040

$C_{13}H_{10}I_2N_4S$
4,4′-Diiododithizone, D-00743

$C_{13}H_{10}N_2$
9*H*-Fluoren-9-one; Hydrazone, *in* F-00015
2-Methyl-1,10-phenanthroline, M-00220
5-Methyl-1,10-phenanthroline, M-00221

$C_{13}H_{10}N_2O$
9*H*-Carbazole-9-carboxylic acid; Amide, *in* C-00020
2-(2-Hydroxyphenyl)benzimidazole, H-00465
6-Methoxy-1,7-phenanthroline, *in* H-00438
2-Methoxyphenazine, *in* H-00439
10-Methyl-2(10*H*)-phenazinone, *in* H-00439

$C_{13}H_{10}N_2O_2$
7-Amino-1-methyl-3*H*-phenoxazin-3-one, A-00247
Azobenzene-4-carboxylic acid, A-00467
3,6-Diaminoxanthone, D-00132
N-(2-Fluorenyl)-*N*-nitrosohydroxylamine, *in* A-00178
2-(4-Hydroxyphenylazo)benzaldehyde, H-00448
2-Nitrobenzaldehyde; Anil, *in* N-00081
4-Nitro-*N*-(phenylmethylene)benzenamide, *in* N-00077

$C_{13}H_{10}N_2O_3$
2-Nitrobenzoic acid; Anilide, *in* N-00091
3-Nitrobenzoic acid; Anilide, *in* N-00092
4-Nitrobenzoic acid; Anilide, *in* N-00093

$C_{13}H_{10}N_2O_4$
1,4-Benzoquinone *O*-(*m*-nitrobenzyl)oxime, B-00082
1,4-Benzoquinone *O*-(*p*-nitrobenzyl)oxime, B-00083
2-[(3,4-Dihydroxyphenyl)azo]benzoic acid, D-00689
N-Hydroxy-3-nitro-*N*-phenylbenzamide, *in* N-00090
▷ 2′-Nitrodiphenylamine-2-carboxylic acid, N-00106

$C_{13}H_{10}N_2O_4S$
N-Hydroxy-*N*-(4-nitrophenyl)-3-(2-thienyl)-2-propenamide, H-00405

$C_{13}H_{10}N_2O_5$
2-[(2,3,4-Trihydroxyphenyl)azo]benzoic acid, T-00310
4-[(2,3,4-Trihydroxyphenyl)azo]benzoic acid, T-00311

$C_{13}H_{10}N_2O_6S$
2-Hydroxy-4-[(4-sulfophenyl)azo]benzoic acid, H-00541
2-Hydroxy-5-[(4-sulfophenyl)azo]benzoic acid, H-00542

$C_{13}H_{11}N_7$
2,4-Diamino-6-(2,2′-bipyridyl)-1,3,5-triazine, D-00062

$C_{13}H_{12}AsNO_4$
[2-[[(2-Hydroxyphenyl)methylene]amino] phenyl]arsonic acid, H-00479

$C_{13}H_{12}AsNO_5$
[2-[[(2,4-Dihydroxyphenyl)methylene]amino] phenyl]arsonic acid, D-00711

$C_{13}H_{12}BrN_3O$
2-[(5-Bromo-2-pyridinyl)azo]-4,5-dimethylphenol, B-00564

$C_{13}H_{12}Br_2N_4O_4S$
2-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]amino]ethanesulfonic acid, *in* A-00149

$C_{13}H_{12}ClNO_2$
4-Chloro-2-[[(2-hydroxyphenyl)methylene] amino]phenol, C-00150

$C_{13}H_{12}ClN_3S$
▷ Azure C, *in* L-00003

$C_{13}H_{12}Cl_2N_4O$
2-[(3,5-Dichloro-2-pyridinyl)azo]-5-(dimethylamino)phenol, D-00300

$C_{13}H_{12}Cl_2O_4$
▷ Ethacrynic acid, E-00022

$C_{13}H_{12}N_2$
Benzophenone; Hydrazone, *in* B-00069
▷ 2,7-Diaminofluorene, D-00097

$C_{13}H_{12}N_2O$
2-Acetyl-4-phenylpyridine; Oxime (*E*-), *in* A-00031
2-Acetyl-6-phenylpyridine; Oxime (*E*-), *in* A-00032
2-Aminobenzophenone; (*E*)-Oxime, *in* A-00111
2-Aminobenzophenone; (*Z*)-Oxime, *in* A-00111
1,3-Diaminobenzene; *N*-Benzoyl, *in* D-00047
▷ 7-Methoxy-1-methyl-β-carboline, M-00090
4-Methyl-*N*-2-pyridinylbenzamide, M-00285
4-Methyl-2-[(2-pyridinylmethylene)amino] phenol, M-00289
Phenylbenzylnitrosamine, *in* B-00165
Phenylhydrazine; N^1-Benzoyl, *in* P-00134
Phenylhydrazine; N^2-Benzoyl, *in* P-00134
3-Pyridinecarboxamide; *N*′-Benzyl, *in* P-00341

$C_{13}H_{12}N_2OS$
2-[(3-Mercaptophenyl)azo]-4-methylphenol, M-00041
N-(2-Methoxyphenyl)-2-pyridinecarbothioamide, *in* H-00502

$C_{13}H_{12}N_2O_2$
1-Benzyloxy-2-phenyldiazene 2-oxide, *in* H-00471
Di-2-pyridinylmethanone; Ethylene ketal, *in* D-01071
Harmine *N*-oxide, *in* M-00090
4-Hydroxy-3-methoxyazobenzene, *in* D-00515
2-Nitrodiphenylamine; *N*-Me, *in* N-00104

$C_{13}H_{12}N_2O_2S$
N-(3-Aminophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, A-00324
N-(4-Aminophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, A-00325

$C_{13}H_{12}N_2O_3S$
▷ *N*-[(4-Aminophenyl)sulfonyl]benzamide, *in* A-00100
Benzohydroxamic acid benzenesulfonamide, *in* P-00194

$C_{13}H_{12}N_2S$
Bis(4-aminophenyl)methanethione, B-00254
▷ *N*,*N*′-Diphenylthiourea, D-01055
4-Isothiocyanato-*N*,*N*-dimethyl-1-naphthalenamine, I-00094
N-(Phenylmethyl)-2-pyridinecarbothioamide, *in* P-00317
N-*o*-Tolyl-2-thiopicolinamide, *in* P-00317

$C_{13}H_{12}N_2Se$
Selenourea; *N*,*N*-Di-Ph, *in* S-00009

$C_{13}H_{12}N_4$
2-(4,5-Dihydro-4-phenyl-1*H*-1,2,4-triazol-3-yl) pyridine, D-00476

$C_{13}H_{12}N_4O$
2-[4,5-Dihydro-3-(2-pyridyl)-1*H*-1,2,4-triazolyl]phenol, D-00488
Diphenylcarbazone, D-01005

$C_{13}H_{12}N_4O_2$
4-Amino-4′-nitroazobenzene; *N*-Me, *in* A-00281

$C_{13}H_{12}N_4O_3S_2$
3-[[(Aminothioxomethyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, *in* P-00386

$C_{13}H_{12}N_4O_4$
5-[(1-Acetyl-2-oxopropyl)azo]-2,3-dihydro-1,4-phthalazinedione, A-00027

$C_{13}H_{12}N_4O_6S_3$
4,4′-Disulfodithizone, D-01109

$C_{13}H_{12}N_4S$
▷ Dithizone, D-01135
2-Pyridinecarboxaldehyde phenylthiosemicarbazone, P-00331

$C_{13}H_{12}N_4Se$
Selenazone, S-00005

$C_{13}H_{12}N_6O$
Bis(2-pyridylmethylene)carbonic acid dihydrazide, B-00442

$C_{13}H_{12}N_6S$
Bis(2-pyridylmethylene)carbonothioic acid dihydrazide, B-00444

$C_{13}H_{12}N_8S$
4-Amino-5-thioxo-1,2,4-triazolidin-3-one di-(2-pyridinylmethylene)hydrazone, A-00363

$C_{13}H_{12}O$
▷ 4-(Hydroxymethyl)biphenyl, H-00284
▷ 2-Methoxybiphenyl, *in* B-00210
▷ 4-Methoxybiphenyl, *in* B-00211

$C_{13}H_{12}O_2$
1-Acetyl-2-naphthol; Me ether, *in* A-00025
2-Acetyl-1-naphthol; Me ether, *in* A-00026
1-Naphthalenecarboxylic acid; Et ester, *in* N-00005
▷ (1-Naphthyl)acetic acid; Me ester, *in* N-00040
2-Propanoyl-1-naphthol, P-00267

$C_{13}H_{12}O_3$
1-Hydroxy-2-naphthoic acid; Et ester, *in* H-00369
3-Hydroxy-2-naphthoic acid; Et ester, *in* H-00370
α-Methoxy-2-naphthaleneacetic acid, *in* H-00338

$C_{13}H_{12}O_3S$
4-Methylbenzenesulfonic acid; Ph ester, *in* M-00130

$C_{13}H_{12}O_5$
7-Hydroxy-4-methyl-2-oxo-2*H*-1-benzopyran-3-acetic acid; Me ether, *in* H-00295
7-Hydroxy-2-oxo-2*H*-1-benzopyran-3-carboxylic acid; Me ether, Et ester, *in* H-00426

$C_{13}H_{12}O_6$
Caffeic acid; Di-Ac, *in* D-00716

$C_{13}H_{12}O_7$
3,4,5-Trihydroxybenzaldehyde; Tri-Ac, *in* T-00273

$C_{13}H_{12}O_8$
2,3,4-Trihydroxybenzoic acid; Tri-Ac, *in* T-00276

$C_{13}H_{13}ClN_4O$
2-[(5-Chloro-2-pyridinyl)azo]-5-(dimethylamino)phenol, *in* A-00145

$C_{13}H_{13}Cl_3N_2S$
3,4-Dihydro-4,4,6-trimethyl-1-(2,4,6-trichlorophenyl)-2(1*H*)-pyrimidinethione, D-00505

$C_{13}H_{13}FeN_3O$
(3-Azido-3-oxopropyl)ferrocene, A-00461

$C_{13}H_{13}N$
N-Benzylaniline, B-00165
2-(Methylamino)biphenyl, *in* A-00116
3-Methyldiphenylamine, M-00161
4-Methyldiphenylamine, M-00162

$C_{13}H_{13}NO$
4-(Dimethylamino)-1-naphthalenecarboxaldehyde, *in* A-00262
1-[(Ethylimino)methyl]-2-naphthalenol, E-00096
1-Naphthylmethylamine; *N*-Ac, *in* N-00051
1,2,3,4-Tetrahydrobenzo[*h*]quinolin-3-ol, T-00051

$C_{13}H_{13}NO_2$
3-Amino-2-naphthoic acid; Et ester, *in* A-00280
3-Hydroxy-2-methyl-1-(4-methylphenyl)-4(1*H*)-pyridinone, H-00289
2-Propanoyl-1-naphthol; Oxime, *in* P-00267

$C_{13}H_{13}NO_2S$
4-Methylbenzenesulfonic acid; Anilide, *in* M-00130

$C_{13}H_{13}NO_3$
6-Hydroxy-4-quinolinecarboxylic acid; Me ether, Et ester, *in* H-00527

$C_{13}H_{13}NO_3S$
2-Methyldiphenylamine-4-sulfonic acid, M-00165
N-Methyldiphenylamine-4-sulfonic acid, M-00166

$C_{13}H_{13}NO_5$
2,5-Dioxo-4-oxazolidinepropanoic acid; Benzyl ester, *in* D-00993
N-[7-Hydroxy-4-methyl-2-oxo-(2*H*)-1-(benzopyran-8-yl)methyl]glycine, H-00297
1-[3-(4-Hydroxyphenyl)-1-oxopropoxy]-2,5-pyrrolidinedione, H-00491
1-[(Methoxyphenylacetyl)oxy]-2,5-pyrrolidinedione, M-00105

$C_{13}H_{13}NO_6$
1-[[(4-Hydroxy-3-methoxyphenyl)acetyl]oxy]-2,5-pyrrolidinedione, H-00269

$C_{13}H_{13}N_3$
4-Aminoazobenzene; *N*-Me, *in* A-00094
▷ 1,3-Diphenylguanidine, D-01018
2-[2-(4-Hydrazinophenyl)ethenyl]pyridine, H-00085
2-(2-Pyridyl)-5,6,7,8-tetrahydroquinazoline, *in* P-00423

$C_{13}H_{13}N_3O$
4,5-Dimethyl-2-(2-pyridinylazo)phenol, D-00910
2,4-Diphenylsemicarbazide, D-01050

$C_{13}H_{13}N_3OS$
1,3-Diamino-8-methoxyphenothiazine, D-00100

$C_{13}H_{13}N_3O_2$
5-Amino-2-(2-hydroxy-5-methylphenylazo) phenol, A-00197
5-Ethoxy-2-(2-pyridinylazo)phenol, *in* P-00373
3-Methoxy-2-methyl-6-(2-pyridinylazo)phenol, *in* M-00278
5-Methoxy-2-[(5-methyl-2-pyridinyl)azo] phenol, *in* M-00279

$C_{13}H_{13}N_3S$
1,4-Diphenylthiosemicarbazide, D-01053
2,4-Diphenylthiosemicarbazide, D-01054

$C_{13}H_{13}N_5$
4,5-Dihydro-5-methyl-3,5-di-2-pyridyl-1*H*-1,2,4-triazole, D-00430
4,5-Dihydro-3-(4-methyl-2-pyridinyl)-5-(2-pyridinyl)-1,2,4-triazole, D-00453

$C_{14}H_{10}N_2O_3$
N-(3-Oxo-3*H*-phenoxazin-2-yl)acetamide, *in* A-00303

$C_{14}H_{10}N_2O_4$
▷ 1,5-Diamino-4,8-dihydroxyanthraquinone, D-00074
▷ 1,8-Diamino-4,5-dihydroxyanthraquinone, D-00075
1,2-Dinitro-1,2-diphenylethylene, D-00952
(4-Nitrophenyl)phenylethanedione; Monoxime, *in* N-00142

$C_{14}H_{10}N_2O_5S$
3,4-Diaminoanthraquinone-1-sulfonic acid, D-00045

$C_{14}H_{10}N_2O_8S_2$
1,4-Diaminoanthraquinone-2,3-disulfonic acid, D-00044

$C_{14}H_{10}N_2O_{10}S_2$
4,8-Diamino-9,10-dihydro-1,5-dihydroxy-9,10-dioxo-2,6-anthracenedisulfonic acid, D-00073

$C_{14}H_{10}N_4$
2,3-Di-2-pyridylpyrazine, D-01091
2,4-Di-2-pyridylpyrimidine, D-01092
4,6-Di-2-pyridylpyrimidine, D-01093

$C_{14}H_{10}N_4O$
4-Hydroxy-2,6-di-2-pyridinylpyrimidine, H-00171
5-(4-Pyridinylazo)-8-quinolinol, P-00380
7-(2-Pyridinylazo)-8-quinolinol, P-00381
7-(4-Pyridinylazo)-8-quinolinol, P-00382
2-(2-Pyrimidinylazo)-1-naphthalenol, P-00430

$C_{14}H_{10}N_4OS$
5-(Di-2-pyridinylmethylene)-2-thioxo-4-imidazolidinone, D-01085

$C_{14}H_{10}N_4O_2$
α-(Phenylazo)-4-nitrobenzeneacetonitrile, P-00094
5-(4-Pyridinylazo)-8-quinolinol; N^4-Oxide, *in* P-00380
7-(4-Pyridinylazo)-8-quinolinol; N^4-Oxide, *in* P-00382

$C_{14}H_{10}N_4O_2S$
5-Amino-2-(2-benzothiazolylazo)benzoic acid, A-00114

$C_{14}H_{10}N_4O_3$
3-[(2-Hydroxy-1-naphthalenyl)azo]-1*H*-pyrazole-4-carboxylic acid, H-00353
5-[(2-Hydroxy-1-naphthalenyl)azo]-2,4-(1*H*,3*H*)-pyrimidinedione, H-00354
3-[(2-Hydroxy-1-naphthyl)azo]-4-pyrazolecarboxylic acid, H-00376
Isatin; 3-(4-Nitrophenylhydrazone), *in* I-00056

$C_{14}H_{10}N_4O_6$
Bis(4-nitrophenyl)ethanedione; Dioxime, *in* B-00432

$C_{14}H_{10}N_4S$
2,9-Dihydro-9-phenyl-3*H*-1,2,4-triazolo[4,3-*a*]benzimidazole-3-thione, D-00472

$C_{14}H_{10}O$
Anthrone, A-00390
▷ 9*H*-Fluorene-2-carboxaldehyde, F-00012

$C_{14}H_{10}O_2$
▷ Benzil, B-00038
9*H*-Fluorene-9-carboxylic acid, F-00013

$C_{14}H_{10}O_3$
▷ Benzoic anhydride, *in* B-00059
3-(4-Hydroxyphenyl)-1-(3*H*)-isobenzofuranone, H-00474
2-Methoxyxanthone, *in* H-00562

$C_{14}H_{10}O_4$
1,4,9,10-Anthracenetetrol, A-00381
2,2′-Biphenyldicarboxylic acid, B-00207
▷ Dibenzoyl peroxide, D-00165
1-Hydroxy-3-methoxyxanthone, *in* D-00741

$C_{14}H_{10}O_5$
2,6,7-Trihydroxy-9-methyl-3*H*-xanthen-3-one, T-00299

$C_{14}H_{10}O_6S$
3,3′-Thiobis[6-hydroxybenzoic acid], T-00158

$C_{14}H_{10}O_9$
Digallic acid, D-00365

$C_{14}H_{11}BrN_2O_2$
(4-Bromophenyl)phenylethanedione dioxime, B-00555

$C_{14}H_{11}BrN_2S$
1-Benzyl-5-bromo-1,3-dihydro-2*H*-benzimidazole-2-thione, B-00175

$C_{14}H_{11}BrO$
2-Bromo-4′-phenylacetophenone, B-00544

$C_{14}H_{11}Br_2N_3OS$
2-[(3,5-Dibromo-2-hydroxyphenyl)methylene]-*N*-phenylhydrazinecarbothioamide, D-00192

$C_{14}H_{11}ClN^{\oplus}$
9-Chloro-10-methylacridinium(1+), C-00170

$C_{14}H_{11}ClN_2O_2$
(4-Chlorophenyl)phenylethanedione; Dioxime, *in* C-00238

$C_{14}H_{11}ClO$
▷ Diphenylacetic acid; Chloride, *in* D-00999

$C_{14}H_{11}ClO_3$
4′-Chloro-2-hydroxy-4-methoxybenzophenone, *in* C-00095

$C_{14}H_{11}Cl_2NO_3$
2-(2,4-Dichlorophenoxy)-*N*-phenylacetohydroxamic acid, *in* D-00288

$C_{14}H_{11}Cl_2N_3OS$
3,5-Dichloro-2-hydroxybenzaldehyde phenylthiosemicarbazone, D-00278

$C_{14}H_{11}Cl_2N_5O$
1,5-Bis(2-chlorophenyl)-3-formazancarboxamide, B-00286

$C_{14}H_{11}F_5N_2O_2$
2,4-Dihydro-5-methyl-2-(4-methylphenyl)-4-(2,2,3,3,3-pentafluoro-1-oxopropyl)-3*H*-pyrazol-3-one, D-00433

$C_{14}H_{11}N$
▷ 9-Aminophenanthrene, A-00298
▷ Diphenylacetonitrile, *in* D-00999

$C_{14}H_{11}NO$
9*H*-Fluorene-9-carboxylic acid; Amide, *in* F-00013
1-Methoxyacridine, *in* H-00091
4-Methoxyacridine, *in* H-00092
9-Methoxyacridine, *in* H-00093

$C_{14}H_{11}NOS$
2(3*H*)-Benzoxazolethione; 3-Benzyl, *in* B-00113
Phenothiazine; *N*-Ac, *in* P-00073

$C_{14}H_{11}NO_2$
2-Aminobenzaldehyde; *N*-Benzoyl, *in* A-00096
Benzil; (*Z*)-Monoxime, *in* B-00038
9*H*-Carbazole-9-carboxylic acid; Me ester, *in* C-00020
Diphenylethanedione monoxime, *in* B-00038
4-Hydroxyacridone; Me ether, *in* H-00095
2-Hydroxycarbazole; Ac, *in* H-00144

$C_{14}H_{11}NO_3$
3-Aminobenzoic acid; *N*-Benzoyl, *in* A-00104
2,2′-Biphenyldicarboxylic acid; Monoamide, *in* B-00207
N-Hydroxybenzamide; *O*-Benzoyl, *in* H-00109
7-Hydroxy-3*H*-phenoxazin-3-one; Et ether, *in* H-00443
Indophenol; Ac, *in* I-00034

$C_{14}H_{11}NO_4$
4-(Benzamido)salicylic acid, *in* A-00184
4-(Benzoylhydroxyamino)benzoic acid, B-00133
4-Hydroxy-3-[[(2-hydroxyphenyl)imino]methyl]benzoic acid, H-00237
3-Hydroxy-4-[[(2-hydroxyphenyl)methylene]amino]benzoic acid, H-00239
4-Hydroxy-3-[[(2-hydroxyphenyl)methylene]amino]benzoic acid, H-00240
7-Hydroxy-3*H*-phenoxazin-3-one; Et-ether, 10-oxide, *in* H-00443
▷ 2,2′-Iminodibenzoic acid, I-00013
2,3′-Iminodibenzoic acid, I-00014
2,4′-Iminodibenzoic acid, I-00015
4-Nitrobenzyl alcohol; *O*-Benzoyl, *in* N-00097

$C_{14}H_{11}NO_6$
4-[(3,4,5-Trihydroxybenzoyl)amino]benzoic acid, T-00280

$C_{14}H_{11}NS_2$
2-Benzothiazolethiol; *S*-Benzyl, *in* B-00089

$C_{14}H_{11}N_3O$
N-Phenyl-1*H*-benzimidazolecarboxaldehyde, P-00102

$C_{14}H_{11}N_3OS$
2-(2-Benzothiazolylazo)-4-methylphenol, B-00097
1-[(4-Methyl-2-thiazolyl)azo]-2-naphthalenol, M-00322

$C_{14}H_{11}N_3OS_2$
5-[(1-*p*-Tolylimidazol-4-yl)methylene]rhodanine, T-00191

$C_{14}H_{11}N_3O_2S$
2-(2-Benzothiazolylazo)-5-methoxyphenol, *in* B-00092

$C_{14}H_{11}N_3O_4$
4′-Nitro-4-azobenzenecarboxylic acid; Me ester, *in* N-00080
4-Nitrobenzoic acid [(2-hydroxyphenyl)methylene]hydrazide, N-00094
(4-Nitrophenyl)phenylethanedione; Dioxime, *in* N-00142

$C_{14}H_{11}N_3O_6$
N-Hydroxy-*N*-(4-methylphenyl)-3,5-dinitrobenzamide, *in* D-00946

$C_{14}H_{11}N_3S$
2-Thiophenecarboxaldehyde 2-quinolinylhydrazone, T-00172

$C_{14}H_{11}N_5$
3-Isoquinolinecarboxaldehyde 2-pyrimidinylhydrazone, I-00081
2-Pyridinecarboxaldehyde 1-phthalazinylhydrazone, P-00332
2-Quinolinecarboxaldehyde 2-pyrimidinylhydrazone, Q-00013

$C_{14}H_{11}N_5O$
2-[[(Hydroxyimino)phenylmethyl]azo]-1*H*-benzimidazole, H-00250

$C_{14}H_{11}N_5O_2$
1,5-Bis(2-hydroxyphenyl)-3-cyanoformazan, B-00388

$C_{14}H_{11}N_5O_5$
Isonitrosoacetophenone 2,4-dinitrophenylhydrazone, *in* P-00132

$C_{14}H_{11}N_5O_8S_2$
3-Cyano-1,5-bis(2-hydroxy-5-sulfophenyl)formazan, C-00325

$C_{14}H_{11}N_5S$
2-Benzoylpyrazine 2-thiazolylhydrazone, B-00150
Di-2-pyridinylmethanone 2-thiazolylhydrazone, D-01083

$C_{14}H_{12}$
▷ 1,1-Diphenylethylene, D-01016

$C_{14}H_{12}Br_2N_4O_2$
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(dimethylamino)benzoic acid, D-00201

$C_{14}H_{12}ClNO$
4-Amino-4′-chlorobiphenyl; *N*-Ac, *in* A-00136
3-Chloro-4-methylaniline; *N*-Benzoyl, *in* C-00171

$C_{14}H_{12}ClNO_2$
2-Chloro-*N*-hydroxy-*N*-(2-methylphenyl) benzamide, *in* C-00064
4-Chloro-*N*-hydroxy-*N*-(2-methylphenyl) benzamide, *in* C-00065

$C_{14}H_{12}ClN_3OS$
5-Chloro-2-hydroxybenzaldehyde phenylthiosemicarbazone, C-00123

$C_{14}H_{12}INO_2$
N-*m*-Tolyl-*o*-iodobenzohydroxamic acid, *in* I-00040
N-*o*-Tolyl-*o*-iodobenzohydroxamic acid, *in* I-00040

$C_{14}H_{12}N_2$
Bis(4-aminophenyl)acetylene, B-00249
9,10-Diaminophenanthrene, D-00110
2,9-Dimethyl-1,10-phenanthroline, D-00880
3,8-Dimethyl-1,10-phenanthroline, D-00881
4,7-Dimethyl-1,10-phenanthroline, D-00882
5,6-Dimethyl-1,10-phenanthroline, D-00883

$C_{14}H_{12}N_2O$
3-Aminocarbazole; *N*-Ac, *in* A-00132
Benzil; Monohydrazone, *in* B-00038
4-(Dimethylamino)-α-oxo-1-naphthaleneacetonitrile, D-00807
2,9-Dimethyl-1,10-phenanthroline; *N*-Oxide, *in* D-00880

$C_{14}H_{12}N_2OS$
N-(Aminothioxomethyl)-*N*-phenylbenzamide, *in* P-00201
▷ *N*-[(Phenylamino)thioxomethyl]benzamide, *in* P-00201

$C_{14}H_{12}N_2OS_2$
(2-Furanyl)-2,3-dihydro-4-phenyl-1*H*-pyrazole-1-carbonodithioic acid, F-00051

$C_{14}H_{12}N_2O_2$
Azobenzene-4-carboxylic acid; Me ester, *in* A-00467
2,2′-Biphenyldicarboxylic acid; Diamide, *in* B-00207
Bis(6-methyl-2-pyridyl)ethanedione, B-00415
4,7-Dimethoxy-1,10-phenanthroline, *in* D-00685
5,6-Dimethoxy-1,10-phenanthroline, *in* D-00686
2,9-Dimethyl-4,7-dihydroxy-1,10-phenanthroline, D-00850
(*E*,*E*)-Diphenylglyoxime, *in* B-00038
(*E*,*Z*)-Diphenylglyoxime, *in* B-00038
(*Z*,*Z*)-Diphenylglyoxime, *in* B-00038
Glyoxal bis(2-hydroxyanil), G-00027
2-Hydroxybenzaldehyde *N*-benzoylhydrazone, H-00104
Salicylaldehyde benzoylhydrazone, *in* H-00101
2,2′,3,3′-Tetrahydro-2,2′-bibenzoxazole, T-00053

$C_{14}H_{12}N_2O_3$
3-Aminobenzoic acid; Anhydride, *in* A-00104
Benzoic acid [(2,4-dihydroxyphenyl) methylene]hydrazide, B-00061
Chrome bordeaux B, C-00279
7-(Dimethylamino)-1-hydroxy-3*H*-phenoxazin-3-one, D-00786
2-Hydroxybenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, H-00120
4-Nitrobenzylamine; *N*-Benzoyl, *in* N-00098

$C_{14}H_{12}N_2O_4$
[2,2′-Bipyridine]-4,4′-dicarboxylic acid; Di-Me ester, *in* B-00224
2-Hydroxybenzoic acid [(2,3-dihydroxyphenyl) methylene]hydrazide, H-00115
2-Hydroxybenzoic acid [(2,4-dihydroxyphenyl) methylene]hydrazide, H-00116
N-Hydroxy-*N*-(3-methylphenyl)-2-nitrobenzamide, *in* N-00089
N-Hydroxy-*N*-(3-methylphenyl)-3-nitrobenzamide, *in* N-00090

$C_{14}H_{12}N_2O_6S_2$
5,5′-Dithiodisalicylhydroxamic acid, D-01131

$C_{14}H_{12}N_2O_7S$
3,5-Dinitrobenzyl alcohol; 4-Methylbenzenesulfonyl, *in* D-00950

$C_{14}H_{12}N_2S$
2-Mercaptobenzimidazole; *S*-Benzyl, *in* M-00022

$C_{14}H_{12}N_2S_2$
Glyoxal bis(2-mercaptoanil), G-00029
N-[(Phenylamino)thioxomethyl] benzenecarbothioamide, P-00088
2,2′,3,3′-Tetrahydro-2,2′-bibenzothiazole, T-00052

$C_{14}H_{12}N_4$
2,3-Dihydro-5,6-di-(2-pyridyl)pyrazine, D-00404
3-(4-Methyl-2-pyridinyl)-5-phenyl-1,2,4-triazole, M-00293
1*H*-Pyrrole-2-carboxaldehyde 8-quinolinylhydrazone, P-00438

$C_{14}H_{12}N_4O$
N-Hydroxy-*N*′-phenyl-1*H*-benzimidazole-2-carboximidamide, *in* P-00102
5-Methyl-2-furancarboxaldehyde 1-phthalazinylhydrazone, M-00180
1-[(5-Methylimidazol-4-yl)azo]-2-naphthol, M-00192

$C_{14}H_{12}N_4OS$
2-Amino-5-(2-benzothiazolyl)-4-methylphenol, A-00115

$C_{14}H_{12}N_4O_3$
4-Amino-4′-nitroazobenzene; *N*-Ac, *in* A-00281
Isonitrosoacetophenone *p*-nitrophenylhydrazone, *in* P-00132

$C_{14}H_{12}N_4O_3S$
2-[(2-Hydroxy-5-nitrophenyl)methylene]-*N*-phenylhydrazinecarbothioamide, *in* H-00380

$C_{14}H_{12}N_4O_4$
N-[(4-Methoxyphenyl)methyl]-7-nitro-4-benzofurazanamine, M-00114

$C_{14}H_{12}N_4O_4S_2$
7-(4,5-Dimethyl-2-thiazolyl)azo-8-hydroxy-5-quinolinesulfonic acid, D-00922

$C_{14}H_{12}N_4S$
2-Acetylpyridine 2-benzothiazolylhydrazone, A-00040

$C_{14}H_{12}N_6S$
2-Pyrazinyl-1-(2-pyridinyl)ethanone; 2-Thiazolylhydrazone, *in* P-00299
1-(2-Pyridinyl)-2-(2-pyrimidinyl)ethanone; 2-Thiazolylhydrazone, *in* P-00405

$C_{14}H_{12}N_8$
2(1*H*)-Pyrazinone (1,2-dipyrazinylethylidene) hydrazone, P-00287

$C_{14}H_{12}OS$
2-Mercapto-2,4,6-cycloheptatrien-1-one; *S*-Benzyl, *in* M-00027
▷ Tibenzate, *in* T-00155

$C_{14}H_{12}O_2$
▷ Benzoin, B-00068
▷ Benzyl benzoate, *in* B-00059
2-Biphenylol; Ac, *in* B-00210
4-Biphenylol; Ac, *in* B-00211
4,4′-Dihydroxystilbene, D-00730
▷ Diphenylacetic acid, D-00999
3-Methylbenzoic acid; Ph ester, *in* M-00137
4-Methylbenzoic acid; Ph ester, *in* M-00138

$C_{14}H_{12}O_3$
2-Acetyl-1-naphthol; Ac, *in* A-00026
4-Hydroxy-3-biphenylcarboxylic acid; Me ester, *in* H-00132
▷ 2-Hydroxy-2,2-diphenylacetic acid, H-00166
▷ (2-Hydroxy-4-methoxyphenyl)methanone, *in* D-00536
4-Methoxybenzoic acid; Ph ester, *in* M-00079
4-Methoxy-3-biphenylcarboxylic acid, *in* H-00132
2-Methoxyphenol; Benzoyl, *in* M-00102
2-Phenoxybenzoic acid; Me ester, *in* P-00075

$C_{14}H_{12}O_4$
2,3-Dihydroxy-4-methoxybenzophenone, *in* T-00278
2,4-Dihydroxy-4′-methoxybenzophenone, *in* T-00279
2,4′-Dihydroxy-4-methoxybenzophenone, *in* T-00279
1,2-Naphthalenediol; Di-Ac, *in* N-00007
1,3-Naphthalenediol; Di-Ac, *in* N-00008
1,8-Naphthalenediol; Di-Ac, *in* N-00009
2,7-Naphthalenediol; Di-Ac, *in* N-00011
2-Phenyl-1-(2,4,6-trihydroxyphenyl)ethanone, P-00209

$C_{14}H_{12}O_6$
7-Hydroxy-4-methyl-2-oxo-2*H*-1-benzopyran-3-acetic acid; Ac, *in* H-00295
7-Hydroxy-2-oxo-2*H*-1-benzopyran-3-carboxylic acid; Et ester, Ac, *in* H-00426

$C_{14}H_{12}O_{10}$
Tetrahydroxy-1,4-benzoquinone; Tetra-Ac, *in* T-00072

$C_{14}H_{13}Br_2N_3O_3S$
3,5-Dibromo-4-[(4-dimethylaminophenyl)azo] benzenesulfonic acid, *in* A-00310

$C_{14}H_{13}Cl_2N_3O_3S$
2,5-Dichloro-4-[[4-(4-dimethylamino)phenyl] azo]benzenesulfonic acid, *in* A-00311

$C_{14}H_{13}IO_3$
Diphenyliodonium *I*-oxide acetate, *in* D-01028

$C_{14}H_{13}N$
4-Methylaniline; *N*-Benzylidene, *in* M-00124

$C_{14}H_{13}NO$
▷ 2-Acetamidobiphenyl, *in* A-00116
2-Aminobenzophenone; *N*-Me, *in* A-00111
▷ 4-Aminobiphenyl; *N*-Ac, *in* A-00117
2-Benzoyl-4-ethylpyridine, B-00132
N-Benzylbenzamide, *in* B-00163
▷ *N*-Diphenylacetamide, *in* D-01000
▷ Diphenylacetic acid; Amide, *in* D-00999
2-Ethoxycarbazole, *in* H-00144
4-Methylaniline; *N*-Benzoyl, *in* M-00124
4-Methylbenzoic acid; Anilide, *in* M-00138

$C_{14}H_{13}NO_2$
Benzoin; (*E*)-Oxime, *in* B-00068
N-Benzylbenzohydroxamic acid, *in* H-00109
2-Hydroxy-2,2-diphenylacetic acid; Amide, *in* H-00166
2-Hydroxy-*N*-(2-hydroxybenzylidene)-4-methylaniline, H-00190
2-Hydroxy-*N*-(2-hydroxybenzylidene)-5-methylaniline, H-00191
2-Hydroxy-*N*-(2-hydroxy-3-methylbenzylidene)aniline, H-00210
2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)aniline, H-00211
2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)aniline, H-00212
N-Hydroxy-*N*-(2-methylphenyl)benzamide, *in* H-00109
N-Hydroxy-2-methyl-*N*-phenylbenzamide, H-00306
N-Hydroxy-4-methyl-*N*-phenylbenzamide, H-00307
N-Hydroxy-*N*-phenylbenzeneacetamide, H-00463
2-[[[(2-Hydroxyphenyl)methylene]amino] methyl]phenol, H-00478
4-Methoxybenzoic acid; Anilide, *in* M-00079
▷ 2′-Methyldiphenylamine-2-carboxylic acid, M-00163
▷ 3′-Methyldiphenylamine-2-carboxylic acid, M-00164

$C_{14}H_{13}NO_2S$
N-Hydroxy-*N*-(3-methylphenyl)-3-(2-thienyl)-2-propenamide, *in* H-00553

$C_{14}H_{13}NO_3$
3-Acetyl-4-hydroxy-6-methyl-2*H*-pyran-2-one; Anilide, *in* A-00019

$C_{14}H_{15}BrN_4O_4S$
3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]amino]-1-propanesulfonic acid, B-00566

$C_{14}H_{15}IN_2O_4S$
5-[[2-[(Iodoacetyl)amino]ethyl]amino]-1-naphthalenesulfonic acid, I-00037
8-[[2-[(Iodoacetyl)amino]ethyl]amino]-1-naphthalenesulfonic acid, I-00038

$C_{14}H_{15}N$
▷ Dibenzylamine, D-00166
2-(Dimethylamino)biphenyl, *in* A-00116
▷ 4-(Dimethylamino)biphenyl, *in* A-00117
4-(Ethylamino)biphenyl, *in* A-00117
4-Methylaniline; *N*-Benzyl, *in* M-00124

$C_{14}H_{15}NO_2$
1-Hydroxycyclohexanecarboxylic acid; Nitrile, benzoyl, *in* H-00146

$C_{14}H_{15}NO_2S$
(5-Dimethylamino-1-naphthyl) vinyl sulfone, D-00802

$C_{14}H_{15}NO_5$
Methylcalcein blue, M-00153

$C_{14}H_{15}N_3$
▷ 4-Dimethylaminoazobenzene, D-00778
1-(4-Methylphenyl)-3-(phenylmethyl)-1-triazene, M-00237

$C_{14}H_{15}N_3O$
3-Hydroxy-1,3-bis(4-methylphenyl)triazene, H-00139

$C_{14}H_{15}N_3O_2$
4-Dimethylamino-2,2′-dihydroxyazobenzene, D-00783

$C_{14}H_{15}N_3O_3S$
▷ Methyl orange, M-00210

$C_{14}H_{15}N_3O_5S$
3-[[4-(Dimethylamino)-2-hydroxyphenyl]azo]-4-hydroxybenzenesulfonic acid, D-00787

$C_{14}H_{15}N_5$
2-[4,5-Dihydro-5-methyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-4-methylpyridine, D-00455

$C_{14}H_{15}N_5O_2$
2-Benzoyl-4-(2-nitrophenyl)acetohydrazine, B-00141

$C_{14}H_{15}PS_2$
Ethyl diphenylphosphinodithioate, *in* D-01039

$C_{14}H_{16}AsN_3O_3$
4-Aminoazobenzene-4′-arsonic acid; *N*-Di-Me, *in* A-00095

$C_{14}H_{16}BNO$
(2-Aminoethoxy)diphenylborane, A-00173

$C_{14}H_{16}BNO_3$
(2-Aminoethoxy)diphenoxyborane, A-00172

$C_{14}H_{16}N_2$
▷ 4,4′-Diamino-3,3′-dimethylbiphenyl, D-00083
N,*N*′-Dimethylbenzidine, *in* D-00053
1,2-Diphenyl-1,2-ethanediamine, D-01010
▷ *N*,*N*′-Diphenyl-1,2-ethanediamine, D-01011
N-Ethylbenzidine, *in* D-00053

$C_{14}H_{16}N_2O$
4-Amino-2-methyl-4′-methoxydiphenylamine, A-00246
4,4′-Diamino-3-ethoxybiphenyl, *in* D-00057
N-(4-Ethoxyphenyl)-1,4-benzenediamine, *in* A-00185

$C_{14}H_{16}N_2OS_2$
5-[[4-(Diethylamino)phenyl]methylene]-2-thioxo-4-thiazolidinone, D-00334

$C_{14}H_{16}N_2O_2$
4-Amino-2,4′-dimethoxydiphenylamine, A-00160
▷ 4,4′-Diamino-3,3′-dimethoxybiphenyl, *in* D-00056
3,3′-(1,2-Phenylenedinitrilo)bis-2-butanone, P-00127

$C_{14}H_{16}N_2O_2S$
4,4′-Diaminodiphenyl sulfone; *N*,*N*′-Di-Me, *in* D-00090
1-[[5-(Dimethylamino)-1-naphthalenyl] sulfonyl]aziridine, D-00799

$C_{14}H_{16}N_2O_4S$
5-Amino-2-[(4-methoxyphenyl)amino] benzenesulfonic acid; Me ester, *in* A-00232

$C_{14}H_{16}N_2O_5$
3,4-Dihydro-6,7-dimethoxy-4-methyl-3-oxo-2-quinoxalinepropanoic acid, D-00380

$C_{14}H_{16}N_2O_8$
1,2-Phenylenediamine-*N*,*N*,*N*′,*N*′-tetraacetic acid, P-00126

$C_{14}H_{16}N_4O$
▷ 2,4-Diamino-4′-ethoxyazobenzene, D-00095
2,4-Diamino-4′-methoxy-5-methylazobenzene, D-00099
5-(Ethylamino)-4-methyl-2-(2-pyridinylazo) phenol, *in* A-00253
3-Hydroxy-3-(*p*-dimethylaminophenyl)-1-phenyltriazene, H-00149

$C_{14}H_{16}N_4O_2S$
5-Diethylamino-2-(2-thiazolylazo)benzoic acid, *in* A-00359

$C_{14}H_{16}N_6$
Bis(6-methyl-2-pyridyl)ethanedione; Dihydrazone, *in* B-00415
2,3-Butanedione; Bis(2-pyridylhydrazone), *in* B-00587
Oxamide bisphenylhydrazone, O-00050

$C_{14}H_{16}O_2$
2,7-Diethoxynaphthalene, *in* N-00011

$C_{14}H_{17}N$
2-Naphthylamine; *N*-Di-Et, *in* N-00042

$C_{14}H_{17}N_3$
4,4′-Diaminodiphenylamine; 4-*N*-Di-Me, *in* D-00086

$C_{14}H_{17}N_3O$
2-[(3-Methyl-5-propyl-2-pyrrolidinyl)azo] phenol, M-00263

$C_{14}H_{17}N_3O_2$
4-[(4-Aminophenyl)azo]-5,5-dimethyl-1,3-cyclohexanedione, A-00313

$C_{14}H_{17}N_3O_2S$
3,4-Dihydro-4,4,6-trimethyl-1-(4-methyl-2-nitrophenyl)-2(1*H*)-pyrimidinethione, D-00498

$C_{14}H_{17}N_3O_3$
7-(Diethylamino)-2-oxo-2*H*-1-benzopyran-3-carboxylic acid hydrazide, D-00326

$C_{14}H_{17}N_5O_2S$
Dabsyl hydrazine, *in* M-00210

$C_{14}H_{17}O_2P$
Diethyl 1-naphthylphosphonite, *in* N-00055

$C_{14}H_{18}Cl_2N_2$
1,1′-Diethyl-4,4′-bipyridinium(2+); Dichloride, *in* D-00339

$C_{14}H_{18}NS_2^{\ominus}$
Cyclohexylbenzyldithiocarbamate(1−), C-00351

$C_{14}H_{18}N_2$
4-(Dimethylamino)-α-methyl-1-naphthalenemethanamine, D-00790

$C_{14}H_{18}N_2^{2\oplus}$
1,1′-Diethyl-4,4′-bipyridinium(2+), D-00339

$C_{14}H_{18}N_2OS$
3,4-Dihydro-1-(4-methoxyphenyl)-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, D-00429

$C_{14}H_{18}N_2O_6$
Corynecin V, *in* A-00284

$C_{14}H_{18}N_4O_2$
Bis(2-hydroxyimino-3-butylidene)-*o*-phenylenediimine, *in* P-00127

$C_{14}H_{18}N_4O_3S_2$
3-[Ethyl[4-(2-thiazolylazo)phenyl]amino]-1-propanesulfonic acid, E-00118

$C_{14}H_{18}N_4O_4$
3,4-Dihydro-6,7-dimethoxy-4-methyl-3-oxo-2-quinoxalinepropanoic acid; Hydrazide, *in* D-00380

$C_{14}H_{18}O_4$
▷ Trolox C, T-00430

$C_{14}H_{18}O_7$
Piceoside, *in* H-00090

$C_{14}H_{18}O_{12}$
Galactaric acid; 2,3,4,5-Tetra-Ac, *in* G-00001

$C_{14}H_{19}NO_2$
2,2′-(Iminodimethylidene)biscyclohexanone, I-00017

$C_{14}H_{19}NO_{10}S_2$
4-Hydroxybenzyl glucosinolate, H-00128

$C_{14}H_{19}NS_2$
Cyclohexyl(phenylmethyl)carbamodithioic acid, C-00357

$C_{14}H_{19}N_3O_2S$
6-(Diethylamino)-2-naphthalenesulfonic acid hydrazide, D-00325

$C_{14}H_{20}N_2OS$
N-[(Dipropylamino)thioxomethyl]benzamide, D-01059
N-Hexyl-*N*′-benzoylthiourea, H-00072

$C_{14}H_{20}N_2O_8S$
▷ 1,1′-Dimethyl-4,4′-bipyridinium(2+); Bismethylsulfate, *in* D-00841

$C_{14}H_{20}N_4O_2$
6-[(4-Aminobutyl)ethylamino]-2,3-dihydro-1,4-phthalazinedione, A-00130

$C_{14}H_{20}O_2S$
3-Mercapto-3-phenylpropanoic acid; 3-Methylbutyl ester, *in* M-00048
3-Mercapto-3-phenylpropanoic acid; Pentyl ester, *in* M-00048

$C_{14}H_{20}O_2S_3$
2,3,5,6,8,9,11,12-Octahydro-1,13,4,7,10-benzodioxatrithiacyclopentadecine, O-00004

$C_{14}H_{20}O_3$
4-Hexyl-1,3-benzenediol; 1-Ac, *in* H-00071
4-Hexyl-1,3-benzenediol; 3-Ac, *in* H-00071

$C_{14}H_{20}O_4$
Benzo-14-crown-4, B-00053

$C_{14}H_{20}O_5$
Benzo-15-crown-5, B-00054

$C_{14}H_{20}O_6$
Tetraethoxy-1,4-benzoquinone, *in* T-00072

$C_{14}H_{21}ClN_6$
3-[[4-(Diethylamino)phenyl]azo]-1,4-dimethyl-1*H*-1,2,4-triazolium(1+); Chloride, *in* D-00328

$C_{14}H_{21}NO_2$
Heptyl 4-aminobenzoate, *in* A-00105
N-Hydroxy-*N*-phenyl-2-propylpentanamide, H-00501
N-Phenyloctanohydroxamic acid, *in* H-00424

$C_{14}H_{21}N_3O_3$
N,*N*′-Diisopropyl-*O*-*p*-nitrobenzylisourea, D-00749

$C_{14}H_{21}N_6^{\oplus}$
3-[[4-(Diethylamino)phenyl]azo]-1,4-dimethyl-1*H*-1,2,4-triazolium(1+), D-00328

$C_{14}H_{22}N_2O_8$
▷ 1,2-Diaminocyclohexane-*N*,*N*,*N*′,*N*′-tetraacetic acid, D-00065

$C_{14}H_{22}N_4O_2$
▷ Cuprizone, C-00321

$C_{14}H_{22}N_4O_6$
Neocuprizone, N-00062

O-(1-Anthracenylmethyl)hydroxylamine, A-00384
O-(2-Anthracenylmethyl)hydroxylamine, A-00385
O-(9-Anthracenylmethyl)hydroxylamine, A-00386
4,5-Dihydro-3,5-diphenylisoxazole, D-00400
4-Ethoxyacridine, *in* H-00092
9-Ethoxyacridine, *in* H-00093

$C_{15}H_{13}NOS$
β-Oxo-*N*-phenylbenzenepropanethioamide, *in* O-00056

$C_{15}H_{13}NO_2$
4′-Aminoacetophenone; *N*-Benzoyl, *in* A-00091
2-Aminobenzophenone; *N*-Ac, *in* A-00111
Benzil; (*E*)-Monoxime, *O*-Me, *in* B-00038
Benzil; (*Z*)-Monoxime, *O*-Me, *in* B-00038
2-Benzoylacetanilide, *in* O-00069
9*H*-Carbazole-9-carboxylic acid; Et ester, *in* C-00020
N-Cinnamoylphenylhydroxylamine, *in* H-00499
1,3-Diphenyl-1,3-propanedione; Monoxime, *in* D-01041
4-Ethoxyacridone, *in* H-00095

$C_{15}H_{13}NO_3$
Hippuric acid; Ph ester, *in* H-00078
N-Hydroxy-3-(4-hydroxyphenyl)-*N*-phenyl-2-propenamide, H-00241

$C_{15}H_{13}NO_4$
2-(Acetyloxy)-*N*-hydroxy-*N*-phenylbenzamide, A-00028
4-(Benzoylhydroxyamino)benzoic acid; Me ester, *in* B-00133
α,*N*-Dihydroxybenzeneacetamide; Benzoyl, *in* D-00521
2-Hydroxy-*N*-(2-hydroxy-5-carbomethoxybenzylidene)aniline, *in* H-00237

$C_{15}H_{13}N_2O_5^{\oplus}$
Gallocyanine, G-00005

$C_{15}H_{13}N_3O$
1*H*-Benzimidazole-2-carboxaldehyde; 1-Benzyl, oxime, *in* B-00039

$C_{15}H_{13}N_3OS$
2-[(2-Benzothiazolyl)azo]-4,5-dimethylphenol, B-00095
2-(2-Benzothiazolylazo)-4,6-dimethylphenol, B-00096

$C_{15}H_{13}N_3O_4$
4′-Nitro-4-azobenzenecarboxylic acid; Et ester, *in* N-00080

$C_{15}H_{13}N_3O_4S$
2-(3′,4′-Dihydroxyphenyl)azo-3-cyano-4-methyl-5-ethoxycarbonylthiophene, *in* C-00326

$C_{15}H_{13}N_3O_5$
N-(3,5-Dinitrobenzoyl)-α-phenylethylamine, D-00949

$C_{15}H_{13}N_3O_8S_3$
4,5-Dihydroxy-3-[4,5-(dimethyl-2-thiazolyl) azo]-2,7-naphthalenedisulfonic acid, D-00579

$C_{15}H_{13}N_5$
2-Acetylpyrazine 2-quinolylhydrazone, A-00036
2-Acetylpyrazine 3-quinolylhydrazone, A-00037
2-Acetylpyrazine 8-quinolylhydrazone, A-00038
3-[2,2′-Bipyridin-6-yl]-5,6-dimethyl-1,2,4-triazine, B-00226

$C_{15}H_{13}N_5O$
5-(2-Benzoxazolyl)-3-methyl-1-phenylformazan, B-00116

$C_{15}H_{13}N_5S$
5-(2-Benzothiazolyl)-3-methyl-1-phenylformazan, B-00105
1-(2-Pyridinyl)-2-(3-pyridinyl)ethanone 2-thiazolylhydrazone, P-00403

$C_{15}H_{13}N_7$
2(1*H*)-Pyrazinone [1-pyrazinyl-2-(2-pyridinyl) ethylidene]hydrazone, P-00291
2(1*H*)-Pyrazinone [2-pyrazinyl-1-(2-pyridinyl) ethylidene]hydrazone, P-00292
2(1*H*)-Pyrazinone [1-(2-pyridinyl)-2-(4-pyrimidinyl)ethylidene]hydrazone, P-00294
2(1*H*)-Pyrazinone [2-(2-pyridinyl)-1-(4-pyrimidinyl)ethylidene]hydrazone, P-00295
2-Pyrazinyl-1-(2-pyridinyl)ethanone 2-pyrimidinylhydrazone, P-00300
2(1*H*)-Pyridinone (1,2-dipyrazinylethylidene) hydrazone, P-00358
N-2-Pyridinyl-2-pyridinecarboximidic acid 2-pyrazinylhydrazide, P-00402
1-(2-Pyridinyl)-2-(2-pyrimidinyl)ethanone 2-pyrimidinylhydrazone, P-00406

$C_{15}H_{14}BrN_5O_3$
Benzoic acid [1-[2-(4-bromo-2-nitrophenyl) hydrazino]ethylidene]hydrazide, B-00060

$C_{15}H_{14}Br_2N_4O_5S$
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[(3-sulfopropyl)amino]benzoic acid, *in* A-00148

$C_{15}H_{14}Br_2N_4O_6S$
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[(2-hydroxy-3-sulfopropyl)amino]benzoic acid, D-00208

$C_{15}H_{14}ClNO_3S$
1-(2-Naphthalenylsulfonyl)-2-pyrrolidinecarbonyl chloride, N-00022

$C_{15}H_{14}ClN_3O_4$
Gallamine blue; Chloride, *in* G-00003

$C_{15}H_{14}Cl_2N_4S$
3,3′-Dichloro-2,2′-dimethyldithizone, D-00264
4,4′-Dichloro-2,2′-dimethyldithizone, D-00265
5,5′-Dichloro-2,2′-dimethyldithizone, D-00266

$C_{15}H_{14}NO^{\oplus}$
9-Methoxy-10-methylacridinium(1+), M-00088

$C_{15}H_{14}N_2$
3,4,6-Trimethyl-1,10-phenanthroline, T-00331
3,4,7-Trimethyl-1,10-phenanthroline, T-00332
3,5,6-Trimethyl-1,10-phenanthroline, T-00333
3,5,7-Trimethyl-1,10-phenanthroline, T-00334
3,5,8-Trimethyl-1,10-phenanthroline, T-00335

$C_{15}H_{14}N_2O$
2,7-Diaminofluorene; 2-*N*-Ac, *in* D-00097

$C_{15}H_{14}N_2OS$
1-Benzyl-5-methoxy-1,3-dihydro-2*H*-benzimidazole-2-thione, B-00188
▷ *N*-[[(2-Methylphenyl)amino]thioxomethyl] benzamide, M-00223

$C_{15}H_{14}N_2O_2$
7-(Dimethylamino)-1-methyl-3*H*-phenoxazin-3-one, D-00792
Isonitrosodibenzoylmethane, *in* D-01041

$C_{15}H_{14}N_2O_3S$
[[2-[(2-Hydroxy-5-methylphenyl)azo]phenyl] thio]acetic acid, H-00303

$C_{15}H_{14}N_2O_4$
4-Methoxybenzoic acid [(2,4-dihydroxyphenyl) methylene]hydrazide, M-00080

$C_{15}H_{14}N_2O_6$
3,3′-Methylenebis[*N*,6-dihydroxybenzamide], M-00170

$C_{15}H_{14}N_2O_6S$
2-[(2-Hydroxy-3,5-dimethylphenyl)azo]-5-sulfobenzoic acid, H-00152

$C_{15}H_{14}N_2O_8S$
Gallocyanine MS, G-00006

$C_{15}H_{14}N_2S$
1-Benzyl-5-methyl-2,3-dihydro-2*H*-benzimidazole-2-thione, B-00189

$C_{15}H_{14}N_2S_2$
N,*N*′-Diphenylpropanedithioamide, *in* P-00262

$C_{15}H_{14}N_3O_4^{\oplus}$
Gallamine blue, G-00003

$C_{15}H_{14}N_4OS$
2-(2-Benzothiazolylazo)-5-(dimethylamino) phenol, B-00094
5-(2-Benzothiazolylazo)-4-methyl-2-(methylamino)phenol, *in* A-00115

$C_{15}H_{14}N_4O_2$
4-[2*H*-[1,3]Dioxolo[4,5-*f*]benzotriazol-2-yl] benzeneethanamine, D-00992

$C_{15}H_{14}N_4O_2S$
3-(Carboxymethylthio)-1,5-diphenylformazan, C-00034

$C_{15}H_{14}N_4O_3$
4-Amino-4′-nitroazobenzene; *N*-Ac, *N*-Me, *in* A-00281
Bis[(2-hydroxyphenyl)methylene]carbonic dihydrazide, B-00390

$C_{15}H_{14}N_4O_4S$
Bis[(2,3-dihydroxyphenyl)methylene] carbonothioic dihydrazide, B-00308

$C_{15}H_{14}N_4S$
4-[(4-Isothiocyanatophenyl)azo]-*N*,*N*-dimethylbenzenamine, I-00098

$C_{15}H_{14}N_6$
1-(1*H*-Benzimidazol-4-yl)-3-methyl-5-phenylformazan, B-00046

$C_{15}H_{14}N_6O_5$
Benzoic acid [1-[2-(2,4-dinitrophenyl) hydrazino]ethylidene]hydrazide, B-00062
4-Nitrobenzoic acid [1-[2-(4-nitrophenyl) hydrazino]ethylidene]hydrazide, N-00095

$C_{15}H_{14}O$
1,3-Diphenyl-2-propanone, D-01042

$C_{15}H_{14}O_2$
Benzoin; Me ether, *in* B-00068
2,4-Dimethylphenol; Benzoyl, *in* D-00884
Diphenylacetic acid; Me ester, *in* D-00999
4-(Hydroxymethyl)biphenyl; *O*-Ac, *in* H-00284

$C_{15}H_{14}O_2S$
α-Mercaptobenzeneacetic acid; *S*-Benzyl, *in* M-00019
3-Mercapto-3-phenylpropanoic acid; Ph ester, *in* M-00048

$C_{15}H_{14}O_3$
2,2′-Dimethoxybenzophenone, *in* D-00535
2,4-Dimethoxybenzophenone, *in* D-00536
2-Hydroxy-2,2-diphenylacetic acid; Me ester, *in* H-00166
▷ 2-Hydroxy-3-prenylnaphthoquinone, H-00515
2-Methoxy-2,2-diphenylacetic acid, *in* H-00166

$C_{15}H_{14}O_4$
1,2,3-Benzenetriol; 1,2-Di-Me ether, benzoyl, *in* B-00034
2,6-Dihydroxybenzoic acid; Me ether, benzyl ester, *in* D-00533

$C_{15}H_{15}N$
▷ 2-Aminofluorene; *N*,*N*-Di-Me, *in* A-00178

$C_{15}H_{15}NO$
2-Aminobenzophenone; *N*,*N*-Di-Me, *in* A-00111
N-Benzylaniline; *N*-Ac, *in* B-00165
2,5-Dimethylaniline; *N*-Benzoyl, *in* D-00828
2,6-Dimethylaniline; *N*-Benzoyl, *in* D-00829
1,3-Diphenyl-2-propanone; Oxime, *in* D-01042
4-Methyldiphenylamine; *N*-Ac, *in* M-00162
1-Phenylethylamine; *N*-Benzoyl, *in* P-00130

$C_{15}H_{15}NO_2$
N-(*o*-Ethoxybenzoyl)phenylhydroxylamine, *in* H-00112
4-Ethyl-*N*-hydroxy-*N*-phenylbenzamide, E-00093
2-Hydroxy-*N*-(2-hydroxy-5-ethylbenzylidene) aniline, H-00201
2-Hydroxy-*N*-(2-hydroxy-3-methylbenzylidene)-5-methylaniline, H-00213
2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)-4-methylaniline, H-00214
2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)-5-methylaniline, H-00215
2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)-4-methylaniline, H-00216
2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)-5-methylaniline, H-00217
N-Hydroxy-2-methyl-*N*-(2-methylphenyl) benzamide, *in* M-00135
N-Hydroxy-2-methyl-*N*-(3-methylphenyl) benzamide, *in* M-00135
N-Hydroxy-4-methyl-*N*-(3-methylphenyl) benzamide, *in* M-00136
N-Phenylanthranilic acid; Et ester, *in* P-00089

$C_{15}H_{15}NO_3$
N-Acetylalanine 1-naphthyl ester, A-00011
4-Ethoxy-2-hydroxy-*N*-salicylideneaniline, *in* D-00614
N-Hydroxy-2-methoxy-*N*-(2-methylphenyl) benzamide, *in* H-00263
N-(4-Methylphenyl)-2-phenoxyacetohydroxamic acid, M-00235

$C_{15}H_{15}NO_4$
1,4-Dihydro-5-hydroxy-1-(4-methylphenyl)-4-oxo-2-pyridinecarboxylic acid; Et ester, *in* D-00411

$C_{15}H_{15}NO_6S_4$
Bis(4-sulfobenzyl)dithiocarbamic acid, B-00454

$C_{15}H_{15}NO_7$
Calcein blue, C-00011

$C_{15}H_{15}NO_8$
8-(Aminomethyl)-6,7-dihydroxy-4-methylcoumarin-*N*,*N*-diacetic acid, A-00241

$C_{15}H_{15}NO_{12}S_2$
4,5-Dihydroxy-3-[*N*,*N*-bis(carboxymethyl) aminomethyl]-2,7-naphthalenedisulfonic acid, D-00547

$C_{15}H_{15}NS_2$
Dibenzyldithiocarbamic acid, *in* D-01124

$C_{15}H_{15}N_3$
▷ 3,6-Diamino-2,7-dimethylacridine, D-00079

$C_{15}H_{15}N_3O$
▷ 3,9-Diamino-7-ethoxyacridine, D-00094
4-Ethoxy-3,6-acridinediamine, *in* H-00094

$C_{15}H_{15}N_3OS$
Benzointhiosemicarbazone, *in* B-00068
1,4-Diphenylthiosemicarbazide; 4-Ac, *in* D-01053
2,4-Diphenylthiosemicarbazide; 1-Ac, *in* D-01054
4-Methoxybenzaldehyde phenylthiosemicarbazone, M-00076

$C_{15}H_{15}N_3O_2$
▷ Methyl red, M-00309

$C_{15}H_{15}N_3O_4$
Pyridoxal; Salicyloylhydrazone, *in* P-00414

$C_{15}H_{15}N_5O_2$
Bis[(2-hydroxyphenyl)methylene]carbonimidic dihydrazide, B-00391

$C_{15}H_{15}N_5O_3$
Benzoic acid [1-[2-(2-nitrophenyl)hydrazino] ethylidene]hydrazide, B-00065
Benzoic acid [1-[2-(4-nitrophenyl)hydrazino] ethylidene]hydrazide, B-00066

$C_{15}H_{15}N_7$
2,4-Bis(5,6-dimethyl-1,2,4-triazin-3-yl)pyridine, B-00333
2,6-Bis(5,6-dimethyl-1,2,4-triazin-3-yl)pyridine, B-00334

$C_{15}H_{15}O_3P$
Mono(phenylmethyl) (2-phenylethenyl) phosphonate, *in* P-00129

$C_{15}H_{15}PS_2$
2-Propenyl diphenylphosphinodithioate, *in* D-01039

$C_{15}H_{16}Br_2N_4$
4-(3,5-Dibromo-2-pyridylazo)-*N*,*N*-diethylaniline, D-00211

$C_{15}H_{16}Br_2N_4O$
2-[(3,5-Dibromo-2-pyridyl)azo]-5-(diethylamino)phenol, *in* A-00150

$C_{15}H_{16}Br_2N_4S$
4-Bromo-2-methylphenyldiazenecarbothioic acid 2-(4-bromo-2-methylphenyl)hydrazide, B-00534
o,*o*′-Dibromo-*p*,*p*′-dimethyldithizone, D-00184

$C_{15}H_{16}ClNO_4S$
2-[[5-(Dimethylamino)-1-naphthalenyl] sulfonyl]ethyl carbonochloridate, D-00800

$C_{15}H_{16}ClN_3O$
2-[(5-Chloro-2-pyridinyl)azo]-3-methyl-6-(1-methylethyl)phenol, C-00254
4-[3-Chloro-4-(pyridinylazo)-5-methyl-2-(1-methylethyl)]phenol, C-00255

$C_{15}H_{16}ClN_3S$
▷ Azure B, *in* L-00003
▷ Tolonium chloride, *in* T-00189

$C_{15}H_{16}N_2O$
2-[[[4-(Dimethylamino)phenyl]imino]methyl] phenol, D-00816

$C_{15}H_{16}N_2S$
▷ *N*,*N*′-Bis(2-methylphenyl)thiourea, B-00412

$C_{15}H_{16}N_3S^{\oplus}$
Toluidine blue, T-00189

$C_{15}H_{16}N_4$
2-(4,5-Dihydro-5-methyl-5-phenyl-1*H*-1,2,4-triazol-3-yl)-4-methylpyridine, D-00446
▷ Neutral red, N-00065

$C_{15}H_{16}N_4O$
4-Pyridinecarboxylic acid [[4-(dimethylamino) phenyl]methylene]hydrazide, P-00346

$C_{15}H_{16}N_4O_2$
Diphenylcarbazide; Ac, *in* D-01004

$C_{15}H_{16}N_4O_2S$
4-(4,5-Dihydro-3-phenyl-1*H*-pyrazol-1-yl) benzenesulfonic acid hydrazide, D-00469
4,4′-Dimethoxydithizone, D-00775

$C_{15}H_{16}N_4S$
2,2′-Dimethyldithizone, D-00856
3,3′-Dimethyldithizone, D-00857
4,4′-Dimethyldithizone, D-00858

$C_{15}H_{16}O_2$
1,1′-(Dimethoxymethylene)bisbenzene, *in* B-00069
2-Propanoyl-1-naphthol; Et ether, *in* P-00267

$C_{15}H_{16}O_5$
7-Hydroxy-4-methyl-2-oxo-2*H*-1-benzopyran-3-acetic acid; Me ether, Et ester, *in* H-00295

$C_{15}H_{17}BrN_4O$
2-[(5-Bromo-2-pyridinyl)azo]-5-(diethylamino) phenol, *in* A-00126

$C_{15}H_{17}BrO_3$
Cyclohexanecarboxylic acid; 4-Bromophenacyl ester, *in* C-00336

$C_{15}H_{17}ClN_4O$
2-[(5-Chloro-2-pyridinyl)azo]-5-(diethylamino) phenol, *in* A-00145

$C_{15}H_{17}N$
Dibenzylamine; *N*-Me, *in* D-00166

$C_{15}H_{17}NO_2$
N-Hydroxy-*N*-1-naphthalenylpentanamide, H-00366

$C_{15}H_{17}NO_6$
Bis(2,3,4-trihydroxybenzyl)methylamine, B-00466

$C_{15}H_{17}N_3O$
3-Methyl-6-(1-methylethyl)-2-(2-pyridinylazo) phenol, M-00197
5-Methyl-2-(1-methylethyl)-4-(2-pyridinylazo) phenol, M-00198

$C_{15}H_{17}N_3O_2$
2-[[4-(Dimethylamino)-2-hydroxyphenyl]azo]-4-methylphenol, *in* A-00197

$C_{15}H_{17}N_5$
2-[4-(Aminomethyl)phenyl]-*N*,*N*-dimethyl-2*H*-benzotriazol-5-amine, A-00249

$C_{15}H_{17}N_5O_3$
3,7-Dihydro-8-[[(4-hydroxyphenyl)amino] methyl]-1,3,7-trimethyl-1*H*-purine-2,6-dione, D-00418

$C_{15}H_{17}O_3P$
Diphenyl isopropylphosphonate, *in* I-00077

$C_{15}H_{17}PS_2$
Isopropyl diphenylphosphinodithioate, *in* D-01039

$C_{15}H_{18}N_2$
▷ *N*-(1-Methylethyl)-*N*′-phenyl-1,4-benzenediamine, *in* D-00048

$C_{15}H_{18}N_2O$
7-(1-Piperidinylmethyl)-8-quinolinol, P-00243

$C_{15}H_{18}N_4O$
2-(Diethylamino)-6-(2-pyridinylazo)phenol, D-00335
5-(Diethylamino)-2-(2-pyridinylazo)phenol, *in* A-00336
4-[(4-Ethoxyphenyl)azo]-6-methyl-1,3-benzenediamine, *in* H-00451

$C_{15}H_{18}N_4O_2S$
2-(4-Methyl-2-thiazolylazo)-5-diethylaminobenzoic acid, *in* A-00258

$C_{15}H_{18}N_4S$
4-(4′-Dimethylaminophenyl)-1-phenylthiosemicarbazide, D-00822

$C_{15}H_{18}N_6O_{12}$
2,4,6-Triamino-1,3,5-triazine-*N*,*N*,*N*′,*N*′,*N*″,*N*″-hexaacetic acid, T-00195

$C_{15}H_{18}O_6$
1,2,3-Benzenetricarboxylic acid; Tri-Et ester, *in* B-00031
1,2,4-Benzenetricarboxylic acid; Tri-Et ester, *in* B-00032
1,3,5-Benzenetricarboxylic acid; Tri-Et ester, *in* B-00033

$C_{15}H_{18}O_9$
Linocaffein, *in* D-00716

$C_{15}H_{19}ClN_4$
Toluylene blue; Chloride, *in* T-00190

$C_{15}H_{19}NO_9S$
TAGIT, *in* G-00012

$C_{15}H_{19}N_4^{\oplus}$
Toluylene blue, T-00190

$C_{15}H_{19}PS_2Si$
Trimethylsilyl diphenylphosphinodithioate, *in* D-01039

5-[(4-Methylphenyl)azo]-8-quinolinol; 1-Oxide, *in* M-00224
1-[(6-Methyl-2-pyridinyl)azo]-2-naphthalenol; *N*-Oxide, *in* M-00282

$C_{16}H_{13}N_3O_3S$
5-(4-Aminophenylazo)-1-naphthalenesulfonic acid, A-00314

$C_{16}H_{13}N_3O_4S$
8-Hydroxy-7-[(4-methylphenyl)azo]-5-quinolinesulfonic acid, H-00304

$C_{16}H_{13}N_3O_6S_2$
5-[[4-(Aminosulfonyl)phenyl]azo]-6-hydroxy-2-naphthalenesulfonic acid, A-00350

$C_{16}H_{13}N_3O_7S_2$
4-Amino-5-hydroxy-3-(phenylazo)-2,7-naphthalenedisulfonic acid, A-00212

$C_{16}H_{13}N_3O_8S_2$
4-Amino-5-hydroxy-7-[(2-hydroxyphenyl)azo]-1,3-naphthalenedisulfonic acid, A-00193
5-Amino-4-hydroxy-3-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, A-00194
5-Amino-4-hydroxy-3-[(4-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, A-00195
4-(4-Amino-2-hydroxyphenylazo)-5-hydroxy-2,7-naphthalenedisulfonic acid, A-00211
C.I. Acid violet 3, C-00001
3-Hydroxy-4-[(6-methyl-2-pyridinyl)azo]-2,7-naphthalenedisulfonic acid *N*-oxide, H-00324

$C_{16}H_{13}N_3O_{10}S_3$
5-Amino-4-hydroxy-3-[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00224
7-[[5-(Aminosulfonyl)-2-hydroxyphenyl]azo]-8-hydroxy-1,6-naphthalenedisulfonic acid, A-00349

$C_{16}H_{13}N_3S$
2-Pyridinecarboxaldehyde (1-mercapto-2-naphthalenyl)hydrazone, P-00327

$C_{16}H_{13}N_5$
2-Benzoylpyridine 2-pyrimidinylhydrazone, B-00155
Di-2-pyridinylmethanone 2-pyridinylhydrazone, D-01080

$C_{16}H_{13}N_5O_2$
15,16-Dihydro-5*H*-dibenzo[*b*,*i*][1,11,4,5,7,8] dioxatetraazacyclotridecine-7-carbonitrile, D-00376

$C_{16}H_{13}N_5O_5S$
2-[(3-Methyl-1-phenyl-4-pyrazolyl)azo]-4-nitrobenzenesulfonic acid, M-00240

$C_{16}H_{13}N_5O_6S$
2-[(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]-5-nitrobenzenesulfonic acid, D-00438

$C_{16}H_{13}N_7O$
Pyrazinyl-2-pyridinylethanedione 2-(2-pyridinylhydrazone) 1-oxime, P-00298
2-Pyridinyl-4-pyrimidinylethanedione 1-(2-pyridinylhydrazone); 2-Oxime, *in* P-00404

$C_{16}H_{13}N_7O_{12}$
3,3′,5,5′-Tetramethyl-2,2′,4,4′,6,6′-hexanitrodiphenylamine, T-00096

$C_{16}H_{13}O_4^{\oplus}$
6,7-Dihydroxy-2-(3-hydroxyphenyl)-4-methyl-1-benzopyrylium(1+), D-00627

$C_{16}H_{13}O_6S^{\oplus}$
6,7-Dihydroxy-4-methyl-2-(3-sulfophenyl)-1-benzopyrylium(1+), D-00656

$C_{16}H_{14}AsClN_4O_8S$
4-[4-[(3-Arsono-5-chloro-2-hydroxyphenyl) azo]-4,5-dihydro-3-methyl-5-oxo-1*H*-pyrazol-1-yl]benzenesulfonic acid, A-00419

$C_{16}H_{14}AsN_3O_9S_2$
Arsaminazo, A-00402

$C_{16}H_{14}AsN_3O_{10}S_2$
Arsenazo H, A-00409

$C_{16}H_{14}AsN_5O_6$
4-(2-Arsono-4-nitrophenylazo)-4,5-dihydro-3-methyl-1-phenyl-1*H*-pyrazol-5-one, A-00420

$C_{16}H_{14}ClNO_3$
N-(4-Chlorophenyl)-*N*-hydroxy-3-(4-methoxyphenyl)-2-propenamide, C-00225

$C_{16}H_{14}CoN_2O_2$
▷ [*N*,*N*′-Ethylenebis(salicylideneiminato)]cobalt, E-00077

$C_{16}H_{14}F_2N_6S_2$
Glyoxal bis(2-fluorophenylthiosemicarbazone), G-00025
Glyoxal bis(4-fluorophenylthiosemicarbazone), G-00026

$C_{16}H_{14}F_3NO_2$
Coumarin 153, C-00304

$C_{16}H_{14}F_3NO_4S$
9-Methoxy-10-methylacridinium(1+); Trifluoromethanesulfonate, *in* M-00088

$C_{16}H_{14}N_2$
4-Methyl-2-phenyl-1*H*-1,5-benzodiazepine, M-00225
7,8,9,10-Tetrahydrobenzo[*c*][1,10] phenanthroline, T-00050

$C_{16}H_{14}N_2O_2$
2-(4-Carboxyphenyl)-5,6-dimethylbenzimidazole, C-00040
3-Methyl-3-phenyl-1,2-indanedione; Dioxime, *in* M-00230

$C_{16}H_{14}N_2O_2S$
N-(8-Quinolyl)-4-toluenesulfonamide, *in* A-00340

$C_{16}H_{14}N_2O_3$
2,7-Diaminodibenzofuran; *N*,*N*′-Di-Ac, *in* D-00066

$C_{16}H_{14}N_2O_4$
2,2′-Dihydroxyazobenzene; Di-Ac, *in* D-00514
4,4′-Dihydroxyazobenzene; Di-Ac, *in* D-00516
1-[7-(Dimethylamino)-4-methyl-2-oxo-2*H*-1-benzopyran-3-yl]-1*H*-pyrrole-2,5-dione, D-00791
Pyridoin; Di-Ac, *in* P-00412

$C_{16}H_{14}N_2O_8S_2$
Chromotrope 2R, C-00293

$C_{16}H_{14}N_4$
2-Acetylpyridine 2-quinolylhydrazone, A-00045
2-Acetylpyridine 8-quinolylhydrazone, A-00046
2,3-Bis(6-methyl-2-pyridyl)pyrazine, B-00420
5,6-Dimethyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazine, D-00895
6-Methyl-2-pyridinecarboxaldehyde 2-quinolinylhydrazone, M-00269
2(1*H*)-Quinolinone [1-(2-pyridinyl)ethylidene] hydrazone, Q-00025

$C_{16}H_{14}N_4O$
2-Amino-4-methyl-6-(8-quinolylazo)phenol, A-00255

$C_{16}H_{14}N_4OS$
5-Amino-4-methyl-2-(4-phenyl-2-thiazolylazo) phenol, A-00250

$C_{16}H_{14}N_4O_3S_2$
4-[(4,5-Dihydro-3-methyl-1-phenyl-5-thioxo-1*H*-pyrazol-4-yl)azo]benzenesulfonic acid, D-00445

$C_{16}H_{14}N_4O_4$
Glyoxal bis(4-hydroxybenzoylhydrazone), G-00028

$C_{16}H_{14}N_4O_4S$
Flavazine L, F-00007

$C_{16}H_{14}N_4O_6$
Ethanedioic acid bis[[(2,4-dihydroxyphenyl) methylene]hydrazide], E-00025

$C_{16}H_{14}N_4O_6S_2$
Aminobenzene AE, A-00098
Diaminazo, D-00041

$C_{16}H_{14}N_4O_6S_3$
4-[4,5-Dihydro-3-methyl-4-[(4-sulfophenyl) azo]-5-thioxo-1*H*-pyrazol-1-yl] benzenesulfonic acid, D-00459

$C_{16}H_{14}N_4O_7$
3-Amino-4-hydroxy-3′-nitroazobenzene-*N*,*N*-diacetic acid, A-00206

$C_{16}H_{14}N_4O_7S_2$
5-Amino-3-[[4-aminophenyl]azo]-4-hydroxy-2,7-naphthalenedisulfonic acid, A-00092

$C_{16}H_{14}N_4S$
Azothiopyrine, A-00478

$C_{16}H_{14}N_6$
Benzenecarboximidic acid *N*-2-pyridinyl-2-pyrazinylhydrazone, B-00015
1,2-Di-2-pyridinylethanone 2-pyrimidinylhydrazone, D-01070
2(1*H*)-Pyrazinone (1,2-di-2-pyridinylethylidene)hydrazone, P-00288
2(1*H*)-Pyridinone [1-pyrazinyl-2-(2-pyridinyl) ethylidene]hydrazone, P-00367
2(1*H*)-Pyridinone [2-pyrazinyl-1-(2-pyridinyl) ethylidene]hydrazone, P-00368
2(1*H*)-Pyridinone [1-(2-pyridinyl)-2-(4-pyrimidinyl)ethylidene]hydrazone, P-00370
2(1*H*)-Pyridinone [2-(2-pyridinyl)-1-(4-pyrimidinyl)ethylidene]hydrazone, P-00371

$C_{16}H_{14}N_8O_4S_2$
Glyoxal bis(4-nitrophenylthiosemicarbazone), G-00032

$C_{16}H_{14}O_2$
3-Methoxy-1,3-diphenyl-1-butanone, *in* D-01041

$C_{16}H_{14}O_3$
Benzoin; Ac, *in* B-00068
1-(2-Hydroxy-5-methylphenyl)-3-(4-hydroxyphenyl)-2-propen-1-one, H-00311
3-Methylbenzoic acid; Anhydride, *in* M-00137
4-Methylbenzoic acid; Anhydride, *in* M-00138

$C_{16}H_{14}O_4$
2,2′-Biphenyldicarboxylic acid; Di-Me ester, *in* B-00207
2,2′-Biphenyldicarboxylic acid; Et ester, *in* B-00207
4,4′-Biphenyldiol; Di-Ac, *in* B-00208

$C_{16}H_{14}O_5$
Brazilin, B-00475
Dibenzyl dicarbonate, *in* D-00243
▷ 4-Methoxybenzoic acid; Anhydride, *in* M-00079
2,6,7-Trihydroxy-9-propyl-3*H*-xanthen-3-one, T-00316

$C_{16}H_{14}O_5S$
9,10-Dimethoxy-2-anthracenesulfonic acid, D-00765

$C_{16}H_{14}O_6$
3-(2,4-Dihydroxyphenyl)-4,5-dimethoxy-1(3*H*)-isobenzofuranone, D-00710
Haematoxylin, H-00002
▷ 3′,5,7-Trihydroxy-4′-methoxyflavanone, T-00296

$C_{16}H_{15}AsN_4O_4$
[4-[(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]phenyl]arsonic acid, D-00439

$C_{16}H_{15}BiCl_2N_2$
Dichlorophenylbismuthine; Bis-Py complex, *in* D-00292

$C_{16}H_{15}ClN_2O_5$
Gallocyanine; Me ester, chloride, *in* G-00005

$C_{16}H_{15}ClN_4O_5$
2,4-Dinitro-6-chlorophenylazothymol, D-00951

$C_{17}H_{13}N_3O_8S_2$
2-[(1-Amino-3,6-disulfo-2-naphthalenyl)azo] benzoic acid, A-00167

$C_{17}H_{13}N_3O_{10}S_2$
Nitroanisole blue, N-00078

$C_{17}H_{13}N_3S$
2,3-Dihydro-2,2-di-(2-pyridinyl)benzothiazole, D-00403

$C_{17}H_{13}N_5$
1*H*-Benzimidazole-2-carboxaldehyde 2-quinolinylhydrazone, B-00040
2-(5,6-Dimethyl-1,2,4-triazin-3-yl)-1,10-phenanthroline, D-00927

$C_{17}H_{13}N_5O$
Di-2-pyridinylethanedione mono(2-pyridinylhydrazone), D-01068

$C_{17}H_{13}N_5O_5$
Nitroanthranilazo, N-00079

$C_{17}H_{13}N_5O_5S$
3-[[(5-Nitro-2-pyridinyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, N-00151

$C_{17}H_{14}Br_2N_2O_6$
4-[[(3-Aminomethyl)-4-hydroxyphenyl]imino]-2,6-dibromo-2,5-cyclohexadien-1-one-*N*,*N*-diacetic acid, A-00243

$C_{17}H_{14}ClNO_2S$
2,6-Mansyl chloride, *in* M-00222

$C_{17}H_{14}Cl_2N_2O_6$
2-(Aminomethyl)-4-(3,5-dichloro-4-oxo-2,5-cyclohexylideneamino)phenol-*N*,*N*-diacetic acid, A-00240

$C_{17}H_{14}N_2OS$
2,4-Dihydro-5-methyl-2-phenyl-4-(phenylthioxomethyl)-3*H*-pyrazol-3-one, D-00442
N-Hydroxy-*N*′-2-naphthalenyl-*N*-phenylthiourea, H-00367

$C_{17}H_{14}N_2O_2$
4-Benzoyl-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, B-00128

$C_{17}H_{14}N_2O_5S$
Calmagite, C-00015

$C_{17}H_{14}N_2O_7S_3$
4-Acetamido-4′-isothiocyanatostilbene-2,2′-disulfonic acid, *in* A-00230
3-Hydroxy-4-[[2-(methylthio)phenyl]azo]-2,7-naphthalenedisulfonic acid, *in* H-00259

$C_{17}H_{14}N_2O_9S_2$
4,5-Dihydroxy-3-[(2-methoxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00643

$C_{17}H_{14}N_4$
2-Benzoylpyridine 2-pyridylhydrazone, B-00154
Di-2-pyridinylmethanone; Phenylhydrazone, *in* D-01071
2-(4-Ethyl-2-pyridyl)-3*H*-imidazo[4,5-*h*] quinoline, E-00111

$C_{17}H_{14}N_4O_3S$
3-(2-Pyridinylcarbonyl)benzenesulfonic acid; 2-Pyridylhydrazone, *in* P-00386

$C_{17}H_{14}N_6$
6-[4,5-Dihydro-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-2,2′-bipyridine, D-00483

$C_{17}H_{14}N_6O$
Di-2-pyridinylethanedione mono(2-pyridinylhydrazone); Oxime, *in* D-01068

$C_{17}H_{14}O_2$
9-Anthracenemethanol; Ac, *in* A-00380

$C_{17}H_{14}O_3$
2-Methoxy-2,4-diphenyl-3(2*H*)-furanone, M-00086

$C_{17}H_{14}O_4$
6-(Benzoylacetyl)-1,4-benzodioxan, B-00119
2-Ethyl-5,7-dihydroxy-3-phenyl-4*H*-1-benzopyran-4-one, E-00070

$C_{17}H_{14}O_5$
2,2′-Dihydroxybenzophenone; Di-Ac, *in* D-00535
2,4-Dihydroxybenzophenone; Di-Ac, *in* D-00536
1,2,7-Trimethoxyanthraquinone, *in* T-00271

$C_{17}H_{15}AsN_4O_4$
[4-[1-[2-Amino-3-hydroxy-4-(2-pyridinyl) phenyl]azo]phenyl]arsonic acid, A-00219

$C_{17}H_{15}NO$
4,5-Dihydro-5-phenyl-3-(2-phenylethenyl) isoxazole, D-00467
9-Phenanthrenemethylamine; *N*-Ac, *in* P-00048

$C_{17}H_{15}NO_2$
N-Hydroxy-*N*,5-diphenyl-2,4-pentadienamide, H-00169
1-(Hydroxyphenylamino)-5-phenyl-1,4-pentadien-3-one, H-00446

$C_{17}H_{15}NO_3S$
6-(Methylphenylamino)-2-naphthalenesulfonic acid, M-00222

$C_{17}H_{15}NO_4$
3-(1,3-Benzodioxol-5-yl)-*N*-hydroxy-*N*-(3-methylphenyl)-2-propenamide, *in* B-00056

$C_{17}H_{15}N_3O$
4,5-Dimethyl-2-(2-quinolinylazo)phenol, D-00914

$C_{17}H_{15}N_3O_5S$
4-(4-Amino-2-hydroxy-5-methylphenylazo)-3-hydroxy-1-naphthalenesulfonic acid, A-00196

$C_{17}H_{15}N_3O_8S_2$
5-Amino-4-hydroxy-3-[(4-methoxyphenyl)azo]-2,7-naphthalenedisulfonic acid, *in* A-00195

$C_{17}H_{15}N_5O_2$
16,17-Dihydro-5*H*,15*H*-dibenzo[*b*,*i*][1,11,4,5,7,8] dioxatetraazacyclotetradecine-7-carbonitrile, D-00375

$C_{17}H_{15}N_5O_6S$
2-[[5-Hydroxy-3-methyl-1-(phenylmethyl)-1*H*-pyrazol-4-yl]azo]-5-nitrobenzenesulfonic acid, H-00312

$C_{17}H_{16}F_3NO_4S$
9-Ethoxy-10-methylacridinium(1+); Trifluoromethanesulfonate, *in* E-00056

$C_{17}H_{16}N_2$
4-Methyl-2-(4-methylphenyl)-1*H*-1,5-benzodiazepine, M-00199

$C_{17}H_{16}N_2O$
2-(4-Methoxyphenyl)-4-methyl-1*H*-1,5-benzodiazepine, M-00112

$C_{17}H_{16}N_2O_2$
2,7-Diaminofluorene; Di-*N*-Ac, *in* D-00097

$C_{17}H_{16}N_2O_2S$
(2,5-Dimethylbenzenesulfonylamino)quinoline, D-00833
4-Ethyl-*N*-(8-quinolinyl)benzenesulfonamide, E-00112

$C_{17}H_{16}N_2O_4$
1-[[[[1-(1-Naphthalenyl)ethyl]amino]carbonyl] oxy]-2,5-pyrrolidinedione, N-00019

$C_{17}H_{16}N_4$
Propanal (3-phenyl-2-quinoxalinyl)hydrazone, P-00260

$C_{17}H_{16}N_4O$
5-(Dimethylamino)-2-(8-quinolinylazo)phenol, D-00825

$C_{17}H_{16}N_4O_2$
1,2-Dihydro-4-[(4-hydroxyphenyl)azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00419

$C_{17}H_{16}N_4O_3$
4-[(2,4-Dihydroxyphenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00691

$C_{17}H_{16}N_4O_4$
1,2-Dihydro-1,5-dimethyl-2-phenyl-4-[(2,4,6-trihydroxyphenyl)azo]-3*H*-pyrazol-3-one, D-00393
1,2-Dihydro-1,5-dimethyl-2-phenyl-4-[5-(1,2,3-trihydroxyphenyl)azo]-3*H*-pyrazol-3-one, D-00394
Methylglyoxal bis(4-hydroxybenzoylhydrazone), M-00183

$C_{17}H_{16}N_4O_5S$
3-[(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]-2-hydroxy-5-methylbenzenesulfonic acid, D-00437

$C_{17}H_{16}O_3$
1-(2-Hydroxy-5-methylphenyl)-3-(4-methoxyphenyl)-2-propen-1-one, *in* H-00311

$C_{17}H_{16}O_4$
2-Hydroxy-2,2-diphenylacetic acid; Me ester, Ac, *in* H-00166

$C_{17}H_{17}BrN_4OS$
2-[(6-Bromo-2-benzothiazolyl)azo]-5-(diethylamino)phenol, *in* A-00123

$C_{17}H_{17}Cl_2NO_3$
N-(4-Chlorophenyl)-4-chlorophenoxyisobutyrohydroxamic acid, C-00208

$C_{17}H_{17}FeNO_4$
[3-[(2,5-Dioxo-1-pyrrolidinyl)oxy]-3-oxopropyl]ferrocene, D-00995

$C_{17}H_{17}NO_2$
N-(2,3-Dimethylphenyl)-*N*-hydroxy-3-phenylpropenamide, D-00891

$C_{17}H_{17}NO_3$
2-[4,5-Dihydro-5-(4-methoxyphenyl)-3-isoxazolyl]-4-methylphenol, D-00427
N-Hydroxy-3-(4-methoxyphenyl)-2-propenamide; *N*-(3-Methylphenyl), *in* H-00272
N-Hydroxy-3-(4-methoxyphenyl)-2-propenamide; *N*-(4-Methylphenyl), *in* H-00272
1-(2-Hydroxy-5-methylphenyl)-3-(4-hydroxyphenyl)-2-propen-1-one; 4-Me ether, oxime, *in* H-00311

$C_{17}H_{17}N_3O_2S$
Mansylhydrazine, *in* M-00222

$C_{17}H_{17}N_5O$
4-[(4-Aminophenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00312

$C_{17}H_{17}N_5O_2$
4-[[(4-Amino-2-hydroxyphenyl)]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00209

$C_{17}H_{18}Br_2N_4O_5S$
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[ethyl(3-sulfopropyl)amino]benzoic acid, D-00203

$C_{17}H_{18}Br_2N_4O_6S$
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[ethyl(2-hydroxy-3-sulfopropyl)amino]benzoic acid, D-00202

$C_{17}H_{18}ClNO_3$
4-Butoxy-*N*-(4-chlorophenyl)benzohydroxamic acid, B-00612

$C_{17}H_{18}N_2$
N,*N*′-Bis(1-phenylethyl)carbodiimide, B-00439

$C_{17}H_{18}N_2O_2$
3,6-Bis(dimethylamino)-9*H*-xanthen-9-one, *in* D-00132

$C_{17}H_{18}N_2O_5$
O-(4-Nitrobenzyl)tyrosine; Me ester, *in* N-00100

$C_{17}H_{18}N_2S_2$
2,2′-[(1,3-Dimethyl-1,3-propanediylidene) dinitrilo]bisbenzenethiol, D-00898

$C_{17}H_{18}N_6S_2$
2,2′-(1-Methyl-1,2-ethanediylidene)bis[*N*-phenylhydrazinecarbothioamide], *in* P-00446

$C_{17}H_{18}O_2$
2-Isopropyl-5-methylphenol; Benzoyl, *in* I-00075

$C_{17}H_{19}ClN_2O$
▷ Pyronine G; Chloride, *in* P-00435

$C_{17}H_{19}ClN_2S$
▷ Chlorpromazine, C-00273

$C_{17}H_{19}ClO_4$
3,5-Diacetyl-4-(2-chlorophenyl)-2,6-heptanedione, D-00034

$C_{17}H_{19}NO_2$
N-(4-Butylbenzoyl)-*N*-phenylhydroxylamine, *in* B-00618
4-(1,1-Dimethylethyl)-*N*-hydroxy-*N*-phenylbenzamide, *in* B-00619
2-Hydroxy-*N*-(2-hydroxy-5-*tert*-butylbenzylidene)aniline, H-00194
2-Hydroxy-*N*-(2-hydroxy-3-isopropyl-6-methylbenzylidene)aniline, H-00205
2-Hydroxy-*N*-(2-hydroxy-6-isopropyl-3-methylbenzylidene)aniline, H-00206

$C_{17}H_{19}NO_3$
4-Butoxy-*N*-hydroxy-*N*-phenylbenzamide, B-00614

$C_{17}H_{19}N_2O^{\oplus}$
Pyronine G, P-00435

$C_{17}H_{19}N_3$
▷ 3,6-Bis(dimethylamino)acridine, B-00313
3,3-Diethyl-1-(9*H*-fluoren-2-yl)-1-triazene, D-00347

$C_{17}H_{19}N_3O$
Brilliant cresyl blue, B-00477

$C_{17}H_{19}N_3O_2$
4-Cyclohexyl-6-(2-pyridinylazo)-1,3-benzenediol, C-00358

$C_{17}H_{20}Br_2N_4O_4S$
3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-5-hydroxy-2-methylphenyl]ethylamino]-1-propanesulfonic acid, D-00204
3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-1-propanesulfonic acid, D-00207

$C_{17}H_{20}ClN_3O_5S$
3-[[4-[(5-Chloro-2-hydroxyphenyl)azo]-3-hydroxyphenyl]ethylamino]-1-propanesulfonic acid, C-00148

$C_{17}H_{20}N_2O_4S$
Dansylproline, D-00001

$C_{17}H_{20}N_2S$
4,4′-Bis(dimethylamino)thiobenzophenone, B-00326
▷ Promazine, P-00258

$C_{17}H_{20}N_2S_2$
N-[2-(Butylthio)phenyl]-*N*′-phenylthiourea, B-00639

$C_{17}H_{20}N_4O$
4-Pyridinecarboxylic acid [[4-(diethylamino) phenyl]methylene]hydrazide, P-00344

$C_{17}H_{20}N_4O_2$
2-[[5-(1-Methyl-1-piperidinyl)-2-pyridinyl]azo]-1,4-benzenediol, M-00247
4-[[3-(1-Methyl-2-piperidinyl)-4-pyridinyl]azo]-1,3-benzenediol, M-00248
4-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl]azo]-1,3-benzenediol, M-00249

$C_{17}H_{20}N_4O_6$
▷ Riboflavine, R-00008

$C_{17}H_{20}N_6O_4S$
Bis[[3-hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]carbothioic dihydrazide, B-00376

$C_{17}H_{20}N_6O_5$
Bis[[3-hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]carbonic dihydrazide, B-00375

$C_{17}H_{20}N_8O_4S_2$
7,7′-Trimethylenebis[1,3-dimethyl-8-thiouric acid], T-00327

$C_{17}H_{20}O_2$
1,1′-(Diethoxymethylene)bisbenzene, *in* B-00069

$C_{17}H_{21}BrN_4O_4S$
3-[[4-[(5-Bromo-2-pyridinyl)azo]-5-hydroxy-2-methylphenyl]ethylamino]-1-propanesulfonic acid, B-00565
3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-1-propanesulfonic acid, B-00569
3-[[4-[(6-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-1-propanesulfonic acid, B-00570

$C_{17}H_{21}BrN_4O_5S$
3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-2-hydroxy-1-propanesulfonic acid, B-00568

$C_{17}H_{21}Br_2N_5O_3S$
2-(3,5-Dibromo-2-pyridylazo)-5-(*N*-propyl-*N*-sulfopropylamino)aniline, D-00214

$C_{17}H_{21}NO$
▷ Diphenhydramine, D-00998

$C_{17}H_{21}NO_2$
Amoxydramine, *in* D-00998

$C_{17}H_{21}NSi$
1,1-Dimethyl-*N*,*N*-diphenyl-1-(2-propenyl) silanamine, D-00853

$C_{17}H_{21}N_3$
▷ Auramine, A-00456

$C_{17}H_{21}N_3O_5S$
3-[Ethyl[3-hydroxy-4-[(2-hydroxyphenyl)azo] phenyl]amino]-1-propanesulfonic acid, E-00088

$C_{17}H_{21}N_5O$
5-Amino-2-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]phenol, A-00252

$C_{17}H_{22}BrN_5O_3S$
3-[[3-Amino-4-[(5-bromo-2-pyridinyl)azo] phenyl]propylamino]-1-propanesulfonic acid, A-00127

$C_{17}H_{22}N_2$
▷ Bis(4-dimethylaminophenyl)methane, B-00320

$C_{17}H_{22}N_2O$
▷ Bis(4-dimethylaminophenyl)methanol, B-00321

$C_{17}H_{23}ClN_4$
4-[[4-(Diethylamino)phenyl]azo]-1-ethylpyridinium(1+); Chloride, *in* D-00329

$C_{17}H_{23}NO_3$
Tropine tropate, T-00431

$C_{17}H_{23}NO_3S_3$
N-(2,3,5,6,8,9,11,12-Octahydro-1,13,4,7,10-benzodioxatrithiacyclopentadecin-15-yl)-2-propenamide, O-00005

$C_{17}H_{23}NO_4$
Aminoxytropine tropate, *in* T-00431

$C_{17}H_{23}NO_6$
N-(2,3,5,6,8,9,11,12-Octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl)-2-propenamide, O-00007

$C_{17}H_{23}N_4^{\oplus}$
4-[[4-(Diethylamino)phenyl]azo]-1-ethylpyridinium(1+), D-00329

$C_{17}H_{24}N_2O_2S$
8-Aminoquinoline; 8-*N*-Octanesulfonyl, *in* A-00340

$C_{17}H_{24}N_2O_9$
6-(2-Hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, H-00157

$C_{17}H_{24}N_2O_{10}$
2-Hydroxy-3,5-dinitrobenzyl-15-crown-5, H-00155

$C_{17}H_{24}N_2O_{11}$
(2-Hydroxy-3,5-dinitrophenoxymethyl)-15-crown-5, H-00159

$C_{17}H_{24}O_4$
3*β*-Acetoxypolygodial, *in* D-01160

$C_{17}H_{25}NOS$
N,*N*-Dibutyl-*β*-oxobenzenepropanethioamide, *in* O-00056

$C_{17}H_{25}NO_2$
N-(4-Butylcyclohexanoyl)-*N*-phenylhydroxylamine, B-00624

$C_{17}H_{25}N_3O_2S$
N-(5-Aminopentyl)-5-(dimethylamino)-1-naphthalenesulfonamide, A-00296

$C_{17}H_{26}N_2O_7$
13-(2-Hydroxy-5-nitrobenzyl)-1,4,7,10-tetraoxa-13-azacyclopentadecane, H-00386

$C_{17}H_{26}O_4$
▷ 2,5-Dihydroxy-3-undecyl-1,4-benzoquinone, D-00740

$C_{17}H_{26}O_5$
5-[(Phenylmethoxy)methyl]-1,4,7,10-tetraoxacyclotridecane, P-00143

$C_{17}H_{26}O_6$
2-(2-Methoxyphenyl)-1,4,7,10,13-pentaoxacyclopentadecane, M-00115

$C_{17}H_{27}NO_2$
N-Hydroxy-*N*-(3-methylphenyl)decanamide, *in* H-00147
N-Hydroxy-*N*-(4-methylphenyl)decanamide, *in* H-00147

$C_{17}H_{28}N_2O_6$
2-[[2-(2-Ethoxyethoxy)ethyl](2-ethoxyethyl) aminomethyl]-4-nitrophenol, E-00055

$C_{17}H_{33}N$
Heptadecanoic acid; Nitrile, *in* H-00003

$C_{17}H_{34}O_2$
▷ Heptadecanoic acid, H-00003
Hexadecanoic acid; Me ester, *in* H-00026

$C_{17}H_{35}NO$
Heptadecanoic acid; Amide, *in* H-00003

$C_{17}H_{37}N$
Dioctylamine; *N*-Methyl, *in* D-00981

$C_{17}H_{37}NO_2$
Tetrabutylammonium(1+); Formate, *in* T-00023

$C_{18}Cl_6La_2O_{12}$
Lanthanum chloroanilate, *in* D-00262

$C_{18}H_8N_2O_7$
2-(2,3-Dihydro-2,2-dinitro-3-oxo-1*H*-inden-1-ylidene)-1*H*-indene-1,3(2*H*)-dione, D-00395

$C_{18}H_9Cl_3O_8S_3$
8-(Acetyloxy)-1,3,6-pyrenetrisulfonyl trichloride, *in* H-00517

$C_{18}H_9NO_4$
2-[(3-Hydroxy-1-oxo-1*H*-inden-2-yl)imino]-1*H*-indene-1,3(2*H*)-dione, H-00433

2(1*H*)-Pyridinone [[(3-nitrophenyl)azo] phenylmethylene]hydrazone, P-00362
2(1*H*)-Pyridinone [[(4-nitrophenyl)azo] phenylmethylene]hydrazone, P-00363

$C_{18}H_{14}N_6O_5S$
4-[[4-[3-(4-Nitrophenyl)-2-triazenyl]phenyl]azo] benzenesulfonic acid, N-00146

$C_{18}H_{14}N_6O_8S_2$
Cadion IREA, C-00008

$C_{18}H_{14}O$
2-Phenoxybiphenyl, *in* B-00210

$C_{18}H_{14}O_3$
Cinnamamide; Anhydride, *in* P-00169
α-Oxo-9-anthraceneacetic acid; Et ester, *in* O-00053

$C_{18}H_{14}O_6$
1,4,9,10-Anthracenetetrol; 9,10-Di-Ac, *in* A-00381

$C_{18}H_{15}As$
▷ Triphenylarsine, T-00363

$C_{18}H_{15}AsN_2O_{12}S_2$
p-Acetylarsenazo, A-00012

$C_{18}H_{15}AsN_6O_5$
Arsazen, A-00403

$C_{18}H_{15}AsN_6O_8S$
Sulfarsazen, S-00038

$C_{18}H_{15}AsO$
Triphenylarsine oxide, T-00364

$C_{18}H_{15}BrS$
Triphenylsulfonium(1 +); Bromide, *in* T-00376

$C_{18}H_{15}BrSe$
Triphenylselenonium(1 +); Bromide, *in* T-00375

$C_{18}H_{15}ClN_2O$
Meldola's blue; Chloride, *in* M-00011

$C_{18}H_{15}ClN_2O_2$
2-(2-Chlorophenyl)-2,4-dihydro-5-methyl-4-(2-methylbenzoyl)-3*H*-pyrazol-3-one, C-00210
2-(2-Chlorophenyl)-2,4-dihydro-5-methyl-4-(3-methylbenzoyl)-3*H*-pyrazol-3-one, C-00211
2-(2-Chlorophenyl)-2,4-dihydro-5-methyl-4-(4-methylbenzoyl)-3*H*-pyrazol-3-one, C-00212
Muscarine†; Chloride, *in* M-00350

$C_{18}H_{15}ClS$
Triphenylsulfonium(1 +); Chloride, *in* T-00376

$C_{18}H_{15}ClSe$
Triphenylselenonium(1 +); Chloride, *in* T-00375

$C_{18}H_{15}ClSi$
▷ Chlorotriphenylsilane, C-00270

$C_{18}H_{15}ClSn$
▷ Chlorotriphenylstannane, C-00271

$C_{18}H_{15}F_6SSb$
Triphenylsulfonium(1 +); Hexafluoroantimonate, *in* T-00376

$C_{18}H_{15}IS$
Triphenylsulfonium(1 +); Iodide, *in* T-00376

$C_{18}H_{15}ISe$
Triphenylselenonium(1 +); Iodide, *in* T-00375

$C_{18}H_{15}ITe$
Triphenyltelluronium(1 +); Iodide, *in* T-00377

$C_{18}H_{15}N$
2-(Diphenylmethyl)pyridine, D-01030

$C_{18}H_{15}NO$
N-Phenyl-1-naphthylamine; *N*-Ac, *in* P-00151

$C_{18}H_{15}NO_2$
N-Benzyl-2-naphthohydroxamic acid, *in* N-00024
N-Hydroxy-2-methyl-*N*-1-naphthalenylbenzamide, H-00290
N-Hydroxy-4-methyl-*N*-1-naphthalenylbenzamide, H-00291
3,3′-Iminobis[1-phenyl-2-propen-1-one], I-00009
N-1-Naphthylphenylacetohydroxamic acid, N-00054
2-Phenyl-4-quinolinecarboxylic acid; Et ester, *in* P-00189

$C_{18}H_{15}NO_3$
N-Hydroxy-2-methoxy-*N*-1-naphthalenylbenzamide, H-00267
N-Hydroxy-4-methoxy-*N*-1-naphthalenylbenzamide, H-00268

$C_{18}H_{15}NO_3S$
Triphenylsulfonium(1 +); Nitrate, *in* T-00376

$C_{18}H_{15}NO_4$
7-Hydroxy-4-methyl-2-oxo-2*H*-1-benzopyran-3-acetic acid; Anilide, *in* H-00295

$C_{18}H_{15}NO_4S$
1-Hydroxy-2-naphthalenesulfonic acid; Anilide, Ac, *in* H-00344

$C_{18}H_{15}NO_7$
2-(Aminomethyl)-6-hydroxy-9*H*-xanthen-9-one-*N*,*N*-diacetic acid, A-00245

$C_{18}H_{15}N_2O^{\oplus}$
Meldola's blue, M-00011

$C_{18}H_{15}N_2O_2^{\oplus}$
Muscarine†, M-00350

$C_{18}H_{15}N_2O_7S_2^{\oplus}$
9-(Dimethylamino)benzo[*a*]phenoxazin-7-ium-2,5-disulfonic acid(1 +), D-00781
Phenonaphthoxazine G acid, P-00069

$C_{18}H_{15}N_3OS$
2-[(2-Hydroxy-1-naphthalenyl)methylene]-*N*-phenylhydrazinecarbothioamide, H-00363

$C_{18}H_{15}N_3O_2$
2-Aminobenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, A-00108
4-[(4′-Amino-(1,1′-biphenyl)-4-yl)azo]-1,2-benzenediol, A-00118
4-(Phenylmethyl)-6-(2-pyridinylazo)-1,3-benzenediol, P-00149
α-(2-Quinolinylhydrazono)benzenepropanoic acid, Q-00035

$C_{18}H_{15}N_3O_3S$
▷ Acid yellow 2G, A-00059
4-[[4-(Phenylamino)phenyl]azo] benzenesulfonic acid, P-00084

$C_{18}H_{15}N_3O_4$
4-Methyl-2-oxo-2*H*-1-benzopyran-7-yl 4-[(aminoiminomethyl)amino]benzoate, M-00211

$C_{18}H_{15}N_3O_8S_2$
▷ Azorhodine 2G, A-00476

$C_{18}H_{15}N_4^{\oplus}$
Phenosafranine, P-00070

$C_{18}H_{15}N_5$
6-(2,5-Dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)-2,2′-bipyridine, D-00473
3-(4-Phenyl-2-pyridyl)-5-(2-pyridyl)-1,2,4-triazoline, P-00185
2(1*H*)-Pyridinone [phenyl(phenylazo) methylene]hydrazone, P-00364
1-(2-Pyridinyl)-3,5-diphenylformazan, P-00387

$C_{18}H_{15}N_5O$
Di-2-pyridinylethanedione; Monophenylhydrazone oxime, *in* D-01063
2-[3-[4-(Phenylazo)phenyl]-1-triazenyl]phenol, P-00098

$C_{18}H_{15}N_5O_3S$
1-(2-Pyridyl)-5-(4-sulfophenyl)-3-phenylformazan, P-00424

$C_{18}H_{15}N_5O_4$
1-(4-Nitro-2-hydroxybenzeneazo)-2-(β-acetylhydrazino)naphthalene, N-00111

$C_{18}H_{15}O_3P$
▷ Triphenyl phosphite, T-00371

$C_{18}H_{15}P$
▷ Triphenylphosphine, T-00370

$C_{18}H_{15}PS_2$
Phenyl diphenylphosphinodithioate, *in* D-01039

$C_{18}H_{15}PTe$
Triphenylphosphine; Telluride, *in* T-00370

$C_{18}H_{15}S^{\oplus}$
Triphenylsulfonium(1 +), T-00376

$C_{18}H_{15}Se^{\oplus}$
Triphenylselenonium(1 +), T-00375

$C_{18}H_{15}Te^{\oplus}$
Triphenyltelluronium(1 +), T-00377

$C_{18}H_{16}$
1,6-Diphenyl-1,3,5-hexatriene, D-01019

$C_{18}H_{16}AsN_5O_3$
[2-[3-[4-(Phenylazo)phenyl]-1-triazenyl]phenyl] arsonic acid, P-00099

$C_{18}H_{16}AsN_5O_6S$
4-[4-(2-Arsonophenyltriazinyl)phenylazo] benzenesulfonic acid, A-00445

$C_{18}H_{16}BrN_5S$
2-(4,5-Dimethyl-2-thiazolyl)-3,5-diphenyl-2*H*-tetrazolium(1 +); Bromide, *in* D-00924

$C_{18}H_{16}Br_2N_2O_6$
▷ Indoferron, I-00032

$C_{18}H_{16}ClN$
N-(*p*-Chlorobenzyl)-1-naphthalenemethylamine, C-00072

$C_{18}H_{16}ClN_3O_2S$
5-[[4-(Dimethylamino)phenyl]azo]-1-naphthalenesulfonyl chloride, *in* A-00314

$C_{18}H_{16}ClN_5S$
3-(4,5-Dimethyl-2-thiazolyl)-2,5-diphenyl-2*H*-tetrazolium(1 +); Chloride, *in* D-00925

$C_{18}H_{16}Cl_2N_2O_6$
2-(Aminomethyl)-4-(3,5-dichloro-4-oxo-2,5-cyclohexylideneamino)-6-methylphenol *N*,*N*-diacetic acid, A-00239

$C_{18}H_{16}Cl_4N_6S_2$
2,3-Butanedione bis[4-(3,4-dichlorophenyl) thiosemicarbazone], B-00592

$C_{18}H_{16}N_2$
2,2′-Bi-1*H*-indole; 1,1′-Di-Me, *in* B-00204

$C_{18}H_{16}N_2O$
N-(4′-Dimethylaminophenyl)-1,4-naphthoquinone imine, D-00820

$C_{18}H_{16}N_2O_2$
Bis(4-aminophenyl)acetylene; Di-Ac, *in* B-00249
9,10-Diaminophenanthrene; Di-*N*-Ac, *in* D-00110
2,4-Dihydro-5-methyl-4-(2-methylbenzoyl)-2-phenyl-3*H*-pyrazol-3-one, D-00431

$C_{18}H_{16}N_2O_3$
2,4-Dihydro-4-(2-methoxybenzoyl)-5-methyl-2-phenyl-3*H*-pyrazol-3-one, D-00426

$C_{18}H_{16}N_2O_4$
Dimethylglyoxime; Dibenzoyl, *in* D-00862

$C_{18}H_{16}N_2O_6$
N,*N*′-Bis[3-carboxysalicylidene] ethylenediamine, B-00280

$C_{18}H_{16}N_2O_7S_2$
▷ Acid red 26, A-00058

$C_{18}H_{16}N_3O_4P$
4-Nitrophenyl *N*,*N*′-diphenylphosphorodiamidate, *in* M-00340

$C_{18}H_{16}N_4$
2(1*H*)-Pyridinone [2-phenyl-1-(2-pyridinyl) ethylidene]hydrazone, P-00365
5,6,7,8-Tetrahydro-2,4-bis(2-pyridyl) quinazoline, T-00054

$C_{18}H_{16}N_4O$
Pyridoin phenylhydrazone, P-00413

$C_{18}H_{16}N_4O_3S$
3-[[(5-Methyl-2-pyridinyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, M-00287

$C_{18}H_{16}N_4O_5$
5-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-2,4-dihydroxybenzoic acid, D-00381

$C_{18}H_{16}N_4O_8S_2$
3-[[4-(Acetylamino)phenyl]azo]-5-amino-4-hydroxy-2,7-naphthalenedisulfonic acid, *in* A-00092

$C_{18}H_{16}N_5S^{\oplus}$
▷ 2-(4,5-Dimethyl-2-thiazolyl)-3,5-diphenyl-2*H*-tetrazolium(1+), D-00924
3-(4,5-Dimethyl-2-thiazolyl)-2,5-diphenyl-2*H*-tetrazolium(1+), D-00925

$C_{18}H_{16}N_6$
6-[4,5-Dihydro-5-methyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-2,2′-bipyridine, D-00454

$C_{18}H_{16}O_4$
4,4′-Dihydroxystilbene; Di-Ac, *in* D-00730
2-Ethyl-5-hydroxy-7-methoxyisoflavone, *in* E-00070

$C_{18}H_{17}N$
N-Benzyl-1-naphthalenemethylamine, *in* N-00051

$C_{18}H_{17}NO_5$
1-[2-Methoxy-2-(1-naphthalenyl)-1-oxopropoxy]-2,5-pyrrolidinedione, M-00094

$C_{18}H_{17}N_3$
4-[(2-Ethylphenyl)azo]-1-naphthalenamine, E-00103

$C_{18}H_{17}N_3O$
4-[(4-Ethoxyphenyl)azo]-1-naphthalenamine, *in* A-00277

$C_{18}H_{17}N_3O_2$
1,2-Dihydro-4-[[(2-hydroxyphenyl)methylene] amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00420
1,2-Dihydro-4-[[(4-hydroxyphenyl)methylene] amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00421

$C_{18}H_{17}N_3O_5S$
4-[[4-(Dimethylamino)-2-hydroxyphenyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, D-00788

$C_{18}H_{17}N_5O_3$
6,7,9,10-Tetrahydro-16*H*-dibenzo[*b,i*][1,11,14,4,5,7,8] trioxatetraazacyclohexadecine-18-carbonitrile, T-00058

$C_{18}H_{18}ClNO_5$
N-(4-Chlorophenyl)-*N*-hydroxy-3-(3,4,5-trimethoxyphenyl)-2-propenamide, C-00235

$C_{18}H_{18}F_2N_6S_2$
2,3-Butanedione bis[(2-fluorophenyl) thiosemicarbazone], B-00593
2,3-Butanedione bis[(4-fluorophenyl) thiosemicarbazone], B-00594

$C_{18}H_{18}F_6N_2$
N,N′-Dimethyl-1,2-bis[3-(trifluoromethyl) phenyl]-1,2-ethanediamine, D-00843

$C_{18}H_{18}FeN_3O_3S_3$
4-Methyl-2(1*H*)-pyridinethione; *N*-Oxide, tris Fe(*III*) complex, *in* M-00274

$C_{18}H_{18}N_2O_3$
2-(Benzoylamino)-3-[4-(dimethylamino) phenyl]-2-propenoic acid, B-00120

$C_{18}H_{18}N_4O$
2-(Ethylamino)-4-methyl-5-(8-quinolinylazo) phenol, *in* A-00255

$C_{18}H_{18}N_4OS$
5-(Ethylamino)-4-methyl-2-[(4-phenyl-2-thiazolyl)azo]phenol, *in* A-00250

$C_{18}H_{18}N_4O_2S$
2-(Benzothiazolylazo)-5-diethylaminobenzoic acid, *in* A-00114

$C_{18}H_{18}N_4O_4$
4-Hydroxybenzoic acid (1,2-dimethyl-1,2-ethanediylidene)dihydrazide, H-00117

$C_{18}H_{18}N_4O_6S_4$
2,2′-Azinobis[3-ethyl-2,3-dihydro-6-benzothiazolesulfonic acid], A-00462

$C_{18}H_{18}N_4O_7$
4-Cyclohexyl-6-[(2-hydroxy-3,5-dinitrophenyl) azo]-1,3-benzenediol, C-00354

$C_{18}H_{18}N_4S_2$
2,3-Butanedione bis[(thiobenzoyl)hydrazone], B-00598

$C_{18}H_{18}N_8$
4,4′-[1,3-Phenylenebis(azo)]bis-1,3-benzenediamine, P-00117

$C_{18}H_{18}N_8O_4S_2$
2,3-Butanedione bis[(4-nitrophenyl) thiosemicarbazone], B-00596

$C_{18}H_{18}O_4$
2,2′-Biphenyldicarboxylic acid; Di-Et ester, *in* B-00207

$C_{18}H_{18}O_6$
1,6-Bis(2,4-dihydroxyphenyl)-1,6-hexanedione, B-00307

$C_{18}H_{18}O_8$
1,6-Bis(2,4,6-trihydroxyphenyl)-1,6-hexanedione, B-00467

$C_{18}H_{19}BN_2O_4S$
[3-[[[5-(Dimethylamino)-1-naphthalenyl] sulfonyl]amino]phenyl]boronic acid, D-00798

$C_{18}H_{19}F_3N_2S$
▷ Fluopromazine, F-00010

$C_{18}H_{19}N_5O$
2-[[1-(Hydroxyimino)-2-methylpropyl]azo]-1-(phenylmethyl)-1*H*-benzimidazole, H-00246

$C_{18}H_{20}N_2O_2$
4,4′-Diamino-3,3′-dimethylbiphenyl; 4,4′-Di-*N*-Ac, *in* D-00083
N,N′-Diphenyl-1,2-ethanediamine; *N,N′*-Di-Ac, *in* D-01011

$C_{18}H_{20}N_2O_3$
2-Methoxy-4-[*N*-(*p*-morpholinophenyl) formimidoyl]phenol, M-00093

$C_{18}H_{20}N_2O_6$
N,N′-Ethylenebis[2-(*o*-hydroxyphenyl)glycine], E-00073

$C_{18}H_{20}N_2S_4$
Ethylenebisdithiocarbamic acid; Dibenzyl ester, *in* E-00072

$C_{18}H_{20}N_4$
7,8,15,16,17,18-Hexahydrodibenzo[*e,m*][1,4,8,11]-tetraazacyclotetradecine, H-00044

$C_{18}H_{20}N_6S_2$
2,3-Butanedione bis(phenylthiosemicarbazone), B-00597

$C_{18}H_{21}BO_2$
Diphenyl cyclohexylboronate, *in* C-00352

$C_{18}H_{21}NO_2$
N-(5-*tert*-Butyl-2-hydroxybenzylidene)-2-hydroxy-5-methylaniline, B-00632
4-(1,1-Dimethylethyl)-*N*-hydroxy-*N*-(2-methylphenyl)benzamide, *in* B-00619
N-[5-(1,1-Dimethylpropyl)-2-hydroxyphenyl]-2-hydroxyaniline, D-00902

$C_{18}H_{22}ClN_3S$
Thiazine blue; Chloride, *in* T-00136

$C_{18}H_{22}N_2OS$
▷ Methopromazine, M-00070

$C_{18}H_{22}N_2OS_2$
6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e,k*][1,7,10,4,13] oxadithiadiazacyclopentadecine, H-00039

$C_{18}H_{22}N_2O_2$
5,6,7,8,9,10,16,17-Octahydrodibenzo[*e,m*][1,4,8,11] dioxadiazacyclotetradecine, O-00014

$C_{18}H_{22}N_2O_2S$
6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e,n*][1,4,10,7,13] dioxathiadiazacyclopentadecine, H-00038

$C_{18}H_{22}N_2O_3$
6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e,n*][1,4,10,7,13]-trioxadiazacyclopentadecine, H-00045

$C_{18}H_{22}N_2S$
▷ Diethazine, D-00312

$C_{18}H_{22}N_2S_3$
6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e,n*][1,4,10,7,13] trithiadiazacyclopentadecine, H-00046

$C_{18}H_{22}N_3S^{\oplus}$
Thiazine blue, T-00136

$C_{18}H_{22}N_4$
N,N′-Bis[1-(2-aminophenyl)]ethylidene-1,2-ethanediamine, B-00252

$C_{18}H_{22}N_4O$
4-Methyl-2-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]phenol, M-00200

$C_{18}H_{22}N_4O_2$
2-[(3,5-Dihydroxy-2-methylphenyl)azo]-5-(1-methyl-2-piperidinyl)pyridine, D-00653
2-Methoxy-6-[[5-(1-methyl)-2-piperidinyl-2-pyridyl]azo]phenol, M-00092

$C_{18}H_{22}O$
4-*sec*-Butyl-2-(1-phenylethyl)phenol, B-00637

$C_{18}H_{22}O_5$
2,3,5,6,8,9,11,12-Octahydronaphtho[2,3-*b*]-1,4,7,10,13-pentaoxacyclopentadecine, O-00029

$C_{18}H_{22}O_8$
1,2,4,5-Benzenetetracarboxylic acid; Tetra-Et ester, *in* B-00029

$C_{18}H_{23}Br_2N_5O_3S$
2-(3,5-Dibromo-2-pyridylazo)-4-methyl-5-(*N*-propyl-*N*-sulfopropylamino)aniline, D-00213

$C_{18}H_{23}N_3O_5S$
3-[Ethyl[3-hydroxy-4-[(2-hydroxy-5-methylphenyl)azo]phenyl]amino]-1-propanesulfonic acid, E-00087

$C_{18}H_{24}ClNO_2S$
5-(Dibutylamino)-1-naphthalenesulfonyl chloride, D-00224

$C_{18}H_{24}NO_3P$
Dibenzyl diethylphosphoramidate, *in* D-00353

$C_{18}H_{24}N_2$
4,4′-Bis(dimethylamino)-3,3′-dimethylbiphenyl, *in* D-00083
1,2-Diphenyl-1,2-ethanediamine; *N*-Tetra-Me, *in* D-01010

$C_{18}H_{24}N_2O$
Bis(4-dimethylaminophenyl)methanol; Me ether, *in* B-00321

$C_{19}H_{13}Cl_3N_2$
2-Chloro-*N*,*N*′-bis(4-chlorophenyl) benzenecarboximidamide, C-00073
2-Chloro-*N*-(2-chlorophenyl)-*N*′-(4-chlorophenyl)benzenecarboximidamide, C-00083
2-Chloro-*N*-(3-chlorophenyl)-*N*′-(4-chlorophenyl)benzenecarboximidamide, C-00084

$C_{19}H_{13}Cl_3N_2O$
2-Chloro-*N*,*N*′-bis(4-chlorophenyl)-*N*-hydroxybenzenecarboximidamide, C-00074

$C_{19}H_{13}IN_5O_2^{\oplus}$
Iodonitrotetrazolium violet, I-00048

$C_{19}H_{13}IO_2$
1-Pyrenylmethyl iodoacetate, P-00310

$C_{19}H_{13}NO$
2-(1-Naphthalenyl)-5-phenyloxazole, N-00021
9-Phenoxyacridine, *in* H-00093

$C_{19}H_{13}NO_5$
9-(4-Aminophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, A-00328

$C_{19}H_{13}N_3O$
2,2′-Diquinolylketoxime, *in* D-01101
8-Hydroxy-7-(2-naphthylazo)quinoline, H-00377
5-(1-Naphthalenylazo)-8-quinolinol, N-00017
1-(2-Pyridinylazo)-2-phenanthrenol, P-00377
10-(2-Pyridinylazo)-9-phenanthrenol, P-00378
1-(2-Quinolinylazo)-2-naphthalenol, Q-00029
2-(2-Quinolinylazo)-1-naphthalenol, Q-00030

$C_{19}H_{13}N_3O_2$
2-[(1-Hydroxy-2-naphthalenyl)azo]-8-quinolinol, H-00356
5-(1-Naphthalenylazo)-8-quinolinol; N^1-Oxide, *in* N-00017

$C_{19}H_{13}N_3O_4S$
8-Hydroxy-7-(1-naphthalenylazo)-5-quinolinesulfonic acid, H-00355
8-[(8-Hydroxy-5-quinolinyl)azo]-1-naphthalenesulfonic acid, H-00532

$C_{19}H_{13}N_3O_7$
N-(3,5-Dinitrobenzoyl)-1-naphthylglycine, *in* A-00261

$C_{19}H_{13}N_3O_7S_2$
3-Hydroxy-4-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, H-00530
3-[(8-Hydroxy-7-quinolinyl)azo]-1,5-naphthalenedisulfonic acid, H-00531
8-Hydroxy-7-[(4-sulfo-1-naphthalenyl)azo]-5-quinolinesulfonic acid, H-00539
Naphthylazoxine 4S, N-00043
Naphthylazoxine 5S, N-00045
Naphthylazoxine 6S, N-00047

$C_{19}H_{13}N_3O_8S_2$
Azoxin H, A-00480

$C_{19}H_{13}N_3O_8S_3$
4,5-Dihydroxy-3-[(4-phenyl-2-thiazolyl)azo]-2,7-naphthalenedisulfonic acid, D-00718

$C_{19}H_{13}N_3O_{10}S_3$
7-(5,8-Disulfo-2-naphthylazo)-8-hydroxy-5-quinolinesulfonic acid, D-01110
Naphthylazoxine 4,8S, N-00044
Naphthylazoxine 5,7S, N-00046

$C_{19}H_{13}N_5$
5,6-Diphenyl-3-(pyrazinyl)-1,2,4-triazine, D-01044
5,6-Diphenyl-3-(3-pyridazyl)-1,2,4-triazine, D-01045
5,6-Diphenyl-3-(4-pyrimidinyl)-1,2,4-triazine, D-01047
2-(4-Methyl-2-pyridyl)-1*H*-imidazo[4,5-*f*][4,7]phenanthroline, M-00299
5-Phenyl-3,6-di-2-pyridyl-1,2,4-triazine, P-00114
6-(5-Phenyl-1,2,4-triazin-3-yl)-2,2′-bipyridine, P-00206

$C_{19}H_{13}N_5O_5S_2$
3-[2-Benzothiazolyl[(5-nitro-2-pyridinyl) hydrazono]methyl]benzenesulfonic acid, B-00107

$C_{19}H_{14}ClN_5O_2$
2-(4-Nitrophenyl)-3,5-diphenyl-2*H*-tetrazolium(1+); Chloride, *in* N-00134

$C_{19}H_{14}Cl_2N_2$
2-Chloro-*N*-(2-chlorophenyl)-*N*′-phenylbenzenecarboximidamide, C-00088
2-Chloro-*N*-(4-chlorophenyl)-*N*′-phenylbenzenecarboximidamide, C-00089
N-(2-Chlorophenyl)-*N*′-(4-chlorophenyl) benzenecarboximidamide, C-00209
N-2,5-Dichlorophenyl-*N*′-phenylbenzamidine, D-00296

$C_{19}H_{14}Cl_2N_2O$
2-Chloro-*N*′-(4-chlorophenyl)-*N*-hydroxy-*N*-phenylbenzenecarboximidamide, C-00087

$C_{19}H_{14}N_2O_2$
5,5′-Methylenebis[8-quinolinol], M-00174

$C_{19}H_{14}N_2O_4$
Thymine; 1*N*,3*N*-Dibenzoyl, *in* T-00179

$C_{19}H_{14}N_4$
3-Isoquinolinecarboxaldehyde 2-quinolinylhydrazone, I-00082
3-Isoquinolinecarboxaldehyde 3-quinolinylhydrazone, I-00083
3-Isoquinolinecarboxaldehyde 8-quinolinylhydrazone, I-00084
6-Methyl-2,3-di-2-pyridylquinoxaline, M-00168
6-Phenanthridinecarboxaldehyde 2-pyridylhydrazone, P-00050
4-Phenyl-2-(5-phenyl-1,2,4-triazol-3-yl) pyridine, P-00162
2-Quinolinecarboxaldehyde 2-quinolinylhydrazone, Q-00014
2-Quinolinecarboxaldehyde 8-quinolinylhydrazone, Q-00015

$C_{19}H_{14}N_4O$
8-Hydroxy-2-quinolinecarboxaldehyde 8-quinolylhydrazone, H-00526
6-Methoxy-2,3-di-2-pyridinylquinoxaline, *in* H-00172

$C_{19}H_{14}N_4O_3S_2$
3-[(2-Benzothiazolylhydrazono)-2-pyridinylmethyl]benzenesulfonic acid, B-00102

$C_{19}H_{14}N_4O_6S$
Chromorange GR, C-00289

$C_{19}H_{14}N_4O_6S_2$
8-Amino-7-(8-quinolinylazo)-3,6-naphthalenedisulfonic acid, A-00343

$C_{19}H_{14}N_4O_7S_2$
5-Amino-4-hydroxy-3-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, A-00220

$C_{19}H_{14}N_5O_2^{\oplus}$
2-(4-Nitrophenyl)-3,5-diphenyl-2*H*-tetrazolium(1+), N-00134

$C_{19}H_{14}N_6$
4,5-Dihydro-3-(1,10-phenanthrolin-2-yl)-5-(2-pyridinyl)-1,2,4-triazole, D-00465
3-(4-Methyl-2-pyridyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, M-00296
3-(6-Methyl-2-pyridyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, M-00297

$C_{19}H_{14}N_6O_5S$
3-[1*H*-Benzimidazol-2-yl[(5-nitro-2-pyridinyl) hydrazono]methyl]benzenesulfonic acid, B-00047

$C_{19}H_{14}O_2$
Benzaurin, B-00012
2-Biphenylol; Benzoyl, *in* B-00210
4-Biphenylol; Benzoyl, *in* B-00211
1-Pyreneacetic acid; Me ester, *in* P-00304
1-Pyrenecarboxylic acid; Et ester, *in* P-00307

$C_{19}H_{14}O_3$
1-Acetyl-2-naphthol; Benzoyl, *in* A-00025
Aurin, A-00457

$C_{19}H_{14}O_5S$
▷ Phenolsulfonphthalein, P-00064

$C_{19}H_{14}O_6$
5,7-Dihydroxyflavone; Di-Ac, *in* D-00612
7-Hydroxy-4-methyl-2-oxo-2*H*-1-benzopyran-3-acetic acid; Benzoyl, *in* H-00295

$C_{19}H_{14}O_7S$
Pyrocatechol violet, P-00433

$C_{19}H_{15}BCsN$
(Cyano-*C*)triphenylborate(1−); Cs salt, *in* C-00330

$C_{19}H_{15}BN^{\ominus}$
(Cyano-*C*)triphenylborate(1−), C-00330

$C_{19}H_{15}BNNa$
Cesignost, *in* C-00330

$C_{19}H_{15}BO_2$
(2-Hydroxybenzaldehydato-*O*,*O*′) diphenylboron, H-00100

$C_{19}H_{15}Cl$
▷ Chlorotriphenylmethane, C-00269

$C_{19}H_{15}ClN_2$
N-(4-Chlorophenyl)-*N*′-phenylbenzenecarboximidamide, C-00237

$C_{19}H_{15}ClN_2O$
N-(3-Chlorophenyl)-*N*-hydroxy-*N*′-phenylbenzenecarboximidamide, C-00230
N′-(4-Chlorophenyl)-*N*-hydroxy-*N*-phenylbenzenecarboximidamide, C-00231

$C_{19}H_{15}ClN_4$
▷ TTC, *in* T-00379

$C_{19}H_{15}ClO_4$
▷ Coumachlor, C-00303

$C_{19}H_{15}F_3O_3S_2$
Triphenylsulfonium(1+); Trifluoromethanesulfonate, *in* T-00376

$C_{19}H_{15}NO$
2-Aminobiphenyl; *N*-Benzoyl, *in* A-00116
4-Aminobiphenyl; *N*-Benzoyl, *in* A-00117
N-Diphenylbenzamide, *in* D-01000

$C_{19}H_{15}NO_2$
Allylcinchophen, *in* P-00189
N-(2-Hydroxy-3-biphenylyl)methylene-2-hydroxyaniline, H-00135
4-Hydroxy-*N*-(2-hydroxybenzylidene)-3-biphenylamine, H-00189
2-Hydroxy-*N*-(2-hydroxy-5-phenylbenzylidene)aniline, H-00234

$C_{19}H_{15}NO_3$
5-Ethoxy-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, E-00057

$C_{19}H_{15}NO_8$
▷ Alizarine fluorine blue, A-00076

$C_{19}H_{15}NO_9$
3-(Aminomethyl)-1,2,5-trihydroxyanthraquinone-*N*,*N*-diacetic acid, A-00259
3-(Aminomethyl)-1,2,7-trihydroxyanthraquinone-*N*,*N*-diacetic acid, A-00260

$C_{19}H_{15}NO_{10}$
3-(Aminomethyl)-1,2,5,8-tetrahydroxyanthraquinone-*N*,*N*-diacetic acid, A-00256

$C_{19}H_{15}NO_{11}S$
Alizarine fluorine blue S, A-00077

$C_{19}H_{15}N_3$
9*H*-Fluorene-2-carboxaldehyde; 2-Pyridylhydrazone, *in* F-00012
2-(4-Methyl-2-pyridyl)-5-phenylbenzimidazole, M-00302

$C_{19}H_{15}N_3O$
4-Aminoazobenzene; *N*-Benzoyl, *in* A-00094

$C_{19}H_{15}N_3O_2$
2,6-Diaminopyridine; 2,6-*N*-Dibenzoyl, *in* D-00119
2,2′-(Methylimino)bis-8-quinolinol, M-00193
N-Phenyl-4-(phenylazo)benzohydroxamic acid, P-00156
2,2′-[2,6-Pyridinediylbis(methylidynenitrilo)] bisphenol, P-00354

$C_{19}H_{15}N_3O_4S$
3-(2-Pyridinylcarbonyl)benzenesulfonic acid; Benzoylhydrazone, *in* P-00386

$C_{19}H_{15}N_3O_5S$
2-Hydroxybenzoic acid [2-pyridinyl(3-sulfophenyl)methylene]hydrazide, H-00122

$C_{19}H_{15}N_3O_9S_3$
3-[(6-Ethoxy-2-benzothiazolyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, E-00053

$C_{19}H_{15}N_4^{\oplus}$
2,3,5-Triphenyl-2*H*-tetrazolinium(1 +), T-00379

$C_{19}H_{15}N_5$
2,3-Bis(6-methyl-2-pyridyl)pyrido[2,3-*b*] pyrazine, B-00421

$C_{19}H_{15}N_5O$
6-(4-Acetylphenylazo)-2-aminoperimidine, A-00029

$C_{19}H_{15}OPS_2$
S-Benzoyl diphenylphosphinodithioate, *in* D-01039

$C_{19}H_{16}N_2$
N,*N*′-Diphenylbenzamidine, D-01001

$C_{19}H_{16}N_2O$
2-Aminodiphenylamine; 2-*N*-Benzoyl, *in* A-00165
4,4′-Diaminobiphenyl; *N*-Benzoyl, *in* D-00053
N-Hydroxy-*N*,*N*′-diphenylbenzenecarboximidamide, *in* D-01001

$C_{19}H_{16}N_2O_3$
2,3-Dihydro-3-oxo-5,6-diphenyl-4-pyridazinecarboxylic acid; Et ester, *in* D-00463
3-Methoxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, M-00081
4-Methoxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, M-00082

$C_{19}H_{16}N_2O_3S$
Anilinesulfonephthalein, A-00369

$C_{19}H_{16}N_4$
5-Phenyl-3-(4-phenyl-2-pyridyl)-1,2,4-triazoline, P-00161

$C_{19}H_{16}N_4O$
2-Pyridinecarboxaldehyde diphenylsemicarbazone, P-00323

$C_{19}H_{16}N_4O_3S_2$
3-(2-Pyridinylcarbonyl)benzenesulfonic acid; Phenylthiosemicarbazone, *in* P-00386

$C_{19}H_{16}N_4O_5$
N-[[1-Hydroxy-4-(4-nitrophenylazo)-2-naphthyl]methyl]glycine, H-00397

$C_{19}H_{16}N_4O_7S_2$
4-[3-Hydroxy-6-methyl-4-(4-sulfophenylazo) phenylazo]benzenesulfonic acid, H-00327

$C_{19}H_{16}N_4S$
2-Benzoylpyridine phenylthiosemicarbazone, B-00153

$C_{19}H_{16}N_6OS$
[(2-Hydroxyphenyl)methylene]carbonothioic acid (di-2-pyridinylmethylene) dihydrazide, H-00481

$C_{19}H_{16}O$
Triphenylmethanol, T-00368

$C_{19}H_{16}O_4$
1,7-Bis(4-hydroxyphenyl)-1,6-heptadiene-3,5-dione, *in* C-00323

$C_{19}H_{16}O_6$
Tris(2,4-dihydroxyphenyl)methane, T-00388

$C_{19}H_{16}O_7$
2,3,4-Trihydroxybenzophenone; Tri-Ac, *in* T-00278
2,4,4′-Trihydroxybenzophenone; Tri-Ac, *in* T-00279

$C_{19}H_{17}NO_4$
1-(4-Ethoxyphenyl)-4-(4-hydroxybenzylidene)-2,3-pyrrolidinedione, E-00059

$C_{19}H_{17}NO_7$
2,3,4-Trihydroxybenzophenone; Tri-Ac, oxime, *in* T-00278

$C_{19}H_{17}N_3$
▷ *N*,*N*′,*N*″-Triphenylguanidine, T-00366

$C_{19}H_{17}N_3O$
2,4-Diaminodiphenylamine; 2-*N*-Benzoyl, *in* D-00085

$C_{19}H_{17}N_3O_3S$
Benzyl orange, B-00190

$C_{19}H_{17}N_3O_4$
3-Hydroxy-2-naphthalenecarboxylic acid [[3-hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]hydrazide, H-00341

$C_{19}H_{17}N_5$
2-[4,5-Dihydro-5-methyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-4-phenylpyridine, D-00457
2(1*H*)-Pyridinone [[(4-methylphenyl)azo] phenylmethylene]hydrazone, P-00361

$C_{19}H_{17}N_5O$
2(1*H*)-Pyridinone [[(3-methoxyphenyl)azo] phenylmethylene]hydrazone, P-00359
2(1*H*)-Pyridinone [[(4-methoxyphenyl)azo] phenylmethylene]hydrazone, P-00360

$C_{19}H_{17}N_5O_4$
2,6-Diacetylpyridine bis(2-furoylhydrazone), D-00037
Propanoic acid 2-[1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenyl]hydrazide, P-00264

$C_{19}H_{17}N_9$
2,4-Bis[5-(2-pyridyl)-1,2,4-triazolin-3-yl] pyridine, B-00445
2,6-Bis[3-(2-pyridyl)-1,2,4-triazolin-5-yl] pyridine, B-00446
2,6-Bis[5-(2-pyridyl)-1,2,4-triazolin-3-yl] pyridine, B-00447

$C_{19}H_{17}PS_2$
Benzyl diphenylphosphinodithioate, *in* D-01039

$C_{19}H_{18}As^{\oplus}$
Methyltriphenylarsonium(1 +), M-00334

$C_{19}H_{18}AsBF_4$
Methyltriphenylarsonium(1 +); Tetrafluoroborate, *in* M-00334

$C_{19}H_{18}AsBr$
Methyltriphenylarsonium(1 +); Bromide, *in* M-00334

$C_{19}H_{18}AsCl$
Methyltriphenylarsonium(1 +); Chloride, *in* M-00334

$C_{19}H_{18}AsI$
Methyltriphenylarsonium(1 +); Iodide, *in* M-00334

$C_{19}H_{18}AsI_3$
Methyltriphenylarsonium(1 +); Triiodide, *in* M-00334

$C_{19}H_{18}BF_4P$
Methyltriphenylphosphonium(1 +); Tetrafluoroborate, *in* M-00335

$C_{19}H_{18}BrP$
Methyltriphenylphosphonium(1 +); Bromide, *in* M-00335

$C_{19}H_{18}ClN_3$
Induline scarlet; Chloride, *in* I-00035

$C_{19}H_{18}ClO_4P$
Methyltriphenylphosphonium(1 +); Perchlorate, *in* M-00335

$C_{19}H_{18}ClP$
Methyltriphenylphosphonium(1 +); Chloride, *in* M-00335

$C_{19}H_{18}IP$
Methyltriphenylphosphonium(1 +); Iodide, *in* M-00335

$C_{19}H_{18}MnO_4P$
▷ Methyltriphenylphosphonium(1 +); Permanganate, *in* M-00335

$C_{19}H_{18}NO_5P$
N-(2,4-Dimethylphenyl)-3-(phosphonooxy)-2-naphthalenecarboxamide, D-00894

$C_{19}H_{18}N_2O$
Phenylalanine α-naphthylamide, P-00078
Phenylalanine β-naphthylamide, P-00079

$C_{19}H_{18}N_2O_3$
2,7-Diaminofluorene; Tri-*N*-Ac, *in* D-00097

$C_{19}H_{18}N_3^{\oplus}$
Induline scarlet, I-00035

$C_{19}H_{18}N_4O_5S$
N-(2,6-Dimethoxy-4-pyrimidinyl)-4-[[(2-hydroxyphenyl)methylene]amino] benzenesulfonamide, D-00776

$C_{19}H_{18}N_4O_7S$
3-[(1-Butyl-2-oxo-3-quinolinyl)azo]-2-hydroxy-5-nitrobenzenesulfonic acid, B-00634

$C_{19}H_{18}N_6O_2$
4,4′-Methylenebis[3-methyl-1-(2-pyridyl)-5-pyrazol-ol], M-00173

$C_{19}H_{18}O_5$
9-Cyclohexyl-2,6,7-trihydroxy-3*H*-xanthen-3-one, C-00359

$C_{19}H_{18}O_6$
2′,3,5,7-Tetramethoxyflavone, *in* T-00074

$C_{19}H_{18}O_7$
3-Hydroxy-3′,4′,5,7-tetramethoxyflavone, *in* P-00025

$C_{19}H_{18}P^{\oplus}$
Methyltriphenylphosphonium(1 +), M-00335

$C_{19}H_{19}AsO$
Methyltriphenylarsonium(1 +); Hydroxide, *in* M-00334

$C_{19}H_{19}N$
N-(4-Methylbenzyl)-1-naphthylmethylamine, M-00145

$C_{19}H_{19}NO_4$
Palaudine, *in* P-00005

$C_{19}H_{19}N_3O$
2-Isopropyl-5-methyl-4-[(2-quinolinyl)azo] phenol, I-00076
8-Oxo-5-(*p*-diethylaminophenylimino)-5,8-dihydroquinoline, O-00062
Tris(4-aminophenyl)methanol, T-00383

$C_{19}H_{19}N_3O_2$
2-[[4-(Diethylamino)phenyl]azo]-1,3-indanedione, D-00331
1,2-Dihydro-4-[(2-hydroxy-5-methylphenyl) methyleneamino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00410
1,2-Dihydro-4-[[(4-methoxyphenyl)methylene] amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00428

$C_{19}H_{19}N_3O_3$
3,9-Diamino-7-ethoxyacridine; 3,9-Di-*N*-Ac, *in* D-00094

$C_{19}H_{19}N_3O_3S$
N-Phenyl-2-(4-methoxyphenylamino)-5-aminobenzenesulfonamide, *in* A-00232

$C_{19}H_{19}N_3O_5S$
4-[[4-(Ethylamino)-6-hydroxy-*m*-tolyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, *in* A-00196

$C_{19}H_{19}N_5O$
4-Methyl-6-[[2-(phenylmethoxy)-2-pyridinyl]azo]-1,3-benzenediamine, M-00232

$C_{19}H_{20}N_2$
3,3a,4,5,6,7-Hexahydro-2,3-diphenyl-2*H*-indazole, H-00047

$C_{19}H_{20}N_2O_2$
8,9,17,18-Tetrahydro-7*H*-dibenzo[*e*,*n*][1,4,8,12]-dioxadiazacyclopentadecine, T-00055

$C_{19}H_{20}N_4OS$
3-Acetyl-2-methylindole *p*-tolylthiosemicarbazone, A-00022

$C_{19}H_{20}N_4O_2$
2-[[4-(Diethylamino)phenyl]azo]-1,3-indanedione; Monooxime, *in* D-00331

$C_{19}H_{20}N_4O_2S$
1-(2-Methylindol-3-ylacetyl)-4-(*p*-methoxyphenyl)thiosemicarbazide, M-00195

$C_{19}H_{20}O_6$
1,7-Bis(2,4-dihydroxyphenyl)-1,7-heptanedione, B-00306

$C_{19}H_{21}BrN_4O$
7-Bromo-1-[3-(dimethylamino)propyl]-1,3-dihydro-5-(2-pyridyl)-2*H*-1,4-benzodiazepin-2-one, B-00506

$C_{19}H_{21}ClN_4O_7$
2-[[(4-Methoxy-2-nitrophenyl)hydrazono]methyl]-1,3,3-trimethyl-3*H*-indolium(1+); Perchlorate, *in* M-00096

$C_{19}H_{21}N$
▷ Protriptyline, P-00280

$C_{19}H_{21}N_4O_3^{\oplus}$
2-[[(4-Methoxy-2-nitrophenyl)hydrazono]methyl]-1,3,3-trimethyl-3*H*-indolium(1+), M-00096

$C_{19}H_{22}Br_2N_4O_{10}S_2$
5-[Bis(2-hydroxy-3-sulfopropyl)amino]-2-[(3,5-dibromo-2-pyridinyl)azo]-4-methylbenzoic acid, B-00395

$C_{19}H_{22}ClN_3O_5$
2-[[(2-Methoxyphenyl)hydrazono]methyl]-1,3,3-trimethyl-3*H*-indolinium(1+); Perchlorate, *in* M-00110

$C_{19}H_{22}N_2O$
▷ Cinchonine, C-00298

$C_{19}H_{22}N_2O_4$
N,*N*′-Dihydroxy-*N*,*N*′-diphenylheptanediamide, D-00587

$C_{19}H_{22}N_3O^{\oplus}$
2-[[(2-Methoxyphenyl)hydrazono]methyl]-1,3,3-trimethyl-3*H*-indolinium(1+), M-00110

$C_{19}H_{22}O_5$
3,3-Bis[(2-methoxyphenoxy)methyl]oxetane, B-00400
Dibenzo-16-crown-5, D-00155

$C_{19}H_{23}ClN_2O_4S$
2-[2-[(5-Dimethylamino)-2-thienyl]ethenyl]-1,3,3-trimethyl-3*H*-indolium(1+); Perchlorate, *in* D-00826

$C_{19}H_{23}IN_2$
1-Ethyl-2-(1-ethyl-1,4-dihydro-4-pyridinyl)-6-methylquinolinium(1+); Iodide, *in* E-00081

$C_{19}H_{23}N_2^{\oplus}$
1-Ethyl-2-(1-ethyl-1,4-dihydro-4-pyridinyl)-6-methylquinolinium(1+), E-00081

$C_{19}H_{23}N_2S^{\oplus}$
2-[2-[(5-Dimethylamino)-2-thienyl]ethenyl]-1,3,3-trimethyl-3*H*-indolium(1+), D-00826

$C_{19}H_{24}ClN_3O$
▷ Capri blue; Chloride, *in* C-00017

$C_{19}H_{24}N_2O$
Hydrocinchonine, *in* C-00298

$C_{19}H_{24}N_2O_2$
6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e*,*n*][1,4,7,13]-dioxadiazacyclopentadecine, O-00012
6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e*,*n*][1,4,8,12]-dioxadiazacyclopentadecine, O-00013

$C_{19}H_{24}N_2S$
▷ Ethopropazine, E-00050

$C_{19}H_{24}N_2S_2$
Methiomeprazine, M-00069
6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e*,*n*][1,4,7,13]-dithiadiazacyclopentadecine, O-00015

$C_{19}H_{24}N_3O^{\oplus}$
Capri blue, C-00017

$C_{19}H_{25}NO_6$
7-Hydroxy-4-methyl-8-(1,4,7-trioxa-10-azacyclododec-10-ylmethyl)-2*H*-1-benzopyran-2-one, H-00334

$C_{19}H_{26}N_2O_3S$
3-[[4′-Amino-3,3′,5,5′-tetramethyl[1,1-biphenyl]-4-yl]amino]-1-propanesulfonic acid, A-00353

$C_{19}H_{26}O_4$
Tocamphyl, *in* T-00325

$C_{19}H_{27}NO_7$
N-(2,3,5,6,8,9,11,12,14,15-Decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl)-2-propenamide, D-00007

$C_{19}H_{27}N_4^{\oplus}$
1-Butyl-4-[[4-(diethylamino)phenyl]azo]pyridinium(1+), B-00625

$C_{19}H_{28}N_2O_{12}$
(2-Hydroxy-3,5-dinitrophenyl)oxymethyl-18-crown-6, H-00164

$C_{19}H_{28}O_5$
4,6-Di-*tert*-butyl-1,2,3-benzenetriol; 1-Me ether, di-Ac, *in* D-00228

$C_{19}H_{30}N_2O_8$
16-(2-Hydroxy-5-nitrobenzyl)-1,4,7,10,13-pentaoxa-16-azacyclooctadecane, H-00385

$C_{19}H_{30}O_4$
2,5-Dihydroxy-3-undecyl-1,4-benzoquinone; Di-Me ether, *in* D-00740

$C_{19}H_{30}O_5$
Dodecyl gallate, *in* T-00277

$C_{19}H_{30}O_7$
2-(2-Methoxyphenyl)-1,4,7,10,13,16-hexaoxacyclooctadecane, M-00109

$C_{19}H_{38}O_2$
Heptadecanoic acid; Et ester, *in* H-00003
▷ Octadecanoic acid; Me ester, *in* O-00001

$C_{19}H_{42}BrN$
▷ Cetrimonium bromide, *in* H-00029

$C_{19}H_{42}ClN$
Cetrimonium chloride, *in* H-00029

$C_{19}H_{42}N^{\oplus}$
Hexadecyltrimethylammonium(1+), H-00029

$C_{20}H_4Br_4Cl_4O_5$
▷ Phloxine B, P-00213

$C_{20}H_4Cl_4I_4O_5$
▷ Rose bengal, R-00010

$C_{20}H_4F_{24}O_8U$
Tetrakis(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O*,*O*′)uranium(*IV*), T-00086

$C_{20}H_6Br_4Cl_2O_5$
▷ Phloxin, P-00212

$C_{20}H_6Br_4I_4O_4$
Tetrabromophenoltetraiodophthalein, T-00022

$C_{20}H_6Cl_2I_4O_5$
Rose bengal A, R-00011

$C_{20}H_6I_8O_4$
Tetraiodophenoltetraiodophthalein, T-00081

$C_{20}H_8Br_4O_5$
▷ Eosine, E-00007

$C_{20}H_8Cl_4O_7$
Tetrachlorogallein, T-00035

$C_{20}H_8I_4O_5$
▷ Erythrosine, E-00020

$C_{20}H_9Cl_3O_5$
2′,4′,5′-Trichlorofluorescein, T-00224
2′,4′,7′-Trichlorofluorescein, T-00225

$C_{20}H_{10}Br_2HgO_6$
▷ Merbromin, M-00015

$C_{20}H_{10}Br_2O_5$
▷ 4′,5′-Dibromofluorescein, D-00188

$C_{20}H_{10}Br_2O_7$
2,7-Dibromogallein, D-00189

$C_{20}H_{10}Br_4O_4$
Tetrabromophenolphthalein, T-00019

$C_{20}H_{10}Cl_2O_5$
2′,4′-Dichlorofluorescein, D-00273
2′,5′-Dichlorofluorescein, D-00274
2′,7′-Dichlorofluorescein, D-00275
4′,5′-Dichlorofluorescein, D-00276

$C_{20}H_{10}Cl_4O_4$
4,5,6,7-Tetrachloro-3,3-bis(4-hydroxyphenyl)-1(3*H*)-isobenzofuranone, T-00027

$C_{20}H_{10}I_2O_5$
Erythrosine Y, E-00021

$C_{20}H_{10}I_4O_4$
Phenoltetraiodophthalein, P-00067

$C_{20}H_{11}ClO_5$
2′-Chlorofluorescein, C-00116
4′-Chlorofluorescein, C-00117

$C_{20}H_{11}NO_2$
1-(3-Fluoranthenyl)-1*H*-pyrrole-2,5-dione, F-00011
1-(1-Pyrenyl)-1*H*-pyrrole-2,5-dione, P-00311

$C_{20}H_{11}NO_6S$
Alizarine green, A-00078

$C_{20}H_{11}NO_9S_2$
6-Hydroxy-5-oxo-5*H*-dibenzo[*a*,*j*]phenoxazine-8,11-disulfonic acid, H-00432

$C_{20}H_{11}N_3O_5$
Azidofluorescein, A-00460

$C_{20}H_{11}N_5O$
3-[2,2′-Bipyridin-6-yl]-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, B-00232

$C_{20}H_{12}Br_2O_{10}S_2$
▷ Dibromosulfonephthalein, D-00215

$C_{20}H_{12}Cl_4N_8O_6S_2$
2,2′-(1,2-Ethenediyl)bis[5-[(4,6-dichloro-1,3,5-triazin-2-yl)amino]benzenesulfonic acid], E-00044

$C_{20}H_{12}F_{12}N_6S_2$
Glyoxal bis[3,5-bis(trifluoromethyl)phenylthiosemicarbazone], G-00022

$C_{20}H_{12}N_2O_2S$
5-Isothiocyanato-2-(4-methylphenyl)-1*H*-benz[*de*]isoquinoline-1,3(2*H*)-dione, I-00097

$C_{20}H_{20}N_2O_4$
4,4′-Diaminobiphenyl; Tetra-*N*-Ac, *in* D-00053

$C_{20}H_{20}N_2O_8$
2,2′-Diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid, D-00059

$C_{20}H_{20}N_2O_{10}$
3,3′-Dihydroxybenzidine-*N*,*N*,*N*′,*N*′-tetraacetic acid, D-00528
4,4′-Dihydroxy-2,2′-diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid, D-00572

$C_{20}H_{20}N_3O^{\oplus}$
New methylene blue NCG, N-00068
Nile blue A, N-00069

$C_{20}H_{20}N_4O_2$
1,2-Cyclohexanedione bisbenzoylhydrazone, C-00340

$C_{20}H_{20}N_4O_4$
1,2-Cyclohexanedione bis(2-hydroxybenzoyl) hydrazone, C-00341
1,3-Cyclohexanedione bis(2-hydroxybenzoyl) hydrazone, C-00342

$C_{20}H_{20}O_8$
1,2,3,5,6,7-Hexamethoxyanthraquinone, *in* H-00052

$C_{20}H_{20}O_{13}$
Castamollissin, *in* T-00273

$C_{20}H_{21}BrN_4O_{11}$
16-Bromo-2,3,5,6,8,9,11,12-octahydro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, B-00540

$C_{20}H_{21}NO_4$
▷ Papaverine, P-00005

$C_{20}H_{21}NO_6$
2-Demethylcolchiceine, *in* C-00300
3-Demethylcolchiceine, *in* C-00300

$C_{20}H_{21}N_3O$
Tris(4-aminophenyl)methanol; Me ether, *in* T-00383

$C_{20}H_{21}N_3O_4S$
5-Amino-*N*-(2-methoxyphenyl)-2-[(4-methoxyphenyl)amino]benzenesulfonamide, A-00234

$C_{20}H_{21}N_3O_5S$
4-[[4-(Diethylamino)-2-hydroxyphenyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, D-00320

$C_{20}H_{21}N_3O_8S_2$
Beryllon III, *in* A-00211
2-(2-Hydroxy-3,6-disulfo-1-naphthalenylazo)-5-(*N*,*N*-diethylamino)phenol, H-00173

$C_{20}H_{21}N_5O$
2-[4-(1-Aminoethyl)-1-naphthyl]-6-methoxy-*N*-methyl-2*H*-benzotriazol-5-amine, A-00176
7-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl]azo]-8-quinolinol, M-00253

$C_{20}H_{21}N_5O_4$
Macrocyclic formazan I, M-00001

$C_{20}H_{21}N_5O_4S$
8-Hydroxy-7-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]-5-quinolinesulfonic acid, H-00322

$C_{20}H_{21}N_5O_{13}$
2,3,5,6,8,9,11,12-Octahydro-16-nitro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, O-00030

$C_{20}H_{21}N_9O_2S_2$
N-(5-Ethyl-1,3,4-thiadiazol-2-yl)-4-[3-methyl-5-(1-methyl-1*H*-benzimidazol-2-yl)-1-formazanyl]benzenesulfonamide, E-00117

$C_{20}H_{22}N_2O_{10}$
1,5-Bis(aminomethyl)-2,6-naphthalenediol-*N*,*N*,*N*′,*N*′-tetraacetic acid, B-00247

$C_{20}H_{22}N_4O$
4-[[[4-(Dimethylamino)phenyl]methylene] amino]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00818

$C_{20}H_{22}N_4O_9$
16-[(2,4-Dinitrophenyl)azo]-3,6,9,12-tetraoxabicyclo[12.3.1]octadeca-1(18),14,16-trien-18-ol, D-00970

$C_{20}H_{22}N_4O_{11}$
2,3,5,6,8,9,11,12-Octahydro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, O-00031

$C_{20}H_{22}N_6S_2$
1,3-Cyclohexanedione; Bis(phenylthiosemicarbazone), *in* C-00338

$C_{20}H_{22}O_3$
2-Phenylbutanoic acid; Anhydride, *in* P-00110

$C_{20}H_{23}ClN_2O_3$
Rhodamine S; Chloride, *in* R-00006

$C_{20}H_{23}N_2O_3^{\oplus}$
Rhodamine S, R-00006

$C_{20}H_{23}N_3O_9$
N-(2,4-Dinitrophenyl)-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, D-00973

$C_{20}H_{23}N_5O_2$
5-(4-Antipyrylazo)-2-monoethylamino-*p*-cresol, A-00395

$C_{20}H_{24}ClN_3S$
▷ Prochlorperazine, P-00256

$C_{20}H_{24}N_2O_2$
▷ Quinine, Q-00005

$C_{20}H_{24}N_2O_6$
N,*N*′-Bis(2-hydroxybenzyl)ethylenediamine-*N*,*N*′-diacetic acid, B-00360
▷ Dicarboxidine, D-00244
4-[(2,3,5,6,8,9,11,12-Octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl)azo] phenol, O-00006

$C_{20}H_{24}N_4$
7,8,9,10,17,18,19,20-Octahydrodibenzo[*e*,*o*][1,4,8,13] tetraazacyclohexadecine, O-00018

$C_{20}H_{24}O_6$
▷ Dibenzo-18-crown-6, D-00156

$C_{20}H_{25}N_3S$
▷ Perazine, P-00043

$C_{20}H_{26}ClN_3O$
Ethyl capri blue; Chloride, *in* E-00067

$C_{20}H_{26}N_2O_4$
6,7,9,10,17,18,21,22-Octahydro-16*H*,20*H*-dibenzo-[*h*,*q*][1,4,7,13,10,16] tetraoxadiazacyclooctadecine, O-00019

$C_{20}H_{26}N_2S$
Etymemazine, E-00123

$C_{20}H_{26}N_3O^{\oplus}$
Ethyl capri blue, E-00067

$C_{20}H_{26}O_6$
2,3,5,6,8,9,11,12,14,15-Decahydronaphtho[2,3-*b*]-1,4,7,10,13,16-hexaoxacyclooctadecin, D-00017

$C_{20}H_{27}NO_2$
N-Hydroxy-*N*-1-naphthalenyldecanamide, H-00359

$C_{20}H_{27}N_3O_3$
6,7,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h*,*q*][1,4,7,10,13,16] trioxatriazacyclooctadecine, D-00015
7,8,9,10,17,18,21,22-Octahydro-6*H*,16*H*,20*H*-dibenzo-[*b*,*k*][1,7,13,4,10,16] trioxatriazacyclooctadecine, O-00022

$C_{20}H_{28}N_2O_2$
2,4-Dihydro-5-methyl-2-(methylphenyl)-4-(3,5,5-trimethyl-1-oxohexyl)-3*H*-pyrazol-3-one, D-00434
2,4-Dihydro-5-methyl-4-(1-oxodecyl)-2-phenyl-3*H*-pyrazol-3-one, D-00435

$C_{20}H_{28}N_4O_2$
7,8,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h*,*q*][1,7,4,10,13,16] dioxatetraazacyclooctadecine, D-00010

$C_{20}H_{28}O_6$
4,6-Di-*tert*-butyl-1,2,3-benzenetriol; Tri-Ac, *in* D-00228

$C_{20}H_{29}NO_3S_4$
N-(2,3,5,6,9,10,12,13,15,16-Decahydro-8*H*-1,17,4,7,11,14-benzodioxatetrathiacyclononadecin-19-yl)-2-propenamide, D-00005

$C_{20}H_{30}N_2O$
N,*N*′-Dicyclohexyl-*O*-benzylisourea, D-00308

$C_{20}H_{30}O_3$
3-Hydroxyandrost-5-ene-17-carboxylic acid, H-00098

$C_{20}H_{32}N_2OS$
N,*N*-Dihexyl-*N*′-benzoylthiourea, *in* B-00161

$C_{20}H_{32}O_8$
2-[(2-Methoxyphenoxy)methyl]-1,4,7,10,13,16-hexaoxacyclooctadecane, M-00103

$C_{20}H_{32}O_8S_6$
2,2,5,5-Tetrakis(carboxymethylthio)-*p*-dithiane; Tetra-Et ester, *in* T-00082

$C_{20}H_{33}NO_2$
N-Hydroxy-*N*-phenyltetradecanamide, H-00504

$C_{20}H_{34}N_2S_2$
Cyclohexylbenzyldithiocarbamate(1 –); Triethylammonium salt, *in* C-00351
Cyclohexyl(phenylmethyl)carbamodithioic acid; Et_3N salt, *in* C-00357

$C_{20}H_{34}O_3$
Cyclohexanebutanoic acid; Anhydride, *in* C-00335

$C_{20}H_{36}O_6$
▷ Eicosahydrodibenzo[*b*,*k*][1,4,7,10,13,16] hexaoxacyclooctadecine, E-00004

$C_{20}H_{40}N_2O_7$
4,7,10,16,19,24,27-Heptaoxa-1,13-diazabicyclo[11.8.8]nonacosane, H-00014

$C_{20}H_{40}N_4$
7,14-Dimethyl-5,7,12,14-tetraethyl-1,4,8,11-tetraazacyclotetradeca-4,11-diene, D-00919

$C_{20}H_{40}O_2$
▷ Octadecanoic acid; Et ester, *in* O-00001

$C_{20}H_{44}BrN$
▷ Cetylcide, *in* E-00071

$C_{20}H_{44}N^{\oplus}$
N-Ethyl-*N*,*N*-dimethyl-1-hexadecanaminium(1 +), E-00071

$C_{21}H_3EuF_{30}O_6$
Tris(1,1,1,5,5,6,6,7,7,7-decafluoro-2,4-heptanedionato-*O*,*O*′)europium(*III*), T-00385

$C_{21}H_7Br_4NO_5S$
2′,3′,4′,7′-Tetrabromo-3′,6′-dihydroxy-5-isothiocyanatospiro[isobenzofuran-1(3*H*),9′[9*H*]xanthen]-3-one, T-00016

$C_{21}H_{11}NO_5S$
3′,6′-Dihydroxy-5-isothiocyanatospiro[isobenzofuran-1(3*H*),9′-[9*H*]xanthen]-3-one, D-00638

$C_{21}H_{12}Br_2Cl_4O_5S$
4,4′-(4,5,6,7-Tetrachloro-3*H*-2,1-benzoxathiol-3-ylidene)bis[2-bromo-6-methylphenol] *S*,*S*-dioxide, T-00026

1,2-Dihydro-4-[(4-hydroxynaphthalenyl)azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00416
15,16-Dihydroxy-7-phenyl-5*H*-dibenzo[*b*,*i*][1,11,4,5,7,8]dioxatetraazacyclotridecine, D-00709

$C_{21}H_{18}N_4O_3$
4-[(1,7-Dihydroxy-2-naphthalenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00659

$C_{21}H_{18}N_4O_5S$
8-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-7-hydroxy-2-naphthalenesulfonic acid, D-00386

$C_{21}H_{18}N_4O_6S$
1-(2-Carboxyphenyl)-5-[1-(2-methoxy-5-sulfophenyl)]-3-phenylformazan, C-00042

$C_{21}H_{18}N_4O_7$
Naphthol violet, N-00030

$C_{21}H_{18}N_4O_9S_2$
3-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, D-00382

$C_{21}H_{18}N_4S$
1,5-Di-(β-naphthyl)thiocarbazone, D-00933

$C_{21}H_{18}O_2$
o-Cresolbenzein, C-00305

$C_{21}H_{18}O_4$
3,5-Dibenzyloxybenzoic acid, *in* D-00534

$C_{21}H_{18}O_5S$
m-Cresol purple, C-00309
Cresol red, C-00310

$C_{21}H_{18}O_6$
7-Hydroxy-4-methyl-2-oxo-2*H*-1-benzopyran-3-acetic acid; Et ester, benzoyl, *in* H-00295

$C_{21}H_{18}O_7S$
Orcinsulfonephthalein, O-00044

$C_{21}H_{19}ClN_2$
4-Chloro-*N*-(2,3-dimethylphenyl)-*N'*-phenylbenzenecarboximidamide, C-00102
N-(4-Chlorophenyl)-*N'*-(2,6-dimethylphenyl)benzenecarboximidamide, C-00214

$C_{21}H_{19}ClN_2O$
N'-(3-Chloro-4-methylphenyl)-*N*-hydroxy-*N*-(4-methylphenyl)benzamidine, C-00182
N-(3-Chlorophenyl)-*N'*-(2,3-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00215
N-(3-Chlorophenyl)-*N'*-(2,5-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00216
N-(3-Chlorophenyl)-*N'*-(2,6-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00217
N-(4-Chlorophenyl)-*N'*-(2,3-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00218

$C_{21}H_{19}NO_7$
Isocein, I-00058

$C_{21}H_{19}N_3$
Benzoflavine, B-00057

$C_{21}H_{19}N_3O_{12}S_2$
4,5-Dihydroxy-3-[4-(aminomethyl)phenylazo]-2,7-naphthalenedisulfonic acid *N*,*N*-diacetic acid, D-00509

$C_{21}H_{19}N_5O$
4-[(4-Amino-1-naphthalenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00275

$C_{21}H_{19}N_7$
2,4-Bis(4,5-dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)pyridine, B-00296
2,6-Bis(4,5-dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)pyridine, B-00297

$C_{21}H_{19}N_7O_2$
2,6-Diacetylpyridine bis (2-pyridylhydrazone), D-00039

$C_{21}H_{20}AsN_3O_{15}S_2$
N-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]methyl]-*N*-(carboxymethyl)glycine, A-00430

$C_{21}H_{20}BrN_3$
▷ Homidium bromide, *in* D-00096

$C_{21}H_{20}N_2$
N-(2,3-Dimethylphenyl)-*N'*-phenylbenzenecarboximidamide, D-00892
N-(2,6-Dimethylphenyl)-*N'*-phenylbenzenecarboximidamide, D-00893
N-(4-Ethylphenyl)-*N'*-phenylbenzenecarboximidamide, E-00104

$C_{21}H_{20}N_2O$
N'-(2,3-Dimethylphenyl)-*N*-hydroxy-*N*-phenylbenzamidine, D-00890
N-Hydroxy-*N*,*N'*-bis(4-methylphenyl)benzenecarboximidamide, *in* H-00308

$C_{21}H_{20}N_2O_2$
N-Hydroxy-*N'*-(4-methoxyphenyl)-*N*-(4-methylphenyl)benzenecarboximidamide, *in* H-00270

$C_{21}H_{20}N_2O_3S$
N-Methylanilinesulfonephthalein, *in* A-00369

$C_{21}H_{20}N_2O_4$
2,7-Diaminofluorene; Tetra-*N*-Ac, *in* D-00097

$C_{21}H_{20}N_2O_4S$
α-Hydroxy-α-phenylbenzeneacetic acid 2-[(4-methylphenyl)sulfonyl]hydrazide, H-00464

$C_{21}H_{20}N_2O_6S$
2-[7-(Diethylamino)-2-oxo-2*H*-1-benzopyran-3-yl]-5-methyl-6-benzoxazolesulfonic acid, D-00327

$C_{21}H_{20}N_3^{\oplus}$
▷ 3,8-Diamino-5-ethyl-6-phenylphenanthridinium(1 +), D-00096

$C_{21}H_{20}O_4$
3-(2-Ethyl-3-oxo-1-phenylbutyl)-4-hydroxy-4*H*-1-benzopyran-4-one, E-00101

$C_{21}H_{20}O_5$
2,6-Bis(3,4-dihydroxybenzylidene)-3-methyl-1-cyclohexanone, B-00299
2,6-Bis(3,4-dihydroxybenzylidene)-4-methyl-1-cyclohexanone, B-00300

$C_{21}H_{20}O_6$
Curcumin, C-00323

$C_{21}H_{20}O_{11}$
Datiscanin, *in* T-00074
5,7,8-Trihydroxyflavanone; 7-*O*-Glucuronopyranoside, *in* T-00282

$C_{21}H_{20}O_{12}$
Quercimeritrin, Q-00001

$C_{21}H_{20}O_{13}$
Cannabiscitrin, *in* H-00055

$C_{21}H_{21}ClN_4$
Rhoduline violet; Chloride, *in* R-00007

$C_{21}H_{21}N$
Tribenzylamine, T-00201

$C_{21}H_{21}N_3O_7$
Cacotheline, C-00005

$C_{21}H_{21}N_4^{\oplus}$
Rhoduline violet, R-00007

$C_{21}H_{21}N_9$
2,6-Bis[3-(4-methyl-2-pyridyl)-1,2,4-triazolin-5-yl]pyridine, B-00424

$C_{21}H_{21}P$
Triphenylpropylphosphonium(1 +); Ylide, *in* T-00372

$C_{21}H_{22}BrP$
Isopropyltriphenylphosphonium(1 +); Bromide, *in* I-00079
Triphenylpropylphosphonium(1 +); Bromide, *in* T-00372

$C_{21}H_{22}ClO_4P$
Isopropyltriphenylphosphonium(1 +); Perchlorate, *in* I-00079

$C_{21}H_{22}ClP$
Isopropyltriphenylphosphonium(1 +); Chloride, *in* I-00079
Triphenylpropylphosphonium(1 +); Chloride, *in* T-00372

$C_{21}H_{22}F_3N_3O_8$
N-[2,4-Dinitro-6-(trifluoromethyl)phenyl]-3,4,6,7,10,11-hexahydro-2*H*,9*H*-1,5,8,12-benzotetraoxacylotetradecin-14-amine, D-00976

$C_{21}H_{22}F_3N_3O_9$
N-[2,4-Dinitro-6-(trifluoromethyl)phenyl]-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, D-00977
N-[2,6-Dinitro-4-(trifluoromethyl)phenyl]-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, D-00978

$C_{21}H_{22}IP$
Isopropyltriphenylphosphonium(1 +); Iodide, *in* I-00079
Triphenylpropylphosphonium(1 +); Iodide, *in* T-00372

$C_{21}H_{22}N_2O_2$
▷ Strychnine, S-00033

$C_{21}H_{22}N_4O$
1-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl]azo]-2-naphthalenol, M-00250
2-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl]azo]-1-naphthalenol, M-00251

$C_{21}H_{22}N_4O_2$
2-[(2,7-Dihydroxy-1-naphthyl)azo]-5-(1-methyl-2-piperidinyl)pyridine, D-00662

$C_{21}H_{22}N_4O_3S$
5-[[5-(1-Methyl-2-piperidinyl)-2-pyridyl]azo]-1-naphthalenesulfonic acid, M-00254

$C_{21}H_{22}N_4O_4S$
4-Hydroxy-3-[[5-(1-methyl-2-piperidinyl)2-pyridinyl]azo]-1-naphthalenesulfonic acid, H-00319
5-Hydroxy-[6-[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]-1-naphthalenesulfonic acid, H-00320
6-Hydroxy-5-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]-2-naphthalenesulfonic acid, H-00321

$C_{21}H_{22}N_4O_8S_2$
4,5-Dihydroxy-3-[(5-(1-methyl-2-piperidinyl)-2-pyridyl)azo]-2,7-napthalenedisulfonic acid, D-00655

$C_{21}H_{22}N_4O_9$
3,5-Dinitro-4-[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentanedecin-15-yl)amino]benzonitrile, D-00956

$C_{21}H_{22}P^{\oplus}$
Isopropyltriphenylphosphonium(1 +), I-00079
Triphenylpropylphosphonium(1 +), T-00372

$C_{21}H_{23}ClN_2O$
Furfurol green; Chloride, *in* F-00063

$C_{21}H_{23}IN_2$
Quinaldine red; Iodide, *in* Q-00004

$C_{21}H_{23}NO_6$
Colchiceine, C-00300

$C_{21}H_{23}N_2^{\oplus}$
Quinaldine red, Q-00004

$C_{21}H_{23}N_2O^{\oplus}$
Furfurol green, F-00063

$C_{21}H_{23}N_3OS$
▷ Pericyazine, P-00044

$C_{21}H_{23}N_3OS_2$
5-[2,2-Bis(4-dimethylaminophenyl)ethylene]rhodanine, B-00318

$C_{22}H_{14}As_2Br_4N_4O_{14}S_2$
3,6-Bis[(2-arsono-4,6-dibromophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00255

$C_{22}H_{14}ClN_5O_{14}S_3$
3-[(3-Chloro-2-hydroxy-5-nitrophenyl)azo]-6-[(3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00139
Sulfochlorophenol N, S-00043

$C_{22}H_{14}Cl_2N_4O_{13}S_3$
3-[(5-Chloro-2-hydroxyphenyl)azo]-6-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00142

$C_{22}H_{14}Cl_2N_4O_{15}S_4$
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-6-[(3-chloro-5-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00153

$C_{22}H_{14}Cl_2N_4O_{16}S_4$
4,5-Dihydroxy-3,6-bis[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00548
Sulfochlorophenol S, S-00045

$C_{22}H_{14}INO_6$
N-(3′,6′-Dihydroxy-3-oxospiro[isobenzofuran-1(3*H*),9′[9*H*]xanthen]-5-yl)-2-iodoacetamide, D-00681

$C_{22}H_{14}N_2O_4S$
Rosinduline 2G, R-00012

$C_{22}H_{14}N_4$
2,3-Di-2-pyridylbenzo[*g*]quinoxaline, D-01088

$C_{22}H_{14}N_4O_5S$
4-Hydroxy-3-[(5-hydroxybenzo[*a*]phenazin-6-yl)azo]benzenesulfonic acid, H-00187

$C_{22}H_{14}N_6$
3-(5,6-Di-2-pyridyl-1,2,4-triazin-3-yl) isoquinoline, D-01097
3-(2-Quinolyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, Q-00038

$C_{22}H_{14}N_6O_{12}S_2$
4,5-Dihydroxy-3,6-bis[(3-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00556
4,5-Dihydroxy-3,6-bis[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00557

$C_{22}H_{14}N_6O_{14}S_2$
4,5-Dihydroxy-3-[(3,5-dinitro-2-hydroxyphenyl)azo]-6-[(2-hydroxyphenyl) azo]-2,7-naphthalenedisulfonic acid, D-00580

$C_{22}H_{14}N_6O_{16}S_3$
Picramine M, P-00233

$C_{22}H_{14}N_6O_{17}S_3$
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-6-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00617

$C_{22}H_{14}N_6O_{19}S_4$
4,5-Dihydroxy-3-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-6-[(3-nitro-5-sulfophenyl) azo]-2,7-naphthalenedisulfonic acid, D-00622

$C_{22}H_{14}N_6O_{20}S_4$
4,5-Dihydroxy-3,6-bis[(2-hydroxy-3-nitro-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00550
Sulfonitrophenol S, S-00054

$C_{22}H_{14}O_2$
1,2-Di(1-naphthalenyl)-1,2-ethanedione, D-00930

$C_{22}H_{14}O_3$
1-Naphthalenecarboxylic acid; Anhydride, *in* N-00005

$C_{22}H_{14}O_9$
Aurintricarboxylic acid, A-00458

$C_{22}H_{15}AsBr_2N_4O_{14}S_3$
Arsenazo DBS, A-00408

$C_{22}H_{15}AsClN_5O_{14}S_2$
3-[(2-Arsonophenyl)azo]-6-[(3-chloro-2-hydroxy-5-nitrophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00424

$C_{22}H_{15}AsN_6O_{16}S_2$
3-[(2-Arsonophenyl)azo]-6-[(3,5-dinitro-2-hydroxyphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00441

$C_{22}H_{15}ClIN_4O_{11}PS_2$
3-[(4-Chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-6-[(4-iodophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00249

$C_{22}H_{15}ClN_4O_{12}S_3$
3-[(5-Chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00146
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-6-phenylazo-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00162

$C_{22}H_{15}ClN_4O_{13}S_3$
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, C-00156

$C_{22}H_{15}ClN_4O_{14}S_4$
3-[(5-Chloro-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00262

$C_{22}H_{15}ClN_4O_{15}S_4$
Sulfochlorophenol M, S-00042

$C_{22}H_{15}ClN_4O_{16}S_4$
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-5-sulfophenyl) azo]-2,7-naphthalenedisulfonic acid, C-00157

$C_{22}H_{15}ClN_5O_{13}PS_2$
Chlorophosphonazo mN, C-00243
Chlorophosphonazo pN, C-00244

$C_{22}H_{15}ClO_2$
2′-Hydroxy-[1,1′-binaphthalene]-2-carboxylic acid; Me ether, chloride, *in* H-00131

$C_{22}H_{15}Cl_2N_4O_{11}PS_2$
Chlorophosphonazo-*m*-sulfonic acid, C-00246

$C_{22}H_{15}NO_2$
1,2-Di(1-naphthalenyl)-1,2-ethanedione; Monooxime, *in* D-00930
1,1′-(Iminodimethylidene)bis-2(1*H*)-naphthalenone, I-00020

$C_{22}H_{15}N_3$
1-(5-Phenyl-2-benzimidazolyl)isoquinoline, P-00103
3-(5-Phenyl-2-benzimidazolyl)isoquinoline, P-00104

$C_{22}H_{15}N_3O$
2-[(4-Methyl-2-quinolinyl)azo]-1-acenaphthylenol, M-00308

$C_{22}H_{15}N_3O_3S$
2-(3,4-Dihydroxyphenylazo)-4-phenyl-5-benzoylthiazole, D-00699

$C_{22}H_{15}N_3O_4S$
4-[2-[(3,4-Dihydroxyphenyl)azo]-5-phenyl-4-thiazolyl]benzoic acid, D-00700

$C_{22}H_{15}N_5O_{10}S_2$
4,5-Dihydroxy-3-[(*p*-nitrophenyl)azo]-6-(phenylazo-2,7-naphthalenedisulfonic acid), D-00667

$C_{22}H_{15}N_5O_{13}S_3$
4,5-Dihydroxy-3-[(*p*-nitrophenyl)azo]-6-[(*p*-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00669
4,5-Dihydroxy-3-[(5-nitro-3-sulfophenyl)azo]-6-(phenylazo)-2,7-naphthalenedisulfonic acid, D-00677

$C_{22}H_{15}N_5O_{14}S_3$
4,5-Dihydroxy-3-[(2-hydroxy-4-nitrophenyl) azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00620
4,5-Dihydroxy-3-[(2-hydroxy-5-nitrophenyl) azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00621
4,5-Dihydroxy-3-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-6-(phenylazo)-2,7-naphthalenedisulfonic acid, D-00623

$C_{22}H_{15}N_5O_{16}S_4$
4,5-Dihydroxy-3-[(4-nitro-2-sulfophenyl)azo]-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00678
4,5-Dihydroxy-3-[(5-nitro-3-sulfophenyl)azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00679

$C_{22}H_{15}N_5O_{17}S_4$
Sulfonitrophenol M, S-00052

$C_{22}H_{15}N_5O_{19}S_5$
4,5-Dihydroxy-3-[(2,4-disulfophenyl)azo]-6-[(4-nitro-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00605

$C_{22}H_{16}AsClN_4O_{12}S_2$
3-[(2-Arsonophenyl)azo]-6-[(5-chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00425

$C_{22}H_{16}AsClN_4O_{15}S_3$
3-[(2-Arsonophenyl)azo]-6-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00426

$C_{22}H_{16}AsN_5O_{13}S_2$
3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00437

$C_{22}H_{16}AsN_5O_{16}S_3$
Arsenazo 4S3NB, A-00416

$C_{22}H_{16}AsN_5O_{17}S_3$
3-[(2-Arsonophenyl)azo]-6-[(2-hydroxy-3-nitro-5-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00442

$C_{22}H_{16}As_2Br_2N_4O_{14}S_2$
Dibromoarsenazo III, D-00178

$C_{22}H_{16}Cl_2N_4O_{14}P_2S_2$
Chlorophosphonazo III, C-00242

$C_{22}H_{16}F_{12}N_6S_2$
2,3-Butanedione bis[3,5-bis(trifluoromethyl) phenylthiosemicarbazone], B-00590

$C_{22}H_{16}N_2$
4,4′-Diphenyl-2,2′-bipyridine, D-01002

$C_{22}H_{16}N_2O_2$
1-(4-Hydroxy-3-biphenylylazo)-2-naphthol, H-00134

$C_{22}H_{16}N_2O_3$
2,3-Bis(2-hydroxybenzylideneamino) benzofuran, B-00361

$C_{22}H_{16}N_4O$
6-Benzoyl-3-(4-methyl-2-pyridyl)-5-methyl-1,2,4-triazine, B-00136
▷ 1-[[4-(Phenylazo)phenyl]azo]-2-naphthalenol, P-00095

$C_{22}H_{16}N_4O_2$
2-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo]benzoic acid, D-01022

$C_{22}H_{16}N_4O_7S_2$
Brilliant croceine, B-00478

$C_{22}H_{16}N_4O_8S_2$
4,5-Dihydroxy-3,6-bis(phenylazo)-2,7-naphthalenedisulfonic acid, D-00559

$C_{22}H_{16}N_4O_9S_2$
4,5-Dihydroxy-3-[(4-hydroxyphenyl)azo]-6-(phenylazo)-2,7-naphthalenedisulfonic acid, D-00625

$C_{23}H_{14}O_6$
2,6,7-Trihydroxy-9-(2-hydroxy-1-naphthalenyl)-3*H*-xanthen-3-one, T-00289

$C_{23}H_{15}BrO_3$
4-(Bromoacetyl)phenyl 9-anthracenecarboxylate, B-00485

$C_{23}H_{15}ClN_4O_{10}S_2$
3-[[7-[4-Chlorophenylazo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]benzoic acid, C-00201

$C_{23}H_{15}ClN_4O_{11}S_2$
2-[[7-[(5-Chloro-2-hydroxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo] benzoic acid, C-00143

$C_{23}H_{15}ClN_4O_{13}S_3$
2-[[1,8-Dihydroxy-7-[(5-chloro-3-sulfophenyl) azo]-3,6-disulfo-2-naphthyl]azo]benzoic acid, D-00568

$C_{23}H_{15}ClN_4O_{14}S_3$
Sulfochlorophenol K, S-00041

$C_{23}H_{15}Cl_3O_6$
Eriochrome azurol G, E-00009

$C_{23}H_{15}NO$
2′-Methyl-α-oxo-[1,1′-binaphthalene]-2-acetonitrile, M-00212

$C_{23}H_{15}NO_4$
Oxine blue†, O-00052

$C_{23}H_{15}N_3O$
1-(2-Quinolinylazo)-2-phenanthrenol, Q-00031

$C_{23}H_{15}N_5O_{12}S_2$
Carboxynitrazo, C-00035
2-[[1,8-Dihydroxy-7-[(2-nitrophenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00663
2-[[1,8-Dihydroxy-7-[(3-nitrophenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00664

$C_{23}H_{15}N_5O_{15}S_3$
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(3-nitro-5-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, D-00604

$C_{23}H_{15}N_5O_{16}S_3$
Sulfonitrophenol K, S-00051

$C_{23}H_{15}N_7$
3-(2,2′-Bipyridin-6-yl)-5,6-di-2-pyridyl-1,2,4-triazine, B-00228

$C_{23}H_{16}ClNO_8$
Chromal blue G, C-00275

$C_{23}H_{16}ClN_4O_{13}PS_2$
3-[[7-[(4-Chloro-2-phosphonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo] benzoic acid, C-00247

$C_{23}H_{16}Cl_2O_6$
Solochrome azurine BS, S-00016

$C_{23}H_{16}Cl_2O_9S$
Chromazurol S, C-00277

$C_{23}H_{16}Cl_3N_3O_5S$
Mordant green 34, M-00343

$C_{23}H_{16}N_2O_2$
5-Anilino-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, A-00371

$C_{23}H_{16}N_4$
2-(2,2′-Bipyridin-6-yl)-5-phenylbenzimidazole, B-00233
6-Phenanthridinecarboxaldehyde 2-quinolinylhydrazone, P-00051

$C_{23}H_{16}N_4O_6S$
2-[(1-Hydroxy-7-(phenylazo)-3-sulfo-2-naphthalenyl)azo]benzoic acid, H-00459

$C_{23}H_{16}N_4O_{10}S_2$
2-[[1,8-Dihydroxy-7-(phenylazo)-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00692

$C_{23}H_{16}N_4O_{13}S_3$
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(2-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, D-00608
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(3-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, D-00609
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(4-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, D-00610
3-[[1,8-Dihydroxy-3,6-disulfo-7-[(4-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, D-00611

$C_{23}H_{16}N_4O_{14}S_3$
o-[[1,8-Dihydroxy-7-[(2-hydroxy-5-sulfophenyl)azo]-3,6-disulfo-2-naphthyl] azo]benzoic acid, D-00630

$C_{23}H_{16}N_8$
2-Amino-4,6-bis[6-(2-pyridyl)-2-pyridyl]-*s*-triazine, A-00122

$C_{23}H_{16}O_2$
4-(Diphenylmethylene)-2-hydroxy-1(4*H*)-naphthalenone, D-01029

$C_{23}H_{16}O_3$
▷ Diphenadione, D-00997

$C_{23}H_{17}AsN_4O_{13}S_2$
2-[[7-[(4-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, A-00429
Carboxyarsenazo, C-00026
Carboxyarsenazo B, C-00027

$C_{23}H_{17}AsN_4O_{16}S_3$
2-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-5-sulfobenzoic acid, A-00433

$C_{23}H_{17}AsN_4O_{17}S_3$
3-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-2-hydroxy-5-sulfobenzoic acid, A-00432

$C_{23}H_{17}BF_4O$
2,4,6-Triphenylpyrylium(1+); Tetrafluoroborate, *in* T-00374

$C_{23}H_{17}BrO$
2,4,6-Triphenylpyrylium(1+); Bromide, *in* T-00374

$C_{23}H_{17}ClN_4O_5S$
2-Chloro-5-[[5-hydroxy-4-[(2-hydroxy-1-naphthalenyl)azo]-2-methylphenyl]azo] benzenesulfonic acid, C-00132

$C_{23}H_{17}ClO$
2,4,6-Triphenylpyrylium(1+); Chloride, *in* T-00374

$C_{23}H_{17}ClO_5$
2,4,6-Triphenylpyrylium(1+); Perchlorate, *in* T-00374

$C_{23}H_{17}IO$
2,4,6-Triphenylpyrylium(1+); Iodide, *in* T-00374

$C_{23}H_{17}N$
2,4,6-Triphenylpyridine, T-00373

$C_{23}H_{17}NO$
N-Phenyl-1-naphthylamine; *N*-Benzoyl, *in* P-00151
2,4,6-Triphenylpyridine; 1-Oxide, *in* T-00373

$C_{23}H_{17}NO_2$
2-(2-Hydroxy-1-naphthylideneamino)-4-biphenylol, H-00378

$C_{23}H_{17}N_3O$
Diphenylethanedione mono(2-quinolinylhydrazone), D-01014
Diphenylethanedione mono(8-quinolinylhydrazone), D-01015

$C_{23}H_{17}N_3O_4S$
4-[2-[(3,4-Dihydroxyphenyl)azo]-5-phenyl-4-thiazolyl]benzoic acid; Me ester, *in* D-00700

$C_{23}H_{17}N_3O_6S$
4-Hydroxy-3-[[2-hydroxy-3-(phenylcarbamoyl)-1-naphthyl]azo] benzenesulfonic acid, H-00236
2-[[1-Hydroxy-7-(phenylamino)-3-sulfo-2-naphthalenyl]azo]benzoic acid, *in* A-00222

$C_{23}H_{17}N_7O$
N-2-Pyridinyl-2-pyridinecarboximidic acid (oxodi-2-pyridinylethylidene)hydrazide, P-00401

$C_{23}H_{17}O^{\oplus}$
2,4,6-Triphenylpyrylium(1+), T-00374

$C_{23}H_{18}As_2N_4O_{16}S_2$
3-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-4-arsonobenzoic acid, A-00431

$C_{23}H_{18}N_2O_2$
Diphenadione; 1-Hydrazone, *in* D-00997

$C_{23}H_{18}N_4O_3$
Azo-azoxy BN, A-00465
1-[[2-[(2-Hydroxy-5-methylphenyl)-*O*,*N*,*N*-azoxy]phenyl]azo]-2-naphthalenol, H-00305

$C_{23}H_{18}N_4O_8S_2$
4,5-Dihydroxy-3-(3-methylphenylazo)-6-phenylazo-2,7-naphthalenedisulfonic acid, D-00654

$C_{23}H_{18}N_8O$
1,3-Bis[di(2-pyridyl)methyleneamino]urea, B-00345

$C_{23}H_{18}N_8S$
Bis(di-2-pyridinylmethylene)carbonothioic dihydrazide, B-00344

$C_{23}H_{18}O_9S$
Eriochrome cyanine R, E-00013

$C_{23}H_{18}O_{12}S_2$
Sulfochrome, S-00046

$C_{23}H_{19}AsN_4O_{11}S_2$
3-[(4-Arsonophenyl)azo]-4,5-dihydroxy-6-[(4-methylphenyl)azo]-2,7-naphthalenedisulfonic acid, A-00435

$C_{23}H_{19}Br_2NO_{16}S_4$
Dibromotichromin, D-00219

$C_{23}H_{19}NO_6$
4-(*N*-Morpholinophenyl)fluorone, M-00349

$C_{23}H_{19}N_2O_{10}PS_2$
4,5-Dihydroxy-3-[[2-[hydroxy(2-methylphenyl) phosphinyl]phenyl]azo]-2,7-naphthalenedisulfonic acid, D-00619

$C_{23}H_{19}N_5O_8$
1-(2-Carboxymethoxy-4-nitrophenyl)-3-phenyl-5-(carboxymethoxyphenyl) formazan, C-00033

$C_{23}H_{19}N_9$
Bis(di-2-pyridinylmethylene)carbonimidic dihydrazide, B-00343

$C_{23}H_{20}As_2N_4O_{14}S_2$
3-[(2-Arsonophenyl)azo]-6-[(2-arsono-5-methylphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00422

$C_{23}H_{20}Br_2O_5S$
Bromoxylenol blue, B-00583

$C_{23}H_{20}Br_4N_2O_3S$
Tetrabromo-*N*-ethylanilinesulfonephthalein, T-00018

$C_{23}H_{20}N_2$
4,5-Dihydro-1,5-diphenyl-3-(2-phenylethenyl)-1*H*-pyrazole, D-00401
2,4,5-Triphenylimidazole; *N*-Et, *in* T-00367

$C_{23}H_{20}N_2O_3$
3,3-Bis(8-quinolyloxymethyl)oxetane, B-00452

$C_{23}H_{20}N_4O_6$
1,5-Bis[2-(carboxymethoxy)phenyl]-3-phenylformazan, B-00275

$C_{23}H_{20}N_6O_3$
Azo-azoxy PMP, A-00466

$C_{23}H_{20}O_5$
Fluorescin; Di-Me ether, Me ester, *in* F-00022

$C_{23}H_{21}NO_5$
4-Diethylaminophenylfluorone, *in* A-00328

$C_{23}H_{21}NO_{16}S_4$
Tichromin, T-00185

$C_{23}H_{21}N_5O_2$
2,6-Diacetylpyridine bis(benzoylhydrazone), D-00036

$C_{23}H_{21}N_5O_4$
2,6-Diacetylpyridine bis(2-hydroxybenzoylhydrazone), D-00038

$C_{23}H_{22}Br_2O_5$
2,6-Bis(3-bromo-4-hydroxy-5-methoxybenzylidene)-3-methyl-1-cyclohexanone, B-00266
2,6-Bis(3-bromo-4-hydroxy-5-methoxybenzylidene)-4-methyl-1-cyclohexanone, B-00267

$C_{23}H_{22}N_4O_3$
6,7,9,10-Tetrahydro-18-phenyl-16*H*-dibenzo[*b*,*i*][1,11,14,4,5,7,8] trioxatetraazacyclohexadecine, T-00065

$C_{23}H_{22}O_5S$
Xylenol blue, X-00005

$C_{23}H_{23}ClO_6$
3-[3-(3,3-Dimethyl-1(3*H*)-isobenzofuranylidene)-1-propenyl]-1,1-dimethyl-1*H*-isobenzofurylium(1+); Perchlorate, *in* D-00869

$C_{23}H_{23}N_3OS$
4-Adamantyl-2-(2-hydroxy-1-naphthalenylazo) thiazole, A-00064

$C_{23}H_{23}O_2^{\oplus}$
3-[3-(3,3-Dimethyl-1(3*H*)-isobenzofuranylidene)-1-propenyl]-1,1-dimethyl-1*H*-isobenzofurylium(1+), D-00869

$C_{23}H_{24}ClN_3O_2$
o-Nitral green; Chloride, *in* N-00072
p-Nitral green; Chloride, *in* N-00073

$C_{23}H_{24}N_2O_3S$
N-Ethylanilinesulfonephthalein, *in* A-00369

$C_{23}H_{24}N_2O_5S$
N-(Hydroxyethyl)anilinesulfonephthalein, *in* A-00369

$C_{23}H_{24}N_2O_{12}S_2$
Sulfochrome; Di-NH_4 salt, *in* S-00046

$C_{23}H_{24}N_3O_2^{\oplus}$
o-Nitral green, N-00072
p-Nitral green, N-00073

$C_{23}H_{24}N_3O_5P$
Benzyl *N*-[Imino(diphenoxyphosphinylamino) methyl]-*N*-methylglycinate, *in* P-00214

$C_{23}H_{24}N_4O_2$
1,1-Diantipyrylmethane, D-00139

$C_{23}H_{24}N_4O_8S_2$
Bis(1-*p*-sulfophenyl-2,3-dimethylpyrazol-5-on-4-yl)methane, B-00456

$C_{23}H_{24}N_4S_2$
4,4′-Methylenebis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-thione], M-00169

$C_{23}H_{24}N_6O_2S$
Diantipyrylthiourea, D-00141

$C_{23}H_{25}ClN_2$
2-[2-(1,2-Dihydro-1-methyl-6-quinolinyl) ethenyl]-1,3,3-trimethyl-3*H*-indolinium(1+); Chloride, *in* D-00458
▷ Malachite green; Chloride, *in* M-00006

$C_{23}H_{25}N_2^{\oplus}$
2-[2-(1,2-Dihydro-1-methyl-6-quinolinyl) ethenyl]-1,3,3-trimethyl-3*H*-indolinium(1+), D-00458
Malachite green, M-00006

$C_{23}H_{26}N_2$
4,4′-Bis(dimethylamino)triphenylmethane, B-00327

$C_{23}H_{26}N_2O_3S$
2-[Bis[4-(dimethylamino)phenyl]methyl] benzenesulfonic acid, B-00322

$C_{23}H_{26}N_2O_4$
▷ Brucine, B-00584

$C_{23}H_{26}N_2O_5$
Brucine *N*-oxide, *in* B-00584

$C_{23}H_{27}NO_8$
Narceine, N-00059

$C_{23}H_{28}ClN_3O_2S$
▷ Perphenazine acetate, *in* P-00046

$C_{23}H_{28}N_2O_2$
7,8,9,10,18,19,20,21-Octahydro-6*H*-dibenzo[*b*,*l*]-[1,14,5,10] dioxadiazacyclononadecine, O-00011

$C_{23}H_{28}O_8$
4-[(6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b*,*k*][1,4,7,10,13] pentaoxacyclohexadecin-18-yl)oxy]butanoic acid, H-00041

$C_{23}H_{29}ClN_2$
Astra violet 3R; Chloride, *in* A-00451

$C_{23}H_{29}N_2^{\oplus}$
Astra violet 3R, A-00451

$C_{23}H_{29}N_3O_8$
2-Hydroxy-[5-(4-nitrophenylazo)phenyl] methyl-15-crown-5, H-00398

$C_{23}H_{29}N_3O_9$
[2-Hydroxy-5-(4-nitrophenylazo)phenyl] oxymethyl-15-crown-5, H-00400

$C_{23}H_{29}N_5O_{10}$
2,4,6-Trinitro-*N*-[2-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-ylmethyl)phenyl] benzenamine, T-00356

$C_{23}H_{30}ClN_3O$
▷ Quinacrine, Q-00003

$C_{23}H_{30}N_4O_2$
6′-[(5-Cyclohexyl-2,4-dihydroxyphenyl)azo]-1-methylanabasine, C-00353

$C_{23}H_{30}N_4O_8$
1-[[*N*-[2-Methyl-*N*-[*N*-[(phenylmethoxy) carbonyl]-L-valyl]alanyl]glycyl]oxy]-2,5-pyrrolidinedione, M-00231

$C_{23}H_{30}O_7$
Dibenzo-22-crown-7, D-00158

$C_{23}H_{32}N_2S$
N,*N*′-Diphenylcarbamimidothioic acid decyl ester, *in* D-01055

$C_{23}H_{33}NO_8$
7-Hydroxy-4-methyl-8-(1,4,7,10,13-pentaoxa-16-azacyclooctadec-16-ylmethyl)-2*H*-1-benzopyran-2-one, H-00299

$C_{23}H_{40}N_4$
1,1′-Methylenebis[4-ethyl-3,5-dipropyl-1*H*-pyrazole], M-00171

$C_{23}H_{42}ClN$
Zephiramine; Chloride, *in* Z-00001

$C_{23}H_{42}N^{\oplus}$
Zephiramine, Z-00001

$C_{23}H_{46}O_4$
6-Dodecyl-6-methyl-1,4,8,11-tetraoxacyclotetradecane, D-01153

$C_{24}H_9Br_4NO_7$
1-[2′,3′,4′,7′-Tetrabromo-3′,6′-dihydroxy-3-oxospiro[isobenzofuran-1(3*H*),9′-[9*H*] xanthen]-5-yl]-1*H*-pyrrole-2,5-dione, T-00017

$C_{24}H_{12}F_9O_6PrS_3$
Tris[4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedionato-*O*,*O*′]praseodymium(*III*), T-00425

$C_{24}H_{12}F_9O_6S_3Yb$
Tris[4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedionato-*O*,*O*′]ytterbium(*III*), T-00426

$C_{24}H_{13}NO_7$
Fluorescein-5-maleimide, F-00021

$C_{24}H_{14}Cl_2N_4O_{14}S_2$
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[5-chlorosalicylic acid], D-00588

$C_{24}H_{14}N_2O_9S_2$
4-[(9,10-Dihydro-9,10-dioxo-1-anthracenyl) azo]-3-hydroxy-2,7-naphthalenedisulfonic acid, D-00396

$C_{24}H_{15}N_3O_7$
3′,6′-Bis(acetyloxy)-5-azidospiro[isobenzofuran-1(3*H*), 9′-[9*H*] xanthen]-3-one, *in* A-00460

$C_{24}H_{15}N_5$
2-(4-Phenyl-2-pyridyl)-1*H*-imidazo[4,5-*f*][4,7] phenanthroline, P-00182

$C_{24}H_{16}BCl_4^{\ominus}$
Tetrakis(4-chlorophenyl)borate(1−), T-00083

$C_{24}H_{16}BCl_4K$
Tetrakis(4-chlorophenyl)borate(1−); K salt, *in* T-00083

$C_{24}H_{16}BF_4^{\ominus}$
Tetrakis(4-fluorophenyl)borate(1−), T-00084

$C_{24}H_{16}BF_4Li$
Tetrakis(4-fluorophenyl)borate(1−); Li salt, *in* T-00084

$C_{24}H_{16}BF_4Na$
Tetrakis(4-fluorophenyl)borate(1−); Na salt, *in* T-00084

$C_{24}H_{16}N_2$
2,9-Diphenyl-1,10-phenanthroline, D-01032
3,8-Diphenyl-1,10-phenanthroline, D-01033
4,7-Diphenyl-1,10-phenanthroline, D-01034

$C_{24}H_{16}N_2O_2$
2,2′-(1,4-Phenylene)bis[5-phenyloxazole], P-00121

$C_{24}H_{16}N_2O_6S_2$
Bathophenanthrolinedisulfonic acid, B-00003

$C_{24}H_{16}N_4$
3-(5,6-Diphenyl-1,2,4-triazin-3-yl)isoquinoline, D-01056
3-(Isoquinolyl)-5,6-diphenyl-1,2,4-triazine, I-00087
3-(2-Quinolyl)-5,6-diphenyl-1,2,4-triazine, Q-00039

$C_{24}H_{16}N_4O_3$
1-[(3-Methyl-5-oxo-1-phenyl-2-pyrazolin-4-yl) azo]anthraquinone, M-00215

$C_{24}H_{16}N_4O_9S_3$
3-(Isoquinolyl)-5,6-diphenyl-1,2,4-triazine; Tris-SO_3H deriv., *in* I-00087

$C_{24}H_{16}N_4O_{12}S_2$
Carboxybenzene S, C-00028
2-[[7-[(3-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, C-00036
2-[[7-[(4-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, C-00037
2,2′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bisbenzoic acid, D-00592

3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bisbenzoic acid, D-00593

$C_{24}H_{16}N_4O_{16}S_3$
3-[[7-[(2-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]-2-hydroxy-5-sulfobenzoic acid, C-00038

$C_{24}H_{16}N_4O_{18}S_4$
2,2′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[5-sulfobenzoic acid], D-00590

$C_{24}H_{16}N_4O_{20}S_4$
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[2-hydroxy-5-sulfobenzoic acid], D-00589

$C_{24}H_{16}N_6$
3-(4-Phenyl-2-pyridyl)-5,6-di-2-pyridyl-1,2,4-triazine, P-00180
3-(6-Phenyl-2-pyridyl)-5,6-di-2-pyridyl-1,2,4-triazine, P-00181
2,3,5,6-Tetra(2-pyridyl)pyrazine, T-00125

$C_{24}H_{16}N_6O_6$
Phenazo, P-00059

$C_{24}H_{16}O_3$
3-[2-Hydroxyphenyl]-3-phenylnaphtho[2,1-*b*]furan-1(3*H*)-one, H-00493
3-[4-Hydroxyphenyl]-3-phenylnaphtho[2,1-*b*]furan-1(3*H*)-one, H-00494

$C_{24}H_{16}O_7$
Fluorescein; Di-Ac, *in* F-00020

$C_{24}H_{17}N_3$
5-Phenyl-2-(4-phenyl-2-pyridyl)benzimidazole, P-00159

$C_{24}H_{17}N_5$
8-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo]quinoline, D-01025
Di-2-quinolinylmethanone 2-pyridinylhydrazone, D-01102

$C_{24}H_{18}As_2N_4O_{18}S_2$
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bis[4-arsonobenzoic acid], D-00591

$C_{24}H_{18}ClNS$
1-(*p*-Chlorobenzyl)-4,6-diphenyl-2-pyridinethione, C-00071

$C_{24}H_{18}ClN_4O_{12}PS_2$
3-[(3-Acetylphenyl)azo]-6-[(4-chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00030

$C_{24}H_{18}N_4$
2-Benzoylpyridine azine, B-00152
2,3-Bis(6-methyl-2-pyridyl)benzo[*g*]quinoxaline, B-00414

$C_{24}H_{18}N_4O_4$
4,4′-Bis(3,4-dihydroxyphenylazo)biphenyl, B-00302

$C_{24}H_{18}N_4O_{10}S_2$
2-[[1,8-Dihydroxy-7-[(3-methylphenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00651
2-[[1,8-Dihydroxy-7-[(4-methylphenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00652

$C_{24}H_{18}N_4O_{11}S_2$
2-[[1,8-Dihydroxy-7-[(4-methoxyphenyl)azo]-3,6-disulfo-2-naphthyl]azo]benzoic acid, D-00642

$C_{24}H_{18}N_5O_{14}PS_2$
Nitrophosphonazo-mA, N-00147

$C_{24}H_{18}N_6O$
N-Phenyl-2-pyridinecarboximidic acid (oxodi-2-pyridinylethylidene)hydrazide, P-00175
N-2-Pyridinylbenzenecarboximidic acid (oxodi-2-pyridinylethylidene)hydrazide, P-00384

$C_{24}H_{18}N_6O_3$
1,3,5-Triazine-2,4,6-triamine; Tribenzoyl, *in* T-00197

$C_{24}H_{18}O_6$
Fluorescein; Et ester, Ac, *in* F-00020
Phenolphthalein; Di-Ac, *in* P-00063

$C_{24}H_{18}O_7$
Fluorescin; Di-Ac, *in* F-00022

$C_{24}H_{19}ClN_4O_{12}S_3$
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2,4-dimethylphenyl)azo]-2,7-naphthalenedisulfonic acid, C-00154

$C_{24}H_{19}NO_4$
1-[1-Oxo-4-(1-pyrenyl)butoxy]-2,5-pyrrolidinedione, O-00073

$C_{24}H_{20}As^{\oplus}$
▷ Tetraphenylarsonium(1+), T-00119

$C_{24}H_{20}AsBr$
Tetraphenylarsonium(1+); Bromide, *in* T-00119

$C_{24}H_{20}AsBr_3$
Tetraphenylarsonium(1+); Tribromide, *in* T-00119

$C_{24}H_{20}AsCl$
▷ Tetraphenylarsonium(1+); Chloride, *in* T-00119

$C_{24}H_{20}AsI$
Tetraphenylarsonium(1+); Iodide, *in* T-00119

$C_{24}H_{20}AsI_3$
Tetraphenylarsonium(1+); Triiodide, *in* T-00119

$C_{24}H_{20}BCs$
Caesium tetraphenylborate(1−), C-00009

$C_{24}H_{20}BNa$
▷ Sodium tetraphenylborate(*III*), S-00015

$C_{24}H_{20}BrP$
Tetraphenylphosphonium(1+); Bromide, *in* T-00120

$C_{24}H_{20}BrSb$
▷ Bromotetraphenylantimony, B-00577

$C_{24}H_{20}Br_3P$
Tetraphenylphosphonium(1+); Tribromide, *in* T-00120

$C_{24}H_{20}Br_3Sb$
Bromotetraphenylantimony; Br_2 complex (1:1), *in* B-00577

$C_{24}H_{20}ClN_3$
Neutral blue; Chloride, *in* N-00064

$C_{24}H_{20}ClP$
Tetraphenylphosphonium(1+); Chloride, *in* T-00120

$C_{24}H_{20}IP$
Tetraphenylphosphonium(1+); Iodide, *in* T-00120

$C_{24}H_{20}ISb$
Tetraphenylstibonium(1+); Iodide, *in* T-00122

$C_{24}H_{20}N_2$
4,4′-Dianilinobiphenyl, *in* D-00053

$C_{24}H_{20}N_2O$
1-(9-Anthracenyl)-2-[[4-(dimethylamino)phenyl]imino]ethanone, A-00382

$C_{24}H_{20}N_2O_2$
4-([1,1′-Biphenyl]-4-ylcarbonyl)-2,4-dihydro-5-methyl-2-(2-methylphenyl)-3*H*-pyrazol-3-one, B-00213

$C_{24}H_{20}N_2O_2S_2$
2,2′-Dithiobis[1-naphthaleneamine]; *N*,*N*′-Di-Ac, *in* D-01118

$C_{24}H_{20}N_2O_3$
7-[α-(Carbomethoxyanilino)benzyl]-8-hydroxyquinoline, C-00022

$C_{24}H_{20}N_3^{\oplus}$
Neutral blue, N-00064

$C_{24}H_{20}N_3Sb$
Tetraphenylstibonium(1+); Azide, *in* T-00122

$C_{24}H_{20}N_4O_8S_2$
4,5-Dihydroxy-3,6-bis(*p*-tolylazo)-2,7-naphthalenedisulfonic acid, D-00566

$C_{24}H_{20}N_4O_{10}S_2$
4,5-Dihydroxy-3,6-bis[(4-methoxyphenyl)azo]-2,7-naphthalenedisulfonic acid, *in* D-00552
4,5-Dihydroxy-3,6-bis[(*o*-methoxyphenyl)azo]-2,7-naphthalenedisulfonic acid, *in* D-00551

$C_{24}H_{20}N_4O_{14}S_4$
3,6-Bis[(5-methyl-2-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00426
4,5-Dihydroxy-3,6-bis[(4-methyl-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00554

$C_{24}H_{20}N_6$
Diphenylethanedione bis(2-pyridinylhydrazone), D-01012

$C_{24}H_{20}N_6O_8S_2$
1,1′-(2,2′-Disulfo-4,4′-biphenylene)bis(3-hydroxy-3-phenyltriazene), D-01108

$C_{24}H_{20}N_6S_2$
Glyoxal bis(1-naphthylthiosemicarbazone), G-00031

$C_{24}H_{20}O_4P_2S_4$
Bis[(diphenoxyphosphino)thioyl] disulfide, B-00336

$C_{24}H_{20}O_4STl_2$
▷ Tetraphenyl-μ-sulfatodithallium, T-00123

$C_{24}H_{20}O_5$
Fluorescein; Et ester, Et ether, *in* F-00020

$C_{24}H_{20}O_6$
Glycerol; Tribenzoyl, *in* G-00015

$C_{24}H_{20}O_7$
Citric acid; Triphenyl ester, *in* C-00299
Gallein; Tri-Me ether, Me ester, *in* G-00004

$C_{24}H_{20}P^{\oplus}$
Tetraphenylphosphonium(1+), T-00120

$C_{24}H_{20}P_2S_3$
Diphenylphosphinodithioic acid; Anhydrosulfide, *in* D-01039

$C_{24}H_{20}Sb^{\oplus}$
Tetraphenylstibonium(1+), T-00122

$C_{24}H_{21}NO_8$
Cotarnilfluorone, C-00302

$C_{24}H_{21}NO_9S$
Semiphthalexon S, S-00013

$C_{24}H_{22}$
1,4-Bis[2-(2-methylphenyl)ethenyl]benzene, B-00407

$C_{24}H_{22}AsN_5O_{11}S_2$
3-[(2-Arsonophenyl)azo]-6-[(4-dimethylaminophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00440

$C_{24}H_{22}As_2N_4O_{14}S_2$
3,6-Bis[(2-arsono-4-methylphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00256

$C_{24}H_{22}Cl_2N_2$
▷ 1,1′-Dibenzyl-4,4′-bipyridinium(2+); Dichloride, *in* D-00167

$C_{24}H_{22}N_2^{2\oplus}$
1,1′-Dibenzyl-4,4′-bipyridinium(2+), D-00167

$C_{24}H_{22}N_2O$
2-(4-Biphenylyl)-5-(4-*tert*-butylphenyl)-1,3,4-oxadiazole, B-00212

$C_{24}H_{22}N_2O_2$
1,1-Bis(8-quinolyloxymethyl)cyclobutane, B-00451

$C_{28}H_{24}N_4$
5,6,17,18-Tetrahydrotetrabenzo[*b,f,j,n*]-1,5,9,13-tetraazacyclohexadecine, T-00068

$C_{28}H_{24}N_6O$
5-(1-Benzyl-2-benzimidazolyl)-3-(2-methoxyphenyl)-1-phenylformazan, *in* B-00169

$C_{28}H_{24}N_6S_2$
Glyoxal bis(4-biphenylylthiosemicarbazone), G-00021

$C_{28}H_{26}ClN_5O$
Janus black; Chloride, *in* J-00001

$C_{28}H_{26}Cl_4O_4$
Thymoltetrachlorophthalein, T-00184

$C_{28}H_{26}N_2O_9$
Methylcalcein, M-00152

$C_{28}H_{26}N_4$
N,N'-Bis(*o*-amino-α-phenylbenzylidene) ethylenediamine, B-00250

$C_{28}H_{26}N_5O^{\oplus}$
Janus black, J-00001

$C_{28}H_{27}Br_2NO_5S_2$
Isothiocyanatobromothymol blue, I-00092

$C_{28}H_{27}ClN_2$
Astrazon orange R; Chloride, *in* A-00453

$C_{28}H_{27}N_2^{\oplus}$
Astrazon orange R, A-00453

$C_{28}H_{28}N_{12}O_{14}S_2$
4,4'-[(4,6-Diamino-1,3,5-triazin-2-yl)amino]-2,2'-stilbenedisulfonic acid-*N,N',N'',N'''*-tetraacetic acid, D-00129

$C_{28}H_{29}NO_9S$
Semimethylxylenol blue, S-00012

$C_{28}H_{30}I_2P_2$
1,2-Ethanediylbis-[methyldiphenylphosphonium] diiodide, *in* B-00338

$C_{28}H_{30}N_4$
Mesotetraethylporphine, M-00062

$C_{28}H_{30}N_6O_6$
Nitrochromopyrazole, N-00103

$C_{28}H_{30}O_3$
ι-Oxo-1-pyrenedecanoic acid; Et ester, *in* O-00072

$C_{28}H_{30}O_4$
3,3-Bis(4-hydroxy-2-isopropyl-5-methylphenyl)-1(3*H*)-isobenzofuranone, B-00378
Thymolphthalein, T-00182

$C_{28}H_{31}BrN_4O_2$
4-[3-Bromo-4-(dimethylamino)-α-[*p*-(dimethylamino)phenyl]-α-hydroxybenzyl] antipyrine, B-00505

$C_{28}H_{31}ClN_2O_3$
Rhodamine B, *in* R-00002
▷ Rhodamine 590; Chloride, *in* R-00003

$C_{28}H_{31}ClN_2O_7$
Pilot 559P, *in* R-00003

$C_{28}H_{31}N_2O_3^{\oplus}$
Rhodamine 590, R-00003

$C_{28}H_{32}N_4O_2$
Chromopyrazole, C-00286

$C_{28}H_{32}O_2$
1-Pyrenedodecanoic acid, P-00308

$C_{28}H_{32}O_{15}$
Diosmin, *in* T-00297

$C_{28}H_{32}O_{16}$
Ptaeroxylosin, *in* T-00074

$C_{28}H_{33}N_3O$
Benzoylethylauramine, B-00131

$C_{28}H_{34}Cl_3N_3O_2Zn$
Basic turquoise; Trichlorozincate, *in* B-00001

$C_{28}H_{34}N_3O_2^{\oplus}$
Basic turquoise, B-00001

$C_{28}H_{35}N_3O_4S$
6,7,8,9,10,11,18,19,20,21-Decahydro-8-[(4-methylphenyl)sulfonyl]-5*H*,17*H*-dibenzo[*b,k*][1,13,4,7,10] dioxatriazacyclooctadecine, *in* D-00011
7,8,9,10,17,18,19,20,21,22-Decahydro-8-[(4-methylphenyl)sulfonyl]-6*H*,16*H*-dibenzo[*h,q*][1,7,4,10,16] dioxatriazacyclooctadecine, *in* D-00012

$C_{28}H_{36}F_3N_3O_2S$
Fluphenazine caproate, *in* F-00034

$C_{28}H_{36}N_{12}O_{10}S_2$
2,2'-(1,2-Ethenediyl)bis[4-[[4-amino-6-[bis(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl] amino]benzenesulfonic acid], E-00041

$C_{28}H_{38}N_2O_{14}$
6,7,9,10,12,13,15,23,24,26,27,29,30,32,33-Hexadecahydro-2,19-dinitrodibenzo[*b,q*]-[1,4,7,10,13,16,19,22,25,28] decaoxacyclotriacontin, H-00024

$C_{28}H_{38}O_5$
2,6,7-Trihydroxy-9-pentadecyl-3*H*-xanthen-3-one, T-00307

$C_{28}H_{38}O_{19}$
Sucrose; Octa-Ac, *in* S-00036

$C_{28}H_{40}N_4O_{11}$
N,N'-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,10,13-pentaoxa-15,18-diazacycloheneicosane, B-00385

$C_{28}H_{40}O_6$
2,13-Dibutyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecin, D-00235
7,18-Dibutyl-6,7,9,10,17,18,20,21-octahydrodibenzo-[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecin, D-00236

$C_{28}H_{40}O_{10}$
2,14-Bis(2-ethoxyethoxy)-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecine, B-00349
Dibenzo-30-crown-10, D-00160

$C_{28}H_{44}N_2O_2$
3,4-Dihydro-3-methyl-1-phenyl-4-stearoyl-5-pyrazolone, D-00444

$C_{28}H_{46}O_7$
5-Decyl-2-(1,4,8,11-tetraoxacyclotetradec-6-yl-methoxy)benzoic acid, D-00027

$C_{28}H_{52}BrN$
Benzyldodecylmethyloctylammonium(1+); Bromide, *in* B-00181

$C_{28}H_{52}ClN$
Moonion A-9Q-08, *in* B-00181

$C_{28}H_{52}N^{\oplus}$
Benzyldodecylmethyloctylammonium(1+), B-00181

$C_{28}H_{55}NO_5$
6-Dodecyl-*N,N*-diethyl-1,4,8,11-tetraoxacyclotetradecane-6-acetamide, D-01143

$C_{28}H_{56}N_2O_6$
Cryptand 2.2.2 D, C-00319

$C_{28}H_{58}Cl_6Mg_4O_6$
Tetra-μ-chlorodi-μ_3-chlorodiethylhexakis(tetrahydrofuran) tetramagnesium, *in* C-00115

$C_{28}H_{60}As_2O_4$
1,12-Dodecanediylbis[octylarsinic acid], D-01139

$C_{28}H_{60}BrN$
▷ Tetraheptylammonium(1+); Bromide, *in* T-00048

$C_{28}H_{60}BrP$
Tributyl(hexadecyl)phosphonium(1+); Bromide, *in* T-00210

$C_{28}H_{60}ClN$
Tetraheptylammonium(1+); Chloride, *in* T-00048

$C_{28}H_{60}ClP$
Tributyl(hexadecyl)phosphonium(1+); Chloride, *in* T-00210

$C_{28}H_{60}IN$
Tetraheptylammonium(1+); Iodide, *in* T-00048

$C_{28}H_{60}IP$
Tributyl(hexadecyl)phosphonium(1+); Iodide, *in* T-00210

$C_{28}H_{60}N^{\oplus}$
Tetraheptylammonium(1+), T-00048

$C_{28}H_{60}P^{\oplus}$
Tributyl(hexadecyl)phosphonium(1+), T-00210

$C_{28}H_{61}NO$
Tetraheptylammonium(1+); Hydroxide, *in* T-00048

$C_{29}H_{18}ClNO_4$
9-Phenylbenzo(1,2)quinolizino[3,4,5,6-*def*] phenanthridinium(1+); Perchlorate, *in* P-00105

$C_{29}H_{18}N^{\oplus}$
9-Phenylbenzo(1,2)quinolizino[3,4,5,6-*def*] phenanthridinium(1+), P-00105

$C_{29}H_{19}N_5O_{14}S_4$
8-[[1,8-Dihydroxy-7-(8-quinolylazo)-3,6-disulfo-2-naphthyl]azo]-1,6-naphthalenedisulfonic acid, D-00727

$C_{29}H_{20}N_4O_{11}S_2$
5-[[4'-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo][1,1'-biphenyl]-4-yl]azo]-2-hydroxybenzoic acid, D-00596

$C_{29}H_{20}N_6O_{13}S_3$
2-[[[1,8-Dihydroxy-3,6-disulfo-7-[(4-phenylazo) phenyl]azo]-2-naphthyl]azo]-5-sulfobenzoic acid, D-00606

$C_{29}H_{21}NO$
1-(4-Hydroxyphenyl)-2,4,6-triphenylpyridinium hydroxide inner salt, H-00513

$C_{29}H_{22}ClNO_4$
2,4,6-Triphenylpyridine; *N*-Ph, perchlorate (salt), *in* T-00373

$C_{29}H_{22}N^{\oplus}$
1,2,4,6-Tetraphenylpyridinium, *in* T-00373

$C_{29}H_{22}N_6$
1,1-Di-2-pyridinyl-*N,N'*-di-8-quinolinylmethanediamine, D-01062

$C_{29}H_{23}N_{11}$
2,6-Bis[3-(2,2'-bipyridin-6-yl)-1,2,4-triazolin-5-yl]pyridine, B-00261

$C_{29}H_{23}P$
1-Naphthalenylmethylenetriphenylphosphorane, *in* N-00052

$C_{29}H_{24}BrP$
(1-Naphthylmethyl) triphenylphosphonium(1+); Bromide, *in* N-00052

$C_{29}H_{24}ClN_5O_4$
N-(5-Chloro-2-methoxyphenyl)-4-[(2,3-dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-2-naphthalenecarboxamide, C-00168

$C_{29}H_{24}ClP$
(1-Naphthylmethyl) triphenylphosphonium(1+); Chloride, *in* N-00052

$C_{29}H_{24}N_6$
▷ 2,3-Dihydro-2,2-dimethyl-6-[[4-(phenylazo)-1-naphthalenyl]azo]-1*H*-perimidine, D-00390

$C_{29}H_{24}P^{\oplus}$
(1-Naphthylmethyl) triphenylphosphonium(1+), N-00052

$C_{29}H_{25}N_5O_3$
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-2-(methylphenyl)-2-naphthalenecarboxamide, D-00384

$C_{29}H_{25}N_5O_4$
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-(2-methoxyphenyl)-2-naphthalenecarboxamide, D-00383

$C_{29}H_{26}Br_2N_2O_{13}S$
Bromophthalexon S, B-00559

$C_{29}H_{27}N_3O_{14}$
Fura 2, F-00039

$C_{29}H_{27}N_7$
5-(1-Benzyl-1*H*-benzimidazol-2-yl)-1-[4-(dimethylamino)phenyl]-3-phenylformazan, B-00166

$C_{29}H_{28}N_2O_{13}S$
Phthalexon S, P-00221

$C_{29}H_{28}N_2O_{15}S$
Pyrocatecholsulfonephthalein complexan, P-00432

$C_{29}H_{28}N_4O_2$
1,1-Diantipyrylphenylmethane, D-00140

$C_{29}H_{28}N_4O_3$
1,1-Diantipyryl-2-hydroxyphenylmethane, D-00138

$C_{29}H_{28}N_4S_2$
4,4′-(Phenylmethylene)bis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], P-00147

$C_{29}H_{31}ClN_2O_3$
Cationic violet; Chloride, *in* C-00047

$C_{29}H_{31}N_2O_3^{\oplus}$
Cationic violet, C-00047

$C_{29}H_{32}ClN_3$
▷ *N*-[4-[[4-(Dimethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-*N*-methylmethanaminium(1+); Chloride, *in* D-00812

$C_{29}H_{32}N_2O_9S$
Sarcosine cresol red, S-00004

$C_{29}H_{32}N_3^{\oplus}$
N-[4-[[4-(Dimethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-*N*-methylmethanaminium(1+), D-00812

$C_{29}H_{32}N_6O_{10}$
2-Hydroxy-3,5-bis[(4-nitrophenylazo)phenyl] methyl-15-crown-5, H-00141

$C_{29}H_{34}O_2$
1-Pyrenedodecanoic acid; Me ester, *in* P-00308

$C_{29}H_{34}O_{17}$
Monoxerutin INN, *in* R-00014

$C_{29}H_{36}N_4O_2$
1,1-Diantipyrylheptane, D-00137

$C_{29}H_{36}N_4S_2$
4,4′-Heptylidenebis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], H-00017

$C_{29}H_{38}F_3N_3O_2S$
▷ Fluphenazine enanthate, *in* F-00034

$C_{29}H_{44}BrN_3$
10-Dodecylacridine orange, *in* B-00315

$C_{29}H_{44}N_3^{\oplus}$
3,6-Bis(dimethylamino)-10-dodecylacridinium(1+), B-00315

$C_{29}H_{48}N_2O_9$
6-Dodecyl-6-(2-hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, D-01145
6-Dodecyl-6-(2-hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, D-01146

$C_{29}H_{49}NO_7$
6-Dodecyl-6-(2-hydroxy-5-nitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, D-01148

$C_{30}H_{20}Cl_2N_4$
4,4′-Di(*p*-chloroanilino)-2,2′-biquinoline, *in* D-00063

$C_{30}H_{20}N_4O_{11}S_3$
Fast sulphon black F, F-00002

$C_{30}H_{20}N_4O_{13}S_4$
Naphthol black 3B, N-00028

$C_{30}H_{20}N_4O_{14}S_4$
4,5-Dihydroxy-3,6-bis[(4-sulfo-1-naphthalenyl) azo]-2,7-naphthalenedisulfonic acid, D-00562

$C_{30}H_{20}N_6O_{12}S_4$
4,4′,4″,4‴-[3,3′-Bi-1,2,4-triazine]-5,5′,6,6′-tetrayltetrakisbenzenesulfonic acid, B-00473

$C_{30}H_{22}FeN_6^{2\oplus}$
Bis(2,2′:6′,2″-terpyridine-*N*,*N*′,*N*″)iron(*II*) (2+), B-00457

$C_{30}H_{22}N_4$
4,4′-Dianilino-2,2′-biquinoline, *in* D-00063

$C_{30}H_{22}N_4O_6S_3$
3,3′-Sulfonylbis[*N*-8-quinolylbenzenesulfonamide], S-00055

$C_{30}H_{22}N_4S_2$
2,2′-Dithiobis(4,5-diphenyl-1*H*-imidazole), *in* D-00399

$C_{30}H_{22}N_8$
Di-2-pyridinylethanedione bis(2-quinolinylhydrazone), D-01067

$C_{30}H_{22}O_2$
[9,9′-Bianthracene]-10,10′-diol; Di-Me ether, *in* B-00201

$C_{30}H_{23}N_2O_7SSb$
Tetraphenylstibonium(1+); 2,4-Dinitrobenzenesulfonate, *in* T-00122

$C_{30}H_{24}ClN_5O$
▷ Janus blue; Chloride, *in* J-00002

$C_{30}H_{24}FeN_6^{2\oplus}$
Tris(2,2′-bipyridine-*N*,*N*′)iron(*II*)(2+), T-00384

$C_{30}H_{24}N_5O^{\oplus}$
Janus blue, J-00002

$C_{30}H_{25}O_3SSb$
Tetraphenylstibonium(1+); Benzenesulfonate, *in* T-00122

$C_{30}H_{26}N_2O_{13}$
Calcein, C-00010

$C_{30}H_{26}N_8$
1,5-Bis(7-benzyl-2-benzimidazolyl)-3-methylformazan, B-00258

$C_{30}H_{28}N_4O_8S_2$
Chrysophenine G, C-00297

$C_{30}H_{28}N_6S_2$
2,3-Butanedione bis(4-biphenylyl) thiosemicarbazone, B-00589

$C_{30}H_{30}CrF_{21}O_6$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)chromium(*III*), T-00392

$C_{30}H_{30}DyF_{21}O_6$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)dysprosium(*III*), T-00393

$C_{30}H_{30}EuF_{21}O_6$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)europium(*III*), T-00394

$C_{30}H_{30}F_{21}FeO_6$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)iron(*III*), T-00397

$C_{30}H_{30}F_{21}GdO_6$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)gadolinium(*III*), T-00395

$C_{30}H_{30}F_{21}HoO_6$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)holmium(*III*), T-00396

$C_{30}H_{30}F_{21}LaO_6$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)lanthanum(*III*), T-00398

$C_{30}H_{30}F_{21}NdO_6$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)neodymium(*III*), T-00399

$C_{30}H_{30}F_{21}O_6Pr$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)praseodymium(*III*), T-00400

$C_{30}H_{30}F_{21}O_6Tb$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)terbium(*III*), T-00401

$C_{30}H_{30}F_{21}O_6Y$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)yttrium(*III*), T-00403

$C_{30}H_{30}F_{21}O_6Yb$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)ytterbium(*III*), T-00402

$C_{30}H_{30}N_2O_{19}$
Mag-fura-2; Tetrakis(acetoxymethyl)ester, *in* M-00003

$C_{30}H_{30}N_4O_4$
Deuteroporphyrin IX, D-00030

$C_{30}H_{30}N_6O_6S_2$
4,4′-Bis(*p*-dimethylaminophenylazo)stilbene-2,2′-disulfonic acid, B-00317

$C_{30}H_{30}O_2P_2$
1,2-Ethenediylbis[bis(4-methylphenyl) phosphineoxide], E-00043

$C_{30}H_{30}O_8$
▷ Gossypol, G-00041

$C_{30}H_{31}ClN_6$
▷ C.I. 11050 Basic dye, *in* J-00004

$C_{30}H_{31}N_6^{\oplus}$
Janus green B, J-00004

$C_{30}H_{32}F_{21}LaO_7$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)lanthanum(*III*); Monohydrate, *in* T-00398

$C_{30}H_{32}F_{21}NdO_7$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)neodymium(*III*); Monohydrate, *in* T-00399

$C_{30}H_{32}F_{21}O_7Y$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)yttrium(*III*); Monohydrate, *in* T-00403

$C_{30}H_{35}ClN_2O_3$
Ethylrhodamine B, *in* R-00002

$C_{30}H_{36}N_2O_{18}$
Bis[2-[[2-[2-(2-methoxyethoxy)ethoxy]ethoxy] carbonyl]-4-nitrophenyl]ethanedioate, B-00399

$C_{30}H_{38}Br_2N_2O_{10}$
1,2-Bis(2-amino-5-bromophenoxy)ethane-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Et ester, *in* B-00243

$C_{33}H_{21}N_9O_{12}S_3$
4,4′,4″-[1,3,5-Triazine-2,4,6-triyltris(azo)]tris[3-hydroxy-1-naphthalenesulfonic acid], T-00198

$C_{33}H_{23}N_3$
4,4′,4″-Triphenyl-2,2:6′,2″-terpyridine, T-00378

$C_{33}H_{28}N_2O_3S$
N-Benzylanilinesulfonephthalein, *in* A-00369
N-(*o*-Methylphenyl)anilinesulfonephthalein, *in* A-00369

$C_{33}H_{29}N_5O_9S_3$
Lissamine blue BF, L-00007

$C_{33}H_{32}ClN_3$
Victoria blue B; Chloride, *in* V-00002

$C_{33}H_{32}N_3^{\oplus}$
Victoria blue B, V-00002

$C_{33}H_{34}F_{21}N_2NdO_6$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)neodymium(*III*); Imidazole complex, *in* T-00399
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)neodymium(*III*); Pyrazole complex, *in* T-00399

$C_{33}H_{35}N_5O_{10}S_2$
Acilan fast green, A-00060

$C_{33}H_{36}N_2O_{13}S$
Methyl xylenol blue, M-00337

$C_{33}H_{40}ClN_3$
Victoria pure blue BO; Chloride, *in* V-00004

$C_{33}H_{40}N_2O_9S$
Glycinethymol blue, G-00019

$C_{33}H_{40}N_3^{\oplus}$
Victoria pure blue BO, V-00004

$C_{33}H_{41}NO_{17}$
Ethoxazorutoside, *in* R-00014

$C_{33}H_{44}O_4$
12-(9-Anthroyloxy)stearic acid, A-00391

$C_{33}H_{46}N_2O_6S_6$
N,*N*-Bis(2,3,5,6,8,9,11,12-octahydro-1,13,4,7,10-benzodioxatrithiacyclopentadecin-15-yl) pentanediamide, B-00433

$C_{33}H_{46}N_2O_{12}$
N,*N*′-Bis(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl)pentanediamide, B-00435

$C_{33}H_{57}CrO_6$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)chromium(*III*), T-00414

$C_{33}H_{57}DyO_6$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)dysprosium(*III*), T-00415

$C_{33}H_{57}EuO_6$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)europium(*III*), T-00416

$C_{33}H_{57}GdO_6$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)gadolinium(*III*), T-00417

$C_{33}H_{57}HoO_6$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)holmium(*III*), T-00418

$C_{33}H_{57}LaO_6$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)lanthanum(*III*), T-00419

$C_{33}H_{57}O_6Pr$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)praseodymium(*III*), T-00420

$C_{33}H_{57}O_6Yb$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)ytterbium(*III*), T-00421

$C_{33}H_{59}DyO_7$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)dysprosium(*III*); Monohydrate, *in* T-00415

$C_{34}H_{22}N_4O_{20}S_4$
4,4′-Bis[(1,8-dihydroxy-3,6-disulfo-2-naphthyl) azo]-3,3′-biphenyldicarboxylic acid, B-00301

$C_{34}H_{24}N_4O_{22}S_6$
Stilbazochrome, S-00028

$C_{34}H_{24}N_6Na_4O_{14}S_4$
▷ Azovan blue, A-00479

$C_{34}H_{25}N_4O_6S_2$
Wool fast blue BL, W-00002

$C_{34}H_{26}Cl_2N_6O_{12}P_2S_2$
Chlorophosphonazo DAL, *in* C-00242

$C_{34}H_{27}N_4O_4PS_2$
O,*O*-Bis[(3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4(5*H*)-ylidene)phenylmethyl] phosphorodithioate, B-00405

$C_{34}H_{28}As_2N_6O_{12}S_2$
Arsenazo DAL, A-00407

$C_{34}H_{28}N_6O_6S_2$
Benzopurpurine 4B, B-00071

$C_{34}H_{28}N_6O_{14}S_4$
▷ Trypan blue, T-00433

$C_{34}H_{30}N_8S_4$
2,3-Butanedione bis[[4-(6-methyl-2-benzothiazolyl)phenyl]thiosemicarbazone], B-00595

$C_{34}H_{34}ClN_3$
Victoria blue 4R; Chloride, *in* V-00003

$C_{34}H_{34}N_3^{\oplus}$
Victoria blue 4R, V-00003

$C_{34}H_{35}Br_2NO_7S_2$
Sulfonamidebromothymol blue, S-00047

$C_{34}H_{36}N_4O_2$
Chromopyrazole I, C-00287

$C_{34}H_{40}N_2O_8$
Gossypol bis[*N*-(2-hydroxy)ethyleneimine], G-00042

$C_{34}H_{40}N_4O_6S_2$
7,8,9,10,17,18,19,20,21,22-Decahydro-8,19-bis[(4-methylphenyl)sulfonyl]-6*H*,16*H*-dibenzo-[*h*,*q*][1,7,4,10,13,16] dioxatetraazacyclooctadecine, D-00008

$C_{34}H_{44}O_{14}$
2-Butenedioic acid bis[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl) methyl]ester, B-00611

$C_{34}H_{46}O_{14}$
Bis(benzo-15-crown-5-ylmethyl)succinate, *in* B-00611

$C_{34}H_{52}O_6$
2,13-Diheptyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b*,*k*][1,4,7,10,13,16] hexaoxacyclooctadecin, D-00366

$C_{34}H_{56}O_3S$
4,5-Didodecyl-1-naphthalenesulfonic acid, D-00311

$C_{34}H_{62}O_{12}$
Dodecylmethylpropanedioate bis(1,4,7,10-tetraoxacyclododec-2-ylmethyl)ester, D-01152

$C_{35}H_{23}N_7$
2,4-Bis(5,6-diphenyl-1,2,4-triazin-3-yl)pyridine, B-00341
2,6-Bis(5,6-diphenyl-1,2,4-triazin-3-yl)pyridine, B-00342

$C_{35}H_{32}N_2O_3S$
N-(*o*,*p*-Dimethylphenyl) anilinesulfonephthalein, *in* A-00369

$C_{35}H_{32}N_2O_5S$
N-(*p*-Ethoxyphenyl)anilinesulfonephthalein, *in* A-00369

$C_{35}H_{52}N_4O_9$
6-Dodecyl-6-[2-hydroxy-3-nitro-5-(4-nitrophenylazo)benzyl]-1,4,8,11-tetraoxacyclotetradecane, D-01149

$C_{36}H_{24}FeN_6^{2\oplus}$
Tris(1,10-phenanthroline-N^1,N^{10})iron(*II*)(2+), T-00412

$C_{36}H_{24}N_6O_9S_3$
2,4,6-Tris[4-(4-sulfophenyl)-2-pyridyl]-*s*-triazine, T-00413

$C_{36}H_{25}N_5O_{10}S_3$
Brilliant congo blue BFL, B-00476

$C_{36}H_{25}N_7O_{10}S_3$
C.I. Direct blue 72, C-00004

$C_{36}H_{26}N_8$
N,*N*′-Bis[4-(phenylazo)phenyl]-1,10-phenanthroline-4,7-diamine, B-00438

$C_{36}H_{30}Cl_2N_2O_{13}$
Fluo 3, F-00009

$C_{36}H_{30}N_4O_4$
4,4′-([2,2′-Biquinoline]-4,4′-diyldiimino) bisbenzoic acid; Di-Et ester, *in* B-00238

$C_{36}H_{30}N_6O_{12}S_4$
Dimethylsulfonazo DAL, D-00918

$C_{36}H_{31}As_2BrO_2$
Triphenylarsine oxide; 2B,HBr, *in* T-00364

$C_{36}H_{36}N_{12}O_{22}S_2$
[Vinylenebis[[(3-sulfo-*p*-phenylene)imino-*s*-triazine-6,2,4-triyl]dinitrilo]]octaacetic acid, V-00007

$C_{36}H_{36}O_2P_2$
[1,2-Phenylenebis(methylene)]bis[bis(4-methylphenyl)]phosphine oxide, P-00119

$C_{36}H_{38}N_{10}O_{15}$
N,*N*′-[1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diylbis(methylene-2,1-phenylene)]bis[2,4,6-trinitrobenzenamine], T-00361

$C_{36}H_{39}ClN_4O_2$
4-[Bis(4-aminophenyl)hydroxymethyl]-4-chloro-2,4-dihydro-2,5-diphenyl-3*H*-pyrazol-3-one; N^4,N^4,$N^{4'}$,$N^{4'}$-Tetra-Et, *in* B-00253

$C_{36}H_{42}EuF_9O_6$
Tris(3-trifluoroacetyl-*d*-camphorato) europium(*III*), T-00423

$C_{36}H_{42}F_9O_6Pr$
Tris(3-trifluoroacetyl-*d*-camphorato) praseodymium(*III*), T-00424

$C_{36}H_{42}F_9O_6Yb$
Tris[1,7,7-trimethyl-3-(trifluoroacetyl) bicyclo[2.2.1]heptan-2-onato-*O*,*O*′] ytterbium, T-00427

$C_{36}H_{42}N_4O_4$
Mesoporphyrin IX, M-00061

$C_{36}H_{44}N_4O_4$
6,7,13,14,15,16,17,18,24,25,31,32,33,34,35,36-Hexadecahydrotetrabenzo[*e*,*m*,*s*,a_1] [1,4,15,18,8,11,22,25] tetraoxatetraazacyclooctacosine, H-00025

$C_{36}H_{44}O_{10}$
Dinaphtho-30-crown-10, D-00932

$C_{36}H_{46}N_4$
Mesotetraisobutylporphine, M-00063
Octaethylporphyrin, O-00002

$C_{36}H_{46}N_4O$
Octaethylporphyrin; *N*-Oxide, *in* O-00002

$C_{36}H_{56}O_6$
6,7,9,10,17,18,20,21-Octahydro-2,13-dioctyldibenzo[*b*,*k*][1,4,7,10,13,16] hexaoxacyclooctadecine, O-00025

$C_{36}H_{56}O_{10}$
2,19-Bis(1,1-dimethylethyl)-6,7,9,10,12,13,15,16,23,24,26,27,29,30,32,33-hexadecahydrodibenzo[*b,q*][1,4,7,10,13,16,19,22,25,28]decaoxacyclotriacontine, B-00331

$C_{36}H_{64}LaNO_7$
(Dimethylformamide)tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*)lanthanum(*III*), *in* T-00419

$C_{36}H_{70}O_3$
Octadecanoic acid; Anhydride, *in* O-00001

$C_{36}H_{75}N$
Tridodecylamine, T-00230

$C_{36}H_{75}NO$
Tridodecylamine; *N*-Oxide, *in* T-00230

$C_{36}H_{76}BrN$
Trilaurylammonium bromide, *in* T-00230

$C_{37}H_{34}N_2O_{10}S_3$
▷ Fast green FCF, F-00001

$C_{37}H_{36}N_2O_3S$
N-(2,4,5-Trimethylphenyl) anilinesulfonephthalein, *in* A-00369

$C_{37}H_{37}N_2O_9S_3^{\oplus}$
▷ Erioglaucine A, E-00018

$C_{37}H_{44}N_2O_{13}S$
Methylthymol blue, M-00327

$C_{37}H_{44}O_6$
6,7,9,10,12,13,15,16,18,19-Decahydro-2,4,21,23-tetramethyl-25-(1-naphthalenyl)-25*H*-dibenzo[*q,t*][1,4,7,10,13,16]hexaoxacycloheneicosin, D-00020

$C_{37}H_{46}ClN_3O_5$
Astracyanine B; Chloride, *in* A-00448

$C_{37}H_{46}N_3O_5^{\oplus}$
Astracyanine B, A-00448

$C_{37}H_{52}O_{14}$
Bis[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl) methyl]heptanedioate, B-00434

$C_{37}H_{54}N_2O_{14}$
N,N'-Bis(2,3,5,6,8,9,11,12,14,15-decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl) pentanediamide, B-00292

$C_{37}H_{56}O_8$
17-[(6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b,k*][1,4,7,10,13]-pentaoxacyclohexadecin-18-yl)oxy] octadecanoic acid, H-00043

$C_{38}H_{28}Cl_2N_8$
Neotetrazolium(2+); Dichloride, *in* N-00063

$C_{38}H_{28}N_8^{2\oplus}$
Neotetrazolium(2+), N-00063

$C_{38}H_{30}N_8O_2$
Di-2-pyridinylethanedione bis(diphenylsemicarbazone), D-01064

$C_{38}H_{34}Br_2P_2$
▷ 1,2-Ethanediylbis[triphenylphosphonium](2+); Dibromide, *in* E-00034

$C_{38}H_{34}P_2^{2\oplus}$
1,2-Ethanediylbis[triphenylphosphonium] (2+), E-00034

$C_{38}H_{40}N_6$
4,4'-Di[(*p*-diethylamino)anilino]-2,2'-biquinoline, *in* D-00063

$C_{38}H_{41}N_3O_{17}$
2-(2-Aminostyryl)-6-methoxy-8-aminoquinoline-*N,N,N',N'*-tetraacetic acid; Tetrakis(acetoxymethyl) ester, *in* A-00347

$C_{38}H_{42}N_{10}O_{16}$
2,2'-[1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diylbis(methylene)]bis[*N*-(2,4,6-trinitrophenyl)]benzenamine, T-00116

$C_{38}H_{43}N_3O_{18}$
Quin 2A, *in* Q-00002

$C_{38}H_{44}N_2O_{12}$
Thymolphthalexon, T-00183

$C_{38}H_{52}O_{16}$
2-Butenedioic acid bis[(2,3,5,6,8,9,11,12,14,15-decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl)methyl] ester, B-00610

$C_{38}H_{54}O_{16}$
Bis(benzo-18-crown-6-ylmethyl)succinate, *in* B-00610

$C_{38}H_{60}O_{11}$
ar,ar'-Bis(1,1-dimethylethyl)-6,7,9,10,12,13,15,16,18,19,26,27,29,30,32,33,35,36-octadecahydrodibenzo[*b,q*][1,4,7,10,13,16,19,22,25,28,31]undecaoxacyclotritriacontin, B-00332

$C_{38}H_{62}DyNO_6$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*)dysprosium(*III*); Py complex, *in* T-00415

$C_{38}H_{62}GdNO_6$
(Pyridine)tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*)gadolinium(*III*), *in* T-00417

$C_{38}H_{62}HoNO_6$
(Pyridine)tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*)holmium(*III*), *in* T-00418

$C_{38}H_{62}NO_6Pr$
Pyridinetris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*)praseodymium(*III*), *in* T-00420

$C_{38}H_{62}NO_6Yb$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*)ytterbium(*III*); Py complex, *in* T-00421

$C_{38}H_{66}O_4$
Octacosyl (*E*)-isoferulate, *in* D-00716

$C_{38}H_{76}N_2O_2$
N,N'-Dioctadecanoylethanediamine, *in* E-00024

$C_{38}H_{80}BrN$
Ethyltridodecylammonium(1+); Bromide, *in* E-00120

$C_{38}H_{80}N^{\oplus}$
Ethyltridodecylammonium(1+), E-00120

$C_{39}H_{24}O_{12}$
9,9'-[Methylenebis(6-hydroxy-3,1-phenylene)] bis-[2,6,7-trihydroxy-3*H*-xanthen-3-one], M-00172

$C_{39}H_{27}N_7O_9$
3,3',3''-[Nitrilotris(4,1-phenyleneazo)]tris[6-hydroxybenzoic acid], N-00075

$C_{39}H_{36}O_{19}$
2',7'-Bis(carboxyethyl)carboxyfluorescein; Tetrakis(acetoxymethyl) ester, *in* B-00273

$C_{39}H_{47}N_3O_{14}$
Fura 2; Penta-Et ester, *in* F-00039

$C_{39}H_{58}N_2O_6S_8$
N,N-Bis(2,3,5,6,9,10,12,13,15,16-decahydro-8*H*-1,7,4,7,11,14-benzodioxatetrathiacyclononadecin-19-yl) pentanediamide, B-00291

$C_{40}H_{24}F_{12}O_8U$
Tetrakis(4,4,4-trifluoro-1-phenyl-1,3-butanedionato-*O,O'*)uranium, T-00090

$C_{40}H_{27}N_7O_{13}S_4$
Eliamina blue FFL, E-00006

$C_{40}H_{28}Cl_2N_{12}O_{10}$
3,3'-(3,3'-Dimethoxy[1,1'-biphenyl]-4,4'-diyl) bis[2,5-bis(4-nitrophenyl)-2*H*-tetrazolium] (2+) 9Cl; Dichloride, *in* D-00770

$C_{40}H_{28}N_2O_6$
4,4'-Diamino-3,3'-biphenyldiol; Tetrabenzoyl, *in* D-00056

$C_{40}H_{28}N_{12}O_{10}^{2\oplus}$
3,3'-(3,3'-Dimethoxy[1,1'-biphenyl]-4,4'-diyl) bis[2,5-bis(4-nitrophenyl)-2*H*-tetrazolium] (2+) 9Cl, D-00770

$C_{40}H_{30}Cl_2N_{10}O_6$
3,3'-(3,3'-Dimethoxy[1,1'-biphenyl]-4,4'-diyl) bis[2-(3-nitrophenyl)-5-phenyl-2*H*-tetrazolium](2+); Dichloride, *in* D-00771
Nitro TB, *in* N-00164

$C_{40}H_{30}N_8$
2,2',3,3'-Tetrakis(6-methyl-2-pyridyl)-6,6'-biquinoxaline, T-00088

$C_{40}H_{30}N_{10}O_6^{2\oplus}$
3,3'-(3,3'-Dimethoxy[1,1'-biphenyl]-4,4'-diyl) bis[2-(3-nitrophenyl)-5-phenyl-2*H*-tetrazolium](2+), D-00771
Nitrotetrazolium blue, N-00164

$C_{40}H_{32}Cl_2N_8O_2$
▷ Tetrazolium blue; Dichloride, *in* T-00132

$C_{40}H_{32}MnN_{10}$
Bis[bis(3-methyl-2-pyridylimino)isoindolinato-*N,N',N''*]manganese(*II*), B-00262

$C_{40}H_{32}N_8O_2^{2\oplus}$
Tetrazolium blue, T-00132

$C_{40}H_{36}P_2$
1,4-Butanediylidenebis[triphenylphosphorane], *in* B-00602

$C_{40}H_{38}Br_2P_2$
1,4-Butanediylbis[triphenylphosphonium] (2+); Dibromide, *in* B-00602

$C_{40}H_{38}Br_6P_2$
1,4-Butanediylbis[triphenylphosphonium] (2+); Perbromide, *in* B-00602

$C_{40}H_{38}F_{21}N_2NdO_6$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*)neodymium(*III*); Bipy complex, *in* T-00399

$C_{40}H_{38}P_2^{2\oplus}$
1,4-Butanediylbis[triphenylphosphonium] (2+), B-00602

$C_{40}H_{40}EuF_{28}O_8^{\ominus}$
Tetrakis(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato)europate(*III*) (1−), T-00085

$C_{40}H_{40}N_4O_2$
Chromopyrazole II, C-00288

$C_{40}H_{40}N_6O_6S$
▷ Nile blue A; Sulfate (2:1), *in* N-00069

$C_{40}H_{48}N_8O_9$
2,2'-(1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diyldi-3,1-propanediyl)bis[4-[(4-nitrophenyl)azo] phenol], T-00362

$C_{40}H_{76}O_2P_2$
[1,4-Phenylenebis(methylene)] bis[dioctylphosphine oxide], P-00120

$C_{41}H_{29}NO$
2,4,6-Triphenyl-*N*-(3,5-diphenyl-4-oxidophenyl)pyridinium betaine, T-00365

$C_{41}H_{44}N_3O_6S_2$
Xylene brilliant blue FBR, X-00003

$C_{41}H_{56}N_6O_9$
6-Dodecyl-6-[2-hydroxy-3,5-bis(4-nitrophenylazo)benzyl]-1,4,8,11-tetraoxacyclotetradecane, D-01144

$C_{41}H_{62}N_2O_{16}$
N,N′-Bis(2,3,5,6,8,9,11,12,14,15,17,18-dodecahydro-1,4,7,10,13,16,19-benzoheptaoxacycloheneicosin-21-yl) pentanediamide, B-00346

$C_{42}H_{26}O_4$
[9,9′-Bianthracene]-10,10′-diol; Dibenzoyl, *in* B-00201

$C_{42}H_{30}N_4$
4,4′-Bis(4-biphenylylamino)-2,2′-biquinoline, B-00259

$C_{42}H_{36}FeN_6^{2\oplus}$
Tris(4,7-dimethyl-1,10-phenanthroline-N^1,N^{10}) iron(*II*)(2+), T-00389

$C_{42}H_{38}F_{21}N_2NdO_6$
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)neodymium(*III*); Phen complex, *in* T-00399

$C_{42}H_{40}N_2O_8$
Gossypol bis(4-hydroxyphenyl)imine, G-00043

$C_{42}H_{42}EuF_{21}O_6$
Tris(3-heptafluorobutyryl-*d*-camphorato) europium(*III*), T-00391

$C_{42}H_{42}F_{21}O_6Pr$
Tris[3-(heptafluoropropylhydroxymethylene)-*d*-camphorato]praseodymium(*III*), T-00404

$C_{42}H_{52}N_8O_{10}$
2,2′-(1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diyldi-3,1-propanediyl)bis[4-[(4-nitrophenyl)azo] phenol], T-00117

$C_{42}H_{63}CeO_3$
Tris(2,6-di-*tert*-butylphenoxy)cerium(*III*), T-00387

$C_{43}H_{38}BP$
Methyltriphenylphosphonium(1+); Tetraphenylborate, *in* M-00335

$C_{43}H_{59}NO_7$
6-Dodecyl-6-[2-hydroxy-5-(1,8-naphthalenedicarboximido)benzyl]-1,4,8,11-tetraoxacyclotetradecane, D-01147

$C_{43}H_{65}DyN_2O_6$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)dysprosium(*III*); Bipy complex, *in* T-00415

$C_{43}H_{65}GdN_2O_6$
(2,2′-Bipyridine-*N*,*N*′)tris(2,2,6,6-tetramethyl-3.5-heptanedionato-*O*,*O*′)gadolinium(*III*), *in* T-00417

$C_{43}H_{65}HoN_2O_6$
(2,2′-Bipyridine-*N*,*N*′)tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)holmium(*III*), *in* T-00418

$C_{43}H_{65}N_2O_6Pr$
(2,2′-Bipyridine-*N*,*N*′)tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′) praseodymium(*III*), *in* T-00420

$C_{43}H_{65}N_2O_6Yb$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)ytterbium(*III*); Bipy complex, *in* T-00421

$C_{44}H_{30}N_4$
meso-Tetraphenylporphyrin, T-00121

$C_{44}H_{30}N_4O_9S_3$
4,4′,4″-(20-Phenyl-21*H*,23*H*-porphine-5,10,15-triyl)trisbenzenesulfonic acid, P-00166

$C_{44}H_{30}N_4O_{12}S_4$
4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakisbenzenesulfonic acid, P-00250

$C_{44}H_{38}N_6O_{30}S_6$
Stilbazokhimdu, S-00031

$C_{44}H_{38}N_8^{4\oplus}$
4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakis[1-methylpyridinium], P-00252

$C_{44}H_{47}N_3O_{24}$
Fura 2-AM, *in* F-00039

$C_{44}H_{52}O_{12}$
2,3,14,15-Tetrakis(2-methoxyphenyl)-1,4,7,10,13,16,19,22-octaoxacyclotetracosa-2,14-diene, T-00087

$C_{44}H_{72}O_8$
2,13-Bis(dodecyloxy)-6,7,9,10,17,18,20,21-octahydrodibenzo[*b*,*k*][1,4,7,10,13,16] hexaoxacyclooctadecine, B-00347
2,14-Bis(dodecyloxy)-6,7,9,10,17,18,20,21-octahydrodibenzo[*b*,*k*][1,4,7,10,13,16] hexaoxacyclooctadecine, B-00348

$C_{45}H_{32}N_4O_{12}S_4$
N-Methyl-5,10,15,20-tetrakis(4-sulfophenyl) porphine, *in* P-00250

$C_{45}H_{52}Cl_2O_6$
29-(2,6-Dichlorophenyl)-3,26-bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21-decahydro-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16]hexaoxacycloheneicosin, D-00290

$C_{45}H_{65}DyN_2O_6$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)dysprosium(*III*); Phen complex, *in* T-00415

$C_{45}H_{65}GdN_2O_6$
(1,10-Phenanthroline-N^1,N^{10})tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′) gadolinium(*III*), *in* T-00417

$C_{45}H_{65}HoN_2O_6$
(1,10-Phenanthroline-*N*,*N*′)tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′) holmium(*III*), *in* T-00418

$C_{45}H_{65}N_2O_6Pr$
(1,10-Phenanthroline)tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′) praseodymium(*III*), *in* T-00420

$C_{45}H_{65}N_2O_6Yb$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)ytterbium(*III*); Phen complex, *in* T-00421

$C_{45}H_{71}HoN_2O_6$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)holmium(*III*); Bis(4-picoline) complex, *in* T-00418

$C_{46}H_{70}N_4O_{18}$
2,2′-Bis[3,4-(15-crown-5)-2-nitrophenylcarbamoxymethyl]tetradecane, B-00290

$C_{47}H_{56}Cl_2O_7$
32-(2,6-Dichlorophenyl)-3,29-bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21,23,24-dodecahydro-32*H*-dinaphtho[2,1-*t*:1′,2′-*w*][1,4,7,10,13,16,19]-heptaoxacyclotetracosin, D-00291

$C_{47}H_{58}O_6$
3,26-Bis(1,1-dimethylethyl)-29-(2,5-dimethylphenyl)-8,9,11,12,14,15,17,18,20,21-decahydro-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16]-hexaoxacycloheneicosin, B-00329

$C_{48}H_{30}N_4O_8$
4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakisbenzoic acid, P-00251

$C_{48}H_{36}N_8O_{20}S_4$
Tetraoxacycloazochrome, T-00112

$C_{48}H_{54}N_{10}$
Pallatriazo, P-00003

$C_{48}H_{60}O_9$
3,26-Bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21-decahydro-29-(3,45-trimethoxyphenyl)-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16] hexaoxacycloheneicosin, B-00328

$C_{50}H_{64}O_{10}$
3,29-Bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21,21,23,24-dodecahydro-32-(3,4,5-trimethoxyphenyl)-32*H*-dinaphtho[2,1-*t*:1′,2′-*w*][1,4,7,10,13,16,19] heptaoxacyclotetracosin, B-00330

$C_{50}H_{82}O_{24}$
Desglucodigitonin, *in* S-00024

$C_{50}H_{100}O_2$
Tetratriacontanyl palmitate, *in* H-00026

$C_{51}H_{72}O_7PPr$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)(triphenylphosphine oxide) praseodymium(*III*), *in* T-00420

$C_{52}H_{44}N_8O_{22}S_4$
Hexaoxacycloazochrome, H-00067

$C_{52}H_{78}N_4$
Mesotetraoctylporphine, M-00064

$C_{52}H_{81}CeN_2O_3$
Tris(2,6-di-*tert*-butylphenoxy)cerium(*III*); Bis(*tert*-butyl isocyanide) complex, *in* T-00387

$C_{54}H_{54}N_{14}O_{16}$
7,16-Bis[3-[2-hydroxy-3,5-bis[(4-nitrophenyl) azo]phenyl]-1-oxopropyl]-1,4,10,13-tetraoxa-7,16-diazacyclooctadecane, B-00364

$C_{54}H_{90}N_6O_{18}$
▷ Valinomycin, V-00001

$C_{56}H_{92}O_{29}$
▷ Digitonin, *in* S-00024

$C_{60}H_{108}O_8$
Sorbitan trioleate, *in* A-00367

$C_{66}H_{114}Eu_2O_{12}$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)europium(*III*); Dimer, *in* T-00416

$C_{66}H_{114}Gd_2O_{12}$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)gadolinium(*III*); Dimer, *in* T-00417

$C_{66}H_{114}La_2O_{12}$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)lanthanum(*III*); Dimer, *in* T-00419

$C_{66}H_{114}O_{12}Pr_2$
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)praseodymium(*III*); Dimer, *in* T-00420

$C_{68}H_{54}O_{19}$
Sucrose; Octabenzoyl, *in* S-00036

$C_{72}H_{60}N_3O_6P_6Pr$
Tris(tetraphenylimidodiphosphinato) praseodymium, T-00422

ClH_4NO
▷ Hydroxylamine hydrochloride, *in* H-00257

D_4N_2
Hydrazine-d_4, *in* H-00079

H_3NO
▷ Hydroxylamine, H-00257

H_4N_2
▷ Hydrazine, H-00079

H_6N_2O
▷ Hydrazine hydrate, *in* H-00079

$H_6N_2O_4S$
▷ Hydrazinium(2+) sulfate, *in* H-00079

$H_8N_2O_6S$
▷ Hydroxylamine sulfate, *in* H-00257

Chemical Abstracts Service Registry Number Index

This Index lists in numerical order all Chemical Abstracts Service (CAS) registry numbers contained in the Dictionary.

Where a CAS registry number applies to a derivative or to a stereoisomer or other variant embedded within the entry, the Dictionary number is preceded by the word '*in*'.

The Symbol ▷ preceding an index term indicates that the Dictionary Entry contains information on toxic or hazardous properties.

CAS Registry Number Index

16867-04-2 3-Hydroxy-2(1*H*)-pyridinone, H-00521
16891-79-5 4-Aminobenzenesulfonic acid; *N*-Me, amide, *in* A-00100
16894-69-2 Bromotetraphenylantimony, *see* B-00577
16894-70-5 Tetraphenylstibonium(1+); Iodide, *in* T-00122
16905-00-3 Mercaptobutanedioic acid, *see* M-00026
16906-54-0 1,2-Dinitro-1,2-diphenylethylene; (*E*)-*form*, *in* D-00952
16909-14-1 1-Piperazinecarbodithioic acid, *see* P-00238
16911-57-2 Thiobenzoic acid; *O*-Ph ester, *in* T-00155
16917-09-2 Bromamine B, *in* B-00026
16954-69-1 ▷ 2-Aminobenzothiazole; 2-*N*-Me, *in* A-00113
16992-40-8 1,6-Dihydro-5-hydroxy-3-mercapto-6,6-dimethyl-1,2,4-triazine, D-00409
17013-01-3 Fumaric acid, *see* F-00038
17016-13-6 Glyoxime, *see* G-00037
17016-15-8 Phenylglyoxime; (*E,E*)-*form*, *in* P-00133
17017-03-7 2-Isocyanatoanthracene, I-00059
17018-60-9 Bis(1-naphthylmethyl)amine, *see* B-00427
17018-62-1 Bis(1-naphthylmethyl)amine, *see* B-00427
17018-66-5 *N*-(*p*-Chlorobenzyl)-1-naphthalenemethylamine; B, HCl, *in* C-00072
17018-72-3 1-Naphthylmethylamine, *see* N-00051
17026-17-4 3-Hydroxy-1-(4-nitrophenyl)-3-phenyl-1-triazene, H-00404
17034-67-2 Pentetic acid, *see* P-00039
17040-79-8 4-[[4-(Phenylamino)phenyl]azo] benzenesulfonic acid, P-00084
17054-71-6 Dibenzo[*b,e*][1,4]dioxin-2-carboxaldehyde, D-00162
17054-73-8 Dibenzo[*b,e*][1,4]dioxin-2-carboxaldehyde; Oxime, *in* D-00162
17056-99-4 5-Hydroxyquinoxaline, H-00536
17064-47-0 2-(4-Biphenylyl)-6-phenylbenzoxazole, B-00215
17081-97-9 Fumaric acid; Mono-Me ester; B,HCl, *in* F-00038
17082-13-2 2-Bromoacetophenone; (*Z*)-Oxime, *in* B-00483
17082-14-3 2-Bromoacetophenone; (*E*)-Oxime, *in* B-00483
17091-07-5 4-[(5-Methyl-2-pyridinyl)azo]-1,3-benzenediol, M-00279
17091-08-6 4-(5-Bromo-2-pyridinylazo)-1,3-benzenediol, B-00563
17120-09-1 2-(1,8-Dihydroxy-3,6-disulfo-2-naphthylazo)phenoxyacetic acid, D-00601
17120-15-9 *N*-Hydroxy-2-methyl-*N*-phenylbenzamide, H-00306
17120-16-0 *N*-Hydroxy-4-methyl-*N*-phenylbenzamide, H-00307
17120-18-2 *N*-Hydroxy-3-nitro-*N*-phenylbenzamide, *in* N-00090
17123-05-6 Di-*tert*-butyl methylphosphonate, *in* M-00244
17139-66-1 2,4,5,7-Tetrabromo-1,8-dihydroxyanthraquinone, T-00015
17140-33-9 2-Acetoxytricarballylic acid, *in* C-00299
17140-54-4 Bismutoral, *in* G-00015
17148-96-8 Ethanebis(thioic) acid, E-00023
17189-82-1 1-(2-Hydroxyphenyl)-1-propanone; 2,4-Dinitrophenylhydrazone, *in* H-00498
17199-29-0 Mandelic acid; (*S*)-*form*, *in* M-00007
17199-35-8 ▷ Dibromosulfonephthalein, D-00215
17221-72-6 *N*-Hydroxy-*N*-phenyl-2-chlorobenzamide, H-00470
17223-18-6 1,3-Diaminobenzene; *N,N'*-Dibenzoyl, *in* D-00047
17241-45-1 2-Methoxy-3-prenylnaphthoquinone, *in* H-00515
17243-13-9 2-Hydroxy-5-sulfobenzoic acid; Sulfonyl chloride, *in* H-00538
17257-04-4 4',5,7-Trihydroxyflavanone, *see* T-00281
17257-70-4 2-Hydroxy-2-phenyl-3,3,3-trifluoropropanoic acid; (*R*)-*form*, *in* H-00512
17257-71-5 2-Hydroxy-2-phenyl-3,3,3-trifluoropropanoic acid; (*S*)-*form*, Me ether, *in* H-00512
17273-30-2 Gossypol; (+)-*form*, Hexa-Me ether, *in* G-00041
17274-08-7 1,3,5-Benzenetricarboxylic acid; Tri-Na salt, *in* B-00033
17277-19-9 2,6-Dichloro-4-nitrosophenol, *in* D-00251
17279-39-9 ▷ Dimetamfetamine, *in* P-00172
17284-97-8 6-Chloro-3-hydrazinopyridazine, *in* C-00251
17301-81-4 Brucine *N*-oxide, *in* B-00584
17302-46-4 2-Hydroxy-5-nitrobenzoic acid; Me ester, *in* H-00383
17306-26-2 1-Hydroxy-2-naphthalenecarbodithioic acid, H-00339
17306-34-2 5-[(8-Hydroxy-5-quinolyl)imino-8(5*H*)-quinolone], H-00535
17316-86-8 [Ethylenebis(iminobenzylidene)] diphosphinic acid, E-00074
17327-77-4 2,5-Dimethylaniline; *N*-Di-Me, *in* D-00828
17329-15-6 1,6-Diphenyl-1,3,5-hexatriene; (*E,E,E*)-*form*, *in* D-01019
17332-57-9 2,4'-Iminodibenzoic acid, I-00015
17341-93-4 ▷ 2,2,2-Trichloroethyl chloroformate, T-00223
17345-74-3 4,5,6-Tribromo-1,2,3-benzenetriol, T-00204
17356-55-7 2-(3-Hydroxy-4-oxo-4*H*-1-benzopyran-2-yl)benzenesulfonic acid, H-00427
17372-87-1 ▷ Eosine; Di-Na salt, *in* E-00007
17392-83-5 2-Hydroxypropanoic acid; (*R*)-*form*, Me ester, *in* H-00516
17401-57-9 1,1'-Iminobis[6-chloroanthraquinone], I-00007
17401-58-0 2,3-Bis(6-methyl-2-pyridyl) quinoxaline, B-00422
17401-59-1 2,3-Bis(6-methyl-2-pyridyl)benzo[*g*] quinoxaline, B-00414
17401-61-5 6,7-Dimethyl-2,3-bis(6-methyl-2-pyridinyl)quinoxaline, D-00842
17401-62-6 6-Methyl-2,3-di-2-pyridylquinoxaline, M-00168
17401-63-7 6-Methyl-2,3-bis(6-methyl-2-pyridinyl)quinoxaline, M-00146
17401-64-8 6-Nitro-2,3-di-2-pyridylquinoxaline, N-00107
17401-65-9 2,3-Bis(6-methyl-2-pyridyl)-6-nitroquinoxaline, B-00418
17401-67-1 2,3-Bis(6-methyl-2-pyridyl)-5-nitroquinoxaline, B-00417
17401-68-2 6-Methoxy-2,3-di-2-pyridinylquinoxaline, *in* H-00172
17401-69-3 6-Methoxy-2,3-bis(6-methyl-2-pyridyl)quinoxaline, *in* H-00140
17401-70-6 6-Chloro-2,3-di-2-pyridylquinoxaline, C-00111
17401-71-7 6-Chloro-2,3-bis(6-methyl-2-pyridyl)quinoxaline, C-00075
17401-72-8 6,7-Dichloro-2,3-di-2-pyridylquinoxaline, D-00269
17401-73-9 6,7-Dichloro-2,3-bis(6-methyl-2-pyridyl)quinoxaline, D-00255
17401-74-0 2,3-Di-2-pyridyl-6-quinoxalinecarboxylic acid, D-01095
17401-75-1 2,3-Bis(6-methyl-2-pyridyl) pyrido[2,3-*b*]pyrazine, B-00421
17401-77-3 2,3-Bis(6-methyl-2-pyridyl)-10*H*-indeno[1,2-*g*]-quinoxaline, B-00416
17401-79-5 2,2',3,3'-Tetrakis(6-methyl-2-pyridyl)-6,6'-biquinoxaline, T-00088
17427-91-7 1,2-Bis(diphenylphosphino) ethylene, B-00339
17454-47-6 2,3,5,6,8,9,11,12-Octahydronaphtho[2,3-*b*]-1,4,7,10,13-pentaoxacyclopentadecine, O-00029
17454-49-8 15-(1,1-Dimethylethyl) tetradecahydro-1,4,7,10,13-benzopentaoxacyclopentadecin, D-00860
17454-52-3 2,3,5,6,8,9,11,12,14,15-Decahydronaphtho[2,3-*b*]-1,4,7,10,13,16-hexaoxacyclooctadecin, D-00017
17455-13-9 ▷ 18-Crown-6, C-00315
17455-23-1 ▷ Tetracosahydrodibenz[*b,n*] [1,4,7,10,13,16,19,22] octaoxacyclotetracosin, T-00036
17455-25-3 Dibenzo-30-crown-10, D-00160
17455-70-8 Bis(2,2':6',2''-terpyridine-*N,N',N''*) iron(*II*)(2+), B-00457
17504-10-8 4-Methoxy-3-biphenylcarboxylic acid, *in* H-00132
17504-13-1 4-Hydroxy-3-biphenylcarboxylic acid; Me ester, *in* H-00132
17512-68-4 2-Nitrobenzohydroxamic acid, N-00089
17512-69-5 2-Chlorobenzohydroxamic acid, C-00064
17512-73-1 2-Methylbenzohydroxamic acid, M-00135
17529-47-4 *O,O*-Dibutyl phosphonothioate, D-00240
17560-30-4 1-(4-Nitro-2-hydroxybenzeneazo)-2-(β-acetylhydrazino) naphthalene, N-00111
17580-69-7 2-Hydroxy-5-anisaldoxime, *in* D-00518
17583-53-8 3-Isoquinolinecarboximidic acid hydrazide, I-00086
17583-54-9 3-(5,6-Diphenyl-1,2,4-triazin-3-yl) isoquinoline, D-01056
17583-55-0 3-(5,6-Di-2-pyridyl-1,2,4-triazin-3-yl)isoquinoline, D-01097
17583-56-1 3-(3-Isoquinolyl)-1,2,4-triazino[5,6-*f*][4,7]phenanthroline, I-00090
17583-57-2 1-(4,6-Diamino-1,3,5-triazin-2-yl) isoquinoline, D-00130
17583-58-3 3-(4,6-Diamino-1,3,5-triazin-2-yl) isoquinoline, D-00131
17583-59-4 2-Amino-4,6-bis(1-isoquinolyl)-1,3,5-triazine, A-00121
17583-61-8 1-(2-Benzimidazolyl)isoquinoline, B-00044
17583-63-0 2-(1-Isoquinolyl)-3*H*-imidazo[4,5-*h*]quinoline, I-00088
17583-64-1 2-(3-Isoquinolyl)-3*H*-imidazo[4,5-*h*]quinoline, I-00089
17583-65-2 1-(1*H*-Imidazo[4,5-*c*]pyridin-2-yl) isoquinoline, I-00004
17583-66-3 3-(1*H*-Imidazo[4,5-*c*]pyridin-2-yl) isoquinoline, I-00005
17583-67-4 1-(5-Phenyl-2-benzimidazolyl) isoquinoline, P-00103
17583-68-5 3-(5-Phenyl-2-benzimidazolyl) isoquinoline, P-00104
17587-22-3 6,6,7,7,8,8,8-Heptafluoro-2,2-dimethyl-3,5-octanedione, H-00006
17600-72-5 1-Ethoxy-2-methoxybenzene, *in* B-00020

50768-75-7 4-[(5-Bromo-2-pyridinyl)azo]-1,3-benzenediamine, B-00562
50768-76-8 4-(2-Pyridinylazo)-1,3-benzenediamine, P-00372
50768-77-9 4-[(5-Iodo-2-pyridinyl)azo]-1,3-benzenediamine, I-00052
50768-78-0 4-[(3,5-Dichloro-2-pyridinyl)azo]-1,3-benzenediamine, D-00299
50768-79-1 4-[(3,5-Dibromo-2-pyridinyl)azo]-1,3-benzenediamine, D-00199
50783-80-7 5-(Dimethylamino)-2-(2-pyridinylazo)phenol, *in* A-00336
50783-81-8 2-[(5-Chloro-2-pyridinyl)azo]-5-(dimethylamino)phenol, *in* A-00145
50783-82-9 2-[(5-Bromo-2-pyridinyl)azo]-5-(dimethylamino)phenol, *in* A-00126
50783-83-0 4-Dimethylamino-2,2′-dihydroxyazobenzene, D-00783
50783-84-1 3-[[4-(Dimethylamino)-2-hydroxyphenyl]azo]-4-hydroxybenzenesulfonic acid, D-00787
50783-85-2 2-[[4-(Dimethylamino)-2-hydroxyphenyl]azo]-4-methylphenol, *in* A-00197
50783-86-3 2-(4-Amino-2-hydroxyphenylazo)-4-nitrophenol, A-00213
50783-87-4 2-[[4-(Dimethylamino)-2-hydroxyphenyl]azo]-4,6-dinitrophenol, *in* A-00210
50783-91-0 4-[[4-(Dimethylamino)-2-hydroxyphenyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, D-00788
50783-92-1 5-(Dimethylamino)-2-[(5-nitro-2-thiazolyl)azo]phenol, *in* A-00289
50787-05-8 5,6-Diamino-2,4(1*H*,3*H*)-pyrimidinedione, *see* D-00120
50867-36-2 4-[(2-Hydroxy-1-naphthalenyl)azo]-1-naphthalenesulfonic acid; Ba salt, *in* H-00350
50880-65-4 Sulf-R-azo, *in* H-00543
50882-16-1 2-Oxocyclopentanecarboxylic acid, O-00060
50886-45-8 4-[[(4-Amino-2-hydroxyphenyl)]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00209
50886-62-9 2-Aminobenzoic acid [(2-hydroxy-1-naphthalenyl)methylene] hydrazide, A-00108
50906-05-3 2-Methylamino-1-phenyl-1-propanol, *see* M-00122
50925-79-6 Colestipol, *in* D-00345
50934-62-8 Cyclohexanebutanoic acid; Et ester, *in* C-00335
50967-99-2 2-(3-Hydroxy-3-methyl-1-triazenyl) benzoic acid, H-00332
50984-88-8 3,3-Bis(4-hydroxy-2,5-dimethylphenyl)-1(3*H*)-isobenzofuranone, B-00365
50996-16-2 5,6-Diamino-2,4(1*H*,3*H*)-pyrimidinedione, *see* D-00120
51018-87-2 4-(2-Methylpropyl)-2,5-oxazolidinedione, *see* M-00261
51023-76-8 5-Amino-2-[2-(4-isothiocyanato-2-sulfophenyl)ethenyl] benzenesulfonic acid; *N*-Ac, di-Na salt, *in* A-00230
51031-98-2 2-[[(Aminothioxomethyl)amino] carbonyl]-6-nitrobenzoic acid, A-00361
51040-40-5 2′-Hydroxy-5′-methylacetophenone; Semicarbazone, *in* H-00275
51089-88-4 2′-Hydroxy-5′-methylacetophenone; Thiosemicarbazone, *in* H-00275
51095-63-7 4-Amino-4′-nitroazobenzene; *N*-Ac, *N*-Me, *in* A-00281
51101-43-0 2-(2-Benzothiazolylazo)-4,6-dichlorophenol, B-00093
51138-97-7 5,6-Bis(diphenylphosphino) bicyclo[2.2.1]hept-2-ene, *see* B-00337
51147-02-5 3-[(2-Hydroxy-1-naphthalenyl) azo]-1*H*-pyrazole-4-carboxylic acid, H-00353
51152-29-5 2-(2-Hydroxybenzylideneamino) phenol, *see* H-00129
51174-98-2 Tris(1,10-phenanthroline-N^1,N^{10}) iron(*II*)(2+), *see* T-00412
51196-88-4 5,6-Bis(diphenylphosphino) bicyclo[2.2.1]hept-2-ene, *see* B-00337
51208-43-6 1,2-Bis(4-methoxyphenyl)-1,2-ethanediamine, B-00401
51226-42-7 2,4,6-Trinitrobenzoic acid; Amide, *in* T-00352
51234-27-6 ▷ Flunoxaprofen, F-00008
51248-35-2 4-(2-Methylpropyl)-2,5-oxazolidinedione, M-00261
51259-57-5 Menthyl chloroformate, M-00014
51260-39-0 4-Methyl-1,3-dioxolan-2-one; (*S*)-*form*, *in* M-00160
51260-63-0 2-Phenylbutanoic acid, *see* P-00110
51274-49-8 Tetrahydroxybutanedioic acid; Di-Na salt, *in* T-00073
51278-49-0 2-(2-Quinolinylazo)-1-acenaphthylenol, Q-00027
51279-09-5 *N*-Hydroxy-*N*-nitrosocyclododecanamine, H-00410
51282-90-7 2-Cyano-4-methylphenol, *in* H-00279
51289-07-7 1,2-Dihydro-4-[(4-hydroxyquinolin-8-yl)azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00423
51290-77-8 2-Mercaptobenzimidazole; *S*-Benzyl, *in* M-00022
51300-82-4 4,6-Nonanedione; Bis-2,4-dinitrophenylhydrazone, *in* N-00168
51306-35-5 5-[(4,6-Dichloro-1,3,5-triazin-2-yl) amino]-3′,6′-dihydroxyspiro[isobenzofuran-1(3*H*),9′-[9*H*]xanthen]-3-one, D-00304
51327-62-9 3-[(4-Oxo-2-thioxo-5-thiazolidinyl) azo]benzenesulfonic acid, O-00075
51327-63-0 2-[(4-Oxo-2-thioxo-5-thiazolidinyl) azo]benzenesulfonic acid, O-00074
51359-15-0 1,2-Dihydro-4-[(2-hydroxynaphthalenyl)azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00415
51359-16-1 8-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl) azo]-7-hydroxy-2-naphthalenesulfonic acid, D-00386
51359-17-2 4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl) azo]-3-hydroxy-2-naphthalenecarboxylic acid, D-00385
51359-18-3 1,2-Dihydro-4-[(4-hydroxynaphthalenyl)azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00416
51359-19-4 1,2-Dihydro-1,5-dimethyl-2-phenyl-4-[(2,4,6-trihydroxyphenyl)azo]-3*H*-pyrazol-3-one, D-00393
51359-20-7 4-[(2,4-Dihydroxyphenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00691
51451-05-9 ▷ Chloroacetaldehyde; Oxime, *in* C-00053
51550-25-5 Beryllon II, *see* B-00199
51576-73-9 *O*,*O*-Diphenyl phosphorodithioate; Diethylammonium salt, *in* D-01040
51583-70-1 6-Methyl-2(1*H*)-pyridinethione; *N*-Oxide, *in* M-00276
51584-72-6 1-Hydroxyxanthone; Ac, *in* H-00562
51586-24-4 2,2,2-Trifluoro-1-phenylethylamine, T-00261
51589-08-3 4,4′-Diaminodiphenylamine; B,2HCl, *in* D-00086
51589-61-8 2-(2-Hydroxyphenyl)benzoxazole; *O*-Ac, *in* H-00467
51639-68-0 *N*-(4-Chlorophenyl)-*N*-hydroxy-2-furancarboxamide, *in* F-00064
51639-70-4 *N*-(3-Chlorophenyl)-*N*-hydroxy-2-furancarboxamide, *in* F-00064
51649-27-5 2,3-Dihydro-3-oxo-5,6-diphenyl-4-pyridazinecarboxylic acid, *see* D-00463
51674-11-4 4,7-Dihydroxy-1*H*-isoindole-1,3(2*H*)-dione, D-00636
51679-09-5 3-Methylbenzenethiol, *see* M-00132
51685-18-8 (2-Aminoethoxy)diphenoxyborane, A-00172
51721-68-7 4-Methoxybenzamidine; B,HCl, *in* M-00077
51728-10-0 8-*N*-(5-Bromosalicylidene) aminoquinoline, B-00575
51786-53-9 ▷ 2,5-Dimethylaniline; B,HCl, *in* D-00828
51825-87-7 *O*,*O*-Dibutyl phosphorothioate; K salt, *in* D-00242
51833-03-5 6,7-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+); Chloride, *in* D-00576
51833-06-8 4-Methyl-6-(2-pyridinylazo)-1,3-benzenediamine, M-00277
51833-07-9 4-Methyl-6-[[2-(phenylmethoxy)-2-pyridinyl]azo]-1,3-benzenediamine, M-00232
51833-08-0 4-[(5-Chloro-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, C-00253
51833-09-1 4-[(5-Bromo-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, B-00572
51833-10-4 4-[(3,5-Dichloro-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, D-00301
51846-67-4 9-Methyl-9*H*-carbazol-2-ol, *in* H-00144
51860-46-9 4-Chloro-7-nitrobenzofurazan; 1-Oxide, *in* C-00189
51864-09-6 2-Acetyl-1-naphthol; Oxime, *in* A-00026
51867-62-0 7-Hydroxy-2-oxo-2*H*-1-benzopyran-3-carboxylic acid; Me ether, chloride, *in* H-00426
51873-97-3 1-Naphthalenecarboxaldehyde, *see* N-00003
51895-44-4 Dimethylcarbamodiselenoic acid; Na salt, *in* D-00846
51908-46-4 1-[[5-(Dimethylamino)-1-naphthalenyl]sulfonyl]aziridine, D-00799
51934-41-9 4-Iodobenzoic acid; Et ester, *in* I-00041
51951-34-9 *O*-Pentylhydroxylamine; B,HCl, *in* P-00040
51953-23-2 Hypoxanthine; 1,9-Dihydro-*form*, *in* H-00564
51964-33-1 3-(2-Pyridinylcarbonyl) benzenesulfonic acid, P-00386
51987-58-7 8-Amino-1,3,6-pyrenetrisulfonic acid, A-00332
51991-39-0 5-Hydroxy-1*H*-indole-2-carboxylic acid; Me ester, *in* H-00253
52000-06-3 2,6,7-Trihydroxy-9-pentadecyl-3*H*-xanthen-3-one, T-00307

Type of Compound Index

This Index classifies virtually all reagents in the Dictionary under three or more headings according to analyte (e.g. copper), compound group (e.g. phenothiazine) and analytical application (e.g. chromatographic derivatisation reagent).

Analyte – Element

Analyte – Organic molecule

Compound group

Use

Type of Compound Index

Analyte - Element

Actinides (other than plutonium, uranium and thorium)

Alamine 336, A-00072
5,6-Bis(diphenylphosphino)bicyclo[2.2.1]hept-2-ene; (1*RS*,5*RS*,6*RS*)-*form*, *P*,*P*′-Dioxide, *in* B-00337
1,2-Bis(diphenylphosphino)ethylene; (*E*)-*form*, *P*,*P*′-Dioxide, *in* B-00339
Bis(diphenylphosphino)methane, B-00340
1,2-Bis(diphenylphosphinyl)ethane, *in* B-00338
1,2-Ethenediylbis[bis(4-methylphenyl) phosphineoxide], E-00043
▷ Nitromethane, N-00113
▷ Pentetic acid, P-00039
Tetraethyl 1,2-ethanediylbisphosphonate, *in* E-00026
▷ Tributyl phosphate, T-00211
▷ *N*-Tridecyl-1-tridecanamine, T-00229
4,4,4-Trifluoro-1-(2-thienyl)-1,3-butanedione, T-00264

Alkali metals

Bis(benzo-15-crown-5-ylmethyl)succinate, *in* B-00611
2-Butenedioic acid bis[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl) methyl]ester, B-00611
N-(2,3,5,6,8,9,11,12,14,15-Decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl)-2-propenamide, D-00007
2,3,5,6,8,9,11,12,14,15-Decahydro-19-nitro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-amine, D-00019
2,3,5,6,8,9,11,12,14,15-Decahydro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-amine, D-00021
2-Hexylbutanedioic acid; (±)-*form*, *in* H-00073
13-Hydroxyethyl-1,4,7,10-tetraoxa-13-azacyclopentadecane, H-00182
7-Hydroxy-4-methyl-8-(1,4,7,10,13-pentaoxa-16-azacyclooctadec-16-ylmethyl)-2*H*-1-benzopyran-2-one, H-00299
10-(2-Methoxyethyl)-1,4,7-trioxa-10-azacyclododecane, *in* T-00359
2-[(2-Methoxyphenoxy)methyl]-1,4,7,10,13,16-hexaoxacyclooctadecane, M-00103
13-Methyl-1,4,7,10-tetraoxa-13-azacyclopentadecane, *in* T-00111
10-Methyl-1,4,7-trioxa-10-azacyclodecane, *in* T-00359
2,3,5,6,8,9,11,12-Octahydro-16-nitro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, O-00030
2,3,5,6,8,9,11,12-Octahydro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, O-00031
3,3′,5,5′-Tetramethyl-2,2′,4,4′,6,6′-hexanitrodiphenylamine; Na salt, *in* T-00096
1,4,7,10-Tetraoxa-13-azacyclopentadecane; *N*-(2-Methoxyethyl), *in* T-00111

Alkaline earth metals

Arsenazo I; Tri-Na salt, *in* A-00410
1,5-Bis(aminomethyl)-2,6-naphthalenediol-*N*,*N*,*N*′,*N*′-tetraacetic acid, B-00247
N,*N*′-Bis(2-hydroxy-5-nitrobenzyl)10,13-diaza-1,4,7-trioxacyclopentadecane, B-00383
Carboxyarsenazo, C-00026
Carboxynitrazo, C-00035
2-[[7-[(3-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl] azo]benzoic acid, C-00036
3-[[7-[4-Chlorophenylazo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]benzoic acid, C-00201
o-Cresolphthalexon, C-00308
N-(2,3,5,6,8,9,11,12,14,15-Decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl)-2-propenamide, D-00007
▷ 2,5-Dichloro-3,6-dihydroxy-1,4-benzoquinone, D-00262
4,5-Dihydroxy-3,6-bis[(3-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00556
4,5-Dihydroxy-3,6-bis(phenylazo)-2,7-naphthalenedisulfonic acid, D-00559
4,5-Dihydroxy-3,6-bis[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00563
2,2′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bisbenzoic acid, D-00592
[2-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]phenyl]-2-hydroxyacetic acid, D-00599
[*o*-[(1,8-Dihydroxy-3,6-disulfo-2-naphthyl) azo]phenyl]acetic acid, D-00602
2-[(1,8-Dihydroxy-3,6-disulfo-2-naphthylazo)phenyl]-2-oxoacetic acid, D-00603
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(3-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, D-00609
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-6-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00616
2-[[1,8-Dihydroxy-7-[(4-methoxyphenyl) azo]-3,6-disulfo-2-naphthyl]azo]benzoic acid, D-00642
4,5-Dihydroxy-3-[(2-methoxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00643
2-[[1,8-Dihydroxy-7-[(3-methylphenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00651
2-[[1,8-Dihydroxy-7-[(4-methylphenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00652
4,5-Dihydroxy-3-[(*p*-nitrophenyl)azo]-6-[(*p*-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00669
▷ 2,5-Dihydroxy-3-undecyl-1,4-benzoquinone, D-00740
1,3-Dimethyl-5-[(tetrahydro-1,3-dimethyl-2,4,6-trioxo-5(2*H*)-pyrimidinylidene) amino]-2,4,6(1*H*,3*H*, 5*H*)-pyrimidinetrione, *in* P-00281
2-Hexylbutanedioic acid; (±)-*form*, *in* H-00073
13-Hydroxyethyl-1,4,7,10-tetraoxa-13-azacyclopentadecane, H-00182
10-(2-Methoxyethyl)-1,4,7-trioxa-10-azacyclododecane, *in* T-00359
[2-(*o*-Methylbenzoyl)azo]-1,8-dihydroxynaphthalene-3,6-disulfonic acid, M-00144
13-Methyl-1,4,7,10-tetraoxa-13-azacyclopentadecane, *in* T-00111
10-Methyl-1,4,7-trioxa-10-azacyclodecane, *in* T-00359
Murexide, *in* P-00281
Sulfochlorophenol K, S-00041
1,4,7,10-Tetraoxa-13-azacyclopentadecane; *N*-(2-Methoxyethyl), *in* T-00111

Aluminium

▷ Acid chrome violet K; Na salt, *in* A-00055
Alizarine red S; Na salt, *in* A-00081
▷ Aluminon, *in* A-00458
3-Amino-2-hydroxy-5-sulfobenzoic acid, A-00221
Aminooxoacetic acid [(2-hydroxyphenyl) methylene]hydrazide, A-00292
8-Amino-7-(phenylazo)-5-quinolinesulfonic acid; Na salt, *in* A-00316
7-[[5-(Aminosulfonyl)-2-hydroxyphenyl] azo]-8-hydroxy-1,6-naphthalenedisulfonic acid, A-00349
Anthrafluorone, A-00387
Benzoic acid [(2-hydroxy-1-naphthalenyl) methylene]hydrazide, B-00064
3,3-Bis(4-hydroxy-1-naphthalenyl)-1(3*H*)-isobenzofuranone, B-00380
Bis[(2-hydroxyphenyl)methylene]carbonic dihydrazide, B-00390
Bis[(2-hydroxyphenyl)methylene] carbonimidic dihydrazide, B-00391
1,5-Bis(2-hydroxy-3-sulfo-5-chlorophenyl)-3-cyanoformazan, B-00394
N-[3,5-Bis(trifluoromethyl)phenyl]-*N*-hydroxy-3,5-bis(trifluoromethyl) benzamide, B-00465
4-Bromobenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, B-00489
3-[(6-Bromo-2-benzothiazolyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00490
N-(5-*tert*-Butyl-2-hydroxybenzylidene)-2-hydroxy-5-methylaniline, B-00632
4-Chloro-2-(2-hydroxybenzylideneamino) phenol, C-00125
5-Chloro-*N*-(2-hydroxy-5-bromobenzylidene)-2-hydroxyaniline, C-00126
4-Chloro-2-hydroxy-*N*-(2-hydroxybenzylidene)aniline, C-00129
5-Chloro-2-hydroxy-*N*-(2-hydroxy-5-chlorobenzylidene)aniline, C-00130
7-[(5-Chloro-2-hydroxyphenyl)azo]-8-hydroxy-1,6-naphthalenedisulfonic acid, C-00147
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00158
5-[(4-Chlorophenyl)azo]-8-quinolinol, C-00206
Chromazol KS; Tri-Na salt, *in* C-00276
Chromazurol S; Tri-Na salt, *in* C-00277
Chromotrope 2C, C-00291
Chromoxane violet R, *in* E-00015
▷ 1,3-Diamino-2-propanol-*N*,*N*,*N*′,*N*′-tetraacetic acid, D-00116
▷ 4-Diazobenzenesulfonic acid, D-00142
3,6-Dichloro-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, D-00263
[3-(4-Diethylamino-2-hydroxyphenyl)azo]-4-hydroxybenzenesulfonic acid, D-00319

3-[2-(5-Diethylaminophenyl)azo]-2-hydroxy-5-nitrobenzenesulfonic acid, D-00330
1,2-Dihydro-4-[[(2-hydroxyphenyl) methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00420
4,5-Dihydroxy-3-[4-(aminomethyl) phenylazo]-2,7-naphthalenedisulfonic acid *N,N*-diacetic acid, D-00509
▷ 1,2-Dihydroxyanthraquinone, D-00510
4,5-Dihydroxy-3,6-bis[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00564
2,2′-Dihydroxy-4,4′-dimethylazobenzene, D-00574
4,5-Dihydroxy-3-[4,5-(dimethyl-2-thiazolyl) azo]-2,7-naphthalenedisulfonic acid, D-00579
4,5-Dihydroxy-3-[(3,5-dinitro-2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00581
2,2′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[5-sulfobenzoic acid], D-00590
3-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]-2-pyridinecarboxylic acid, D-00600
5,7-Dihydroxyflavone, D-00612
3,4-Dihydroxy-10-imino-9(10*H*)-anthracenone, D-00634
2-(3′,4′-Dihydroxyphenyl)azo-3-cyano-4-methyl-5-ethoxycarbonylthiophene, *in* C-00326
3-[(2,4-Dihydroxyphenyl)azo]-4-hydroxybenzenesulfonic acid, D-00693
3-[2,4-Dihydroxyphenylazo]-2-hydroxy-5-nitrobenzenesulfonic acid, D-00698
2-(3,4-Dihydroxyphenylazo)-4-phenyl-5-benzoylthiazole, D-00699
[2-[[(2,4-Dihydroxyphenyl)methylene] amino]phenyl]arsonic acid, D-00711
4,5-Dihydroxy-3-[(4-phenyl-2-thiazolyl) azo]-2,7-naphthalenedisulfonic acid, D-00718
4-(1,1-Dimethylethyl)-*N*-hydroxy-*N*-(2-methylphenyl)benzamide, *in* B-00619
4-(1,1-Dimethylethyl)-*N*-hydroxy-*N*-phenylbenzamide, *in* B-00619
N-[5-(1,1-Dimethylpropyl)-2-hydroxyphenyl]-2-hydroxyaniline, D-00902
4-[(3,5-Dinitro-2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00953
1-[(3,5-Dinitro-2-hydroxyphenyl)azo]-2-naphthol, D-00954
Di-2-pyridinylmethanone 2-furoylhydrazone, D-01077
Eriochrome cyanine R; Tri-Na salt, *in* E-00013
Eriochrome geranol; Di-Na salt, *in* E-00015
Ethanedioic acid bis[[(2,4-dihydroxyphenyl) methylene]hydrazide], E-00025
3-[(6-Ethoxy-2-benzothiazolyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, E-00053
4-Ethoxy-2-hydroxy-*N*-salicylideneaniline, *in* D-00614
4-Ethyl-*N*-hydroxy-*N*-phenylbenzamide, E-00093
1-[(Ethylimino)methyl]-2-naphthalenol, E-00096
Ethyltridodecylammonium(1+); Bromide, *in* E-00120
▷ Hexamethylenetetramine, H-00057
▷ Hexanedioic acid, H-00062
3-Hydroxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, H-00118
4-Hydroxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, H-00119
N-(2-Hydroxy-3-biphenylyl)methylene-2-hydroxyaniline, H-00135
4-[(2-Hydroxy-3,5-dinitrophenyl)azo]-1,3-benzenediol, H-00160
4-Hydroxy-*N*-(2-hydroxybenzylidene)-3-biphenylamine, H-00189
2-Hydroxy-*N*-(2-hydroxybenzylidene)-4-methylaniline, H-00190
2-Hydroxy-*N*-(2-hydroxybenzylidene)-5-methylaniline, H-00191
2-Hydroxy-*N*-(2-hydroxy-5-bromobenzylidene)aniline, H-00193
2-Hydroxy-*N*-(2-hydroxy-5-*tert*-butylbenzylidene)aniline, H-00194
2-Hydroxy-*N*-(2-hydroxy-5-carbomethoxybenzylidene)aniline, *in* H-00237
2-Hydroxy-*N*-(2-hydroxy-3-chlorobenzylidene)aniline, H-00195
2-Hydroxy-*N*-(2-hydroxy-5-chlorobenzylidene)aniline, H-00196
3-Hydroxy-4-[(2-hydroxy-3,5-dinitrophenyl) azo]-2,7-naphthalenedisulfonic acid, H-00198
2-Hydroxy-*N*-(2-hydroxy-5-ethylbenzylidene)aniline, H-00201
2-Hydroxy-*N*-(2-Hydroxy-5-ethylbenzylidene)-5-methylaniline, H-00202
2-Hydroxy-*N*-(2-hydroxy-5-iodobenzylidene)aniline, H-00204
2-Hydroxy-*N*-(2-hydroxy-3-isopropyl-6-methylbenzylidene)aniline, H-00205
2-Hydroxy-*N*-(2-hydroxy-6-isopropyl-3-methylbenzylidene)aniline, H-00206
2-Hydroxy-*N*-(2-hydroxy-3-methylbenzylidene)aniline, H-00210
2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)aniline, H-00211
2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)aniline, H-00212
2-Hydroxy-*N*-(2-hydroxy-3-methylbenzylidene)-5-methylaniline, H-00213
2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)-4-methylaniline, H-00214
2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)-5-methylaniline, H-00215
2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)-4-methylaniline, H-00216
2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)-5-methylaniline, H-00217
2-[[3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]-2′-[(2-hydroxyphenyl)methylene]carbonic acid dihydrazide, H-00218
2-Hydroxy-4-(4-hydroxy-6-methyl-2-oxo-2*H*-pyran-3-yl)-4-oxo-2-butenoic acid; Et ester, *in* H-00221
2-Hydroxy-3-[4-hydroxynaphthalenylazo]-5-nitrobenzenesulfonic acid, H-00223
2-Hydroxy-*N*-(2-hydroxynaphthylidene) aniline, H-00226
8-Hydroxy-7-[(2-hydroxy-4-nitrophenyl) azo]-1,6-naphthalenedisulfonic acid, H-00227
8-Hydroxy-7-[(2-hydroxy-5-nitrophenyl) azo]-1,6-naphthalenedisulfonic acid, H-00228
4-Hydroxy-3-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, H-00229
5-Hydroxy-6-[(2-hydroxy-5-nitro-3-sulfophenyl)-azo]-1-naphthalenesulfonic acid, H-00230
5-Hydroxy-8-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-2-naphthalenesulfonic acid, H-00232
8-Hydroxy-7-[(2-hydroxyphenyl)azo]-1,6-naphthalenedisulfonic acid, H-00233
2-Hydroxy-*N*-(2-hydroxy-5-phenylbenzylidene)aniline, H-00234
2-Hydroxy-*N*-(2-hydroxy-5-phenylbenzylidene)-5-methylaniline, H-00235
3-Hydroxy-4-[[(2-hydroxyphenyl)methylene] amino]benzoic acid, H-00239
4-Hydroxy-3-[[(2-hydroxyphenyl)methylene] amino]benzoic acid, H-00240
N-(2-Hydroxy-3-methoxybenzylidene)-2-hydroxyaniline, *in* D-00541
N-2-Hydroxy-5-methoxybenzylidene-2-hydroxyaniline, *in* D-00543
N-Hydroxy-4-methoxy-*N*-phenylbenzamide, *in* D-00704
2-Hydroxy-4-methoxy-*N*-salicylideneaniline, *in* D-00614
▷ 7-Hydroxy-4-methyl-2*H*-1-benzopyran-2-one, H-00283
N-Hydroxy-2-methyl-*N*-phenylbenzamide, H-00306
N-Hydroxy-4-methyl-*N*-phenylbenzamide, H-00307
1-Hydroxy-2-naphthoic acid, H-00369
2-(2-Hydroxy-1-naphthylideneamino)-4-biphenylol, H-00378
N-Hydroxy-*N*-nitrosocyclooctylamine, H-00412
N-Hydroxy-*N*-nitroso-2-propanamine, H-00418
N-2-Hydroxy-5-phenylbenzylidene-2-hydroxy-5-phenylaniline, H-00468
2-[[(2-Hydroxyphenyl)methylene]amino]-9*H*-fluoren-3-ol, H-00477
[2-[[(2-Hydroxyphenyl)methylene]amino] phenyl]arsonic acid, H-00479
2-[[(2-Hydroxyphenyl)methylene]amino]-3-pyridinol, H-00480
N-Hydroxy-*N*-phenyl-3-(trifluoromethyl) benzamide, H-00511
▷ 8-Hydroxyquinoline, H-00525
2-Isopropyl-8-quinolinol, I-00078
3-Methoxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, M-00081
Naphthochrome green G; Di-Na salt, *in* N-00023
▷ Neocupferron; NH_4 salt, *in* N-00061
Nevazol NS, N-00067
o-Nitral green; Chloride, *in* N-00072
p-Nitral green; Chloride, *in* N-00073
OP 7, O-00041
4-Pyridinecarboxylic acid [(2,4-dihydroxyphenyl)methylene]hydrazide, P-00345
Pyridoxal; Salicyloylhydrazone, *in* P-00414
Quinizarin S; Na salt, *in* Q-00006
Stilbazo; Di-NH_4 salt, *in* S-00027
Stilbazogall I, S-00029
▷ Succinic acid, S-00034
Sulfochrome; Di-NH_4 salt, *in* S-00046
Sulfonitrophenol R, S-00053
Sulfonitrophenol S, S-00054
▷ Tetracycline, T-00039
▷ Thionine hydrochloride, *in* L-00003
1,1,1-Trifluoro-2,4-pentanedione, T-00257
4-[(2,4,6-Trihydroxyphenyl)azo]-3-hydroxy-1-naphthalenesulfonic acid, T-00312
▷ Tris(2-hydroxyethyl)amine, T-00406

Antimony

4-Aminobenzenesulfonic acid; *N*-Ph, Ba salt, *in* A-00100
9-(4-Aminophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, A-00328
Anisylfluorone, A-00372
▷ Brilliant green; Hydrogen sulfate, *in* B-00479
N-Bromo-4-methylbenzenesulfonamide, *in* M-00130
Bromopyrogallol red, B-00574
▷ C.I. 11050 Basic dye, *in* J-00004
9-(2-Chlorophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, C-00240
Cotarnilfluorone, C-00302
2,6-Diacetylpyridine bis(benzoylhydrazone), D-00036
2,6-Diacetylpyridine bis(2-hydroxybenzoylhydrazone), D-00038
▷ 1,3-Diamino-2-propanol-*N,N,N′,N′*-tetraacetic acid, D-00116
▷ 1,3-Dibromo-5,5-dimethyl-2,4-imidazolidinedione, D-00185
9-(3,4-Dibromophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, D-00198

▷ 1,3-Dichloro-5,5-dimethyl-2,4-imidazolidinedione, *in* D-00866
N,*N*-Dichloro-4-methylbenzenesulfonamide, D-00285
▷ *O*,*O*-Diethyl phosphorodithioate, D-00356
3,4-Dihydroxyazobenzene, D-00515
▷ Diisopropyl ether, D-00748
3-[3-(3,3-Dimethyl-1(3*H*)-isobenzofuranylidene)-1-propenyl]-1,1-dimethyl-1*H*-isobenzofurylium(1+); Perchlorate, *in* D-00869
4,5-Dimethyl-2-(2-quinolinylazo)phenol, D-00914
9-Ethyl-2,6,7-trihydroxy-3*H*-xanthen-3-one, E-00121
Hexahydro-2*H*-1,3-diazepine-2-thione, H-00037
N-Hydroxy-*N*-nitrosocyclooctylamine, H-00412
N-Hydroxy-*N*-nitroso-2-propanamine, H-00418
▷ 2-Imidazolidinethione; 1,3-Di-Me, *in* I-00003
Janus green; Chloride, *in* J-00003
2-Mercapto-*N*-2-naphthylacetamide, M-00038
2-[[(4-Methoxy-2-nitrophenyl)hydrazono]methyl]-1,3,3-trimethyl-3*H*-indolium(1+); Perchlorate, *in* M-00096
4-[[3-(1-Methyl-2-piperidinyl)-4-pyridinyl]azo]-1,3-benzenediol, M-00248
Phenosafrazo blue, P-00071
▷ *N*-Phenyl-*N'*-pyridinylthiourea, P-00177
▷ Piperazine, P-00237
2,2′-[2,6-Pyridinediylbis(methylidynenitrilo)]bisphenol, P-00354
▷ Pyronine G; Chloride, *in* P-00435
1-(2-Quinolinylazo)-2-naphthalenol, Q-00029
Rhodamine B, *in* R-00002
Rhodamine G; Chloride, *in* R-00005
Rhodamine S; Chloride, *in* R-00006
Rhoduline violet; Chloride, *in* R-00007
Silver diethyldithiocarbamate, *in* D-00344
▷ Tetrahydro-2(1*H*)-pyrimidinethione, T-00066
2′,3,5,7-Tetrahydroxyflavone, T-00074
2,3,7,8-Tetrahydroxyphenazine, T-00079
2,6,7-Trihydroxy-9-(3-hydroxyphenyl)-3*H*-xanthen-3-one, T-00293
2,6,7-Trihydroxy-9-(4-hydroxyphenyl)-3*H*-xanthen-3-one, T-00294
2,6,7-Trihydroxy-9-(3-nitrophenyl)-3*H*-xanthen-3-one, T-00302
2,6,7-Trihydroxy-9-(4-nitrophenyl)-3*H*-xanthen-3-one, T-00303
2,6,7-Trihydroxy-9-(2-pyridinyl)-3*H*-xanthen-3-one, T-00317
2,6,7-Trihydroxy-9-(4-pyridinyl)-3*H*-xanthen-3-one, T-00319
Xylenol blue, X-00005

Arsenic

Azocarmine B; Di-Na salt, *in* A-00470
Azocarmine G; Na salt, *in* A-00471
Bis(nitrooxy)dioctylstannane, B-00429
N-Bromo-4-methylbenzenesulfonamide, *in* M-00130
▷ 1,3-Dibromo-5,5-dimethyl-2,4-imidazolidinedione, D-00185
▷ 1,3-Dichloro-5,5-dimethyl-2,4-imidazolidinedione, *in* D-00866
N,*N*-Dichloro-4-methylbenzenesulfonamide, D-00285
▷ *O*,*O*-Diethyl phosphorodithioate, D-00356
▷ Diisopropyl ether, D-00748
▷ 2,3-Dimercapto-1-propanesulfonic acid, D-00761
1,2-Di-4-morpholinylethane, D-00928
Dinonyltin dinitrate, D-00980
2-(Diphenylmethyl)pyridine, D-01030
▷ Ephedrine, *in* M-00122
Ethyl violet; Chloride, *in* E-00122
▷ Fluphenazine, F-00034
Neutral red; B,HCl, *in* N-00065
Neutral violet; B,HCl, *in* N-00066
▷ 4-Nitro-1,2-benzenediol, N-00087
2-(4-Nitrophenyl)-3,5-diphenyl-2*H*-tetrazolium(1+); Chloride, *in* N-00134
▷ Promazine, P-00258
4-(2-Pyridinylazo)-1,3-benzenediol, P-00373
▷ Quinine, Q-00005
Silver diethyldithiocarbamate, *in* D-00344
Tetraoctylammonium(1+); Chloride, *in* T-00110
▷ Tetrazolium blue; Dichloride, *in* T-00132
Triton X 305, T-00429
▷ TTC, *in* T-00379
Wool fast blue BL; Na salt, *in* W-00002
Xylenol blue, X-00005

Arsenic: arsenite

▷ 2,4-Diamino-4′-ethoxyazobenzene, D-00095
Phenosafranine; *N*,*N*,*N'*,*N'*-Tetra-Et, chloride, *in* P-00070

Arsenic: arsenate

4,5-Dihydro-1*H*-pyrazole-3,4-dicarboxylic acid; Diamide, *N*-di-Me, *in* D-00480

Barium

7,16-Bis[3-[2-hydroxy-3,5-bis[(4-nitrophenyl)azo]phenyl]-1-oxopropyl]-1,4,10,13-tetraoxa-7,16-diazacyclooctadecane, B-00364
N,*N'*-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,13,16,19-hexaoxa-10,22-diazacyclotetracosane, B-00384
N,*N'*-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,10,13-pentaoxa-15,18-diazacycloheneicosane, B-00385
N,*N'*-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,10-tetraoxa-13,16-diazacyclooctadecane, B-00386
3,6-Bis[(5-methyl-2-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00426
Calcein, C-00010
Carboxyarsenazo B, C-00027
3-[[7-[(2-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]-2-hydroxy-5-sulfobenzoic acid, C-00038
1,4-Dichloro-5,8-dihydroxyanthraquinone, D-00261
4,5-Dihydroxy-3,6-bis[(4-nitro-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00558
4,5-Dihydroxy-3,6-bis[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00563
4,5-Dihydroxy-4-cyclopentene-1,2,3-trione, D-00571
4,5-Dihydroxy-3-[(2,4-disulfophenyl)azo]-6-[(4-nitro-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00605
4,5-Dihydroxy-3-[(2,4-disulfophenyl)azo]-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00607
o-[[1,8-Dihydroxy-7-[(2-hydroxy-5-sulfophenyl)azo]-3,6-disulfo-2-naphthyl]azo]benzoic acid, D-00630
2-[[1,8-Dihydroxy-7-[(2-nitrophenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00663
2-[[1,8-Dihydroxy-7-[(3-nitrophenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00664
4,5-Dihydroxy-3-[(4-nitro-2-sulfophenyl)azo]-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00678
1,3-Dihydroxyxanthone, D-00741
N-(2,6-Dimethoxy-4-pyrimidinyl)-4-[[(2-hydroxyphenyl)methylene]amino]benzenesulfonamide, D-00776
▷ Dimethyl sulfate, D-00916
Dimethylsulfonazo DAL, D-00918
4-[(6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b*,*k*][1,4,7,10,13]pentaoxacyclohexadecin-18-yl)oxy]butanoic acid, H-00041
N-Hydroxy-*N*-(3-methylphenyl)-3-nitrobenzamide, *in* N-00090
Sudan blue GA, S-00037
2-[(7,8,16,17-Tetrahydro-6*H*,15*H*-dibenzo[*b*,*i*][1,4,8,11]tetraoxacyclotetradecin-7-yl)oxy]butanoic acid, T-00056
3-[(7,8,16,17-Tetrahydro-6*H*,15*H*-dibenzo[*b*,*i*][1,4,8,11]tetraoxacyclotetradecin-7-yl)oxy]propanoic acid, T-00057
▷ Tetrahydrothiophene-1,1-dioxide, T-00069
Tetrahydroxy-1,4-benzoquinone, T-00072
2,2′-(1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diyldi-3,1-propanediyl)bis[4-[(4-nitrophenyl)azo]phenol], T-00117
N,*N'*-[1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diylbis(methylene-2,1-phenylene)]bis[2,4,6-trinitrobenzenamine], T-00361
2,2′-(1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diyldi-3,1-propanediyl)bis[4-[(4-nitrophenyl)azo]phenol], T-00362

Beryllium

6-Acetyl-7-hydroxy-4-methyl-2*H*-1-benzopyran-2-one, A-00018
Alizarine red S; Na salt, *in* A-00081
4-Amino-5-hydroxy-6-[(8-hydroxy-3,6-disulfo-1-naphthalenyl)azo]-2,7-naphthalene-2,7-disulfonic acid, A-00188
5-Amino-2,4,6-pyrimidinetrione-N^5,N^5-diacetic acid, A-00338
1,4,9,10-Anthracenetetrol, A-00381
Aspartic acid; (±)-*form*, *in* A-00447
▷ Benzyldimethyldodecylammonium(1+); Bromide, *in* B-00179
Beryllon I, B-00198
Beryllon II, B-00199
Beryllon III, *in* A-00211
Beryllon IV, B-00200
4-[[Bis(carboxymethyl)amino]methyl]-3-hydroxy-2-naphthoic acid, B-00277
▷ *N*,*N'*-Bis(2-hydroxybenzylidene)-1,2-ethanediamine, B-00363
N-(5-*tert*-Butyl-2-hydroxybenzylidene)-2-hydroxy-5-methylaniline, B-00632
5-Chloro-2-hydroxy-*N*-(2-hydroxy-5-chlorobenzylidene)aniline, C-00130
Chlorophosphonazo R, C-00245
Chromazurol S; Tri-Na salt, *in* C-00277
Chromocitromin BH, C-00285
4,8-Diamino-9,10-dihydro-1,5-dihydroxy-9,10-dioxo-2,6-anthracenedisulfonic acid, D-00073
▷ Dihexylamine, D-00367
2,3-Dihydro-5-hydroxy-4*H*-1-benzopyran-4-one, D-00408
5-[[4′-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo][1,1′-biphenyl]-4-yl]azo]-2-hydroxybenzoic acid; Tri-Na salt, *in* D-00596
5-[[4′-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]-3,3′-dimethyl[1,1′-biphenyl]-4-yl]azo]-2-hydroxybenzoic acid; Tri-Na salt, *in* D-00597
4,5-Dihydroxy-3-[[2-[hydroxy(2-methylphenyl)phosphinyl]phenyl]azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00619
2,4-Dihydroxy-6-methyl-4′-nitroazobenzene, D-00650
3,3′-[(3,3′-Dimethoxy-[1,1′-biphenyl]-4,4′-diyl)bis(azo)]bis[6-hydroxybenzoic acid], D-00769
3,3′-[(3,3′-Dimethyl-[1,1′-biphenyl]-4,4′-diyl)bis(azo)]bis[6-hydroxybenzoic acid], D-00836
2-[(5-Dodecyl-2-hydroxyphenyl)azo]benzoic acid, D-01150
Eriochrome brilliant violet B, E-00012
Eriochrome cyanine R; Tri-Na salt, *in* E-00013

2-Ethyl-5-hydroxy-7-methoxyisoflavone, *in* E-00070
Fast sulphon black F; Na salt, *in* F-00002
Hexafluoroacetylacetone, H-00030
1,2,3,5,6,7-Hexahydroxyanthraquinone, H-00052
1-Hydroxyanthraquinone-2-carboxylic acid, H-00099
2-Hydroxy-*N*-(2-hydroxybenzylidene)-4-methylaniline, H-00190
2-Hydroxy-*N*-(2-hydroxybenzylidene)-5-methylaniline, H-00191
2-Hydroxy-*N*-(2-hydroxy-5-*tert*-butylbenzylidene)aniline, H-00194
2-Hydroxy-*N*-(2-hydroxy-5-chlorobenzylidene)aniline, H-00196
6-Hydroxy-5-[(2-hydroxy-3,5-dinitrophenyl)azo]-2-naphthalenesulfonic acid; Na salt, *in* H-00200
2-Hydroxy-*N*-(2-hydroxy-5-ethylbenzylidene)aniline, H-00201
2-Hydroxy-*N*-(2-Hydroxy-5-ethylbenzylidene)-5-methylaniline, H-00202
2-Hydroxy-*N*-(2-hydroxy-3-methylbenzylidene)aniline, H-00210
2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)aniline, H-00211
2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)aniline, H-00212
2-Hydroxy-*N*-(2-hydroxy-3-methylbenzylidene)-5-methylaniline, H-00213
2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)-4-methylaniline, H-00214
2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)-5-methylaniline, H-00215
2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)-4-methylaniline, H-00216
2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)-5-methylaniline, H-00217
2-Hydroxy-4-(4-hydroxy-6-methyl-2-oxo-2*H*-pyran-3-yl)-4-oxo-2-butenoic acid; Et ester, *in* H-00221
2-Hydroxy-*N*-(2-hydroxy-5-phenylbenzylidene)aniline, H-00234
2-Hydroxy-*N*-(2-hydroxy-5-phenylbenzylidene)-5-methylaniline, H-00235
8-Hydroxy-2-methylquinoline, H-00326
3-(2-Hydroxyphenyl)-1-phenyl-2-propen-1-one, H-00496
2-Hydroxy-4-[(4-sulfophenyl)azo]benzoic acid; Di-Na salt, *in* H-00541
Naphthochrome green G; Di-Na salt, *in* N-00023
3,3′,3″-[Nitrilotris(4,1-phenyleneazo)]tris[6-hydroxybenzoic acid], N-00075
OP 7, O-00041
2-Oxo-*N*-phenylcyclopentanecarboxamide, *in* O-00060
1,2-Phenylenediamine-*N*,*N*,*N*′,*N*′-tetraacetic acid, P-00126
Polyoxyethylenedecylamine, P-00248
2-(2-Pyridinyl)phenol, P-00399
▷ Pyridoxal phosphate, P-00416
Quinizarin S; Na salt, *in* Q-00006
Septonex, *in* E-00061
Sulfochrome; Di-NH_4 salt, *in* S-00046
▷ Tetracycline, T-00039
▷ 1,2,5,8-Tetrahydroxy-9,10-anthraquinone, T-00070
1,1,1-Trifluoro-2,4-pentanedione, T-00257

Bismuth

N-Acetamidoiminodiacetic acid, *in* N-00074
1-Allyl-2-tetrazoline-5-thione, *in* T-00131
▷ 5-Amino-1,2,4-dithiazolidine-3-thione, A-00168
5-Amino-4-hydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* A-00187
4-[[(4-Amino-2-hydroxyphenyl)]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00209
2-(Aminomethyl)-4-(3,5-dichloro-4-oxo-2,5-cyclohexylideneamino)-6-methylphenol *N*,*N*-diacetic acid, A-00239
2-(Aminomethyl)-4-(3,5-dichloro-4-oxo-2,5-cyclohexylideneamino)phenol-*N*,*N*-diacetic acid, A-00240
4-[[(3-Aminomethyl)-4-hydroxyphenyl]imino]-2,6-dibromo-2,5-cyclohexadien-1-one-*N*,*N*-diacetic acid, A-00243
▷ 5-Amino-1,3,4-thiadiazoline-2(3*H*)-thione, A-00354
3-[(2-Arsonophenyl)azo]-6-[(2-hydroxy-3-nitro-5-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00442
5-(2-Benzothiazolylazo)-4-methyl-2-(methylamino)phenol, *in* A-00115
3-Benzyl-2,6-dimercapto-4*H*-thiopyran-4-one, B-00178
3,3′-Bi[2,6-dimercapto-4*H*-thiopyran-4-one], B-00203
5-Bromo-8-hydroxy-7-[(2-hydroxy-3,5-dinitrophenyl)azo]quinoline, B-00511
3-(4-Bromophenyl)-5-mercapto-1,3,4-thiadiazole-2-thione, B-00553
▷ Bromotetraphenylantimony, B-00577
2,3-Butanedione bis(phenylthiosemicarbazone), B-00597
1,4-Butanediylbis[triphenylphosphonium](2+); Dibromide, *in* B-00602
4-*tert*-Butylnioxime, *in* B-00623
Cellex P, C-00048
4-Chloro-*N*-hydroxy-*N*-(3-methylphenyl)benzamide, *in* C-00065
▷ Cinchonine, C-00298
Cupron, *in* B-00068
1,2-Cyclododecanedione; Dioxime, *in* C-00332
▷ Cyclohexanone, C-00347
1,2-Cyclononanedione; Dioxime, *in* C-00360
1,2-Cycloundecanedione; Dioxime, *in* C-00369
4,4′-Diaminostilbene-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00127
2,5-Dibenzoyl-3,4-dihydroxyselenophene, D-00164
Dibenzyldithiocarbamic acid, *in* D-01124
9-(3,4-Dibromophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, D-00198
3,5-Dibutyl-2,6-dimercapto-4*H*-thiopyran-4-one, D-00230
5-(Diethylamino)-2-[(4,5-dimethyl-2-thiazolyl)azo]phenol, *in* A-00163
2-[4-(Diethylamino)-2-hydroxyphenylazo]-4,6-dinitrophenol, D-00318
▷ *O*,*O*-Diethyl phosphorodithioate, D-00356
1,2-Dihydro-4-[(1-hydroxy-2-naphthalenyl)azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00414
4,5-Dihydro-1*H*-pyrazole-1-carbodithioic acid, D-00479
3,4-Dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, D-00504
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00618
[(2,4-Dihydroxyphenyl)methylene](2-pyridinylmethylene)carbonothioic dihydrazide, D-00713
2,6-Dimercapto-3,5-dimethyl-4*H*-thiopyran-4-one, D-00754
2,6-Dimercapto-3,5-diphenyl-4*H*-thiopyran-4-one, D-00755
2,6-Dimercapto-3,5-dipropyl-4*H*-thiopyran-4-one, D-00756
2,6-Dimercapto-4-oxo-4*H*-thiopyran-3-carboxylic acid, D-00759
2,6-Dimercapto-3-pentyl-4*H*-thiopyran-4-one, D-00760
2,6-Dimercapto-3-propyl-4*H*-thiopyran-4-one, D-00764
(3,5-Dimethylphenyl)diphenylsulfonium(1+); Chloride, *in* D-00888
1,2-Di-4-morpholinylethane, D-00928
Diphenyliodonium(1+); Iodide, *in* D-01028
Dithioantipyric acid, D-01116
▷ Dithizone, D-01135
Eriochrome fast grey RAS; Na salt, *in* E-00014
5-(Ethylamino)-4-methyl-2-(2-pyridinylazo)phenol, *in* A-00253
Gallocyanine; Me ester, chloride, *in* G-00005
Glycinedithiocarbamic acid, G-00018
Heptoxime, *in* C-00333
Hexahydro-2*H*-1,3-diazepine-2-thione, H-00037
3-Hexyl-2,6-dimercapto-4*H*-thiopyran-4-one, H-00075
6-Hydroxy-5-[(2-hydroxy-3,5-dinitrophenyl)azo]-2-naphthalenesulfonic acid; Na salt, *in* H-00200
2-[(2-Hydroxy-5-methyl-3-nitrophenyl)azo]-4,6-dinitrophenol, H-00293
1-Hydroxy-2-naphthoic acid, H-00369
N-Hydroxy-*N*-nitrosocyclooctylamine, H-00412
N-Hydroxy-*N*-nitroso-2-propanamine, H-00418
2-[(3-Hydroxy-1-oxo-1*H*-inden-2-yl)imino]-1*H*-indene-1,3(2*H*)-dione, H-00433
▷ Hypoxanthine, H-00564
▷ 2-Imidazolidinethione, I-00003
▷ 2-Imidazolidinethione; 1,3-Di-Me, *in* I-00003
▷ Isooctyl thioglycolate, *in* M-00016
▷ 2-Mercaptobenzimidazole, M-00022
2-Mercapto-*N*-2-naphthylacetamide, M-00038
5-Mercapto-3-(2-naphthyl)-1,3,4-thiazole-2-thione; K salt, *in* M-00039
3-(*p*-Methoxyphenyl)-5-mercapto-1,3,4-thiadiazole-2-thione, M-00111
4-Methyl-5-(methylamino)-2-(2-pyridinylazo)phenol, *in* A-00253
3-Methylnioxime, *in* M-00156
▷ 4-Methylnioxime, *in* M-00157
N-Methylpiperazinedithiocarbamic acid, *in* P-00238
4-[[3-(1-Methyl-2-piperidinyl)-4-pyridinyl]azo]-1,3-benzenediol, M-00248
3-Methyl-5-propyl-2,6-dimercapto-4*H*-thiopyran-4-one, M-00258
▷ 2-Methylquinoline, M-00306
▷ Monosulfiram, M-00341
1,2-Naphthoquinone-4-sulfonic acid 2-(phenylthiosemicarbazone); Na salt, *in* N-00037
(1-Naphthylmethyl)triphenylphosphonium(1+); Chloride, *in* N-00052
Octoxime, *in* C-00361
▷ Phenylarsonic acid, P-00090
Phthalexon S, P-00221
Picriminazosulfoxine, P-00234
2,2′-[2,6-Pyridinediylbis(methylidynenitrilo)]bisphenol, P-00354
▷ 2(1*H*)-Pyridinethione, P-00357
3-(2-Pyridinyl)-1,3,4-thiazolidine-2,5-dithione, P-00407
Pyrocatecholsulfonephthalein complexan, P-00432
Pyrocatechol violet, P-00433
▷ Quinine, Q-00005
Rhodamine G; Chloride, *in* R-00005
Semimethylxylenol blue, S-00012
Tetrahydro-4-methyl-2(1*H*)-pyrimidinethione, T-00064
▷ Tetrahydro-2(1*H*)-pyrimidinethione, T-00066
1,2,3,4-Tetrahydro-8-quinolinethiol, T-00067
▷ Tetramethylammonium(1+); Bromide, *in* T-00092

Tetraphenylarsonium(1+); Bromide, *in* T-00119
Tetraphenylphosphonium(1+); Bromide, *in* T-00120
▷ Tetrazole-5-thione; 1,4-Dihydro-*form*, 1-Ph, *in* T-00131
▷ Thiourea, T-00175
4,4′,4″-[1,3,5-Triazine-2,4,6-triyltris(azo)] tris[3-hydroxy-1-naphthalenesulfonic acid], T-00198
Tributyl(hexadecyl)phosphonium(1+); Chloride, *in* T-00210
Triethylsulfonium(1+); Iodide, *in* T-00236
2-(2,6,7-Trihydroxy-3-oxo-3*H*-xanthen-9-yl) benzenesulfonic acid, T-00305
7,7′-Trimethylenebis[1,3-dimethyl-8-thiouric acid]; Na salt, *in* T-00327
▷ Trimethylsulfonium(1+); Iodide, *in* T-00347
Triphenylselenonium(1+); Chloride, *in* T-00375
Triphenylsulfonium(1+); Bromide, *in* T-00376
Triphenyltelluronium(1+); Iodide, *in* T-00377
Xylenol orange, X-00006

Boron

3-(Aminomethyl)-1,2,5,8-tetrahydroxyanthraquinone-*N*,*N*-diacetic acid, A-00256
Anisylfluorone, A-00372
Azomethine H; Na salt, *in* A-00472
Azomethine HR, A-00473
Benzoin; (±)-*form*, *in* B-00068
9-(4-Bromophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, B-00558
C.I. Acid violet 3; Di-Na salt, *in* C-00001
Carmine red, C-00045
4′-Chloro-2-hydroxy-4-methoxybenzophenone, *in* C-00095
Chromopyrazole II, C-00288
Chromotrope 2B; Di-Na salt, *in* C-00290
▷ Cordycepic acid, *in* M-00008
Curcumin, C-00323
▷ 1,5-Diamino-4,8-dihydroxyanthraquinone, D-00074
▷ 1,8-Diamino-4,5-dihydroxyanthraquinone, D-00075
3,5-Di-*tert*-butyl-1,2-benzenediol, D-00227
4,6-Di-*tert*-butyl-3-methoxy-1,2-benzenediol, *in* D-00228
▷ 2′,4′-Dihydroxyacetophenone, D-00507
▷ 1,2-Dihydroxyanthraquinone, D-00510
▷ 1,4-Dihydroxyanthraquinone, D-00511
▷ 1,8-Dihydroxyanthraquinone, D-00512
▷ 2,4-Dihydroxybenzoic acid, D-00531
2,6-Dihydroxybenzoic acid, D-00533
▷ 2,4-Dihydroxybenzophenone, D-00536
▷ 1,8-Dihydroxy-2,4-dinitronaphthalene, D-00582
4,5-Dihydroxy-1-naphthalenesulfonic acid; Na salt, *in* D-00657
4,5-Dihydroxy-3-[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid; Tri-Na salt, *in* D-00736
Ethyl violet; Chloride, *in* E-00122
▷ Glycerol, G-00015
▷ Haematein, H-00001
▷ Haematoxylin; (+)-*form*, *in* H-00002
4-Hydroxy-5-[[(2-hydroxy-1-naphthalenyl) methylene]amino]-2,7-naphthalenedisulfonic acid, H-00225
▷ 1-Hydroxy-4-[(4-methylphenyl)amino]-9,10-anthracenedione, H-00300
1,1′-Iminobis[6-chloroanthraquinone], I-00007
▷ 1,1′-Iminodianthraquinone, I-00011
Mandelic acid; (±)-*form*, *in* M-00007
Meldola's blue; Chloride, *in* M-00011
▷ Methylene green; Chloride, *in* M-00177
2-Methyl-2,4-pentanediol; (±)-*form*, *in* M-00217
▷ Methylthioninium chloride, *in* M-00175
▷ 2,3-Naphthalenediol, N-00010
Nitron, N-00114
Phthalein violet, P-00220
▷ D-Sorbitol, *in* G-00010
2,4,5,7-Tetrabromo-1,8-dihydroxyanthraquinone, T-00015
▷ 1,2,5,8-Tetrahydroxy-9,10-anthraquinone, T-00070
2′,3,5,7-Tetrahydroxyflavone, T-00074
2,4,4′-Trihydroxybenzophenone, T-00279
2,2,4-Trimethyl-1,3-pentanediol; (±)-*form*, *in* T-00330

Bromine

Chromotrope 2B; Di-Na salt, *in* C-00290
▷ 4,4′-Diamino-3,3′-dimethylbiphenyl, D-00083
▷ Dibromosulfonephthalein, D-00215
1,2-Dihydro-4-[(4-hydroxyphenyl)azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00419
▷ Methyl orange; Na salt, *in* M-00210

Bromine: bromate

▷ 2-Aminophenylarsonic acid, A-00306
1,3-Cyclohexanedione bis(thiosemicarbazone); B, HCl, *in* C-00345
1,3-Cyclopentanedione bis(4-methylthiosemicarbazone); B,HCl, *in* C-00363
▷ 2,4-Diamino-4′-ethoxyazobenzene, D-00095
▷ 1,2-Dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00392
5,5-Dimethyl-1,3-cyclohexanedione; Bisthiosemicarbazone, *in* D-00847
Gallamine; B,HCl, *in* G-00002
▷ Isoniazid, I-00069
1,3,4-Trihydroxyanthraquinone-2-carboxylic acid, T-00272

Bromine: bromide

▷ 4,4′-Biphenyldiol, B-00208
4-Bromo-*N*,*N*′-bis(2-hydroxypropyl)-1,2-benzenediamine, B-00494
C.I. Basic blue 20; Dichloride, *in* C-00002
Chromotrope F4B; Di-Na salt, *in* C-00292
▷ 1,2-Diaminobenzene, D-00046
3-(3,5-Dibromo-2,4-dihydroxyphenyl)-4,5-dimethoxy-1(3*H*)-isobenzofuranone, D-00183
4′,5′-Dibromofluorescein; Di-Na salt, *in* D-00188
3-(2,4-Dihydroxyphenyl)-4,5-dimethoxy-1(3*H*)-isobenzofuranone, D-00710
▷ *N*-[4-[[4-(Dimethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-*N*-methylmethanaminium(1+); Chloride, *in* D-00812
Diphenylcarbazone, D-01005
4-Ethoxy-3,6-acridinediamine, *in* H-00094
▷ Fluorescein, F-00020
▷ Fuchsine, *in* R-00009
▷ Merbromin; Di-Na salt, *in* M-00015
▷ Phenolsulfonphthalein, P-00064
▷ 4-Phenylazo-1-naphthylamine, P-00093
Phloxin; Di-K salt, *in* P-00212
4,5,6,7-Tetrachloro-3-(2,4-dihydroxyphenyl)-3-methyl-1(3*H*)-isobenzofuranone, T-00028
Thioflavine S, T-00162
Trypan red; Penta-Na salt, *in* T-00434

Cadmium

Alamine 336S, A-00073
Amberlite LA2, A-00089
3-Amino-1*H*-isoindole-1-thione, A-00229
8-(Benzenesulfonylamino)quinoline, B-00028
▷ Benzo[*f*]quinoline, B-00073
2-(2-Benzothiazolylazo)-4,6-dichlorophenol, B-00093
2-(2-Benzothiazolylazo)-5-(dimethylamino) phenol, B-00094
2-[(2-Benzothiazolyl)azo]-4,5-dimethylphenol, B-00095
5-(2-Benzothiazolyl)-1-[4-(dimethylamino) phenyl]-3-phenylformazan, B-00100
5-(2-Benzothiazolyl)-1,3-diphenylformazan, B-00101
5-(2-Benzothiazolyl)-3-methyl-1-phenylformazan, B-00105
5-(2-Benzothiazolyl)-1-(4-nitrophenyl)-3-phenylformazan, B-00106
▷ 1*H*-Benzotriazole, B-00110
5-(2-Benzoxazolyl)-1-[4-(dimethylamino) phenyl]-3-phenylformazan, B-00114
5-(2-Benzoxazolyl)-1,3-diphenylformazan, B-00115
5-(2-Benzoxazolyl)-3-methyl-1-phenylformazan, B-00116
5-(2-Benzoxazolyl)-1-(4-nitrophenyl)-3-phenylformazan, B-00117
5-(1-Benzyl-1*H*-benzimidazol-2-yl)-1-[4-(dimethylamino)phenyl]-3-phenylformazan, B-00166
5-(1-Benzyl-1*H*-benzimidazol-2-yl)-1,3-diphenylformazan, B-00167
5-(1-Benzyl-1*H*-benzimidazol-2-yl)-1-(4-nitrophenyl)-3-phenylformazan, B-00173
▷ 2,2′-Bipyridine, B-00220
3,3′-Bis(aminomethyl)-4,4′-dihydroxystilbene-*N*,*N*,*N*′,*N*′-tetraacetic acid; (*E*)-*form*, *in* B-00246
N,*N*′-Bis(butanesulfonyl)-1,2-benzenediamine, B-00271
N,*N*′-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,10-tetraoxa-13,16-diazacyclooctadecane, B-00386
O,*O*-Bis(2-methylpropyl) phosphorodithioate; Na salt, *in* B-00413
1,2-Bis(octanesulfonamido)benzene, B-00436
1,8-Bis(octanesulfonamido)naphthalene, B-00437
2-[(6-Bromo-2-benzothiazolyl)azo]-4-methylphenol, B-00491
1-[(6-Bromo-2-benzothiazolyl)azo]-2-naphthalenol, B-00492
2-[(5-Bromo-2-pyridinyl)azo]-5-(diethylamino)phenol, *in* A-00126
2-[(5-Bromo-2-pyridinyl)azo]-4,5-dimethylphenol, B-00564
Cadion, C-00006
▷ Cetylcide, *in* E-00071
3-Chlorobenzoic acid (1*H*-pyrrol-2-ylmethylene)hydrazide, C-00069
6-Chloro-1-hydroxy-4-nitro-1*H*-benzotriazole, C-00137
1-(5-Chloro-2-pyridylazo)-2-naphthol, C-00259
Cyclohexylbenzyldithiocarbamate(1−); Triethylammonium salt, *in* C-00351
Diantipyrylthiourea, D-00141
O,*O*-Dibutyl phosphorodithioate; K salt, *in* D-00241
O,*O*-Dibutyl phosphorothioate, D-00242
5,7-Dichloro-8-hydroxyquinoline, D-00283
O,*O*-Dihexyl phosphorodithioate, D-00369
4,5-Dihydro-1*H*-pyrazole-1-carbodithioic acid, D-00479
[(2,4-Dihydroxyphenyl)methylene](2-pyridinylmethylene)carbonothioic dihydrazide, D-00713
6,7-Dihydroxy-5-(2-pyridinylazo)-2-naphthalenesulfonic acid; Na salt, *in* D-00724
O,*O*-Diisopentyl phosphorodithioate, D-00746
3,3′-Dimethyldithizone, D-00857
4-(1,1-Dimethylethyl)-*N*-hydroxy-*N*-phenylbenzamide, *in* B-00619
▷ *O*,*O*-Dimethyl phosphorodithioate, D-00896
2-(3,5-Dimethyl-1-pyrazolyl)-8-quinolinol, D-00906
O,*O*-Dipentyl phosphorodithioate, D-00996
1,3-Diphenyl-1,3-propanedione, D-01041
O,*O*-Dipropyl phosphorodithioate, D-01060

Di-2-pyridinylethanedione bis(2-quinolinylhydrazone), D-01067
Di-2-pyridinylmethanone 2-chlorobenzoylhydrazone, D-01074
Di-2-pyridinylmethanone 3-chlorobenzoylhydrazone, D-01075
1,2-Di(2-pyridyl)ethylene, D-01090
Di-2-quinolinylmethanone 2-quinolinylhydrazone, D-01103
▷ Dithizone, D-01135
3-Dodecyl-1,5,9,13-tetraazacyclohexadecane, D-01156
6-Dodecyl-1,4,8,11-tetraazacyclotetradecane, D-01158
4,4′-[1,2-Ethenediylbis[2-(aminomethyl)phenol]]-*N*,*N*,*N*′,*N*′-tetraacetic acid; (*E*)-*form*, *in* E-00042
5-(Ethylamino)-4-methyl-2-[(4-phenyl-2-thiazolyl)azo]phenol, *in* A-00250
4-Ethyl-*N*-hydroxy-*N*-phenylbenzamide, E-00093
2-Furancarboxaldehyde 3-bromobenzoylhydrazone, F-00045
2-Furancarboxaldehyde 4-bromobenzoylhydrazone, F-00046
Glyoxal bis(4-hydroxybenzoylhydrazone), G-00028
▷ 2-(2-Hydroxyphenyl)benzoxazole, H-00467
N-(2-Hydroxyphenyl)-1-octanesulfonamide, H-00490
8-Hydroxy-2-phenylquinoline, H-00503
▷ Lauryltrimethylammonium(1+); Bromide, *in* L-00002
▷ 2-Mercaptobenzimidazole, M-00022
Methylglyoxal 4-dimethylaminoanil, M-00184
7-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl]azo]-8-quinolinol, M-00253
▷ 2-Methylpropyl acetate, M-00257
5-Methyl-4-(2-pyridinylazo)-1,3-benzenediol, M-00280
1-[(5-Methyl-1,3,4-thiadiazol-2-yl)azo]-2-naphthalenol, M-00313
1,2-Naphthoquinone-4-sulfonic acid 2-(phenylthiosemicarbazone); Na salt, *in* N-00037
1-Octanesulfonamido-2-naphthol, *in* A-00273
2-(1-Oxo-2(1*H*)-naphthalenylidene) hydrazinecarbothioamide, *in* N-00031
2-[3-[4-(Phenylazo)phenyl]-1-triazenyl] phenol, P-00098
N,*N*′-1,2-Phenylenebismethanesulfonamide, P-00118
1,1′-[1,3-Phenylene]bis-2-tetrazoline-5-thione, P-00122
4-Phenyl-4-thioxo-2-butanone, P-00203
4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakis[1-methylpyridinium]; Tetrakis(*p*-toluenesulfonate), *in* P-00252
3-Pyrazinyl-5,6-di-2-pyridyl-1,2,4-triazine, P-00297
4-(2-Pyridinylazo)-1,3-benzenediol, P-00373
▷ Pyronine G; Chloride, *in* P-00435
Pyruvaldehyde 1-(2-benzothiazolylhydrazone), P-00447
▷ 2-Quinolinecarboxylic acid, Q-00017
2-(2-Quinolinylazo)-1-acenaphthylenol, Q-00027
2-Quinolinylphosphonic acid, Q-00036
Solochrome fast blue B, *in* A-00225
▷ Tetrabutylammonium(1+); Bromide, *in* T-00023
▷ Tetraethylenepentamine, T-00044
2,2′,3,3′-Tetrahydro-2,2′-bibenzothiazole, T-00052
1,4,8,11-Tetramethyl-1,4,8,11-tetrazacyclotetradecane, T-00104
2,2′-(1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diyldi-3,1-propanediyl)bis[4-[(4-nitrophenyl)azo] phenol], T-00117
1-(1*H*-1,2,4-Triazol-3-ylazo)-2-naphthalenol, T-00200
Tribenzylamine, T-00201
2,2′-(1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diyldi-3,1-propanediyl)bis[4-[(4-nitrophenyl)azo] phenol], T-00362

Caesium

N-(1,4,7,10,13,16,19-Benzoheptaoxacycloheneicosin-21-yl)-2-propenamide, B-00058
N,*N*′-Bis(2,3,5,6,8,9,11,12,14,15,17,18-dodecahydro-1,4,7,10,13,16,19-benzoheptaoxacycloheneicosin-21-yl) pentanediamide, B-00346
2,13-Bis(dodecyloxy)-6,7,9,10,17,18,20,21-octahydrodibenzo[*b*,*k*][1,4,7,10,13,16] hexaoxacyclooctadecine, B-00347
2,14-Bis(dodecyloxy)-6,7,9,10,17,18,20,21-octahydrodibenzo[*b*,*k*][1,4,7,10,13,16] hexaoxacyclooctadecine, B-00348
2,14-Bis(2-ethoxyethoxy)-6,7,9,10,17,18,20,21-octahydrodibenzo[*b*,*k*][1,4,7,10,13,16] hexaoxacyclooctadecine, B-00349
4-*sec*-Butyl-2-(1-phenylethyl)phenol, B-00637
Cesignost, *in* C-00330
4-Chloro-3-methyl-5-nitrobenzenesulfonic acid, C-00179
16,17-Dihydro-5*H*,15*H*-dibenzo[*b*,*i*][1,11,4,5,7,8] dioxatetraazacyclotetradecine-7-carbonitrile, D-00375
16-[(2,4-Dinitrophenyl)azo]-3,6,9,12-tetraoxabicyclo[12.3.1]octadeca-1(18),14,16-trien-18-ol, D-00970
4,7,10,16,19,24,27-Heptaoxa-1,13-diazabicyclo[11.8.8]nonacosane, H-00014
Tetrakis(4-fluorophenyl)borate(1−); Na salt, *in* T-00084

Calcium

3-[(3-Acetylphenyl)azo]-6-[(4-chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00030
▷ 2-Aminoethanethiol, A-00170
4-Amino-5-hydroxy-7-[(2-hydroxyphenyl) azo]-1,3-naphthalenedisulfonic acid, A-00193
5-Amino-4-hydroxy-3-[(2-hydroxyphenyl) azo]-2,7-naphthalenedisulfonic acid, A-00194
3-Amino-4-hydroxy-3′-nitroazobenzene-*N*,*N*-diacetic acid, A-00206
8-(Aminomethyl)-6,7-dihydroxy-4-methylcoumarin-*N*,*N*-diacetic acid, A-00241
Antipyrylazo III, A-00394
Azo-azoxy AN, A-00464
Azo-azoxy BN, A-00465
4,4′-Azobis[3-hydroxy-2,7-naphthalenedisulfonic acid], A-00469
2,2′-Bibenzoxazole, B-00202
1,2-Bis(2-amino-5-bromophenoxy)ethane-*N*,*N*,*N*′,*N*′-tetraacetic acid, B-00243
1,2-Bis(2-aminophenoxy)ethane-*N*,*N*,*N*′,*N*′-tetraacetic acid, B-00248
▷ 3,12-Bis(carboxymethyl)-6,9-dioxa-3,12-diazatetradecanedioic acid, B-00278
N,*N*-Bis(2-hydroxy-5-nitrobenzyl)-1,10-diaza-4,7,13-trioxacyclopentadecane, B-00382
N,*N*′-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,13,16,19-hexaoxa-10,22-diazacyclotetracosane, B-00384
N,*N*′-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,10,13-pentaoxa-15,18-diazacycloheneicosane, B-00385
Bis(2-pyridylmethylene)carbonic acid dihydrazide, B-00442
▷ 4-Bromobenzoic acid, B-00488
Calcein, C-00010
Calconalide I, C-00013
Calcon-*m*-nitroanilide, C-00014
1-(3-Carboxy-2-hydroxy-1-naphthylazo)-2-naphthol-3,6-disulfonic acid, C-00030
3-[[7-[(2-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl] azo]-2-hydroxy-5-sulfobenzoic acid, C-00038
Chlorindazon C, C-00051
2-Chloro-5-cyano-3,6-dihydroxybenzoquinone; Di-Na salt, *in* C-00090
2-[[7-[(5-Chloro-2-hydroxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl] azo]benzoic acid, C-00143
3-[[4-[(5-Chloro-2-hydroxyphenyl)azo]-3-hydroxyphenyl]ethylamino]-1-propanesulfonic acid, C-00148
4-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-3-hydroxy-2-naphthalenecarboxylic acid, C-00160
Chlorophosphonazo III, C-00242
▷ Cyclohexanecarboxylic acid, C-00336
4,4′-Diamino-3,3′-biphenyldicarboxylic acid *N*,*N*,*N*′,*N*′-tetraacetic acid; Hexa-Na salt, *in* D-00054
Diamond green BW; Di-Na salt, *in* D-00133
▷ 5,7-Dibromo-8-hydroxyquinoline, D-00193
4-[[4-(Diethylamino)-2-hydroxyphenyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, D-00320
3,4-Dihydro-3-methyl-1-phenyl-4-stearoyl-5-pyrazolone, D-00444
2,2′-Dihydroxyazobenzene, D-00514
5,6-Dihydroxy-5-cyclohexene-1,2,3,4-tetrone; Di-K salt, *in* D-00570
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bisbenzoic acid, D-00593
o-[[1,8-Dihydroxy-7-[(2-hydroxy-5-sulfophenyl)azo]-3,6-disulfo-2-naphthyl] azo]benzoic acid, D-00630
4-[(2,3-Dihydroxy-1-naphthalenyl)azo]-3-hydroxy-2,7-naphthalenedisulfonic acid, D-00660
2-[[1,8-Dihydroxy-7-[(2-nitrophenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00663
2-[[1,8-Dihydroxy-7-[(3-nitrophenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00664
3-(2,4-Dihydroxyphenylazo)-4-hydroxybiphenyl, D-00694
▷ 2,3-Dimercapto-1-propanesulfonic acid, D-00761
▷ Dimethyl sulfate, D-00916
Diphenylglyoxal bis(2-hydroxybenzoylhydrazone), D-01017
Di-2-pyridinylethanedione bis(2-hydroxybenzoylhydrazone), D-01065
3-[Ethyl[3-hydroxy-4-[(2-hydroxy-5-methylphenyl)azo]phenyl]amino]-1-propanesulfonic acid, E-00087
3-[Ethyl[3-hydroxy-4-[(2-hydroxyphenyl) azo]phenyl]amino]-1-propanesulfonic acid, E-00088
4-[[4-[Ethyl(3-sulfopropyl)amino]-2-hydroxyphenyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, E-00115
Fluo 3, F-00009
Fluo 3AM, *in* F-00009
Fura 2-AM, *in* F-00039
Fura 2; Penta-K salt, *in* F-00039
Glyoxal bis(2-hydroxyanil), G-00027
Glyoxal bis(4-hydroxybenzoylhydrazone), G-00028
▷ Glyphosine, G-00040
▷ Hexadecanoic acid, H-00026
4-[(6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b*,*k*][1,4,7,10,13] pentaoxacyclohexadecin-18-yl)oxy] butanoic acid, H-00041
7-Hydroxy-8-(aminomethyl)coumarin-*N*-acetic acid, H-00096
7-Hydroxy-8-(aminomethyl)coumarin-*N*,*N*-diacetic acid, H-00097
2-Hydroxy-1*H*-benz[*de*]isoquinoline-1,3(2*H*)-dione, *in* B-00051

▷ 7-Hydroxy-2*H*-1-benzopyran-2-one, H-00124
4-[4-Hydroxy-3-biphenylylazo]-1,3-benzenediol, H-00133
1-(4-Hydroxy-3-biphenylylazo)-2-naphthol, H-00134
8-Hydroxy-5,7-dinitroquinoline, H-00165
2-(2-Hydroxy-3,6-disulfo-1-naphthalenylazo)-5-(*N*,*N*-diethylamino) phenol, H-00173
2-(2-Hydroxy-3,6-disulfo-1-naphthalenylazo)-5-[*N*-ethyl-*N*-(sulfopropyl)amino]phenol, H-00174
3-Hydroxy-4-[[2-hydroxy-3-[[(2-methoxyphenyl)amino]carbonyl]-1-naphthalenyl]azo]-1-naphthalenesulfonic acid, H-00207
3-Hydroxy-4-[[2-hydroxy-3-[[(4-methoxyphenyl)amino]carbonyl]-1-naphthalenyl]azo]-1-naphthalenesulfonic acid, H-00208
4-Hydroxy-3-[[2-hydroxy-3-(phenylcarbamoyl)-1-naphthyl]azo] benzenesulfonic acid, H-00236
3-Hydroxy-4-[(2-hydroxy-4-sulfo-1-naphthalenyl)azo]-2-naphthalenecarboxylic acid; Na salt, *in* H-00242
3-Hydroxy-4-[(2-hydroxy-6-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid, H-00243
N-[7-Hydroxy-4-methyl-2-oxo-(2*H*)-1-(benzopyran-8-yl)methyl]glycine, H-00297
1-[[2-[(2-Hydroxy-5-methylphenyl)-*O*,*N*,*N*-azoxy]phenyl]azo]-2-naphthalenol, H-00305
2-[(1-Hydroxy-2-naphthalenyl)azo]-8-quinolinol, H-00356
Hydroxynaphthol blue; Tri-Na salt, *in* H-00371
1-[(2-Hydroxy-4-nitrophenyl)azo]-2-naphthalenol, H-00395
N-Hydroxy-*N*-nitrosocyclododecanamine, H-00410
4-[(2-Hydroxyphenyl)azo]-1,3-benzenediol, H-00449
1-[(2-Hydroxyphenyl)azo]-2-naphthalenol, H-00455
2-[(2-Hydroxyphenyl)imino]-1-acenaphthenone, H-00473
8-Hydroxy-2-quinolinecarboxaldehyde 8-quinolylhydrazone, H-00526
Indo 1, I-00031
Indo 1AM, *in* I-00031
Isocein, I-00058
▷ 4-Methyl-2*H*-1-benzopyran-2-one, M-00141
Methylcalcein blue, M-00153
Mordant blue 44; Di-Na salt, *in* M-00342
Mordant green 34; Na salt, *in* M-00343
Naphthochrome green G; Di-Na salt, *in* N-00023
▷ Octadecanoic acid, O-00001
Palatine fast blue GGNA CF, P-00001
4,7,13,16,21-Pentaoxa-1,10-diazabicyclo[8.8.5]tricosane, P-00037
[1,2-Phenylenebis(methylene)]bis[bis(4-methylphenyl)]phosphine oxide, P-00119
▷ Picrolonic acid, P-00235
Quin 2, Q-00002
Quin 2A, *in* Q-00002
Stil 1, S-00026
Sulfochlorophenol R, S-00044
▷ Tetracycline, T-00039
2,2′,3,3′-Tetrahydro-2,2′-bibenzoxazole, T-00053
2-[(7,8,16,17-Tetrahydro-6*H*,15*H*-dibenzo[*b*,*l*][1,4,8,11] tetraoxacyclotetradecin-7-yl)oxy] butanoic acid, T-00056
3-[(7,8,16,17-Tetrahydro-6*H*,15*H*-dibenzo[*b*,*l*][1,4,8,11] tetraoxacyclotetradecin-7-yl)oxy] propanoic acid, T-00057
2,2′-[1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diylbis(methylene)]bis[4-nitrophenol],9CI, T-00115
2,3′,4′-Trihydroxyacetophenone, T-00268
1,2,7-Trihydroxyanthraquinone, T-00271
N,*N*′-[1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diylbis(methylene-2,1-phenylene)] bis[2,4,6-trinitrobenzenamine], T-00361

Carbon: carbon monoxide

Cacotheline, C-00005
Pyrazine; B, MeI, *in* P-00283

Carbon: cyanide

[4-[1-[2-Amino-3-hydroxy-4-(2-pyridinyl) phenyl]azo]phenyl]arsonic acid, A-00219
▷ 1,4-Benzoquinone, B-00076
1,4-Benzoquinone *O*-(2-chlorobenzyl) oxime, B-00077
1,4-Benzoquinone *O*-(4-chlorobenzyl) oxime, B-00078
1,4-Benzoquinone mono[*O*-[(*p*-methylphenyl)sulfonyl]]oxime, B-00079
1,4-Benzoquinone mono[*O*-[(*p*-nitrophenyl) sulfonyl]oxime], B-00080
1,4-Benzoquinone mono[*O*-phenylsulfonyl] oxime, B-00081
1,4-Benzoquinone *O*-(*m*-nitrobenzyl)oxime, B-00082
1,4-Benzoquinone *O*-(*p*-nitrobenzyl)oxime, B-00083
2,5-Bis(2-hydroxyethylamino)-1,4-benzenedicarboxylic acid, B-00368
O-(*p*-Bromophenylsulfonyl)quinone monoxime, B-00557
Cadion 2B, C-00007
▷ Chloramine T, *in* M-00130
▷ 4-(Chloroimino)-2,5-cyclohexadien-1-one, C-00164
▷ 1,4-Diaminobenzene, D-00048
▷ 4,4′-Diaminobiphenyl, D-00053
▷ Dibenzylamine, D-00166
N,*N*-Dibromobenzenesulfonamide, D-00179
▷ 2,6-Dibromo-4-(chloroimino)-2,5-cyclohexadien-1-one, D-00180
▷ Dicarboxidine, D-00244
Dichloramine B, *in* B-00026
▷ 2,6-Dichloro-1,4-benzoquinone, D-00251
▷ 2,5-Dichloro-3,6-dihydroxy-1,4-benzoquinone, D-00262
▷ 2,4-Dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, D-00443
5,5-Dimethyl-1,3-cyclohexanedione, D-00847
3,3′-Dimethyl-1,1′-diphenyl-[4,4′-bi-2-pyrazoline]-5,5′-dione, D-00851
1,3-Dimethyl-2,4,6(1*H*,3*H*,5*H*)-pyrimidinetrione, *in* P-00429
Diphenylcarbazone, D-01005
Mercury chloroanilate, *in* D-00262
▷ 2-Methoxyaniline, M-00072
O-(*p*-Methoxyphenylsulfonyl)-*o*-methylquinone monoxime, M-00117
O-(*p*-Methoxyphenylsulfonyl)quinone monoxime, M-00118
O-(*p*-Methylphenylsulfonyl)-*o*-methylquinone monoxime, M-00242
▷ 4-Methylpyridine, M-00265
2,3-Naphthalenedicarboxaldehyde, N-00006
▷ 1,4-Naphthoquinone, N-00032
▷ 4-Nitrobenzaldehyde, N-00082
▷ Phenolphthalein, P-00063
4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakis[1-methylpyridinium]; Tetrakis(*p*-toluenesulfonate), *in* P-00252
Pyrazine; B, MeI, *in* P-00283
▷ 2,4,6(1*H*,3*H*,5*H*)-Pyrimidinetrione, P-00429
Taurin, *in* O-00063
▷ Tributyltin hydroxide, T-00217
▷ 2,4,6-Trinitrophenol, T-00355

Carbon: hexacyanoferrate (II)/(III) (ferro/ferricyanide)

▷ Benzyldimethyldodecylammonium(1+); Bromide, *in* B-00179
▷ Bis(4-dimethylaminophenyl)methane, B-00320
Triphenylpropylphosphonium(1+), T-00372

Cerium

▷ 4′-Aminoacetophenone, A-00091
4-Aminoazobenzene-4′-arsonic acid; *N*-Di-Me, *in* A-00095
▷ 4-Aminobenzenesulfonic acid, A-00100
4-Aminobenzenesulfonic acid; *N*-Ph, Ba salt, *in* A-00100
▷ 2-Amino-4,6-dinitrophenol, A-00164
7-Amino-1-hydroxy-3*H*-phenoxazin-3-one, A-00208
5-Amino-11-methyl-9*H*-benzo[*a*] phenoxazin-9-one, A-00236
7-Amino-1-methyl-3*H*-phenoxazin-3-one, A-00247
7-Amino-3*H*-phenoxazin-3-one, A-00304
Arsenazo DBS, A-00408
N-Benzoyl-*N*-phenylhydroxylamine, *in* P-00135
4-Benzoyl-3-phenyl-5(4*H*)-isoxazolone, B-00143
4,4′-Bis(dimethylamino)-3,3′-dimethylbiphenyl, *in* D-00083
N,*N*′-Bis(2-hydroxypropyl)-1,2-benzenediamine, B-00392
4,4′-Bis(1-phenyl-3-methyl-5-pyrazolone), B-00440
4-Chloro-*N*-hydroxy-*N*-(4-methylphenyl) benzamide, *in* C-00065
N-(4-Chlorophenyl)-*N*-hydroxy-3-phenyl-2-propenamide, C-00232
Chlorophosphonazo-*m*-sulfonic acid, C-00246
Chromotrope 2R; Di-Na salt, *in* C-00293
4,8-Diamino-9,10-dihydro-1,5-dihydroxy-9,10-dioxo-2,6-anthracenedisulfonic acid, D-00073
▷ 4,4′-Diamino-3,3′-dimethoxybiphenyl, *in* D-00056
▷ 4,4′-Diamino-3,3′-dimethylbiphenyl, D-00083
3-[[1,8-Dihydroxy-3,6-disulfo-7-[(4-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, D-00611
▷ 1,2-Dimethoxybenzene, D-00766
7-(Dimethylamino)-1-hydroxy-3*H*-phenoxazin-3-one, D-00786
1,12-Dodecanediylbis[octylarsinic acid], D-01139
Erio green B; Na salt, *in* E-00019
▷ Ethyl 4-aminobenzoate, *in* A-00105
▷ Fluphenazine, F-00034
Glutarimide dioxime, *in* G-00014
5-Hydroxy-11-methyl-9*H*-benzo[*a*] phenoxazin-9-one, H-00280
N-Hydroxy-*N*-(4-methylphenyl)benzamide, *in* H-00109
N-Hydroxy-*N*-(4-methylphenyl)-2-furancarboxamide, *in* F-00064
N-Hydroxy-*N*-(3-methylphenyl)-2-nitrobenzamide, *in* N-00089
8-Hydroxy-2-methylquinoline, H-00326
▷ 8-Hydroxyquinoline, H-00525
▷ 4-Methoxyaniline, M-00073
11-Methyl-9*H*-benzo[*a*]phenoxazin-9-one, M-00140
Methyl red; Na salt, *in* M-00309
▷ 3-Nitrobenzoic acid, N-00092
▷ Nitroethane, N-00108
Nitrophosphonazo-mA, N-00147
▷ Promazine, P-00258
▷ Purpurogallin, P-00282
Quinoline; *N*-CH_2Ph, nitrate salt, *in* Q-00007
▷ Trioctylamine, T-00357

Chlorine

▷ 4,4′-Diaminobiphenyl, D-00053
4,4′-Diamino-3,3′-dimethyl-[1,1′-binaphthalene]-6,6′-disulfonic acid, D-00081
▷ 4,4′-Diamino-3,3′-dimethylbiphenyl, D-00083
▷ Dibromosulfonephthalein, D-00215
▷ Dicarboxidine, D-00244
▷ *N,N*-Diethyl-1,4-phenylenediamine, *in* D-00048
▷ Methyl orange; Na salt, *in* M-00210
Methyl red; Na salt, *in* M-00309
▷ 4-Nitroaniline, N-00077
2-Phenyl-4*H*-naphtho[1,2-*b*]pyran-4-one, P-00150
▷ Rivanol, *in* D-00094
Tyrosine; (±)-*form*, *in* T-00435

Chlorine: chlorate

▷ Brucine, B-00584
1,3-Cyclopentanedione bis(4-methylthiosemicarbazone); B,HCl, *in* C-00363
5,5-Dimethyl-1,3-cyclohexanedione; Bisthiosemicarbazone, *in* D-00847

Chlorine: perchlorate

Amiloride, A-00090
1,1-Bis[4-(dimethylamino)phenyl-3-phenyl-2-propynylium](1+); Chloride, *in* B-00324
2,6-Bis(4-methylphenyl)-4-phenylpyrylium(1+); Chloride, *in* B-00410
1,3-Cyclohexanedione bis(thiosemicarbazone); B, HCl, *in* C-00345
▷ 4,4′-Diaminobiphenyl, D-00053
6-Methyl-2-pyridinecarboxaldehyde azine, M-00267
Neutral red; B,HCl, *in* N-00065
Nitron, N-00114
▷ Tetrabutylphosphonium(1+); Chloride, *in* T-00024
▷ Tetraphenylarsonium(1+); Chloride, *in* T-00119
▷ Trimethylsulfonium(1+); Iodide, *in* T-00347
2,4,6-Triphenylpyridine; *N*-Ph, acetate (salt), *in* T-00373
2,4,6-Triphenylpyrylium(1+); Chloride, *in* T-00374
Triphenylselenonium(1+); Chloride, *in* T-00375
Tris(2,2′-bipyridine-*N,N′*)iron(*II*)(2+), T-00384
Tris(1,10-phenanthroline-N^1,N^{10})iron(*II*)(2+), T-00412

Chlorine: chloride

3-Acetyl-4,5,6,7-tetrachloro-3-(4-hydroxyphenyl)-1(3*H*)-isobenzofuranone, A-00049
4-Bromo-*N,N′*-bis(2-hydroxypropyl)-1,2-benzenediamine, B-00494
C.I. Basic blue 20; Dichloride, *in* C-00002
4,4′-Diamino-3,3′-dimethoxybiphenyl-*N,N,N′,N′*-tetraacetic acid; Tetra-Na salt, *in* D-00078
3-(3,5-Dibromo-2,4-dihydroxyphenyl)-4,5-dimethoxy-1(3*H*)-isobenzofuranone, D-00183
1,2-Dihydroxy-3-[5-(8-hydroxyquinolinyl) azo]anthraquinone, D-00629
3-(2,4-Dihydroxyphenyl)-4,5-dimethoxy-1(3*H*)-isobenzofuranone, D-00710
Diphenylcarbazone, D-01005
4-Ethoxy-3,6-acridinediamine, *in* H-00094
▷ Fluorescein, F-00020
3-(4-Hydroxyphenyl)-1-(3*H*)-isobenzofuranone, H-00474
3-[2-Hydroxyphenyl]-3-phenylnaphtho[2,1-*b*]furan-1(3*H*)-one, H-00493
3-[4-Hydroxyphenyl]-3-phenylnaphtho[2,1-*b*]furan-1(3*H*)-one, H-00494
8-[(8-Hydroxy-5-quinolinyl)azo]-1-naphthalenesulfonic acid, H-00532
Mercury chloroanilate, *in* D-00262
Neutral red; B,HCl, *in* N-00065
▷ Phenolphthalein, P-00063
▷ 4-Phenylazo-1-naphthylamine, P-00093
▷ 2,4,6(1*H*,3*H*,5*H*)-Pyrimidinetrione, P-00429
4,5,6,7-Tetrachloro-3,3-bis(4-hydroxyphenyl)-1(3*H*)-isobenzofuranone, T-00027
4,5,6,7-Tetrachloro-3-(2,4-dihydroxyphenyl)-3-methyl-1(3*H*)-isobenzofuranone, T-00028
Thioflavine S, T-00162
Trypan red; Penta-Na salt, *in* T-00434

Chromium

Aluminophthalexon, A-00085
Aluminophthalexon A, A-00086
2-Aminophenylcarbamodithioic acid; NH_4 salt, *in* A-00320
Bis(4-dimethylaminobenzylidene)-4,4′-methylenedianiline; B, 4HCl, *in* B-00314
4-(1-Butylpentyl)pyridine, B-00635
4-Chlorobenzoic acid [(2-bromo-6-hydroxyphenyl)methylene]hydrazide, C-00068
2,2′-Diaminobiphenyl-*N,N,N′,N′*-tetraacetic acid; Tetra-Na salt, *in* D-00059
1,2-Diaminocyclohexane-*N,N,N′,N′*-tetraacetic acid; (1*RS*,2*RS*)-*form*, *in* D-00065
4,4′-[(4,6-Diamino-1,3,5-triazin-2-yl) amino]-2,2′-stilbenedisulfonic acid-*N,N′,N″,N‴*-tetraacetic acid; Hexa-Na salt, *in* D-00129
4,4-Dicarboxy-2,2′-diaminobiphenyl-*N,N,N′,N′*-tetraacetic acid, D-00245
4,4′-Dimethoxy-2,2′-diaminobiphenyl-*N,N,N′,N′*-tetraacetic acid, *in* D-00572
Diphenylcarbazide, D-01004
2,2′-(1,2-Ethenediyl)bis[4-[[4-amino-6-[bis(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]benzenesulfonic acid]; Di-Na salt, *in* E-00041
▷ Ethylenediaminetetraacetic acid, E-00078
Glycinethymol blue, G-00019
8-Hydroxy-2-methylquinoline, H-00326
1-Hydroxy-2-naphthoic acid, H-00369
N-Hydroxy-3-nitrobenzenecarboximidamide, H-00382
▷ 3-Hydroxy-2-phenyl-4*H*-1-benzopyran-4-one, H-00466
Lucigenine; Dinitrate, *in* L-00012
(1-Naphthylmethyl) triphenylphosphonium(1+); Chloride, *in* N-00052
▷ Nitrilotriacetic acid, N-00074
4-(2-Pyridinylazo)-1,3-benzenediol, P-00373
▷ 3,3′,4,4′-Tetraaminobiphenyl, T-00007
▷ Tetrabutylammonium(1+); Bromide, *in* T-00023
Tetraoctylammonium(1+); Chloride, *in* T-00110
▷ Trioctylamine, T-00357
▷ Tropolone, T-00432
N,N′-[Vinylenebis[(3-sulfo-*p*-phenylene) imino(6-hydroxy-*s*-triazine-4,2-diyl)]] diglycine; Tetra-Na salt, *in* V-00006
[Vinylenebis[[(3-sulfo-*p*-phenylene)imino-*s*-triazine-6,2,4-triyl]dinitrilo]]octaacetic acid; Hexa-Na salt, *in* V-00007
N,N′,N″,N‴-[Vinylenebis[(3-sulfo-*p*-phenylene)imino-*s*-triazine-6,2,4-triyl]] tetrasarcosine; Di-Na salt, *in* V-00008
▷ Xylometazoline hydrochloride, *in* X-00008

Chromium: dichromate/chromate

7-Amino-1-hydroxy-3*H*-phenoxazin-3-one, A-00208
5-Amino-11-methyl-9*H*-benzo[*a*] phenoxazin-9-one, A-00236
7-Amino-1-methyl-3*H*-phenoxazin-3-one, A-00247
▷ 2-Amino-3*H*-phenoxazin-3-one, A-00303
7-Amino-3*H*-phenoxazin-3-one, A-00304
1,4-Butanediylbis[triphenylphosphonium] (2+); Dibromide, *in* B-00602
1,3-Cyclohexanedione bis(thiosemicarbazone); B, HCl, *in* C-00345
▷ 4,4′-Diamino-3,3′-dimethoxybiphenyl, *in* D-00056
7-(Dimethylamino)-1-hydroxy-3*H*-phenoxazin-3-one, D-00786
7-(Dimethylamino)-1-methyl-3*H*-phenoxazin-3-one, D-00792
5-Hydroxy-11-methyl-9*H*-benzo[*a*] phenoxazin-9-one, H-00280
5-Methoxy-11-methyl-9*H*-benzo[*a*] phenoxazin-9-one, M-00089
11-Methyl-9*H*-benzo[*a*]phenoxazin-9-one, M-00140
▷ Trimethylsulfonium(1+); Iodide, *in* T-00347

Cobalt

Acenaphthenequinone; Dioxime, *in* A-00001
▷ Acetaldoxime, *in* A-00002
3-(2-Acetophenyl)methyltriazene *N*-oxide, A-00009
2-Acetyl-4-ethylpyridine; Oxime (*Z*-), *in* A-00016
2-Acetyl-4-methoxypyridine; Oxime (*Z*-), *in* A-00021
2-Acetyl-4-methylpyridine; Oxime (*E*-), *in* A-00023
2-Acetyl-4-phenylpyridine; Oxime (*E*-), *in* A-00031
2-Acetylpyrazine 8-quinolylhydrazone, A-00038
4-Acetylpyridine 4-ethyl-3-thiosemicarbazone, A-00041
2-Acetylpyridine 8-quinolylhydrazone, A-00046
Acid monochrome green S; Na salt, *in* A-00057
Alamine oxide, A-00071
Alamine 336S, A-00073
Aminobenzene AE, A-00098
2-Amino-4,6-bis[6-(2-pyridyl)-2-pyridyl]-*s*-triazine, A-00122
6-Amino-2-(dimethylamino)-5-nitroso-4(1*H*)-pyrimidinone, A-00161
6-Amino-4-hydroxy-5-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenesulfonic acid, A-00191
5-Amino-4-hydroxy-3-[(4-hydroxyphenyl) azo]-2,7-naphthalenedisulfonic acid, A-00195
5-Amino-4-hydroxy-3-[(4-methoxyphenyl) azo]-2,7-naphthalenedisulfonic acid, *in* A-00195
5-Amino-4-hydroxy-3-[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00207
5-Amino-4-hydroxy-3-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, A-00220
4-[[2-Amino-5-(1-methyl-2-piperidinyl)-3-pyridinyl]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00251
▷ 3-Amino-2-naphthoic acid, A-00280
6-Amino-5-nitroso-2-[(phenylmethyl)thio]-4(1*H*)-pyrimidinone, A-00286
2-Amino-5-nitroso-4,6(1*H*,5*H*)-pyrimidinedione, A-00287
▷ 5-Aminoorotic acid, A-00290
5-[(4-Aminophenyl)azo]-1*H*-1,2,4-triazole-3-carboxylic acid, A-00317
5-Amino-2,4,6-pyrimidinetrione-N^5,N^5-diacetic acid, A-00338

▷ 5-Amino-1,3,4-thiadiazoline-2(3*H*)-thione, A-00354
▷ Atarax, *in* H-00563
Azo-azoxy BN, A-00465
Basic turquoise; Trichlorozincate, *in* B-00001
Benzaldehyde 2-pyridinylhydrazone, B-00006
α-Benzaldoxime, *in* B-00004
Benzenecarboximidic acid *N*-2-pyridinyl-2-pyrazinylhydrazone, B-00015
▷ 1,3-Benzenediol, B-00021
1*H*-Benzimidazole-2-carboxaldehyde; 1-Benzyl, oxime, *in* B-00039
4-(1*H*-Benzimidazol-5-ylazo)-3-hydroxy-2,7-naphthalenedisulfonic acid, B-00042
5-(1*H*-Benzimidazol-5-ylazo)-8-quinolinol, B-00043
2-Benzothiazolecarboxaldehyde 2-benzothiazolylhydrazone, B-00086
2-(Benzothiazolylazo)-5-diethylaminobenzoic acid, *in* A-00114
10-(2-Benzothiazolylazo)-9-phenanthrenol, B-00099
▷ 1*H*-Benzotriazole, B-00110
2-Benzoyl-4-ethylpyridine; Oxime (*E*-), *in* B-00132
2-Benzoyl-4-methylpyridine; Oxime (*E*-), *in* B-00134
2-Benzoyl-4-phenylpyridine; Oxime (*E*-), *in* B-00144
2-Benzoylpyridine 8-quinolylhydrazone, B-00157
N-Benzyl-4-(4-diethylaminophenylazo) pyridinium(1+), B-00176
1-Benzyl-2-(α-hydroxyimino-4-nitrobenzyl)-1*H*-imidazole, B-00183
[2,2′-Bipyridine]-6-carboximidic acid hydrazide, B-00223
3-[2,2′-Bipyridin-6-yl]-5,6-dimethyl-1,2,4-triazine, B-00226
3-(2,2′-Bipyridin-6-yl)-5,6-diphenyl-1,2,4-triazine, B-00227
3-(2,2′-Bipyridin-6-yl)-5,6-di-2-pyridyl-1,2,4-triazine, B-00228
3-(2,2′-Bipyridin-6-yl)-1,2,4-triazino[5,6-*f*][4,7]phenanthroline, B-00234
N,*N*′-Bis(*o*-aminobenzylidene) ethylenediamine, B-00242
N,*N*′-Bis(butanesulfonyl)-1,2-benzenediamine, B-00271
Bis(4-chlorophenyl)ethanedione; Dioxime, *in* B-00285
Bis(4-chlorophenyl)iodonium(1+); Chloride, *in* B-00287
4,4′-Bis[(1,8-dihydroxy-3,6-disulfo-2-naphthyl)azo]-3,3′-biphenyldicarboxylic acid, B-00301
Bis(diisobutylthiocarbamoyl) disulfide, *in* T-00166
Bis(diisopropylthiocarbamoyl) disulfide, *in* T-00166
Bis(di-2-pyridinylmethylene)carbonothioic dihydrazide, B-00344
3,6-Bis(4-ethyl-2-pyridyl)-1,2-dihydro-1,2,4,5-tetrazine, B-00354
N,*N*′-Bis(2-mercaptobenzoyl)-1,2-ethanediamine, B-00397
1,2-Bis(2-mercaptobenzylideneamino) ethane, B-00398
3,6-Bis(4-methyl-2-pyridyl)-4-phenylpyridazine, B-00419
1,2-Bis(octanesulfonamido)benzene, B-00436
1,8-Bis(octanesulfonamido)naphthalene, B-00437
Bis(2-pyridylmethylene)carbonothioic acid dihydrazide, B-00444
3,3′-Bis(trifluoromethyl)dithizone, B-00463
Biuret, B-00474
4-[(5-Bromo-2-pyridinyl)azo]-1,3-benzenediamine, B-00562
2-[(5-Bromo-2-pyridinyl)azo]-5-methoxyphenol, *in* B-00563
4-[(5-Bromo-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, B-00572
1-[(5-Bromo-2-pyridinyl)azo]-2-naphthalenol, B-00573
▷ Bromotetraphenylantimony, B-00577
2-(5-Bromo-2-thiazolylazo)-5-(diethylamino)benzoic acid, *in* A-00128
1-[(5-Bromo-2-thiazolyl)azo]-2-naphthalenol, B-00579
2,3-Butanedione mono(2-pyridinylhydrazone), B-00600
2,3-Butanedione; Monoxime, (4-nitrophenyl)hydrazone, *in* B-00587
2,3-Butanedione; Monoxime, phenylthiosemicarbazone, *in* B-00587
2,3-Butanedione; Monoxime, 2-pyridylhydrazone, *in* B-00587
2,3-Butanedione oxime 4-nitrophenylhydrazone, B-00601
1-Butyl-4-[[4-(diethylamino)phenyl]azo] pyridinium(1+), B-00625
▷ *S*-Carbamidothioglycollic anilide, C-00019
2-Carboxy-1-pyrrolidinecarbodithioic acid; (*S*)-*form*, *in* C-00044
Chlorindazon DS, C-00052
3-Chlorobenzoic acid (1*H*-pyrrol-2-ylmethylene)hydrazide, C-00069
4-[(4-Chlorophenyl)azo]-1,3-benzenediamine, C-00199
2-[(5-Chloro-2-pyridinyl)azo]-5-(diethylamino)phenol, *in* A-00145
4-[(5-Chloro-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, C-00253
2-[(5-Chloro-2-pyridinyl)azo]-3-methyl-6-(1-methylethyl)phenol, C-00254
5-Chloro-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, C-00264
Cuproselect, *in* D-01137
4-Cyclohexyl-6-[(2-hydroxy-3,5-dinitrophenyl)azo]-1,3-benzenediol, C-00354
▷ Cysteine; (±)-*form*, *in* C-00370
2,2′-Diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00059
2,4-Diamino-6-(2,2′-bipyridyl)-1,3,5-triazine, D-00062
2,6-Diamino-5-nitroso-4(1*H*)-pyrimidinone, D-00109
2-[(2,4-Diaminophenyl)azo]-4,6-dinitrophenol, D-00112
5,6-Diamino-2,4(1*H*,3*H*)-pyrimidinedione; 1,3-Di-Me, *in* D-00120
4,4′-Diaminostilbene-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00127
▷ Dibenzylamine, D-00166
5,7-Dibromo-8-hydroxy-2-methylquinoline, D-00190
4-[(3,5-Dibromo-2-pyridinyl)azo]-1,3-benzenediamine, D-00199
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(dimethylamino)benzoic acid, D-00201
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-methoxyphenol, *in* D-00200
5-(3,5-Dibromo-2-pyridylazo)-2,4-diaminotoluene, D-00210
4,4-Dicarboxy-2,2′-diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid, D-00245
▷ (3,4-Dichlorobenzyl) triphenylphosphonium(1+); Chloride, *in* D-00252
▷ 5,7-Dichloro-8-hydroxy-2-methylquinoline, D-00280
4-[(3,5-Dichloro-2-pyridinyl)azo]-1,3-benzenediamine, D-00299
2-[(3,5-Dichloro-2-pyridinyl)azo]-5-(dimethylamino)phenol, D-00300
4-[(3,5-Dichloro-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, D-00301
6-(Diethylamino)-2,3-dihydro-1,4-phthalazinedione, *in* A-00156
2-(4-Diethylamino-2-hydroxyphenylazo) thiazole, *in* A-00214
5-[[4-Diethylamino-2-hydroxyphenyl]azo]-1*H*-1,2,4-triazole-3-carboxylic acid, *in* A-00215
5-(Diethylamino)-2-nitrosophenol, *in* A-00285
4-[[4-(Diethylamino)phenyl]azo]-1-ethylpyridinium(1+); Chloride, *in* D-00329
4-[[4-(Diethylamino)phenyl]azo]-1-methylpyridinium(1+); Chloride, *in* D-00332
2-(Diethylamino)-6-(2-pyridinylazo)phenol, D-00335
5-Diethylamino-2-(2-thiazolylazo)benzoic acid, *in* A-00359
2,2′-Difluorodithizone, D-00360
4,4′-Difluorodithizone, D-00361
▷ Di(2-furyl)ethanedione; Monoxime, *in* D-00364
1,2-Dihydro-3,6-bis(4-methyl-2-pyridinyl)-1,2,4,5-tetrazine, D-00373
1,4-Dihydro-6-nitro-2,3-quinoxalinedithione, D-00461
[4,5-Dihydro-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]pyrazine, D-00484
Dihydro-2-thioxo-4,5,6(1*H*)-pyrimidinetrione 5-oxime, D-00493
5,7-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00646
2-(2,4-Dihydroxyphenylazo)-1,3,4-thiadiazole, D-00703
1-(2,4-Dihydroxyphenyl)-1-pentanone, D-00714
4,4′-Dimethoxy-2,2′-diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid, *in* D-00572
3-Dimethylamino-6-nitroso-1-naphthol, D-00803
5-(Dimethylamino)-2-nitrosophenol; B,HCl, *in* D-00804
(2,5-Dimethylbenzenesulfonylamino) quinoline, D-00833
5,5-Dimethyl-1,3-cyclohexanedione; Dioxime, *in* D-00847
5,6-Dimethyl-2-nitro-1,3-indanedione; Bis(thiosemicarbazone), *in* D-00873
(3,5-Dimethylphenyl) diphenylsulfonium(1+); Chloride, *in* D-00888
5,6-Dimethyl-3-(3-pyridazinyl)-1,2,4-triazine, D-00907
N,*N*-Dimethyl-4-(2-pyridinylazo) benzenamine, D-00909
7,14-Dimethyl-5,7,12,14-tetraethyl-1,4,8,11-tetraazacyclotetradeca-4,11-diene, D-00919
1,2-Di(1-naphthalenyl)-1,2-ethanedione; Monooxime, *in* D-00930
5-(2,4-Dinitrophenylazo)-8-hydroxyquinoline, D-00968
2,3-Dioxobutanoic acid; 2-(2-Hydroxyphenyl)hydrazone, Et ester, *in* D-00986
3,4-Dioxohexanedioic acid bis(thiosemicarbazide); Di-Et ester, *in* D-00990
Diphenylethanedione mono(pyrazinylhydrazone), D-01013
Diphenylethanedione monoxime, *in* B-00038
Diphenyliodonium(1+); Iodide, *in* D-01028
1,3-Diphenyl-5-nitrosobarbituric acid, *in* P-00428
N,*N*′-Diphenylpropanedithioamide, *in* P-00262
5,6-Diphenyl-3-(4-pyrimidinyl)-1,2,4-triazine, D-01047
Diphenylthiovioluric acid, *in* D-00493
1,1-Di-2-pyridinyl-*N*,*N*′-di-8-quinolinylmethanediamine, D-01062
Di-2-pyridinylethanedione bis(2-quinolinylhydrazone), D-01067
Di-2-pyridinylmethanone 2-chlorobenzoylhydrazone, D-01074
Di-2-pyridinylmethanone 3-chlorobenzoylhydrazone, D-01075
Di-2-pyridinylmethanone guanylhydrazone, D-01078
5,6-Di-2-pyridinyl-3-(4-pyrimidinyl)-1,2,4-triazine, D-01086
Di-2-pyridylglyoxal dithiosemicarbazone, *in* D-01063
Di-2-pyridylmonoxime, *in* D-01063
2,4-Di-2-pyridylpyrimidine, D-01092
α,α-[(Dithiooxalyl)diimino]di-*m*-toluenesulfonic acid, D-01134

3-Dodecyl-1,5,9,13-tetraazacyclohexadecane, D-01156
6-Dodecyl-1,4,8,11-tetraazacyclotetradecane, D-01158
▷ 1,2-Ethanediylbis[triphenylphosphonium] (2+); Dibromide, *in* E-00034
7-(1-Ethenyl-3,3,5,5-tetramethylhexyl)-8-quinolinol, E-00049
1-[(4-Ethoxyphenyl)amino]-2-mercapto-1-propanone, E-00058
5-Ethoxy-2-(2-pyridinylazo)phenol, *in* P-00373
5-(Ethylamino)-4-methyl-2-(2-pyridinylazo) phenol, *in* A-00253
▷ Ethylenediaminetetraacetic acid, E-00078
Ethylrhodamine B, *in* R-00002
2-[(5-Ethyl-1,3,4-thiadiazol-2-yl)azo]-4-methoxyphenol, E-00116
2-Furancarboxaldehyde 3-bromobenzoylhydrazone, F-00045
2-Furancarboxaldehyde 4-bromobenzoylhydrazone, F-00046
2-Furancarboxaldehyde 2-pyridinylhydrazone, F-00049
▷ Glycerol, G-00015
N-Glyoxyloylanthranilic acid; Monooxime, *in* G-00039
6,6,7,7,8,8,8-Heptafluoro-2,2-dimethyl-3,5-octanedione, H-00006
5,7,7,12,14,14-Hexamethyl-1,4,8,11-tetraazacyclotetradeca-4,11-diene, H-00059
▷ Hexanoic acid, H-00066
1,4,7,10,13,16-Hexathiacyclooctadecane, H-00070
▷ Hydrazinecarboxaldehyde, *in* F-00037
4-Hydroxyacridine, H-00092
2-Hydroxybenzoic acid [2-pyridinyl(3-sulfophenyl)methylene]hydrazide, H-00122
[2-Hydroxy-1,1-bis(hydroxymethyl)ethyl] carbamodithioic acid, H-00138
N-Hydroxy-2,4-dimethylbenzenecarboximidamide, *in* D-00835
2-[[1-(Hydroxyimino)ethyl]azo]-1*H*-benzimidazole, H-00245
N-Hydroxy-4-methylbenzenecarboximidamide, *in* M-00138
α-(Hydroxymethylene)-2-benzoxazoleacetonitrile, H-00287
1-[[2-[(2-Hydroxy-5-methylphenyl)-*O*,*N*,*N*-azoxy]phenyl]azo]-2-naphthalenol, H-00305
1-Hydroxy-2-naphthalenecarbodithioic acid, H-00339
N-Hydroxy-1-naphthalenecarboximidamide, *in* N-00005
4-[(2-Hydroxy-1-naphthalenyl)azo] benzenesulfonic acid; Na salt, *in* H-00348
3-[(2-Hydroxy-1-naphthalenyl)azo]-1*H*-pyrazole-4-carboxylic acid, H-00353
5-[(2-Hydroxy-1-naphthalenyl)azo]-1,3,4-thiadiazole-2(3*H*)-thione, H-00357
N-Hydroxy-*N*′-2-naphthalenyl-*N*-phenylthiourea, H-00367
2-[(2-Hydroxy-5-nitrophenyl)azo]-4,5-diphenylimidazole; Acetate salt, *in* H-00394
N-[[1-Hydroxy-4-(4-nitrophenylazo)-2-naphthyl]methyl]glycine, H-00397
2-Hydroxy-3-nitrosobenzoic acid, H-00406
4-Hydroxy-5-nitroso-2,1,3-benzothiadiazole, H-00408
5-Hydroxy-4-nitroso-2,1,3-benzothiadiazole, H-00409
3-Hydroxy-4-nitroso-2-naphthalenecarboxylic acid, H-00413
4-Hydroxy-3-nitroso-1-naphthalenesulfonic acid, H-00415
4-Hydroxy-3-nitroso-2(1*H*)-pyridinone, H-00419
6-Hydroxy-5-nitroso-2,4(1*H*,3*H*)-pyrimidinedione, H-00420
2-(4-Hydroxyphenylazo)benzaldehyde; Me ether, oxime, *in* H-00448
N-Hydroxy-*N*′-phenyl-1*H*-benzimidazole-2-carboximidamide, *in* P-00102
N-(2-Hydroxyphenyl)-1-octanesulfonamide, H-00490
8-Hydroxy-2-phenylquinoline, H-00503
3-(3-Hydroxy-3-phenyl-1-triazenyl)pyridine, H-00509
3-Hydroxy-2-pyridinecarboxaldehyde [(3-hydroxy-2-pyridinyl)methylene] hydrazone, H-00519
3-Hydroxy-2-pyridinecarboxaldehyde; Thiosemicarbazone; B,HCl, *in* H-00518
3-Hydroxy-4-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, H-00530
▷ 1*H*-Imidazole, I-00001
1,2,3-Indanetrione; Trioxime, *in* I-00025
4-[(5-Iodo-2-pyridinyl)azo]-1,3-benzenediamine, I-00052
Isatin; 2-Oxime, *in* I-00056
▷ Isonitrosoacetophenone, *in* P-00132
Isonitrosoacetophenone 2,4-dinitrophenylhydrazone, *in* P-00132
Isonitrosoacetophenone *p*-nitrophenylhydrazone, *in* P-00132
Isonitrosodimedone, *in* D-00848
Isonitrosomalonylguanidine, *in* A-00337
3-Isoquinolinecarboximidic acid hydrazide, I-00086
3-(3-Isoquinolyl)-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, I-00090
Mercaptoacetic acid; 2-Ethylhexyl ester, *in* M-00016
4-[(Mercaptoacetyl)amino]benzenesulfonic acid; Na salt, *in* M-00017
▷ 2-Mercaptobenzoic acid, M-00023
2-Mercapto-4*H*-1-benzothiopyran-4-one, M-00025
2-Mercapto-2,4,6-cycloheptatrien-1-one, M-00027
3-Mercapto-3-phenylpropanoic acid; (±)-*form*, *in* M-00048
3-Mercapto-*p*-propionophenetidide, M-00054
2-(3-Mercapto-2-quinoxalinyl)-2-thiopseudourea; B, HCl, *in* M-00058
S-(3-Mercapto-2-quinoxalinyl) thiuronium(1+); Chloride, *in* M-00059
4-Methoxy-2,6-bis(2-pyridyl)pyrimidine, M-00085
3-Methoxy-2-methyl-6-(2-pyridinylazo) phenol, *in* M-00278
5-Methoxy-2-[(5-methyl-2-pyridinyl)azo] phenol, *in* M-00279
▷ 3-Methoxy-4-nitrosophenol, *in* N-00156
4′-(4-Methoxyphenyl)-2,2′:6′,2″-terpyridine, M-00119
5-Methoxy-2-(2-pyridinylazo)phenol, *in* P-00373
3-Methyl-1,2-indandione; Dioxime, *in* M-00194
3-Methyl-6-(1-methylethyl)-2-(2-pyridinylazo)phenol, M-00197
4-Methyl-6-[(5-methyl-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, M-00201
2-Methyl-4-nitroso-1,3-benzenediol, M-00206
5-Methyl-2-nitrosophenol, M-00207
7-Methyl-2,4-octanedione, M-00209
2-[(1-Methyl-3-oxobutylidene)amino] benzenesulfonic acid, M-00213
4-Methyl-6-[[2-(phenylmethoxy)-2-pyridinyl]azo]-1,3-benzenediamine, M-00232
3-[(5-(1-Methyl-2-piperidinyl)-2-pyridinyl) azo]-2,6-pyridinediamine, M-00252
2-[(3-Methyl-5-propyl-2-pyrrolidinyl)azo] phenol, M-00263
4-Methyl-6-(2-pyridinylazo)-1,3-benzenediamine, M-00277
5-Methyl-4-(2-pyridinylazo)-1,3-benzenediol, M-00280
3-(4-Methyl-2-pyridinyl)-5-phenyl-1,2,4-triazine, M-00292
4-Methyl-5-[(sulfomethyl)amino]-2-(2-thiazolylazo)benzoic acid, M-00310
2-Methyl-4-(2-thiazolylazo)-1,3-benzenediamine, M-00317
Methyltriphenylarsonium(1+); Chloride, *in* M-00334
1,2-Naphthoquinone; Dioxime (1*Z*,2*E*), *in* N-00031
Neotetrazolium(2+); Dichloride, *in* N-00063
Niconoxime, *in* C-00346
Nicotinamidoxime, *in* P-00341
▷ Nitrilotriacetic acid, N-00074
5-Nitro-1,2-acenaphthylenedione; Dioxime, *in* N-00076
1-Nitroso-2,7-naphthalenediol, N-00159
▷ 1-Nitroso-2-naphthol, N-00160
▷ 2-Nitroso-1-naphthol, N-00161
5-Nitroso-6-quinolinol, N-00162
▷ Nitroso R salt, *in* H-00414
1,1,1,5,5,6,6,6-Octafluoro-2,4-hexanedione, O-00003
1-Octanesulfonamido-2-naphthol, *in* A-00273
Oxamidoxime, *in* O-00048
1,1,1,2,2-Pentafluoro-6,6-dimethyl-3,5-heptanedione, P-00017
2,3-Pentanedione; 3-Oxime, 4-nitrophenylhydrazone, *in* P-00029
(Phenylazo)benzaldoxime, P-00091
4-Phenyl-3,6-bis(4-phenyl-2-pyridyl) pyridazine, P-00106
1-Phenyl-1,3-butanedione 3-[[6-phenyl-4-(phenylmethyl)-3-pyridazinyl] hydrazone], P-00108
5-Phenyl-3,6-di-2-pyridyl-1,2,4-triazine, P-00114
N,*N*′-1,2-Phenylenebismethanesulfonamide, P-00118
Phenylglyoxime, P-00133
3-Phenyl-1,2-indanedione; Dioxime, *in* P-00137
4-(Phenylmethyl)-6-(2-pyridinylazo)-1,3-benzenediol, P-00149
Phenyl[5-phenyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazin-6-yl]methanone, P-00157
5-Phenyl-3-(4-phenyl-2-pyridyl)-6-(2-pyridyl)-1,2,4-triazine, P-00160
3-(6-Phenyl-2-pyridyl)-5,6-di-2-pyridyl-1,2,4-triazine, P-00181
(Phenylsulfonyl)carbonimidodithioic acid; Di-K salt, *in* P-00195
▷ 1-Phenylthiosemicarbazide, P-00199
1-Phenyl-3-thioxo-1-butanone, P-00202
6-(5-Phenyl-1,2,4-triazin-3-yl)-2,2′-bipyridine, P-00206
2-(5-Phenyl-1,2,4-triazin-3-yl)-1,10-phenanthroline, P-00207
▷ Protriptyline hydrochloride, *in* P-00280
▷ Pyrazinecarboxamide, *in* P-00285
3-(Pyrazinyl)-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, P-00301
1-(1*H*-Pyrazol-3-ylazo)-2-naphthalenol, P-00303
3-(3-Pyridazyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, P-00313
3-(3-Pyridazyl)-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, P-00315
2-Pyridinecarboxaldehyde phenylthiosemicarbazone, P-00331
2(1*H*)-Pyridinone [2-phenyl-1-(2-pyridinyl) ethylidene]hydrazone, P-00365
4-(2-Pyridinylazo)-1,3-benzenediamine, P-00372
4-(2-Pyridinylazo)-1,3-benzenediol, P-00373
N-2-Pyridinylbenzenecarboximidic acid (oxodi-2-pyridinylethylidene)hydrazide, P-00384
3-(2-Pyridinylcarbonyl)benzenesulfonic acid; Benzoylhydrazone, *in* P-00386
1-(2-Pyridinyl)-2-(2-pyrimidinyl)ethanone 2-pyrimidinylhydrazone, P-00406
2-Pyridyl-2-thienyl-β-ketoxime, *in* P-00408
▷ 2,4,5,6(1*H*,3*H*)-Pyrimidinetetrone 5-oxime, P-00428
▷ Quinoline, Q-00007
5,8-Quinolinedione; Dioxime, *in* Q-00019
1-(2-Quinolinylazo)-2-phenanthrenol, Q-00031
▷ Solochrome red B; Tri-Na salt, *in* S-00021

3,3′-Sulfonylbis[*N*-8-quinolylbenzenesulfonamide], S-00055
Sulf-R-azo, *in* H-00543
O-[(Tetrahydro-2-furanyl)methyl] carbonodithioate; K salt, *in* T-00062
Tetraphenylarsonium(1+); Bromide, *in* T-00119
Tetraphenylphosphonium(1+); Bromide, *in* T-00120
Thioaminazo F, T-00154
▷ Thiobenzoic acid, T-00155
2,2′-Thiobisethanamine; B,2HCl, *in* T-00156
Trifluoroethylxanthic acid; K salt, *in* T-00247
1,1,1-Trifluoro-7-methyl-2,4-octanedione, T-00255
Triphenylselenonium(1+); Chloride, *in* T-00375
Triphenylsulfonium(1+); Bromide, *in* T-00376
Triphenyltelluronium(1+); Iodide, *in* T-00377
2,4,6-Tri-2-pyridinyl-1,3,5-triazine, T-00381
Tris(6-methylheptyl)amine; B,HCl, *in* T-00408
▷ Triton X 100, T-00428
▷ TTC, *in* T-00379

Copper

Acenaphthenequinone; Dioxime, *in* A-00001
▷ Acetaldoxime, *in* A-00002
1-Acetoxy-4-methyl-2(1*H*)-pyridinethione, *in* M-00274
1-Acetoxy-2(1*H*)-pyridinethione, *in* P-00357
8-Acetoxyquinaldine, *in* H-00326
3-Acetyl-1,5-bis(1,2-dihydro-1,5-dimethyl-3-oxo-2-phenyl-4-pyrazolyl)formazan, A-00014
2-Acetyl-4-ethylpyridine; Oxime (*Z*-), *in* A-00016
2-Acetyl-4-methoxypyridine; Oxime (*Z*-), *in* A-00021
2-Acetyl-4-methylpyridine; Oxime (*E*-), *in* A-00023
2-Acetyl-6-methylpyridine; Oxime (*E*-), *in* A-00024
2-Acetyl-4-phenylpyridine; Oxime (*E*-), *in* A-00031
2-Acetyl-6-phenylpyridine; Oxime (*E*-), *in* A-00032
2-Acetylpyrazine 3-quinolylhydrazone, A-00037
2-Acetylpyrazine 8-quinolylhydrazone, A-00038
2-Acetylpyridine 2-quinolylhydrazone, A-00045
2-Acetylpyridine 8-quinolylhydrazone, A-00046
4-Adamantyl-2-(2-hydroxy-1-naphthalenylazo)thiazole, A-00064
Alamine oxide, A-00071
▷ 4-Aminobenzoic acid, A-00105
2-Amino-4,6-bis[6-(2-pyridyl)-2-pyridyl]-*s*-triazine, A-00122
4-[(2-Amino-5-bromo-3-pyridinyl)azo]-1,3-benzenediol, A-00124
9-Amino-2,3-dihydrobenzo[*f*]phthalazine-1,4-dione, A-00151
6-Amino-2,3-dihydro-1,4-phthalazinedione, A-00156
5-Amino-4-hydroxy-3-(2-pyridinylazo)-2,7-naphthalenedisulfonic acid, A-00218
8-(7-Amino-1-hydroxy-3-sulfophenylazo)-7-hydroxy-1-naphthalenesulfonic acid; Di-Na salt, *in* A-00223
3-Amino-1*H*-isoindole-1-thione, A-00229
8-(Aminomethyl)-6,7-dihydroxy-4-methylcoumarin-*N*,*N*-diacetic acid, A-00241
3-(Aminomethyl)furan-*N*,*N*-diacetic acid, A-00242
2-Amino-*N*-(4-methylphenyl) benzenesulfonamide, A-00248
4-[[2-Amino-5-(1-methyl-2-piperidinyl)-3-pyridinyl]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00251
4-[[2-Amino-1-methyl-6-(3-pyridinyl)-3-piperidinyl]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00254
▷ 3-Amino-2-naphthoic acid, A-00280
2-Amino-4-[(4-nitrophenyl)azo]-3-pyridinol, A-00283
▷ 5-Aminoorotic acid, A-00290
5-Amino-1,10-phenanthroline, A-00299
N-(2-Aminophenyl)-4-methylbenzenesulfonamide, A-00326
▷ 2-Amino-1-propene-1,1,3-tricarbonitrile, A-00330
▷ Aminopyrine, A-00339
▷ 8-Aminoquinoline, A-00340
Arsenazo H, A-00409
3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, A-00439
Aspartic acid; (±)-*form*, *in* A-00447
Azo-azoxy AN, A-00464
Azo-azoxy BN, A-00465
Bathocuproinedisulfonic acid; Di-Na salt, *in* B-00002
Benzaldehyde 8-quinolinylhydrazone, B-00007
α-Benzamido-*o*-chlorocinnamic acid isonicotinylhydrazide, B-00010
Benzenecarboximidic acid *N*-2-pyridinyl-2-pyrazinylhydrazone, B-00015
▷ 1,2,4-Benzenetricarboxylic acid, B-00032
1,2,3-Benzenetricarboxylic acid; Tri-Na salt, *in* B-00031
1*H*-Benzimidazole-2-carboxaldehyde; 1-Benzyl, oxime, *in* B-00039
1*H*-Benzimidazole-2-methanethiol, B-00041
4-(1*H*-Benzimidazol-5-ylazo)-3-hydroxy-2,7-naphthalenedisulfonic acid, B-00042
5-(1*H*-Benzimidazol-5-ylazo)-8-quinolinol, B-00043
1-(1*H*-Benzimidazol-4-yl)-3-methyl-5-phenylformazan, B-00046
Benzointhiosemicarbazone, *in* B-00068
Benzophenone; Thiosemicarbazone, *in* B-00069
2-Benzothiazolecarboxaldehyde 2-benzothiazolylhydrazone, B-00086
2-Benzothiazolecarboxaldehyde 2-quinolylhydrazone, B-00088
2-(Benzothiazolylazo)-5-diethylaminobenzoic acid, *in* A-00114
2-(2-Benzothiazolylazo)-4,6-dimethylphenol, B-00096
10-(2-Benzothiazolylazo)-9-phenanthrenol, B-00099
5-(2-Benzothiazolyl)-1,3-diphenylformazan, B-00101
1-(2-Benzothiazolyl)-3-phenyl-5-(4-sulfophenyl)formazan; Na salt, *in* B-00108
2-(Benzoylamino)-3-[4-(dimethylamino) phenyl]-2-propenoic acid, B-00120
2-Benzoyl-4-ethylpyridine; Oxime (*E*-), *in* B-00132
2-Benzoyl-4-methylpyridine; Oxime (*E*-), *in* B-00134
2-Benzoyl-6-methylpyridine; Oxime (*E*-), *in* B-00135
6-Benzoyl-3-(4-methyl-2-pyridyl)-5-methyl-1,2,4-triazine, B-00136
2-Benzoyl-4-nitro-1*H*-indene-1,3(2*H*)-dione, B-00139
2-Benzoyl-5-nitro-1*H*-indene-1,3(2*H*)-dione, B-00140
2-Benzoyl-6-phenylpyridine; Oxime, *in* B-00145
2-Benzoyl-4-phenylpyridine; Oxime (*E*-), *in* B-00144
2-Benzoylpyridine; Hydrazone, *in* B-00151
2-Benzoylpyridine 2-pyrimidinylhydrazone, B-00155
2-Benzoylpyridine 3-quinolylhydrazone, B-00156
2-Benzoylpyridine 8-quinolylhydrazone, B-00157
N-Benzoyl-*N*′-(2-pyridyl)thiourea, B-00159
p-[1-(1-Benzyl-2-benzimidazolyl)-3-methyl-5-formazano]benzenesulfonic acid, B-00170
N-Benzylethylenediaminetriacetic acid, *in* E-00079
1-Benzyl-2-(α-hydroxyimino-4-nitrobenzyl)-1*H*-imidazole, B-00183
2,2′-Bipyrazine, B-00218
3,3′-Bipyridazine, B-00219
▷ 2,2′-Bipyridine, B-00220
▷ 2,3′-Bipyridine, B-00221
2-(2,2′-Bipyridin-6-yl)benzimidazole, B-00225
3-[2,2′-Bipyridin-6-yl]-5,6-dimethyl-1,2,4-triazine, B-00226
3-(2,2′-Bipyridin-6-yl)-5,6-diphenyl-1,2,4-triazine, B-00227
3-(2,2′-Bipyridin-6-yl)-5,6-di-2-pyridyl-1,2,4-triazine, B-00228
2-(2,2′-Bipyridin-6-yl)-1*H*-imidazo[4,5-*c*] pyridine, B-00230
2-(2,2′-Bipyridin-6-yl)-3*H*-imidazo[4,5-*h*] quinoline, B-00231
3-(2,2′-Bipyridin-6-yl)-1,2,4-triazino[5,6-*f*][4,7]phenanthroline, B-00234
2,2′-Biquinoline, B-00236
[2,2′-Biquinoline]-4,4′-dicarboxylic acid, B-00237
4,4′-([2,2′-Biquinoline]-4,4′-diyldiimino) bisbenzoic acid; Di-Et ester, *in* B-00238
4,4′-Bis(benzylamino)-2,2′-biquinoline, *in* D-00063
4,4′-Bis(4-biphenylylamino)-2,2′-biquinoline, B-00259
N,*N*′-Bis(butanesulfonyl)-1,2-benzenediamine, B-00271
Bis(4-chlorophenyl)ethanedione; Dioxime, *in* B-00285
Bis(dicyclohexyloxyphosphinothioyl) disulfide, B-00294
4,4′-Bis(diethylamino)-2,2′-biquinoline, *in* D-00063
Bis(diisopropyloxyphosphinothioyl) disulfide, B-00310
▷ Bis(dimethoxyphosphinothioyl) disulfide, B-00312
Bis[(diphenoxyphosphino)thioyl] disulfide, B-00336
2,4-Bis(5,6-diphenyl-1,2,4-triazin-3-yl) pyridine, B-00341
2,6-Bis(5,6-diphenyl-1,2,4-triazin-3-yl) pyridine, B-00342
3,6-Bis(4-ethyl-2-pyridyl)-1,2-dihydro-1,2,4,5-tetrazine, B-00354
1,2-Bis[[[2-(ethylthio)ethyl]thio]methyl] benzene, B-00355
1,3-Bis[[[2-(ethylthio)ethyl]thio]methyl] benzene, B-00356
1,4-Bis[[[2-(ethylthio)ethyl]thio]methyl] benzene, B-00357
1,2-Bis(hexylthio)ethane, B-00359
2,3-Bis(2-hydroxybenzylideneamino) benzofuran, B-00361
Bis(2-hydroxyethyl)carbamodithioic acid; K salt, *in* B-00373
▷ *N*,*N*′-Bis(2-hydroxyethyl) ethanedithioamide, B-00374
1,5-Bis(2-hydroxy-4-nitrophenyl)-3-acetylformazan, B-00387
2,3-Bis(6-methyl-2-pyridyl)benzo[*g*] quinoxaline, B-00414
Bis(6-methyl-2-pyridyl)ethanedione; Dihydrazone, *in* B-00415
2,3-Bis(6-methyl-2-pyridyl)-10*H*-indeno[1,2-*g*]-quinoxaline, B-00416
2,3-Bis(6-methyl-2-pyridyl)-5-nitroquinoxaline, B-00417
2,3-Bis(6-methyl-2-pyridyl)-6-nitroquinoxaline, B-00418
3,6-Bis(4-methyl-2-pyridyl)-4-phenylpyridazine, B-00419
2,3-Bis(6-methyl-2-pyridyl)pyrazine, B-00420
2,3-Bis(6-methyl-2-pyridyl)pyrido[2,3-*b*] pyrazine, B-00421
2,3-Bis(6-methyl-2-pyridyl)quinoxaline, B-00422

2,3-Bis(6-methyl-2-pyridyl)-6-quinoxalinecarboxylic acid, B-00423
Bis(4-nitrophenyl)ethanedione; Dioxime, *in* B-00432
1,2-Bis(octanesulfonamido)benzene, B-00436
1,8-Bis(octanesulfonamido)naphthalene, B-00437
N,N'-Bis(pyridinylmethylene)-1,2-ethanediamine, B-00441
N-[3,5-Bis(trifluoromethyl)phenyl]-*N*-hydroxy-3,5-bis(trifluoromethyl) benzamide, B-00465
Biuret, B-00474
Bromocresol green, B-00498
4-Bromo-*N*-hydroxybenzamide, B-00510
2-Bromo-4-[(4-hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, B-00512
5-Bromo-1,10-phenanthroline, B-00541
N'-(4-Bromophenyl)-*N*-hydroxy-*N*-phenylthiourea, B-00551
(4-Bromophenyl)phenylethanedione dioxime, B-00555
2-[(5-Bromo-2-pyridinyl)azo]-5-methoxyphenol, *in* B-00563
8-*N*-(5-Bromosalicylidene)aminoquinoline, B-00575
2-(5-Bromo-2-thiazolylazo)-5-(diethylamino)benzoic acid, *in* A-00128
5-Bromo-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, B-00580
2,3-Butanedione bis(phenylthiosemicarbazone), B-00597
2,3-Butanedione; Thiosemicarbazone, *in* B-00587
N-Butylethylenediaminetriacetric acid, *in* E-00079
N-[2-(Butylthio)phenyl]-*N'*-phenylthiourea, B-00639
Calcein, C-00010
▷ Cetylcide, *in* E-00071
3-Chlorobenzoic acid (1*H*-pyrrol-2-ylmethylene)hydrazide, C-00069
6-Chloro-2,3-bis(6-methyl-2-pyridyl) quinoxaline, C-00075
6-Chloro-1-hydroxy-4-nitro-1*H*-benzotriazole, C-00137
3-[(5-Chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, C-00145
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00155
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, C-00159
N'-(4-Chloro-2-methylphenyl)-*N*-(4-chlorophenyl)-*N*-hydroxybenzenecarboximidamide; B,HCl, *in* C-00181
(4-Chlorophenyl)phenylethanedione; Dioxime, *in* C-00238
5-Chloro-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, C-00264
▷ Colchiceine; (*S*)-*form*, *in* C-00300
▷ Contramine, *in* D-00344
▷ Cuprizone, C-00321
Cupron, *in* B-00068
▷ Cuprotest, C-00322
2,2'-(1,4-Cyclohexanediylidene) bishydrazinecarbothioamide, *in* C-00339
N-(Cyclohexyl)ethylenediaminetriacetic acid, *in* E-00079
9-Cyclohexyl-2,6,7-trihydroxy-3*H*-xanthen-3-one, C-00359
1,3-Cyclopentanedione bis(4-methylthiosemicarbazone); B,HCl, *in* C-00363
4-Cyclopentyl-6-(2-pyridinylazo)-1,3-benzenediol, C-00367
▷ Cysteine; (±)-*form*, *in* C-00370
▷ Daxime, D-00002
7,8,9,10,11,12,19,20,21,22-Decahydrodibenzo[*e,q*][1,4,8,15] tetraazacyclooctadecine, D-00013
2,6-Diacetylpyridine; Dioxime, *in* D-00035
1,6-Diallyl-2,5-dithiobiurea, D-00040
3,4-Diaminoanthraquinone-1-sulfonic acid, D-00045
2,2'-Diaminobiphenyl-4,4'-dicarboxylic acid-*N,N,N',N'*-tetraacetic acid; Hexa-Na salt, *in* D-00055
2,2'-Diaminobiphenyl-*N,N,N',N'*-tetraacetic acid; Tetra-Na salt, *in* D-00059
2,4-Diamino-6-(2,2'-bipyridyl)-1,3,5-triazine, D-00062
4,4'-Diamino-3,3'-diethoxybiphenyl-*N,N,N',N'*-tetraacetic acid; Tetra-Na salt, *in* D-00070
2,4-Diamino-6-(3-pyridazinyl)-1,3,5-triazine, D-00117
2,4-Diamino-6-(2-pyrimidinyl)-1,3,5-triazine, D-00123
2,4-Diamino-6-(4-pyrimidinyl)-1,3,5-triazine, D-00124
4,4'-Diaminostilbene-*N,N,N',N'*-tetraacetic acid; Tetra-Na salt, *in* D-00127
1-(4,6-Diamino-1,3,5-triazin-2-yl) isoquinoline, D-00130
3-(4,6-Diamino-1,3,5-triazin-2-yl) isoquinoline, D-00131
4,4'-Dianilino-2,2'-biquinoline, *in* D-00063
Diantipyrylthiourea, D-00141
Dibenzyldithiocarbamic acid, *in* D-01124
2-[(3,5-Dibromo-2-hydroxyphenyl) methylene]-*N*-phenylhydrazinecarbothioamide, D-00192
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(ethylamino)-4-methylphenol, *in* A-00149
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-methoxyphenol, *in* D-00200
4-(3,5-Dibromo-2-pyridylazo)-*N,N*-diethylaniline, D-00211
4-(3,5-Dibromo-2-pyridylazo)-*N*-ethyl-*N*-(3-sulfopropyl)aniline, D-00212
4,4-Dicarboxy-2,2'-diaminobiphenyl-*N,N,N',N'*-tetraacetic acid, D-00245
4,4'-Di(*p*-chloroanilino)-2,2'-biquinoline, *in* D-00063
4,4'-Dichloro-2,2'-biquinoline, D-00254
6,7-Dichloro-2,3-bis(6-methyl-2-pyridyl) quinoxaline, D-00255
6,7-Dichloro-2,3-di-2-pyridylquinoxaline, D-00269
4,4'-Di[(*p*-diethylamino)anilino]-2,2'-biquinoline, *in* D-00063
6-(Diethylamino)-2,3-dihydro-1,4-phthalazinedione, *in* A-00156
4-[[4-(Diethylamino)phenyl]azo]-1-methylpyridinium(1+); Chloride, *in* D-00332
4-[[4-(Diethylamino)phenyl]azo]-1-propylpyridinium(1+); Chloride, *in* D-00333
5-Diethylamino-2-(2-thiazolylazo)benzoic acid, *in* A-00359
▷ *O,O*-Diethyl phosphorodithioate, D-00356
O,O-Diethylphosphoroselenoic acid; Na salt, *in* D-00357
2,2'-Difluorodithizone, D-00360
1,2-Dihydro-3,6-bis(4-methyl-2-pyridinyl)-1,2,4,5-tetrazine, D-00373
6,7-Dihydro-5,8-diphenyldibenzo[*b,j*][1,10] phenanthroline, D-00398
1,2-Dihydro-4-[[(2-hydroxy-1-naphthalenyl) methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00417
4,5-Dihydro-1*H*-pyrazole-1-carbodithioic acid, D-00479
5,14-Dihydro-6,8,15,17-tetramethyldibenzo[*b,i*][1,4,8,11] tetraazacyclotetradecine, D-00491
6,7-Dihydrotribenzo[*e,i,m*][1,4,8,11] dioxadiazacyclotetradecine, D-00497
2',4'-Dihydroxyacetophenone; Oxime, *in* D-00507
2',5'-Dihydroxyacetophenone; Oxime, *in* D-00508
2',4'-Dihydroxyacetophenone; Phenylhydrazone, *in* D-00507
2',4'-Dihydroxyacetophenone; Semicarbazone, *in* D-00507
2,4-Dihydroxybenzaldehyde guanylhydrazone, D-00520
2,5-Dihydroxybenzaldehyde; Oxime, *in* D-00518
2,4-Dihydroxybenzaldehyde; Thiosemicarbazone, *in* D-00517
2,4-Dihydroxybenzenecarbodithioic acid, D-00522
2,4-Dihydroxybenzophenone; Semicarbazone, *in* D-00536
4,4'-Dihydroxy-2,2'-biquinoline, D-00545
4,5-Dihydroxy-3,6-bis(8-quinolylazo)-2,7-naphthalenedisulfonic acid, D-00561
▷ 3,4-Dihydroxy-3-cyclobutene-1,2-dione, D-00569
4,4'-Dihydroxy-2,2'-diaminobiphenyl-*N,N,N',N'*-tetraacetic acid; Tetra-Na salt, *in* D-00572
4,5-Dihydroxy-3,6-dinitroso-2,7-naphthalenedisulfonic acid, D-00583
4,5-Dihydroxy-3-[(2,4-disulfophenyl)azo]-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00607
5,7-Dihydroxyflavone, D-00612
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00618
4,5-Dihydroxy-3-[(2-hydroxy-5-sulfophenyl) azo]-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, D-00632
3,4-Dihydroxy-10-imino-9(10*H*)-anthracenone, D-00634
5,6-Dihydroxynaphtho[2,3-*f*]quinoline-7,12-dione, D-00661
4,5-Dihydroxy-3-[(*p*-nitrophenyl)azo]-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, D-00668
4,5-Dihydroxy-3-nitroso-2,7-naphthalenedisulfonic acid, D-00672
15,16-Dihydroxy-7-phenyl-5*H*-dibenzo[*b,i*][1,11,4,5,7,8] dioxatetraazacyclotridecine, D-00709
1-(2,4-Dihydroxyphenyl)-1-pentanone; Oxime, *in* D-00714
▷ 2,6-Dihydroxy-4-pyridinecarboxylic acid, D-00721
4,5-Dihydroxy-3-[(2-pyridinyl)azo]-2,7-naphthalenedisulfonic acid, D-00722
6,7-Dihydroxy-5-(2-pyridinylazo)-2-naphthalenesulfonic acid; Na salt, *in* D-00724
o-[[1,8-Dihydroxy-7-(8-quinolylazo)-3,6-disulfo-2-naphthyl]azo]benzoic acid, D-00726
8-[[1,8-Dihydroxy-7-(8-quinolylazo)-3,6-disulfo-2-naphthyl]azo]-1,6-naphthalenedisulfonic acid, D-00727
4,5-Dihydroxy-3-(8-quinolylazo)-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00728
4,5-Dihydroxy-3-(8-quinolylazo)-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00729
▷ 2,3-Dimercapto-1-propanol, D-00763
4,4'-Dimethoxy-2,2'-diaminobiphenyl-*N,N,N',N'*-tetraacetic acid, *in* D-00572
4,7-Dimethoxy-1,10-phenanthroline, *in* D-00685
5,6-Dimethoxy-1,10-phenanthroline, *in* D-00686
6-(Dimethylamino)-2,3-dihydro-1,4-phthalazinedione, *in* A-00156
4-[[5-(*p*-Dimethylamino)phenyl]azo]-5-methylimidazole, D-00809
(2,5-Dimethylbenzenesulfonylamino) quinoline, D-00833
6,7-Dimethyl-2,3-bis(6-methyl-2-pyridinyl) quinoxaline, D-00842
5,5-Dimethyl-1,2,3-cyclohexanetrione; 2-Oxime, 3-thiosemicarbazone, *in* D-00848
2,9-Dimethyl-4,7-dihydroxy-1,10-phenanthroline, D-00850
2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline, D-00852
6,7-Dimethyl-2,3-di(2-pyridyl)quinoxaline, D-00855

4-(1,1-Dimethylethyl)-*N*-hydroxy-*N*-phenylbenzamide, *in* B-00619
5,5-Dimethyl-2,4-hexanedione, D-00863
3,3-Dimethyl-1,2-indanedione; Dioxime, *in* D-00868
5,6-Dimethyl-3-(4-methyl-2-pyridinyl)-1,2,4-triazine, D-00871
2,8-Dimethyl-4,6-nonanedione, D-00877
2,9-Dimethyl-1,10-phenanthroline, D-00880
2-[5,5-Dimethyl-3-[2-[(phenylamino)thioxomethylhydrazino]-2-cyclohexen-1-ylidene]]-*N*-phenylhydrazinecarbothioamide, *in* D-00847
5,6-Dimethyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazine, D-00895
3,5-Dimethyl-1*H*-pyrazole, D-00904
2-(3,5-Dimethyl-1-pyrazolyl)-8-quinolinol, D-00906
N,*N*-Dimethyl-4-(2-pyridinylazo)benzenamine, D-00909
5,6-Dimethyl-3-(2-pyridinyl)-1,2,4-triazine, D-00911
7,14-Dimethyl-5,7,12,14-tetraethyl-1,4,8,11-tetraazacyclotetradeca-4,11-diene, D-00919
2,4-Dimethyl-6-(1*H*-tetrazol-5-ylazo)phenol, D-00920
3-[(2,4-Dinitrophenyl)azo]-4,5-dihydroxy-6-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, D-00964
5-Dioctylaminomethyl-8-quinolinol, *in* A-00244
3,4-Dioxohexanedioic acid bis(thiosemicarbazide); Di-Et ester, *in* D-00990
4,4′-Diphenyl-2,2′-bipyrimidine, D-01003
▷ 2,2′-Diphenylcarbonothioic dihydrazide, D-01007
Diphenylethanedione mono(2-quinolinylhydrazone), D-01014
Diphenylethanedione mono(8-quinolinylhydrazone), D-01015
Diphenylethanedione monoxime, *in* B-00038
8-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo]quinoline, D-01025
2,9-Diphenyl-1,10-phenanthroline, D-01032
5,6-Diphenyl-3-(6-phenyl-2-pyridinyl)-1,2,4-triazine, D-01038
5,6-Diphenyl-3-(pyrazinyl)-1,2,4-triazine, D-01044
5,6-Diphenyl-3-(3-pyridazyl)-1,2,4-triazine, D-01045
4,6-Diphenyl-2-(2-pyridinyl)pyrimidine, D-01046
5,6-Diphenyl-3-(4-pyrimidinyl)-1,2,4-triazine, D-01047
O,*O*-Di-2-propenyl phosphorodithioate, D-01058
▷ *O*,*O*-Di-2-propynyl phosphorodithioate, D-01061
Di-2-pyridinylmethanone 2-chlorobenzoylhydrazone, D-01074
Di-2-pyridinylmethanone 3-chlorobenzoylhydrazone, D-01075
Di-2-pyridinylmethanone; Hydrazone, *in* D-01071
5,6-Di-2-pyridinyl-3-(4-pyrimidinyl)-1,2,4-triazine, D-01086
2,3-Di-2-pyridinylquinoxaline, D-01087
2,3-Di-2-pyridylbenzo[*g*]quinoxaline, D-01088
1,2-Di-2-pyridyl-1,2-ethanediol, D-01089
2,3-Di-2-pyridylpyrazine, D-01091
2,4-Di-2-pyridylpyrimidine, D-01092
4,6-Di-2-pyridylpyrimidine, D-01093
Di-2-pyridylquinazoline, D-01094
2,3-Di-2-pyridyl-6-quinoxalinecarboxylic acid, D-01095
2-[5,6-Di-(2-pyridyl)-1,2,4-triazin-3-yl]-1,10-phenanthroline, D-01098
N,*N*′-Di-(8-quinolinyl)-2,6-pyridinedicarboxamide, D-01104
Di-8-quinolyl disulfide, D-01105
1,3-Di-2-selenophenyl-1,3-propanedione, D-01106
▷ Disulfiram, D-01107
1,12-Di-2-thienyl-2,5,8,11-tetrathiadodecane, D-01115
N-(Dithiocarboxy)sarcosine, D-01126
1,1′-(Dithiodicarbonothioyl)bis[hexahydro-1*H*-azepine], D-01127
▷ 4,4′-(Dithiodicarbonothioyl)bismorpholine, D-01128
1,1′-(Dithiodicarbonothioyl)bis[octahydroazocine], D-01129
▷ 1,1′-(Dithiodicarbonothioyl)bispiperidine, D-01130
▷ Dithizone, D-01135
3-Dodecyl-1,5,9,13-tetraazacyclohexadecane, D-01156
3-Dodecyl-1,5,10,14-tetraazacyclooctadecane, D-01157
6-Dodecyl-1,4,8,11-tetraazacyclotetradecane, D-01158
Ecarazine hydrochloride, *in* T-00188
▷ Ethanediamine, E-00024
N,*N*′-1,2-Ethanediylbisalanine, E-00029
[1,2-Ethanediylbis[imino[(2-hydroxyphenyl)methylene]]]bisphosphonic acid, E-00030
[1,2-Ethanediylbis[imino(phenylmethylene)]]bisphosphonic acid, E-00031
1,2-Ethanediylbis[phenylcarbamodithioic acid]; Di-NH_4 salt, *in* E-00033
5,5′-(1,2-Ethanediyldinitrilo)bis[2,2-dimethyl-3-hexanone], E-00036
5-Ethoxy-2-(2-pyridinylazo)phenol, *in* P-00373
α-(Ethylamino)-*p*-(dimethylamino)benzylphosphonic acid; Et ester, *in* E-00064
[(Ethylamino)(2-hydroxyphenyl)methyl]phosphonic acid; Et ester, *in* E-00065
[Ethylenebis(iminobenzylidene)]diphosphinic acid, E-00074
4-Ethyl-*N*-hydroxy-*N*-phenylbenzamide, E-00093
4,4′-Ethylidenebis[3-methyl-2-isoxazolin-5-one], E-00094
5-Ethylidene-2-thioxo-4-imidazolidinone, E-00095
3-(4-Ethyl-2-pyridyl)-5,6-diphenyl-1,2,4-triazine, E-00110
4-Ethyl-*N*-(8-quinolinyl)benzenesulfonamide, E-00112
N-(5-Ethyl-1,3,4-thiadiazol-2-yl)-4-[3-methyl-5-(1-methyl-1*H*-benzimidazol-2-yl)-1-formazanyl]benzenesulfonamide, E-00117
Ethyl violet; Chloride, *in* E-00122
Fast sulphon black F; Na salt, *in* F-00002
2-Furancarboxaldehyde 2-benzothiazolylhydrazone, F-00044
2-Furancarboxaldehyde 3-bromobenzoylhydrazone, F-00045
2-Furancarboxaldehyde 4-bromobenzoylhydrazone, F-00046
1-(2-Furanyl)-3-(2-selenophenyl)-1,3-propanedione, F-00062
▷ Glycine, G-00016
Glycinecresol red, G-00017
Glycinedithiocarbamic acid, G-00018
Glyoxal bis(4-biphenylylthiosemicarbazone), G-00021
Glyoxal bis(4-fluorophenylthiosemicarbazone), G-00026
Hexabutylphosphorothioic triamide, *in* H-00020
Hexahydro-1*H*-azepine-1-carbodithioic acid; K salt, *in* H-00035
7,8,15,16,17,18-Hexahydrodibenzo[*e*,*m*][1,4,8,11]-tetraazacyclotetradecine, H-00044
▷ Hexamethylenetetramine, H-00057
5,7,7,12,14,14-Hexamethyl-1,4,8,11-tetraazacyclotetradeca-4,11-diene, H-00059
5,5,7,12,12,14-Hexamethyl-1,4,8,11-tetraazacyclotetradecane; (7*RS*,14*RS*)-*form*, *in* H-00060
1,2,5,8,11,14-Hexathiacyclohexadecane, H-00069
1,4,7,10,13,16-Hexathiacyclooctadecane, H-00070
O-Hexylbutylphosphonodithioate, *in* B-00638
▷ Hydrazinecarboxaldehyde, *in* F-00037
4′-Hydroxyacetophenone; Oxime, *in* H-00090
2′-Hydroxyacetophenone; Thiosemicarbazone, *in* H-00089
1-Hydroxyacridine, H-00091
4-Hydroxyacridine, H-00092
7-Hydroxy-8-(aminomethyl)coumarin-*N*-acetic acid, H-00096
7-Hydroxy-8-(aminomethyl)coumarin-*N*,*N*-diacetic acid, H-00097
2-Hydroxy-5-anisaldoxime, *in* D-00518
▷ 2-Hydroxybenzaldehyde, H-00101
2-Hydroxybenzaldehyde; Phenylhydrazone, *in* H-00101
▷ 7-Hydroxy-2*H*-1-benzopyran-2-one, H-00124
4-Hydroxybenzothiazole, H-00126
3-Hydroxy-1,3-bis(4-methylphenyl)triazene, H-00139
N-Hydroxy-*N*,*N*′-diphenylthiourea, *in* D-01055
3-Hydroxy-4-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, H-00198
α-(Hydroxyimino)benzenepropanoic acid, *in* O-00068
2-[[1-(Hydroxyimino)ethyl]azo]-1*H*-benzimidazole, H-00245
2-[[1-(Hydroxyimino)-2-methylpropyl]azo]-1-(phenylmethyl)-1*H*-benzimidazole, H-00246
α-(Hydroxyimino)-2-pyridineacetonitrile, H-00251
α-(Hydroxyimino)-2-quinolineacetonitrile, H-00252
N-Hydroxy-4-methoxy-*N*-phenylbenzamide, *in* D-00704
N-[7-Hydroxy-4-methyl-2-oxo-(2*H*)-1-(benzopyran-8-yl)methyl]glycine, H-00297
[[2-[(2-Hydroxy-5-methylphenyl)azo]phenyl]thio]acetic acid, H-00303
1-[[2-[(2-Hydroxy-5-methylphenyl)-*O*,*N*,*N*-azoxy]phenyl]azo]-2-naphthalenol, H-00305
N-Hydroxy-2-methyl-*N*-phenylbenzamide, H-00306
N-Hydroxy-4-methyl-*N*-phenylbenzamide, H-00307
1-(2-Hydroxy-5-methylphenyl)-3-(4-hydroxyphenyl)-2-propen-1-one; 4-Me ether, oxime, *in* H-00311
N-Hydroxy-*N*′-methyl-*N*-phenylthiourea, *in* T-00175
8-Hydroxy-2-methylquinoline, H-00326
6-Hydroxy-3-[(4-methyl-2-thiazolyl)azo]-2(1*H*)-pyridinone, H-00331
3-Hydroxy-4-[[2-(methylthio)phenyl]azo]-2,7-naphthalenedisulfonic acid, *in* H-00259
3-[(2-Hydroxy-1-naphthalenyl)azo]-1*H*-pyrazole-4-carboxylic acid, H-00353
2-[[(2-Hydroxy-1-naphthalenyl)methylene]amino]benzoic acid, H-00362
1-Hydroxy-2-naphthoic acid, H-00369
Hydroxynaphthol blue; Tri-Na salt, *in* H-00371
3-[(2-Hydroxy-1-naphthyl)azo]-4-pyrazolecarboxylic acid, H-00376
N-[[1-Hydroxy-4-(4-nitrophenylazo)-2-naphthyl]methyl]glycine, H-00397
2-[(2-Hydroxy-5-nitrophenyl)methylene]-*N*-phenylhydrazinecarbothioamide, *in* H-00380
2-Hydroxy-3-nitrosobenzoic acid, H-00406
2-[(3-Hydroxy-1-oxo-1*H*-inden-2-yl)imino]-1*H*-indene-1,3(2*H*)-dione, H-00433
N-Hydroxy-*N*′-phenyl-1*H*-benzimidazole-2-carboximidamide, *in* P-00102
▷ 2-(2-Hydroxyphenyl)benzoxazole, H-00467
N-(2-Hydroxyphenyl)-1-octanesulfonamide, H-00490
8-Hydroxy-2-phenylquinoline, H-00503

2-(3-Hydroxy-3-phenyl-1-triazenyl) benzothiazole, H-00508
3-(3-Hydroxy-3-phenyl-1-triazenyl)pyridine, H-00509
N-Hydroxy-*N*-phenyl-3-(trifluoromethyl) benzamide, H-00511
1-(8-Hydroxy-2-quinolyl)-2-(8-hydroxy-5-quinolyl)ethylene; B, 2HCl, *in* H-00534
1-(2-Hydroxy-5-sulfophenyl)-3-phenyl-5-(2-carboxyphenyl)formazan, H-00544
4-Hydroxy-3-[(2,3,5-trichloro-6-hydroxyphenyl)azo]-1-naphthalenesulfonic acid; Na salt, *in* H-00556
β-Iononethiosemicarbazone, *in* M-00010
Isonitrosoacetylacetone, *in* P-00030
▷ Isooctyl thioglycolate, *in* M-00016
2,2′-Isopropylidenebis(4-acetyl-8-hydroxyquinoline), I-00072
3-Isoquinolinecarboxaldehyde 3-quinolinylhydrazone, I-00083
3-Isoquinolinecarboximidic acid hydrazide, I-00086
3-(3-Isoquinolyl)-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, I-00090
Lucigenine; Dinitrate, *in* L-00012
Luminol, L-00014
Macrocyclic formazan I, M-00001
Macrocyclic formazan II, M-00002
Mandelic acid; (±)-*form*, *in* M-00007
▷ 2-Mercaptobenzimidazole, M-00022
Mercaptobutanedioic acid; (±)-*form*, *in* M-00026
2-Mercapto-4-methylphenol, M-00035
2-Mercapto-*N*-2-naphthylacetamide, M-00038
2-[(3-Mercaptophenyl)azo]-4-methylphenol, M-00041
4-Methoxybenzaldehyde phenylthiosemicarbazone, M-00076
4-Methoxybenzaldehyde; Thiosemicarbazone, *in* M-00075
6-Methoxy-2,3-bis(6-methyl-2-pyridyl) quinoxaline, *in* H-00140
6-Methoxy-2,3-di-2-pyridinylquinoxaline, *in* H-00172
▷ 2-Methoxyethanol, M-00087
3-Methoxy-2-methyl-6-(2-pyridinylazo) phenol, *in* M-00278
5-Methoxy-2-[(5-methyl-2-pyridinyl)azo] phenol, *in* M-00279
4-Methoxy-2-[(4-methyl-2-thiazolyl)azo] phenol, *in* M-00318
▷ 2-Methoxyphenol, M-00102
5-Methoxy-2-(2-pyridinylazo)phenol, *in* P-00373
▷ 4-Methyl-2*H*-1-benzopyran-2-one, M-00141
6-Methyl-2,3-bis(6-methyl-2-pyridinyl) quinoxaline, M-00146
Methylcalcein; Di-Na salt, *in* M-00152
2-Methyl-1,3-cyclohexanedione bis(phenylthiosemicarbazone), M-00158
2-Methyl-4,6-di-2-pyridinylpyrimidine, M-00167
6-Methyl-2,3-di-2-pyridylquinoxaline, M-00168
3-Methyl-1,2-indandione; Dioxime, *in* M-00194
4-Methyl-2-[[2-(methylthio)phenyl]azo] phenol, *in* M-00041
2-[(1-Methyl-3-oxobutylidene)amino] benzenesulfonic acid, M-00213
2-[(1-Methyl-3-oxobutylidene)amino] benzoic acid, M-00214
4-Methyl-2-[[2-[(phenylmethyl)thio]phenyl] azo]phenol, *in* M-00041
2-Methyl-4-phenyl-6-(2-pyridinyl) pyrimidine, M-00241
N-Methylpiperazinedithiocarbamic acid, *in* P-00238
4-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-1,3-benzenediol, M-00249
6-Methyl-2-pyridinecarboxamidoxime, *in* M-00271
6-Methyl-2-pyridinecarboximidic acid hydrazide, M-00270
3-(6-Methyl-2-pyridinyl)-5,6-diphenyl-1,2,4-triazine, M-00286
3-(4-Methyl-2-pyridinyl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, M-00288
5-[(6-Methyl-2-pyridinyl)methylene]-4-imidazolidinone; (*E*)-*form*, *in* M-00290
3-(4-Methyl-2-pyridinyl)-5-phenyl-1,2,4-triazine, M-00292
3-(4-Methyl-2-pyridinyl)-1,2,4-triazine, M-00294
3-(4-Methyl-2-pyridyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, M-00296
3-(4-Methyl-2-pyridyl)-5,6-diphenyl-1,2,4-triazine, M-00298
5-Methyl-2-(2-pyridyl)pyrimidine, M-00304
(4-Methyl-2-pyridyl)-1,2,4-triazino[5,6-*f*][4,7]-phenanthroline, M-00305
4-Methylsalicylaldoxime, *in* H-00276
N-Methyl-5,10,15,20-tetrakis(4-sulfophenyl) porphine, *in* P-00250
1-[(4-Methyl-2-thiazolyl)azo]-2-naphthalenol, M-00322
5-Methyl-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, M-00326
6-Methylthiopicolinamide, *in* M-00271
Methyltriphenylarsonium(1+); Chloride, *in* M-00334
2-Naphthalenecarboxaldehyde 2-benzothiazolylhydrazone, N-00004
Naphthol black 3B; Tetra-Na salt, *in* N-00028
1-Naphthyloxamic acid, N-00053
▷ Neocupferron; NH_4 salt, *in* N-00061
Neocuprizone, N-00062
5-Nitro-1,2-acenaphthylenedione; Dioxime, *in* N-00076
4-Nitro-*o*-anisaldoxime, *in* H-00379
2-Nitro-*p*-anisaldoxime, *in* H-00381
6-Nitro-2,3-di-2-pyridylquinoxaline, N-00107
2-[(4-Nitrophenyl)azo]phenol, N-00128
(4-Nitrophenyl)diazenecarboxylic acid 2-phenylhydrazide, N-00133
1-(4-Nitrophenyl)-5-phenylcarbazone, N-00141
(4-Nitrophenyl)phenylethanedione; Dioxime, *in* N-00142
2-[(5-Nitro-2-pyridinyl)azo]-1-naphthalenol, N-00148
1-(5-Nitro-2-pyridinyl)-3,5-diphenylformazan, N-00149
4,6-Nonanedione, N-00168
1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-amine, O-00008
1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecine, O-00009
4-[(1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-yl)azo]phenol, O-00010
6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e*,*n*][1,4,8,12] dioxadiazacyclopentadecine, O-00013
8,9,10,11,18,19,20,21-Octahydro-7*H*-dibenzo[*e*,*p*][1,4,8,14] tetraazacycloheptadecine, O-00017
7,8,9,10,17,18,19,20-Octahydrodibenzo[*e*,*o*][1,4,8,13] tetraazacyclohexadecine, O-00018
1,3,4,7,8,10,11,13-Octahydro-*N*-(2,4,6-trinitrophenyl)-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-amine, O-00032
1-Octanesulfonamido-2-naphthol, *in* A-00273
N-Octylethylenediaminetriacetic acid, *in* E-00079
5-[(Octyloxy)methyl]-8-quinolinol, O-00039
▷ Oxalic acid; Dihydrazide, *in* O-00048
Oxamidoxime, *in* O-00048
2,4-Pentanedione; *Oxo-form*, Dioxime, *in* P-00030
9,10-Phenanthraquinone; Dioxime, mono-Me ether, *in* P-00047
6-Phenanthridinecarboxaldehyde 2-benzothiazolylhydrazone, P-00049
6-Phenanthridinecarboxaldehyde 2-quinolinylhydrazone, P-00051
▷ Phenylacetic acid, P-00076
N-[(Phenylamino)thioxomethyl] benzenecarbothioamide, P-00088
4-Phenyl-3,6-bis(4-phenyl-2-pyridyl) pyridazine, P-00106
1-Phenyl-1,3-butanedione 3-[[6-phenyl-4-(phenylmethyl)-3-pyridazinyl] hydrazone], P-00108
2-Phenyl-4,6-di-2-pyridinylpyrimidine, P-00113
5-Phenyl-3,6-di-2-pyridyl-1,2,4-triazine, P-00114
4-Phenyl-3*H*-1,2-dithiole-3-thione, P-00115
5-Phenyl-3*H*-1,2-dithiole-3-thione, P-00116
N,*N*′-1,2-Phenylenebismethanesulfonamide, P-00118
1,1′-[1,3-Phenylene]bis-2-tetrazoline-5-thione, P-00122
3-Phenyl-1,2-indanedione; Dioxime, *in* P-00137
5-Phenyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazine, P-00158
5-Phenyl-3-(4-phenyl-2-pyridyl)-6-(2-pyridyl)-1,2,4-triazine, P-00160
4,4′,4″-(20-Phenyl-21*H*,23*H*-porphine-5,10,15-triyl)trisbenzenesulfonic acid, P-00166
5-(3-Phenyl-2-propenylidene)-2-thioxo-4-imidazolidinone, P-00170
3-Phenyl-1*H*-pyrazole-4,5-dione; 4-Oxime, *in* P-00173
N-Phenyl-2-pyridinecarboximidic acid (oxodiphenylethylidene)hydrazide, P-00174
3-(4-Phenyl-2-pyridinyl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, P-00176
3-(4-Phenyl-2-pyridyl)-5,6-di-2-pyridyl-1,2,4-triazine, P-00180
3-(6-Phenyl-2-pyridyl)-5,6-di-2-pyridyl-1,2,4-triazine, P-00181
4-Phenyl-2-(2-pyridyl)pyrimidine, P-00186
4-Phenyl-6-(2-pyridyl)pyrimidine, P-00187
5-Phenyl-2-(2-pyridyl)pyrimidine, P-00188
1-Phenyl-3-(selenophen-2-yl)-1,3-propanedione, P-00190
2-Phenylsemicarbazide, P-00192
N-Phenylthiobenzohydroxamic acid, P-00198
6-Phenyl-1,2,4-triazine-3(2*H*)-thione, P-00205
6-(5-Phenyl-1,2,4-triazin-3-yl)-2,2′-bipyridine, P-00206
2-(5-Phenyl-1,2,4-triazin-3-yl)-1,10-phenanthroline, P-00207
Phosphoramidothioic acid *O*,*O*-bis(1-methylethyl)ester, P-00215
Picriminazosulfoxine, P-00234
▷ Poly(vinyl alcohol), P-00249
4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakis[1-methylpyridinium]; Tetrakis(*p*-toluenesulfonate), *in* P-00252
Proline; (*R*)-*form*, *in* P-00257
2-Propanoyl-1-naphthol; Oxime, *in* P-00267
▷ 2-Propylamine, P-00274
5-Propylidene-2-thioxo-4-imidazolidinone, P-00278
2(1*H*)-Pyrazinone (phenylpyrazinylmethylene)hydrazone, P-00290
3-Pyrazinyl-5,6-di-2-pyridyl-1,2,4-triazine, P-00297
3-(Pyrazinyl)-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, P-00301
1-(1*H*-Pyrazol-3-ylazo)-2-naphthalenol, P-00303
3-(3-Pyridazyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, P-00313
3-(3-Pyridazyl)-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, P-00315
2-Pyridinecarboxaldehyde diphenylsemicarbazone, P-00323
2-Pyridinecarboxaldehyde (1-mercapto-2-naphthalenyl)hydrazone, P-00327
2-Pyridinecarboxaldehyde 3-quinolinylhydrazone, P-00338
2,6-Pyridinediacetoxime, *in* P-00352
2(1*H*)-Pyridinone [[(3-methoxyphenyl)azo] phenylmethylene]hydrazone, P-00359

2(1*H*)-Pyridinone [[(4-methoxyphenyl)azo] phenylmethylene]hydrazone, P-00360
2(1*H*)-Pyridinone [[(4-methylphenyl)azo] phenylmethylene]hydrazone, P-00361
2(1*H*)-Pyridinone [[(3-nitrophenyl)azo] phenylmethylene]hydrazone, P-00362
2(1*H*)-Pyridinone [[(4-nitrophenyl)azo] phenylmethylene]hydrazone, P-00363
2(1*H*)-Pyridinone [phenyl(phenylazo) methylene]hydrazone, P-00364
4-(2-Pyridinylazo)-1,3-benzenediol, P-00373
2-(2-Pyridinylazo)-1-naphthalenol, P-00375
1-(2-Pyridinylazo)-2-phenanthrenol, P-00377
7-(2-Pyridinylazo)-8-quinolinol, P-00381
1-(2-Pyridinyl)-3,5-diphenylformazan, P-00387
N-2-Pyridinyl-2-pyridinecarboximidic acid (oxodiphenylethylidene)hydrazide, P-00400
1-(2-Pyridinyl)-2-(2-pyrimidinyl)ethanone 2-pyrimidinylhydrazone, P-00406
3-(2-Pyridinyl)-1,2,4-triazine, P-00411
Pyridoin phenylhydrazone, P-00413
1-(2-Pyridyl)-1-hexanone; Oxime, *in* P-00418
2-(2-Pyridyl)quinazoline, P-00423
1-(2-Pyridyl)-5-(4-sulfophenyl)-3-phenylformazan, P-00424
2-Pyridyl-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, P-00425
2-(2-Pyrimidinylazo)-1-naphthalenol, P-00430
▷ 2,5-Pyrrolidinedione, P-00442
5-(1*H*-Pyrrol-2-ylmethylene)-2-thioxo-4-imidazolidinone, P-00444
2-Quinolinecarboxaldehyde 2-quinolinylhydrazone, Q-00014
2-Quinolinecarboxaldehyde 8-quinolinylhydrazone, Q-00015
▷ 2-Quinolinecarboxylic acid, Q-00017
1-(2-Quinolinylazo)-2-phenanthrenol, Q-00031
α-(2-Quinolinylhydrazono) benzenepropanoic acid, Q-00035
2-(2-Quinolyl)benzimidazole, Q-00037
3-(2-Quinolyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, Q-00038
3-(2-Quinolyl)-5,6-diphenyl-1,2,4-triazine, Q-00039
Sarcosine cresol red, S-00004
1-(2-Selenophenyl)-3-(2-thienyl)-1,3-propanedione, S-00008
Selenoylacetone, S-00010
Solochrome red B, S-00021
3,3′-Sulfonylbis[*N*-8-quinolylbenzenesulfonamide], S-00055
▷ Tetraethylenepentamine, T-00044
5,6,7,8-Tetrahydro-2,4-bis(2-pyridyl) quinazoline, T-00054
1,2,3,4-Tetrahydro-1-hydroxyiminophenazine, *in* D-00466
6,7,9,10-Tetrahydro-18-phenyl-16*H*-dibenzo[*b*,*l*][1,11,14,4,5,7,8] trioxatetraazacyclohexadecine, T-00065
5,6,17,18-Tetrahydrotetrabenzo[*b*,*f*,*j*,*n*]-1,5,9,13-tetraazacyclohexadecine, T-00068
2,2′,3,3′-Tetrakis(6-methyl-2-pyridyl)-6,6′-biquinoxaline, T-00088
5,5′,6,6′-Tetramethyl-3,3-bi(1,2,4-triazine), T-00093
▷ Tetramethylthiodicarbonic diamide, T-00105
▷ Tetramethylthiuram disulfide, T-00106
meso-Tetraphenylporphyrin, T-00121
1,4,8,11-Tetrathiacyclotetradecane, T-00126
2,2′-(2,5,8,11-Tetrathiadodecane-1,12-diyl) bis[5-chlorothiophene], T-00127
2,2′-(2,5,8,11-Tetrathiadodecane-1,2-diyl) bis[5-methylthiophene], T-00128
3,6,10,13-Tetrathiapentadecane, T-00129
3,6,9,12-Tetrathia-1,14-tetradecanedithiol, T-00130
5-(2-Thienylmethylene)-2-thioxo-4-imidazolidinone, T-00152
▷ Thiobenzoic acid, T-00155
2,2′-Thiobisethanamine; B,2HCl, *in* T-00156
S-(Thiocarbamoyl)dithiophosphoric acid; *O*,*O*′-Di-Et, *in* T-00161
S-(Thiocarbamoyl)dithiophosphoric acid; *O*,*O*′-Di-Me, *in* T-00161
S-(Thiocarbamoyl)dithiophosphoric acid; *O*,*O*′-Dipropyl, *in* T-00161
2-Thiophenecarboxaldehyde 2-benzothiazolylhydrazone, T-00170
2-Thiophenecarboxaldehyde; Thiosemicarbazone, *in* T-00169
Thymol blue, T-00181
6,8-Tridecanedione, T-00228
▷ Triethylenetetramine, T-00232
Trifluoroethylxanthic acid; K salt, *in* T-00247
4,4,4-Trifluoro-1,2-furanyl-1,3-butanedione, T-00248
1,1,1-Trifluoro-2,4-pentanedione, T-00257
4,4,4-Trifluoro-1-selenophen-2-yl-1,3-butanedione, T-00263
N,*N*′,*N*″-Trihexylphosphorothioic triamide, T-00267
▷ Triphenyl phosphite, T-00371
3,5,6-Tri-2-pyridinyl-1,2,4-triazine, T-00382
5,7-Undecanedione, U-00001

Fluorine: fluoride

▷ Alizarine fluorine blue, A-00076
Alizarine fluorine blue S; K salt, *in* A-00077
Alizarine red S; Na salt, *in* A-00081
▷ Aluminon, *in* A-00458
▷ Amaranth, A-00087
4-Aminoazobenzene-4′-arsonic acid; *N*-Di-Me, *in* A-00095
3-(Aminomethyl)-1,2,5,8-tetrahydroxyanthraquinone-*N*,*N*-diacetic acid, A-00256
C.I. Basic blue 20; Dichloride, *in* C-00002
Carboxyarsenazo, C-00026
▷ Chlorotriphenylstannane, C-00271
Chromotropic acid, C-00294
▷ 2,5-Dichloro-3,6-dihydroxy-1,4-benzoquinone, D-00262
▷ 2′,4′-Dihydroxyacetophenone, D-00507
▷ 1,2-Dihydroxyanthraquinone, D-00510
2-(1,8-Dihydroxy-3,6-disulfo-2-naphthylazo)phenoxyacetic acid; Di-Na salt, *in* D-00601
4,5-Dihydroxy-3-[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid; Tri-Na salt, *in* D-00736
Eriochrome cyanine R; Tri-Na salt, *in* E-00013
Glycinethymol blue, G-00019
▷ Haematoxylin; (+)-*form*, *in* H-00002
▷ 2-Hydroxybenzoic acid, H-00112
4-Hydroxy-3-biphenylcarboxylic acid, H-00132
3-Hydroxy-4-[(2-hydroxy-4-sulfo-1-naphthalenyl)azo]-2-naphthalenecarboxylic acid, H-00242
▷ 8-Hydroxy-7-iodo-5-quinolinesulfonic acid, H-00255
p-[(2-Hydroxy-1-naphthyl)azo]benzoic acid, H-00375
4-(3-Hydroxy-3-phenyl-1-triazenyl) benzenesulfonic acid, H-00506
▷ 2-Hydroxy-5-sulfobenzoic acid, H-00538
Tetraphenylstibonium(1+), T-00122
Thorium chloroanilate, *in* D-00262
▷ Trichloroacetic acid, T-00218
Trypan blue; Tetra Na salt, *in* T-00433

Gallium

Adogen 364, A-00065
Alizarine yellow G; Na salt, *in* A-00082
5-Amino-3-[(3-chloro-2-hydroxy-5-nitrophenyl)azo]-4-hydroxy-2,7-naphthalenedisulfonic acid, A-00137
5-Amino-4-hydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* A-00187
5-Amino-4-hydroxy-3-[(2-hydroxy-3-nitro-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00192
4-[[(4-Amino-2-hydroxyphenyl)]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00209
Aminooxoacetic acid [(2-hydroxyphenyl) methylene]hydrazide, A-00292
5-Amino-2-(2-quinolinylazo)phenol, A-00344
3-[[3-(Aminosulfonyl)-1-hydroxy-2-naphthalenyl]azo]-2-hydroxy-5-nitrobenzenesulfonic acid, A-00348
7-[[5-(Aminosulfonyl)-2-hydroxyphenyl] azo]-8-hydroxy-1,6-naphthalenedisulfonic acid, A-00349
Arsenazo AE, A-00404
Astrazon blue B; Chloride, *in* A-00452
N-Benzylaniline, B-00165
2-[Bis(carboxymethyl)amino]benzoic acid, B-00276
4,4′-Bis(3,4-dihydroxyphenylazo)biphenyl, B-00302
Bis[(2,3-dihydroxyphenyl)methylene] carbonothioic dihydrazide, B-00308
Bis[[3-hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]carbonic dihydrazide, B-00375
1,5-Bis(2-hydroxyphenyl)-3-cyanoformazan, B-00388
9-(4-Bromophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, B-00558
N-(5-*tert*-Butyl-2-hydroxybenzylidene)-2-hydroxy-5-methylaniline, B-00632
C.I. Mordant blue 18, *in* A-00139
▷ (±)-Camphoric acid, *in* T-00325
▷ 2-Chlorobenzoic acid, C-00066
5-Chloro-3-[(5-dodecyl-2,4-dihydroxyphenyl)azo]-2-hydroxybenzenesulfonic acid, C-00113
5-Chloro-2-hydroxybenzaldehyde; Thiosemicarbazone, *in* C-00122
4-Chloro-2-hydroxy-*N*-(2-hydroxybenzylidene)aniline, C-00129
7-[(5-Chloro-2-hydroxyphenyl)azo]-8-hydroxy-1,6-naphthalenedisulfonic acid, C-00147
5-[(4-Chlorophenyl)azo]-8-quinolinol, C-00206
Chrome dark BLN; Na salt, *in* C-00280
Chrome dark green BGN; Na salt, *in* C-00281
Chrome dark green BN; Na salt, *in* C-00282
Chromoxane violet R, *in* E-00015
Cotarnilfluorone, C-00302
▷ Cyclohexanone, C-00347
▷ Dibutyl phosphate, D-00237
4-[[4-(Diethylamino)-2-hydroxyphenyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, D-00320
1,2-Dihydro-1,5-dimethyl-2-phenyl-4-[5-(1,2,3-trihydroxyphenyl)azo]-3*H*-pyrazol-3-one, D-00394
1,2-Dihydro-4-[(2-hydroxy-5-methylphenyl) methyleneamino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00410
1,2-Dihydro-4-[(1-hydroxy-2-naphthalenyl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00414
1,2-Dihydro-4-[[(2-hydroxy-1-naphthalenyl) methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00417
1,2-Dihydro-4-[(4-hydroxyphenyl)azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00419
1,2-Dihydro-4-[[(2-hydroxyphenyl) methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00420
1,2-Dihydro-4-[[(4-hydroxyphenyl) methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00421

1,2-Dihydro-4-[[(4-methoxyphenyl) methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00428
2,4-Dihydroxybenzaldehyde; Formylhydrazone, *in* D-00517
2,4-Dihydroxybenzaldehyde; Semicarbazone, *in* D-00517
6,7-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+); Chloride, *in* D-00576
7,8-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+); Chloride, *in* D-00577
4,5-Dihydroxy-3-[(3,5-dinitro-2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00581
7,8-Dihydroxy-2,4-diphenyl-1-benzopyrylium(1+); Chloride, *in* D-00585
4-[(1,7-Dihydroxy-2-naphthalenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00659
2-[(3,4-Dihydroxyphenyl)azo]benzoic acid, D-00689
3-[(2,4-Dihydroxyphenyl)azo]-4-hydroxybenzenesulfonic acid, D-00693
2-(3,4-Dihydroxyphenylazo)-4-phenyl-5-benzoylthiazole, D-00699
[2-[[(2,4-Dihydroxyphenyl)methylene] amino]phenyl]arsonic acid, D-00711
▷ Diisopropyl ether, D-00748
4-[[[4-(Dimethylamino)phenyl]methylene] amino]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00818
4-[(3,5-Dinitro-2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00953
1-[(3,5-Dinitro-2-hydroxyphenyl)azo]-2-naphthol, D-00954
Di-2-pyridinylmethanone 2-furoylhydrazone, D-01077
Eriochrome geranol; Di-Na salt, *in* E-00015
4,4′-[1,2-Ethenediylbis[2-(aminomethyl) phenol]]-*N*,*N*,*N*′,*N*′-tetraacetic acid; (*E*)-*form*, *in* E-00042
4-Ethoxy-2-hydroxy-*N*-salicylideneaniline, *in* D-00614
4-[[4-(Ethylamino)-6-hydroxy-*m*-tolyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, *in* A-00196
▷ Gallocyanine; Chloride, *in* G-00005
▷ Haematein, H-00001
4-[(2-Hydroxy-3,5-dinitrophenyl)azo]-1,3-benzenediol, H-00160
2-Hydroxy-*N*-(2-hydroxybenzylidene)-4-methylaniline, H-00190
2-Hydroxy-*N*-(2-hydroxybenzylidene)-5-methylaniline, H-00191
2-Hydroxy-*N*-(2-hydroxy-5-ethylbenzylidene)aniline, H-00201
2-Hydroxy-*N*-(2-Hydroxy-5-ethylbenzylidene)-5-methylaniline, H-00202
2-Hydroxy-*N*-(2-hydroxy-3-methylbenzylidene)aniline, H-00210
2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)aniline, H-00211
2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)aniline, H-00212
2-Hydroxy-*N*-(2-hydroxy-3-methylbenzylidene)-5-methylaniline, H-00213
2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)-4-methylaniline, H-00214
2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)-5-methylaniline, H-00215
2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)-4-methylaniline, H-00216
2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)-5-methylaniline, H-00217
2-[[3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]-2′-[(2-hydroxyphenyl)methylene]carbonic acid dihydrazide, H-00218
8-Hydroxy-7-[(2-hydroxy-4-nitrophenyl) azo]-1,6-naphthalenedisulfonic acid, H-00227
8-Hydroxy-7-[(2-hydroxy-5-nitrophenyl) azo]-1,6-naphthalenedisulfonic acid, H-00228
5-Hydroxy-6-[(2-hydroxy-5-nitro-3-sulfophenyl)-azo]-1-naphthalenesulfonic acid, H-00230
5-Hydroxy-8-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-1-naphthalenesulfonic acid, H-00231
8-Hydroxy-7-[(2-hydroxyphenyl)azo]-1,6-naphthalenedisulfonic acid, H-00233
2-Hydroxy-*N*-(2-hydroxy-5-phenylbenzylidene)aniline, H-00234
2-Hydroxy-*N*-(2-hydroxy-5-phenylbenzylidene)-5-methylaniline, H-00235
3-Hydroxy-4-[[(2-hydroxyphenyl)methylene] amino]benzoic acid, H-00239
4-Hydroxy-3-[[(2-hydroxyphenyl)methylene] amino]benzoic acid, H-00240
2-Hydroxy-4-methoxy-*N*-salicylideneaniline, *in* D-00614
2-Hydroxy-5-methylbenzaldehyde; Thiosemicarbazone, *in* H-00277
2-[(2-Hydroxy-4-methylphenyl)methylene] hydrazinecarboxamide, *in* H-00276
2-[[(2-Hydroxyphenyl)methylene]amino]-9*H*-fluoren-3-ol, H-00477
2-[[[(2-Hydroxyphenyl)methylene]amino] methyl]phenol, H-00478
[2-[[(2-Hydroxyphenyl)methylene]amino] phenyl]arsonic acid, H-00479
▷ 8-Hydroxyquinoline, H-00525
Magneson IREA, M-00004
Meldola's blue; Chloride, *in* M-00011
2-Methyl-4-[(4-methyl-2-thiazolyl)azo]-1,3-benzenediol, M-00202
Naphthylazoxine 4,8S, N-00044
Naphthylazoxine 4S, N-00043
Naphthylazoxine 5,7S, N-00046
Naphthylazoxine 5S, N-00045
Nevazol NS, N-00067
Phenosafrazo blue, P-00071
[1,4-Phenylenebis(methylene)] bis[dioctylphosphine oxide], P-00120
9,9′-(1,4-Phenylene)bis[2,6,7-trihydroxy-3*H*-xanthen-3-one], P-00125
2-Pyridinecarboxaldehyde 2-furoylhydrazone, P-00324
2(1*H*)-Pyridinone [2-phenyl-1-(2-pyridinyl) ethylidene]hydrazone, P-00365
4-(2-Pyridinylazo)-1,3-benzenediol, P-00373
1-(2-Pyridinylazo)-2-naphthalenol, P-00374
2-(2-Pyridinyl)-1*H*-benzimidazole, P-00385
Pyrocatechol violet, P-00433
Rhodamine B, *in* R-00002
Rhodamine 4G, *in* R-00005
Rhodamine 3G0; Chloride, *in* R-00004
Solochrome red ERS, S-00022
Sulfochlorophenol R, S-00044
Sulfonitrophenol R, S-00053
Tetrabutyl 1,2-ethanediylbisphosphonate, *in* E-00026
2,3,7,8-Tetrahydroxyphenazine, T-00079
▷ Thionine hydrochloride, *in* L-00003
2,6,7-Trihydroxy-9-pentadecyl-3*H*-xanthen-3-one, T-00307
4-[(2,4,6-Trihydroxyphenyl)azo]-3-hydroxy-1-naphthalenesulfonic acid, T-00312
Victoria pure blue BO; Chloride, *in* V-00004
Xylenol orange, X-00006

Germanium

Anisylfluorone, A-00372
▷ Brilliant green; Hydrogen sulfate, *in* B-00479
[5-Chloro-3-[(2,4-dihydroxyphenyl)azo]-2-hydroxyphenyl]arsonic acid, C-00096
▷ Cordycepic acid, *in* M-00008
4,5-Dihydro-1*H*-pyrazole-3,4-dicarboxylic acid; Diamide, *N*-di-Me, *in* D-00480
▷ 1,2-Dihydroxyanthraquinone, D-00510
6,7-Dihydroxy-3(2*H*)-benzofuranone, D-00530
6,7-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+); Chloride, *in* D-00576
6,7-Dihydroxy-2,4-diphenyl-1-benzopyrylium(1+); Chloride, *in* D-00584
2-(3′,4′-Dihydroxyphenyl)azo-3-cyano-4-methyl-5-ethoxycarbonylthiophene, *in* C-00326
2-(3,4-Dihydroxyphenylazo)-4-phenyl-5-benzoylthiazole, D-00699
9-[4-(Dimethylamino)phenyl]-2,6,7-trihydroxy-3*H*-xanthen-3-one, D-00824
4-(Diphenylmethylene)-2-hydroxy-1(4*H*)-naphthalenone, D-01029
Gossypol; (±)-*form*, *in* G-00041
▷ 1,1′-Iminodianthraquinone, I-00011
▷ Purpurogallin, P-00282
▷ 1,2,5,8-Tetrahydroxy-9,10-anthraquinone, T-00070
▷ 1,2,4-Trihydroxyanthraquinone, T-00270
2,3,4-Trihydroxybenzoic acid, T-00276
4-(2,6,7-Trihydroxy-3-oxo-3*H*-xanthen-9-yl)-1,3-benzenedisulfonic acid, T-00304
2,6,7-Trihydroxy-9-phenyl-3*H*-xanthen-3-one, T-00315
2,6,7-Trihydroxy-9-(2-sulfophenyl)-3*H*-xanthen-3-one, T-00322
▷ Trioctylamine, T-00357

Gold

▷ Acetanilide, *in* A-00368
▷ Acetic acid 2-phenylhydrazide, *in* P-00134
▷ Acet-*o*-toluidide, *in* M-00123
9-Amino-2,3-dihydrobenzo[*f*]phthalazine-1,4-dione, A-00151
6-Amino-2,3-dihydro-1,4-phthalazinedione, A-00156
▷ 2-Amino-4,6-dinitrophenol, A-00164
7-Amino-1-hydroxy-3*H*-phenoxazin-3-one, A-00208
5-Amino-11-methyl-9*H*-benzo[*a*] phenoxazin-9-one, A-00236
7-Amino-1-methyl-3*H*-phenoxazin-3-one, A-00247
3-[(3-Amino-4-oxo-2-thioxo-5-thiazolidinyl) azo]-2-hydroxy-5-nitrobenzenesulfonic acid, *in* H-00391
▷ 2-Amino-3*H*-phenoxazin-3-one, A-00303
7-Amino-3*H*-phenoxazin-3-one, A-00304
Astra violet 3R; Chloride, *in* A-00451
Astrazon pink FG; Chloride, *in* A-00454
4,4′-Bis(dimethylamino)-3,3′-dimethylbiphenyl, *in* D-00083
N,*N*′-Bis(1,1-dimethylethyl)thiourea, *in* T-00175
▷ Bis(2-ethylhexyl) phosphate, B-00352
1,2-Bis(hexylthio)ethane, B-00359
▷ 2-Butanone, B-00608
4-(1-Butylpentyl)pyridine, B-00635
3-(Carboxymethylthio)-1,5-diphenylformazan, C-00034
4-Chloro-2-[[(2-hydroxyphenyl)methylene] amino]phenol, C-00150
▷ Chlorpromazine, C-00273
Cupron, *in* B-00068
1,4-Diaminoanthraquinone-2,3-disulfonic acid; Di-Na salt, *in* D-00044
▷ 1,4-Diaminobenzene, D-00048
▷ 4,4′-Diaminobiphenyl, D-00053
4,4′-Diamino-3-methylbiphenyl; B, HCl, *in* D-00102
6-(Diethylamino)-2,3-dihydro-1,4-phthalazinedione, *in* A-00156
5-[[4-(Diethylamino)phenyl]methylene]-2-thioxo-4-thiazolidinone, D-00334
1,2-Dihydro-4-[(2-hydroxynaphthalenyl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00415
1,2-Dihydro-4-[(4-hydroxyquinolin-8-yl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00423
1,3-Dihydro-2*H*-purine-2-thione, D-00478

3,4-Dihydro-4,4,6-trimethyl-1-(2,4,6-trichlorophenyl)-2(1*H*)-pyrimidinethione, D-00505
▷ Diisopropyl ether, D-00748
6-(Dimethylamino)-2,3-dihydro-1,4-phthalazinedione, *in* A-00156
7-(Dimethylamino)-1-hydroxy-3*H*-phenoxazin-3-one, D-00786
7-(Dimethylamino)-1-methyl-3*H*-phenoxazin-3-one, D-00792
▷ 2,5-Dimethylaniline; *N*-Ac, *in* D-00828
3,3-Dimethyl-1,2-indanedione; Dioxime, *in* D-00868
N,*N*′-Diphenylbenzamidine, D-01001
2-(Diphenylmethyl)pyridine, D-01030
5-(Di-2-pyridinylmethylene)-2-thioxo-4-imidazolidinone, D-01085
2,2′-Dipyridyl-α-glyoxime, *in* D-01063
2-[5,6-Di-(2-pyridyl)-1,2,4-triazin-3-yl]-1,10-phenanthroline, D-01098
Di(2-thenoyl)ketoxime, *in* D-01113
5-(*p*-Ethoxyanilino)-5,6-dihydrouracil, E-00052
5-Ethyl-*N*-phenyl-2-pyridinecarbothioamide, *in* E-00108
▷ Formaldehyde, F-00035
▷ Formic acid, F-00037
▷ Glycine, G-00016
4-Heptanone; Oxime, *in* H-00012
▷ Hydrazinecarboxaldehyde, *in* F-00037
4-(4-Hydroxy-3-methoxybenzylidene)-3-methyl-5(4*H*)-isoxazolone, H-00266
5-Hydroxy-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, H-00280
2-Hydroxy-5-nitro-3-[(4-oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid, H-00391
2-Hydroxy-5-nitro-3-[(2-thioxo-4-oxopyrrolidinyl)azo]benzenesulfonic acid, H-00423
5-[(2-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, H-00460
5-[(3-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, H-00461
5-[(4-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, H-00462
▷ Isooctyl thioglycolate, *in* M-00016
Isopropyltriphenylphosphonium(1+); Chloride, *in* I-00079
Maxilon blue GRL; Chloride, *in* M-00009
▷ 2-Mercaptobenzimidazole, M-00022
5-Mercapto-3-(2-naphthyl)-1,3,4-thiazole-2-thione, M-00039
4-Methoxybenzaldehyde phenylthiosemicarbazone, M-00076
5-Methoxy-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, M-00089
2-(4-Methoxyphenyl)-5,7-diphenyl-1,3,4-thiadiazolo[3,2-*a*]pyridin-4-ium(1+); Chloride, *in* M-00108
▷ 4-Methylaniline; *N*-Ac, *in* M-00124
11-Methyl-9*H*-benzo[*a*]phenoxazin-9-one, M-00140
3-Methyl-1,2-indandione; Dioxime, *in* M-00194
▷ Methyl methacrylate, *in* M-00256
▷ 4-Methyl-2-pentanone, M-00218
5-[(6-Methyl-2-pyridinyl)methylene]-4-imidazolidinone; (*E*)-*form*, *in* M-00290
Naphthalene green; Chloride, *in* N-00013
N-1-Naphthylacetamide, *in* N-00041
1,5-Naphthyridine, N-00056
1,5-Naphthyridine; B,H_2SO_4, *in* N-00056
5-[(4-Nitrophenyl)azo]-4-thioxo-2-selenazolidinone, N-00131
2-Nonylpyridine; *N*-Oxide, *in* N-00169
1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecine, O-00009
4-[(4-Oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid, O-00076
▷ Pericyazine, P-00044
o-Phenolazothiohydantoin, P-00061
9-Phenylbenzo(1,2)quinolizino[3,4,5,6-*def*]phenanthridinium(1+); Perchlorate, *in* P-00105
4-Phenyl-3*H*-1,2-dithiole-3-thione, P-00115
5-Phenyl-3*H*-1,2-dithiole-3-thione, P-00116
1,1′-[1,3-Phenylene]bis-2-tetrazoline-5-thione, P-00122
1,1′-[1,4-Phenylene]bis-2-tetrazoline-5-thione; Di-Na salt, *in* P-00123
2-Phenylethenylphosphonic acid, P-00129
3-Phenyl-1,2-indanedione; Dioxime, *in* P-00137
3-[(Phenylmethylene)amino]-2-thioxo-4-thiazolidinone, P-00146
▷ Piperazine, P-00237
▷ Polyethylene glycol, P-00247
▷ Pyridine *N*-oxide, P-00356
N-2-Pyridinylbenzamide, *in* A-00333
N-2-Pyridinylbenzenecarbothioamide, P-00383
▷ Pyronine G; Chloride, *in* P-00435
▷ Pyrrole, P-00436
5-(1*H*-Pyrrol-2-ylmethylene)-2-thioxo-4-imidazolidinone, P-00444
Rhodamine B, *in* R-00002
▷ Tetrabutylammonium(1+); Bromide, *in* T-00023
O-(2,2,2-Trifluoroethyl)carbonodithioate, T-00246
Trifluoroethylxanthic acid; K salt, *in* T-00247
▷ Triflupromazine hydrochloride, *in* F-00010
2,4,6-Triphenylpyrylium(1+); Chloride, *in* T-00374

Hafnium

▷ Arsenazo III, A-00412
▷ 1,2,4,5-Benzenetetracarboxylic acid, B-00029
▷ 1,2,4-Benzenetricarboxylic acid, B-00032
1,3,5-Benzenetricarboxylic acid, B-00033
4,4′-Bis(3,4-dihydroxyphenylazo)biphenyl, B-00302
Bis(1-*p*-sulfophenyl-2,3-dimethylpyrazol-5-on-4-yl)methane, B-00456
2-[(6-Bromo-2-benzothiazolyl)azo]-5-(diethylamino)phenol, *in* A-00123
Cannabiscitrin, *in* H-00055
1,2-Dihydro-4-[[(2-hydroxyphenyl)methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00420
[2-[[(2,4-Dihydroxyphenyl)methylene]amino]phenyl]arsonic acid, D-00711
▷ Haematein, H-00001
3-Hydroxy-2-naphthalenecarboxylic acid [[3-hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]hydrazide, H-00341
▷ 3-Hydroxy-2-phenyl-4*H*-1-benzopyran-4-one, H-00466
[2-[[(2-Hydroxyphenyl)methylene]amino]phenyl]arsonic acid, H-00479
2-Hydroxy-3-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, H-00557
2-Hydroxy-4-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, H-00558
3-Hydroxy-2-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, H-00559
Mandelic acid; (±)-*form*, *in* M-00007
▷ 2-Nitrobenzoic acid, N-00091
▷ 3-Nitrobenzoic acid, N-00092
3,5,7,3′,4′-Pentahydroxyflavone-6′-sulfonic acid, P-00027
Primene JM T, P-00255
3-Pyridine-[2-(hydroxyimino)-1-methylpropylidene]carboxylic acid, P-00355
4,4,4-Trifluoro-1-selenophen-2-yl-1,3-butanedione, T-00263

Indium

8-Acetoxyquinaldine, *in* H-00326
4-Acetylpyridine 4-ethyl-3-thiosemicarbazone, A-00041
Adogen 364, A-00065
4-[[(4-Amino-2-hydroxyphenyl)]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00209
N-(Aminoiminomethyl)benzamide, A-00226
3-(Aminomethyl)-1,2,5-trihydroxyanthraquinone-*N*,*N*-diacetic acid, A-00259
4-Aminophenyl-4-ethylbenzylaminoantipyrinylcarbinol, A-00322
7-[[5-(Aminosulfonyl)-2-hydroxyphenyl]azo]-8-hydroxy-1,6-naphthalenedisulfonic acid, A-00349
2-(4-Antipyrylazo)-5-diethylaminophenol, A-00392
N-Benzylaniline, B-00165
2-[Bis(carboxymethyl)amino]benzoic acid, B-00276
O,*O*-Bis(2-methylpropyl) phosphorodithioate; Na salt, *in* B-00413
2-Bromobutanoic acid; (±)-*form*, *in* B-00496
Bromopyrogallol red, B-00574
▷ C.I. 51010, *in* B-00477
7-[(5-Chloro-2-hydroxyphenyl)azo]-8-hydroxy-1,6-naphthalenedisulfonic acid, C-00147
5-[(4-Chlorophenyl)azo]-8-quinolinol, C-00206
Chromazurol S; Tri-Na salt, *in* C-00277
▷ Cyclohexanone, C-00347
4-Cyclopentyl-6-(2-quinolinylazo)-1,3-benzenediol, C-00368
▷ 5,7-Dibromo-8-hydroxyquinoline, D-00193
▷ Dibutyl phosphate, D-00237
O,*O*-Dibutyl phosphorodithioate; K salt, *in* D-00241
O,*O*-Dibutyl phosphorothioate, D-00242
O,*O*-Dihexyl phosphorodithioate, D-00369
1,2-Dihydro-1,5-dimethyl-2-phenyl-4-[5-(1,2,3-trihydroxyphenyl)azo]-3*H*-pyrazol-3-one, D-00394
1,2-Dihydro-4-[(1-hydroxy-2-naphthalenyl)azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00414
1,2-Dihydro-4-[(4-hydroxyphenyl)azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00419
1,2-Dihydro-4-[[(2-hydroxyphenyl)methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00420
6,7-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+); Chloride, *in* D-00576
6,7-Dihydroxy-2,4-diphenyl-1-benzopyrylium(1+); Chloride, *in* D-00584
2,2′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[5-sulfobenzoic acid], D-00590
4-[(1,7-Dihydroxy-2-naphthalenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00659
[2-[[(2,4-Dihydroxyphenyl)methylene]amino]phenyl]arsonic acid, D-00711
[(2,4-Dihydroxyphenyl)methylene](2-pyridinylmethylene)carbonothioic dihydrazide, D-00713
O,*O*-Diisopentyl phosphorodithioate, D-00746
▷ Diisopropyl ether, D-00748
▷ *O*,*O*-Dimethyl phosphorodithioate, D-00896
O,*O*-Dipentyl phosphorodithioate, D-00996
O,*O*-Dipropyl phosphorodithioate, D-01060
▷ Dithizone, D-01135
Ethanedioic acid bis[[(2,4-dihydroxyphenyl)methylene]hydrazide], E-00025
2-[(2-Ethoxy-4-ethylamino-5-methylphenyl)azo]pyridine, *in* A-00253
5-(Ethylamino)-4-methyl-2-(2-pyridinylazo)phenol, *in* A-00253
8-Hydroxy-7-[(2-hydroxy-5-nitrophenyl)azo]-1,6-naphthalenedisulfonic acid, H-00228
8-Hydroxy-7-[(2-hydroxyphenyl)azo]-1,6-naphthalenedisulfonic acid, H-00233
3-Hydroxy-2-methyl-1-phenyl-4(1*H*)-pyridinone, H-00315

2-[(2-Hydroxy-1-naphthalenyl)azo]-4-thiazolecarboxylic acid, H-00358
[2-[[(2-Hydroxyphenyl)methylene]amino]phenyl]arsonic acid, H-00479
▷ 8-Hydroxyquinoline, H-00525
4-Methyl-5-(methylamino)-2-(2-pyridinylazo)phenol, *in* A-00253
7-Methyl-2,4-octanedione, M-00209
4-[[3-(1-Methyl-2-piperidinyl)-4-pyridinyl]azo]-1,3-benzenediol, M-00248
1-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl]azo]-2-naphthalenol, M-00250
Naphthylazoxine 4,8S, N-00044
Naphthylazoxine 4S, N-00043
Naphthylazoxine 5,7S, N-00046
Naphthylazoxine 5S, N-00045
Omega chrome blue 35, O-00040
7-(1-Piperidinylmethyl)-8-quinolinol; B,HCl, *in* P-00243
1-(2-Pyridinylazo)-2-naphthalenol, P-00374
4-(2-Pyridinylazo)-1-naphthalenol, P-00376
2-(2-Pyridinyl)-1*H*-benzimidazole, P-00385
Rhodamine 3G0; Chloride, *in* R-00004
Tetrachlorogallein, T-00035
Tetrahexylammonium(1+); Chloride, *in* T-00049
4,4′,4″-[1,3,5-Triazine-2,4,6-triyltris(azo)]tris[3-hydroxy-1-naphthalenesulfonic acid], T-00198
▷ Tributylphosphine, T-00212
1,1,1-Trifluoro-7-methyl-2,4-octanedione, T-00255
1,7,9-Trihydroxy-3*H*-phenoxazin-3-one, T-00308

Iodine

Amylose, *in* S-00025
▷ Fluorescein, F-00020
Narceine, N-00059
2-Phenyl-4*H*-naphtho[1,2-*b*]pyran-4-one, P-00150

Iodine: iodate

1-Allyl-2-tetrazoline-5-thione, *in* T-00131
▷ 4-Aminophenol, A-00302
4-Bromo-*N*,*N*′-bis(2-hydroxypropyl)-1,2-benzenediamine, B-00494
4-Chloro-2-[[(2-hydroxyphenyl)methylene]amino]phenol, C-00150
1,3-Cyclohexanedione bis(thiosemicarbazone); B, HCl, *in* C-00345
1,3-Cyclopentanedione bis(4-methylthiosemicarbazone); B,HCl, *in* C-00363
5,5-Dimethyl-1,3-cyclohexanedione; Bisthiosemicarbazone, *in* D-00847
▷ Isoniazid, I-00069
1,3,4-Trihydroxyanthraquinone-2-carboxylic acid, T-00272

Iodine: periodate

Benzoylhydrazine, *in* B-00059
4-Bromo-*N*,*N*′-bis(2-hydroxypropyl)-1,2-benzenediamine, B-00494
▷ 4,4′-Diamino-3,3′-dimethoxybiphenyl, *in* D-00056
2-[(3,4-Dihydroxyphenyl)methylene]hydrazinecarboximidamide, D-00712
5,5-Dimethyl-1,3-cyclohexanedione; Bisthiosemicarbazone, *in* D-00847
2,2′-(1*H*-Indene-1,3(2*H*)-diylidene)bishydrazinecarbothioamide, *in* I-00024
Phthalimide; Dithiosemicarbazone, *in* P-00223
▷ Tetraphenylarsonium(1+); Chloride, *in* T-00119
▷ TTC, *in* T-00379

Iodine: iodide

3-Acetyl-4,5,6,7-tetrachloro-3-(4-hydroxyphenyl)-1(3*H*)-isobenzofuranone, A-00049
1-Allyl-2-tetrazoline-5-thione, *in* T-00131
Amylose, *in* S-00025
2-Benzothiazolethiol, B-00089
Bromamine B, *in* B-00026
4-Bromo-*N*,*N*′-bis(2-hydroxypropyl)-1,2-benzenediamine, B-00494
▷ *N*-Bromosuccinimide, B-00576
C.I. Basic blue 20; Dichloride, *in* C-00002
Chromotrope F4B; Di-Na salt, *in* C-00292
3-(3,5-Dibromo-2,4-dihydroxyphenyl)-4,5-dimethoxy-1(3*H*)-isobenzofuranone, D-00183
4′,5′-Dibromofluorescein; Di-Na salt, *in* D-00188
▷ Dibromosulfonephthalein, D-00215
N,*N*-Dichloro-4-methylbenzenesulfonamide, D-00285
3-(2,4-Dihydroxyphenyl)-4,5-dimethoxy-1(3*H*)-isobenzofuranone, D-00710
▷ *N*-[4-[[4-(Dimethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-*N*-methylmethanaminium(1+); Chloride, *in* D-00812
2,9-Dimethyl-1,10-phenanthroline, D-00880
Diphenylcarbazone, D-01005
Erythrosine Y; Di-Na salt, *in* E-00021
4-Ethoxy-3,6-acridinediamine, *in* H-00094
▷ Fluorescein, F-00020
3-(4-Hydroxyphenyl)-1-(3*H*)-isobenzofuranone, H-00474
3-[2-Hydroxyphenyl]-3-phenylnaphtho[2,1-*b*]furan-1(3*H*)-one, H-00493
3-[4-Hydroxyphenyl]-3-phenylnaphtho[2,1-*b*]furan-1(3*H*)-one, H-00494
▷ Methyl violet, M-00336
Neutral red; B,HCl, *in* N-00065
Nitron, N-00114
▷ 4-Phenylazo-1-naphthylamine, P-00093
Phloxin; Di-K salt, *in* P-00212
4-(2-Quinolinylazo)phenol, Q-00032
4,5,6,7-Tetrachloro-3,3-bis(4-hydroxyphenyl)-1(3*H*)-isobenzofuranone, T-00027
4,5,6,7-Tetrachloro-3-(2,4-dihydroxyphenyl)-3-methyl-1(3*H*)-isobenzofuranone, T-00028
Thioflavine S, T-00162
▷ Trimethylsulfonium(1+); Iodide, *in* T-00347
2,4,6-Triphenylpyrylium(1+); Chloride, *in* T-00374
Trypan red; Penta-Na salt, *in* T-00434

Iridium

4-Aminophenylcarbamodithioic acid; NH_4 salt, *in* A-00321
N-Benzoyl-*N*′-(2-pyridyl)thiourea, B-00159
Benzyltriphenylphosphonium(1+); Chloride, *in* B-00196
N,*N*-Dibutyl-*β*-oxobenzenepropanethioamide, *in* O-00056
Dichloro-1-naphthylphosphine, *in* N-00055
2-(4-Diethylamino-2-hydroxyphenylazo)thiazole, *in* A-00214
2-(Diethylamino)-6-(2-pyridinylazo)phenol, D-00335
2-(Diethylamino)-6-(2-thiazolylazo)phenol, *in* A-00360
▷ *N*,*N*-Dimethyl-4-nitrosoaniline, D-00876
N,*N*′-Di-2-naphthalenyl-1,4-benzenediamine, D-00929
1,5-Diphenyl-3-(2-propenylthio)formazan, D-01043
Dithiobenzoic acid, D-01117
Hexahydro-1*H*-azepine-1-carbodithioic acid; K salt, *in* H-00035
Hexahydro-*N*-(4-methylpentyl)-1*H*-azepine-1-carbothioamide, H-00048
Hexahydro-*N*-phenyl-1*H*-azepine-1-carbothioamide, H-00049
▷ 8-Hydroxyquinoline; *N*-Oxide, *in* H-00525
4-Methyl-2-(2-pyridinylazo)phenol, M-00283
Methyltriphenylphosphonium(1+); Chloride, *in* M-00335
2-Octylaminopyridine, *in* A-00333
β-Oxo-*N*-phenylbenzenepropanethioamide, *in* O-00056
3-Oxo-*N*-phenylbutanethioamide, O-00065
Perazine; Maleate (1:2), *in* P-00043
N-(1-Piperidinylthioxomethyl)benzamide, P-00245
▷ Rhodamine 590; Chloride, *in* R-00003
▷ Tetrabutylammonium(1+); Bromide, *in* T-00023
O-[(Tetrahydro-2-furanyl)methyl]carbonodithioate; K salt, *in* T-00062
▷ Thioacetanilide, T-00153
Tris(2-methylpropyl)amine, T-00409

Iron

2-Acetyl-4-ethylpyridine; Oxime (*Z*-), *in* A-00016
2-Acetyl-4-methoxypyridine; Oxime (*Z*-), *in* A-00021
2-Acetyl-4-methylpyridine; Oxime (*E*-), *in* A-00023
2-Acetyl-4-phenylpyridine; Oxime (*E*-), *in* A-00031
2-Acetylpyrazine 8-quinolylhydrazone, A-00038
2-Acetylpyridine 2-benzothiazolylhydrazone, A-00040
2-Acetylpyridine phenylthiosemicarbazone, A-00042
2-Acetylpyridine 8-quinolylhydrazone, A-00046
Acid chrome violet BR; Na salt, *in* A-00054
Adogen 364, A-00065
Alamine oxide, A-00071
4-Aminobenzoic acid [(2-hydroxyphenyl)methylene]hydrazide, A-00110
2-Amino-4,6-bis[6-(2-pyridyl)-2-pyridyl]-*s*-triazine, A-00122
4-[(2-Amino-5-bromo-3-pyridinyl)azo]-1,3-benzenediol, A-00124
3-[[3-Amino-4-[(5-bromo-2-pyridinyl)azo]phenyl]propylamino]-1-propanesulfonic acid; Na salt, *in* A-00127
6-Amino-2-(diethylamino)-5-nitroso-4(1*H*)-pyrimidinone, *in* D-00109
6-Amino-2,3-dihydro-5-nitroso-1-phenyl-2-thioxo-4(1*H*)-pyrimidinone, A-00153
6-Amino-2-(dimethylamino)-5-nitroso-4(1*H*)-pyrimidinone, A-00161
▷ 2-Amino-4,6-dinitrophenol, A-00164
▷ 5-Amino-1,2,4-dithiazolidine-3-thione, A-00168
3-[[(2-Aminoethyl)imino]methyl]-2-hydroxybenzoic acid, A-00175
▷ 4-Amino-2-hydroxybenzoic acid, A-00184
3-Amino-5-hydroxy-2,7-naphthalenedisulfonic acid, A-00199
7-Amino-1-hydroxy-3*H*-phenoxazin-3-one, A-00208
2-Amino-3-hydroxypyridine, A-00216
5-Amino-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, A-00236
2-(Aminomethyl)-4-(3,5-dichloro-4-oxo-2,5-cyclohexylideneamino)-6-methylphenol *N*,*N*-diacetic acid, A-00239
2-(Aminomethyl)-4-(3,5-dichloro-4-oxo-2,5-cyclohexylideneamino)phenol-*N*,*N*-diacetic acid, A-00240
4-[[(3-Aminomethyl)-4-hydroxyphenyl]imino]-2,6-dibromo-2,5-cyclohexadien-1-one-*N*,*N*-diacetic acid, A-00243
7-Amino-1-methyl-3*H*-phenoxazin-3-one, A-00247
▷ 6-Aminonicotinamide, *in* A-00334
6-Amino-5-nitroso-2,4(1*H*,3*H*)-pyrimidinedione, A-00288
5-Amino-1,10-phenanthroline, A-00299
▷ 2-Amino-3*H*-phenoxazin-3-one, A-00303
7-Amino-3*H*-phenoxazin-3-one, A-00304
[(4-Aminophenyl)thio]acetic acid, A-00327

▷ Aminopyrine, A-00339
▷ 5-Amino-1,3,4-thiadiazoline-2(3*H*)-thione, A-00354
3-[[(Aminothioxomethyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, *in* P-00386
Bathocuproinedisulfonic acid; Di-Na salt, *in* B-00002
Bathophenanthrolinedisulfonic acid; Di-Na salt, *in* B-00003
Benzenecarboximidic acid *N*-2-pyridinyl-2-pyrazinylhydrazone, B-00015
2-(2-Benzimidazolyl)-4,7-phenanthroline, B-00048
Benzohydroxamic acid benzenesulfonamide, *in* P-00194
4-(2-Benzothiazolylazo)-1,2-benzenediol, B-00091
4-(2-Benzothiazolylazo)-1,3-benzenediol, B-00092
2-(2-Benzothiazolylazo)-5-(dimethylamino) phenol, B-00094
6-Benzoyl-3-(2,2′-bipyridin-6-yl)-5-phenyl-1,2,4-triazine, B-00123
2-Benzoyl-4-ethylpyridine; Oxime (*E*-), *in* B-00132
2-Benzoyl-4-methylpyridine; Oxime (*E*-), *in* B-00134
6-Benzoyl-3-(4-methyl-2-pyridyl)-5-methyl-1.2,4-triazine, B-00136
2-Benzoyl-4-nitro-1*H*-indene-1,3(2*H*)-dione, B-00139
2-Benzoyl-5-nitro-1*H*-indene-1,3(2*H*)-dione, B-00140
6-Benzoyl-3-(1,10-phenanthrolin-2-yl)-5-phenyl-1,2,4-triazine, B-00142
2-Benzoyl-4-phenylpyridine; Oxime (*E*-), *in* B-00144
6-Benzoyl-5-phenyl-3-(2-thiazolyl)-1,2,4-triazine, B-00147
2-Benzoylpyridine azine, B-00152
2-Benzoylpyridine; Hydrazone, *in* B-00151
2-Benzoylpyridine phenylthiosemicarbazone, B-00153
2-Benzoylpyridine 8-quinolylhydrazone, B-00157
Benzyldimethyloctadecylammonium(1+); Perchlorate, *in* B-00180
▷ Benzylpenicillin, B-00191
2,2′-Bi-1*H*-indole, B-00204
2,2′-Bipiperidine, B-00217
2,2′-Bipyrazine, B-00218
3,3′-Bipyridazine, B-00219
▷ 2,2′-Bipyridine, B-00220
[2,2′-Bipyridine]-6-carboximidic acid hydrazide, B-00223
2-(2,2′-Bipyridin-6-yl)benzimidazole, B-00225
3-[2,2′-Bipyridin-6-yl]-5,6-dimethyl-1,2,4-triazine, B-00226
3-(2,2′-Bipyridin-6-yl)-5,6-diphenyl-1,2,4-triazine, B-00227
3-(2,2′-Bipyridin-6-yl)-5,6-di-2-pyridyl-1,2,4-triazine, B-00228
2-(2,2′-Bipyridin-6-yl)-1*H*-imidazo[4,5-*f*][4,7]phenanthroline, B-00229
2-(2,2′-Bipyridin-6-yl)-1*H*-imidazo[4,5-*c*] pyridine, B-00230
2-(2,2′-Bipyridin-6-yl)-3*H*-imidazo[4,5-*h*] quinoline, B-00231
3-[2,2′-Bipyridin-6-yl]-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, B-00232
2-(2,2′-Bipyridin-6-yl)-5-phenylbenzimidazole, B-00233
3-(2,2′-Bipyridin-6-yl)-1,2,4-triazino[5,6-*f*][4,7]phenanthroline, B-00234
2,2′-Bipyrimidine, B-00235
2,6-Bis[3-(2,2′-bipyridin-6-yl)-1,2,4-triazolin-5-yl]pyridine, B-00261
2,4-Bis[5,6-bis(2-pyridyl)-1,2,4-triazin-3-yl] pyridine, B-00263
2,6-Bis[5,6-bis(2-pyridyl)-1,2,4-triazin-3-yl] pyridine, B-00264
N,*N*′-Bis[3-carboxysalicylidene] ethylenediamine; Di-Na salt, *in* B-00280
Bis(4-chlorophenyl) phosphate, B-00289
▷ Bis(2,4-dichloro-6-hydroxyphenyl)disulfide, B-00293
2,4-Bis(4,5-dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)pyridine, B-00296
2,6-Bis(4,5-dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)pyridine, B-00297
2,4-Bis(5,6-dimethyl-1,2,4-triazin-3-yl) pyridine, B-00333
2,6-Bis(5,6-dimethyl-1,2,4-triazin-3-yl) pyridine, B-00334
2,4-Bis(5,6-diphenyl-1,2,4-triazin-3-yl) pyridine, B-00341
2,6-Bis(5,6-diphenyl-1,2,4-triazin-3-yl) pyridine, B-00342
3,6-Bis(4-ethyl-2-pyridyl)-1,2-dihydro-1,2,4,5-tetrazine, B-00354
N,*N*′-Bis(2-hydroxybenzyl)ethylenediamine-*N*,*N*′-diacetic acid; B,2HCl, *in* B-00360
▷ *N*,*N*′-Bis(2-hydroxybenzylidene)-1,2-ethanediamine, B-00363
Bis(3-hydroxy-6-hydroxymethyl-4-oxo-4*H*-pyran-2-yl)methanone, B-00377
2-[2,3-Bis(hydroxyimino)-5,5-dimethylcyclohexylidene] hydrazinecarbothioamide, *in* D-00848
N,*N*′-Bis(2-hydroxypropyl)-1,2-benzenediamine, B-00392
Bis(2-methylpropyl) phenylphosphonate, *in* P-00164
3,6-Bis(4-methyl-2-pyridyl)-4-phenylpyridazine, B-00419
2,6-Bis[3-(4-methyl-2-pyridyl)-1,2,4-triazolin-5-yl]pyridine, B-00424
N,*N*′-Bis[4-(phenylazo)phenyl]-1,10-phenanthroline-4,7-diamine, B-00438
N,*N*′-Bis(pyridinylmethylene)-1,2-ethanediamine, B-00441
2,4-Bis[5-(2-pyridyl)-1,2,4-triazolin-3-yl] pyridine, B-00445
2,6-Bis[3-(2-pyridyl)-1,2,4-triazolin-5-yl] pyridine, B-00446
2,6-Bis[5-(2-pyridyl)-1,2,4-triazolin-3-yl] pyridine, B-00447
N-[3,5-Bis(trifluoromethyl)phenyl]-*N*-hydroxy-3,5-bis(trifluoromethyl) benzamide, B-00465
4,4′,4″,4‴-[3,3′-Bi-1,2,4-triazine]-5,5′,6,6′-tetrayltetrakisbenzenesulfonic acid; Tetra-NH_4 salt, *in* B-00473
▷ Bromazepam, B-00481
Bromazepam; B,2HCl, *in* B-00481
▷ 7-Bromo-1-[3-(dimethylamino)propyl]-1,3-dihydro-5-(2-pyridyl)-2*H*-1,4-benzodiazepin-2-one; B,2HCl, *in* B-00506
N-Bromo-4-methylbenzenesulfonamide, *in* M-00130
5-Bromo-1,10-phenanthroline, B-00541
(4-Bromophenyl)phenylethanedione dioxime, B-00555
Cacotheline, C-00005
2-Carboxy-5-hydroxy-4-oxo-1(4*H*)-pyridineacetic acid, C-00031
Cellex P, C-00048
5-Chloro-2-hydroxy-2,4,6-cycloheptatrien-1-one, C-00127
N-(5-Chloro-2-methoxyphenyl)-4-[(2,3-dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-2-naphthalenecarboxamide, C-00168
4-Chloro-2-nitroso-1-naphthol, *in* C-00187
4-Chloro-2-nitrosophenol, C-00190
N-(3-Chlorophenyl)-*N*′-(2,3-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00215
N-(3-Chlorophenyl)-*N*′-(2,5-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00216
N-(4-Chlorophenyl)-*N*′-(2,3-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00218
N-(4-Chlorophenyl)-*N*′-(2,3-dimethylphenyl)-*N*-hydroxy-4-methylbenzenecarboximidamide, C-00219
N-(2-Chlorophenyl)-*N*-hydroxybenzamide, *in* H-00109
N-(3-Chlorophenyl)-*N*-hydroxy-*N*′-(4-methoxyphenyl) benzenecarboximidamide, C-00224
N-(3-Chlorophenyl)-*N*-hydroxy-*N*′-(2-methylphenyl)benzenecarboximidamide, C-00227
N-(3-Chlorophenyl)-*N*-hydroxy-*N*′-(3-methylphenyl)benzenecarboximidamide, C-00228
N-(3-Chlorophenyl)-*N*-hydroxy-*N*′-(4-methylphenyl)benzenecarboximidamide, C-00229
N-(3-Chlorophenyl)-*N*-hydroxy-*N*′-phenylbenzenecarboximidamide, C-00230
(4-Chlorophenyl)phenylethanedione; Dioxime, *in* C-00238
4-Chloro-6-(2-thiazolylazo)-1,3-benzenediol, C-00263
Chromazurol S; Tri-Na salt, *in* C-00277
Chromotropic acid, C-00294
1,3-Cyclohexanedione bis(2-hydroxybenzoyl)hydrazone, C-00342
▷ Desferrioxamine, D-00029
2,6-Diacetylpyridine; Dioxime, *in* D-00035
6,6′-Diamino-3,3′-bipyridazine, D-00060
2,4-Diamino-6-(2,2′-bipyridyl)-1,3,5-triazine, D-00062
2,6-Diamino-5-nitroso-4(1*H*)-pyrimidinone, D-00109
4,4′-Diaminostilbene-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00127
▷ Dibenzylamine, D-00166
▷ Dibenzyl sulfoxide, D-00172
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(diethylamino)benzoic acid, *in* A-00148
3,6-Dichloro-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, D-00263
▷ 1,3-Dichloro-5,5-dimethyl-2,4-imidazolidinedione, *in* D-00866
N,*N*-Dichloro-4-methylbenzenesulfonamide, D-00285
1,2-Dihydro-3,6-bis(4-methyl-2-pyridinyl)-1,2,4,5-tetrazine, D-00373
2,3-Dihydro-5,6-bis(6-methyl-2-pyridyl) pyrazine, D-00374
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-(2-methoxyphenyl)-2-naphthalenecarboxamide, D-00383
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-2-(methylphenyl)-2-naphthalenecarboxamide, D-00384
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-1-naphthalenyl-2-naphthalenecarboxamide, D-00387
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-phenyl-2-naphthalenecarboxamide, D-00388
2,3-Dihydro-5,6-di-(2-pyridyl)pyrazine, D-00404
2,3-Dihydro-5-hydroxy-4*H*-1-benzopyran-4-one, D-00408
4,5-Dihydro-5-methyl-3,5-di-2-pyridyl-1*H*-1,2,4-triazole, D-00430
1,2-Dihydro-6-methyl-2-oxo-3-pyridinecarboxylic acid, D-00441
2-(4,5-Dihydro-5-methyl-5-phenyl-1*H*-1,2,4-triazol-3-yl)-4-methylpyridine, D-00446
2-(4,5-Dihydro-5-methyl-5-phenyl-1*H*-1,2,4-triazol-3-yl)-1,10-phenanthroline, D-00447
2-(4,5-Dihydro-5-methyl-5-phenyl-1*H*-1,2,4-triazol-3-yl)-4-phenylpyridine, D-00448
4,5-Dihydro-3-(4-methyl-2-pyridinyl)-5-phenyl-1*H*-1,2,4-triazole, D-00452
4,5-Dihydro-3-(4-methyl-2-pyridinyl)-5-(2-pyridinyl)-1,2,4-triazole, D-00453
6-[4,5-Dihydro-5-methyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-2,2′-bipyridine, D-00454
2-[4,5-Dihydro-5-methyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-4-methylpyridine, D-00455

2-[4,5-Dihydro-5-methyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-1,10-phenanthroline, D-00456
2-[4,5-Dihydro-5-methyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-4-phenylpyridine, D-00457
2-(4,5-Dihydro-5-methyl-1*H*-1,2,4-triazol-3-yl)pyridine, *in* M-00329
2,3-Dihydro-5-methyl-2-ureido-3*H*-pyrazol-3-one, D-00460
Dihydro-5-nitroso-2-thioxo-4,6(1*H*,5*H*)-pyrimidinedione, D-00462
4,5-Dihydro-3-(1,10-phenanthrolin-2-yl)-5-(2-pyridinyl)-1,2,4-triazole, D-00465
2-[4,5-Dihydro-5-phenyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-1,10-phenanthroline, D-00470
6-(2,5-Dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)-2,2′-bipyridine, D-00473
2-(4,5-Dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)pyrazine, D-00474
3-(4,5-Dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)pyridazine, D-00475
2-(4,5-Dihydro-4-phenyl-1*H*-1,2,4-triazol-3-yl)pyridine, D-00476
4-(2,5-Dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)pyrimidine, D-00477
1,2-Dihydro-3,6-pyridazinedione; *A-form*, *in* D-00481
2,3-Dihydro-5-(2-pyridinyl)-1*H*-imidazole, D-00482
6-[4,5-Dihydro-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-2,2′-bipyridine, D-00483
[4,5-Dihydro-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]pyrazine, D-00484
3-[4,5-Dihydro-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]pyridazine, D-00485
4-[4,5-Dihydro-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]pyrimidine, D-00486
4,5-Dihydro-5-(2-pyridyl)-3-(2-thiazolyl)-1*H*-1,2,4-triazole, D-00487
2-[4,5-Dihydro-3-(2-pyridyl)-1*H*-1,2,4-triazolyl]phenol, D-00488
Dihydro-2-thioxo-4,5,6(1*H*)-pyrimidinetrione 5-oxime, D-00493
▷ 2′,4′-Dihydroxyacetophenone, D-00507
2′,4′-Dihydroxyacetophenone; Oxime, *in* D-00507
2′,4′-Dihydroxyacetophenone; Semicarbazone, *in* D-00507
2,4-Dihydroxybenzaldehyde, D-00517
2,5-Dihydroxybenzaldehyde, D-00518
α,*N*-Dihydroxybenzeneacetamide; (±)-*form*, *in* D-00521
2,4-Dihydroxybenzenecarbodithioic acid, D-00522
3,4-Dihydroxybenzenesulfonic acid, D-00527
▷ 2,4-Dihydroxybenzoic acid, D-00531
▷ 3,5-Dihydroxybenzoic acid, D-00534
▷ 3,4-Dihydroxy-3-cyclobutene-1,2-dione, D-00569
4,5-Dihydroxy-4-cyclopentene-1,2,3-trione, D-00571
2,6-Dihydroxyimine-3-methylenepiperidine, *in* M-00178
5,7-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00646
4,6-Dihydroxy-5-nitroso-3-pyridinecarboxylic acid; Et ester, *in* D-00674
2,4-Dihydroxy-3-nitrosoquinoline, D-00675
4,7-Dihydroxy-1,10-phenanthroline; B,HCl, *in* D-00685
2-(2,4-Dihydroxyphenylazo)-1,3,4-thiadiazole, D-00703
1-(2,4-Dihydroxyphenyl)-1-butanone, D-00707
1-(2,4-Dihydroxyphenyl)-1-butanone; Oxime, *in* D-00707
1-(2,4-Dihydroxyphenyl)-1-pentanone, D-00714
1-(2,4-Dihydroxyphenyl)-1-propanone, D-00715
1-(2,4-Dihydroxyphenyl)-1-propanone; Oxime, *in* D-00715
▷ 3-(3,4-Dihydroxyphenyl)-2-propenoic acid, D-00716
▷ 2,6-Dihydroxy-4-pyridinecarboxylic acid, D-00721
4,5-Dihydroxy-3-[(2-pyridinyl)azo]-2,7-naphthalenedisulfonic acid, D-00722
4,5-Dihydroxy-3-[(4-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid, D-00733
▷ Diisonitrosoacetone, *in* O-00070
▷ Diisopropyl ether, D-00748
6,6′-Dimethoxy-3,3′-bipyridazine, D-00773
4,7-Dimethoxy-1,10-phenanthroline, *in* D-00685
5,6-Dimethoxy-1,10-phenanthroline, *in* D-00686
7-(Dimethylamino)-1-hydroxy-3*H*-phenoxazin-3-one, D-00786
7-(Dimethylamino)-1-methyl-3*H*-phenoxazin-3-one, D-00792
5-Dimethylamino-2-[(4-methyl-2-thiazolyl)azo]phenol, D-00793
2-[[*p*-(Dimethylamino)phenyl]imino]-2′-acetonaphthone, D-00815
5,5′-Dimethyl-3,3′-bipyridazine, D-00838
6,6′-Dimethyl-3,3′-bipyridazine, D-00839
▷ 3,3-Dimethyl-2-butanone, D-00845
5,5-Dimethyl-1,2,3-cyclohexanetrione; 2-Oxime, 3-thiosemicarbazone, *in* D-00848
4-(1,1-Dimethylethyl)-*N*-hydroxy-*N*-(2-methylphenyl)benzamide, *in* B-00619
4-(1,1-Dimethylethyl)-*N*-hydroxy-*N*-phenylbenzamide, *in* B-00619
5,6-Dimethyl-3-(4-methyl-2-pyridinyl)-1,2,4-triazine, D-00871
2,8-Dimethyl-4,6-nonanedione, D-00877
N′-(2,3-Dimethylphenyl)-*N*-hydroxy-*N*-(4-methylphenyl)benzamidine, D-00889
N′-(2,3-Dimethylphenyl)-*N*-hydroxy-*N*-phenylbenzamidine, D-00890
5,6-Dimethyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazine, D-00895
5,6-Dimethyl-3-pyrazinyl-1,2,4-triazine, D-00903
5,6-Dimethyl-3-(3-pyridazinyl)-1,2,4-triazine, D-00907
N,*N*′-Dimethyl-2,6-pyridinedicarbothioamide, D-00908
5,6-Dimethyl-3-(2-pyridinyl)-1,2,4-triazine, D-00911
5,6-Dimethyl-3-(4-pyrimidinyl)-1,2,4-triazine, D-00912
5,6-Dimethyl-3-(2-thiazolyl)-1,2,4-triazine, D-00926
2-(5,6-Dimethyl-1,2,4-triazin-3-yl)-1,10-phenanthroline, D-00927
2-(1,3-Dioxobutyl)-1*H*-indene-1,3-(2*H*)-dione, D-00987
1,3-Dioxo-2-indanecarboxylic acid: Me ester, *in* D-00991
Diphenylethanedione mono(pyrazinylhydrazone), D-01013
(*E*,*E*)-Diphenylglyoxime, *in* B-00038
2,9-Diphenyl-1,10-phenanthroline, D-01032
4,7-Diphenyl-1,10-phenanthroline, D-01034
5,6-Diphenyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazine, D-01037
5,6-Diphenyl-3-(pyrazinyl)-1,2,4-triazine, D-01044
5,6-Diphenyl-3-(3-pyridazyl)-1,2,4-triazine, D-01045
5,6-Diphenyl-3-(4-pyrimidinyl)-1,2,4-triazine, D-01047
3-(5,6-Diphenyl-1,2,4-triazin-3-yl) isoquinoline, D-01056
O,*O*-Di-2-propenyl phosphorodithioate, D-01058
1,1-Di-2-pyridinyl-*N*,*N*′-di-8-quinolinylmethanediamine, D-01062
Di-2-pyridinylethanedione; Monophenylhydrazone oxime, *in* D-01063
Di-2-pyridinylmethanone 2-benzothiazolylhydrazone, D-01072
Di-2-pyridinylmethanone benzoylhydrazone, D-01073
Di-2-pyridinylmethanone 2-furoylhydrazone, D-01077
5,6-Di-2-pyridinyl-3-(4-pyrimidinyl)-1,2,4-triazine, D-01086
1,2-Di-2-pyridyl-1,2-ethanediol, D-01089
Di-2-pyridylglyoxal dithiosemicarbazone, *in* D-01063
2,2′-Dipyridyl-α-glyoxime, *in* D-01063
2,4-Di-2-pyridylpyrimidine, D-01092
4,6-Di-2-pyridylpyrimidine, D-01093
Di-2-pyridylquinazoline, D-01094
5,6-Di-2-pyridyl-3-(2-thiazolyl)-1,2,4-triazine, D-01096
3-(5,6-Di-2-pyridyl-1,2,4-triazin-3-yl) isoquinoline, D-01097
2-[5,6-Di-(2-pyridyl)-1,2,4-triazin-3-yl]-1,10-phenanthroline, D-01098
3,5-Di-2-pyridyl-1,2,4-triazole, D-01099
3,5-Di-2-pyridyl-1,2,4-triazoline, *in* D-01099
Ecarazine hydrochloride, *in* T-00188
Eriochrome fast grey RAS; Na salt, *in* E-00014
Eriochrome geranol; Di-Na salt, *in* E-00015
[1,2-Ethanediylbis[imino(phenylmethylene)]] bisphosphonic acid, E-00031
Ethyl acetoacetate, E-00063
N,*N*′-Ethylenebis[2-(*o*-hydroxyphenyl) glycine], E-00073
[Ethylenebis(iminobenzylidene)] diphosphinic acid, E-00074
[Ethylenebis(iminosalicylidene)] diphosphinic acid, E-00075
4-Ethyl-*N*-hydroxy-*N*-phenylbenzamide, E-00093
3-(4-Ethyl-2-pyridyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, E-00109
3-(4-Ethyl-2-pyridyl)-5,6-diphenyl-1,2,4-triazine, E-00110
2-(4-Ethyl-2-pyridyl)-3*H*-imidazo[4,5-*h*] quinoline, E-00111
Ethyltridodecylammonium(1+); Bromide, *in* E-00120
Ferene S, *in* F-00003
2-Furancarbothioic acid (di-2-pyridinyl) methylenehydrazide, F-00041
α-Furoinoxime, *in* F-00065
Hexafluoroacetylacetone, H-00030
Hexahydro-1,3,5-trihydroxy-1,3,5-triazine, H-00051
▷ Hexamethylenetetramine, H-00057
2-Hexylpyridine, H-00077
▷ 1-Hydrazinophthalazine, H-00086
2′-Hydroxyacetophenone; Oxime, *in* H-00089
2-Hydroxybenzaldehyde guanylhydrazone, H-00105
▷ 2-Hydroxybenzamide, *in* H-00112
2-Hydroxybenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, H-00120
N-Hydroxy-*N*,*N*′-diphenylbenzenecarboximidamide, *in* D-01001
4-Hydroxy-2,6-di-2-pyridinylpyrimidine, H-00171
α-(Hydroxyimino)-1,5-dimethyl-1*H*-benzimidazole-2-acetonitrile, H-00244
α-(Hydroxyimino)-2-pyridineacetonitrile, H-00251
α-(Hydroxyimino)-2-quinolineacetonitrile, H-00252
N-Hydroxy-4-methoxy-*N*-phenylbenzamide, *in* D-00704
2′-Hydroxy-5′-methylacetophenone; Semicarbazone, *in* H-00275
▷ 2-Hydroxy-3-methylbenzoic acid, H-00278
2-Hydroxy-5-methylbenzoic acid, H-00279
5-Hydroxy-11-methyl-9*H*-benzo[*a*] phenoxazin-9-one, H-00280
α-(Hydroxymethylene)-2-benzoxazoleacetonitrile, H-00287
2-(2-Hydroxy-5-methylphenylazo)-4-methylthiazole, H-00301
N-Hydroxy-2-methyl-*N*-phenylbenzamide, H-00306
N-Hydroxy-4-methyl-*N*-phenylbenzamide, H-00307
▷ 3-Hydroxy-3-methyl-1-phenyltriazene, H-00317

▷ 3-Hydroxy-2-methyl-4*H*-pyran-4-one, H-00323
8-Hydroxy-2-methylquinoline, H-00326
2-(3-Hydroxy-3-methyl-1-triazenyl)benzoic acid, H-00332
▷ 3-Hydroxy-2,7-naphthalenedisulfonic acid, H-00342
▷ 3-Hydroxy-2-naphthoic acid, H-00370
2-Hydroxy-5-nitro-2,4,6-cycloheptatrien-1-one, H-00388
4-Hydroxy-5-nitroso-2,1,3-benzothiadiazole, H-00408
5-Hydroxy-4-nitroso-2,1,3-benzothiadiazole, H-00409
N-Hydroxy-*N*-nitrosocyclooctylamine, H-00412
4-Hydroxy-3-nitroso-1-naphthalenesulfonic acid, H-00415
3-[(3-Hydroxy-4-nitrosophenyl) propylamino]-1-propanesulfonic acid, H-00417
N-Hydroxy-*N*-nitroso-2-propanamine, H-00418
4-Hydroxy-3-nitroso-2(1*H*)-pyridinone, H-00419
4-Hydroxy-5-oxo-1,3,6-cycloheptatriene-1-carbonitrile, *in* H-00428
4-Hydroxy-5-oxo-1,3,6-cycloheptatriene-1-sulfonic acid; NH_4 salt, *in* H-00429
3-Hydroxy-4-oxo-4*H*-pyran-2,6-dicarboxylic acid, H-00435
4-Hydroxy-1,10-phenanthroline, H-00437
6-Hydroxy-1,7-phenanthroline, H-00438
2-[(Hydroxyphenylamino)carbonyl] benzenesulfonic acid; Na salt, *in* H-00445
1-(2-Hydroxyphenyl)-1-butanone; Oxime, *in* H-00469
5-Hydroxy-3-phenyl-4-isoxazolecarboxylic acid; Et ester, *in* H-00475
▷ *N*-Hydroxy-3-phenylpropenamide, H-00499
2-(3-Hydroxy-3-phenyl-1-triazenyl)benzoic acid, H-00507
3-(3-Hydroxy-3-phenyl-1-triazenyl)pyridine, H-00509
N-Hydroxy-*N*-phenyl-3-(trifluoromethyl) benzamide, H-00511
1-Hydroxy-1-phenylurea, *in* P-00211
N-Hydroxy-3-pyridinecarboxamide, *in* P-00341
3-Hydroxy-2(1*H*)-pyridinethione, H-00520
3-Hydroxy-2(1*H*)-pyridinone, H-00521
▷ 2-Hydroxy-2-(2-pyridyl)methanesulfonic acid, H-00524
▷ 2-Hydroxy-5-sulfobenzoic acid, H-00538
1-Hydroxy-4-sulfo-2-naphthoic acid, H-00540
5*H*-Imidazole-4-carboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, I-00002
1-(1*H*-Imidazo[4,5-*c*]pyridin-2-yl) isoquinoline, I-00004
2-(3*H*-Imidazo[4,5-*h*]quinolin-2-yl)-4,7-phenanthroline, I-00006
3-Isoquinolinecarboximidic acid hydrazide, I-00086
3-(Isoquinolyl)-5,6-diphenyl-1,2,4-triazine, I-00087
3-(Isoquinolyl)-5,6-diphenyl-1,2,4-triazine; Tris-SO_3H deriv., *in* I-00087
3-(3-Isoquinolyl)-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, I-00090
1-[(2-Mercaptophenyl)azo]-2-naphthalenol, M-00042
▷ Metamizole sodium, *in* D-01100
4-Methoxyaniline; Thiocyanate salt, *in* M-00073
4-Methoxy-2,6-bis(2-pyridyl)pyrimidine, M-00085
5-Methoxy-11-methyl-9*H*-benzo[*a*] phenoxazin-9-one, M-00089
6-Methoxy-3-methyl-2-[[4-(methylphenylamino)phenyl]azo] benzothiazolium(1+); Chloride, *in* M-00091
▷ 3-Methoxy-4-nitrosophenol, *in* N-00156
4′-(4-Methoxyphenyl)-2,2′:6′,2″-terpyridine, M-00119
5-Methoxy-2-(2-thiazolylazo)phenol, *in* T-00141
11-Methyl-9*H*-benzo[*a*]phenoxazin-9-one, M-00140
▷ 2′-Methyldiphenylamine-2-carboxylic acid, M-00163
▷ 3′-Methyldiphenylamine-2-carboxylic acid, M-00164
▷ Methyl orange; Na salt, *in* M-00210
▷ 4-Methyl-2-pentanone, M-00218
▷ 4-Methylpyridine, M-00265
2-Methyl-4-pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, M-00272
3-Methyl-2-pyridinethiol; *N*-Oxide, *in* M-00273
5-Methyl-2(1*H*)-pyridinethione; *N*-Oxide, *in* M-00275
6-Methyl-2(1*H*)-pyridinethione; *N*-Oxide, *in* M-00276
3-(4-Methyl-2-pyridinyl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, M-00288
3-(4-Methyl-2-pyridinyl)-5-phenyl-1,2,4-triazine, M-00292
3-(4-Methyl-2-pyridinyl)-5-phenyl-1,2,4-triazole, M-00293
3-(4-Methyl-2-pyridinyl)-1,2,4-triazine, M-00294
2-(4-Methyl-2-pyridyl)benzimidazole, M-00295
3-(4-Methyl-2-pyridyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, M-00296
3-(4-Methyl-2-pyridyl)-5,6-diphenyl-1,2,4-triazine, M-00298
2-(4-Methyl-2-pyridyl)-1*H*-imidazo[4,5-*f*][4,7]phenanthroline, M-00299
2-(4-Methyl-2-pyridyl)-1*H*-imidazo[4,5-*c*] pyridine, M-00300
2-(4-Methyl-2-pyridyl)-2*H*-imidazo[4,5-*h*] quinoline, M-00301
2-(4-Methyl-2-pyridyl)-5-phenylbenzimidazole, M-00302
5-Methyl-2-(2-pyridyl)pyrimidine, M-00304
(4-Methyl-2-pyridyl)-1,2,4-triazino[5,6-*f*][4,7]-phenanthroline, M-00305
4-[(4-Methyl-2-thiazolyl)azo]-1,3-benzenediol, M-00319
2-(5-Methyl-1*H*-1,2,4-triazol-3-yl)pyridine, M-00329
Methyltriphenylarsonium(1+); Thiocyanate, *in* M-00334
▷ Monosulfiram, M-00341
1,2-Naphthoquinone; Dioxime (1*Z*,2*E*), *in* N-00031
▷ Neocupferron; NH_4 salt, *in* N-00061
▷ Nepresol, *in* D-00370
Nioxime, *in* C-00337
5-Nitro-1,2-acenaphthylenedione; Dioxime, *in* N-00076
4-Nitrobenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, N-00094
▷ 2-Nitrodiphenylamine, N-00104
▷ 1-Nitroso-2-naphthol, N-00160
4,6-Nonanedione, N-00168
2,4,5,7-Octanetetrone, O-00035
Omega chrome blue 35, O-00040
Oxamide bisphenylhydrazone, O-00050
▷ 2-(1-Oxopropyl)-1*H*-indene-1,3(2*H*)-dione, O-00071
▷ 1,1′-Oxybis(2-chloroethane), O-00077
2,3,4-Pentanetrione; Trioxime, *in* P-00033
▷ 1,10-Phenanthroline, P-00052
1,10-Phenanthroline-2-carboximidic acid hydrazide, P-00053
3-(1,10-Phenanthrolin-2-yl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, P-00056
3-[(1,10-Phenanthrolin-2-yl)]-5-phenyl-1,2,4-triazoline, P-00057
2-(1,10-Phenanthrolyl)amidoxime, P-00058
Phenosafranine; *N*,*N*,*N*′,*N*′-Tetra-Et, chloride, *in* P-00070
N-[(Phenylamino)thioxomethyl] benzenecarbothioamide, P-00088
▷ *N*-Phenylanthranilic acid, P-00089
4-Phenyl-3,6-bis(4-phenyl-2-pyridyl) pyridazine, P-00106
5-Phenyl-3,6-di-2-pyridyl-1,2,4-triazine, P-00114
Phenylglyoxal, P-00132
Phenyl[5-phenyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazin-6-yl]methanone, P-00157
5-Phenyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazine, P-00158
5-Phenyl-2-(4-phenyl-2-pyridyl) benzimidazole, P-00159
5-Phenyl-3-(4-phenyl-2-pyridyl)-6-(2-pyridyl)-1,2,4-triazine, P-00160
5-Phenyl-3-(4-phenyl-2-pyridyl)-1,2,4-triazoline, P-00161
4-Phenyl-2-(5-phenyl-1,2,4-triazol-3-yl) pyridine, P-00162
Phenylphosphinic acid, P-00163
3-(4-Phenyl-2-pyridinyl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, P-00176
2-(4-Phenyl-2-pyridyl)benzimidazole, P-00178
5-Phenyl-2-(2-pyridyl)benzimidazole, P-00179
3-(4-Phenyl-2-pyridyl)-5,6-di-2-pyridyl-1,2,4-triazine, P-00180
3-(6-Phenyl-2-pyridyl)-5,6-di-2-pyridyl-1,2,4-triazine, P-00181
2-(4-Phenyl-2-pyridyl)-1*H*-imidazo[4,5-*f*][4,7]phenanthroline, P-00182
2-(4-Phenyl-2-pyridyl)-1*H*-imidazo[4,5-*c*] pyridine, P-00183
2-(4-Phenyl-2-pyridyl)-3*H*-imidazo[4,5-*h*] quinoline, P-00184
3-(4-Phenyl-2-pyridyl)-5-(2-pyridyl)-1,2,4-triazoline, P-00185
4-Phenyl-2-(2-pyridyl)pyrimidine, P-00186
4-Phenyl-6-(2-pyridyl)pyrimidine, P-00187
5-Phenyl-2-(2-pyridyl)pyrimidine, P-00188
N-Phenylthiobenzohydroxamic acid, P-00198
6-(5-Phenyl-1,2,4-triazin-3-yl)-2,2′-bipyridine, P-00206
2-(5-Phenyl-1,2,4-triazin-3-yl)-1,10-phenanthroline, P-00207
2-(5-Phenyl-1*H*-1,2,4-triazol-3-yl)pyridine, P-00208
Pyrazinecarboximidic acid hydrazide, P-00284
2,3-Pyrazinedicarboxylic acid, P-00286
2(1*H*)-Pyrazinone (phenylpyrazinylmethylene)hydrazone, P-00290
2-(Pyrazinyl)benzimidazole, P-00296
3-Pyrazinyl-5,6-di-2-pyridyl-1,2,4-triazine, P-00297
3-(Pyrazinyl)-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, P-00301
2-(3-Pyridazinyl)benzimidazole, P-00312
3-(3-Pyridazyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, P-00313
3-Pyridazylhydrazidine, P-00314
3-(3-Pyridazyl)-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, P-00315
▷ 2-Pyridinecarboxaldehyde; Oxime, *in* P-00318
4-Pyridinecarboxylic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, P-00347
3-Pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, P-00349
2,6-Pyridinediacetoxime, *in* P-00352
2,6-Pyridinediamidoxime, *in* P-00353
2-Pyridinethiol *N*-oxide, *in* P-00357
N-2-Pyridinylbenzenecarboximidic acid (oxodi-2-pyridinylethylidene)hydrazide, P-00384
3-(2-Pyridinylcarbonyl)benzenesulfonic acid; Benzoylhydrazone, *in* P-00386
3-(2-Pyridinylcarbonyl)benzenesulfonic acid; Phenylthiosemicarbazone, *in* P-00386
N-(2-Pyridinylmethylene)-8-quinolinamine, P-00397
N-2-Pyridinyl-2-pyridinecarboximidic acid 2-pyrazinylhydrazide, P-00402
3-(2-Pyridinyl)-1,2,4-triazine, P-00411
2-(2-Pyridyl)-1*H*-imidazo[4,5-*f*][4,7] phenanthroline, P-00419
2-(2-Pyridyl)-1*H*-imidazo[4,5-*c*]pyridine, P-00420

2-(2-Pyridyl)-3*H*-imidazo[4,5-*h*]quinoline, P-00421
2-(2-Pyridyl)quinazoline, P-00423
2-(2-Pyridyl)-5,6,7,8-tetrahydroquinazoline, *in* P-00423
2-Pyridyl-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, P-00425
2-Pyrimidinecarboximidic acid hydrazide, P-00426
4-Pyrimidinecarboximidic acid hydrazide, P-00427
2-(2-Pyrimidinyl)benzimidazole, P-00431
Quinizarin S; Na salt, *in* Q-00006
8-Quinolinecarboxylic acid, Q-00018
2-Quinolinecarboxylic acid; *N*-Oxide, *in* Q-00017
2-(2-Quinolyl)benzimidazole, Q-00037
3-(2-Quinolyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, Q-00038
Resorcylaldoxime, *in* D-00517
β-Resorcylamide, *in* D-00531
Selenazone, S-00005
▷ Succinic acid, S-00034
N-(Sulfophenyl)benzohydroxamic acid, *in* H-00109
5,6,7,8-Tetrahydro-2,4-bis(2-pyridyl) quinazoline, T-00054
▷ 3,3′,4′,5-Tetrahydroxy-7-methoxyflavone, T-00078
N,N,N′,N′-Tetrakis(phosphonomethyl)-1,2-cyclohexanediamine; Octa-Na salt, *in* T-00089
5,5′,6,6′-Tetramethyl-3,3-bi(1,2,4-triazine), T-00093
2,3,5,6-Tetra(2-pyridyl)pyrazine, T-00125
3-(2-Thiazolyl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, T-00147
3-(2-Thiazolyl)-1,2,4-triazine, T-00148
1-(2-Thienyl)-1,3-butanedione, T-00150
▷ Thiobenzoic acid, T-00155
1-Thiocarbamido-3-methyl-5-pyrazolone, T-00160
▷ Tiron, T-00186
2,4,6-Tri(2,2′-bipyridin-6-yl)-1,3,5-triazine, T-00202
6,8-Tridecanedione, T-00228
1,1,1-Trifluoro-2,4-pentanedione, T-00257
▷ 1,2,4-Trihydroxyanthraquinone, T-00270
4,4′,4″-Triphenyl-2,2:6′,2″-terpyridine, T-00378
2,4,6-Tri-2-pyridinyl-1,3,5-triazine, T-00381
3,5,6-Tri-2-pyridinyl-1,2,4-triazine, T-00382
Tris(decyl)ethylammonium(1+); Bromide, *in* T-00386
▷ Tris(2-hydroxyethyl)amine, T-00406
2,4,6-Tris[4-(4-sulfophenyl)-2-pyridyl]-*s*-triazine, T-00413
5,7-Undecanedione, U-00001
Wood's reagent, W-00001
Wool fast blue BL; Na salt, *in* W-00002

Lead

▷ Acid yellow 2G; Na salt, *in* A-00059
5-[[4-(Aminosulfonyl)phenyl]azo]-6-hydroxy-2-naphthalenesulfonic acid, A-00350
▷ 5-Amino-1,3,4-thiadiazoline-2(3*H*)-thione, A-00354
Arsazen, A-00403
Arsenazo M, A-00414
3-[(2-Arsonophenyl)azo]-6-[(2-hydroxy-3-nitro-5-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00442
4-[4-(2-Arsonophenyltriazinyl)phenylazo] benzenesulfonic acid, A-00445
▷ 1,2-Benzenedicarboxylic acid, B-00018
5-(1*H*-Benzimidazol-5-yl)-3-phenyl-1-[1-(phenylmethyl)-1*H*-benzimidazol-2-yl] formazan, B-00049
2-[2-(3*H*,5*H*-Benzo[*i,j*]quinolizin-9-yl) ethenyl]-1,3,3-trimethyl-3*H*-indolium(1+); Iodide, *in* B-00074
Benzyldodecylmethyloctylammonium(1+); Bromide, *in* B-00181
N,N′-Bis(butanesulfonyl)-1,2-benzenediamine, B-00271
O,O-Bis(2-methylpropyl) phosphorodithioate; Na salt, *in* B-00413
1,2-Bis(octanesulfonamido)benzene, B-00436
Brilliant congo blue BFL; Tri-Na salt, *in* B-00476
2-Bromodecanoic acid, B-00500
▷ Butylchloromagnesium, B-00622
7-[α-(Carbomethoxyanilino)benzyl]-8-hydroxyquinoline, C-00022
Cationic red violet; Chloride, *in* C-00046
Cellex P, C-00048
Chloropropylmagnesium, C-00250
▷ 18-Crown-6, C-00315
Cyclohexylbenzyldithiocarbamate(1−); Triethylammonium salt, *in* C-00351
▷ Decanoic acid, D-00025
1,6-Diallyl-2,5-dithiobiurea, D-00040
Dibenzyldithiocarbamic acid, *in* D-01124
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(ethylamino)-4-methylphenol, *in* A-00149
O,O-Dibutyl phosphorodithioate; K salt, *in* D-00241
▷ 2,5-Dichloro-3,6-dihydroxy-1,4-benzoquinone, D-00262
O,O-Dihexyl phosphorodithioate, D-00369
2-(2,3-Dihydro-2-benzothiazolyl)phenol, D-00372
2-[2-(1,2-Dihydro-1-methyl-6-quinolinyl) ethenyl]-1,3,3-trimethyl-3*H*-indolinium(1+); Chloride, *in* D-00458
6,7-Dihydroxy-5-(2-pyridinylazo)-2-naphthalenesulfonic acid; Na salt, *in* D-00724
O,O-Diisopentyl phosphorodithioate, D-00746
4-[2-[4-(Dimethylamino)phenyl]ethenyl]-1-phenylquinolinium(1+); Chloride, *in* D-00810
2-[2-[4-(Dimethylamino)phenyl]ethenyl]-1,3,3-trimethyl-3*H*-indolium(1+); Chloride, *in* D-00811
2-[2-[(5-Dimethylamino)-2-thienyl]ethenyl]-1,3,3-trimethyl-3*H*-indolium(1+); Perchlorate, *in* D-00826
(2,5-Dimethylbenzenesulfonylamino) quinoline, D-00833
5,5-Dimethyl-1,3-cyclohexanedione; Bisthiosemicarbazone, *in* D-00847
▷ *O,O*-Dimethyl phosphorodithioate, D-00896
O,O-Dipentyl phosphorodithioate, D-00996
O,O-Dipropyl phosphorodithioate, D-01060
Dithioantipyric acid, D-01116
▷ Dithizone, D-01135
1-Ethyl-2-(1-ethyl-1,4-dihydro-4-pyridinyl)-6-methylquinolinium(1+); Iodide, *in* E-00081
Ethyl violet; Chloride, *in* E-00122
▷ Glyphosine, G-00040
Hexaoxacycloazochrome, H-00067
▷ 4,7,13,16,21,24-Hexaoxa-1,10-diazabicyclo[8.8.8]hexacosane, H-00068
2-[(3-Hydroxy-1-oxo-1*H*-inden-2-yl)imino]-1*H*-indene-1,3(2*H*)-dione, H-00433
N-(2-Hydroxyphenyl)-1-octanesulfonamide, H-00490
8-Hydroxy-2-phenylquinoline, H-00503
4-Hydroxy-3-[(2,3,5-trichloro-6-hydroxyphenyl)azo]-1-naphthalenesulfonic acid; Na salt, *in* H-00556
▷ Isonitrosoacetophenone, *in* P-00132
Lead blue, L-00004
▷ 2-Mercaptobenzimidazole, M-00022
2-Mercapto-*N*-2-naphthylacetamide, M-00038
19-Methoxy-3,6,9,12,15-pentaoxa-21-azabicyclo[15.3.1]heneicosa-1(21),17,19-triene-2,16-dione, M-00101
5-Methyl-4-(2-pyridinylazo)-1,3-benzenediol, M-00280
4-Methyl-2-thiazolidinone; (±)-*form*, *in* M-00315
1,2-Naphthoquinone-4-sulfonic acid 2-(phenylthiosemicarbazone); Na salt, *in* N-00037
4-[[4-[3-(4-Nitrophenyl)-2-triazenyl]phenyl] azo]benzenesulfonic acid; Na salt, *in* N-00146
6,7,9,10,17,18,21,22-Octahydro-16*H*,20*H*-dibenzo-[*h,q*][1,4,7,13,10,16] tetraoxadiazacyclooctadecine, O-00019
[2-[3-[4-(Phenylazo)phenyl]-1-triazenyl] phenyl]arsonic acid, P-00099
N,N′-1,2-Phenylenebismethanesulfonamide, P-00118
Phloxin; Di-K salt, *in* P-00212
4-(2-Pyridinylazo)-1,3-benzenediol, P-00373
Selenazone, S-00005
Sodium diethyldithiocarbamate, *in* D-00344
Sodium tetraethylborate, *in* T-00042
3,3′-Sulfonylbis[*N*-8-quinolylbenzenesulfonamide], S-00055
Tetraoctylammonium(1+); Chloride, *in* T-00110
2,2′-[1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diylbis(methylene)]bis[4-nitrophenol],9CI, T-00115
1,4,10,13-Tetraoxa-7,16-dithiacyclooctadecane, T-00118
S-(Thiocarbamoyl)dithiophosphoric acid; *O,O′*-Di-Et, *in* T-00161
S-(Thiocarbamoyl)dithiophosphoric acid; *O,O′*-Di-Me, *in* T-00161
S-(Thiocarbamoyl)dithiophosphoric acid; *O,O′*-Dipropyl, *in* T-00161
1,7,9-Trihydroxy-3*H*-phenoxazin-3-one, T-00308
1,3,3-Trimethyl-2-[2-(2-methyl-1*H*-indol-3-yl)ethylene]-3*H*-indolium(1+); Chloride, *in* T-00328

Lithium

Benzo-14-crown-4, B-00053
6-Benzyl-6-(2-hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, B-00182
6-Benzyl-6-(2-hydroxy-5-nitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, B-00185
4-([1,1′-Biphenyl]-4-ylcarbonyl)-2,4-dihydro-5-methyl-2-(2-methylphenyl)-3*H*-pyrazol-3-one, B-00213
1,5-Bis[2-(carboxymethoxy)-3,5-dimethylphenyl]-3-phenylformazan, B-00274
1,5-Bis[2-(carboxymethoxy)phenyl]-3-phenylformazan, B-00275
3,3-Bis[(2-methoxyphenoxy)methyl]oxetane, B-00400
3,3-Bis(1-naphthyloxymethyl)oxetane, B-00428
1,4-Bis(8-quinolyloxy)butane, B-00449
1,3-Bis(8-quinolyloxy)-2,2-diethylpropane, B-00450
1,1-Bis(8-quinolyloxymethyl)cyclobutane, B-00451
3,3-Bis(8-quinolyloxymethyl)oxetane, B-00452
1,3-Bis(8-quinolyloxy)propane, B-00453
1-(2-Carboxymethoxy-4-nitrophenyl)-3-phenyl-5-(carboxymethoxyphenyl) formazan, C-00033
5-Decyl-2-(1,4,8,11-tetraoxacyclotetradec-6-yl-methoxy)benzoic acid, D-00027
5-Decyl-2-(1,4,7,10-tetraoxacyclotridec-5-ylmethoxy)benzoic acid, D-00028
Di-2-benzothiazolylmethane, D-00163
6,6-Dibenzyl-1,4,8,11-tetraoxacyclotetradecane, D-00173
7,18-Dibutyl-6,7,9,10,17,18,20,21-octahydrodibenzo-[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecin, D-00236
7,18-Diethyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecin, D-00352

16,17-Dihydro-5*H*,15*H*-dibenzo[*b*,*i*][1,11,4,5,7,8]dioxatetraazacyclotetradecine-7-carbonitrile, D-00375
2,4-Dihydro-5-methyl-2-(2-methylphenyl)-4-(2-naphthalenylcarbonyl)-3*H*-pyrazol-3-one, D-00432
2,4-Dihydro-5-methyl-2-(4-methylphenyl)-4-(2,2,3,3,3-pentafluoro-1-oxopropyl)-3*H*-pyrazol-3-one, D-00433
2,4-Dihydro-5-methyl-2-(methylphenyl)-4-(3,5,5-trimethyl-1-oxohexyl)-3*H*-pyrazol-3-one, D-00434
2,4-Dihydro-5-methyl-2-phenyl-4-(trifluoroacetyl)-3*H*-pyrazol-3-one, D-00449
1,2-Dihydroxy-3-(1,4,7,10,13-pentaoxa-16-azacyclooctadecylmethyl)-9,10-anthracenedione, D-00682
1,2-Dihydroxy-3-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-ylmethyl)-9,10-anthracenedione, D-00737
4-[4-(1,1-Dimethylethyl)benzoyl]-2,4-dihydro-5-methyl-2-(2-methylphenyl)-3*H*-pyrazol-3-one, D-00859
2-[*o*-[(4,5-Dimethylimidazol-2-yl)azo]phenyl]-4,5,7-trimethyl-8-quinazolinol, D-00867
16-[(2,4-Dinitrophenyl)azo]-3,6,9,12-tetraoxabicyclo[12.3.1]octadeca-1(18),14,16-trien-18-ol, D-00970
N-[2,4-Dinitro-6-(trifluoromethyl)phenyl]-3,4,6,7,10,11-hexahydro-2*H*,9*H*-1,5,8,12-benzotetraoxacylotetradecin-14-amine, D-00976
6-Dodecyl-*N*,*N*-diethyl-1,4,8,11-tetraoxacyclotetradecane-6-acetamide, D-01143
6-Dodecyl-6-[2-hydroxy-3,5-bis(4-nitrophenylazo)benzyl]-1,4,8,11-tetraoxacyclotetradecane, D-01144
6-Dodecyl-6-(2-hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, D-01145
6-Dodecyl-6-(2-hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, D-01146
6-Dodecyl-6-[2-hydroxy-5-(1,8-naphthalenedicarboximido)benzyl]-1,4,8,11-tetraoxacyclotetradecane, D-01147
6-Dodecyl-6-(2-hydroxy-5-nitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, D-01148
6-Dodecyl-6-[2-hydroxy-3-nitro-5-(4-nitrophenylazo)benzyl]-1,4,8,11-tetraoxacyclotetradecane, D-01149
6-Dodecyl-6-methyl-1,4,8,11-tetraoxacyclotetradecane, D-01153
2-[[2-(2-Ethoxyethoxy)ethyl](2-ethoxyethyl)aminomethyl]-4-nitrophenol, E-00055
4-(2,2,3,3,4,4,4-Heptafluoro-1-oxobutyl)-2,4-dihydro-5-methyl-2-(4-methylphenyl)-3*H*-pyrazol-3-one, H-00008
1,4,10,13,16,19-Heptaoxacycloheneicosane, H-00013
6-(2-Hydroxy-3,5-dinitrobenzyl)-6-methyl-1,4,8,11-tetraoxacyclotetradecane, H-00156
6-(2-Hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, H-00157
7-Hydroxy-4-methyl-8-(1,4,7-trioxa-10-azacyclododec-10-ylmethyl)-2*H*-1-benzopyran-2-one, H-00334
2-[(2-Hydroxy-1-naphthalenyl)azo]benzoic acid, H-00349
13-(2-Hydroxy-5-nitrobenzyl)-1,4,7,10-tetraoxa-13-azacyclopentadecane, H-00386
10-(2-Hydroxy-5-nitrobenzyl)-1,4,7-trioxa-10-azacyclododecane, H-00387
6-[2-Hydroxy-3-nitro-5-[(4-nitrophenyl)azo]benzyl]-6-methyl-1,4,8,11-tetraoxacyclotetradecane, H-00389
3-Hydroxy-4-[(2-phosphonophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* H-00514
Nitroanthranilazo, N-00079
4-[(4-Nitrophenyl)azo]-2-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-yl)phenol, N-00130
6,7,9,10,17,18,20,21-Octahydro-7,18-dimethyldibenzo[*b*,*k*][1,4,7,10,13,16]hexaoxacyclooctadecine, O-00024
6-[(Phenylmethoxy)methyl]-1,4,8,11-tetraoxacyclotetradecane, P-00142
5-[(Phenylmethoxy)methyl]-1,4,7,10-tetraoxacyclotridecane, P-00143
Thorin, T-00177
1,1,1,-Trifluoro-5,5-dimethyl-2,4-hexanedione, T-00244
2,4,6-Trinitro-*N*-[2-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-ylmethyl)phenyl]benzenamine, T-00356
4,10,15-Trioxa-1,7-diazabicyclo[5.5.5]heptadecane, T-00360

Magnesium

▷ Agar, A-00068
▷ 2-Aminoethanethiol, A-00170
4-Amino-5-hydroxy-7-[(2-hydroxyphenyl)azo]-1,3-naphthalenedisulfonic acid, A-00193
5-Amino-4-hydroxy-3-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, A-00194
1,4,9,10-Anthracenetetrol, A-00381
4-[4-[(3-Arsono-5-chloro-2-hydroxyphenyl)azo]-4,5-dihydro-3-methyl-5-oxo-1*H*-pyrazol-1-yl]benzenesulfonic acid, A-00419
▷ Azovan blue, A-00479
Benzo-15-crown-5, B-00054
[2,2′-Biquinoline]-4,4′-dicarboxylic acid, B-00237
2,3-Bis(2-hydroxybenzylideneamino)benzofuran, B-00361
▷ *N*,*N*′-Bis(2-hydroxybenzylidene)-1,2-ethanediamine, B-00363
▷ 2-Butoxyethanol, B-00613
C.I. Acid violet 3; Di-Na salt, *in* C-00001
Calconalide I, C-00013
7-[α-(Carbomethoxyanilino)benzyl]-8-hydroxyquinoline, C-00022
3-[[7-[(2-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]-2-hydroxy-5-sulfobenzoic acid, C-00038
2-[[7-[(5-Chloro-2-hydroxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, C-00143
3-[[4-[(5-Chloro-2-hydroxyphenyl)azo]-3-hydroxyphenyl]ethylamino]-1-propanesulfonic acid, C-00148
Chrome black special; Mono-Na salt, *in* C-00278
Chrome bordeaux B; Di-Na salt, *in* C-00279
Chromotrope 2R; Di-Na salt, *in* C-00293
▷ 4-Diazobenzenesulfonic acid, D-00142
▷ Dibenzo-18-crown-6, D-00156
▷ 5,7-Dibromo-8-hydroxyquinoline, D-00193
4-[[4-(Diethylamino)-2-hydroxyphenyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, D-00320
Dihydro-5-[3-(1,2,3,4-tetrahydro-6-hydroxy-4-oxo-5-pyrimidinyl)-2-propenylidene]-4,6(1*H*,5*H*)-pyrimidinedione, D-00490
▷ 1,8-Dihydroxyanthraquinone, D-00512
2,2′-Dihydroxyazobenzene, D-00514
o-[[1,8-Dihydroxy-7-[(2-hydroxy-5-sulfophenyl)azo]-3,6-disulfo-2-naphthyl]azo]benzoic acid, D-00630
4,5-Dihydroxy-3-[(4-nitro-2-phosphonophenyl)-azo]-2,7-naphthalenedisulfonic acid, D-00671
3-(2,4-Dihydroxyphenylazo)-4-hydroxybiphenyl, D-00694
▷ 5,7-Diiodo-8-quinolinol, D-00744
▷ 2,3-Dimercapto-1-propanesulfonic acid, D-00761
2,4-Dinitro-6-chlorophenylazothymol, D-00951
4-(3,5-Dinitro-2-hydroxyphenylazo)-1-naphthol, D-00955
3-[Ethyl[3-hydroxy-4-[(2-hydroxy-5-methylphenyl)azo]phenyl]amino]-1-propanesulfonic acid, E-00087
3-[Ethyl[3-hydroxy-4-[(2-hydroxyphenyl)azo]phenyl]amino]-1-propanesulfonic acid, E-00088
4-[[4-[Ethyl(3-sulfopropyl)amino]-2-hydroxyphenyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, E-00115
9*H*-Fluorene-2-carboxaldehyde; 2-Pyridylhydrazone, *in* F-00012
Fura 2; Tetra-K salt, *in* F-00039
▷ Hexadecanoic acid, H-00026
1-Hydroxyanthraquinone-2-carboxylic acid, H-00099
4-[4-Hydroxy-3-biphenylylazo]-1,3-benzenediol, H-00133
1-(4-Hydroxy-3-biphenylylazo)-2-naphthol, H-00134
8-Hydroxy-5,7-dinitroquinoline, H-00165
2-(2-Hydroxy-3,6-disulfo-1-naphthalenylazo)-5-(*N*,*N*-diethylamino)phenol, H-00173
2-(2-Hydroxy-3,6-disulfo-1-naphthalenylazo)-5-[*N*-ethyl-*N*-(sulfopropyl)amino]phenol, H-00174
3-Hydroxy-4-[[2-hydroxy-3-[[(2-methoxyphenyl)amino]carbonyl]-1-naphthalenyl]azo]-1-naphthalenesulfonic acid, H-00207
2-Hydroxy-1-naphthaldehyde, H-00336
2-Hydroxy-4-(4-nitrophenylazo)benzoic acid, H-00393
3-Hydroxy-1-(4-nitrophenyl)-3-phenyl-1-triazene, H-00404
N-Hydroxy-*N*-nitrosocyclododecanamine, H-00410
4-[(2-Hydroxyphenyl)azo]-1,3-benzenediol, H-00449
1-[(2-Hydroxyphenyl)azo]-2-naphthalenol, H-00455
▷ 8-Hydroxyquinoline, H-00525
Indo 1; Tetra-K salt, *in* I-00031
Isatin; 3-(4-Nitrophenylhydrazone), *in* I-00056
Lumomagneson, L-00016
Mag-fura-2, M-00003
Mag-fura-2; Tetrakis(acetoxymethyl)ester, *in* M-00003
Magon, M-00005
Mordant blue 44; Di-Na salt, *in* M-00342
Mordant green 34; Na salt, *in* M-00343
Naphthol black 3B; Tetra-Na salt, *in* N-00028
4-*p*-Nitrobenzeneazo-1-naphthol, *in* N-00032
4-[(4-Nitrophenyl)azo]-1-naphthalenol, N-00126
4-Nitrophenylstibinic acid, N-00144
▷ 5,5′-(1,3-Pentadien-1-yl-5-ylidene)dibarbituric acid, P-00009
4,7,13,16,21-Pentaoxa-1,10-diazabicyclo[8.8.5]tricosane, P-00037
Phenazo, P-00059
4-[[4-(Phenylamino)phenyl]azo]benzenesulfonic acid; Na salt, *in* P-00084
5,5′-(1-Propen-1-yl-3-ylidene)bis[2-thiobarbituric acid], P-00273
Pyridoxal nicotinoylhydrazone, P-00415
▷ Solochrome black 6BN; Na salt, *in* S-00017
Solochrome fast blue B, *in* A-00225
Solochrome fast red; Na salt, *in* S-00020
Titan yellow; Di-Na salt, *in* T-00187
1,2,7-Trihydroxyanthraquinone, T-00271
Xylidine blue II, X-00007

Manganese

▷ 2-Acetoxybenzoic acid, A-00010
Alamine 336S, A-00073
▷ 2-Aminoethanethiol, A-00170
N-[3,5-Bis(trifluoromethyl)phenyl]-*N*-hydroxy-3,5-bis(trifluoromethyl)benzamide, B-00465

Brilliant yellow; Di-Na salt, *in* B-00480
Calcein, C-00010
Cellex P, C-00048
4-Chlorobenzoic acid [(2-bromo-6-hydroxyphenyl)methylene]hydrazide, C-00068
2-Chloro-5-[[5-hydroxy-4-[(2-hydroxy-1-naphthalenyl)azo]-2-methylphenyl]azo] benzenesulfonic acid; Na salt, *in* C-00132
1,3-Cyclohexanedione bis(2-hydroxybenzoyl)hydrazone, C-00342
Cyclohexylbenzyldithiocarbamate(1 –); Triethylammonium salt, *in* C-00351
2,2′-Diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00059
4,8-Diamino-9,10-dihydro-1,5-dihydroxy-9,10-dioxo-2,6-anthracenedisulfonic acid, D-00073
▷ 4,4′-Diamino-3,3′-dimethylbiphenyl, D-00083
4,4-Dicarboxy-2,2′-diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid, D-00245
▷ *N*,*N*-Diethylaniline, D-00337
4,7-Dihydroxy-1*H*-isoindole-1,3 (2*H*)-dione; Dithiosemicarbazone, *in* D-00636
4,4′-Dimethoxy-2,2′-diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid, *in* D-00572
4-(1,1-Dimethylethyl)-*N*-hydroxy-*N*-(2-methylphenyl)benzamide, *in* B-00619
4-(1,1-Dimethylethyl)-*N*-hydroxy-*N*-phenylbenzamide, *in* B-00619
Dithiocarbonic acid; *O*-Butyl ester, *in* D-01125
5,5′-Dithiodisalicylhydroxamic acid, D-01131
▷ Dodecylamine, D-01142
Ecarazine hydrochloride, *in* T-00188
▷ Edetol, E-00001
▷ 1,2-Ethanediylbis[triphenylphosphonium] (2+); Dibromide, *in* E-00034
▷ 4-Ethoxyaniline, E-00051
Formaldoxime, *in* F-00035
Gluconic acid; D-*form*, *in* G-00011
Hexahydro-1,3,5-trihydroxy-1,3,5-triazine, H-00051
▷ Hexanoic acid, H-00066
2-Hexylbutanedioic acid; (±)-*form*, *in* H-00073
2-Hydroxybenzaldehyde guanylhydrazone, H-00105
▷ 2-Hydroxy-2,2-diphenylacetic acid, H-00166
2-[2-(Hydroxyimino)-1-methylpropylidene]-*N*-phenylhydrazinecarbothioamide, H-00248
N-Hydroxy-4-methoxy-*N*-phenylbenzamide, *in* D-00704
N-Hydroxy-2-methyl-*N*-phenylbenzamide, H-00306
N-Hydroxy-4-methyl-*N*-phenylbenzamide, H-00307
4-Hydroxy-3-[[5-(1-methyl-2-piperidinyl)2-pyridinyl]azo]-1-naphthalenesulfonic acid; Na salt, *in* H-00319
8-Hydroxy-2-methylquinoline, H-00326
2-Hydroxy-1-naphthaldehyde; Thiosemicarbazone, *in* H-00336
8-Hydroxy-2-phenylquinoline, H-00503
N-Hydroxy-*N*-phenyl-3-(trifluoromethyl) benzamide, H-00511
3-Hydroxy-2-pyridinecarboxaldehyde [(3-hydroxy-2-pyridinyl)methylene] hydrazone, H-00519
3-Hydroxy-2-pyridinecarboxaldehyde; Thiosemicarbazone, *in* H-00518
N-Hydroxy-3-pyridinecarboxamide, *in* P-00341
4-Hydroxy-3-[(2,3,5-trichloro-6-hydroxyphenyl)azo]-1-naphthalenesulfonic acid; Na salt, *in* H-00556
Indigo-5-sulfonic acid, I-00027
▷ Isonitrosoacetophenone, *in* P-00132
Isophthaldihydroxamic acid, *in* B-00019
Lucigenine; Dinitrate, *in* L-00012
6-Methoxy-2-methylthio-4-pyrimidinecarboxylic acid, *in* H-00261
Methylcalcein; Di-Na salt, *in* M-00152
Mordant blue 44; Di-Na salt, *in* M-00342
4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakisbenzoic acid, P-00251
5-(2-Quinolinylazo)-1,2,4-benzenetriol, Q-00028
Selenazone, S-00005
Solochrome fast blue B, *in* A-00225

Manganese: permanganate/manganate (VII)

2-(Benzylthio)-6-hydroxy-4-pyridimidinecarboxylic acid, *in* H-00261
2-(Ethylthio)-6-hydroxy-4-pyrimidinecarboxylic acid, *in* H-00261
2,4,6-Triphenylpyridine; *N*-Ph, acetate (salt), *in* T-00373

Mercury

▷ 2-Aminobenzothiazole, A-00113
4-Amino-2,4-dihydro-5-propyl-3*H*-1,2,4-triazole-3-thione, A-00157
1-Amino-8-ethoxyphenothiazine, *in* H-00440
3-Amino-1*H*-isoindole-1-thione, A-00229
▷ 2-Amino-4-methylthiazole, A-00257
2-(4-Antipyrylazo)-5-diethylaminophenol, A-00392
Astrafloxine FF; Chloride, *in* A-00449
Azoxin H, A-00480
5-(2-Benzothiazolyl)-3-(2-hydroxyphenyl)-1-phenylformazan, B-00103
5-Benzothiazolyl-3-(2-methoxyphenyl)-1-phenylformazan, *in* B-00103
5-(1-Benzyl-2-benzimidazolyl)-3-(2-hydroxyphenyl)-1-phenylformazan, B-00169
5-(1-Benzyl-2-benzimidazolyl)-3-(2-methoxyphenyl)-1-phenylformazan, *in* B-00169
Bindschedler's green; Chloride, *in* B-00206
N,*N*′-Bis(butanesulfonyl)-1,2-benzenediamine, B-00271
4,4′-Bis(dimethylamino)thiobenzophenone, B-00326
▷ Bis(2-ethylhexyl) phosphate, B-00352
1,2-Bis[[[2-(ethylthio)ethyl]thio]methyl] benzene, B-00355
1,3-Bis[[[2-(ethylthio)ethyl]thio]methyl] benzene, B-00356
1,4-Bis[[[2-(ethylthio)ethyl]thio]methyl] benzene, B-00357
2,5-Bis(2-hydroxyethylamino)-1,4-benzenedicarboxylic acid, B-00368
1,2-Bis(octanesulfonamido)benzene, B-00436
1,8-Bis(octanesulfonamido)naphthalene, B-00437
Bis(4-sulfobenzyl)dithiocarbamic acid; Tri-Na salt, *in* B-00454
Bis[2-[(tetrahydro-2*H*-pyran-2-yl)thio] phenyl]diazene, B-00458
Cadion, C-00006
2-Carboxy-1-pyrrolidinecarbodithioic acid; (*S*)-*form*, K salt, *in* C-00044
1-(*p*-Chlorobenzyl)-4,6-diphenyl-2-pyridinethione, C-00071
Chromopyrazole II, C-00288
▷ Cyclohexanone, C-00347
Cyclohexylbenzyldithiocarbamate(1 –); Triethylammonium salt, *in* C-00351
4,4′-Diamino-3,3′-diethoxybiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00070
Dibutyl-(2-hydroxypropyl)thiophosphonic acid, D-00234
O,*O*-Dibutyl phosphonothioate, D-00240
2-(4-Diethylamino-2-hydroxyphenylazo) thiazole, *in* A-00214
2,3-Dihydro-5,6-diphenyl-1,2,4-triazine-3-thione, D-00402
1,2-Dihydro-4-[(2-hydroxynaphthalenyl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00415
4,5-Dihydro-3-methyl-5-oxo-1*H*-pyrazole-4-carbodithioic acid, D-00440
4,5-Dihydroxy-3,6-diimino-1,2-benzoquinone, D-00573
15,16-Dihydroxy-7-phenyl-5*H*-dibenzo[*b*,*i*][1,11,4,5,7,8] dioxatetraazacyclotridecine, D-00709
(2,5-Dimethylbenzenesulfonylamino) quinoline, D-00833
N,*N*-Dimethyl-4-(2-pyridinylazo) benzenamine, D-00909
1,2-Di-4-morpholinylethane, D-00928
Dinaphthizone, D-00931
8-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo] quinoline, D-01025
Di-2-pyridinylethanedione; 2-Quinolylhydrazone, *in* D-01063
1,4-Dithiane, D-01111
1,12-Di-2-thienyl-2,5,8,11-tetrathiadodecane, D-01115
▷ Dithizone, D-01135
DSS, *in* T-00344
▷ Eicosahydrodibenzo[*b*,*k*][1,4,7,10,13,16] hexaoxacyclooctadecine, E-00004
S-Ethyl-*N*-(diisopropylthiophosphoryl) dithiocarbamate, *in* B-00404
▷ Formic acid, F-00037
1-(2-Furanylmethyl)-4,6-diphenyl-2(1*H*)-pyridinethione, F-00055
Glyoxal bis(4-biphenylylthiosemicarbazone), G-00021
Glyoxal bis(4-fluorophenylthiosemicarbazone), G-00026
Glyoxal bis(2-mercaptoanil), G-00029
Glyoxal bis(thiosemicarbazone), G-00034
Hexabutylphosphorothioic triamide, *in* H-00020
6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e*,*n*][1,4,10,7,13] dioxathiadiazacyclopentadecine, H-00038
6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e*,*k*][1,7,10,4,13] oxadithiadiazacyclopentadecine, H-00039
6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e*,*n*][1,4,10,7,13]-trioxadiazacyclopentadecine, H-00045
1,4,7,10,13,16-Hexathiacyclooctadecane, H-00070
6-Hydroxy-2-mercapto-4-pyrimidinecarboxylic acid, H-00261
5-Hydroxy-6-methyl-2-[(4-nitrophenyl)azo]-3,4-pyridinedimethanol, H-00294
2-[(3-Hydroxy-1-oxo-1*H*-inden-2-yl)imino]-1*H*-indene-1,3(2*H*)-dione, H-00433
2-(2-Hydroxyphenyl)benzimidazole, H-00465
N-(2-Hydroxyphenyl)-1-octanesulfonamide, H-00490
3-(2-Hydroxyphenyl)-1-phenyl-5-(1-phenyl-2-benzimidazolyl)formazan, H-00495
8-Hydroxy-2-phenylquinoline, H-00503
3-[(8-Hydroxy-7-quinolinyl)azo]-1,5-naphthalenedisulfonic acid; Di-K salt, *in* H-00531
▷ 2-Imidazolidinethione, I-00003
▷ Isooctyl thioglycolate, *in* M-00016
Macrocyclic formazan I, M-00001
Macrocyclic formazan II, M-00002
▷ 2-Mercaptobenzimidazole, M-00022
2-Mercapto-*N*-2-naphthylacetamide, M-00038
▷ 3-Mercapto-1,2-propanediol, M-00050
1-(*p*-Methoxybenzyl)-4,6-diphenylpyridine-2-thione, M-00084
6-Methoxy-3-methyl-2-[[4-(methylphenylamino)phenyl]azo] benzothiazolium(1+); Chloride, *in* M-00091
3-(2-Methoxyphenyl)-1,5-diphenylformazan, M-00107
1-(4-Methoxyphenyl)-3-phenyl-5-(1-phthalazinyl)formazan, M-00116

Methylglyoxal 4-dimethylaminoanil, M-00184
7-Methyl-2,4-octanedione, M-00209
1-[(4-Methylphenyl)methyl]-4,6-diphenyl-2(1*H*)-pyridinethione, M-00233
1-(4-Methylphenyl)-3-phenyl-5-(1-phthalazinyl)formazan, M-00238
6-Methyl-2-pyridinecarboxaldehyde; Thiosemicarbazone, *in* M-00266
3-Methyl-2-pyridinethiol; *N*-Oxide, *in* M-00273
5-Methyl-2(1*H*)-pyridinethione; *N*-Oxide, *in* M-00275
6-Methyl-2(1*H*)-pyridinethione; *N*-Oxide, *in* M-00276
4-Methyl-2(1*H*)-pyridinethione; *N*-Oxide, tris Fe(*III*) complex, *in* M-00274
5-[(6-Methyl-2-pyridinyl)methylene]-2-thioxo-4-imidazolidinone, M-00291
▷ 3-Nitrobenzoic acid, N-00092
▷ Nitrofurazone, *in* N-00109
(4-Nitrophenyl)diazenecarboxylic acid 2-phenylhydrazide, N-00133
N-(3-Nitrophenyl)-*β*-oxobenzenepropenamide, N-00140
1-(4-Nitrophenyl)-5-phenylcarbazone, N-00141
1-(4-Nitrophenyl)-3-phenyl-5-(1-phthalazinyl)formazan, N-00143
4-[3-(4-Nitrophenyl)-1-triazenyl] benzenesulfonic acid; Na salt, *in* N-00145
4-[[4-[3-(4-Nitrophenyl)-2-triazenyl]phenyl] azo]benzenesulfonic acid; Na salt, *in* N-00146
Nitrosobenzene, N-00155
7-Nitroso-8-hydroxyquinoline, N-00158
1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-amine, O-00008
1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecine, O-00009
6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e*,*n*][1,4,7,13] dioxadiazacyclopentadecine, O-00012
6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e*,*n*][1,4,8,12] dioxadiazacyclopentadecine, O-00013
5,6,7,8,9,10,16,17-Octahydrodibenzo[*e*,*m*][1,4,8,11] dioxadiazacyclotetradecine, O-00014
6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e*,*n*][1,4,7,13] dithiadiazacyclopentadecine, O-00015
6,7,8,9,10,11,17,18-Octahydro-8-[(4-methylphenyl)sulfonyl]-5*H*-dibenzo[*e*,*n*][1,4,7,10,13] dioxatriazacyclopentadecine, O-00028
Oxamide bisphenylhydrazone, O-00050
2-(1-Oxo-2(1*H*)-naphthalenylidene) hydrazinecarbothioamide, *in* N-00031
2-Oxo-*N*-phenylcyclopentanecarboxamide, *in* O-00060
[2-[3-[4-(Phenylazo)phenyl]-1-triazenyl] phenyl]arsonic acid, P-00099
4-Phenyl-3*H*-1,2-dithiole-3-thione, P-00115
5-Phenyl-3*H*-1,2-dithiole-3-thione, P-00116
N,*N*′-1,2-Phenylenebismethanesulfonamide, P-00118
Phenylglyoxal, P-00132
3-Phenyl-1-(1-phthalazinyl)-5-(*p*-carboxyphenyl)formazan, P-00165
N-(Phenylsulfonyl)glycine, P-00196
1-Phenyl-3-thioxo-1-butanone, P-00202
6-Phenyl-1,2,4-triazine-3(2*H*)-thione, P-00205
1-(1-Phthalazinyl)-3,5-diphenylformazan, P-00219
▷ 2-Propen-1-ol, P-00271
4-Pyridinecarboxylic acid [[4-(diethylamino)phenyl]methylene] hydrazide, P-00344
4-Pyridinecarboxylic acid [[4-(dimethylamino)phenyl]methylene] hydrazide, P-00346
2-(2-Quinolinylazo)-1-acenaphthylenol, Q-00027
1-(2-Quinolinylazo)-2-phenanthrenol, Q-00031
▷ Sodium tetraphenylborate(*III*), S-00015
3,3′-Sulfonylbis[*N*-8-quinolylbenzenesulfonamide], S-00055
▷ Tetraethylenepentamine, T-00044
6,7,9,10-Tetrahydro-18-phenyl-16*H*-dibenzo[*b*,*i*][1,11,14,4,5,7,8] trioxatetraazacyclohexadecine, T-00065
1,4,8,11-Tetrathiacyclotetradecane, T-00126
3,6,9,12-Tetrathia-1,14-tetradecanedithiol, T-00130
2-(2-Thienyl)benzothiazole, T-00149
5-(2-Thienylmethylene)-2-thioxo-4-imidazolidinone, T-00152
2,2′-Thiobisethanamine; B,2HCl, *in* T-00156
▷ Thymine, T-00179
1-(1*H*-1,2,4-Triazol-3-ylazo)-2-naphthalenol, T-00200
O,*O*,*O*-Tributyl phosphorothioate, T-00215
Tridodecylamine, T-00230
Tridodecylamine; *N*-Oxide, *in* T-00230
1,1,1-Trifluoro-7-methyl-2,4-octanedione, T-00255
N,*N*′,*N*″-Trihexylphosphorothioic triamide, T-00267
1,7,9-Trihydroxy-3*H*-phenoxazin-3-one, T-00308
▷ Trimethylsulfonium(1+); Iodide, *in* T-00347
Triphenylselenonium(1+); Chloride, *in* T-00375
Xylenol orange, X-00006

Molybdenum

Acetyl dithiol, *in* M-00129
2-Acetylpyridine; Thiosemicarbazone, *in* A-00039
▷ 2-Aminobenzenethiol, A-00101
2-Aminobenzophenone; *N*-Me, *in* A-00111
2-Amino-4-chlorobenzenethiol, A-00135
9-(4-Aminophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, A-00328
2′-Benzoylacetanilide, *in* A-00111
N-Benzylaniline, B-00165
Bis(2-aminoethyl)dithiocarbamic acid, B-00245
N,*N*-Bis(3-methylbutyl)-1-octanamine, B-00403
4-[(4-Bromophenyl)azo]-1,2,3-benzenetriol, B-00545
Bromopyrogallol red, B-00574
Butyltriphenylphosphonium(1+), B-00640
4-Carboxy-6,7-dihydroxy-2-phenyl-1-benzopyrylium(1+); Chloride, *in* C-00029
2-Chloro-*N*,*N*′-bis(4-chlorophenyl) benzenecarboximidamide; B,HCl, *in* C-00073
2-Chloro-*N*-(2-chlorophenyl)-*N*′-(4-chlorophenyl)benzenecarboximidamide; B,HCl, *in* C-00083
2-Chloro-*N*-(3-chlorophenyl)-*N*′-(4-chlorophenyl)benzenecarboximidamide; B,HCl, *in* C-00084
2-Chloro-*N*-(4-chlorophenyl)-*N*′-(2-methylphenyl)benzenecarboximidamide, *in* C-00082
2-Chloro-*N*-(4-chlorophenyl)-*N*′-(3-methylphenyl)benzenecarboximidamide, *in* C-00082
2-Chloro-*N*-(4-chlorophenyl)-*N*′-(4-methylphenyl)benzenecarboximidamide, *in* C-00082
2-Chloro-*N*-(4-chlorophenyl)-*N*′-phenylbenzenecarboximidamide; B,HCl, *in* C-00089
4-Chloro-*N*-(2,3-dimethylphenyl)-*N*′-phenylbenzenecarboximidamide, C-00102
▷ 5-Chloro-8-hydroxy-7-iodoquinoline, C-00134
4-[(4-Chlorophenyl)azo]-1,2,3-benzenetriol, C-00200
N-(4-Chlorophenyl)-*N*′-(2,6-dimethylphenyl) benzenecarboximidamide, C-00214
N-(4-Chlorophenyl)-*N*′-(2,3-dimethylphenyl)-*N*-hydroxy-4-methylbenzenecarboximidamide, C-00219
2-(4-Chlorophenyl)-2-hydroxyacetic acid; (±)-*form*, *in* C-00222
N-(4-Chlorophenyl)-*N*′-phenylbenzenecarboximidamide, C-00237
9-(2-Chlorophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, C-00240
4-Chloro-*N*-(2-pyridinyl)benzamide, C-00256
Chromotropic acid, C-00294
Cupron, *in* B-00068
1,1-Diantipyrylphenylmethane, D-00140
2,5-Dibromo-3,6-dihydroxy-1,4-benzoquinone, D-00182
2,7-Dibromogallein, D-00189
▷ Dibutyl phosphate, D-00237
N-2,5-Dichlorophenyl-*N*′-phenylbenzamidine, D-00296
▷ 1,2-Dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00392
1,2-Dihydro-4-[(4-hydroxyquinolin-8-yl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00423
4,5-Dihydro-1*H*-pyrazole-1-carbodithioic acid, D-00479
3,4-Dihydroxyazobenzene, D-00515
▷ 3,4-Dihydroxybenzaldehyde, D-00519
▷ 2,5-Dihydroxybenzoic acid, D-00532
2,2′-Dihydroxybenzophenone; Thiosemicarbazone, *in* D-00535
6,7-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+); Chloride, *in* D-00576
6,7-Dihydroxy-2,4-diphenyl-1-benzopyrylium(1+); Chloride, *in* D-00584
7,8-Dihydroxy-2,4-diphenyl-1-benzopyrylium(1+); Chloride, *in* D-00585
3,4-Dihydroxy-10-imino-9(10*H*)-anthracenone, D-00634
4,7-Dihydroxy-1*H*-isoindole-1,3 (2*H*)-dione; Dithiosemicarbazone, *in* D-00636
6,7-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00647
6,7-Dihydroxy-2-naphthalenesulfonic acid, D-00658
7,8-Dihydroxy-3-phenyl-2*H*-1-benzopyran-2-one, D-00705
7,8-Dihydroxy-4-phenyl-2*H*-1-benzopyran-2-one, D-00706
6,7-Dihydroxy-4-phenylcoumarin, D-00708
2,3-Dimercapto-2-butenedinitrile, *in* D-00753
▷ 2,3-Dimercapto-1-propanesulfonic acid, D-00761
2,3-Dimercaptopropanoic acid, D-00762
4,5-Dimethyl-1,2-benzenedithiol, D-00832
N-(2,6-Dimethylphenyl)-*N*′-phenylbenzenecarboximidamide, D-00893
Dinonylamine, D-00979
N,*N*′-Diphenylbenzamidine, D-01001
O,*O*-Di-2-propenyl phosphorodithioate, D-01058
▷ *O*,*O*-Di-2-propynyl phosphorodithioate, D-01061
1,1′-(2,2′-Disulfo-4,4′-biphenylene)bis(3-hydroxy-3-phenyltriazene); Di-Na salt, *in* D-01108
1-[(4-Ethoxyphenyl)amino]-2-mercapto-1-propanone, E-00058
N-(4-Ethylphenyl)-*N*′-phenylbenzenecarboximidamide, E-00104
9-Ethyl-2,6,7-trihydroxy-3*H*-xanthen-3-one, E-00121
Etymemazine; (±)-*form*, *in* E-00123
3-(2-Furanyl)-2-mercapto-2-propenoic acid, F-00054

2,3,3′,4,4′,5′-Hexahydroxybenzophenone, H-00054
2-Hydroxy-5-anisaldoxime, *in* D-00518
N-Hydroxy-*N*,*N*′-diphenylthiourea, *in* D-01055
N-Hydroxy-2-methyl-*N*-[3-(trifluoromethyl) phenyl]benzamide, H-00333
5-[(2-Hydroxy-1-naphthalenyl)azo]-2,4-(1*H*,3*H*)-pyrimidinedione; NH_4 salt, *in* H-00354
1-[(2-Hydroxy-5-nitrophenyl)azo]-2-naphthalenol, H-00396
N-Hydroxy-3-pyridinecarboxamide, *in* P-00341
8-Hydroxy-5-quinolinesulfonic acid, H-00528
4-[(4-Iodophenyl)azo]-1,2,3-benzenetriol, I-00049
Isophthaldihydroxamic acid, *in* B-00019
Isopropyltriphenylphosphonium(1+); Bromide, *in* I-00079
▷ α-Lobeline, *in* L-00010
2-Mercapto-4*H*-1-benzothiopyran-4-one, M-00025
Mercaptobutanedioic acid; (±)-*form*, *in* M-00026
2-Mercaptopropanoic acid; (±)-*form*, *in* M-00051
▷ 4-Methyl-1,2-benzenedithiol, M-00129
▷ 2-(1-Methylethylidene) hydrazinecarbothioamide, *in* A-00007
▷ 4-Methyl-2-pentanone, M-00218
N-(4-Methylphenyl)-*N*′-phenylbenzenecarboximidamide, M-00236
4-Methyl-*N*-2-pyridinylbenzamide, M-00285
Mono(2-ethylhexyl) phosphate, M-00339
Neotetrazolium(2+); Dichloride, *in* N-00063
2-Nitrobenzohydroxamic acid, N-00089
4-[(4-Nitrophenyl)azo]-1,2,3-benzenetriol, N-00124
▷ 1-Nitroso-2-naphthol, N-00160
5-[(Octyloxy)methyl]-8-quinolinol, O-00039
3,3′,4′,5,7-Pentahydroxyflavanone; (2*R*,3*R*)-*form*, *in* P-00023
▷ Perazine, P-00043
4-(Phenylazo)-1,2,3-benzenetriol, P-00092
Phenylazoxine S, P-00101
[Phenyl(phenylamino)]methylphosphonic acid; Mono-octyl ester, *in* P-00155
▷ Piperazine, P-00237
▷ Purpurogallin, P-00282
2,3-Pyrazinedicarboxylic acid, P-00286
4-Pyridinecarboxylic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, P-00347
N-2-Pyridinylbenzamide, *in* A-00333
N-2-Pyridinyl-2-furancarboxamide, P-00390
Pyridoin, P-00412
▷ Quinoline, Q-00007
▷ Rutin, R-00014
Sulfonitrophenol S, S-00054
▷ Tetrabromo-1,2-benzenediol, T-00012
5-(1,1,3,3-Tetramethylbutyl)-1,2,3-benzenetriol, T-00094
Tetraoxacycloazochrome, T-00112
Tribenzylamine, T-00201
2,2,2-Trichloroacetohydroxamic acid, T-00219
Tridodecylamine, T-00230
O,*O*,*S*-Triethyl phosphorodithioate, T-00235
3,4,6-Trihydroxy-5*H*-benzocyclohepten-5-one, T-00275
2,3,4-Trihydroxybenzophenone, T-00278
4-[(3,4,5-Trihydroxybenzoyl)amino]benzoic acid, T-00280
2,6,7-Trihydroxy-9-(2-nitrophenyl)-3*H*-xanthen-3-one, T-00301
4-[(2,3,4-Trihydroxyphenyl)azo]benzoic acid, T-00311
1-(2,3,4-Trihydroxyphenyl)-1-butanone, T-00314
2,6,7-Trihydroxy-9-phenyl-3*H*-xanthen-3-one, T-00315
2,6,7-Trihydroxy-9-propyl-3*H*-xanthen-3-one, T-00316
Tris(6-methylheptyl)amine; B,HCl, *in* T-00408
▷ Xanthic acid; K salt, *in* X-00002

Nickel

Acenaphthenequinone; Dioxime, *in* A-00001
▷ Acetaldoxime, *in* A-00002
▷ Acetamidoxime, A-00004
2-Acetyl-1-naphthol; Oxime, *in* A-00026
4-Acetylpyridine 4-ethyl-3-thiosemicarbazone, A-00041
2-Amino-1-cyclohexene-1-dithiocarboxylic acid, A-00146
2-Amino-1-cyclopentene-1-dithiocarboxylic acid, A-00147
3-Amino-4,5-dihydro-5-oxo-1-phenyl-1*H*-pyrazole-4-carbodithioic acid, A-00155
8-(7-Amino-1-hydroxy-3-sulfophenylazo)-7-hydroxy-1-naphthalenesulfonic acid; Di-Na salt, *in* A-00223
3-[(Aminoiminomethyl)thio]propanoic acid, A-00228
▷ 3-Amino-2-naphthoic acid, A-00280
▷ 5-Amino-1,3,4-thiadiazoline-2(3*H*)-thione, A-00354
1-[(5-Amino-1,3,4-thiadiazol-2-yl)azo]-2-naphthalenol, A-00358
α-Benzaldoxime, *in* B-00004
4-(1*H*-Benzimidazol-5-ylazo)-3-hydroxy-2,7-naphthalenedisulfonic acid, B-00042
5-(1*H*-Benzimidazol-5-ylazo)-8-quinolinol, B-00043
Benzoic acid [1-[2-(4-bromo-2-nitrophenyl) hydrazino]ethylidene]hydrazide, B-00060
Benzoic acid [1-[2-(2,4-dinitrophenyl) hydrazino]ethylidene]hydrazide, B-00062
Benzoic acid [1-[2-(2-nitrophenyl) hydrazino]ethylidene]hydrazide, B-00065
Benzoic acid [1-[2-(4-nitrophenyl) hydrazino]ethylidene]hydrazide, B-00066
Benzointhiosemicarbazone, *in* B-00068
2-Benzothiazolecarboxaldehyde 2-benzothiazolylhydrazone, B-00086
2-(Benzothiazolylazo)-5-diethylaminobenzoic acid, *in* A-00114
5-(2-Benzothiazolyl)-1,3-diphenylformazan, B-00101
▷ 1*H*-Benzotriazole, B-00110
2-Benzoyl-4-(2-nitrophenyl)acetohydrazine, B-00141
N-Benzyl-4-(4-diethylaminophenylazo) pyridinium(1+), B-00176
1-Benzyl-2-(α-hydroxyimino-4-nitrobenzyl)-1*H*-imidazole, B-00183
Benzylmethylglyoxime, *in* P-00107
N,*N*′-Bis(*o*-aminobenzylidene) ethylenediamine, B-00242
1,5-Bis[2-(carboxymethoxy)-3,5-dimethylphenyl]-3-phenylformazan, B-00274
1,5-Bis[2-(carboxymethoxy)phenyl]-3-phenylformazan, B-00275
Bis(4-chlorophenyl)ethanedione; Dioxime, *in* B-00285
Bis(di-2-pyridinylmethylene)carbonothioic dihydrazide, B-00344
2,3-Bis(2-hydroxybenzylideneamino) benzofuran, B-00361
N,*N*′-Bis(2-hydroxybenzylidene)-1,2-benzenediamine, B-00362
▷ *N*,*N*′-Bis(2-hydroxyethyl) ethanedithioamide, B-00374
Bis(2-hydroxyimino-3-butylidene)-*o*-phenylenediimine, *in* P-00127
O,*O*-Bis(2-methylpropyl) phosphorodithioate; Na salt, *in* B-00413
Bis(4-nitrophenyl)ethanedione; Dioxime, *in* B-00432
N,*N*′-Bis(1*H*-pyrrol-2-ylmethylene)-1,2-ethanediamine, B-00448
3,3′-Bis(trifluoromethyl)dithizone, B-00463
Biuret, B-00474
4-Bromo-*N*-hydroxybenzamide, B-00510
6-Bromo-1,2-naphthoquinone; Dioxime, *in* B-00538
(4-Bromophenyl)phenylethanedione dioxime, B-00555
2-[(5-Bromo-2-pyridinyl)azo]-5-(diethylamino)phenol, *in* A-00126
2-[(5-Bromo-2-pyridinyl)azo]-5-methoxyphenol, *in* B-00563
2-(5-Bromo-2-thiazolylazo)-5-(diethylamino)benzoic acid, *in* A-00128
5-Bromo-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, B-00580
2,3-Butanedione bis(phenylthiosemicarbazone), B-00597
2,3-Butanedione; Thiosemicarbazone, *in* B-00587
1-Butyl-4-[[4-(diethylamino)phenyl]azo] pyridinium(1+), B-00625
4-*tert*-Butylnioxime, *in* B-00623
Cadion, C-00006
1-(2-Carboxymethoxy-4-nitrophenyl)-3-phenyl-5-(carboxymethoxyphenyl) formazan, C-00033
4-Carboxynioxime, *in* D-00989
2-Carboxy-1-pyrrolidinecarbodithioic acid; (*S*)-*form*, *in* C-00044
▷ Cetylcide, *in* E-00071
2-Chlorobenzoic acid; Hydrazide, *in* C-00066
3-Chlorobenzoic acid (1*H*-pyrrol-2-ylmethylene)hydrazide, C-00069
6-Chloro-3-hydrazinopyridazine, *in* C-00251
4-Chloro-2-[[(2-hydroxyphenyl)methylene] amino]phenol, C-00150
N′-(4-Chloro-2-methylphenyl)-*N*-(4-chlorophenyl)-*N*-hydroxybenzenecarboximidamide; B,HCl, *in* C-00181
4-Chloro-1,2-naphthoquinone; Dioxime, *in* C-00187
6-Chloro-1,2-naphthoquinone; Dioxime, *in* C-00188
4-Chloro-2-nitroso-1-naphthol, *in* C-00187
N′-(4-Chlorophenyl)-*N*-hydroxy-*N*-phenylbenzenecarboximidamide, C-00231
(4-Chlorophenyl)phenylethanedione; Dioxime, *in* C-00238
2-[(5-Chloro-2-pyridinyl)azo]-3-methyl-6-(1-methylethyl)phenol, C-00254
5-Chloro-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, C-00264
Curcumin, C-00323
1,2-Cyclododecanedione; Dioxime, *in* C-00332
1,3-Cyclohexanedione bis(2-hydroxybenzoyl)hydrazone, C-00342
1,2-Cyclononanedione; Dioxime, *in* C-00360
1,2-Cyclopentanedione dioxime, *in* C-00362
1,2-Cycloundecanedione; Dioxime, *in* C-00369
Decanediperoxoic acid, D-00023
1,6-Diallyl-2,5-dithiobiurea, D-00040
2,2′-Diaminobiphenyl-4,4′-dicarboxylic acid-*N*,*N*,*N*′,*N*′-tetraacetic acid; Hexa-Na salt, *in* D-00055
4,4′-Diaminostilbene-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00127
5,7-Dibromo-8-hydroxy-2-methylquinoline, D-00190
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(dimethylamino)benzoic acid, D-00201
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-methoxyphenol, *in* D-00200
O,*O*-Dibutyl phosphorodithioate; K salt, *in* D-00241
O,*O*-Dibutyl phosphorothioate, D-00242
▷ 5,7-Dichloro-8-hydroxy-2-methylquinoline, D-00280
5,7-Dichloro-8-hydroxyquinoline, D-00283
4-[[4-(Diethylamino)phenyl]azo]-1-ethylpyridinium(1+); Chloride, *in* D-00329

4-[[4-(Diethylamino)phenyl]azo]-1-methylpyridinium(1+); Chloride, *in* D-00332
4-[[4-(Diethylamino)phenyl]azo]-1-propylpyridinium(1+); Chloride, *in* D-00333
5-Diethylamino-2-(2-thiazolylazo)benzoic acid, *in* A-00359
▷ Diethylenetriamine, D-00345
▷ *O,O*-Diethyl phosphorodithioate; NH_4 salt, *in* D-00356
2,2′-Difluorodithizone, D-00360
4,4′-Difluorodithizone, D-00361
O,O-Dihexyl phosphorodithioate, D-00369
5,6-Dihydro-5,6-bis(hydroxyimino)-1-naphthalenesulfonic acid, *in* N-00034
5,6-Dihydro-5,6-bis(hydroxyimino)-2-naphthalenesulfonic acid, *in* N-00035
7,8-Dihydro-7,8-bis(hydroxyimino)-2-naphthalenesulfonic acid, *in* N-00036
1,4-Dihydro-6-nitro-2,3-quinoxalinedithione, D-00461
2′,4′-Dihydroxyacetophenone; Oxime, *in* D-00507
2′,5′-Dihydroxyacetophenone; Oxime, *in* D-00508
3,4-Dihydroxybenzaldehyde; 3-Me ether, oxime, *in* D-00519
2,5-Dihydroxybenzaldehyde; Oxime, *in* D-00518
4,4′-Dihydroxy-2,2′-diaminobiphenyl-*N,N,N′,N′*-tetraacetic acid; Tetra-Na salt, *in* D-00572
4-[(2,4-Dihydroxyphenyl)azo] benzenesulfonic acid; Na salt, *in* D-00688
1-(2,4-Dihydroxyphenyl)-1-pentanone; Oxime, *in* D-00714
O,O-Diisopentyl phosphorodithioate, D-00746
4,4′-Dimethoxydithizone, D-00775
▷ Dimethylglyoxime, D-00862
3,3-Dimethyl-1,2-indanedione; Dioxime, *in* D-00868
4,5-Dimethyl-2-[(5-methyl-1,3,4-thiadiazol-2-yl)azo]phenol, D-00872
▷ *O,O*-Dimethyl phosphorodithioate, D-00896
N,N-Dimethyl-4-(2-pyridinylazo) benzenamine, D-00909
7,14-Dimethyl-5,7,12,14-tetraethyl-1,4,8,11-tetraazacyclotetradeca-4,11-diene, D-00919
2,4-Dimethyl-6-(1*H*-tetrazol-5-ylazo) phenol, D-00920
O,O-Dipentyl phosphorodithioate, D-00996
Diphenylethanedione mono(pyrazinylhydrazone), D-01013
Diphenylethanedione monoxime, *in* B-00038
(*E,E*)-Diphenylglyoxime, *in* B-00038
N,N′-Diphenylpropanedithioamide, *in* P-00262
O,O-Di-2-propenyl phosphorodithioate, D-01058
Dipropylglyoxime, *in* O-00033
O,O-Dipropyl phosphorodithioate, D-01060
1,1-Di-2-pyridinyl-*N,N′*-di-8-quinolinylmethanediamine, D-01062
Di-2-pyridinylethanedione bis(diphenylsemicarbazone), D-01064
Di-2-pyridinylmethanone 2-chlorobenzoylhydrazone, D-01074
Di-2-pyridinylmethanone 3-chlorobenzoylhydrazone, D-01075
Di-2-pyridylglyoxal dithiosemicarbazone, *in* D-01063
3-Dodecyl-1,5,9,13-tetraazacyclohexadecane, D-01156
6-Dodecyl-1,4,8,11-tetraazacyclotetradecane, D-01158
Ethanebis(thioic) acid; Di-K salt, *in* E-00023
[1,2-Ethanediylbis[imino[(2-hydroxyphenyl) methylene]]]bisphosphonic acid, E-00030
[1,2-Ethanediylbis[imino(phenylmethylene)]] bisphosphonic acid, E-00031
3,3′-(1,2-Ethanediyldinitrilo)bis-2-butanone; Dioxime, *in* E-00035
5,5′-(1,2-Ethanediyldinitrilo)bis[2,2-dimethyl-3-hexanone], E-00036
5-Ethoxy-2-(2-pyridinylazo)phenol, *in* P-00373
S-Ethyl-*N*-(diisopropylthiophosphoryl) dithiocarbamate, *in* B-00404
Ethylenebisdithiocarbamic acid; Di-NH_4 salt, *in* E-00072
[Ethylenebis(iminobenzylidene)] diphosphinic acid, E-00074
▷ Ethylenediaminetetraacetic acid, E-00078
Ethylmethylglyoxime, *in* P-00029
N-(5-Ethyl-1,3,4-thiadiazol-2-yl)-4-[3-methyl-5-(1-methyl-1*H*-benzimidazol-2-yl)-1-formazanyl]benzenesulfonamide, E-00117
2-Furancarboxaldehyde 3-bromobenzoylhydrazone, F-00045
2-Furancarboxaldehyde 4-bromobenzoylhydrazone, F-00046
2-Furancarboxaldehyde phenylthiosemicarbazone, F-00047
2-Furancarboxaldehyde 1-phthalazinylhydrazone, F-00048
N-(2-Furanylmethyl) hydrazinecarbothioamide, F-00057
▷ α-Furildioxime, *in* D-00364
▷ Glyoxime, G-00037
Heptoxime, *in* C-00333
5,7,7,12,14,14-Hexamethyl-1,4,8,11-tetraazacyclotetradeca-4,11-diene, H-00059
▷ Hexanoic acid, H-00066
1,4,7,10,13,16-Hexathiacyclooctadecane, H-00070
2′-Hydroxyacetophenone; Hydrazone, *in* H-00089
4′-Hydroxyacetophenone; Oxime, *in* H-00090
1-Hydroxyacridine, H-00091
4-Hydroxyacridine, H-00092
2-Hydroxy-5-anisaldoxime, *in* D-00518
▷ 2-Hydroxybenzaldehyde, H-00101
2-Hydroxybenzoic acid [2-pyridinyl(3-sulfophenyl)methylene]hydrazide, H-00122
4-Hydroxybenzothiazole, H-00126
[2-Hydroxy-1,1-bis(hydroxymethyl)ethyl] carbamodithioic acid, H-00138
N-Hydroxy-*N,N′*-diphenylbenzenecarboximidamide, *in* D-01001
N-Hydroxy-*N,N′*-diphenylthiourea, *in* D-01055
2-Hydroxydithiobenzoic acid, H-00175
4-Hydroxydithiobenzoic acid, H-00176
α-(Hydroxymethylene)-2-benzoxazoleacetonitrile, H-00287
2-Hydroxy-3-methyl-1,4-naphthoquinone; Monoxime, *in* H-00292
[[2-[(2-Hydroxy-5-methylphenyl)azo]phenyl] thio]acetic acid, H-00303
N-Hydroxy-*N′*-methyl-*N*-phenylthiourea, *in* T-00175
2-Hydroxy-1-naphthaldehyde; Oxime, *in* H-00336
1-Hydroxy-2-naphthalenecarbodithioic acid, H-00339
[[2-[(2-Hydroxy-1-naphthalenyl)azo]phenyl] thio]acetic acid, H-00352
5-[(2-Hydroxy-1-naphthalenyl)azo]-1,3,4-thiadiazole-2(3*H*)-thione, H-00357
1-Hydroxy-2-naphthoic acid, H-00369
5-Hydroxy-1,2-naphthoquinone; Dioxime, *in* H-00372
7-Hydroxy-1,2-naphthoquinone; Dioxime, *in* H-00373
N-[[1-Hydroxy-4-(4-nitrophenylazo)-2-naphthyl]methyl]glycine, H-00397
2-Hydroxy-3-nitrosobenzoic acid, H-00406
8-Hydroxy-2-phenylquinoline, H-00503
2-(3-Hydroxy-3-phenyl-1-triazenyl) benzothiazole, H-00508
3-Hydroxy-2-pyridinecarboxaldehyde [(3-hydroxy-2-pyridinyl)methylene] hydrazone, H-00519
▷ Isonitrosoacetophenone, *in* P-00132
2,2′-Isopropylidenebis(4-acetyl-8-hydroxyquinoline), I-00072
2-Isopropyl-5-methyl-4-[(2-quinolinyl)azo] phenol, I-00076
4-Isopropylnioxime, *in* I-00071
▷ Isoquinoline, I-00080
2-Mercapto-4*H*-1-benzopyran-4-thione, M-00024
2-Mercapto-2,4,6-cycloheptatrien-1-one, M-00027
2-Mercapto-3-(4-methoxyphenyl)-2-propenoic acid, M-00034
3-Mercapto-3-phenylpropanoic acid; (±)-*form*, Butyl ester, *in* M-00048
3-Mercapto-3-phenylpropanoic acid; (±)-*form*, Et ester, *in* M-00048
3-Mercapto-3-phenylpropanoic acid; (±)-*form*, Me ester, *in* M-00048
3-Mercapto-3-phenylpropanoic acid; (±)-*form*, 3-Methylbutyl ester, *in* M-00048
3-Mercapto-3-phenylpropanoic acid; (±)-*form*, 2-Methylpropyl ester, *in* M-00048
3-Mercapto-3-phenylpropanoic acid; (±)-*form*, Pentyl ester, *in* M-00048
3-Mercapto-3-phenylpropanoic acid; (±)-*form*, Ph ester, *in* M-00048
2-(3-Mercapto-2-quinoxalinyl)-2-thiopseudourea; B, HCl. *in* M-00058
S-(3-Mercapto-2-quinoxalinyl) thiuronium(1+); Chloride, *in* M-00059
4-Methoxybenzoic acid [1-[2-(2-nitrophenyl)hydrazino]ethylidene] hydrazide, M-00083
3-Methoxy-2-methyl-6-(2-pyridinylazo) phenol, *in* M-00278
5-Methoxy-2-[(5-methyl-2-pyridinyl)azo] phenol, *in* M-00279
5-Methoxy-2-(2-pyridinylazo)phenol, *in* P-00373
5-Methyl-2-furancarboxaldehyde 1-phthalazinylhydrazone, M-00180
3-Methyl-6-(1-methylethyl)-2-(2-pyridinylazo)phenol, M-00197
4-Methyl-2-[[2-(methylthio)phenyl]azo] phenol, *in* M-00041
3-Methylnioxime, *in* M-00156
▷ 4-Methylnioxime, *in* M-00157
2-[(1-Methyl-3-oxobutylidene)amino] benzenesulfonic acid, M-00213
4-Methyl-2-[[2-[(phenylmethyl)thio]phenyl] azo]phenol, *in* M-00041
Methyltriphenylarsonium(1+); Chloride, *in* M-00334
Mordant blue 44; Di-Na salt, *in* M-00342
1,2-Naphthoquinone; Dioxime (1*Z*,2*E*), *in* N-00031
Niconoxime, *in* C-00346
Nicotinamidoxime, *in* P-00341
Nioxime, *in* C-00337
4-Nitrobenzoic acid [1-[2-(4-nitrophenyl) hydrazino]ethylidene]hydrazide, N-00095
5-[(4-Nitrophenyl)azo]-4-thioxo-2-selenazolidinone, N-00131
(4-Nitrophenyl)phenylethanedione; Dioxime, *in* N-00142
2-[(5-Nitro-2-pyridinyl)azo]-1-naphthalenol, N-00148
4-[(5-Nitro-2-thiazolyl)azo]-1,3-benzenediol, N-00165
Octoxime, *in* C-00361
Oxamidoxime, *in* O-00048
1-Phenyl-1,3-butanedione 3-[[6-phenyl-4-(phenylmethyl)-3-pyridazinyl] hydrazone], P-00108
3-Phenyl-1,2-indanedione; Dioxime, *in* P-00137
1-Phenyl-3-thioxo-1-butanone, P-00202
Picriminazosulfoxine, P-00234
1-(1*H*-Pyrazol-3-ylazo)-2-naphthalenol, P-00303
2,6-Pyridinediacetoxime, *in* P-00352
2(1*H*)-Pyridinone [[(4-methylphenyl)azo] phenylmethylene]hydrazone, P-00361

2(1*H*)-Pyridinone [[(3-nitrophenyl)azo] phenylmethylene]hydrazone, P-00362
2(1*H*)-Pyridinone [[(4-nitrophenyl)azo] phenylmethylene]hydrazone, P-00363
2(1*H*)-Pyridinone [phenyl(phenylazo) methylene]hydrazone, P-00364
1-(2-Pyridinylazo)-2-naphthalenol, P-00374
N-2-Pyridinylbenzenecarboximidic acid (oxodi-2-pyridinylethylidene)hydrazide, P-00384
1-(2-Pyridinyl)-3,5-diphenylformazan, P-00387
2-[(2-Pyridinylmethylene)amino]phenol, P-00393
N-(2-Pyridinylmethylene)-1-naphthalenamine, P-00395
1-(2-Pyridinyl)-2-(2-pyrimidinyl)ethanone 2-pyrimidinylhydrazone, P-00406
2-(2-Pyrimidinylazo)-1-naphthalenol, P-00430
Solochrome red ERS, S-00022
4-(5-Sulfothiazolylazo)-2-nitroresorcinol, S-00057
▷ Tetraethylenepentamine, T-00044
O-[(Tetrahydro-2-furanyl)methyl] carbonodithioate; K salt, *in* T-00062
2-Thiazolecarboxaldehyde 2-quinolinylhydrazone, T-00137
2,2′-Thiobisethanamine; B,2HCl, *in* T-00156
2,2′-Thiobisethanethiol, T-00157
2-Thio-2,4-pentanedione, T-00165
2-Thiophenecarboxaldehyde; Thiosemicarbazone, *in* T-00169
1,1,1-Trifluoro-4-thioxo-2-pentanone, T-00265

Niobium

2-(Acetyloxy)-*N*-hydroxy-*N*-phenylbenzamide, A-00028
▷ Aniline, A-00368
3-[(4-Arsonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00436
▷ 1,2-Benzenediol, B-00020
▷ 1,4-Benzenediol, B-00022
▷ Benzenesulfohydroxamic acid, *in* B-00026
N-Benzoyl-*N*-phenylhydroxylamine, *in* P-00135
2-Benzylaminopyridine, B-00164
Bis(2,3,4-trihydroxybenzyl)methylamine, B-00466
9-(4-Bromophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, B-00558
Bromopyrogallol red, B-00574
4-Butoxy-*N*-(4-chlorophenyl) benzohydroxamic acid, B-00612
4-Butoxy-*N*-hydroxy-*N*-phenylbenzamide, B-00614
Butyldithiocarbamic acid, B-00631
9-(5-Carboxy-2-hydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, C-00032
[5-Chloro-3-[(2,4-dihydroxyphenyl)azo]-2-hydroxyphenyl]arsonic acid, C-00096
▷ 5-Chloro-8-hydroxy-7-iodoquinoline, C-00134
3-[(5-Chloro-2-hydroxyphenyl)azo]-6-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00142
3-[(5-Chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00144
3-[(5-Chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00146
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00155
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, C-00156
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00157
N-(4-Chlorophenyl)-4-chlorophenoxyisobutyrohydroxamic acid, C-00208
N-(4-Chlorophenyl)-*N*-hydroxybenzamide, *in* H-00109
N-(4-Chlorophenyl)-*N*-hydroxy-3-(3,4,5-trimethoxyphenyl)-2-propenamide, C-00235
3,5-Diacetyl-4-(2-chlorophenyl)-2,6-heptanedione, D-00034
2,7-Dibromogallein, D-00189
2,6-Dibromo-3,4,5-trihydroxybenzoic acid, D-00220
Digallic acid, D-00365
▷ 6,7-Dihydroxy-2*H*-1-benzopyran-2-one, D-00538
7,8-Dihydroxy-2*H*-1-benzopyran-2-one, D-00539
4,5-Dihydroxy-3-[(3,5-dinitro-2-hydroxyphenyl)azo]-6-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00580
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-6-[(2-hydroxy-5-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00615
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-6-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00617
4,5-Dihydroxy-3-[(2-hydroxy-4-nitrophenyl) azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00620
4,5-Dihydroxy-3-[(2-hydroxy-5-nitrophenyl) azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00621
4,5-Dihydroxy-3-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-6-(phenylazo)-2,7-naphthalenedisulfonic acid, D-00623
4,5-Dihydroxy-3-[(2-hydroxyphenyl)azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00626
4,5-Dihydroxy-3-[(2-hydroxy-5-sulfophenyl) azo]-6-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00631
4,5-Dihydroxy-3-[(2-hydroxy-5-sulfophenyl) azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00633
6,7-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00647
▷ 7,8-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00648
7,8-Dihydroxy-4-phenyl-2*H*-1-benzopyran-2-one, D-00706
Di(*n*-octyl)arsinic acid, D-00982
▷ Dodecylamine, D-01142
▷ 1,2-Ethanediylbis[triphenylphosphonium] (2+); Dibromide, *in* E-00034
8-Hydroxy-7-[(4-methylphenyl)azo]-5-quinolinesulfonic acid, H-00304
N-Hydroxy-*N*-phenylacetamide, *in* P-00135
8-Hydroxy-5-quinolinesulfonic acid, H-00528
▷ Lauryltrimethylammonium(1+); Bromide, *in* L-00002
3-Methyl-1,2-benzenediol, M-00127
▷ 4-Methyl-2-pentanone, M-00218
▷ 1,2-Naphthalenediol, N-00007
▷ Phenylarsonic acid, P-00090
2-(3-Phenyl-2-triazenyl)phenol; N^1-Oxide, *in* P-00204
▷ Propyl gallate, *in* T-00277
4-(2-Pyridinylazo)-1,3-benzenediol, P-00373
Sulfochlorophenol M, S-00042
Sulfochlorophenol S, S-00045
Sulfonitrophenol S, S-00054
Tannin, T-00001
Tetraoctylammonium(1+): Bromide, *in* T-00110
Tichromin; Tetra-Na salt; B,HCl, *in* T-00185
▷ Tiron, T-00186
4,5,6-Tribromo-1,2,3-benzenetriol, T-00204
2,3,4-Trihydroxybenzenesulfonic acid; Na salt, *in* T-00274
2,6,7-Trihydroxy-9-(2-nitrophenyl)-3*H*-xanthen-3-one, T-00301
▷ *N*,*N*′,*N*″-Triphenylguanidine, T-00366
▷ Vitamin C, *in* A-00446
Xylenol orange, X-00006

Nitrogen: ammonia/ammonium

(2,1,3-Benzothiadiazole-S^2) dicarbonylchlororhodium, B-00085
▷ Chloramine T, *in* M-00130
3-[4-(Dimethylamino)phenyl]-2-propenal; (*E*)-*form*, *in* D-00823
3,3′-Dimethyl-1,1′-diphenyl-[4,4′-bi-2-pyrazoline]-5,5′-dione, D-00851
N-(3,6-Dioxo-1,4-cyclohexadien-1-yl) benzenesulfonamide, D-00988
▷ Formaldehyde, F-00035
1,2,3-Indanetrione, I-00025
Indophenol, I-00034
Lithmus, L-00009
▷ 2-Methoxyphenol, M-00102
▷ Phenol, P-00060
▷ Tetrahydro-2,5-dimethoxyfuran, T-00059
3,3′,5,5′-Tetramethyl-2,2′,4,4′,6,6′-hexanitrodiphenylamine; Na salt, *in* T-00096
▷ Triphenylphosphine, T-00370

Nitrogen: nitrite (nitrate (III))

2-Aminobenzenesulfonic acid, A-00099
▷ 4-Aminobenzenesulfonic acid, A-00100
▷ 5-Amino-1,2,4-dithiazolidine-3-thione, A-00168
8-Amino-2-naphthalenesulfonic acid, A-00270
▷ 1-Aminopyrene, A-00331
2,2′-Azinobis(8-hydroxy-1-methylquinoline), A-00463
▷ Azulene, A-00481
▷ 1,3-Benzenediol, B-00021
4,4′-Bis(dimethylamino)thiobenzophenone, B-00326
▷ Brucine, B-00584
5-Chloro-3-hydroxy-2(1*H*)-pyridinone, C-00151
▷ 1,3-Diaminobenzene, D-00047
▷ 4,4′-Diaminobiphenyl, D-00053
▷ 1,2-Diamino-4,5-dimethylbenzene, D-00080
▷ 2,7-Diaminofluorene, D-00097
▷ 1,2-Diamino-4-methylbenzene, D-00101
▷ 1,2-Diaminonaphthalene, D-00105
4,5-Dihydroxy-2*H*-1-benzopyran-2-one, D-00537
▷ *N*-[4-[[4-(Dimethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-*N*-methylmethanaminium(1+); Chloride, *in* D-00812
▷ *N*,*N*-Dimethylaniline, D-00831
5,5-Dimethyl-1,3-cyclohexanedione; Bisthiosemicarbazone, *in* D-00847
▷ 2,4-Dimethylphenol, D-00884
▷ 3,4-Dimethylphenol, D-00886
▷ Diphenylamine, D-01000
▷ Fluphenazine, F-00034
▷ Formaldehyde, F-00035
Gallamine; B,HCl, *in* G-00002
▷ 1-Hydrazinophthalazine, H-00086
5-Hydroxy-1*H*-indole-2-carboxylic acid, H-00253
▷ Indole, I-00033
▷ 1-Naphthylamine, N-00041
▷ *N*-(1-Naphthyl)ethylenediamine, N-00050
1,1′-(Phenylimino)bis-2-propanol, P-00136
▷ Promazine, P-00258
▷ Strychnine, S-00033
▷ Sulfanilamide, *in* A-00100
▷ 3,3′,4,4′-Tetraaminobiphenyl, T-00007

Nitrogen: nitrate (nitrate (V))

4-Aminobenzenesulfonic acid; *N*-Ph, Ba salt, *in* A-00100
N-(2-Aminophenyl)benzenesulfonamide, A-00318
▷ 1-Aminopyrene, A-00331

▷ 1,3-Benzenediol, B-00021
N-Benzyl-1-naphthalenemethylamine, *in* N-00051
[9,9-Bianthracene]-10,10′(9*H*,9′*H*)-dione, *in* B-00201
Bis(1-naphthylmethyl)amine, B-00427
▷ Brucine, B-00584
N-(*p*-Chlorobenzyl)-1-naphthalenemethylamine, C-00072
Chromotropic acid, C-00294
▷ 4,4′-Diaminodiphenyl sulfone, D-00090
▷ 4,4′-Diaminodiphenyl sulfoxide, D-00091
▷ 2,7-Diaminofluorene, D-00097
▷ 1,2-Diaminonaphthalene, D-00105
2,6-Diaminopyridine; 2,6-*N*-Di-Ac, *in* D-00119
▷ 1,2-Dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00392
4,5-Dihydroxy-2*H*-1-benzopyran-2-one, D-00537
4,8-Dimethyl-7-hydroxy-6-nitro-2*H*-1-benzopyran-2-one, D-00865
▷ 2,6-Dimethylphenol, D-00885
▷ Diphenylamine, D-01000
4-Hydroxy-1,3-benzenedisulfonic acid, H-00111
7-Hydroxy-4,8-dimethyl-2*H*-1-benzopyran-2-one, H-00151
▷ Indigo carmine, *in* I-00029
N-(4-Methylbenzyl)-1-naphthylmethylamine, M-00145
Nitron, N-00114
▷ Phenol, P-00060
▷ Strychnine, S-00033
▷ Sulfanilamide, *in* A-00100
▷ Tetraphenyl-μ-sulfatodithallium, T-00123

Nitrogen: nitric oxide (nitrogen monoxide)

▷ [*N*,*N*′-Ethylenebis(salicylideneiminato)] cobalt, E-00077

Nitrogen: nitrogen dioxide

▷ Brucine, B-00584
▷ [*N*,*N*′-Ethylenebis(salicylideneiminato)] cobalt, E-00077

Osmium

▷ Acridine, A-00062
2-Aminobenzenesulfonic acid, A-00099
▷ 3-Aminobenzoic acid, A-00104
2-Amino-1-cyclopentene-1-dithiocarboxylic acid, A-00147
1-Amino-3,4-dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, *in* D-00504
▷ 5-Amino-2,4-dihydroxypyrimidine, A-00159
3-Amino-4-hydroxybenzenesulfonic acid, A-00183
3-Amino-5-hydroxy-2,7-naphthalenedisulfonic acid, A-00199
2-Amino-3-hydroxypyridine, A-00216
5-Amino-1,3,7-naphthalenetrisulfonic acid, A-00271
8-Amino-1,3,5-naphthalenetrisulfonic acid, A-00272
▷ 5-Aminoorotic acid, A-00290
N-(*p*-Aminophenyl)glycine, A-00323
5′-Amino-2′,3,3′,4-tetrahydro-4,4,6-trimethyl-2,2′-dithioxo[1(2*H*),4′-bipyrimidin]-6′(1′*H*)-one, A-00352
▷ 1,2,4-Benzenetriol, B-00035
▷ 2(3*H*)-Benzoxazolethione, B-00113
2-[[(Benzoylamino)thioxomethyl]amino] benzoic acid, B-00121
N′-Benzoyl-*N*,*N*-[bis(2-hydroxyethyl)] thiourea, B-00124
β-Benzoyl-α-(ethanol)thiourea, B-00129
N-Benzoyl-*N*′-(2-pyridyl)thiourea, B-00159
6-[(Benzylmercapto)methyl]-5-hydroxy-3-mercapto-1,2,4-triazine, B-00187
7,8,9,10,17,18,19,20,21,22-Decahydro-8,19-bis[(4-methylphenyl)sulfonyl]-6*H*,16*H*-dibenzo-[*h*,*q*][1,7,4,10,13,16] dioxatetraazacyclooctadecine, D-00008
7,8,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*b*,*k*][1,13,4,10] dioxadiazacyclooctadecine, D-00009
7,8,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h*,*q*][1,7,4,10,13,16] dioxatetraazacyclooctadecine, D-00010
6,7,8,9,10,11,18,19,20,21-Decahydro-5*H*,17*H*-dibenzo[*b*,*k*][1,13,4,7,10] dioxatriazacyclooctadecine, D-00011
7,8,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h*,*q*][1,7,4,10,16] dioxatriazacyclooctadecine, D-00012
6,7,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h*,*q*][1,4,7,10,16] trioxadiazacyclooctadecine, D-00014
6,7,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h*,*q*][1,4,7,10,13,16] trioxatriazacyclooctadecine, D-00015
6,7,8,9,10,11,18,19,20,21-Decahydro-8-[(4-methylphenyl)sulfonyl]-5*H*,17*H*-dibenzo[*b*,*k*][1,13,4,7,10] dioxatriazacyclooctadecine, *in* D-00011
7,8,9,10,17,18,19,20,21,22-Decahydro-8-[(4-methylphenyl)sulfonyl]-6*H*,16*H*-dibenzo[*h*,*q*][1,7,4,10,16] dioxatriazacyclooctadecine, *in* D-00012
6,7,9,10,17,18,19,20,21,22-Decahydro-19-[(4-methylphenyl)sulfonyl]-16*H*-dibenzo[*h*,*q*][1,4,7,10,13,16] trioxatriazacyclooctadecine, *in* D-00015
5,6-Diamino-2-methyl-4(1*H*)-pyrimidinone, D-00104
1,2-Dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione, D-00391
2,3-Dihydro-2,2-di-(2-pyridinyl) benzothiazole, D-00403
1,6-Dihydro-5-hydroxy-3-mercapto-6,6-dimethyl-1,2,4-triazine, D-00409
2,3-Dihydro-5-methyl-2-ureido-3*H*-pyrazol-3-one, D-00460
3,4-Dihydro-4,4,6-trimethyl-1-(phenylamino)-2(1*H*)-pyrimidinethione, D-00500
▷ 3,4-Dihydro-4,4,6-trimethyl-1-phenyl-2(1*H*)-pyrimidinethione, D-00501
3,4-Dihydro-4,4,6-trimethyl-1-(4-phenyl-2-thiazolyl)-2(1*H*)-pyrimidinethione, D-00502
3,4-Dihydro-4,4,6-trimethyl-1-propyl-2(1*H*)-pyrimidinethione, *in* D-00504
3,5-Dihydroxy-6-mercapto-1,2,4-triazine; Di-Na salt, *in* D-00639
4,6-Dihydroxy-5-nitroso-3-pyridinecarboxylic acid; Pentyl ester, *in* D-00674
3,3-Dimethyl-1,2-indanedione; Dioxime, *in* D-00868
5,6-Dimethyl-2-nitro-1,3-indanedione; Bis(thiosemicarbazone), *in* D-00873
2,2′-[(1,3-Dimethyl-1,3-propanediylidene) dinitrilo]bisbenzenethiol, D-00898
1-[(2,4-Dinitrophenyl)amino]-3,4-dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, D-00962
Diphenylcarbazide, D-01004
O,*O*-Di-2-propenyl phosphorodithioate, D-01058
2-Guanidino-1,2-dihydro-5-methyl-3*H*-pyrazol-3-one, G-00045
6-Hexyl-4,5-dihydro-5-thioxo-1,2,4-triazin-3(2*H*)-one, H-00074
5-Hydroxy-3-mercapto-6-methyl-1,2,4-triazine, H-00258
α-Hydroxy-α-phenylbenzeneacetic acid 2-[(4-methylphenyl)sulfonyl]hydrazide, H-00464
1-Hydroxy-1-phenylurea, *in* P-00211
3-Hydroxy-2(1*H*)-pyridinethione, H-00520
3-Hydroxy-2(1*H*)-pyridinone, H-00521
1,2,3-Indanetrione; 2-(Thiosemicarbazone), *in* I-00025
▷ Isoniazid, I-00069
2-Mercapto-*N*-2-naphthylacetamide, M-00038
2-Methoxy-4-[*N*-(*p*-morpholinophenyl) formimidoyl]phenol, M-00093
▷ *N*-[[(2-Methylphenyl)amino]thioxomethyl] benzamide, M-00223
1-Naphthalenethiocarboxhydrazide, N-00016
5-[(4-Nitrophenyl)azo]-4-thioxo-2-selenazolidinone, N-00131
6,7,10,11,18,19,20,21-Octahydro-5*H*,9*H*,17*H*-dibenzo[*b*,*k*][1,7,13,4,10] trioxadiazacyclooctadecine, O-00021
7,8,9,10,17,18,21,22-Octahydro-6*H*,16*H*,20*H*-dibenzo-[*b*,*k*][1,7,13,4,10,16] trioxatriazacyclooctadecine, O-00022
7,8,9,10,17,18,21,22-Octahydro-8-[(4-methylphenyl)sulfonyl]-6*H*,16*H*,20*H*-dibenzo[*b*,*k*][1,7,13,4,10,16] trioxatriazacyclooctadecine, *in* O-00022
▷ Perphenazine, P-00046
9,10-Phenanthraquinone; Dioxime, mono-Me ether, *in* P-00047
3-Phenyl-1,2-indanedione; Dioxime, *in* P-00137
Phthalimide; Dithiosemicarbazone, *in* P-00223
4,4′-(Propylmethylene)bis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], P-00279
2-Pyrrolethiocarboxhydrazide, *in* P-00437
2,3,4(1*H*)-Quinolinetrione; 3-Oxime, *in* Q-00022
▷ Selenourea, S-00009
Thiobenzoic acid; Hydrazide, *in* T-00155
1-Thiocarbamido-3-methyl-5-pyrazolone, T-00160
α-Thiosemicarbazidoisobutyric acid; Amide, *in* T-00174
α-Thiosemicarbazidoisobutyric acid; Nitrile, *in* T-00174
▷ Trifluoperazine, T-00238

Oxygen

▷ Anthraquinone-2-sulfonic acid, A-00388
2-[Bis[4-(dimethylamino)phenyl]methyl] benzenesulfonic acid, B-00322
5-Hydroxy-4-oxo-4*H*-pyran-2-carboxylic acid; Et ester, *in* H-00434
▷ Indigo carmine, *in* I-00029
Tris(4,7-dimethyl-1,10-phenanthroline-N^1,N^{10})iron(*II*)(2+); Sulfate, *in* T-00389

Oxygen: hydrogen peroxides and peroxocompounds

▷ 4-Amino-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00152
3-[[4′-Amino-3,3′,5,5′-tetramethyl[1,1-biphenyl]-4-yl]amino]-1-propanesulfonic acid; Na salt, *in* A-00353
2,2′-Azinobis[3-ethyl-2,3-dihydro-6-benzothiazolesulfonic acid], A-00462
Bis[4-bromo-2-[[2-(2-methoxyethoxy) ethoxy]carbonyl]phenyl] ethanedioate, B-00268
3,7-Bis(dimethylamino)phenothiazine, B-00316
Bis(2,4-dinitrophenyl) oxalate, B-00335
Bis[2-[[2-[2-(2-methoxyethoxy)ethoxy] ethoxy]carbonyl]-4-nitrophenyl] ethanedioate, B-00399
4,4′-Bis(1-phenyl-3-methyl-5-pyrazolone), B-00440
Bis(2,4,6-trichlorophenyl) oxalate, B-00460
3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-1-propanesulfonic acid; Ti complex, *in* B-00569
3-(Butylphenylamino)-1-propanesulfonic acid; Na salt, *in* B-00636
▷ 4,4′-Diamino-3,3′-dimethoxybiphenyl, *in* D-00056
▷ *N*,*N*-Dimethylaniline, D-00831
1,2-Di(2-pyridyl)ethylene, D-01090

3-[Ethyl(3-methoxyphenyl)amino]-1-propanesulfonic acid; Na salt, *in* E-00097
3-[Ethyl-(2-methylphenyl)amino]-1-propanesulfonic acid; Na salt, *in* E-00098
3-[Ethyl-(3-methylphenyl)amino]-1-propanesulfonic acid; Na salt, *in* E-00099
3-[Ethyl-(4-methylphenyl)amino]-1-propanesulfonic acid; Na salt, *in* E-00100
3-(Ethylphenylamino)-1-propanesulfonic acid; Na salt, *in* E-00102
1-Hydroxyanthraquinone-2-carboxylic acid, H-00099
▷ MBTH, *in* B-00090
N-Methyl-*N*-sulfopropylaniline; Na salt, *in* M-00311
4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakisbenzenesulfonic acid, P-00250

Oxygen: ozone

▷ Benzaldehyde, B-00004
Bis(2,2′:6′,2″-terpyridine-*N*,*N*′,*N*″)iron(*II*) (2+), B-00457
▷ 1,4-Diaminobenzene; *N*,*N*,*N*′,*N*′-Tetra-Me, *in* D-00048
4,4′-Dimethoxystilbene, *in* D-00730
▷ 1,1-Diphenylethylene, D-01016
▷ Indigo carmine, *in* I-00029
Indigo-5,5′,7-trisulfonic acid, I-00030
▷ 2-Methoxy-4-(2-propenyl)phenol, M-00120
Tris(4-aminophenyl)methanol, T-00383

Palladium

Acetyl dithiol, *in* M-00129
▷ 3-Acetyl-4-hydroxy-6-methyl-2*H*-pyran-2-one, A-00019
▷ Acid red 26; Di-Na salt, *in* A-00058
▷ 4′-Aminoacetophenone, A-00091
5-Amino-3-[[4-aminophenyl]azo]-4-hydroxy-2,7-naphthalenedisulfonic acid; N^4-Ac, Di-Na salt, *in* A-00092
5-Amino-2-benzimidazolethiol, A-00102
2-Aminobenzophenone, A-00111
▷ 2-Aminobenzothiazole, A-00113
4-Amino-3-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-2,5-naphthalenedisulfonic acid, A-00140
4-Amino-3-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00141
5-Amino-6-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-1,4-naphthalenedisulfonic acid, A-00142
8-Amino-7-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-2-naphthalenesulfonic acid, A-00143
8-Amino-7-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-3-naphthalenesulfonic acid, A-00144
1-Amino-3,4-dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, *in* D-00504
2-[(1-Amino-3,6-disulfo-2-naphthalenyl) azo]benzoic acid, A-00167
▷ 2-Aminoethanethiol; *N*-Di-Et, *in* A-00170
4-Amino-5-hydroxy-3-(phenylazo)-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* A-00212
4-[[2-Amino-5-(1-methyl-2-piperidinyl)-3-pyridinyl]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00251
6-Amino-5-nitroso-2,4(1*H*,3*H*)-pyrimidinedione, A-00288
8-Amino-5-(phenylazo)quinoline, A-00315
▷ 8-Aminoquinoline, A-00340
8-Amino-7-(8-quinolinylazo)-3,6-naphthalenedisulfonic acid, A-00343
5-[[4-(Aminosulfonyl)phenyl]azo]-6-hydroxy-2-naphthalenesulfonic acid, A-00350
2-[[(Aminothioxomethyl)amino]carbonyl] benzoic acid, *in* B-00018
2-[[(Aminothioxomethyl)amino]carbonyl]-6-nitrobenzoic acid, A-00361
4-[(Aminothioxomethyl)amino]-4-oxobutanoic acid, A-00362
1-(9-Anthracenyl)-2-[[4-(dimethylamino) phenyl]imino]ethanone, A-00382
Arsaminazo, A-00402
Arsazen, A-00403
3-[(2-Arsonophenyl)azo]-6-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00426
Azorhodine 2G; Di-Na salt, *in* A-00476
1,2-Benzenedicarboxaldehyde bis(thiosemicarbazone), B-00017
1*H*-Benzimidazole-2-methanethiol, B-00041
Benzointhiosemicarbazone, *in* B-00068
▷ Benzopurpurine 4B; Di-Na salt, *in* B-00071
2,1,3-Benzoselenadiazole-Se^{IV}, B-00084
2-Benzothiazolecarboxaldehyde 1(2*H*)-phthalazinylidenehydrazone, B-00087
2-Benzothiazolecarboxaldehyde 2-quinolylhydrazone, B-00088
▷ 2(3*H*)-Benzoxazolethione, B-00113
Benzoyl dithiol, *in* M-00129
N-Benzoyl-*N*′-(ethoxycarbonylmethyl) selenourea, B-00130
Benzoylmethylglyoxime, *in* P-00109
2-Benzoylpyridine azine, B-00152
Benzylmethylglyoxime, *in* P-00107
▷ 4,4′-Bipyridine, B-00222
4-[Bis(4-aminophenyl)hydroxymethyl]-4-chloro-2,4-dihydro-2,5-diphenyl-3*H*-pyrazol-3-one; N^4,N^4,$N^{4'}$,$N^{4'}$-Tetra-Et, *in* B-00253
4-[Bis(4-aminophenyl)hydroxymethyl]-4-chloro-2,4-dihydro-2,5-diphenyl-3*H*-pyrazol-3-one; N^4,N^4,$N^{4'}$,$N^{4'}$-Tetra-Me, *in* B-00253
1,5-Bis(2-chlorophenyl)-*N*-phenyl-3-formazancarboxamide, *in* B-00286
Bis(dicyclohexyloxyphosphinothioyl) disulfide, B-00294
Bis(diisopropyloxyphosphinothioyl) disulfide, B-00310
▷ Bis(dimethoxyphosphinothioyl) disulfide, B-00312
Bis[(diphenoxyphosphino)thioyl] disulfide, B-00336
1,3-Bis[[[2-(ethylthio)ethyl]thio]methyl] benzene, B-00356
1,4-Bis[[[2-(ethylthio)ethyl]thio]methyl] benzene, B-00357
Bis(2-hydroxyimino-3-butylidene)-*o*-phenylenediimine, *in* P-00127
O,*O*-Bis[(3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4(5*H*)-ylidene)phenylmethyl] phosphorodithioate; K salt, *in* B-00405
Bis(6-methyl-2-pyridyl)ethanedione; Dihydrazone, *in* B-00415
N,*N*′-Bis(2-sulfoethyldithiooxamide), B-00455
Bis(2,4,4-trimethylpentyl)phosphinodithioic acid, B-00469
Brilliant croceine; Di-Na salt, *in* B-00478
5-Bromo-2-furancarboxaldehyde; Thiosemicarbazone, *in* B-00507
5-[(4-Bromophenyl)azo]-6-hydroxy-2-naphthalenesulfonic acid, B-00547
1-(4-Bromophenyl)-1,3-butanedione; 3-Oxime, *in* B-00548
2-[(5-Bromo-2-pyridinyl)azo]-5-(diethylamino)phenol, *in* A-00126
5-(5-Bromo-2-pyridinylazo)-6-hydroxy-2(1*H*)-pyridinone, B-00571
1-[(5-Bromo-2-pyridinyl)azo]-2-naphthalenol, B-00573
1-[(5-Bromo-2-thiazolyl)azo]-2-naphthalenol, B-00579
2,3-Butanedione (2-benzothiazolyl) hydrazone; Oxime, *in* B-00588
2,3-Butanedione; Monoxime, 2-pyridylhydrazone, *in* B-00587
1-Butyl-3,4-dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, *in* D-00504
4-*tert*-Butylnioxime, *in* B-00623
▷ *S*-Carbamidothioglycollic anilide, C-00019
▷ Carbonodithioic acid *O*-(phenylmethyl) ester; K salt, *in* C-00024
5-Chloro-2-furancarboxaldehyde thiosemicarbazone, C-00119
3-(5-Chloro-2-furanoyl)-2-propenal; Thiosemicarbazone, *in* C-00120
5-Chloro-2-hydroxybenzaldehyde phenylthiosemicarbazone, C-00123
2-Chloro-10*H*-phenothiazine, C-00198
5-[(4-Chlorophenyl)azo]-6-hydroxy-2-naphthalenesulfonic acid, C-00204
1-[(3-Chlorophenyl)azo]-2-naphthalenol, C-00205
1-(4-Chlorophenyl)-1,3-butanedione; 3-Oxime, *in* C-00207
▷ 2-Chloropyridine, C-00252
2-[(5-Chloro-2-pyridinyl)azo]-3-methyl-6-(1-methylethyl)phenol, C-00254
4-[3-Chloro-4-(pyridinylazo)-5-methyl-2-(1-methylethyl)]phenol, C-00255
3-[[(5-Chloro-2-pyridinyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, C-00257
4-Chloro-2-[(2-pyridinylmethylene)amino] phenol, C-00258
3-Chloro-2-quinoxalinecarboxylic acid, C-00260
Chromotrope 2R; Di-Na salt, *in* C-00293
Chrysophenine G; Di-Na salt, *in* C-00297
Cupron, *in* B-00068
1,2-Cyclododecanedione; Dioxime, *in* C-00332
1,2-Cyclohexanedione bis(thiosemicarbazone), C-00344
1,2-Cyclononanedione; Dioxime, *in* C-00360
1,2-Cycloundecanedione; Dioxime, *in* C-00369
Diaminazo, D-00041
▷ 1,4-Diamino-5-nitroanthraquinone, D-00107
1,1-Diantipyrylphenylmethane, D-00140
Dibenzo[*b*,*e*][1,4]dioxin-2-carboxaldehyde; Oxime, *in* D-00162
▷ Dibenzyldithiooxamide, D-00169
Dibenzyl selenide, D-00170
Dibenzyl sulfide, D-00171
3,5-Dichloro-2-hydroxybenzaldehyde phenylthiosemicarbazone, D-00278
▷ *N*,*N*′-Didodecylethanedithioamide, D-00310
5-(Diethylamino)-2-[(5-methyl-2-pyridinyl) azo]phenol, D-00324
N,*N*-Diethyl-*N*′-(4-methyl-5-nitro-2-thiazolyl)thiourea, D-00349
N,*N*-Diethyl-4-nitrosoaniline, D-00350
O,*O*-Diethylphosphoroselenoic acid; Na salt, *in* D-00357
1,2-Dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione, D-00391
1,3-Dihydro-4,5-diphenyl-2*H*-imidazole-2-thione, D-00399
2,3-Dihydro-5,6-diphenyl-1,2,4-triazine-3-thione, D-00402
2,3-Dihydro-5-hydroxy-4*H*-1-benzopyran-4-one, D-00408
1,2-Dihydro-4-[(4-hydroxyquinolin-8-yl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00423
▷ 1,3-Dihydro-2*H*-imidazole-2-thione, D-00424
2,3-Dihydro-2-(2-mercaptophenyl)-1,2,3-benzothiadiazole, D-00425
2-[4,5-Dihydro-5-(4-methoxyphenyl)-3-isoxazolyl]-4-methylphenol, D-00427
3,4-Dihydro-1-(4-methoxyphenyl)-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, D-00429
4,5-Dihydro-1*H*-pyrazole-1-carbodithioic acid, D-00479
▷ 2,3-Dihydro-2-thioxo-4(1*H*)-pyrimidinone, D-00494
1,2-Dihydro-3*H*-1,2,4-triazole-3-thione; K salt, *in* D-00496
3,4-Dihydro-4,4,6-trimethyl-1-(4-nitrophenyl)-2(1*H*)-pyrimidinethione, D-00499

3,4-Dihydro-4,4,6-trimethyl-1-(phenylamino)-2(1*H*)-pyrimidinethione, D-00500
▷ 3,4-Dihydro-4,4,6-trimethyl-1-phenyl-2(1*H*)-pyrimidinethione, D-00501
3,4-Dihydro-4,4,6-trimethyl-1-(4-phenyl-2-thiazolyl)-2(1*H*)-pyrimidinethione, D-00502
3,4-Dihydro-4,4,6-trimethyl-1-(2-pyridinyl)-2(1*H*)-pyrimidinethione, D-00503
3,4-Dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, D-00504
2′,5′-Dihydroxyacetophenone; Oxime, *in* D-00508
3,4-Dihydroxybenzaldehyde; 3-Me ether, oxime, *in* D-00519
2,5-Dihydroxybenzaldehyde; Oxime, *in* D-00518
2,4-Dihydroxybenzenecarbodithioic acid, D-00522
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bisbenzoic acid, D-00593
2,4-Dihydroxy-5-[(5-nitro-2-thiazolyl)azo]benzoic acid, D-00680
[(2,4-Dihydroxyphenyl)methylene](2-pyridinylmethylene)carbonothioic dihydrazide, D-00713
4,5-Dihydroxy-3-(1*H*-tetrazol-5-ylazo)-2,7-naphthalenedisulfonic acid, D-00738
2,3-Dimercaptopropanoic acid, D-00762
4-(4′-Dimethylaminophenyl)-1-phenylthiosemicarbazide, D-00822
3,3-Dimethyl-1,2-indanedione; Dioxime, *in* D-00868
N,*N*-Dimethyl-*N*′-(4-methyl-5-nitro-2-thiazolyl)thiourea, D-00870
5,6-Dimethyl-2-nitro-1,3-indanedione; Bis(thiosemicarbazone), *in* D-00873
N,*N*-Dimethyl-*N*′-[5-nitro-4-(4-nitrophenyl)-2-thiazolyl]thiourea, D-00874
N,*N*-Dimethyl-*N*′-[4-(4-nitrophenyl)-2-thiazolyl]thiourea, D-00875
2,4-Dimethyl-3-pentanone; Oxime, *in* D-00879
2,2′-[(1,3-Dimethyl-1,3-propanediylidene) dinitrilo]bisbenzenethiol, D-00898
1-[(2,4-Dinitrophenyl)amino]-3,4-dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, D-00962
Dioctyl sulfide, D-00983
N,*N*-Diphenyl-*N*′-benzoylthiourea, *in* B-00161
3,3-Diphenyl-1,2-indanedione; Dioxime, *in* D-01027
N,*N*-Diphenylmethyl-4-nitrosobenzenamine, *in* N-00154
O,*O*-Diphenyl phosphorodithioate, D-01040
▷ Diphenyl sulfide, D-01051
Dipropylglyoxime, *in* O-00033
Di-2-pyridinylmethanone benzoylhydrazone, D-01073
Di-2-pyridinylmethanone guanylhydrazone, D-01078
Di-2-pyridinylmethanone 5-nitro-2-pyridylhydrazone, D-01079
Di-2-quinolinylmethanone 2-pyridinylhydrazone, D-01102
1,1′-(2,2′-Disulfo-4,4′-biphenylene)bis(3-hydroxy-3-phenyltriazene); Di-Na salt, *in* D-01108
Di(2-thenoyl)ketoxime, *in* D-01113
3*H*-1,2-Dithiole-3-thione, D-01133
α,α-[(Dithiooxalyl)diimino]di-*m*-toluenesulfonic acid, D-01134
▷ Dithizone, D-01135
3-Dodecyl-1,5,9,13-tetraazacyclohexadecane, D-01156
6-Dodecyl-1,4,8,11-tetraazacyclotetradecane, D-01158
Erio green B; Na salt, *in* E-00019
3,3′-(1,2-Ethanediyldinitrilo)bis-2-butanone; Dioxime, *in* E-00035
5,5′-(1,2-Ethanediyldinitrilo)bis[2,2-dimethyl-3-hexanone], E-00036
1-Ethyl-3,4-dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, E-00069
N,*N*′-Ethylenebis(4-methoxy-1,2-benzoquinone 2-imine); Dioxime, *in* E-00076
Ethylenedithiodiacetic acid; Di-Na salt, *in* E-00080
2-Ethyl-4-(2-furanyl)propenal; Thiosemicarbazone, *in* E-00082
Ethyl-α-isonitrosoacetoacetate, *in* D-00986
▷ 2-Ethyl-4-pyridinecarbothioamide, E-00107
[[2-(Ethylthio)ethyl]thio]acetic acid, E-00119
▷ Fluphenazine, F-00034
3-Furancarboxaldehyde; Oxime, *in* F-00043
2-Furancarboxaldehyde phenylthiosemicarbazone, F-00047
(2-Furanyl)-2,3-dihydro-4-phenyl-1*H*-pyrazole-1-carbonodithioic acid, F-00051
2-[5-(2-Furanyl)-2,4-pentadienylidene] hydrazinecarbothioamide, *in* F-00058
3-(2-Furanyl)-2-propenal; (*E*)-*form*, Thiosemicarbazone, *in* F-00060
4-Heptanone; Oxime, *in* H-00012
Heptoxime, *in* C-00333
1,4,7,10,13,16-Hexathiacyclooctadecane, H-00070
N-Hexyl-*N*′-benzoylthiourea, H-00072
2-Hydroxy-5-anisaldoxime, *in* D-00518
2-Hydroxybenzothiazole, H-00125
3-Hydroxy-1,3-bis(4-methylphenyl)triazene, H-00139
N-[2-(Hydroxyimino)-1-methylpropylidene] glycine, H-00247
6-Hydroxy-5-[(4-iodophenyl)azo]-2-naphthalenesulfonic acid, H-00254
6-Hydroxy-8-mercaptopurine, H-00260
1-(2-Hydroxy-5-methylphenyl)-3-(4-hydroxyphenyl)-2-propen-1-one; 4-Me ether, oxime, *in* H-00311
4-[(2-Hydroxy-1-naphthalenyl)azo]-1-naphthalenesulfonic acid; Ba salt, *in* H-00350
2-[(2-Hydroxy-1-naphthalenyl)methylene]-*N*-phenylhydrazinecarbothioamide, H-00363
2-Hydroxy-5-nitro-3-[(2-thioxo-4-oxopyrrolidinyl)azo]benzenesulfonic acid, H-00423
3-Hydroxy-4-(phenylazo)-2,7-naphthalenedisulfonic acid; Disodium salt, *in* H-00454
2-[(1-Hydroxy-7-(phenylazo)-3-sulfo-2-naphthalenyl)azo]benzoic acid, H-00459
5-[(3-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, H-00461
5-[(4-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, H-00462
2-(3-Hydroxy-3-phenyl-1-triazenyl) benzothiazole, H-00508
3-Hydroxy-2-quinoxalinecarboxylic acid, H-00537
2-Hydroxy-5-[(4-sulfophenyl)azo]benzoic acid; Di-Na salt, *in* H-00542
3-Hydroxy-4-(1*H*-tetrazol-5-ylazo)-2,7-naphthalenedisulfonic acid, H-00546
▷ Hypoxanthine, H-00564
1*H*-Indane-1,2(3*H*)-dione-2-oxime, *in* I-00023
Isonitrosoacetylacetone, *in* P-00030
Isonitrosodibenzoylmethane, *in* D-01041
▷ Mellaril hydrochloride, *in* T-00173
▷ 2-Mercaptobenzoic acid, M-00023
Mercaptobutanedioic acid; (±)-*form*, *in* M-00026
5-Mercapto-3-(2-naphthyl)-1,3,4-thiazole-2-thione; K salt, *in* M-00039
2-Mercapto-*N*-phenylpropanamide, *in* M-00051
3-Mercapto-3-phenylpropanoic acid; (±)-*form*, Butyl ester, *in* M-00048
3-Mercapto-3-phenylpropanoic acid; (±)-*form*, Et ester, *in* M-00048
3-Mercapto-3-phenylpropanoic acid; (±)-*form*, Me ester, *in* M-00048
3-Mercapto-3-phenylpropanoic acid; (±)-*form*, 3-Methylbutyl ester, *in* M-00048
3-Mercapto-3-phenylpropanoic acid; (±)-*form*, Pentyl ester, *in* M-00048
3-Mercapto-3-phenylpropanoic acid; (±)-*form*, Ph ester, *in* M-00048
▷ 3-Mercapto-1,2-propanediol, M-00050
2-Mercapto-*N*-2-pyridinylacetamide, M-00055
2-Mercaptopyrimidine, M-00056
4-Methoxybenzaldehyde; Thiosemicarbazone, *in* M-00075
2-(2-Methoxy-4-methylphenylazo)thiazole, *in* M-00324
▷ 2-Methyl-1-buten-3-yne, M-00149
5-Methyl-2-furancarboxaldehyde thiosemicarbazone, *in* M-00179
5-(5-Methyl-2-furanyl)-2,4-pentadienal thiosemicarbazone, M-00181
3-(5-Methyl-2-furanyl)-2-propenal; Thiosemicarbazone, *in* M-00182
3-Methyl-1,2-indandione; Dioxime, *in* M-00194
3-Methyl-6-(1-methylethyl)-2-(2-pyridinylazo)phenol, M-00197
5-Methyl-2-(1-methylethyl)-4-(2-pyridinylazo)phenol, M-00198
N-Methyl-*N*′-(4-methyl-5-nitro-2-thiazolyl) thiourea, *in* M-00208
3-Methylnioxime, *in* M-00156
▷ 4-Methylnioxime, *in* M-00157
(4-Methyl-5-nitro-2-thiazolyl)thiourea, M-00208
4-Methyl-5-phenyl-3*H*-1,2-dithiole-3-thione, M-00227
P-Methylphosphonamidothioic acid; *O*-Ph ester, *in* M-00243
4-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-1,3-benzenediol, M-00249
1-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-2-naphthalenol, M-00250
5-[[5-(1-Methyl-2-piperidinyl)-2-pyridyl] azo]-1-naphthalenesulfonic acid, M-00254
6-Methyl-2-pyridinecarboxaldehyde 2-quinolinylhydrazone, M-00269
3-Methyl-2-pyridinethiol; *N*-Oxide, *in* M-00273
5-Methyl-2(1*H*)-pyridinethione; *N*-Oxide, *in* M-00275
6-Methyl-2(1*H*)-pyridinethione; *N*-Oxide, *in* M-00276
4-Methyl-2-[(2-pyridinylmethylene)amino] phenol, M-00289
Methyl red; Na salt, *in* M-00309
4-Methyl-2(3*H*)-thiazolone, M-00316
2-Methyl-4-(2-thiazolylazo)-1,3-benzenediamine, M-00317
4-[(5-Methyl-2-thiazolyl)azo]-1,3-benzenediol, M-00320
1-Naphthalenecarboxaldehyde; Oxime, *in* N-00003
1,8-Naphthalenedithiol, N-00012
Naphtho[2,3-*c*][1,2,5]selenadiazole, N-00038
4-Nitro-*o*-anisaldoxime, *in* H-00379
2-Nitro-*p*-anisaldoxime, *in* H-00381
3-(5-Nitro-2-furanyl)-2-propenal; Thiosemicarbazone, *in* N-00110
▷ Nitrofurazone, *in* N-00109
3-[(4-Nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, N-00125
5-[(4-Nitrophenyl)azo]-4-thioxo-2-selenazolidinone, N-00131
▷ 4-Nitrosodiphenylamine, N-00157
▷ 2-Nitroso-1-naphthol, N-00161
4-[(5-Nitro-2-thiazolyl)azo]-1,3-benzenediol, N-00165
2-[(5-Nitro-2-thiazolyl)azo]phenol, N-00166
1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-amine, O-00008
6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e*,*n*][1,4,8,12] dioxadiazacyclopentadecine, O-00013
5,6,7,8,9,10,16,17-Octahydrodibenzo[*e*,*m*][1,4,8,11] dioxadiazacyclotetradecine, O-00014

Octoxime, *in* C-00361
▷ 1,4-Oxathiane, O-00051
Palladiazo, P-00002
Pallatriazo, P-00003
2,3,4-Pentanetrione; 3-Oxime, *in* P-00033
2,5,8,11,14-Pentaoxapentadecane, *in* T-00043
o-Phenolazothiohydantoin, P-00061
10*H*-Phenoselenazine, P-00072
▷ Phenothiazine, P-00073
2-Phenoxathiincarboxaldehyde; Oxime, *in* P-00074
▷ Phenylacetylene, P-00077
3,3′-[3-[(Phenylamino)carbonyl]-1,5-formazandiyl]bis[4-chlorobenzenesulfonic acid]; Di-K salt, *in* P-00080
3,3′-[3-[(Phenylamino)carbonyl]-1,5-formazandiyl]bis[4-chlorobenzenesulfonic acid], P-00080
▷ *N*-[(Phenylamino)thioxomethyl]benzamide, *in* P-00201
(Phenylazo)benzaldoxime, P-00091
4-Phenyl-3*H*-1,2-dithiole-3-thione, P-00115
5-Phenyl-3*H*-1,2-dithiole-3-thione, P-00116
4,4′-[1,3-Phenylenebis(azo)]bis-1,3-benzenediamine; B,2HCl, *in* P-00117
3-Phenyl-1,2-indanedione; Dioxime, *in* P-00137
4-Phenyl-2-mercaptoimidazole, P-00140
N-Phenylmethyl[[(4-chlorophenyl)amino] thioxomethyl]-*N*′-phenylcarbamimidothioate, P-00145
▷ 3-Phenyl-2-propenal; (*E*)-*form*, Thiosemicarbazone, *in* P-00168
5-(3-Phenyl-2-propenylidene)-2-thioxo-4-imidazolidinone, P-00170
▷ Phenylthiourea, P-00201
6-Phenyl-1,2,4-triazine-3(2*H*)-thione, P-00205
1-Piperidinecarbodithioic acid, P-00242
Propanal oxime, *in* P-00259
Propanedioic acid; Dihydrazide, *in* P-00261
2-Propanoyl-1-naphthol; Oxime, *in* P-00267
2-Pyridinecarboxaldehyde 1-phthalazinylhydrazone, P-00332
2-Pyridinecarboxaldehyde (2-pyridinylmethylene)hydrazone, P-00334
▷ 2(1*H*)-Pyridinethione, P-00357
4-(2-Pyridinylazo)-1,3-benzenediol, P-00373
4-(2-Pyridinylazo)-1-naphthalenol, P-00376
3-(2-Pyridinylazo)-2,6-pyridinediamine, P-00379
3-[(2-Pyridinylmethylene)amino]-[1,1′-biphenyl]-4-ol, P-00391
2-[(2-Pyridinylmethylene)amino]phenol, P-00393
▷ 2-(3-Pyridinylmethylene) hydrazinecarbothioamide, *in* P-00319
3-(2-Pyridinyl)-1,3,4-thiazolidine-2,5-dithione, P-00407
5-(1*H*-Pyrrol-2-ylmethylene)-2-thioxo-4-imidazolidinone, P-00444
2-Quinolinecarboxaldehyde; Oxime, *in* Q-00009
2-Quinolinecarboxaldehyde 1-phthalazinylhydrazone, Q-00011
2-Selenophenecarboxaldehyde; Oxime, *in* S-00006
Septonex, *in* E-00061
▷ Tartrazine; Tri-Na salt, *in* T-00003
3,6,9,12-Tetrathia-1,14-tetradecanedithiol, T-00130
▷ Tetrazole-5-thione; 1,4-Dihydro-*form*, 1-Ph, *in* T-00131
2-Thiazolecarboxaldehyde 2-quinolinylhydrazone, T-00137
4-(2-Thiazolylazo)-1-naphthalenol, T-00143
3-(2-Thiazolylazo)-2,6-pyridinediamine, T-00145
5-(2-Thienylmethylene)-2-thioxo-4-imidazolidinone, T-00152
Thioaminazo F, T-00154
▷ Thiobenzoic acid, T-00155
3,3′-Thiobis[6-hydroxybenzoic acid], T-00158
1-Thiocarbamido-3-methyl-5-pyrazolone, T-00160
2-Thiophenecarboxaldehyde; Oxime, *in* T-00169
2-Thiophenecarboxaldehyde; Thiosemicarbazone, *in* T-00169
5-[(1-*p*-Tolylimidazol-4-yl)methylene] rhodanine, T-00191
▷ 1,3,5-Triazine-2,4,6-triamine, T-00197
▷ 2,4,6-Tribromophenol, T-00205
N,*N*′,*N*″-Trihexylphosphorothioic triamide, T-00267
1,3,4-Trihydroxyanthraquinone-2-carboxylic acid, T-00272
▷ Triphenylarsine, T-00363
▷ Triphenylphosphine, T-00370
Tris(2-methylpropyl)amine, T-00409

Phosphorus

▷ Acid chrome violet K; Na salt, *in* A-00055
2-Amino-4-chlorobenzenethiol, A-00135
▷ Bis(2-ethylhexyl)amine, B-00351
Bis(nitrooxy)dioctylstannane, B-00429
Chromopyrazole, C-00286
▷ Edetol, E-00001
▷ Ferrocene, F-00004
▷ Quinine, Q-00005
▷ Quinoline, Q-00007
▷ Rivanol, *in* D-00094

Phosphorus: phosphate

▷ Auramine, A-00456
Bis(4-chlorophenyl)iodonium(1+); Chloride, *in* B-00287
Chromopyrazole I, C-00287
4,5-Dihydro-1*H*-pyrazole-3,4-dicarboxylic acid; Diamide, *N*-di-Me, *in* D-00480
Gallein, G-00004
1-(2-Hydroxy-5-methylphenyl)-1-butanone; (*E*)-*form*, Oxime, *in* H-00309
5-[(2-Hydroxy-1-naphthalenyl)azo]-2,4-(1*H*,3*H*)-pyrimidinedione; NH_4 salt, *in* H-00354
4-(3-Hydroxy-3-phenyl-1-triazenyl) benzenesulfonic acid, H-00506
Lanthanum chloroanilate, *in* D-00262
▷ Malachite green; Chloride, *in* M-00006
▷ Metol, *in* A-00302
Rhodamine B, *in* R-00002
▷ Strychnine, S-00033
▷ Thiamine, T-00135

Platinum (including platinum group and noble metals)

Acenaphthenequinone; Monoxime, *in* A-00001
▷ Acetoxime, *in* A-00007
4-Amino-8-[(2,4-dithioxo-5-thiazolidinyl) azo]-5-hydroxy-1,7-naphthalenedisulfonic acid, A-00169
3-[(3-Amino-4-oxo-2-thioxo-5-thiazolidinyl) azo]benzenesulfonic acid, *in* O-00075
▷ Aminopyrine, A-00339
3-Aminorhodanine, A-00346
1-(9-Anthracenyl)-2-[[4-(dimethylamino) phenyl]imino]ethanone, A-00382
5-[(2-Arsonophenyl)azo]-2,4-thiazolidinedithione, A-00443
5-[(2-Arsonophenyl)azo]-2-thioxo-4-thiazolidinone, A-00444
Benzointhiosemicarbazone, *in* B-00068
2-Benzothiazolethiol, B-00089
N-Benzoyl-*N*′-(5-bromo-2-pyridyl)thiourea, B-00125
9-Benzyl-*s*-triazolo-[4,3-*a*]-benzimidazole-3-thione, B-00195
▷ 4,4′-Bipyridine, B-00222
▷ Bis(2-aminophenyl) disulfide, B-00251
4-[Bis(4-aminophenyl)hydroxymethyl]-4-chloro-2,4-dihydro-2,5-diphenyl-3*H*-pyrazol-3-one; N^4,N^4,$N^{4'}$,$N^{4'}$-Tetra-Et, *in* B-00253
4-[Bis(4-aminophenyl)hydroxymethyl]-4-chloro-2,4-dihydro-2,5-diphenyl-3*H*-pyrazol-3-one; N^4,N^4,$N^{4'}$,$N^{4'}$-Tetra-Me, *in* B-00253
Bis[4-(diethylamino)phenyl]methanethione, *in* B-00254
N,*N*′-Bis(3-dimethylaminopropyl) dithiooxamide, B-00325
4,4′-Bis(dimethylamino)thiobenzophenone, B-00326
N,*N*′-Bis(1,1-dimethylethyl)thiourea, *in* T-00175
▷ *N*,*N*′-Bis(2-methylphenyl)thiourea, B-00412
4-(1-Butylpentyl)pyridine, B-00635
N-Butyl-2-pyridinecarbothioamide, *in* P-00317
4-Chlorobenzoic acid [(2-bromo-6-hydroxyphenyl)methylene]hydrazide, C-00068
5-Chloro-3-[(2,4-dithioxo-5-thiazolidinyl) azo]-2-hydroxybenzenesulfonic acid, C-00112
3-(5-Chloro-2-furanoyl)-2-propenal; Thiosemicarbazone, *in* C-00120
5-Chloro-2-hydroxy-3-[(3-benzylideneamino-4-oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid, C-00124
5-Chloro-2-hydroxy-3-[(3-(2-hydroxybenzylideneamino)-4-oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, C-00128
5-Chloro-2-hydroxy-3-[(3-(2-hydroxy-3-methoxybenzylideneamino)-4-oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, C-00131
5-Chloro-2-hydroxy-3-[(2-imino-4-oxo-5-thiazolidinyl)azo]benzenesulfonic acid, C-00133
5-Chloro-2-hydroxy-3-[(2-oxo-4-thioxo-5-selenazolidinyl)azo]benzenesulfonic acid, C-00140
5-Chloro-2-hydroxy-3-[(4-oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid, C-00141
4-Chloro-2-[[(2-hydroxyphenyl)methylene] amino]phenol, C-00150
▷ 2-Chloropyridine, C-00252
1,3-Cyclohexanedione bis(thiosemicarbazone); B, HCl, *in* C-00345
▷ 1,2-Diaminobenzene, D-00046
3,4-Diaminobenzoic acid, D-00050
▷ Dibenzyldithiooxamide, D-00169
N-[(Dibutylamino)thioxomethyl]benzamide, D-00225
5-[[4-(Diethylamino)phenyl]methylene]-2-thioxo-4-thiazolidinone, D-00334
N,*N*-Diethyl-*N*′-benzoylthiourea, D-00338
N,*N*-Diethyl-4-nitrosoaniline, D-00350
N,*N*-Dihexyl-*N*′-benzoylthiourea, *in* B-00161
1,2-Dihydro-1,5-dimethyl-4-[(4-oxo-2-thioxo-5-thiazolidinyl)azo]-2-phenyl-3*H*-pyrazol-3-one, D-00389
2,4-Dihydro-4-phenyl-3*H*-1,2,4-triazole-3-thione, D-00471
2,9-Dihydro-9-phenyl-3*H*-1,2,4-triazolo[4,3-*a*]benzimidazole-3-thione, D-00472
1,2-Dihydro-3*H*-1,2,4-triazole-3-thione; K salt, *in* D-00496
3,4-Dihydro-4,4,6-trimethyl-1-(4-methyl-2-nitrophenyl)-2(1*H*)-pyrimidinethione, D-00498
3,4-Dihydro-4,4,6-trimethyl-1-(2-pyridinyl)-2(1*H*)-pyrimidinethione, D-00503
2,6-Dihydroxy-3-nitrosopyridine, D-00673
▷ Diisopropyl ether, D-00748
N,*N*-Dimethyl-*N*′-benzoylthiourea, *in* T-00175
▷ *N*,*N*-Dimethyl-4-nitrosoaniline, D-00876
Diphenylcarbazide, D-01004
Diphenylphosphinodithioic acid; Na salt, *in* D-01039
N,*N*′-Diphenylthioimidodicarbonic diamide, *in* T-00163
1,4-Diphenylthiosemicarbazide, D-01053
▷ *N*,*N*′-Diphenylthiourea, D-01055

O,O-Di-2-propenyl phosphorodithioate, D-01058
N-[(Dipropylamino)thioxomethyl] benzamide, D-01059
▷ *O,O*-Di-2-propynyl phosphorodithioate, D-01061
▷ Dithizone, D-01135
Ethopropazine hydrochloride, *in* E-00050
2-Ethyl-4-(2-furanyl)propenal; Thiosemicarbazone, *in* E-00082
▷ Formic acid, F-00037
2-Furanthiocarboxhydrazide, *in* F-00040
3-(2-Furanyl)-2-propenal; (*E*)-*form*, Thiosemicarbazone, *in* F-00060
5-[(2-Hydroxy-3,5-dinitrophenyl)azo]-2,4-thiazolidinedithione, H-00162
5-[(2-Hydroxy-3,5-dinitrophenyl)azo]-2-thioxo-4-thiazolidinone, H-00163
2-Hydroxy-3-[(2-imino-4-oxo-5-thiazolidinyl)azo]-5-nitrobenzenesulfonic acid, H-00249
2-Hydroxy-5-nitro-3-[(2-oxo-4-thioxo-5-selenazolidinyl)azo]benzenesulfonic acid, H-00390
2-Hydroxy-5-nitro-3-[(4-oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid, H-00391
4-Hydroxy-3-nitroso-2*H*-1-benzopyran-2-one, H-00407
2-Hydroxy-5-nitro-3-[(tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo] benzenesulfonic acid, H-00422
2-Hydroxy-5-nitro-3-[(2-thioxo-4-oxopyrrolidinyl)azo]benzenesulfonic acid, H-00423
2-Hydroxy-5-[[4-[(4-oxo-2-thioxo-5-thiazolidinyl)azo]phenyl]azo] benzenesulfonic acid, H-00436
5-[(2-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, H-00460
5-[(3-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, H-00461
5-[(4-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, H-00462
N-(3-Hydroxyphenyl)-2-mercaptoacetamide, H-00476
2-Hydroxy-5-sulfo-3-[(tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo]benzoic acid, H-00545
o-Hydroxythiobenzhydrazide, *in* H-00110
Isopropyltriphenylphosphonium(1+); Chloride, *in* I-00079
Lucigenine; Dinitrate, *in* L-00012
N-[[(2-Mercaptophenyl)imino]methyl] phenol, M-00045
2-Mercaptopyrimidine, M-00056
▷ 5-Mercapto-1,3,4-thiadiazoline-2-thione, M-00060
4-Methoxybenzaldehyde phenylthiosemicarbazone, M-00076
N-(2-Methoxyphenyl)-2-pyridinecarbothioamide, *in* H-00502
4,4′-Methylenebis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-thione], M-00169
3-(5-Methyl-2-furanyl)-2-propenal; Thiosemicarbazone, *in* M-00182
5-[(6-Methyl-2-pyridinyl)methylene]-4-imidazolidinone; (*E*)-*form*, *in* M-00290
1-Naphthalenethiocarboxhydrazide, N-00016
1,5-Naphthyridine, N-00056
1,5-Naphthyridine; B,H_2SO_4, *in* N-00056
3-(5-Nitro-2-furanyl)-2-propenal; Thiosemicarbazone, *in* N-00110
5-[(4-Nitrophenyl)azo]-4-thioxo-2-selenazolidinone, N-00131
4-[(4-Nitrophenyl)methyl]pyridine, N-00139
▷ Nitroso R salt, *in* H-00414
N-Octylaniline, O-00038
2-(2-Oxo-1(2*H*)-acenaphthylenylidene) hydrazinecarbothioamide, *in* A-00001
2-[(4-Oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, O-00074
3-[(4-Oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, O-00075
4-[(4-Oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, O-00076
▷ Perazine, P-00043
9,10-Phenanthraquinone; Monoxime, *in* P-00047
o-Phenolazothiohydantoin, P-00061
N-[(Phenylamino)thioxomethyl] benzenecarbothioamide, P-00088
3-[(Phenylmethylene)amino]-2-thioxo-4-thiazolidinone, P-00146
N-(Phenylmethyl)-2-pyridinecarbothioamide, *in* P-00317
▷ 3-Phenyl-2-propenal; (*E*)-*form*, Thiosemicarbazone, *in* P-00168
N-Phenyl-2-thiopicolinamide, *in* P-00317
▷ Piperidine, P-00241
1-Piperidinecarbodithioic acid, P-00242
4-Quinolinecarbodithioic acid, Q-00008
5-(8-Quinolinylazo)-2,4-thiazolidinedithione, Q-00033
5-(8-Quinolinylazo)-2-thioxo-4-thiazolidinone, Q-00034
▷ Tentone, *in* M-00070
2-(2,4,5,7-Tetrabromo-6-hydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid ethyl ester, *in* E-00007
2-[(Tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo]benzoic acid, T-00060
▷ Tetrazole-5-thione; 1,4-Dihydro-*form*, 1-Ph, *in* T-00131
5-(2-Thiazolylazo)-2-thioxo-4-thiazolidinone, T-00146
2-Thiophenecarbothioic acid; Hydrazide, *in* T-00167
N-*o*-Tolyl-2-thiopicolinamide, *in* P-00317
▷ 2,4,6-Tribromophenol, T-00205
2,4,6-Triphenylpyrylium(1+); Chloride, *in* T-00374
Tris(2-methylpropyl)amine, T-00409

Plutonium

Alamine oxide, A-00071
Arsenazo AE, A-00404
Arsenazo T, A-00418
3-[(2-Arsonophenyl)azo]-6-[[5-(diethylsulfamoyl)-2-methoxyphenyl] azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00428
3-[(3-Chloro-2-hydroxy-5-nitrophenyl)azo]-6-[(5-chloro-2-hydroxy-3-sulfophenyl) azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00138
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2,4-dimethylphenyl) azo]-2,7-naphthalenedisulfonic acid, C-00154
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, C-00156
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[5-chlorosalicylic acid], D-00588

Potassium

4′-Anilino-2,5-dichloroazobenzene-4-sulfonic acid, A-00370
Benzo-18-crown-6, B-00055
N-(1,4,7,10,13,16,19-Benzoheptaoxacycloheneicosin-21-yl)-2-propenamide, B-00058
2,2′-Bis[3,4-(15-crown-5)-2-nitrophenylcarbamoxymethyl] tetradecane, B-00290
3,26-Bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21-decahydro-29-(3,45-trimethoxyphenyl)-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16] hexaoxacycloheneicosin, B-00328
3,26-Bis(1,1-dimethylethyl)-29-(2,5-dimethylphenyl)-8,9,11,12,14,15,17,18,20,21-decahydro-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16]-hexaoxacycloheneicosin, B-00329
2,19-Bis(1,1-dimethylethyl)-6,7,9,10,12,13,15,16,23,24,26,27,29,30,32,33-hexadecahydrodibenzo[*b,q*] [1,4,7,10,13,16,19,22,25,28] decaoxacyclotriacontine, B-00331
ar,ar′-Bis(1,1-dimethylethyl)-6,7,9,10,12,13,15,16,18,19,26,27,29,30,32,33,35,36-octadecahydrodibenzo[*b,q*] [1,4,7,10,13,16,19,22,25,28,31] undecaoxacyclotritriacontin, B-00332
N,N′-Bis(2,3,5,6,8,9,11,12,14,15,17,18-dodecahydro-1,4,7,10,13,16,19-benzoheptaoxacycloheneicosin-21-yl) pentanediamide, B-00346
Bis[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl) methyl]heptanedioate, B-00434
Bromocresol green, B-00498
16-Bromo-2,3,5,6,8,9,11,12-octahydro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, B-00540
2-Butenedioic acid bis[(2,3,5,6,8,9,11,12,14,15-decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl) methyl]ester, B-00610
Cryptand 2.2.2 BB, C-00318
▷ Cysteine; (±)-*form*, *in* C-00370
8-[[4-[(2,3,5,6,8,9,11,12,14,15-Decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl)azo] phenyl]amino]-1-naphthalenesulfonic acid, D-00006
8,9,11,12,14,15,17,18,20,21-Decahydro-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16]hexaoxacycloheneicosin, D-00016
2,3,5,6,8,9,11,12,14,15-Decahydronaphtho[2,3-*b*]-1,4,7,10,13,16-hexaoxacyclooctadecin, D-00017
2,3,5,6,8,9,11,12,14,15-Decahydro-18-nitro-1,4,7,10,13,16-benzohexaoxacyclooctadecin, D-00018
6,7,9,10,12,13,15,16,18,19-Decahydro-2,4,21,23-tetramethyl-25-(1-naphthalenyl)-25*H*-dibenzo[*q,t*][1,4,7,10,13,16] hexaoxacycloheneicosin, D-00020
Dibenzo-16-crown-5, D-00155
Dibenzo-19-crown-6, D-00157
Dibenzo-22-crown-7, D-00158
Dibenzo-30-crown-10, D-00160
Dibenzo-36-crown-12, D-00161
2,13-Dibutyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecin, D-00235
7,18-Dibutyl-6,7,9,10,17,18,20,21-octahydrodibenzo-[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecin, D-00236
2,5-Dichloro-4-[[4-(4-dibutylamino)phenyl] azo]benzenesulfonic acid, *in* A-00311
2,5-Dichloro-4-[[4-(4-diethylamino)phenyl] azo]benzenesulfonic acid, *in* A-00311
2,5-Dichloro-4-[[4-(4-dimethylamino) phenyl]azo]benzenesulfonic acid, *in* A-00311
29-(2,6-Dichlorophenyl)-3,26-bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21-decahydro-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16]hexaoxacycloheneicosin, D-00290
2,19-Diethyl-6,7,9,10,12,13,15,16,23,24,26,27,29,30,32,33-hexadecahydrodibenzo[*b,q*] [1,4,7,10,13,16,19,22,25,28] decaoxacyclotriacontin, D-00348
2,13-Diethyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecin, D-00351
7,18-Diethyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecin, D-00352
2,13-Diheptyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecin, D-00366

2,13-Dihexyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b*,*k*][1,4,7,10,13,16]hexaoxacyclooctadecin, D-00368
4,5-Dihydroxy-4-cyclopentene-1,2,3-trione, D-00571
Dinaphtho-30-crown-10, D-00932
3,5-Dinitro-4-[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentanedecin-15-yl)amino]benzonitrile, D-00956
19-[(2,4-Dinitrophenyl)azo]-3,6,9,12,15-pentaoxabicyclo[15.3.1]heneicosa-1(21),17,19-trien-21-ol, D-00969
N-(2,4-Dinitrophenyl)-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, D-00973
N-[2,4-Dinitro-6-(trifluoromethyl)phenyl]-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, D-00977
N-[2,6-Dinitro-4-(trifluoromethyl)phenyl]-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, D-00978
Dipropyldicyclohexyl-18-crown-6, *in* O-00027
6,7,9,10,12,13,20,21,23,24,26,27-Dodecahydro-2,16-dimethyldibenzo[*b*,*n*][1,4,7,10,13,16,19,22]octaoxacyclotetracosin, D-01138
Dodecylmethylpropanedioate bis(1,4,7,10-tetraoxacyclododec-2-ylmethyl)ester, D-01152
Eicosahydro-20*H*-dibenzo[*b*,*n*][1,4,7,10,13,16]hexaoxacyclononadecin, E-00003
▷ Eicosahydrodibenzo[*b*,*k*][1,4,7,10,13,16]hexaoxacyclooctadecine, E-00004
Eicosahydro-2,13-dimethyldibenzo[*b*,*k*][1,4,7,10,13,16]hexaoxacyclooctadecin, E-00005
1,4,10,13,16,19-Heptaoxacycloheneicosane, H-00013
4,7,10,16,19,24,27-Heptaoxa-1,13-diazabicyclo[11.8.8]nonacosane, H-00014
6,7,9,10,12,13,15,16,23,24,26,27,29,30,32,33-Hexadecahydro-2,20-dimethyldibenzo[*b*,*q*][1,4,7,10,13,16,19,22,25,28]decaoxacyclotriacontin, H-00023
6,7,9,10,12,13,15,23,24,26,27,29,30,32,33-Hexadecahydro-2,19-dinitrodibenzo[*b*,*q*]-[1,4,7,10,13,16,19,22,25,28]decaoxacyclotriacontin, H-00024
▷ 2,2′,4,4′,6,6′-Hexanitrodiphenylamine, H-00065
2-Hydroxy-3,5-dinitrobenzyl-15-crown-5, H-00155
13-(2-Hydroxy-5-nitrobenzyl)-1,4,7,10-tetraoxa-13-azacyclopentadecane, H-00386
2-Hydroxy-[5-(4-nitrophenylazo)phenyl]methyl-15-crown-5, H-00398
2-Hydroxy-5-(4-nitrophenylazo)phenylmethyl-18-crown-6, H-00399
[2-Hydroxy-5-(4-nitrophenylazo)phenyl]oxymethyl-15-crown-5, H-00400
[2-Hydroxy-5-(4-nitrophenylazo)phenyl]oxymethyl-18-crown-6, H-00401
2-[(2-Methoxyphenoxy)methyl]-1,4,7,10,13-pentaoxacyclopentadecane, M-00104
2-(2-Methoxyphenyl)-1,4,7,10,13,16-hexaoxacyclooctadecane, M-00109
2-(2-Methoxyphenyl)-1,4,7,10,13-pentaoxacyclopentadecane, M-00115
15-Methyl-1,4,7,10,13-benzopentaoxacyclopentadecin, M-00139
19-[(4-Nitrophenyl)azo]-3,6,9,12,15-pentaoxabicyclo[15,3,1]heneicosa-1(21),17,19-trien-21-ol, N-00127
▷ 5-Nitro-2,4,6(1*H*,3*H*,5*H*)-pyrimidinetrione, N-00153
4-[(2,3,5,6,8,9,11,12-Octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl)azo]phenol, O-00006
6,7,9,10,17,18,20,21-Octahydro-2,13-dimethyldibenzo[*b*,*k*][1,4,7,10,13,16]hexaoxacyclooctadecine, O-00023
6,7,9,10,17,18,20,21-Octahydro-7,18-dimethyldibenzo[*b*,*k*][1,4,7,10,13,16]hexaoxacyclooctadecine, O-00024
6,7,9,10,17,18,20,21-Octahydro-2,13-dioctyldibenzo[*b*,*k*][1,4,7,10,13,16]hexaoxacyclooctadecine, O-00025
6,7,9,10,17,18,20,21-Octahydro-2,13-dipentyldibenzo[*b*,*k*][1,4,7,10,13,16]hexaoxacyclooctadecine, O-00026
6,7,9,10,17,18,20,21-Octahydro-2,13-dipropyldibenzo[*b*,*k*][1,4,7,10,13,16]hexaoxacyclooctadecine, O-00027
2,3,5,6,8,9,11,12-Octahydronaphtho[2,3-*b*]-1,4,7,10,13-pentaoxacyclopentadecine, O-00029
6-(Phenylamino)-2-naphthalenesulfonic acid, P-00082
4-[[4-(Phenylamino)phenyl]azo]benzenesulfonic acid; Na salt, *in* P-00084
Propeller crown 7, P-00268
▷ Sodium tetraphenylborate(*III*), S-00015
Tartaric acid, T-00002
▷ 1,4,7,10-Tetraoxacyclododecane, T-00113
▷ 2,4,6-Trinitro-1,3-benzenediol, T-00350
2,4,6-Trinitro-*N*-[2-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-ylmethyl)phenyl]benzenamine, T-00356
4,10,15-Trioxa-1,7-diazabicyclo[5.5.5]heptadecane, T-00360
▷ Valinomycin, V-00001

Rare earth elements (lanthanum, yttrium and the lanthanides)

▷ Acetic acid, A-00006
p-Acetylarsenazo, A-00012
Acid chrome blue K; Tri-Na salt, *in* A-00053
Alamine, A-00070
Alizarine red S; Na salt, *in* A-00081
▷ Aluminon, *in* A-00458
2-Amino-3-(3,4-dihydroxyphenyl)propanoic acid; (*S*)-*form*, *in* A-00158
▷ 1-Amino-4-hydroxyanthraquinone, A-00182
Antipyrylazo III, A-00394
Arsenazo AE, A-00404
Arsenazo AG, A-00405
Arsenazo II, A-00411
▷ Arsenazo III, A-00412
Arsenazo I; Tri-Na salt, *in* A-00410
Arsenazo M, A-00414
Arsenazo SA, A-00415
Arsenazo 4S3NB, A-00416
Arsenazo SU, A-00417
3-[(2-Arsonophenyl)azo]-6-[(2-arsono-5-chlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00421
3-[(2-Arsonophenyl)azo]-6-[(2-arsono-5-methylphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00422
3-[(2-Arsonophenyl)azo]-6-[(4-arsonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00423
3-[(2-Arsonophenyl)azo]-6-[(3-chloro-2-hydroxy-5-nitrophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00424
3-[(2-Arsonophenyl)azo]-6-[(5-chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00425
2-[[7-[(4-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, A-00429
N-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]methyl]-*N*-(carboxymethyl)glycine, A-00430
3-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-4-arsonobenzoic acid, A-00431
3-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-2-hydroxy-5-sulfobenzoic acid, A-00432
2-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-5-sulfobenzoic acid, A-00433
3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00434
3-[(4-Arsonophenyl)azo]-4,5-dihydroxy-6-[(4-methylphenyl)azo]-2,7-naphthalenedisulfonic acid, A-00435
3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00437
3-[(4-Arsonophenyl)azo]-4,5-dihydroxy-6-(phenylazo)-2,7-naphthalenedisulfonic acid, A-00438
3-[(2-Arsonophenyl)azo]-6-[(4-dimethylaminophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00440
4-Benzoyl-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, B-00128
4-Benzoyl-3-phenyl-5(4*H*)-isoxazolone, B-00143
5-(1-Benzyl-2-benzimidazolyl)-1-(2-hydroxyphenyl)-3-phenylformazan, B-00168
3,6-Bis[(2-arsono-4-methylphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00256
2-[Bis(carboxymethyl)amino]benzoic acid, B-00276
4-[[Bis(carboxymethyl)amino]methyl]-3-hydroxy-2-naphthoic acid, B-00277
Bis(4-chlorophenyl) phosphate, B-00289
▷ 1,4-Bis[(4-methylphenylamino)]-9,10-anthracenedione, B-00406
Bis(2,4,4-trimethylpentyl)phosphinic acid, B-00468
4-(2-Bromobenzoyl)-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, B-00493
4-Bromo-6-(2-thiazolylazo)-1,3-benzenediol, B-00578
N-(4-Butylbenzoyl)-*N*-phenylhydroxylamine, *in* B-00618
N-(4-Butylcyclohexanoyl)-*N*-phenylhydroxylamine, B-00624
Calmagite, C-00015
Carboxybenzene S, C-00028
Carboxynitrazo, C-00035
2-[[7-[(3-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, C-00036
2-[[7-[(4-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, C-00037
4-(2-Chlorobenzoyl)-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, C-00070
Chlorophosphonazo DAL, *in* C-00242
Chlorophosphonazo mN, C-00243
Chlorophosphonazo pN, C-00244
N-[4-[[7-[(4-Chloro-2-phosphonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoyl]glycine, C-00248
3-[(4-Chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-6-[(4-iodophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00249
Chromotropic acid, C-00294
3-Cyano-1,5-bis(2-hydroxy-5-sulfophenyl)formazan; Di-Na salt, *in* C-00325
1,1,1,2,2,6,6,7,7,7-Decafluoro-3,5-heptanedione, D-00003
1,1,1,5,5,6,6,7,7,7-Decafluoro-2,4-heptanedione, D-00004
2-[(3,5-Dichloro-2-pyridinyl)azo]-5-(dimethylamino)phenol, D-00300
4,5-Didodecyl-1-naphthalenesulfonic acid, D-00311
4-(2,6-Difluorobenzoyl)-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, D-00359

2,4-Dihydro-4-(2-methoxybenzoyl)-5-methyl-2-phenyl-3*H*-pyrazol-3-one, D-00426
2,4-Dihydro-5-methyl-4-(2-methylbenzoyl)-2-phenyl-3*H*-pyrazol-3-one, D-00431
2,4-Dihydro-5-methyl-4-(1-oxooctyl)-2-phenyl-3*H*-pyrazol-3-one, D-00436
2,4-Dihydro-5-methyl-2-phenyl-4-[2-(trifluoromethyl)benzoyl]-3*H*-pyrazol-3-one, D-00450
4,5-Dihydroxy-3,6-bis[(4-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00552
4,5-Dihydroxy-3,6-bis[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00553
4,5-Dihydroxy-3,6-bis[(4-methoxyphenyl)azo]-2,7-naphthalenedisulfonic acid, *in* D-00552
4,5-Dihydroxy-3,6-bis[(*o*-methoxyphenyl)azo]-2,7-naphthalenedisulfonic acid, *in* D-00551
4,5-Dihydroxy-3,6-bis[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00557
4,5-Dihydroxy-3,6-bis[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00563
4,5-Dihydroxy-3,6-bis(*p*-tolylazo)-2,7-naphthalenedisulfonic acid, D-00566
Dihydroxybutenedioic acid, D-00567
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[2-hydroxy-5-sulfobenzoic acid], D-00589
2,2′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[5-sulfobenzoic acid], D-00590
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bis[4-arsonobenzoic acid], D-00591
2,2′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bisbenzoic acid, D-00592
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bisbenzoic acid, D-00593
2-[[[1,8-Dihydroxy-3,6-disulfo-7-[(4-phenylazo)phenyl]azo]-2-naphthyl]azo]-5-sulfobenzoic acid, D-00606
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(3-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, D-00609
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(4-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, D-00610
3-[[1,8-Dihydroxy-3,6-disulfo-7-[(4-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, D-00611
2-[[1,8-Dihydroxy-7-[(3-methylphenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00651
2-[[1,8-Dihydroxy-7-[(4-methylphenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00652
4,5-Dihydroxy-3-(3-methylphenylazo)-6-phenylazo-2,7-naphthalenedisulfonic acid, D-00654
2-[[1,8-Dihydroxy-7-[(3-nitrophenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00664
4,5-Dihydroxy-3-[(*p*-nitrophenyl)azo]-6-(phenylazo-2,7-naphthalenedisulfonic acid), D-00667
4,5-Dihydroxy-3-[(*p*-nitrophenyl)azo]-6-[(*p*-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00669
2,3-Dihydroxy-1*H*-phenalen-1-one, D-00684
2-[[1,8-Dihydroxy-7-(phenylazo)-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00692
4,5-Dihydroxy-3-(phenylazo)-6-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, D-00701
4,5-Dihydroxy-3-(phenylazo)-6-[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00702
4,5-Dihydroxy-3-[(2-pyridinyl)azo]-2,7-naphthalenedisulfonic acid, D-00722
4,5-Dihydroxy-3-[(3-pyridinyl)azo]-2,7-naphthalenedisulfonic acid, D-00723
▷ 3,5-Diiodosalicylic acid, D-00745
2-[[4-(Dimethylamino)-2-hydroxyphenyl]azo]-4,6-dinitrophenol, *in* A-00210
2-[[4-(Dimethylamino)-2-hydroxyphenyl]azo]-4-methylphenol, *in* A-00197
2-[[4-(Dimethylamino)-2-hydroxyphenyl]azo]-4-nitrophenol, *in* A-00213
5-(Dimethylamino)-2-(2-thiazolylazo)phenol, *in* A-00214
15-(1,1-Dimethylethyl)tetradecahydro-1,4,7,10,13-benzopentaoxacyclopentadecin, D-00860
1,1,1,2,2,6,6,7,7,8,8,8-Dodecafluoro-3,5-octanedione, D-01136
1,12-Dodecanediylbis[octylarsinic acid], D-01139
1,2-Ethanediphosphonic acid; *P,P′*-Dibutyl ester, *in* E-00026
4,4′-[1,2-Ethenediylbis[2-(aminomethyl)phenol]]-*N,N,N′,N′*-tetraacetic acid; (*E*)-*form*, *in* E-00042
7-(1-Ethenyl-3,3,5,5-tetramethylhexyl)-8-quinolinol, E-00049
Ethyltridodecylammonium(1+); Bromide, *in* E-00120
4-(2-Fluorobenzoyl)-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, F-00025
Hexabutylphosphoric triamide, *in* H-00020
Hexafluoroacetylacetone, H-00030
[(6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b,k*][1,4,7,10,13]pentaoxacyclohexadecin-18-yl)oxy]acetic acid, H-00040
2-[6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b,k*]-[1,4,7,10,13-pentaoxacyclohexadecin-18-yl]oxy] hexanoic acid, H-00042
17-[(6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b,k*][1,4,7,10,13]-pentaoxacyclohexadecin-18-yl)oxy] octadecanoic acid, H-00043
▷ Hexanoic acid, H-00066
2-Hexyl-*N*-hydroxy-*N*-phenyldecanamide, H-00076
4-Hydroxybenzoic acid (1,2-dimethyl-1,2-ethanediylidene)dihydrazide, H-00117
8-Hydroxy-5,7-dinitroquinoline; *N*-Oxide, *in* H-00165
6-Hydroxy-5-[(2-hydroxy-3,5-dinitrophenyl)azo]-2-naphthalenesulfonic acid; Na salt, *in* H-00200
6-Hydroxy-2-methyl-7-oxo-1,3,5-cycloheptatriene-1-carboxylic acid, H-00298
N-Hydroxy-*N*-(3-methylphenyl)-2-nitrobenzamide, *in* N-00089
N-Hydroxy-*N*-(3-methylphenyl)-3-nitrobenzamide, *in* N-00090
N-Hydroxy-3-(3-nitrophenyl)-*N*-phenyl-2-propenamide, H-00402
N-Hydroxy-*N*-phenyl-2-propylpentanamide, H-00501
N-Hydroxy-3,5,5-trimethyl-*N*-phenylhexanamide, H-00561
2,2′-Iminobis-8-quinolinol, I-00010
4-Methoxy-2-(2-thiazolylazo)phenol, *in* T-00139
Methylglyoxal bis(4-hydroxybenzoylhydrazone), M-00183
2,2′-(Methylimino)bis-8-quinolinol, M-00193
Methylphosphonic acid; Bis(3-methylbutyl) ester, *in* M-00244
Mono(2-ethylhexyl) phosphate, M-00339
▷ Neocupferron; NH_4 salt, *in* N-00061
Orthanil A, O-00046
▷ Oxalic acid, O-00048
▷ 2-(1-Oxopropyl)-1*H*-indene-1,3(2*H*)-dione, O-00071
1,1,1,2,2-Pentafluoro-6,6-dimethyl-3,5-heptanedione, P-00017
▷ 2′,3,4′,5,7-Pentahydroxyflavone, P-00024
▷ Pentetic acid, P-00039
2-Phenoxybenzoic acid, P-00075
N-Phenyloctanohydroxamic acid, *in* H-00424
Phenylphosphinic acid, P-00163
▷ Phenylphosphonic acid, P-00164
▷ 2-Phenyl-4-quinolinecarboxylic acid, P-00189
Phthalexon S, P-00221
Pyrogallol red, P-00434
Semiphthalexon S; Di-Na salt, *in* S-00013
Stilbazokhimdu, S-00031
Sulfochrome; Di-NH_4 salt, *in* S-00046
Tetraethylenepentaminehaptaacetic acid; Tetra-Na salt, *in* T-00045
Tetrahydroxybutanedioic acid, T-00073
▷ 3,3′,4′,7-Tetrahydroxyflavone, T-00075
2,2,6,6-Tetramethyl-3,5-heptanedione, T-00095
Thoron II, T-00178
Tribromoarsenazo, T-00203
▷ Tributyl phosphate, T-00211
4,4,4-Trifluoro-1-(2-thienyl)-1,3-butanedione, T-00264
▷ 4′,5,7-Trihydroxyflavone, T-00285
1,7,9-Trihydroxy-3*H*-phenoxazin-3-one, T-00308
Xylenol orange, X-00006

Rhenium

Acepox, *in* A-00039
Acetyl dithiol, *in* M-00129
▷ Acridine yellow, *in* D-00079
Astrafloxine G; Chloride, *in* A-00450
Astrazon blue B; Chloride, *in* A-00452
Benzenecarbothioic acid 2-hydroxy(di-2-pyridinylmethylene)hydrazide, B-00014
Benzoic acid 2-hydroxy(di-2-pyridinylmethylene)hydrazide, B-00063
N-Benzylaniline, B-00165
4-[Bis[4-(diethylamino)phenyl]hydroxymethyl]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, B-00295
4-[Bis[*p*-(dimethylamino)phenyl]hydroxymethyl]-4-chloro-3-methyl-1-phenyl-2-pyrazolin-5-one, B-00319
Bis(1-naphthylmethyl)amine, B-00427
4-[3-Bromo-4-(dimethylamino)-α-[*p*-(dimethylamino)phenyl]-α-hydroxybenzyl]antipyrine, B-00505
▷ 2,3-Butanedione; Monoxime, *in* B-00587
▷ C.I. Basic orange 14, *in* B-00313
Chromopyrazole II, C-00288
▷ 4,4′-Diaminodiphenyl sulfide, D-00089
3,6-Diamino-10-methylacridinium chloride, *in* D-00042
▷ *O,O*-Diethyl phosphorodithioate, D-00356
2,3-Dihydro-5,6-diphenyl-1,2,4-triazine-3-thione, D-00402
4,5-Dihydro-3-phenyl-1*H*-pyrazole-1-carbodithioic acid, D-00468
4,5-Dihydro-1*H*-pyrazole-1-carbodithioic acid, D-00479
2-(4,5-Dimethyl-2-thiazolyl)-3,5-diphenyl-2*H*-tetrazolium(1+); Bromide, *in* D-00924
2,4-Diphenylthiosemicarbazide, D-01054
▷ Fuchsine, *in* R-00009
2-Furancarbothioic acid (di-2-pyridinyl) methylenehydrazide, F-00041
▷ α-Furildioxime, *in* D-00364
2-Mercapto-1,3-benzenediol, M-00020
▷ 3-Mercaptopropanoic acid, M-00052
▷ 4-Methylbenzenethiol, M-00133
▷ 4-Methylnioxime, *in* M-00157
Nitron, N-00114
Nitro TB, *in* N-00164
1-Phenyl-2,4-dithiobiuret, *in* T-00163
3-Phenyl-5-(2-furyl)-1-pyrazolinedithiocarbamic acid; Na salt, *in* P-00131
▷ Phenylthiourea, P-00201
2-Pyridinylthiourea, P-00410
2-Quinolinecarboxaldehyde; Oxime, *in* Q-00009
Tetraoctylammonium(1+); Chloride, *in* T-00110
Thiobenzoic acid; Hydrazide, *in* T-00155

2-Thiophenecarbothioic acid (di-2-pyridinylmethylene)hydrazide, T-00168
2,4,6-Triphenylpyridine; *N*-Ph, acetate (salt), *in* T-00373

Rhodium

Allthiox, A-00083
5-Amino-2-benzimidazolethiol, A-00102
7-Amino-2,1,3-benzothiadiazole-4,6-disulfonic acid, A-00112
▷ 2-Aminoethanethiol; *N*-Di-Et, *in* A-00170
3-Amino-1*H*-isoindole-1-thione, A-00229
[(Aminothioxomethyl)hydrazono]acetic acid, *in* G-00038
4-[Bis(4-aminophenyl)hydroxymethyl]-4-chloro-2,4-dihydro-2,5-diphenyl-3*H*-pyrazol-3-one; $N^4,N^4,N^{4'},N^{4'}$-Tetra-Et, *in* B-00253
4-[Bis(4-aminophenyl)hydroxymethyl]-4-chloro-2,4-dihydro-2,5-diphenyl-3*H*-pyrazol-3-one; $N^4,N^4,N^{4'},N^{4'}$-Tetra-Me, *in* B-00253
▷ Butaperazine maleate, *in* B-00609
Dichloro-1-naphthylphosphine, *in* N-00055
2-(4-Diethylamino-2-hydroxyphenylazo) thiazole, *in* A-00214
2-(Diethylamino)-6-(2-pyridinylazo)phenol, D-00335
2-(Diethylamino)-6-(2-thiazolylazo)phenol, *in* A-00360
3-[(4,5-Dihydro-5-oxo-1*H*-pyrazol-4-yl) azo]-4-hydroxy-1-naphthalenesulfonic acid, D-00464
1,2-Dihydro-3*H*-1,2,4-triazole-3-thione; K salt, *in* D-00496
sym-Diphenylcarbazone, D-01006
1,5-Diphenyl-3-(2-propenylthio)formazan, D-01043
Diphenyl selenoxide, D-01049
Formamidinesulfinic acid, F-00036
▷ Formic acid, F-00037
Mercaptobutanedioic acid; (±)-*form*, *in* M-00026
2-Mercapto-4,5-dimethylthiazole, M-00029
4-Methyl-2-(2-pyridinylazo)phenol, M-00283
4-[(5-Methyl-2-thiazolyl)azo]-1,3-benzenediol, M-00320
▷ 4-Nitrosodiphenylamine, N-00157
2-Octylaminopyridine, *in* A-00333
α-Oxobenzeneacetic acid; Thiosemicarbazone, *in* O-00055
▷ *N*-Phenyl-*N'*-pyridinylthiourea, P-00177
1-Piperidinecarbodithioic acid, P-00242
8-(2-Propenylthio)-5-quinolinesulfonic acid, *in* M-00057
1-(2-Pyridinylazo)-2-naphthalenol, P-00374
Pyroracemic acid thiosemicarbazone, *in* P-00448
▷ Thioacetanilide, T-00153
Thiobenzoic acid; Hydrazide, *in* T-00155
▷ Tropolone, T-00432

Rubidium

N-(1,4,7,10,13,16,19-Benzoheptaoxacycloheneicosin-21-yl)-2-propenamide, B-00058
3,29-Bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21,21,23,24-dodecahydro-32-(3,4,5-trimethoxyphenyl)-32*H*-dinaphtho[2,1-*t*:1′,2′-*w*][1,4,7,10,13,16,19] heptaoxacyclotetracosin, B-00330
N,*N'*-Bis(2,3,5,6,8,9,11,12,14,15,17,18-dodecahydro-1,4,7,10,13,16,19-benzoheptaoxacycloheneicosin-21-yl) pentanediamide, B-00346
2-Butenedioic acid bis[(2,3,5,6,8,9,11,12,14,15-decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl) methyl]ester, B-00610
4-*sec*-Butyl-2-(1-phenylethyl)phenol, B-00637
32-(2,6-Dichlorophenyl)-3,29-bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21,23,24-dodecahydro-32*H*-dinaphtho[2,1-*t*:1′,2′-*w*][1,4,7,10,13,16,19]-heptaoxacyclotetracosin, D-00291
1,2-Dihydroxy-3-(1,4,7,10,13-pentaoxa-16-azacyclooctadecylmethyl)-9,10-anthracenedione, D-00682
16-[(2,4-Dinitrophenyl)azo]-3,6,9,12-tetraoxabicyclo[12.3.1]octadeca-1(18),14,16-trien-18-ol, D-00970
4,7,10,16,19,24,27-Heptaoxa-1,13-diazabicyclo[11.8.8]nonacosane, H-00014
2-Hydroxy-3,5-dinitrobenzyl-15-crown-5, H-00155
Tetrakis(4-fluorophenyl)borate(1−); Na salt, *in* T-00084

Ruthenium

▷ 5-Amino-2,4-dihydroxypyrimidine, A-00159
6-Amino-4-hydroxy-2-naphthalenesulfonic acid, A-00203
2-Amino-3-hydroxypyridine, A-00216
5-Amino-1,3,7-naphthalenetrisulfonic acid, A-00271
1-(4-Bromophenyl)-1,3-butanedione; 3-Oxime, *in* B-00548
1-(4-Chlorophenyl)-1,3-butanedione; 3-Oxime, *in* C-00207
3,4-Diaminobenzoic acid, D-00050
4,5-Diamino-6-hydroxypyrimidine; Sulfate, *in* D-00098
▷ 2,3-Diaminopyridine, D-00118
5,7-Dichloro-8-hydroxyquinoline; 1-Oxide, *in* D-00283
▷ Di(2-furyl)ethanedione; Monoxime, *in* D-00364
4,6-Dihydroxy-5-nitroso-3-pyridinecarboxylic acid; Pentyl ester, *in* D-00674
2,4-Diphenylsemicarbazide, D-01050
1,4-Diphenylthiosemicarbazide, D-01053
2,4-Diphenylthiosemicarbazide, D-01054
Diphenylthiovioluric acid, *in* D-00493
O,*O*-Di-2-propenyl phosphorodithioate, D-01058
N-(Ethylsulfonyl)benzamide; Oxime, *in* E-00113
3-Hydroxy-3-(*p*-dimethylaminophenyl)-1-phenyltriazene, H-00149
8-Hydroxy-5,7-dinitroquinoline; *N*-Oxide, *in* H-00165
1-Hydroxy-2-naphthalenecarbodithioic acid, H-00339
▷ 8-Hydroxyquinoline; *N*-Oxide, *in* H-00525
1*H*-Isoindole-1,3(2*H*)-dithione, I-00068
Isonitrosodibenzoylmethane, *in* D-01041
N-Methanesulfonylbenzamidoxime, M-00067
Methyltriphenylphosphonium(1+); Chloride, *in* M-00335
1-Naphthalenethiocarboxhydrazide, N-00016
5-[(4-Nitrophenyl)azo]-4-thioxo-2-selenazolidinone, N-00131
β-Oxo-*N*-phenylbenzenepropanethioamide, *in* O-00056
▷ Pericyazine, P-00044
1,1′-[1,3-Phenylene]bis-2-tetrazoline-5-thione, P-00122
1,1′-[1,4-Phenylene]bis-2-tetrazoline-5-thione; Di-Na salt, *in* P-00123
N-(1-Piperidinylthioxomethyl)benzamide, P-00245
3-(2-Pyridinyl)-5,6-diphenyl-1,2,4-triazine, P-00388
2-Pyrrolethiocarboxhydrazide, *in* P-00437
▷ Selenourea, S-00009
▷ D-Sorbitol, *in* G-00010
2,2′:6′,2″-Terpyridine, T-00005
3,3′-Thiobis[6-hydroxybenzoic acid], T-00158
▷ Thiourea, T-00175
2,4,6-Tri-2-pyridinyl-1,3,5-triazine, T-00381
▷ Tropolone, T-00432

Scandium

3-Acetyl-1,5-bis[bis(3,5,6-trichloro-2-hydroxyphenyl)]formazan, A-00013
Alizarine red S; Na salt, *in* A-00081
2-(Aminomethyl)-4-(3,5-dichloro-4-oxo-2,5-cyclohexylideneamino)-6-methylphenol *N*,*N*-diacetic acid, A-00239
▷ Arsenazo III, A-00412
Arsenazo M, A-00414
3-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-2-hydroxy-5-sulfobenzoic acid, A-00432
Azonol A1, A-00474
Azophosphon, A-00475
Benzeneseleninic acid; NH_4 salt, *in* B-00024
5-(1-Benzyl-2-benzimidazolyl)-1-(2-hydroxyphenyl)-3-phenylformazan, B-00168
▷ 2,3′-Bipyridine, B-00221
2-[Bis(carboxymethyl)amino]benzoic acid, B-00276
5-Bromo-2-hydroxybenzaldehyde; Semicarbazone, *in* B-00509
Cannabiscitrin, *in* H-00055
4-Chloro-2-hydroxybenzaldehyde; Semicarbazone, *in* C-00121
5-Chloro-2-hydroxybenzaldehyde; Semicarbazone, *in* C-00122
N-(4-Chlorophenyl)-3-(2-furanyl)-*N*-hydroxy-2-propenamide, *in* F-00053
Chlorophosphonazo-*m*-sulfonic acid, C-00246
Chromazurol S; Tri-Na salt, *in* C-00277
1,5-Diantipyrinyl-3-formazancarbonitrile, D-00134
1,5-Dihydroxyanthraquinone-2,6-disulfonic acid, D-00513
2,4-Dihydroxybenzaldehyde; Formylhydrazone, *in* D-00517
2,4-Dihydroxybenzaldehyde; Semicarbazone, *in* D-00517
2,5-Dihydroxybenzaldehyde; Semicarbazone, *in* D-00518
2,5-Dihydroxy-1,4-benzoquinone, D-00540
7-(5,8-Disulfo-2-naphthylazo)-8-hydroxy-5-quinolinesulfonic acid, D-01110
Eriochrome azurol G; Di-Na salt, *in* E-00009
Eriochrome brilliant violet B, E-00012
Ethyltridodecylammonium(1+); Bromide, *in* E-00120
1,2,4,5,6,8-Hexahydroxyanthraquinone, H-00053
▷ 3,3′,4′,5,5′,7-Hexahydroxyflavone, H-00055
▷ 2-Hydroxy-2,2-diphenylacetic acid, H-00166
2-Hydroxy-*N*-(2-hydroxy-5-chlorobenzylidene)aniline, H-00196
2-Hydroxy-5-methylbenzaldehyde; Semicarbazone, *in* H-00277
2-[(2-Hydroxy-4-methylphenyl)methylene] hydrazinecarboxamide, *in* H-00276
2-Hydroxy-1-naphthaldehyde; Semicarbazone, *in* H-00336
1-(Hydroxyphenylamino)-5-phenyl-1,4-pentadien-3-one, H-00446
Lumomagneson, L-00016
2-Mercapto-*N*-(4-methylphenyl)acetamide, M-00036
4-Methoxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, M-00082
7-Methyl-2,4-octanedione, M-00209
Naphthylazoxine 4,8S, N-00044
Naphthylazoxine 5S, N-00045
Nitrobromoarsenazo; Di-Na salt, *in* N-00101
▷ 2-Phenyl-4-quinolinecarboxylic acid, P-00189
2-[(2-Pyridinylmethylene)amino]phenol, P-00393
N-(2-Pyridinylmethylene)-2-pyridinamine, P-00396
Stilbazochrome, S-00028
Stilbazokhimdu, S-00031
Sulfonazo, S-00048

1,1,1-Trifluoro-7-methyl-2,4-octanedione, T-00255
2,6,7-Trihydroxy-9-propyl-3*H*-xanthen-3-one, T-00316
2,4,6-Trimethylpyridine, T-00337
Xylenol orange, X-00006

Selenium

▷ Acetophenone, A-00008
Acetyl dithiol, *in* M-00129
Alizarine maroon, A-00079
2-Aminodiphenylamine, A-00165
1-[(2-Aminophenyl)amino]-2-propanol, A-00305
Benzenesulfonic acid; 2-Phenylhydrazide, *in* B-00026
3-Benzyl-2,6-dimercapto-4*H*-thiopyran-4-one, B-00178
2-Benzylpyridine, B-00192
N,N'-Bis(4-benzoylethyl)-1,2-benzenediamine, B-00257
Bismuthiol II sulfonic acid, *in* M-00060
▷ 1,2-Diaminobenzene, D-00046
1,2-Diamino-4-chlorobenzene; B,2HCl, *in* D-00064
1,2-Diamino-3,5-dibromobenzene, D-00067
1,2-Diamino-4,5-dichlorobenzene, D-00069
▷ 1,8-Diamino-4,5-dihydroxyanthraquinone, D-00075
▷ 1,2-Diamino-4-methylbenzene, D-00101
2,3-Diaminonaphthalene, D-00106
▷ 1,2-Diamino-4-nitrobenzene, D-00108
5,6-Diamino-2,4(1*H*,3*H*)-pyrimidinedithione, D-00121
5,6-Diamino-4(1*H*)-pyrimidinethione, D-00122
4-Dimethylamino-1,2-phenylenediamine, *in* T-00192
Dinonyltin dinitrate, D-00980
1,1-Diphenylhydrazine, D-01020
▷ Disulfiram, D-01107
▷ 4-Hydrazinobenzenesulfonic acid, H-00080
▷ 1,1'-Iminodianthraquinone, I-00011
2,2'-Iminodianthraquinone, I-00012
▷ 2-Mercaptobenzimidazole, M-00022
▷ 2-Mercaptoethanol, M-00031
2-Mercapto-*N*-(4-methoxyphenyl) acetamide, M-00033
▷ Methyl methacrylate, *in* M-00256
4-(Methylthio)-1,2-benzenediamine, M-00325
Orthanil B, O-00047
3-Oxo-*N*-phenylbutanethioamide, O-00065
▷ 4-Phenylthiosemicarbazide, P-00200
3-(2-Pyridinyl)-1,3,4-thiazolidine-2,5-dithione, P-00407
▷ Pyrrole, P-00436
SKF 6270, *in* M-00069
▷ 3,3',4,4'-Tetraaminobiphenyl, T-00007
▷ Tetramethylthiodicarbonic diamide, T-00105
1,2,3-Trimethyl-3-pyrazoline-5-thione, *in* D-00451

Silicon

▷ Acid chrome violet K; Na salt, *in* A-00055
▷ Agar, A-00068
2-Amino-4-chlorobenzenethiol, A-00135
4-Amino-3-hydroxy-1-naphthalenesulfonic acid, A-00202
▷ Azure B, *in* L-00003
Chromopyrazole, C-00286
4,5-Dihydro-1*H*-pyrazole-3,4-dicarboxylic acid; Diamide, *N*-di-Me, *in* D-00480
1,2-Di-4-morpholinylethane, D-00928
▷ Methylene green; Chloride, *in* M-00177

Silver

▷ Acridine yellow, *in* D-00079
9-Amino-2,3-dihydrobenzo[*f*]phthalazine-1,4-dione, A-00151
6-Amino-2,3-dihydro-1,4-phthalazinedione, A-00156
2-Amino-6-(methylthio)-4-pyrimidinecarboxylic acid, *in* A-00231
2-Amino-4-[(4-nitrophenyl)azo]-3-pyridinol, A-00283
▷ 5-Amino-1,3,4-thiadiazoline-2(3*H*)-thione, A-00354
1*H*-Benzimidazole-2-methanethiol, B-00041
1,5-Bis(2-bromophenyl)-*N*-phenyl-3-formazancarboxamide, B-00270
1,5-Bis(2-chlorophenyl)-3-formazancarboxamide, B-00286
1,5-Bis(2-chlorophenyl)-3-nitroformazan, B-00288
1,5-Bis(2-chlorophenyl)-*N*-phenyl-3-formazancarboxamide, *in* B-00286
N,N-Bis(2,3,5,6,9,10,12,13,15,16-decahydro-8*H*-1,7,4,7,11,14-benzodioxatetrathiacyclononadecin-19-yl)pentanediamide, B-00291
N,N'-Bis(2,3,5,6,8,9,11,12,14,15-decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl) pentanediamide, B-00292
1,2-Bis[[[2-(ethylthio)ethyl]thio]methyl] benzene, B-00355
1,3-Bis[[[2-(ethylthio)ethyl]thio]methyl] benzene, B-00356
1,4-Bis[[[2-(ethylthio)ethyl]thio]methyl] benzene, B-00357
1,5-Bis(2-fluorophenyl)-*N*-phenyl-3-formazancarboxamide, B-00358
1,2-Bis(hexylthio)ethane, B-00359
1,5-Bis(2-iodophenyl)-*N*-phenyl-3-formazancarboxamide, B-00396
1,5-Bis(2-methylphenyl)-*N*-phenyl-3-formazancarboxamide, B-00409
N,N-Bis(2,3,5,6,8,9,11,12-octahydro-1,13,4,7,10-benzodioxatrithiacyclopentadecin-15-yl) pentanediamide, B-00433
N,N'-Bis(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl) pentanediamide, B-00435
Bromocresol purple, B-00499
Bromothymol blue, B-00581
2'-Chlorofluorescein, C-00116
4'-Chlorofluorescein, C-00117
5-Chloro-2-hydroxy-3-[(tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo] benzenesulfonic acid, C-00163
4-Chloro-2-[(1,3,4,7,8,10,11,13-octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-yl)azo] phenol, C-00191
2-Cyano-3-iminodithiobutyric acid; NH_4 salt, *in* C-00328
N-(2,3,5,6,9,10,12,13,15,16-Decahydro-8*H*-1,17,4,7,11,14-benzodioxatetrathiacyclononadecin-19-yl)-2-propenamide, D-00005
N-(2,3,5,6,8,9,11,12,14,15-Decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl)-2-propenamide, D-00007
1,3-Diamino-8-methoxyphenothiazine, D-00100
4,4'-Diamino-3-methylbiphenyl; B, HCl, *in* D-00102
1,1-Diantipyrylheptane, D-00137
4-(3,5-Dibromo-2-pyridylazo)-*N,N*-diethylaniline, D-00211
4-(3,5-Dibromo-2-pyridylazo)-*N*-ethyl-*N*-(3-sulfopropyl)aniline, D-00212
2',4'-Dichlorofluorescein, D-00273
2',5'-Dichlorofluorescein, D-00274
2',7'-Dichlorofluorescein, D-00275
4',5'-Dichlorofluorescein; Di-Na salt, *in* D-00276
6-(Diethylamino)-2,3-dihydro-1,4-phthalazinedione, *in* A-00156
N,N-Diethyl-4-(2-thiazolylazo) benzenamine, *in* T-00138
2,6-Dimercapto-3,5-dimethyl-4*H*-thiopyran-4-one, D-00754
2,6-Dimercapto-3,5-dipropyl-4*H*-thiopyran-4-one, D-00756
2,6-Dimercapto-3-methyl-5-phenyl-4*H*-thiopyran-4-one, D-00757
2,6-Dimercapto-4-oxo-4*H*-thiopyran-3-carboxylic acid, D-00759
6-(Dimethylamino)-2,3-dihydro-1,4-phthalazinedione, *in* A-00156
(2,5-Dimethylbenzenesulfonylamino) quinoline, D-00833
Dinaphthizone, D-00931
1,5-Di-(β-naphthyl)thiocarbazone, D-00933
5-(Di-2-pyridinylmethylene)-2-thioxo-4-imidazolidinone, D-01085
1,12-Di-2-thienyl-2,5,8,11-tetrathiadodecane, D-01115
3-Dodecyl-1,5,9,13-tetraazacyclohexadecane, D-01156
6-Dodecyl-1,4,8,11-tetraazacyclotetradecane, D-01158
▷ Eicosahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecine, E-00004
▷ Eosine; Di-Na salt, *in* E-00007
S-Ethyl-*N*-(diisopropylthiophosphoryl) dithiocarbamate, *in* B-00404
3-[Ethyl[4-(2-thiazolylazo)phenyl]amino]-1-propanesulfonic acid, E-00118
▷ Formaldehyde, F-00035
Glyoxal bis(thiosemicarbazone), G-00034
4-Heptanone; Oxime, *in* H-00012
4,4'-Heptylidenebis[1,2-dihydro-3*H*-pyrazol-3-one], H-00018
Hexabutylphosphorothioic triamide, *in* H-00020
6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e,k*][1,7,10,4,13] oxadithiadiazacyclopentadecine, H-00039
6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e,n*][1,4,10,7,13] trithiadiazacyclopentadecine, H-00046
1,2,5,8,11,14-Hexathiacyclohexadecane, H-00069
1,4,7,10,13,16-Hexathiacyclooctadecane, H-00070
5-[[3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]-2-thioxo-4-thiazolidinone, H-00220
2-Hydroxy-5-nitro-3-[(4-oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid, H-00391
5-[(2-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, H-00460
▷ Hypoxanthine, H-00564
▷ Isooctyl thioglycolate, *in* M-00016
O-Isopropyl-*N*-ethylthiocarbamate, *in* T-00159
Isopropyl *N*-methylthiocarbamate, *in* M-00154
2-Mercapto-*N*-2-naphthylacetamide, M-00038
3-Mercapto-1-phenyl-2-buten-1-one, M-00044
2-Mercapto-*N*-2-pyridinylacetamide, M-00055
▷ 2-Methoxyethanol, M-00087
7-Methyl-2,4-octanedione, M-00209
▷ Metol, *in* A-00302
1*H*-Naphtho[2,3-*d*]triazole, N-00039
4-Nitro-*o*-anisaldoxime, *in* H-00379
2-Nitro-*p*-anisaldoxime, *in* H-00381
▷ 4-Nitroso-1,3-benzenediol, N-00156
2,3,5,6,8,9,11,12-Octahydro-1,13,4,7,10-benzodioxatrithiacyclopentadecine, O-00004
N-(2,3,5,6,8,9,11,12-Octahydro-1,13,4,7,10-benzodioxatrithiacyclopentadecin-15-yl)-2-propenamide, O-00005
N-(2,3,5,6,8,9,11,12-Octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl)-2-propenamide, O-00007
1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-amine, O-00008
1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecine, O-00009
4-[(1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-yl)azo]phenol, O-00010

7,8,9,10,18,19,20,21-Octahydro-6*H*-dibenzo[*b*,*l*]-[1,14,5,10]dioxadiazacyclononadecine, O-00011
6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e*,*n*][1,4,8,12]dioxadiazacyclopentadecine, O-00013
5,6,7,8,9,10,16,17-Octahydrodibenzo[*e*,*m*][1,4,8,11]dioxadiazacyclotetradecine, O-00014
6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e*,*n*][1,4,7,13]dithiadiazacyclopentadecine, O-00015
6,7,9,10,18,19,20,21-Octahydrodibenzo[*h*,*r*][1,4,7,11,16]-trioxadiazacyclononadecine, O-00020
1,3,4,7,8,10,11,13-Octahydro-*N*-(2,4,6-trinitrophenyl)-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-amine, O-00032
3,3′-[3-[(Phenylamino)carbonyl]-1,5-formazandiyl]bis[4-chlorobenzenesulfonic acid], P-00080
4-Phenyl-3*H*-1,2-dithiole-3-thione, P-00115
5-Phenyl-3*H*-1,2-dithiole-3-thione, P-00116
1,1′-[1,3-Phenylene]bis-2-tetrazoline-5-thione, P-00122
1,1′-[1,4-Phenylene]bis-2-tetrazoline-5-thione; Di-Na salt, *in* P-00123
2-Phenylethenylphosphonic acid, P-00129
N-Phenylmethyl[[(4-chlorophenyl)amino]thioxomethyl]-*N*′-phenylcarbamimidothioate, P-00145
3-[(Phenylmethylene)amino]-2-thioxo-4-thiazolidinone, P-00146
5-(3-Phenyl-2-propenylidene)-2-thioxo-4-imidazolidinone, P-00170
Phloxin; Di-K salt, *in* P-00212
▷ Riboflavine, R-00008
▷ Saccharin, S-00001
Selenazone, S-00005
3,3′-Sulfonylbis[*N*-8-quinolylbenzenesulfonamide], S-00055
▷ Sulphathiazole, S-00059
2,2′:6′,2″-Terpyridine, T-00005
8,9,17,18-Tetrahydro-7*H*-dibenzo[*e*,*n*][1,4,8,12]-dioxadiazacyclopentadecine, T-00055
Tetrakis(4-fluorophenyl)borate(1−); Na salt, *in* T-00084
1,4,8,11-Tetrathiacyclotetradecane, T-00126
3,6,10,13-Tetrathiapentadecane, T-00129
5-(2-Thienylmethylene)-2-thioxo-4-imidazolidinone, T-00152
O,*O*,*O*-Tributyl phosphorothioate, T-00215
2′,4′,5′-Trichlorofluorescein, T-00224
2′,4′,7′-Trichlorofluorescein, T-00225
1,1,1-Trifluoro-7-methyl-2,4-octanedione, T-00255
N,*N*′,*N*″-Trihexylphosphorothioic triamide, T-00267
▷ Triphenylphosphine, T-00370

Sodium

4-(2-Arsono-4-nitrophenylazo)-4,5-dihydro-3-methyl-1-phenyl-1*H*-pyrazol-5-one, A-00420
Benzo-12-crown-4, B-00052
Benzo-15-crown-5, B-00054
Benzo-18-crown-6, B-00055
4-([1,1′-Biphenyl]-4-ylcarbonyl)-2,4-dihydro-5-methyl-2-(2-methylphenyl)-3*H*-pyrazol-3-one, B-00213
1,5-Bis(5-chloro-2-hydroxyphenyl)-3-cyanoformazan, B-00283
Bis[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl)methyl]heptanedioate, B-00434
2-Butenedioic acid bis[(2,3,5,6,8,9,11,12,14,15-decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl)methyl]ester, B-00610
5-Chloro-2-[(4,5-dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]benzoic acid, C-00094
(3-Chlorophenyl)methoxyacetic acid, *in* C-00221
▷ 15-Crown-5, C-00314
Cryptand 2.2.2 B, C-00317
▷ Dibenzo-18-crown-6, D-00156
7,18-Dibutyl-6,7,9,10,17,18,20,21-octahydrodibenzo-[*b*,*k*][1,4,7,10,13,16]hexaoxacyclooctadecin, D-00236
7,18-Diethyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b*,*k*][1,4,7,10,13,16]hexaoxacyclooctadecin, D-00352
N-(9,10-Dihydro-9,10-dioxo-2-sulfoanthracenyl)benzenecarboxamide, *in* A-00093
2,4-Dihydro-5-methyl-2-(2-methylphenyl)-4-(2-naphthalenylcarbonyl)-3*H*-pyrazol-3-one, D-00432
2,4-Dihydro-5-methyl-2-(4-methylphenyl)-4-(2,2,3,3,3-pentafluoro-1-oxopropyl)-3*H*-pyrazol-3-one, D-00433
2,4-Dihydro-5-methyl-2-(methylphenyl)-4-(3,5,5-trimethyl-1-oxohexyl)-3*H*-pyrazol-3-one, D-00434
2-[(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]-5-nitrobenzenesulfonic acid; K salt, *in* D-00438
2,3-Dihydro-3-oxo-5,6-diphenyl-4-pyridazinecarboxylic acid; Amide, *in* D-00463
4,5-Dihydroxy-4-cyclopentene-1,2,3-trione, D-00571
1,2-Dihydroxy-3-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-ylmethyl)-9,10-anthracenedione, D-00737
4-[4-(1,1-Dimethylethyl)benzoyl]-2,4-dihydro-5-methyl-2-(2-methylphenyl)-3*H*-pyrazol-3-one, D-00859
Dodecylmethylpropanedioate bis(1,4,7,10-tetraoxacyclododec-2-ylmethyl)ester, D-01152
2-[(Dodecyloxy)methyl]-1,4,7,10-tetraoxacyclododecane, D-01154
4-(2,2,3,3,4,4,4-Heptafluoro-1-oxobutyl)-2,4-dihydro-5-methyl-2-(4-methylphenyl)-3*H*-pyrazol-3-one, H-00008
1,4,10,13,16,19-Heptaoxacycloheneicosane, H-00013
2-Hydroxy-3,5-bis[(4-nitrophenylazo)phenyl]methyl-15-crown-5, H-00141
2-Hydroxy-3,5-dinitrobenzyl-15-crown-5, H-00155
(2-Hydroxy-3,5-dinitrophenoxymethyl)-15-crown-5, H-00159
2-[[2-Hydroxy-4-methyl-5-(1-methylethyl)phenyl]azo]-5-nitrobenzenesulfonic acid; K salt, *in* H-00288
2-[(2-Hydroxy-5-methylphenyl)azo]-5-nitrobenzenesulfonic acid; K salt, *in* H-00302
2-[[5-Hydroxy-3-methyl-1-(phenylmethyl)-1*H*-pyrazol-4-yl]azo]-5-nitrobenzenesulfonic acid, H-00312
2-[(2-Hydroxy-1-naphthalenyl)azo]-5-nitrobenzenesulfonic acid, H-00351
13-(2-Hydroxy-5-nitrobenzyl)-1,4,7,10-tetraoxa-13-azacyclopentadecane, H-00386
2-Hydroxy-[5-(4-nitrophenylazo)phenyl]methyl-15-crown-5, H-00398
[2-Hydroxy-5-(4-nitrophenylazo)phenyl]oxymethyl-15-crown-5, H-00400
[2-Hydroxy-5-(4-nitrophenylazo)phenyl]oxymethyl-18-crown-6, H-00401
Mandelic acid; (±)-*form*, Me ether, *in* M-00007
α-Methoxy-2-naphthaleneacetic acid, *in* H-00338
2-[(2-Methoxyphenoxy)methyl]-1,4,7,10,13-pentaoxacyclopentadecane, M-00104
1-[(3-Methyl-5-oxo-1-phenyl-2-pyrazolin-4-yl)azo]anthraquinone, M-00215
2-[(3-Methyl-1-phenyl-4-pyrazolyl)azo]-4-nitrobenzenesulfonic acid, M-00240
Nitroanthranilazo, N-00079
4-[(4-Nitrophenyl)azo]-2-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-yl)phenol, N-00130
6,7,9,10,17,18,20,21-Octahydro-7,18-dimethyldibenzo[*b*,*k*][1,4,7,10,13,16]hexaoxacyclooctadecine, O-00024
4,7,13,16,21-Pentaoxa-1,10-diazabicyclo[8.8.5]tricosane, P-00037
2-[(Phenylmethoxy)methyl]-1,4,7,10-tetraoxacyclododecane, P-00141
Tetrahydroxybutanedioic acid, T-00073
2,3,14,15-Tetrakis(2-methoxyphenyl)-1,4,7,10,13,16,19,22-octaoxacyclotetracosa-2,14-diene, T-00087
▷ 1,4,7,10-Tetraoxacyclododecane, T-00113
4,7,13,18-Tetraoxa-1,10-diazabicyclo[8.5.5]eicosane, T-00114
2,2′-[1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diylbis(methylene)]bis[*N*-(2,4,6-trinitrophenyl)]benzenamine, T-00116
2,4,6-Trinitro-*N*-[2-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-ylmethyl)phenyl]benzenamine, T-00356
4,10,15-Trioxa-1,7-diazabicyclo[5.5.5]heptadecane, T-00360

Strontium

Azo-azoxy AN, A-00464
Azo-azoxy PMP, A-00466
N,*N*′-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,13,16,19-hexaoxa-10,22-diazacyclotetracosane, B-00384
N,*N*′-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,10,13-pentaoxa-15,18-diazacycloheneicosane, B-00385
N,*N*′-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,10-tetraoxa-13,16-diazacyclooctadecane, B-00386
3,6-Bis[(5-methyl-2-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00426
▷ 4-Bromobenzoic acid, B-00488
Calcein, C-00010
Diamond green BW; Di-Na salt, *in* D-00133
3,4-Dihydro-3-methyl-1-phenyl-4-stearoyl-5-pyrazolone, D-00444
4,5-Dihydroxy-3,6-bis[(4-methyl-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid; Tetra-Na salt, *in* D-00554
4,5-Dihydroxy-3,6-bis[(4-nitro-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00558
5,6-Dihydroxy-5-cyclohexene-1,2,3,4-tetrone; Di-K salt, *in* D-00570
4,5-Dihydroxy-3-[(2,4-disulfophenyl)azo]-6-[(4-nitro-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00605
4,5-Dihydroxy-3-[(2,4-disulfophenyl)azo]-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00607
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(2-sulfophenyl)azo]-2-naphthalenyl]azo]benzoic acid, D-00608
4,5-Dihydroxy-3-[(4-nitro-2-sulfophenyl)azo]-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00678
▷ Dimethyl sulfate, D-00916
Dimethylsulfonazo DAL, D-00918
4-[(6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b*,*k*][1,4,7,10,13]pentaoxacyclohexadecin-18-yl)oxy]butanoic acid, H-00041
1-[(2-Hydroxyphenyl)azo]-2-naphthalenol, H-00455
▷ 5-Nitro-2,4,6(1*H*,3*H*,5*H*)-pyrimidinetrione, N-00153
▷ Tetracycline, T-00039
2-[(7,8,16,17-Tetrahydro-6*H*,15*H*-dibenzo[*b*,*i*][1,4,8,11]tetraoxacyclotetradecin-7-yl)oxy]butanoic acid, T-00056
3-[(7,8,16,17-Tetrahydro-6*H*,15*H*-dibenzo[*b*,*i*][1,4,8,11]tetraoxacyclotetradecin-7-yl)oxy]propanoic acid, T-00057

2,2′-(1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diyldi-3,1-propanediyl)bis[4-[(4-nitrophenyl)azo] phenol], T-00117
N,N′-[1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diylbis(methylene-2,1-phenylene)] bis[2,4,6-trinitrobenzenamine], T-00361
2,2′-(1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diyldi-3,1-propanediyl)bis[4-[(4-nitrophenyl)azo] phenol], T-00362

Sulfur

▷ 4-Aminoazobenzene, A-00094
Benzoin; (±)-*form*, *in* B-00068
N-[Bis(4-methoxyphenyl)methylene] benzenemethanamine, B-00402
1,4-Butanediylbis[triphenylphosphonium] (2+); Dibromide, *in* B-00602
▷ 1,2-Diamino-4-nitrobenzene, D-00108
4,5-Dihydroxy-3,6-bis[(4-nitro-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00558
N-(4′-Dimethylaminophenyl)-1,4-naphthoquinone imine, D-00820
Ferrozine, F-00006
▷ 4-Nitroaniline, N-00077
[29*H*,31*H*-[Phthalocyaninato(2−)]-N^{29},N^{30},N^{31},N^{32}]copper(*II*), P-00230
▷ Thionine hydrochloride, *in* L-00003

Sulfur: sulfide

▷ Amaranth, A-00087
▷ *N,N*-Diethyl-1,4-phenylenediamine, *in* D-00048
3,3′-(3,3′-Dimethoxy[1,1′-biphenyl]-4,4′-diyl)bis[2-(3-nitrophenyl)-5-phenyl-2*H*-tetrazolium](2+); Dichloride, *in* D-00771
▷ *N,N*-Dimethylaniline, D-00831
2,9-Dimethyl-1,10-phenanthroline, D-00880
▷ *N,N*-Dimethyl-1,4-phenylenediamine, *in* D-00048
▷ 2,2′-Dithiobispyridine, D-01122
4,4′-Dithiobispyridine, D-01123
INT, *in* I-00048
N-*o*-Tolyl-2-thiopicolinamide, *in* P-00317

Sulfur: sulfite (sulfate (IV))

▷ 4-Aminoazobenzene, A-00094
▷ 1,2-Dinitrobenzene, D-00935
▷ 1,4-Dinitrobenzene, D-00937
3,3′-Dithiobis[6-nitrobenzoic acid], D-01120
Mercury chloroanilate, *in* D-00262
▷ 2,4,6-Trinitrobenzoic acid, T-00352
2,4,6-Tri-2-pyridinyl-1,3,5-triazine, T-00381
Tris(4-aminophenyl)methanol, T-00383

Sulfur: sulfate

6-(4-Acetylphenylazo)-2-aminoperimidine, A-00029
▷ 4-Aminobiphenyl, A-00117
4-Amino-4′-chlorobiphenyl, A-00136
▷ 2-Aminoperimidine, A-00297
Barium chloroanilate, *in* D-00262
Bis(4-aminophenyl)acetylene, B-00249
3,6-Bis[(5-methyl-2-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00426
3-[[7-[4-Chlorophenylazo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]benzoic acid, C-00201
Cresol red, C-00310
▷ 4,4′-Diaminobiphenyl, D-00053
4-[(9,10-Dihydro-9,10-dioxo-1-anthracenyl) azo]-3-hydroxy-2,7-naphthalenedisulfonic acid; Ba salt, *in* D-00396
▷ 1,2-Dihydroxyanthraquinone, D-00510
4,5-Dihydroxy-3,6-bis[(4-methyl-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid; Tetra-Na salt, *in* D-00554
4,5-Dihydroxy-3,6-bis[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00563
5,6-Dihydroxy-5-cyclohexene-1,2,3,4-tetrone; Di-K salt, *in* D-00570
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(2-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, D-00608
2-[[1,8-Dihydroxy-7-[(4-methoxyphenyl) azo]-3,6-disulfo-2-naphthyl]azo]benzoic acid, D-00642
2-[[1,8-Dihydroxy-7-[(3-methylphenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00651
2-[[1,8-Dihydroxy-7-[(4-methylphenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00652
2-[[1,8-Dihydroxy-7-[(3-nitrophenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00664
2-[[1,8-Dihydroxy-7-(phenylazo)-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00692
▷ *N,N*-Dimethyl-1,4-phenylenediamine, *in* D-00048
▷ 2,4-Dinitrophenol, D-00958
Mercury chloroanilate, *in* D-00262
Methylthymol blue, M-00327
Orthanil B, O-00047
3-Pyridine-[2-(hydroxyimino)-1-methylpropylidene]carboxylic acid, P-00355
▷ Sorbitan monolaurate, *in* A-00367
Sudan blue GA, S-00037
Tetrahydroxy-1,4-benzoquinone, T-00072

Sulfur: thiocyanate

Bromamine B, *in* B-00026
▷ Chloramine T, *in* M-00130
N,N-Dibromobenzenesulfonamide, D-00179
3-(3,5-Dibromo-2,4-dihydroxyphenyl)-4,5-dimethoxy-1(3*H*)-isobenzofuranone, D-00183
▷ Dibromosulfonephthalein, D-00215
Dichloramine B, *in* B-00026
▷ 2,4-Dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, D-00443
3-(2,4-Dihydroxyphenyl)-4,5-dimethoxy-1(3*H*)-isobenzofuranone, D-00710
Dithiofluorescein, D-01132
4-Ethoxy-3,6-acridinediamine, *in* H-00094
4-[(2-Ethylphenyl)azo]-1-naphthalenamine, E-00103
▷ Fluorescein, F-00020
Neutral red; B,HCl, *in* N-00065
▷ 4-Phenylazo-1-naphthylamine, P-00093
N-(2-Pyridinylmethylene)benzenamine, P-00394
4,5,6,7-Tetrachloro-3-(2,4-dihydroxyphenyl)-3-methyl-1(3*H*)-isobenzofuranone, T-00028
Tris(4-aminophenyl)methanol, T-00383
Tris(1,10-phenanthroline-N^1,N^{10})iron(*II*) (2+), T-00412
Trypan red; Penta-Na salt, *in* T-00434

Sulfur: thiosulfate

2-Iodosylbenzoic acid, I-00053

Tantalum

▷ Aniline, A-00368
▷ 1,4-Benzenediol, B-00022
4-[Bis[4-(diethylamino)phenyl] hydroxymethyl]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, B-00295
4-Butoxy-*N*-(4-chlorophenyl) benzohydroxamic acid, B-00612
4-Butoxy-*N*-hydroxy-*N*-phenylbenzamide, B-00614
▷ C.I. Basic orange 14, *in* B-00313
9-(5-Carboxy-2-hydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, C-00032
▷ 5-Chloro-8-hydroxy-7-iodoquinoline, C-00134
N-(4-Chlorophenyl)-4-chlorophenoxyisobutyrohydroxamic acid, C-00208
N-(4-Chlorophenyl)-*N*-hydroxy-3-(3,4,5-trimethoxyphenyl)-2-propenamide, C-00235
2,7-Dibromogallein, D-00189
2,6-Dibromo-3,4,5-trihydroxybenzoic acid, D-00220
Digallic acid, D-00365
7,8-Dihydroxy-4-phenyl-2*H*-1-benzopyran-2-one, D-00706
Di(*n*-octyl)arsinic acid, D-00982
Ethylrhodamine B, *in* R-00002
2-Hydroxy-5-nitrobenzoic acid, H-00383
▷ 4-Hydroxy-3-nitrophenylarsonic acid, H-00392
3-Hydroxy-3′,4′,5,7-tetramethoxyflavone, *in* P-00025
Meldola's blue; Chloride, *in* M-00011
▷ Methylene green; Chloride, *in* M-00177
▷ Methyl violet, M-00336
Nitrochromopyrazole, N-00103
▷ Phenylarsonic acid, P-00090
Tannin, T-00001
Tetraoctylammonium(1+); Bromide, *in* T-00110
2,3,4-Trihydroxybenzenesulfonic acid; Na salt, *in* T-00274
2,6,7-Trihydroxy-9-phenyl-3*H*-xanthen-3-one, T-00315
▷ *N,N′,N″*-Triphenylguanidine, T-00366

Technetium

2-Acetylpyridine; Hydrazone, *in* A-00039
2,3-Butanedione dihydrazone, *in* B-00587
4-(1-Butylpentyl)pyridine, B-00635
Di-2-pyridinylethanedione; Dihydrazone, *in* D-01063
Di-2-pyridinylmethanone; Hydrazone, *in* D-01071
Di-2-pyridinylmethanone; Phenylhydrazone, *in* D-01071
Tetrapropylammonium(1+); Hydroxide, *in* T-00124

Tellurium

Acetyl dithiol, *in* M-00129
Amberlite LA2, A-00089
Anthrafluorone, A-00387
1-Benzyl-5-bromo-1,3-dihydro-2*H*-benzimidazole-2-thione, B-00175
3-Benzyl-2,6-dimercapto-4*H*-thiopyran-4-one, B-00178
1-Benzyl-5-methoxy-1,3-dihydro-2*H*-benzimidazole-2-thione, B-00188
1-Benzyl-5-methyl-2,3-dihydro-2*H*-benzimidazole-2-thione, B-00189
4-[Bis[*p*-(dimethylamino)phenyl] hydroxymethyl]-4-chloro-3-methyl-1-phenyl-2-pyrazolin-5-one, B-00319
3-(4-Bromophenyl)-5-mercapto-1,3,4-thiadiazole-2-thione, B-00553
1,2-Dihydro-4-[(2-hydroxynaphthalenyl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00415
3,4-Dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, D-00504
2,6-Dimercapto-3,5-diphenyl-4*H*-thiopyran-4-one, D-00755
▷ 1,3-Di-1-naphthyl-2-thiourea, D-00934
Dioctyl sulfoxide, D-00984
▷ 2,2′-Diphenylcarbonothioic dihydrazide, D-01007
▷ 1,1′-Iminodianthraquinone, I-00011
5-Mercapto-3-(2-naphthyl)-1,3,4-thiazole-2-thione, M-00039

5-Mercapto-3-(2-naphthyl)-1,3,4-thiazole-2-thione; K salt, *in* M-00039
▷ 5-Mercapto-1,3,4-thiadiazoline-2-thione, M-00060
3-(*p*-Methoxyphenyl)-5-mercapto-1,3,4-thiadiazole-2-thione, M-00111
▷ 2-Methylbenzenethiol, M-00131
3-Methylbenzenethiol, M-00132
▷ 4-Methylbenzenethiol, M-00133
4,4′-(3-Methylbutylidene)bis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], M-00150
9,9′-[Methylenebis(6-hydroxy-3,1-phenylene)]bis-[2,6,7-trihydroxy-3*H*-xanthen-3-one], M-00172
N-Methylpiperazinedithiocarbamic acid, *in* P-00238
Orthanil B, O-00047
▷ Papaverine, P-00005
9,9′-(1,3-Phenylene)bis[2,6,7-trihydroxy-3*H*-xanthen-3-one], P-00124
▷ 4-Phenylthiosemicarbazide, P-00200
3-(2-Pyridinyl)-1,3,4-thiazolidine-2,5-dithione, P-00407
Rhodamine 4G, *in* R-00005
Rhodamine 3G0; Chloride, *in* R-00004
Sodium diethyldithiocarbamate, *in* D-00344
▷ Tetramethylthiodicarbonic diamide, T-00105
O-(2,2,2-Trifluoroethyl)carbonodithioate, T-00246
2,4,4′-Trihydroxybenzophenone, T-00279
2,6,7-Trihydroxy-9-pentadecyl-3*H*-xanthen-3-one, T-00307
2,6,7-Trihydroxy-9-(2-quinolinyl)-3*H*-xanthen-3-one, T-00320

Thallium

▷ Acridine yellow, *in* D-00079
4-Amino-2,4-dihydro-5-propyl-3*H*-1,2,4-triazole-3-thione, A-00157
o-Anize green; Chloride, *in* A-00373
p-Anize green; Chloride, *in* A-00374
Anthrazo; B,HCl, *in* A-00389
Arsenazo DAL, A-00407
Arsenazo II, A-00411
Astrafloxine G; Chloride, *in* A-00450
Astrazon red 6B; Chloride, *in* A-00455
Benzenebutane(dithioic)acid, B-00013
2-(2-Benzothiazolylazo)-4-methylphenol, B-00097
N-Benzylaniline, B-00165
1-(1-Benzyl-1*H*-benzimidazol-2-yl)-3-methyl-5-(4-nitrophenyl)formazan, B-00171
5-(1-Benzyl-1*H*-benzimidazol-2-yl)-3-methyl-1-(4-nitrophenyl)formazan, B-00172
1,5-Bis(7-benzyl-2-benzimidazolyl)-3-methylformazan, B-00258
N,N′-Bis(2,3,5,6,8,9,11,12,14,15-decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl) pentanediamide, B-00292
N,N′-Bis(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl) pentanediamide, B-00435
▷ Brilliant green; Hydrogen sulfate, *in* B-00479
2-[(6-Bromo-2-benzothiazolyl)azo]-4-methylphenol, B-00491
2-[(5-Bromo-2-pyridinyl)azo]-5-(ethylamino)-4-methylphenol, *in* A-00125
3-(Carboxymethylthio)-1,5-diphenylformazan, C-00034
Cationic red violet; Chloride, *in* C-00046
Cationic violet; Chloride, *in* C-00047
5-[(4-Chlorophenyl)azo]-8-quinolinol, C-00206
Cyclohexylbenzyldithiocarbamate(1 −); Triethylammonium salt, *in* C-00351
N-(2,3,5,6,8,9,11,12,14,15-Decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl)-2-propenamide, D-00007
6,7,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h,q*][1,4,7,10,13,16] trioxatriazacyclooctadecine, D-00015
6,7,9,10,17,18,19,20,21,22-Decahydro-19-[(4-methylphenyl)sulfonyl]-16*H*-dibenzo[*h,q*][1,4,7,10,13,16] trioxatriazacyclooctadecine, *in* D-00015
▷ 4,4′-Diaminobiphenyl, D-00053
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(ethylamino)-4-methylphenol, *in* A-00149
O,O-Dibutyl phosphorodithioate; K salt, *in* D-00241
O,O-Dibutyl phosphorothioate, D-00242
N,N-Dichloro-4-methylbenzenesulfonamide, D-00285
5-(Diethylamino)-2-(2-pyridinylazo)phenol, *in* A-00336
O,O-Dihexyl phosphorodithioate, D-00369
4,5-Dihydroxy-3-[(4-iodophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00635
5,7-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00646
O,O-Diisopentyl phosphorodithioate, D-00746
▷ Diisopropyl ether, D-00748
4,4′-[*p*-(Dimethylamino)-α-hydroxybenzylidene]diantipyrine, D-00785
2-[2-[(5-Dimethylamino)-2-thienyl]ethenyl]-1,3,3-trimethyl-3*H*-indolium(1 +); Perchlorate, *in* D-00826
▷ *O,O*-Dimethyl phosphorodithioate, D-00896
4,5-Dimethyl-2-(2-quinolinylazo)phenol, D-00914
7-(4,5-Dimethyl-2-thiazolyl)azo-8-hydroxy-5-quinolinesulfonic acid, D-00922
O,O-Dipentyl phosphorodithioate, D-00996
O,O-Dipropyl phosphorodithioate, D-01060
▷ *O,O*-Di-2-propynyl phosphorodithioate, D-01061
Dithioantipyric acid, D-01116
▷ Dithizone, D-01135
5-(Ethylamino)-4-methyl-2-(2-pyridinylazo) phenol, *in* A-00253
Furfurol green; Chloride, *in* F-00063
▷ 2,2′,4,4′,6,6′-Hexanitrodiphenylamine, H-00065
3-Hydroxy-1,3-diphenyl-1-triazene, H-00170
Lucigenine; Dinitrate, *in* L-00012
Meldola's blue; Chloride, *in* M-00011
2-Mercapto-*N*-2-naphthylacetamide, M-00038
2-(4-Methoxyphenyl)-5,7-diphenyl-1,3,4-thiadiazolo[3,2-*a*]pyridin-4-ium(1 +); Chloride, *in* M-00108
2-[[(2-Methoxyphenyl)hydrazono]methyl]-1,3,3-trimethyl-3*H*-indolinium(1 +); Perchlorate, *in* M-00110
▷ 4-Methylaniline, M-00124
4,4′-Methylenebis[3-methyl-1-(2-pyridyl)-5-pyrazol-ol], M-00173
▷ Methylene green; Chloride, *in* M-00177
4-Methyl-5-(methylamino)-2-(2-pyridinylazo)phenol, *in* A-00253
7-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-8-quinolinol, M-00253
1-Naphthalenecarbodithioic acid; Me_4N salt, *in* N-00002
▷ 1-Naphthol, N-00025
Naphthylazoxine 5,7S, N-00046
N-(2,3,5,6,8,9,11,12-Octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl)-2-propenamide, O-00007
6,7,9,10,17,18,21,22-Octahydro-16*H*,20*H*-dibenzo-[*h,q*][1,4,7,13,10,16] tetraoxadiazacyclooctadecine, O-00019
7,8,9,10,17,18,21,22-Octahydro-6*H*,16*H*,20*H*-dibenzo-[*b,k*][1,7,13,4,10,16] trioxatriazacyclooctadecine, O-00022
7,8,9,10,17,18,21,22-Octahydro-8-[(4-methylphenyl)sulfonyl]-6*H*,16*H*,20*H*-dibenzo[*b,k*][1,7,13,4,10,16] trioxatriazacyclooctadecine, *in* O-00022
Panacryl brilliant red; Chloride, *in* P-00004
9-Phenylbenzo(1,2)quinolizino[3,4,5,6-*def*] phenanthridinium(1 +); Perchlorate, *in* P-00105
6-Phenyl-1,2,4-triazine-3(2*H*)-thione, P-00205
7-(2-Pyridinylazo)-8-quinolinol, P-00381
Rhodamine B, *in* R-00002
▷ Saccharin, S-00001
Tetrakis(4-fluorophenyl)borate(1 −); Na salt, *in* T-00084
2,4,6-Triphenylpyridine; *N*-Ph, acetate (salt), *in* T-00373
Tris(2,2′-bipyridine-*N,N′*)iron(*II*)(2 +), T-00384
Victoria pure blue BO; Chloride, *in* V-00004

Thorium

8-Acetoxyquinaldine, *in* H-00326
Alamine, A-00070
2-(Aminomethyl)-4-(3,5-dichloro-4-oxo-2,5-cyclohexylideneamino)-6-methylphenol *N,N*-diacetic acid, A-00239
2-(Aminomethyl)-4-(3,5-dichloro-4-oxo-2,5-cyclohexylideneamino)phenol-*N,N*-diacetic acid, A-00240
4-[[(3-Aminomethyl)-4-hydroxyphenyl] imino]-2,6-dibromo-2,5-cyclohexadien-1-one-*N,N*-diacetic acid, A-00243
▷ Arsenazo III, A-00412
Arsenazo IV, A-00413
3-[(2-Arsonophenyl)azo]-6-[(2-arsono-5-chlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00421
3-[(2-Arsonophenyl)azo]-6-[(2-arsono-5-methylphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00422
3-[(2-Arsonophenyl)azo]-6-[(4-arsonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00423
3-[(2-Arsonophenyl)azo]-6-[(3-chloro-2-hydroxy-5-nitrophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00424
3-[(2-Arsonophenyl)azo]-6-[(5-chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00425
3-[(2-Arsonophenyl)azo]-6-[(4-chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00427
3-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-4-arsonobenzoic acid, A-00431
3-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-2-hydroxy-5-sulfobenzoic acid, A-00432
3-[(4-Arsonophenyl)azo]-4,5-dihydroxy-6-[(4-methylphenyl)azo]-2,7-naphthalenedisulfonic acid, A-00435
3-[(4-Arsonophenyl)azo]-4,5-dihydroxy-6-(phenylazo)-2,7-naphthalenedisulfonic acid, A-00438
3-[(2-Arsonophenyl)azo]-6-[(4-dimethylaminophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00440
Aspartic acid; (±)-*form*, *in* A-00447
Astrazon pink FG; Chloride, *in* A-00454
Azomethine H; Na salt, *in* A-00472
▷ Benzenesulfinic acid, B-00025
▷ 1,2,4,5-Benzenetetracarboxylic acid, B-00029
▷ 1,2,4-Benzenetricarboxylic acid, B-00032
1,3,5-Benzenetricarboxylic acid, B-00033
4-Benzoyl-3-phenyl-5(4*H*)-isoxazolone, B-00143
N-Benzylaniline, B-00165
2,2′-Biphenyldicarboxylic acid, B-00207

3,6-Bis[(2-arsono-4-methylphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00256
▷ Bis(2-ethylhexyl) phosphate, B-00352
Bis(2-methylpropyl) phenylphosphonate, *in* P-00164
3-[(6-Bromo-2-benzothiazolyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00490
3-[(4-Bromophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00546
▷ Butanoic acid, B-00604
▷ *N*-Butylaniline, B-00617
Chlorophosphonazo-*m*-sulfonic acid, C-00246
3-[[7-[(4-Chloro-2-phosphonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, C-00247
Chrome red brown 5RD; Di-Na salt, *in* C-00284
Chromotrope 2B; Di-Na salt, *in* C-00290
Chromotrope 2C, C-00291
▷ Decanedioic acid, D-00022
Dibromoarsenazo II, D-00177
3-[(2,4-Dichlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00289
Diethylphosphoramidic acid; Diheptyl ester, *in* D-00353
9,10-Dihydro-1,4-dihydroxy-9,10-dioxo-3-(4-sulfophenoxy)-2-anthracenesulfonic acid, D-00377
2,5-Dihydroxy-1,4-benzoquinone, D-00540
4,5-Dihydroxy-3,6-bis[(4-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid, D-00562
4,5-Dihydroxy-3-[4,5-(dimethyl-2-thiazolyl) azo]-2,7-naphthalenedisulfonic acid, D-00579
4,5-Dihydroxy-3,6-dinitroso-2,7-naphthalenedisulfonic acid, D-00583
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[2-hydroxy-5-sulfobenzoic acid], D-00589
2,2′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[5-sulfobenzoic acid], D-00590
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bis[4-arsonobenzoic acid], D-00591
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bisbenzoic acid, D-00593
4-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]-2-hydroxybenzoic acid, D-00598
2-(1,8-Dihydroxy-3,6-disulfo-2-naphthylazo)phenoxyacetic acid; Di-Na salt, *in* D-00601
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(2-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, D-00608
5,7-Dihydroxyflavone, D-00612
4,5-Dihydroxy-3-(3-methylphenylazo)-6-phenylazo-2,7-naphthalenedisulfonic acid, D-00654
4,5-Dihydroxy-3-[(2-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00665
4,5-Dihydroxy-3-[(3-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00666
4,5-Dihydroxy-3-nitroso-6-[(4-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid, D-00676
4,5-Dihydroxy-3-[(4-phenyl-2-thiazolyl) azo]-2,7-naphthalenedisulfonic acid, D-00718
4,5-Dihydroxy-3-[(2-pyridinyl)azo]-2,7-naphthalenedisulfonic acid, D-00722
4,5-Dihydroxy-3-[(4-sulfo-1-naphthalenyl) azo]-2,7-naphthalenedisulfonic acid, D-00733
4,5-Dihydroxy-3-[(5-sulfo-1-naphthalenyl) azo]-2,7-naphthalenedisulfonic acid, D-00734
4,5-Dihydroxy-3-[(6-sulfo-2-naphthalenyl) azo]-2,7-naphthalenedisulfonic acid, D-00735
Eliamina blue FFL; Tetra-Na salt, *in* E-00006
Eriochrome fast grey RAS; Na salt, *in* E-00014
3-[(6-Ethoxy-2-benzothiazolyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, E-00053
▷ Fumaric acid, F-00038
▷ Gallocyanine; Chloride, *in* G-00005
▷ Hexamethylenetetramine, H-00057
▷ (1-Hydroxyethylidene)bisphosphonic acid, H-00178
▷ 2-Hydroxy-3-methylbenzoic acid, H-00278
2-Hydroxy-5-methylbenzoic acid, H-00279
1-Hydroxy-2-naphthoic acid, H-00369
N-Hydroxy-*N*-nitrosocyclooctylamine, H-00412
N-Hydroxy-*N*-nitroso-2-propanamine, H-00418
4-Hydroxy-5-oxo-1,3,6-cycloheptatriene-1-sulfonic acid; NH_4 salt, *in* H-00429
5-[(8-Hydroxy-5-quinolyl)imino-8(5*H*)-quinolone], H-00535
1*H*-Inden-2-ylphosphonic acid, I-00026
7-Methyl-2,4-octanedione, M-00209
▷ (1-Naphthyl)acetic acid, N-00040
▷ 3-Nitrobenzoic acid, N-00092
▷ Phenylarsonic acid, P-00090
Phthalexon S, P-00221
▷ Purpurogallin, P-00282
Quinizarin S; Na salt, *in* Q-00006
Quinoline; *N*-CH_2Ph, nitrate salt, *in* Q-00007
1-(2-Selenophenyl)-2-propanone, S-00007
▷ Solochrome black 6BN; Na salt, *in* S-00017
Solochrome fast red; Na salt, *in* S-00020
Tetrachlorogallein, T-00035
2′,3,5,7-Tetrahydroxyflavone, T-00074
▷ 3,3′,4′,5-Tetrahydroxy-7-methoxyflavone, T-00078
Thorin, T-00177
1,1,1-Trifluoro-7-methyl-2,4-octanedione, T-00255
3,4,6-Trihydroxy-5*H*-benzocyclohepten-5-one, T-00275
3,4′,7-Trihydroxyflavone, T-00283
▷ 3,5,7-Trihydroxyflavone, T-00284
5,7,8-Trihydroxyflavone, T-00286
2,5,8-Trihydroxy-1,4-naphthoquinone, T-00300
2-(2,6,7-Trihydroxy-3-oxo-3*H*-xanthen-9-yl) benzenesulfonic acid, T-00305
Triphenylarsine oxide, T-00364
Xylenol orange, X-00006

Tin

▷ Agar, A-00068
Alizarine orange, A-00080
Amberlite LA2, A-00089
Anisylfluorone, A-00372
Astrazon orange R; Chloride, *in* A-00453
3-Benzyl-2,6-dimercapto-4*H*-thiopyran-4-one, B-00178
3,3′-Bi[2,6-dimercapto-4*H*-thiopyran-4-one], B-00203
4-[Bis[4-(diethylamino)phenyl] hydroxymethyl]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, B-00295
9-(5-Bromo-2-hydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, B-00513
Cacotheline, C-00005
[5-Chloro-3-[(2,4-dihydroxyphenyl)azo]-2-hydroxyphenyl]arsonic acid, C-00096
N-(3-Chlorophenyl)-*N*-hydroxybenzamide, *in* H-00109
N-(4-Chlorophenyl)-*N*-hydroxybenzamide, *in* H-00109
N-(3-Chlorophenyl)-*N*-hydroxy-2-furancarboxamide, *in* F-00064
N-(4-Chlorophenyl)-*N*-hydroxy-2-furancarboxamide, *in* F-00064
Cotarnilfluorone, C-00302
▷ 1,3-Dibromo-5,5-dimethyl-2,4-imidazolidinedione, D-00185
9-(3,4-Dibromophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, D-00198
3,5-Dibutyl-2,6-dimercapto-4*H*-thiopyran-4-one, D-00230
▷ 1,3-Dichloro-5,5-dimethyl-2,4-imidazolidinedione, *in* D-00866
N,*N*-Dichloro-4-methylbenzenesulfonamide, D-00285
2-(2,3-Dihydro-2-benzothiazolyl)phenol, D-00372
2,6-Dimercapto-3,5-dimethyl-4*H*-thiopyran-4-one, D-00754
2,6-Dimercapto-3,5-diphenyl-4*H*-thiopyran-4-one, D-00755
2,6-Dimercapto-3,5-dipropyl-4*H*-thiopyran-4-one, D-00756
2,6-Dimercapto-3-pentyl-4*H*-thiopyran-4-one, D-00760
2,6-Dimercapto-3-propyl-4*H*-thiopyran-4-one, D-00764
4,5-Dimethyl-2-(2-quinolinylazo)phenol, D-00914
1-[(Ethylimino)methyl]-2-naphthalenol, E-00096
Gallein, G-00004
Gossypol; (±)-*form*, *in* G-00041
▷ Haematoxylin; (+)-*form*, *in* H-00002
Hexahydro-2*H*-1,3-diazepine-2-thione, H-00037
3-Hexyl-2,6-dimercapto-4*H*-thiopyran-4-one, H-00075
N-Hydroxy-2-thiophenecarboxamide; *N*-(3-Chlorophenyl), *in* H-00554
N-Hydroxy-2-thiophenecarboxamide; *N*-(4-Chlorophenyl), *in* H-00554
▷ 4-Methyl-1,2-benzenedithiol, M-00129
3-Methyl-5-propyl-2,6-dimercapto-4*H*-thiopyran-4-one, M-00258
Pentylmagnesium bromide, P-00041
▷ Phenylarsonic acid, P-00090
4-Phenyl-3*H*-1,2-dithiole-3-thione, P-00115
5-Phenyl-3*H*-1,2-dithiole-3-thione, P-00116
▷ Piperazine, P-00237
▷ Propanedioic acid, P-00261
Pyrocatechol violet, P-00433
Sodium tetraethylborate, *in* T-00042
2,6,7-Trihydroxy-9-(3-nitrophenyl)-3*H*-xanthen-3-one, T-00302
2,6,7-Trihydroxy-9-(4-nitrophenyl)-3*H*-xanthen-3-one, T-00303
2,6,7-Trihydroxy-9-phenyl-3*H*-xanthen-3-one, T-00315
2,6,7-Trihydroxy-9-propyl-3*H*-xanthen-3-one, T-00316
2,6,7-Trihydroxy-9-(3-pyridinyl)-3*H*-xanthen-3-one, T-00318
1,3,3-Trimethyl-2-[2-(2-methyl-1*H*-indol-3-yl)ethylene]-3*H*-indolium(1+); Chloride, *in* T-00328
Tris(2-ethylhexyl)phosphine oxide, T-00390

Titanium

3-Acetyl-5-hydroxy-2-methyl-4*H*-1-benzopyran-4-one, *in* D-00644
2-(Acetyloxy)-*N*-hydroxy-*N*-phenylbenzamide, A-00028
▷ Adrenaline, A-00066
2-Aminobenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, A-00108
4-Aminobenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, A-00110
7-Amino-2-ethylphenothiazine, A-00177
Anabasine; *N*-Ac, *in* P-00244
3-(1,3-Benzodioxol-5-yl)-*N*-hydroxy-*N*-phenyl-2-propenamide, *in* B-00056
6-(Benzoylacetyl)-1,4-benzodioxan, B-00119
3-Benzyl-4,5-dihydroxycoumarin, B-00177
▷ Bis(2-ethylhexyl) phosphate, B-00352
4-Butoxy-*N*-(4-chlorophenyl) benzohydroxamic acid, B-00612
4-Butoxy-*N*-hydroxy-*N*-phenylbenzamide, B-00614
9-(5-Carboxy-2-hydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, C-00032

4-(Chloromethyl)-2-[(3,4-dihydroxyphenyl) azo]-5-thiazolecarboxylic acid; Me ester, *in* C-00176
N-(4-Chlorophenyl)-4-chlorophenoxyisobutyrohydroxamic acid, C-00208
3-(4-Chlorophenyl)-3-hydroxy-1-phenyltriazene, C-00233
N-(4-Chlorophenyl)-*N*-hydroxy-3-(3,4,5-trimethoxyphenyl)-2-propenamide, C-00235
Chromotropic acid, C-00294
1,2-Cyclohexanedione bisbenzoylhydrazone, C-00340
4-Cyclohexyl-6-(2-pyridinylazo)-1,3-benzenediol, C-00358
1,1-Diantipyryl-2-hydroxyphenylmethane, D-00138
1,1-Diantipyrylmethane, D-00139
1,1-Diantipyrylphenylmethane, D-00140
Dibromotichromin, D-00219
▷ Dibutyl phosphate, D-00237
2,3-Dihydro-8-hydroxy-9-phenyl-7*H*-pyrano[2,3-*f*]-1,4-benzodioxin-7-one, D-00422
3,4-Dihydroxyazobenzene, D-00515
4,5-Dihydroxy-3-[*N*,*N*-bis(carboxymethyl) aminomethyl]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00547
N,*N*′-Dihydroxy-*N*,*N*′-diphenylheptanediamide, D-00587
3,4-Dihydroxy-10-imino-9(10*H*)-anthracenone, D-00634
6,7-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00647
7,8-Dihydroxy-4-phenyl-2*H*-1-benzopyran-2-one, D-00706
6,7-Dihydroxy-4-phenylcoumarin, D-00708
9-(3,4-Dihydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, D-00719
4,5-Dihydroxy-3-[(5-sulfo-1-naphthalenyl) azo]-2,7-naphthalenedisulfonic acid, D-00734
▷ Diphenhydramine hydrochloride, *in* D-00998
Diphenylglyoxal bis(2-hydroxybenzoylhydrazone), D-01017
2-Ethyl-5-hydroxy-4*H*-1-benzopyran-4-one, E-00084
3-Ethyl-5-hydroxy-4*H*-1-benzopyran-4-one, E-00085
3-Ethyl-5-hydroxy-2,7-dimethyl-4*H*-1-benzopyran-4-one, E-00086
2-Ethyl-5-hydroxy-3-methyl-4*H*-1-benzopyran-4-one, E-00090
3-Ethyl-5-hydroxy-2-methyl-4*H*-1-benzopyran-4-one, E-00091
3-(2-Furanyl)-*N*-hydroxy-*N*-(4-methylphenyl)-2-propenamide, *in* F-00053
3-(2-Furanyl)-*N*-hydroxy-*N*-phenyl-2-propenamide, *in* F-00053
3-(2-Furanyl)-2-mercapto-2-propenoic acid, F-00054
▷ Haematoxylin; (+)-*form*, *in* H-00002
Heptylarsonic acid, H-00015
Hydrazo II, H-00087
2-Hydroxybenzaldehyde *N*-(4-aminobenzoyl)hydrazone, H-00103
2-Hydroxybenzaldehyde 6-methyl-2-nicotinoylhydrazone, H-00106
2-Hydroxybenzoic acid 2-acetylhydrazide, H-00114
2-Hydroxybenzoic acid [(2,4-dihydroxyphenyl)methylene]hydrazide, H-00116
2-Hydroxybenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, H-00120
5-Hydroxy-2,3-dimethyl-4*H*-1-benzopyran-4-one, H-00150
N-Hydroxy-*N*,5-diphenyl-2,4-pentadienamide, H-00169
5-Hydroxy-7-methoxy-2,6-dimethyl-4*H*-1-benzopyran-4-one, *in* D-00575
5-Hydroxy-7-methoxy-2-methyl-4*H*-1-benzopyran-4-one, *in* D-00645
5-Hydroxy-2-methyl-4*H*-1-benzopyran-4-one, H-00281
5-Hydroxy-3-methyl-4*H*-1-benzopyran-4-one, H-00282
3-Hydroxy-2-methyl-1-(4-methylphenyl)-4(1*H*)-pyridinone, H-00289
N-Hydroxy-*N*-(4-methylphenyl)benzamide, *in* H-00109
3-Hydroxy-2-naphthalenecarboxylic acid [[3-hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]hydrazide, H-00341
N-Hydroxy-4-(octyloxy)-*N*-phenylbenzamide, H-00425
N-Hydroxy-*N*-phenylbenzeneacetamide, H-00463
N-Hydroxy-*N*-phenyldodecanamide, *in* L-00001
N-Hydroxy-*N*-phenyl-2-furancarboxamide, H-00472
N-Hydroxy-*N*-phenyl-2,4-hexadienamide, *in* H-00185
1-(2-Hydroxyphenyl)-1-propanone; Oxime, *in* H-00498
2-(3-Hydroxy-3-phenyl-1-triazenyl)benzoic acid, H-00507
(Hydroxy-3-pyridinylmethyl)phosphoric acid, H-00523
2-Hydroxy-3-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, H-00557
2-Hydroxy-4-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, H-00558
3-Hydroxy-2-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, H-00559
5*H*-Imidazole-4-carboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, I-00002
1-Isopropyl-2-methoxy-4-methylbenzene, *in* I-00075
▷ 2-Isopropyl-5-methylphenol, I-00075
2-Mercapto-3-phenyl-2-butenoic acid, M-00043
p-Methoxy-*N*-phenylcinnamohydroxamic acid, *in* H-00241
2-Methyl-4-pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, M-00272
1,8-Naphthalenediol, N-00009
4-Nitrobenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, N-00094
N-(3-Nitrophenyl)-*β*-oxobenzenepropenamide, N-00140
▷ Pachycarpine, *in* S-00023
1-Phenyl-1,3-butanedione, P-00107
[Phenyl(phenylamino)]methylphosphonic acid; Mono-octyl ester, *in* P-00155
2-Phenyl-1-(2,4,6-trihydroxyphenyl) ethanone, P-00209
Phthalocyaninetetrasulfonic acid; Tetra-Na salt, *in* P-00231
2-Pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, P-00348
3-Pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, P-00349
3-Pyridinecarboxylic acid (2-pyridinylmethylene)hydrazide, P-00351
3-Pyridine-[2-(hydroxyimino)-1-methylpropylidene]carboxylic acid, P-00355
2-(2-Pyridinylazo)-1-naphthalenol, P-00375
Pyridoxal; Salicyloylhydrazone, *in* P-00414
Salicylamidoxime, *in* H-00112
Salicylhydroxamic acid, *in* H-00112
Tannin, T-00001
▷ Tetrabromo-1,2-benzenediol, T-00012
2,3,7,8-Tetrahydroxyphenazine, T-00079
Tetraoctylammonium(1+); Bromide, *in* T-00110
Tetraphenylphosphonium(1+); Bromide, *in* T-00120
3,3′-Thiobis[6-hydroxybenzoic acid], T-00158
Tichromin; Tetra-Na salt; B,HCl, *in* T-00185
▷ Tiron, T-00186
N-*o*-Tolylcinnamohydroxamic acid, *in* H-00499
▷ Tributylphosphine oxide, T-00213
▷ Triethylamine, T-00231
2,3,4-Trihydroxybenzenesulfonic acid; Na salt, *in* T-00274
2,3,4-Trihydroxybenzoic acid, T-00276
4-[(3,4,5-Trihydroxybenzoyl)amino]benzoic acid, T-00280
4-(2,6,7-Trihydroxy-3-oxo-3*H*-xanthen-9-yl)-1,3-benzenedisulfonic acid, T-00304
2-(2,6,7-Trihydroxy-3-oxo-3*H*-xanthen-9-yl) benzenesulfonic acid, T-00305
2-[(2,3,4-Trihydroxyphenyl)azo]benzoic acid, T-00310
2,6,7-Trihydroxy-9-propyl-3*H*-xanthen-3-one, T-00316
2,6,7-Trihydroxy-9-(2-pyridinyl)-3*H*-xanthen-3-one, T-00317
2,6,7-Trihydroxy-9-(2-sulfophenyl)-3*H*-xanthen-3-one, T-00322
▷ Vitamin C, *in* A-00446

Tungsten

▷ Acet-*o*-toluidide, *in* M-00123
Acetyl dithiol, *in* M-00129
▷ 1,4-Benzenediol, B-00022
9-(4-Bromophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, B-00558
o-Chloroacetanilide, *in* C-00058
▷ *p*-Chloroacetanilide, *in* C-00060
2-Chloro-*N*-(4-chlorophenyl)-*N*′-(2,3-dimethylphenyl) benzenecarboximidamide, C-00085
2-Chloro-*N*-(2-chlorophenyl)-*N*′-phenylbenzenecarboximidamide, C-00088
4-(Chloromethyl)-2-[(3,4-dihydroxyphenyl) azo]-5-thiazolecarboxylic acid; Me ester, *in* C-00176
▷ *N*-(3-Chloro-4-methylphenyl)acetamide, *in* C-00171
2-Chloro-*N*-(2-methylphenyl)-*N*′-phenylbenzenecarboximidamide, C-00184
N-(2-Chlorophenyl)-*N*′-(4-chlorophenyl) benzenecarboximidamide, C-00209
N-(4-Chlorophenyl)-*N*′-(2,6-dimethylphenyl) benzenecarboximidamide, C-00214
▷ Cinchonine, C-00298
Cupron, *in* B-00068
4,5-Dibromo-9-(3,5-dibromo-2-hydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, D-00181
2,5-Dibromo-3,6-dihydroxy-1,4-benzoquinone, D-00182
2,7-Dibromogallein, D-00189
Digallic acid, D-00365
6,7-Dihydroxy-2,4-diphenyl-1-benzopyrylium(1+); Chloride, *in* D-00584
6,7-Dihydroxy-9-(2-hydroxyphenyl)-3*H*-xanthen-3-one, D-00628
2-[(3,4-Dihydroxyphenyl)azo]-4-(4-carboxyphenyl)-5-thiazolecarboxylic acid; 4′-Me ester, 5-Et ester, *in* D-00690
2-[(3,4-Dihydroxyphenyl)azo]-4-(hydroxymethyl)-5-thiazolecarboxylic acid; Me ester, *in* D-00696
2-(3,4-Dihydroxyphenylazo)-4-phenyl-5-benzoylthiazole, D-00699
4-[2-[(3,4-Dihydroxyphenyl)azo]-5-phenyl-4-thiazolyl]benzoic acid; Me ester, *in* D-00700
2,3-Dimercapto-2-butenedinitrile, *in* D-00753
▷ 2,3-Dimethylaniline; *N*-Ac, *in* D-00827
▷ 2,5-Dimethylaniline; *N*-Ac, *in* D-00828
▷ 2,6-Dimethylaniline; *N*-Ac, *in* D-00829
▷ 3,4-Dimethylaniline; *N*-Ac, *in* D-00830
4,5-Dimethyl-1,2-benzenedithiol, D-00832
N-(2,3-Dimethylphenyl)-*N*′-phenylbenzenecarboximidamide, D-00892
Gossypol bis(4-hydroxyphenyl)imine, G-00043
4-[[4-(Hydroxymethyl)-2-thiazolyl]azo]-1,2-benzenediol, H-00328

N-Hydroxy-2-methyl-*N*-[3-(trifluoromethyl) phenyl]benzamide, H-00333
5-[(2-Hydroxy-1-naphthalenyl)azo]-2,4-(1*H*,3*H*)-pyrimidinedione; NH_4 salt, *in* H-00354
1-Isopropyl-2-methoxy-4-methylbenzene, *in* I-00075
▷ 2-Isopropyl-5-methylphenol, I-00075
▷ 4-Methylaniline; *N*-Ac, *in* M-00124
▷ 4-Methyl-2-pentanone, M-00218
N-(2-Methylphenyl)-*N'*-(4-chlorophenyl) benzamidine, M-00226
▷ Piperazine, P-00237
Pyridoin, P-00412
Pyrocatechol violet, P-00433
▷ Quinine, Q-00005
▷ Rutin, R-00014
Stilbazogall I, S-00029
Tannin, T-00001
▷ Tetraphenylarsonium(1+); Chloride, *in* T-00119
Tridodecylamine, T-00230
2,6,7-Trihydroxy-9-(2-nitrophenyl)-3*H*-xanthen-3-one, T-00301
2,4,6-Triphenylpyridine; *N*-Ph, acetate (salt), *in* T-00373

Uranium

p-Acetylarsenazo, A-00012
4-Acetyl-2,4-dihydro-2,5-dimethyl-3*H*-pyrazol-3-one, A-00015
▷ Acid yellow 2G; Na salt, *in* A-00059
Alamine oxide, A-00071
▷ Arsenazo III, A-00412
3-[(2-Arsonophenyl)azo]-6-[(2-arsono-5-chlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00421
3-[(2-Arsonophenyl)azo]-6-[(2-arsono-5-methylphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00422
3-[(2-Arsonophenyl)azo]-6-[(4-arsonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00423
3-[(2-Arsonophenyl)azo]-6-[(3-chloro-2-hydroxy-5-nitrophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00424
3-[(2-Arsonophenyl)azo]-6-[(5-chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00425
3-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-4-arsonobenzoic acid, A-00431
3-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-2-hydroxy-5-sulfobenzoic acid, A-00432
3-[(2-Arsonophenyl)azo]-6-[(4-dimethylaminophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00440
Benzfuroin oxime, *in* F-00052
▷ Benzoic acid, B-00059
2-Benzoyl-4-nitro-1*H*-indene-1,3(2*H*)-dione, B-00139
2-Benzoyl-5-nitro-1*H*-indene-1,3(2*H*)-dione, B-00140
N-Benzylaniline, B-00165
3-Benzyl-4,5-dihydroxycoumarin, B-00177
3,6-Bis[(2-arsono-4-methylphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00256
▷ Bis(2-ethylhexyl) phosphate, B-00352
▷ 1,4-Bis[(4-methylphenylamino)]-9,10-anthracenedione, B-00406
Bis(2-methylpropyl) phenylphosphonate, *in* P-00164
4-Bromo-*N*-hydroxybenzamide, B-00510
2-[(5-Bromo-2-pyridinyl)azo]-5-(diethylamino)phenol, *in* A-00126
▷ *N*-Butylaniline, B-00617
▷ 2-Chlorobenzoic acid, C-00066
7-Chloro-8-hydroxy-5-quinolinesulfonic acid, C-00152
Chlorophosphonazo III, C-00242
Chlorophosphonazo-*m*-sulfonic acid, C-00246
Chromotrope 2C, C-00291
N-Cinnamoylphenylhydroxylamine, *in* H-00499
2,6-Diacetylpyridine bis(benzoylhydrazone), D-00036
2,6-Diacetylpyridine bis(2-furoylhydrazone), D-00037
2,6-Diacetylpyridine bis (2-pyridylhydrazone), D-00039
1,1-Diantipyrylheptane, D-00137
2-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]amino]ethanesulfonic acid, *in* A-00149
3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]amino]-1-propanesulfonic acid, *in* A-00149
▷ Dibutylarsinic acid, D-00226
▷ 2,4-Dichlorobenzoic acid, D-00249
2-(4-Diethylamino-2-hydroxyphenylazo) thiazole, *in* A-00214
5-(Diethylamino)-2-(2-pyridinylazo)phenol, *in* A-00336
2,2'-Dihydroxyazobenzene, D-00514
▷ 6,7-Dihydroxy-2*H*-1-benzopyran-2-one, D-00538
7,8-Dihydroxy-2*H*-1-benzopyran-2-one, D-00539
4,5-Dihydroxy-3,6-bis[(2-phosphonophenyl) azo]-2,7-naphthalenedisulfonic acid, D-00560
Dihydroxybutenedioic acid, D-00567
▷ 3,4-Dihydroxy-3-cyclobutene-1,2-dione, D-00569
3,3'-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bis[4-arsonobenzoic acid], D-00591
3-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]benzoic acid, D-00594
4-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]benzoic acid, D-00595
▷ 7,8-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00648
7,8-Dihydroxy-3-phenyl-2*H*-1-benzopyran-2-one, D-00705
1-(2,4-Dihydroxyphenyl)-1-pentanone, D-00714
2-[(4,5-Dimethyl-2-thiazolyl)azo]-4,6-dimethylphenol, D-00921
2,4-Dimethyl-6-(2-thiazolylazo)phenol, D-00923
▷ 2,4-Dinitro-1,3-benzenediol, D-00940
4-(1,3-Dioxo-3-phenylpropyl) benzenesulfonic acid, D-00994
▷ Diphenylacetic acid, D-00999
1,3-Diphenyl-1,3-propanedione, D-01041
Dodecyl gallate, *in* T-00277
▷ Ethyl acetate, E-00062
4-Ethyl-*N*-hydroxy-*N*-phenylbenzamide, E-00093
Glycinethymol blue, G-00019
2-Guanidino-1,2-dihydro-5-methyl-3*H*-pyrazol-3-one, G-00045
▷ Hexamethylenetetramine, H-00057
▷ Hexanedioic acid, H-00062
2-[[3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]-2'-[(2-hydroxyphenyl)methylene]carbonic acid dihydrazide, H-00218
▷ 5-Hydroxy-2-(hydroxymethyl)-4*H*-pyran-4-one, H-00222
3-Hydroxy-4-[(2-hydroxy-4-sulfo-1-naphthalenyl)azo]-2-naphthalenecarboxylic acid; Na salt, *in* H-00242
5-Hydroxy-7-methoxyflavone, *in* D-00612
N-Hydroxy-2-methoxy-*N*-(4-methylphenyl) benzamide, *in* H-00263
N-Hydroxy-*N*-(3-methylphenyl)-3-nitrobenzamide, *in* N-00090
2-Hydroxy-1-naphthaldehyde; Oxime, *in* H-00336
4-Hydroxy-5-oxo-1,3,6-cycloheptatriene-1-sulfonic acid; NH_4 salt, *in* H-00429
2-Hydroxy-*N*-phenylbenzamide, *in* H-00112
N-Hydroxy-*N*-phenyl-2-naphthalenecarboxamide, *in* N-00024
1-Hydroxy-1-phenylurea, *in* P-00211
▷ 2-Hydroxy-5-sulfobenzoic acid, H-00538
2-Hydroxy-5-[(4-sulfophenyl)azo]benzoic acid; Di-Na salt, *in* H-00542
N-Hydroxy-2-thiophenecarboxamide; *N*-(3-Chlorophenyl), *in* H-00554
5-Methoxy-2-(2-thiazolylazo)phenol, *in* T-00141
1-[(5-Methyl-2-pyridinyl)azo]-2-naphthalenol, M-00281
Mono(2-ethylhexyl) phosphate, M-00339
Moonion A-9Q-08, *in* B-00181
▷ 1-Nitroso-2-naphthol, N-00160
2-Oxo-*N*-phenylcyclopentanecarboxamide, *in* O-00060
▷ Phenylacetic acid, P-00076
▷ 3-Phenyl-2-propenoic acid, P-00169
Primene JM T, P-00255
▷ Propanedioic acid, P-00261
▷ 3-Pyridinecarboxylic acid, P-00343
2,2'-[2,6-Pyridinediylbis(methylidynenitrilo)]bisphenol, P-00354
1-(2-Pyridinylazo)-2-naphthalenol, P-00374
Septonex, *in* E-00061
▷ Solochrome black 6BN; Na salt, *in* S-00017
Solochrome fast red; Na salt, *in* S-00020
Tannin, T-00001
▷ 3,3',4',5-Tetrahydroxy-7-methoxyflavone, T-00078
Tetrapropylammonium(1+); Hydroxide, *in* T-00124
1-Thiocarbamido-3-methyl-5-pyrazolone, T-00160
4,4,4-Trifluoro-1-phenyl-1,3-butanedione, T-00260
1,1,1-Trifluoro-4-phenyl-4-thioxo-2-butanone, T-00262
▷ 2',3',4'-Trihydroxyacetophenone, T-00269
3,4,6-Trihydroxy-5*H*-benzocyclohepten-5-one, T-00275
5,7,8-Trihydroxyflavanone; (*S*)-*form*, 7-*O*-Glucuronopyranoside, *in* T-00282
▷ 3,5,7-Trihydroxyflavone, T-00284
5,7,8-Trihydroxyflavone, T-00286
Triphenylarsine oxide, T-00364
Tris(6-methylheptyl)amine; B,HCl, *in* T-00408

Vanadium

2-Acetylpyridine; Thiosemicarbazone, *in* A-00039
2-Aminobenzoic acid 2-benzoylhydrazide, A-00106
2-Aminobenzoic acid [(2,4-dihydroxyphenyl)methylene]hydrazide, A-00107
4-Aminobenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, A-00110
2-Aminobenzoic acid (1-methylethylidene) hydrazide, A-00109
▷ 2-Amino-4,6-dinitrophenol, A-00164
2-Amino-*N*-hydroxybenzamide, *in* A-00103
5-Amino-4-hydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* A-00187
3-Amino-5-hydroxy-2,7-naphthalenedisulfonic acid, A-00199
7-Amino-1-hydroxy-3*H*-phenoxazin-3-one, A-00208
4-[(2-Amino-3-hydroxy-4-pyridinyl)azo] benzenesulfonic acid, A-00217
5-Amino-11-methyl-9*H*-benzo[*a*] phenoxazin-9-one, A-00236
7-Amino-1-methyl-3*H*-phenoxazin-3-one, A-00247
▷ 2-Amino-3*H*-phenoxazin-3-one, A-00303
7-Amino-3*H*-phenoxazin-3-one, A-00304
N-(3-Aminophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, A-00324
N-(4-Aminophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, A-00325
5-Amino-2-(2-quinolinylazo)phenol, A-00344
▷ Aniline, A-00368
Azomethine H; Na salt, *in* A-00472
▷ 1,2,4-Benzenetricarboxylic acid, B-00032

1,2,3-Benzenetricarboxylic acid; Tri-Na salt, *in* B-00031
3-(1,3-Benzodioxol-5-yl)-*N*-hydroxy-*N*-(3-methylphenyl)-2-propenamide, *in* B-00056
3-(1,3-Benzodioxol-5-yl)-*N*-hydroxy-*N*-(4-methylphenyl)-2-propenamide, *in* B-00056
3-(1,3-Benzodioxol-5-yl)-*N*-hydroxy-*N*-phenyl-2-propenamide, *in* B-00056
Benzoic acid [(2,4-dihydroxyphenyl) methylene]hydrazide, B-00061
Benzoylhydrazine, *in* B-00059
N-Benzoyl-*N*-phenylhydroxylamine, *in* P-00135
▷ Benzyldimethyldodecylammonium(1+); Bromide, *in* B-00179
N-Benzyl-2-naphthohydroxamic acid, *in* N-00024
2,2′-([1,1′-Biphenyl]-4,4′-diyldiimino) bisbenzoic acid, B-00209
Bis(4-dimethylaminobenzylidene)-4,4′-methylenedianiline; B, 4HCl, *in* B-00314
N,*N*-Bis(2-hydroxypropyl)ethanolamine, B-00393
N-[3,5-Bis(trifluoromethyl)phenyl]-*N*-hydroxy-3,5-bis(trifluoromethyl) benzamide, B-00465
5-Bromo-*N*,2-dihydroxybenzamide, B-00503
9-(5-Bromo-2-hydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, B-00513
N-(4-Bromophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, B-00552
1-[(5-Bromo-2-pyridinyl)azo]-2-naphthalenol, B-00573
Cacotheline, C-00005
9-(2-Carboxy-4-pyridyl)fluorone, C-00043
4-Chlorobenzohydroxamic acid, C-00065
2-Chloro-*N*,*N*′-bis(4-chlorophenyl)-*N*-hydroxybenzenecarboximidamide, C-00074
2-Chloro-*N*′-(4-chlorophenyl)-*N*-hydroxy-*N*-(4-methylphenyl)benzamidine, C-00086
2-Chloro-*N*′-(4-chlorophenyl)-*N*-hydroxy-*N*-phenylbenzenecarboximidamide, C-00087
5-Chloro-2-hydroxy-4-methylacetophenone; Oxime, *in* C-00135
2-Chloro-*N*-hydroxy-*N*-(2-methylphenyl) benzamide, *in* C-00064
2-Chloro-*N*-hydroxy-*N*-(3-methylphenyl) benzamide, *in* C-00064
4-Chloro-*N*-hydroxy-*N*-(2-methylphenyl) benzamide, *in* C-00065
4-Chloro-*N*-hydroxy-*N*-1-naphthalenylbenzamide, C-00136
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-6-[(3-chloro-5-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00153
N′-(4-Chloro-2-methylphenyl)-*N*-(4-chlorophenyl)-*N*-hydroxybenzenecarboximidamide, C-00181
N′-(3-Chloro-4-methylphenyl)-*N*-hydroxy-*N*-(4-methylphenyl)benzamidine, C-00182
N′-(3-Chloro-4-methylphenyl)-*N*-hydroxy-*N*-phenylbenzamidine, C-00183
▷ 4-Chlorophenol, C-00196
N-(3-Chlorophenyl)-*N*′-(2,3-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00215
N-(3-Chlorophenyl)-*N*′-(2,5-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00216
N-(3-Chlorophenyl)-*N*′-(2,6-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00217
N-(4-Chlorophenyl)-*N*′-(2,3-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00218
N-(4-Chlorophenyl)-*N*′-(2,3-dimethylphenyl)-*N*-hydroxy-4-methylbenzenecarboximidamide, C-00219
N-(4-Chlorophenyl)-3-(2-furanyl)-*N*-hydroxy-2-propenamide, C-00220
N-(4-Chlorophenyl)-*N*-hydroxy-2-butenamide, C-00223
N-(4-Chlorophenyl)-*N*-hydroxy-2,4-hexadienamide, *in* H-00185
N-(3-Chlorophenyl)-*N*-hydroxy-*N*′-(4-methoxyphenyl) benzenecarboximidamide, C-00224
N-(4-Chlorophenyl)-*N*-hydroxy-3-(4-methoxyphenyl)-2-propenamide, C-00225
N-(4-Chlorophenyl)-*N*-hydroxy-3-(3,4-methylenedioxyphenyl)-2-propenamide, C-00226
N-(3-Chlorophenyl)-*N*-hydroxy-*N*′-(3-methylphenyl)benzenecarboximidamide, C-00228
N-(3-Chlorophenyl)-*N*-hydroxy-*N*′-(4-methylphenyl)benzenecarboximidamide, C-00229
N-(3-Chlorophenyl)-*N*-hydroxy-*N*′-phenylbenzenecarboximidamide, C-00230
N-(4-Chlorophenyl)-*N*-hydroxy-3-phenyl-2-propenamide, C-00232
N-(4-Chlorophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, C-00234
3-[(5-Chloro-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00262
N-Cinnamoylphenylhydroxylamine, *in* H-00499
Cupron, *in* B-00068
Cyclohexanoylphenylhydroxylamine, *in* H-00145
▷ Desferrioxamine, D-00029
▷ 1,2-Diaminobenzene, D-00046
▷ 4,4′-Diamino-3,3′-dimethoxybiphenyl, *in* D-00056
4,4′-Diamino-3,3′-dimethyl-[1,1′-binaphthalene]-6,6′-disulfonic acid, D-00081
▷ 1,3-Diamino-2-propanol-*N*,*N*,*N*′,*N*′-tetraacetic acid, D-00116
4,4′-Dianilinobiphenyl, *in* D-00053
1,1-Diantipyrylphenylmethane, D-00140
2-[(3,5-Dibromo-4-methyl-2-pyridinyl)azo]-5-(diethylamino)phenol, D-00196
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(dimethylamino)benzoic acid, D-00201
2-(2,4-Dichlorophenoxy)-*N*-(4-methylphenyl)acetohydroxamic acid, *in* D-00288
2-(2,4-Dichlorophenoxy)-*N*-phenylacetohydroxamic acid, *in* D-00288
N-[2-(Diethylamino)ethyl]-4-[(8-hydroxy-5-quinolinyl)azo]benzamide, D-00317
4,5-Dihydro-3,5-diphenylisoxazole; (±)-*form*, *in* D-00400
4,5-Dihydro-1,5-diphenyl-3-(2-phenylethenyl)-1*H*-pyrazole, D-00401
2,4-Dihydro-5-methyl-4-(1-oxodecyl)-2-phenyl-3*H*-pyrazol-3-one, D-00435
4,5-Dihydro-5-phenyl-3-(2-phenylethenyl) isoxazole, D-00467
4,5-Dihydro-1,3,5-triphenyl-1*H*-pyrazole, D-00506
4,5-Dihydroxy-3,6-bis[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00549
2-[[1,8-Dihydroxy-7-[(5-chloro-3-sulfophenyl)azo]-3,6-disulfo-2-naphthyl] azo]benzoic acid, D-00568
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(3-nitro-5-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, D-00604
4,5-Dihydroxy-3-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-6-[(3-nitro-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00622
3,4-Dihydroxy-10-imino-9(10*H*)-anthracenone, D-00634
▷ 7,8-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00648
4,5-Dihydroxy-3-[(5-nitro-3-sulfophenyl) azo]-6-(phenylazo)-2,7-naphthalenedisulfonic acid, D-00677
4,5-Dihydroxy-3-[(5-nitro-3-sulfophenyl) azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00679
▷ 2,6-Dihydroxy-4-pyridinecarboxylic acid, D-00721
1,4-Dihydroxy-2-(2-pyridylmethyl) anthraquinone, D-00725
▷ 5,7-Diiodo-8-quinolinol, D-00744
2,3-Dimercapto-2-butenedinitrile, *in* D-00753
▷ 1,2-Dimethoxybenzene, D-00766
2,2′-[(3,3′-Dimethoxy[1,1′-biphenyl]-4,4′-diyl)diimino]bisbenzoic acid, D-00772
5-(Dimethylamino)-2-nitrosophenol; B,HCl, *in* D-00804
N-[4-(Dimethylamino)phenyl]-*N*-hydroxy-3-methoxy-2-naphthalenecarboxamide, D-00814
2,2′-[(3,3′-Dimethyl[1,1′-biphenyl]-4,4′-diyl) diimino]bisbenzoic acid, D-00837
N,*N*′-Dimethyldiphenylbenzidine, *in* D-00053
4-(1,1-Dimethylethyl)-*N*-hydroxy-*N*-(2-methylphenyl)benzamide, *in* B-00619
4-(1,1-Dimethylethyl)-*N*-hydroxy-*N*-phenylbenzamide, *in* B-00619
▷ *N*,*N*-Dimethyl-1,4-phenylenediamine, *in* D-00048
N′-(2,3-Dimethylphenyl)-*N*-hydroxy-*N*-(4-methylphenyl)benzamidine, D-00889
N′-(2,3-Dimethylphenyl)-*N*-hydroxy-*N*-phenylbenzamidine, D-00890
N-(2,3-Dimethylphenyl)-*N*-hydroxy-3-phenylpropenamide, D-00891
3,4-Dinitro-1,2-benzenediol, D-00941
Eriochrome green B, E-00016
2-(Ethylamino)-4-methyl-5-(8-quinolinylazo)phenol, *in* A-00255
4-Ethyl-*N*-hydroxy-*N*-phenylbenzamide, E-00093
1-[(Ethylimino)methyl]-2-naphthalenol, E-00096
▷ *N*-Fluoren-1-ylbenzohydroxamic acid, F-00016
3-(2-Furanyl)-*N*-hydroxy-*N*-phenyl-2-propenamide, *in* F-00053
Gossypol bis[*N*-(2-hydroxy)ethyleneimine], G-00042
3,3a,4,5,6,7-Hexahydro-2,3-diphenyl-2*H*-indazole, H-00047
3,3a,4,5,6,7-Hexahydro-3-phenyl-2,1-benzisoxazole, H-00050
2′-Hydroxyacetophenone; Oxime, *in* H-00089
2-Hydroxybenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, H-00120
2-Hydroxybenzoic acid [2-(2-pyridinyl) ethylidene]hydrazide, H-00121
2-Hydroxybenzoic acid [2-pyridinyl(3-sulfophenyl)methylene]hydrazide, H-00122
N-Hydroxy-*N*,*N*′-bis(4-methylphenyl) benzenecarboximidamide, *in* H-00308
N-Hydroxybutanamide, H-00142
N-Hydroxy-*N*,*N*′-diphenylbenzenecarboximidamide, *in* D-01061
N-Hydroxy-4-(diphenylmethyl)benzamide, H-00168
N-Hydroxy-*N*,5-diphenyl-2,4-pentadienamide, H-00169
▷ (1-Hydroxyethylidene)bisphosphonic acid, H-00178
N-Hydroxy-2,4-hexadienamide, H-00185
N-Hydroxyhexanamide, H-00186
4-Hydroxy-3-[(5-hydroxybenzo[*a*]phenazin-6-yl)azo]benzenesulfonic acid, H-00187
4-Hydroxy-3-[(2-hydroxy-3,5-dinitrophenyl) azo]-1-naphthalenesulfonic acid, H-00199
▷ 5-Hydroxy-2-(hydroxymethyl)-4*H*-pyran-4-one, H-00222
▷ Hydroxylamine, H-00257

N-Hydroxy-4-methoxybenzamide, H-00264
N-Hydroxy-2-methoxy-*N*-(2-methylphenyl) benzamide, *in* H-00263
N-Hydroxy-2-methoxy-*N*-(3-methylphenyl) benzamide, *in* H-00263
N-Hydroxy-2-methoxy-*N*-1-naphthalenylbenzamide, H-00267
N-Hydroxy-4-methoxy-*N*-1-naphthalenylbenzamide, H-00268
N-Hydroxy-2-methoxy-*N*-phenylbenzamide, *in* H-00263
N-Hydroxy-4-methoxy-*N*-phenylbenzamide, *in* D-00704
N-Hydroxy-*N'*-(4-methoxyphenyl)-*N*-(4-methylphenyl)benzenecarboximidamide, *in* H-00270
N-Hydroxy-*N'*-(4-methoxyphenyl)-*N*-phenylbenzenecarboximidamide, *in* H-00270
N-Hydroxy-3-(4-methoxyphenyl)-2-propenamide; *N*-(3-Methylphenyl), *in* H-00272
N-Hydroxy-3-(4-methoxyphenyl)-2-propenamide; *N*-(4-Methylphenyl), *in* H-00272
N-Hydroxy-*N*-(3-methoxyphenyl)-3-(2-thienyl)-2-propenamide, H-00273
N-Hydroxy-*N*-(4-methoxyphenyl)-3-(2-thienyl)-2-propenamide, H-00274
N-Hydroxy-2-methyl-*N*-(2-methylphenyl) benzamide, *in* M-00135
N-Hydroxy-2-methyl-*N*-(3-methylphenyl) benzamide, *in* M-00135
N-Hydroxy-4-methyl-*N*-(3-methylphenyl) benzamide, *in* M-00136
N-Hydroxy-4-methyl-*N*-(4-methylphenyl) benzamide, *in* M-00136
N-Hydroxy-2-methyl-*N*-1-naphthalenylbenzamide, H-00290
N-Hydroxy-4-methyl-*N*-1-naphthalenylbenzamide, H-00291
N-Hydroxy-2-methyl-*N*-phenylbenzamide, H-00306
N-Hydroxy-4-methyl-*N*-phenylbenzamide, H-00307
N-Hydroxy-*N*-(4-methylphenyl)-2-butenamide, *in* H-00143
N-Hydroxy-*N*-(3-methylphenyl) decanamide, *in* H-00147
N-Hydroxy-*N*-(4-methylphenyl) decanamide, *in* H-00147
N-Hydroxy-*N*-(4-methylphenyl)-2-furancarboxamide, *in* F-00064
N-Hydroxy-*N*-(3-methylphenyl)-2,4-hexadienamide, *in* H-00185
N-Hydroxy-*N*-(4-methylphenyl) hexanamide, *in* H-00186
1-(2-Hydroxy-5-methylphenyl)-3-(4-hydroxyphenyl)-2-propen-1-one; 4-Me ether, oxime, *in* H-00311
N-Hydroxy-*N*-(4-methylphenyl)-3-nitrobenzamide, *in* N-00090
N-Hydroxy-*N'*-(4-methylphenyl)-*N*-phenylbenzenecarboximidamide, *in* H-00308
N-Hydroxy-*N*-(4-methylphenyl)-*N*-phenylbenzenecarboximidamide, H-00313
3-Hydroxy-2-methyl-1-phenyl-4(1*H*)-pyridinone, H-00315
N-Hydroxy-*N*-(4-methylphenyl) tetradecanamide, H-00316
N-Hydroxy-*N*-(3-methylphenyl)-3-(2-thienyl)-2-propenamide, *in* H-00553
N-Hydroxy-*N*-(4-methylphenyl)-3-(2-thienyl)-2-propenamide, *in* H-00553
2-Hydroxy-1-naphthaldehyde; Oxime, *in* H-00336
▷ *N*-Hydroxy-2-naphthalenecarboxamide, H-00340
N-Hydroxy-*N*-1-naphthalenyldecanamide, H-00359
N-Hydroxy-*N*-1-naphthalenyldodecanamide, H-00360
N-Hydroxy-*N*-1-naphthalenylhexanamide, H-00361
N-Hydroxy-*N*-1-naphthalenyl-4-nitrobenzamide, H-00365
N-Hydroxy-*N*-1-naphthalenylpentanamide, H-00366
N-Hydroxy-*N*-1-naphthalenyltetradecanamide, H-00368
3-Hydroxy-2-naphthohydroxamic acid, *in* H-00370
1-[(2-Hydroxy-5-nitrophenyl)azo]-2-naphthalenol, H-00396
N-Hydroxy-3-nitro-*N*-phenylbenzamide, *in* N-00090
N-Hydroxy-*N*-(4-nitrophenyl)-3-(2-thienyl)-2-propenamide, H-00405
N-Hydroxyoctanamide, H-00424
N-Hydroxy-4-(octyloxy)-*N*-phenylbenzamide, H-00425
6-Hydroxy-5-oxo-5*H*-dibenzo[*a,j*] phenoxazine-8,11-disulfonic acid, H-00432
6-Hydroxy-1,7-phenanthroline, H-00438
N-Hydroxy-*N*-phenyl-2-chlorobenzamide, H-00470
N-Hydroxy-*N*-phenyldecanamide, *in* H-00147
N-Hydroxy-*N*-phenyl-2-furancarboxamide, H-00472
N-Hydroxy-*N*-phenyl-2,4-hexadienamide, *in* H-00185
N-Hydroxy-*N*-phenyl-2-naphthalenecarboxamide, *in* N-00024
N-Hydroxy-*N*-phenylpentanamide, H-00492
N-Hydroxy-*N*-phenyltetradecanamide, H-00504
N-Hydroxy-*N*-phenyl-3-(2-thienyl)-2-propenamide, H-00505
2-(3-Hydroxy-3-phenyl-1-triazenyl)benzoic acid, H-00507
N-Hydroxy-*N*-phenyl-3-(trifluoromethyl) benzamide, H-00511
N-Hydroxy-3-pyridinecarboxamide, *in* P-00341
▷ 8-Hydroxyquinoline, H-00525
8-Hydroxy-5-quinolinesulfonic acid, H-00528
N-Hydroxy-2-thiophenecarboxamide; *N*-(4-Chlorophenyl), *in* H-00554
N-Hydroxy-2-thiophenecarboxamide; *N*-(4-Methylphenyl), *in* H-00554
N-Hydroxy-2-thiophenecarboxamide; *N*-Ph, *in* H-00554
5*H*-Imidazole-4-carboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, I-00002
▷ 2,2'-Iminodibenzoic acid, I-00013
2,3'-Iminodibenzoic acid, I-00014
2,4'-Iminodibenzoic acid, I-00015
Isophthaldihydroxamic acid, *in* B-00019
Isopropylidenehydrazide, *in* A-00007
3-Isopropyl-6-methyl-2-[[5-(1-methylpiperidinyl)-2-pyridinyl]azo] phenol, I-00074
Laurohydroxamic acid, L-00001
▷ Lauryltrimethylammonium(1+); Bromide, *in* L-00002
4-Methoxybenzoic acid [(2,4-dihydroxyphenyl)methylene]hydrazide, M-00080
▷ 2'-Methoxydiphenylamine-2-carboxylic acid, *in* H-00167
p-Methoxy-*N*-phenylcinnamohydroxamic acid, *in* H-00241
3-Methyl-1,2-benzenediol, M-00127
11-Methyl-9*H*-benzo[*a*]phenoxazin-9-one, M-00140
N-Methyldiphenylamine-4-sulfonic acid, M-00166
3,3'-Methylenebis[*N*,6-dihydroxybenzamide], M-00170
5-Methyl-2-(1-methylethyl)-4-(2-pyridinylazo)phenol, M-00198
4-Methyl-2-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]phenol, M-00200
2-Methyl-4-[(4-methyl-2-thiazolyl)azo]-1,3-benzenediol, M-00202
N-(4-Methylphenyl)-2-phenoxyacetohydroxamic acid, M-00235
2-Methyl-4-pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, M-00272
1-[(6-Methyl-2-pyridinyl)azo]-2-naphthalenol; *N*-Oxide, *in* M-00282
2-Methyl-4-(1*H*-1,2,4-triazol-3-ylazo)-1,3-benzenediol, M-00328
N-1-Naphthylphenylacetohydroxamic acid, N-00054
Nevazol NS, N-00067
p-Nitrobenzohydroxamic acid, *in* N-00093
4-Nitrobenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, N-00094
▷ 2'-Nitrodiphenylamine-2-carboxylic acid, N-00106
N-(3-Nitrophenyl)-*β*-oxobenzenepropanamide, N-00140
N'-(3-Chloro-4-methylphenyl)-*N*-(4-chlorophenyl)-*N*-hydroxybenzenecarboximidamide, N-00170
2-Oxo-*N*-phenylcyclopentanecarboxamide, *in* O-00060
▷ Pericyazine, P-00044
Phenosafranine; *N,N,N',N'*-Tetra-Et, chloride, *in* P-00070
1-Phenylazo-2-hydroxy-3-naphthylhydroxamic acid, *in* H-00452
Phenylazoxine S, P-00101
N-Phenylcrotonohydroxamic acid, *in* H-00143
N-Phenyl-4-(phenylazo)benzohydroxamic acid, P-00156
Phthalocyaninetetrasulfonic acid; Tetra-Na salt, *in* P-00231
▷ Piperazine, P-00237
▷ Prochlorperazine, P-00256
3-Pyridinecarboxaldehyde; Hydrazide, *in* P-00319
▷ 2-Pyridinecarboxylic acid, P-00342
2-Pyridinecarboxylic acid; Hydrazide, *in* P-00342
3-Pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, P-00349
4-Pyridinecarboxylic acid [(4-hydroxyphenyl)methylene]hydrazide, P-00350
2-Pyridinethiol *N*-oxide, *in* P-00357
4-(2-Pyridinylazo)-1,3-benzenediol, P-00373
2-Quinolinecarboxamide, *in* Q-00017
Salicylhydroxamic acid, *in* H-00112
▷ Salicyloyl hydrazide, *in* H-00112
Solochrome red ERS, S-00022
Sulfochlorophenol N, S-00043
N-(4-Sulfophenyl)-2-aminobenzoic acid, S-00056
Tetraoctylammonium(1+); Chloride, *in* T-00110
Thymolphthalexon, T-00183
▷ Tiron, T-00186
N-*m*-Tolylcinnamohydroxamic acid, *in* H-00499
N-*o*-Tolylcinnamohydroxamic acid, *in* H-00499
N-*p*-Tolylcinnamohydroxamic acid, *in* H-00499
N-*m*-Tolyl-*o*-iodobenzohydroxamic acid, *in* I-00040
N-*o*-Tolyl-*o*-iodobenzohydroxamic acid, *in* I-00040
N-*p*-Tolyloctanohydroxamic acid, *in* H-00424
Tribenzylamine, T-00201
1,1,1,-Trifluoro-5,5-dimethyl-2,4-hexanedione, T-00244
2,6,7-Trihydroxy-9-(2-hydroxy-5-nitrophenyl)-3*H*-xanthen-3-one, T-00291
2,6,7-Trihydroxy-9-(8-hydroxy-2-quinolinyl)-3*H*-xanthen-3-one, T-00295
2,6,7-Trihydroxy-9-pentadecyl-3*H*-xanthen-3-one, T-00307
2,6,7-Trihydroxy-9-(2-quinoxalinyl)-3*H*-xanthen-3-one, T-00321
Wool fast blue BL; Na salt, *in* W-00002

Zinc

8-Acetoxyquinaldine, *in* H-00326
4-Acetylpyridine 4-ethyl-3-thiosemicarbazone, A-00041
4-Adamantyl-2-(2-hydroxy-1-naphthalenylazo)thiazole, A-00064
4-[(2-Amino-5-bromo-3-pyridinyl)azo]-1,3-benzenediol, A-00124
▷ 5-Amino-1,3,4-thiadiazoline-2(3*H*)-thione, A-00354
Azo-azoxy BN, A-00465
▷ 1,3-Benzenediol, B-00021
8-(Benzenesulfonylamino)quinoline, B-00028
1*H*-Benzimidazole-2-carboxaldehyde 2-quinolinylhydrazone, B-00040
5-(1*H*-Benzimidazol-5-yl)-3-phenyl-1-[1-(phenylmethyl)-1*H*-benzimidazol-2-yl] formazan, B-00049
1-(2-Benzothiazolylazo)-2-naphthalenol, B-00098
10-(2-Benzothiazolylazo)-9-phenanthrenol, B-00099
2-[(4-Benzothiazolylimino)methyl]phenol, B-00104
▷ 1*H*-Benzotriazole, B-00110
4-Benzoyl-2-(2-chlorophenyl)-2,4-dihydro-5-methyl-3*H*-pyrazol-3-one, B-00126
4-Benzoyl-2-(4-chlorophenyl)-2,4-dihydro-5-methyl-3*H*-pyrazol-3-one, B-00127
▷ 2,2′-Bipyridine, B-00220
N,*N*′-Bis(butanesulfonyl)-1,2-benzenediamine, B-00271
Bis(carboxymethyl)dithiocarbamic acid, B-00279
Bis[(2,3-dihydroxyphenyl)methylene] carbonothioic dihydrazide, B-00308
O,*O*-Bis(2-methylpropyl) phosphorodithioate; Na salt, *in* B-00413
1,2-Bis(octanesulfonamido)benzene, B-00436
1,8-Bis(octanesulfonamido)naphthalene, B-00437
3,3′-Bis(trifluoromethyl)dithizone, B-00463
4-Bromo-1,3-benzenediol, B-00486
3-[[4-[(6-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-1-propanesulfonic acid, B-00570
Butanoic acid 2-[1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenyl] hydrazide, B-00605
▷ Cetylcide, *in* E-00071
▷ 4-Chloro-1,3-benzenediol, C-00061
3-Chlorobenzoic acid (1*H*-pyrrol-2-ylmethylene)hydrazide, C-00069
2-Chloro-5-[[5-hydroxy-4-[(2-hydroxy-1-naphthalenyl)azo]-2-methylphenyl]azo] benzenesulfonic acid; Na salt, *in* C-00132
6-Chloro-1-hydroxy-4-nitro-1*H*-benzotriazole, C-00137
2-(2-Chlorophenyl)-2,4-dihydro-5-methyl-4-(2-methylbenzoyl)-3*H*-pyrazol-3-one, C-00210
2-(2-Chlorophenyl)-2,4-dihydro-5-methyl-4-(3-methylbenzoyl)-3*H*-pyrazol-3-one, C-00211
2-(2-Chlorophenyl)-2,4-dihydro-5-methyl-4-(4-methylbenzoyl)-3*H*-pyrazol-3-one, C-00212
2-(2-Chlorophenyl)-2,4-dihydro-5-methyl-4-(2-naphthalenylcarbonyl)-3*H*-pyrazol-3-one, C-00213
Chrome bordeaux B; Di-Na salt, *in* C-00279
Chromopyrazole, C-00286
Deuteroporphyrin IX, D-00030
1,6-Diallyl-2,5-dithiobiurea, D-00040
2,2′-Diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00059
4,4′-Diamino-3,3′-dimethyl-1,1′-binaphthyl, D-00082
Di-2-benzothiazolylmethane, D-00163
O,*O*-Dibutyl phosphorodithioate; K salt, *in* D-00241
O,*O*-Dibutyl phosphorothioate, D-00242
4,4-Dicarboxy-2,2′-diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid, D-00245
▷ *N*,*N*-Diethylaniline, D-00337
2,2′-Difluorodithizone, D-00360
4,4′-Difluorodithizone, D-00361
O,*O*-Dihexyl phosphorodithioate, D-00369
5-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-2,4-dihydroxybenzoic acid, D-00381
3-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, D-00382
3-[(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]-2-hydroxy-5-methylbenzenesulfonic acid; Na salt, *in* D-00437
4,5-Dihydroxy-3-[(3,5-dinitro-2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00581
6,7-Dihydroxy-5-(2-pyridinylazo)-2-naphthalenesulfonic acid; Na salt, *in* D-00724
O,*O*-Diisopentyl phosphorodithioate, D-00746
4,4′-Dimethoxy-2,2′-diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid, *in* D-00572
4,4′-Dimethoxydithizone, D-00775
5-(Dimethylamino)-2-(2-pyridinylazo) phenol, *in* A-00336
(2,5-Dimethylbenzenesulfonylamino) quinoline, D-00833
5,5-Dimethyl-1,3-cyclohexanedione; Bisthiosemicarbazone, *in* D-00847
▷ *O*,*O*-Dimethyl phosphorodithioate, D-00896
1,2-Di-4-morpholinylethane, D-00928
Dinaphthizone, D-00931
4-[(3,5-Dinitro-2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00953
1-[(3,5-Dinitro-2-hydroxyphenyl)azo]-2-naphthol, D-00954
Dioctylamine; *N*-Methyl, *in* D-00981
O,*O*-Dipentyl phosphorodithioate, D-00996
O,*O*-Dipropyl phosphorodithioate, D-01060
Di-2-pyridinylethanedione bis(2-quinolinylhydrazone), D-01067
Di-2-pyridinylmethanone 2-chlorobenzoylhydrazone, D-01074
Di-2-pyridinylmethanone 3-chlorobenzoylhydrazone, D-01075
▷ Dithizone, D-01135
3-Dodecyl-1,5,9,13-tetraazacyclohexadecane, D-01156
6-Dodecyl-1,4,8,11-tetraazacyclotetradecane, D-01158
Eriochrome fast grey RAS; Na salt, *in* E-00014
[1,2-Ethanediylbis[imino(phenylmethylene)]] bisphosphonic acid, E-00031
[Ethylenebis(iminobenzylidene)] diphosphinic acid, E-00074
2-Furancarboxaldehyde 3-bromobenzoylhydrazone, F-00045
2-Furancarboxaldehyde 4-bromobenzoylhydrazone, F-00046
3-(2-Furanyl)-*N*-hydroxy-*N*-(4-methylphenyl)-2-propenamide, *in* F-00053
Glyoxal bis(4-biphenylylthiosemicarbazone), G-00021
Glyoxal bis(4-fluorophenylthiosemicarbazone), G-00026
6,6,7,7,8,8,8-Heptafluoro-2,2-dimethyl-3,5-octanedione, H-00006
1,4,7,10,13,16-Hexathiacyclooctadecane, H-00070
2-Hexylbutanedioic acid; (±)-*form*, *in* H-00073
1-Hydroxyacridine, H-00091
4-Hydroxyacridine, H-00092
2-Hydroxybenzaldehyde guanylhydrazone, H-00105
2-Hydroxybenzoic acid [(2,3-dihydroxyphenyl)methylene]hydrazide, H-00115
4-Hydroxybenzothiazole, H-00126
4-[(2-Hydroxy-3,5-dinitrophenyl)azo]-1,3-benzenediol, H-00160
2-[(2-Hydroxyethyl)imino]methylphenol, H-00179
1-[(2-Hydroxy-4-nitrophenyl)azo]-2-naphthalenol, H-00395
3-Hydroxy-1-(2-nitrophenyl)-3-phenyl-1-triazene, H-00403
▷ 8-Hydroxy-5-nitrosoquinoline, *in* Q-00019
2-[[[(2-Hydroxyphenyl)methylene]amino] methyl]phenol, H-00478
[(2-Hydroxyphenyl)methylene] carbonothioic acid (di-2-pyridinylmethylene) dihydrazide, H-00481
N-(2-Hydroxyphenyl)-1-octanesulfonamide, H-00490
8-Hydroxy-2-phenylquinoline, H-00503
5-[(8-Hydroxy-5-quinolyl)imino-8(5*H*)-quinolone], H-00535
1-(2-Hydroxy-5-sulfophenyl)-3-phenyl-5-(2-carboxyphenyl)formazan, H-00544
8-Hydroxy-7-(2-thiazolylazo)-5-quinolinesulfonic acid, H-00552
2,2′-Isopropylidenebis(4-acetyl-8-hydroxyquinoline), I-00072
N-[[(2-Mercaptophenyl)imino]methyl] phenol, M-00045
Mesoporphyrin IX, M-00061
Mesotetraethylporphine, M-00062
Mesotetraisobutylporphine, M-00063
Mesotetraoctylporphine, M-00064
Mesotetrapropylporphine, M-00065
▷ 2-Methoxyethanol, M-00087
6-Methoxy-3-methyl-2-[[4-(methylphenylamino)phenyl]azo] benzothiazolium(1+); Chloride, *in* M-00091
4-Methoxy-2-[(4-methyl-2-thiazolyl)azo] phenol, *in* M-00318
1,1′-Methylenebis[4-ethyl-3,5-dipropyl-1*H*-pyrazole], M-00171
2,2′-(1-Methyl-1,2-ethanediylidene)bis[*N*-phenylhydrazinecarbothioamide], *in* P-00446
Methylglyoxal 4-dimethylaminoanil, M-00184
4-Methyl-5-(methylamino)-2-(2-pyridinylazo)phenol, *in* A-00253
7-Methyl-2,4-octanedione, M-00209
▷ 2-Methylpropyl acetate, M-00257
6-Methyl-2-pyridinecarboxaldehyde 2-pyridinylhydrazone, M-00268
N-Methyl-5,10,15,20-tetrakis(4-sulfophenyl) porphine, *in* P-00250
1-[(5-Methyl-1,3,4-thiadiazol-2-yl)azo]-2-naphthalenol, M-00313
1-[(4-Methyl-2-thiazolyl)azo]-2-naphthalenol, M-00322
1,2-Naphthoquinone-4-sulfonic acid 2-(phenylthiosemicarbazone); Na salt, *in* N-00037
1-(4-Nitro-2-hydroxybenzeneazo)-2-(β-acetylhydrazino)naphthalene, N-00111
1-(5-Nitro-2-pyridinyl)-3,5-diphenylformazan, N-00149
Octaethylporphyrin, O-00002
1,1,1,5,5,6,6,6-Octafluoro-2,4-hexanedione, O-00003
▷ Orotic acid, O-00045
2-(1-Oxo-2(1*H*)-naphthalenylidene) hydrazinecarbothioamide, *in* N-00031
1,1,1,2,2-Pentafluoro-6,6-dimethyl-3,5-heptanedione, P-00017
4-[[4-(Phenylamino)phenyl]azo] benzenesulfonic acid; Na salt, *in* P-00084
▷ Phenylarsonic acid, P-00090
N,*N*′-1,2-Phenylenebismethanesulfonamide, P-00118
Phenylglyoxal; Mono(2-pyridyl)hydrazone, *in* P-00132

Propanoic acid 2-[1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenyl] hydrazide, P-00264
2(1*H*)-Pyridinone [[(3-methoxyphenyl)azo] phenylmethylene]hydrazone, P-00359
2(1*H*)-Pyridinone [[(4-methoxyphenyl)azo] phenylmethylene]hydrazone, P-00360
2(1*H*)-Pyridinone [[(4-methylphenyl)azo] phenylmethylene]hydrazone, P-00361
2(1*H*)-Pyridinone [[(3-nitrophenyl)azo] phenylmethylene]hydrazone, P-00362
2(1*H*)-Pyridinone [[(4-nitrophenyl)azo] phenylmethylene]hydrazone, P-00363
2(1*H*)-Pyridinone [phenyl(phenylazo) methylene]hydrazone, P-00364
2(1*H*)-Pyridinone [2-phenyl-1-(2-pyridinyl) ethylidene]hydrazone, P-00365
1-(2-Pyridinylazo)-2-naphthalenol, P-00374
2-(2-Pyridinyl)-1*H*-benzimidazole, P-00385
1-[(2-Pyridinylmethylene)amino]-2-naphthalenol, P-00392
2-[(2-Pyridinylmethylene)amino]phenol, P-00393
2-(2-Pyrimidinylazo)-1-naphthalenol, P-00430
2-Quinolinecarboxaldehyde 2-pyridylhydrazone, Q-00012
▷ 2-Quinolinecarboxylic acid, Q-00017
2(1*H*)-Quinolinone [2-phenyl-1-(2-pyridinyl)ethylidene]hydrazone, Q-00023
2-(2-Quinolinylazo)-1-acenaphthylenol, Q-00027
Selenazone, S-00005
Solochrome fast blue B, *in* A-00225
3,3′-Sulfonylbis[*N*-8-quinolylbenzenesulfonamide], S-00055
▷ Tetraethylenepentamine, T-00044
meso-Tetraphenylporphyrin, T-00121
2-[(2-Thienylmethylene)amino]benzenethiol, T-00151
2,2′-Thiobisethanamine; B,2HCl, *in* T-00156
2-Thiophenecarboxaldehyde 2-quinolinylhydrazone, T-00172
1,1,1,-Trifluoro-5,5-dimethyl-2,4-hexanedione, T-00244
1,1,1-Trifluoro-7-methyl-2,4-octanedione, T-00255
4-[(2,4,6-Trihydroxyphenyl)azo]-3-hydroxy-1-naphthalenesulfonic acid, T-00312
Trilaurylammonium chloride, *in* T-00230
Xylenol orange, X-00006

Zirconium

Alizarine orange, A-00080
Alizarine red S; Na salt, *in* A-00081
4-Aminoazobenzene-4′-arsonic acid; *N*-Di-Me, *in* A-00095
4-[(4′-Amino-(1,1′-biphenyl)-4-yl)azo]-1,2-benzenediol, A-00118
▷ 4-Aminophenylarsonic acid, A-00307
Arsenazo II, A-00411
▷ Arsenazo III, A-00412
3-[(2-Arsonophenyl)azo]-6-[(2-arsono-5-chlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00421
3-[(2-Arsonophenyl)azo]-6-[(2-arsono-5-methylphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00422
3-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-4-arsonobenzoic acid, A-00431
3-[(2-Arsonophenyl)azo]-6-[(2-hydroxy-3-nitro-5-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00442
Benzeneseleninic acid; NH_4 salt, *in* B-00024
▷ Benzenesulfinic acid, B-00025
▷ 1,2,4,5-Benzenetetracarboxylic acid, B-00029
▷ 1,2,4-Benzenetricarboxylic acid, B-00032
1,3,5-Benzenetricarboxylic acid, B-00033
▷ Benzoic acid, B-00059
4,4′-Bis(3,4-dihydroxyphenylazo)biphenyl, B-00302
4,4′-Bis(3′,4′-dihydroxyphenylazo)-3,3′-dimethoxybiphenyl, B-00303
Bis(1-*p*-sulfophenyl-2,3-dimethylpyrazol-5-on-4-yl)methane, B-00456
2-[(6-Bromo-2-benzothiazolyl)azo]-5-(diethylamino)phenol, *in* A-00123
3-[(6-Bromo-2-benzothiazolyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00490
2-(4-Bromophenyl)-2-hydroxyacetic acid; (±)-*form*, Na salt, *in* B-00550
4-Catecholylazo-4′-acetylaminobiphenyl, *in* A-00118
3-[(5-Chloro-2-hydroxyphenyl)azo]-6-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00142
3-[(5-Chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00144
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00155
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, C-00156
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00157
3-[(3-Chlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* C-00202
3-[(4-Chlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* C-00203
2-(4-Chlorophenyl)-2-hydroxyacetic acid; (±)-*form*, *in* C-00222
Chromotrope 2B; Di-Na salt, *in* C-00290
O,*O*-Dibutyl phosphorodithioate; K salt, *in* D-00241
2-[4-(Diethylamino)-2-hydroxyphenylazo]-4,6-dinitrophenol, D-00318
Diethyl diethylphosphoramidate, D-00340
Diethylphosphoramidic acid cyclic 1-methyltrimethylene ester, D-00354
Diethylphosphoramidic acid; Diheptyl ester, *in* D-00353
O,*O*-Dihexyl phosphorodithioate, D-00369
2,3-Dihydro-3-hydroxy-4*H*-1-benzopyran-4-one, D-00407
1,2-Dihydro-4-[[(2-hydroxyphenyl) methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00420
[4-[(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]phenyl]arsonic acid, D-00439
3,4-Dihydroxyazobenzene, D-00515
2,4-Dihydroxybenzaldehyde; Semicarbazone, *in* D-00517
2,5-Dihydroxy-1,4-benzoquinone, D-00540
4,5-Dihydroxy-3,6-bis[(2-hydroxy-3-nitro-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00550
4,5-Dihydroxy-3-[4,5-(dimethyl-2-thiazolyl) azo]-2,7-naphthalenedisulfonic acid, D-00579
4,5-Dihydroxy-3-[(3,5-dinitro-2-hydroxyphenyl)azo]-6-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00580
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[2-hydroxy-5-sulfobenzoic acid], D-00589
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bis[4-arsonobenzoic acid], D-00591
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-6-[(2-hydroxy-5-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00615
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-6-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00617
4,5-Dihydroxy-3-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-6-(phenylazo)-2,7-naphthalenedisulfonic acid, D-00623
4,5-Dihydroxy-3-[(4-iodophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00635
▷ 5,7-Dihydroxy-4′-methoxyflavone, D-00641
2-(3′,4′-Dihydroxyphenyl)azo-3-cyano-4-methyl-5-ethoxycarbonylthiophene, *in* C-00326
3-[(2,4-Dihydroxyphenyl)azo]-4-hydroxybenzenesulfonic acid, D-00693
4-(3,4-Dihydroxyphenylazo)-4′-hydroxybiphenyl, D-00695
2-[(3,4-Dihydroxyphenyl)azo]-4-(hydroxymethyl)-5-thiazolecarboxylic acid; Me ester, *in* D-00696
7,8-Dihydroxy-4-phenyl-2*H*-1-benzopyran-2-one, D-00706
6,7-Dihydroxy-4-phenylcoumarin, D-00708
[2-[[(2,4-Dihydroxyphenyl)methylene] amino]phenyl]arsonic acid, D-00711
2-(3,4-Dihydroxyphenyl)-3,5,6,7-tetrahydroxy-4*H*-1-benzopyran-4-one, D-00717
4,5-Dihydroxy-3-[(4-phenyl-2-thiazolyl) azo]-2,7-naphthalenedisulfonic acid, D-00718
4,5-Dihydroxy-3-[(4-sulfo-1-naphthalenyl) azo]-2,7-naphthalenedisulfonic acid, D-00733
▷ 2,3-Dinitrophenol, D-00957
▷ 2,4-Dinitrophenol, D-00958
▷ 2,5-Dinitrophenol, D-00959
▷ 2,6-Dinitrophenol, D-00960
▷ 3,4-Dinitrophenol, D-00961
4-[(2,4-Dinitrophenyl)azo]-1,2-benzenediol, D-00963
[2-[(5-Dodecyl-2-hydroxyphenyl)azo] phenyl]arsonic acid, D-01151
3-[(6-Ethoxy-2-benzothiazolyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, E-00053
Ethylrhodamine B, *in* R-00002
Flavazine L; Na salt, *in* F-00007
Gallocyanine MS, G-00006
Heptylarsonic acid, H-00015
Heptyl tetraethylphosphorodiamidate, *in* T-00046
▷ Hexanedioic acid, H-00062
▷ 1-Hydroxycyclohexanecarboxylic acid, H-00146
8-Hydroxy-5,7-dinitro-2-naphthalenesulfonic acid; Di-Na salt, *in* H-00158
3-Hydroxy-4-[(2-hydroxy-3,5-dinitrophenyl) azo]-2,7-naphthalenedisulfonic acid, H-00198
▷ 4-Hydroxy-3-methoxybenzaldehyde, *in* D-00519
▷ 2-Hydroxy-3-methylbenzoic acid, H-00278
2-Hydroxy-5-methylbenzoic acid, H-00279
[4-[[(5-Hydroxy-3-methyl-1-phenyl)-1*H*-pyrazol-4-yl]azo]phenyl]arsonic acid, H-00314
3-Hydroxy-2-naphthalenecarboxylic acid [[3-hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]hydrazide, H-00341
1-Hydroxy-2-naphthoic acid, H-00369
▷ 4-Hydroxy-3-nitrophenylarsonic acid, H-00392
N-Hydroxy-*N*-nitrosocyclooctylamine, H-00412
N-Hydroxy-*N*-nitroso-2-propanamine, H-00418
▷ 3-Hydroxy-2-phenyl-4*H*-1-benzopyran-4-one, H-00466
[2-[[(2-Hydroxyphenyl)methylene]amino] phenyl]arsonic acid, H-00479
2-Hydroxy-3-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, H-00557
2-Hydroxy-4-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, H-00558
3-Hydroxy-2-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, H-00559
1*H*-Inden-2-ylphosphonic acid, I-00026
Mandelic acid; (±)-*form*, *in* M-00007
4-[(2-Mercaptophenyl)amino]-2-butenoic acid; (*Z*)-*form*, *in* M-00040
▷ 3-Methyl-1-butanol, M-00147

2-Naphthaleneselenic acid; NH_4 salt, *in* N-00014
▷ (1-Naphthyl)acetic acid, N-00040
▷ 3-Nitro-1,2-benzenedicarboxylic acid, N-00085
▷ 2-Nitrobenzoic acid, N-00091
▷ 3-Nitrobenzoic acid, N-00092
3-(2-Nitroso-4-sulfo-1-naphthalenylazo)-4,5-dihydroxynaphthalene-2,7-disulfonic acid, N-00163
▷ Papaverine, P-00005
▷ 2′,3,4′,5,7-Pentahydroxyflavone, P-00024
▷ 3,3′,4′,5′,7-Pentahydroxyflavone, P-00026
3,5,7,3′,4′-Pentahydroxyflavone-6′-sulfonic acid, P-00027
▷ 1-[[4-(Phenylazo)phenyl]azo]-2-naphthalenol, P-00095
2-(3-Phenyl-2-triazenyl)phenol; N^1-Oxide, *in* P-00204
Phthalexon S, P-00221
Primene JM T, P-00255
▷ Purpurogallin, P-00282
3-Pyridine-[2-(hydroxyimino)-1-methylpropylidene]carboxylic acid, P-00355
Pyridoxal; Salicyloylhydrazone, *in* P-00414
Pyrocatechol violet, P-00433
Quercimeritrin, Q-00001
Semixylenol orange, S-00014
Stilbazogall I, S-00029
Stilbazogall II, S-00030
3,4,5,8-Tetrahydroxyanthraquinone-2-sulfonic acid, T-00071
2′,3,5,7-Tetrahydroxyflavone, T-00074
2,3,7,8-Tetrahydroxyphenazine, T-00079
Thorin, T-00177
Tributylacetohydroxamic acid, T-00207
4,4,4-Trifluoro-1-selenophen-2-yl-1,3-butanedione, T-00263
3,4,6-Trihydroxy-5*H*-benzocyclohepten-5-one, T-00275
▷ 3,5,7-Trihydroxyflavone, T-00284
2,6,7-Trihydroxy-9-(3-nitrophenyl)-3*H*-xanthen-3-one, T-00302
2,6,7-Trihydroxy-9-(2-quinolinyl)-3*H*-xanthen-3-one, T-00320
2,6,7-Trihydroxy-9-(2-sulfophenyl)-3*H*-xanthen-3-one, T-00322
2,4,6-Trimethylpyridine, T-00337
Xylenol orange, X-00006

Non-specific metallochromic reagents

4-Acetamidophenylfluorone, *in* A-00328
▷ Acetic acid, A-00006
3-Acetyl-4-hydroxy-2H-1-benzopyran-2-one, A-00017
3-Acetyl-2-methylindole *p*-tolylthiosemicarbazone, A-00022
2-Acetylpyrazine pyrazinylhydrazone, A-00034
2-Acetylpyrazine 2-pyrimidinylhydrazone, A-00035
2-Acetylpyrazine 2-quinolylhydrazone, A-00036
2-Acetylpyrazine; 2-Thiazolylhydrazone, *in* A-00033
2-Acetylpyridine 2-pyrazinylhydrazone, A-00043
2-Acetylpyridine 2-pyrimidinylhydrazone, A-00044
2-Acetylpyridine 2-thiazolylhydrazone, A-00047
Acid chrome blue K; Tri-Na salt, *in* A-00053
▷ Alizarine fluorine blue, A-00076
Alizarine green; Na salt, *in* A-00078
▷ Aluminon, *in* A-00458
▷ 2-Aminobenzoic acid, A-00103
6-Amino-2,3-dihydro-5-nitroso-2-thioxo-4(1*H*)-pyrimidinone, A-00154
▷ 1-Amino-4-hydroxyanthraquinone, A-00182
5-Amino-4-hydroxy-3-[(2-hydroxy-5-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* A-00190
Aminomethylazo III, A-00235
2-(Aminomethyl)-6-hydroxy-9*H*-xanthen-9-one-*N*,*N*-diacetic acid, A-00245
5-Amino-2-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]phenol, A-00252
3-(Aminomethyl)-1,2,7-trihydroxyanthraquinone-*N*,*N*-diacetic acid, A-00260
4-[(4-Amino-1-naphthalenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00275
▷ 2-Aminophenylarsonic acid, A-00306
4-[(6-Amino-3-pyridinyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00335
4-[(2-Amino-7-quinolinyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00342
2-Amino-3-quinoxalinethiol, A-00345
4-Amino-5-thioxo-1,2,4-triazolidin-3-one di-(2-pyridinylmethylene)hydrazone, A-00363
Ammonium pyrrolidine dithiocarbamate, *in* P-00441
7-(4-Antipyrylazo)-8-hydroxyquinoline, A-00393
5-(4-Antipyrylazo)-2-monoethylamino-*p*-cresol, A-00395
Arsenazo B; Di-Na salt, *in* A-00406
▷ Arsenazo III, A-00412
Arsenazo I; Tri-Na salt, *in* A-00410
2-[[7-[(4-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, A-00429
N-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]methyl]-*N*-(carboxymethyl)glycine, A-00430
2-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-5-sulfobenzoic acid, A-00433
3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00434
3-[(2-Arsonophenyl)azo]-6-[(3,5-dinitro-2-hydroxyphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00441
▷ Azorubine; Di Na salt, *in* A-00477
Azothiopyrine, A-00478
▷ 1,2-Benzenediol, B-00020
▷ 1,2,3-Benzenetriol, B-00034
3-[1*H*-Benzimidazol-2-yl[(5-nitro-2-pyridinyl)hydrazono]methyl] benzenesulfonic acid, B-00047
3-[(2-Benzothiazolylhydrazono)-2-pyridinylmethyl]benzenesulfonic acid, B-00102
3-[2-Benzothiazolyl[(5-nitro-2-pyridinyl) hydrazono]methyl]benzenesulfonic acid, B-00107
1-Benzo[*b*]thien-2-yl-4,4,4-trifluoro-1,3-butanedione, B-00109
2-Benzoylacetanilide, *in* O-00069
4-Benzoyl-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, B-00128
4-(Benzoylhydroxyamino)benzoic acid; Me ester, *in* B-00133
N-Benzoyl-*N*-(1-naphthyl)hydroxylamine, B-00138
N-Benzoyl-*N*-phenylhydroxylamine, *in* P-00135
Benzoylpyrazine; 2-Pyrimidinylhydrazone, *in* B-00148
2-Benzoylpyrazine 2-quinolylhydrazone, B-00149
2-Benzoylpyrazine 2-thiazolylhydrazone, B-00150
2-Benzoylpyridine; (*Z*)-Oxime, *in* B-00151
2-Benzoylpyridine 2-pyridylhydrazone, B-00154
2-Benzoylpyridine 2-thiazolylhydrazone, B-00158
5-Benzyl-2-thioxo-4-imidazolidinone, B-00194
2,2′-Biquinoxaline, B-00239
N,*N*′-Bis(*o*-amino-α-phenylbenzylidene) ethylenediamine, B-00250
N,*N*′-Bis[1-(2-aminophenyl)]ethylidene-1,2-ethanediamine, B-00252
3,6-Bis[(2-arsono-4,6-dibromophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00255
3,6-[Bis(3-chloro-2-hydroxy-5-nitrophenyl) azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00282
5-[2,2-Bis(4-dimethylaminophenyl)ethylene] rhodanine, B-00318
Bis(di-2-pyridinylmethylene)carbonimidic dihydrazide, B-00343
1,3-Bis[di(2-pyridyl)methyleneamino]urea, B-00345
▷ *O*,*O*-Bis(2-ethylhexyl) phosphorodithioate, B-00353
Bis(2-hydroxyethyl)carbamodithioic acid; Zn salt (2:1), *in* B-00373
Bis[[3-hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene] carbothioic dihydrazide, B-00376
5-[Bis(2-hydroxy-3-sulfopropyl)amino]-2-[(3,5-dibromo-2-pyridinyl)azo]-4-methylbenzoic acid; Tri-Na salt, *in* B-00395
Bismuthiol II, *in* M-00060
Bis(2-pyridylmethylene)carbonimidic acid dihydrazide, B-00443
Bis(1*H*-tetrazol-5-ylazo)acetic acid; Et ester, di-Na salt, *in* B-00459
▷ Brilliant green; Hydrogen sulfate, *in* B-00479
4-[(2-Bromo-4,5-dihydroxyphenyl)azo] benzenesulfonic acid, B-00504
4-Bromo-2-methylphenyldiazenecarbothioic acid 2-(4-bromo-2-methylphenyl) hydrazide, B-00534
Bromophenol blue, B-00542
Bromophthalexon S, B-00559
2-[(5-Bromo-2-pyridinyl)azo]-5-(diethylamino)phenol, *in* A-00126
2-[(5-Bromo-2-pyridinyl)azo]-5-(dimethylamino)phenol, *in* A-00126
3-[[4-[(5-Bromo-2-pyridinyl)azo]-5-hydroxy-2-methylphenyl]ethylamino]-1-propanesulfonic acid, B-00565
3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]amino]-1-propanesulfonic acid, B-00566
3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]ethylamino]-1-propanesulfonic acid, B-00567
3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-2-hydroxy-1-propanesulfonic acid; Di-Na salt, *in* B-00568
3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-1-propanesulfonic acid, B-00569
Bromopyrogallol red, B-00574
1,4-Butanediamine-*N*,*N*,*N*′,*N*′-tetrakis(methylphosphonic acid), B-00585
2,3-Butanedione bis[4-(4-chloro-3-(trifluoromethyl)phenyl) thiosemicarbazone], B-00591
2,3-Butanedione bis[(2-fluorophenyl) thiosemicarbazone], B-00593
2,3-Butanedione bis[(4-fluorophenyl) thiosemicarbazone], B-00594
2,3-Butanedione bis[(4-nitrophenyl) thiosemicarbazone], B-00596
2,3-Butanedione; Bis(2-pyridylhydrazone), *in* B-00587
2,3-Butanedione bis[(thiobenzoyl) hydrazone], B-00598
2,3-Butanedione bis(2-trifluoromethylphenyl) thiosemicarbazone, B-00599
2,3-Butanedione; Monoxime, semicarbazone, *in* B-00587
2,3-Butanedione; Monoxime, thiosemicarbazone, *in* B-00587
Butylrhodamine B, *in* R-00002
C.I. Mordant black 38, *in* A-00205
Cadion 2B, C-00007

Cadion IREA; Di-Na salt, *in* C-00008
Calcein blue, C-00011
Calcichrome; Tetra-Na salt, *in* C-00012
Calmagite, C-00015
▷ Capri blue; Chloride, *in* C-00017
Carboxybenzene S, C-00028
1-(2-Carboxyphenyl)-5-[1-(2-methoxy-5-sulfophenyl)]-3-phenylformazan, C-00042
▷ Ceplac, *in* E-00020
4-[(5-Chloro-1,2-dihydro-3-hydroxy-2-oxo-4-pyridinyl)azo]benzenesulfonic acid, C-00093
5-Chloro-2-hydroxybenzaldehyde; Oxime, *in* C-00122
3-[(3-Chloro-2-hydroxy-5-nitrophenyl)azo]-6-[(3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00139
6-(5-Chloro-2-hydroxy-4-sulfophenylazo)-5-hydroxy-1-naphthalenesulfonic acid; Di-Na salt, *in* C-00161
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-6-phenylazo-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00162
N-(4-Chlorophenyl)-*N*-hydroxy-3,5-dinitrobenzamide, *in* D-00946
Chlorophosphonazo I, C-00241
Chlorophosphonazo III, C-00242
2-[(5-Chloro-2-pyridinyl)azo]-5-(dimethylamino)phenol, *in* A-00145
3-[[(5-Chloro-2-pyridinyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, C-00257
Chromal blue G; Di-Na salt, *in* C-00275
Chromazurol S; Tri-Na salt, *in* C-00277
Chrome black special; Mono-Na salt, *in* C-00278
Chromoxan violet 5B, C-00295
▷ Crystal violet; Chloride, *in* C-00320
▷ Cupferron, *in* H-00471
3-Cyano-1,5-bis(2-hydroxy-5-sulfophenyl) formazan; Di-Na salt, *in* C-00325
1,2-Cyclodecanedione; Dioxime, *in* C-00331
1,2-Cyclohexanedione bis(2-hydroxybenzoyl)hydrazone, C-00341
1,2-Cyclohexanedione bis(2-pyridylhydrazone), C-00343
1,3-Cyclohexanedione bis(thiosemicarbazone); B, HCl, *in* C-00345
5-(Cyclopentylmethylene)-2-thioxo-4-thiazolidinone, C-00366
▷ 1,2-Diaminoanthraquinone, D-00043
4,4′-Diamino-2,2′-bipyridine, D-00061
4,4′-Diamino-3,3′-dimethoxybiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00078
▷ 3,7-Diamino-2,8-dimethyl-5-phenylphenazinium(1+); Chloride, *in* D-00084
▷ 1,2-Diaminopropane-*N*,*N*,*N*′,*N*′-tetraacetic acid, D-00115
4,4′-Diamino-2,2′-stilbenedisulfonic acid *N*,*N*,*N*′,*N*′-tetraacetic acid, D-00126
1,1-Diantipyrylethane, D-00136
1,1-Diantipyrylmethane, D-00139
Di-4-biphenylylthiocarbazone, D-00175
o,*o*′-Dibromo-*p*,*p*′-dimethyldithizone, D-00184
2,2′-Dibromodithizone, D-00186
4,4′-Dibromodithizone, D-00187
5,7-Dibromo-8-hydroxyquinoline; *N*-Oxide, *in* D-00193
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[ethyl(2-hydroxy-3-sulfopropyl)amino]benzoic acid; Di-Na salt, *in* D-00202
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[ethyl(3-sulfopropyl)amino]benzoic acid; Di-Na salt, *in* D-00203
3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-5-hydroxy-2-methylphenyl]ethylamino]-1-propanesulfonic acid; Di-Na salt, *in* D-00204
3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]amino]-2-hydroxy-1-propanesulfonic acid; Di-Na salt, *in* D-00205
3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]ethylamino]-1-propanesulfonic acid; Di-Na salt, *in* D-00206
3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-1-propanesulfonic acid; Di-Na salt, *in* D-00207
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[(2-hydroxy-3-sulfopropyl)amino]benzoic acid; Di-Na salt, *in* D-00208
2-[(3,5-Dibromo-2-pyridinyl)azo]-4-methyl-5-[(3-sulfopropyl)amino]benzoic acid; Di-Na salt, *in* D-00209
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[(3-sulfopropyl)amino]benzoic acid, *in* A-00148
2-[(3,5-Dibromo-2-pyridyl)azo]-5-(diethylamino)phenol, *in* A-00150
2-(3,5-Dibromo-2-pyridylazo)-4-methyl-5-(*N*-propyl-*N*-sulfopropylamino)aniline; Na salt, *in* D-00213
2-(3,5-Dibromo-2-pyridylazo)-5-(*N*-propyl-*N*-sulfopropylamino)aniline; Na salt, *in* D-00214
Dibutyldiselenocarbamic acid; Na salt, *in* D-00231
4,4′-Dibutyldithizone, D-00233
α-(Dibutylphosphinyl)-α-hydroxybenzeneacetic acid, D-00238
2-(Dibutylphosphinyl)-2-hydroxypropanoic acid, D-00239
3,3′-Dichloro-2,2′-dimethyldithizone, D-00264
4,4′-Dichloro-2,2′-dimethyldithizone, D-00265
5,5′-Dichloro-2,2′-dimethyldithizone, D-00266
2,2′-Dichlorodithizone, D-00270
4,4′-Dichlorodithizone, D-00271
3′,5′-Dichloro-2′-hydroxyacetophenone; Oxime, *in* D-00277
2,4-Dichloro-*N*-hydroxy-*N*-phenylbenzamide, D-00281
▷ Diethazine; B,HCl, *in* D-00312
3-[[4-(Diethylamino)phenyl]azo]-1,4-dimethyl-1*H*-1,2,4-triazolium(1+); Chloride, *in* D-00328
4-Diethylaminophenylfluorone, *in* A-00328
5-[[4-(Diethylamino)phenyl]methylene]-2-thioxo-4-thiazolidinone, D-00334
Diethylammonium diethyldithiocarbamate, *in* D-00344
3,5-Diethyl-2,6-dimercapto-4*H*-thiopyran-4-one, D-00342
Diethyldiselenocarbamic acid; K salt, *in* D-00343
9,10-Dihydro-3,4-dihydroxy-10-imino-9-oxo-2-anthracenesulfonic acid, D-00378
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-2-naphthalenecarboxylic acid, D-00385
1,2-Dihydro-1,5-dimethyl-2-phenyl-4-[(2,4,6-trihydroxyphenyl)azo]-3*H*-pyrazol-3-one, D-00393
1,4-Dihydro-5-hydroxy-1-(4-methylphenyl)-4-oxo-2-pyridinecarboxylic acid; Et ester, *in* D-00411
Dihydro-4-hydroxy-2-(1-methyl-1-piperidinoethyl)-3(2*H*)-furanone, D-00412
1,2-Dihydro-4-[(4-hydroxynaphthalenyl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00416
2,4-Dihydro-5-methyl-2-phenyl-4-(phenylthioxomethyl)-3*H*-pyrazol-3-one, D-00442
▷ 2,4-Dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, D-00443
4-[(4,5-Dihydro-3-methyl-1-phenyl-5-thioxo-1*H*-pyrazol-4-yl)azo] benzenesulfonic acid; Na salt, *in* D-00445
4-[4,5-Dihydro-3-methyl-4-[(4-sulfophenyl) azo]-5-thioxo-1*H*-pyrazol-1-yl] benzenesulfonic acid; Di-Na salt, *in* D-00459
▷ 1,4-Dihydro-2,3-quinoxalinedithione, D-00489
▷ Dihydro-2-thioxo-4,6(1*H*,5*H*)-pyrimidinedione, D-00492
2′,4′-Dihydroxyacetophenone; Thiosemicarbazone, *in* D-00507
3,3′-Dihydroxybenzidine-*N*,*N*,*N*′,*N*′-tetraacetic acid, D-00528
8,8′-Dihydroxy-5,5′-biquinoline, D-00546
4,5-Dihydroxy-3,6-bis[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00548
4,5-Dihydroxy-3,6-bis[(4-hydroxyphenyl) azo]-2,7-naphthalenedisulfonic acid, D-00552
4,5-Dihydroxy-3,6-bis[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00553
4,5-Dihydroxy-3,6-bis[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00557
4,5-Dihydroxy-3,6-bis[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00565
4,5-Dihydroxy-3,6-bis(*p*-tolylazo)-2,7-naphthalenedisulfonic acid, D-00566
2-[[[1,8-Dihydroxy-3,6-disulfo-7-[(4-phenylazo)phenyl]azo]-2-naphthyl]azo]-5-sulfobenzoic acid, D-00606
2′,7′-Dihydroxyfluorescein, D-00613
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-6-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00616
4,5-Dihydroxy-3-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00624
4,5-Dihydroxy-3-[(*p*-nitrophenyl)azo]-6-(phenylazo-2,7-naphthalenedisulfonic acid), D-00667
4-[(2,4-Dihydroxyphenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00691
2-[[1,8-Dihydroxy-7-(phenylazo)-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00692
4-[(2,4-Dihydroxyphenyl)azo]-3-hydroxy-1-naphthalenesulfonic acid, D-00697
4,5-Dihydroxy-3-(phenylazo)-6-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, D-00701
4,5-Dihydroxy-3-(phenylazo)-6-[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00702
2-[(3,4-Dihydroxyphenyl)methylene] hydrazinecarboximidamide, D-00712
4,5-Dihydroxy-3-[(3-pyridinyl)azo]-2,7-naphthalenedisulfonic acid, D-00723
4,5-Dihydroxy-3-[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid; Tri-Na salt, *in* D-00736
4,5-Dihydroxy-3-[(2-thiazolyl)azo]-2,7-naphthalenedisulfonic acid, D-00739
▷ 2,5-Dihydroxy-3-undecyl-1,4-benzoquinone, D-00740
4,4′-Diiododithizone, D-00743
O,*O*-Diisopropyl phosphorodithioate, D-00750
2,6-Dimercapto-3-methyl-4*H*-thiopyran-4-one, D-00758
4-Dimethylamino-2,2′-dihydroxyazobenzene, D-00783
2-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-4,6-dinitrophenol, *in* A-00210
3-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-4-hydroxybenzenesulfonic acid, D-00787
4-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-3-hydroxy-1-naphthalenesulfonic acid, D-00788
2-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-4-methylphenol, *in* A-00197
2-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-4-nitrophenol, *in* A-00213
5-(Dimethylamino)-2-[(5-methylimidazol-4-yl)azo]phenol, D-00789
5-(Dimethylamino)-2-[(5-nitro-2-thiazolyl) azo]phenol, *in* A-00289

▷ *N*-[4-[[4-(Dimethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-*N*-methylmethanaminium(1+); Chloride, *in* D-00812
▷ 5-[[4-(Dimethylamino)phenyl]ethylene]-2-thioxo-4-thiazolidinone, D-00813
5-(Dimethylamino)-2-(8-quinolinylazo) phenol, D-00825
5-(Dimethylamino)-2-(2-thiazolylazo) phenol, *in* A-00214
4,4′-Dimethyl-2,2′-bipyridine, D-00840
Dimethylcarbamodiselenoic acid; Na salt, *in* D-00846
5,5-Dimethyl-1,2,3-cyclohexanetrione; 2-Oxime, 1,3-bisthiosemicarbazone, *in* D-00848
4,4′-Dimethyl-2,2′-diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00849
2,2′-Dimethyldithizone, D-00856
4,4′-Dimethyldithizone, D-00858
▷ Dimethylglyoxime, D-00862
3,8-Dimethyl-1,10-phenanthroline, D-00881
4,7-Dimethyl-1,10-phenanthroline, D-00882
5,6-Dimethyl-1,10-phenanthroline, D-00883
1,3-Dimethyl-4-(phenylazo)-1*H*-pyrazole-5-thiol, D-00887
4,5-Dimethyl-2-(2-pyridinylazo)phenol, D-00910
4-[(3,5-Dinitrobenzoyl)hydroxyamino] benzoic acid methyl ester, *in* D-00946
9-(2,4-Dinitrophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, D-00975
Diphenylcarbazide, D-01004
Diphenylcarbazone, D-01005
2,2′-Diphenyldithizone, D-01009
Diphenylethanedione bis(2-pyridinylhydrazone), D-01012
▷ 1,3-Diphenylguanidine, D-01018
2-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo] benzoic acid, D-01022
2-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo] thiazole, D-01026
4,5-Diphenyl-2-(phenylazo)-1*H*-imidazole, D-01035
Di-2-pyridinylethanedione bis(phenylthiosemicarbazone), *in* D-01063
Di-2-pyridinylethanedione bis(2-pyridinylhydrazone), D-01066
Di-2-pyridinylethanedione mono(2-pyridinylhydrazone), D-01068
Di-2-pyridinylethanedione mono(2-pyrimidinylhydrazone), D-01069
1,2-Di-2-pyridinylethanone 2-pyrimidinylhydrazone, D-01070
Di-2-pyridinylmethanone di-2-pyridinylmethylenehydrazone, D-01076
Di-2-pyridinylmethanone 2-pyridinylhydrazone, D-01080
Di-2-pyridinylmethanone 2-pyrimidinylhydrazone, D-01081
Di-2-pyridinylmethanone 2-quinolinylhydrazone, D-01082
Di-2-pyridinylmethanone 2-thiazolylhydrazone, D-01083
Di-2-pyridinylmethanone thiosemicarbazone, D-01084
4,4′-Disulfodithizone; Di-Na salt, *in* D-01109
1-(1,5-Di-2-thiazolylformazanyl)ethanone, D-01112
▷ Dithizone, D-01135
▷ Eosine; Di-Na salt, *in* E-00007
▷ Eriochrome blue black; Na salt, *in* E-00010
Eriochrome blue SE; Di-Na salt, *in* E-00011
Eriochrome cyanine R; Tri-Na salt, *in* E-00013
Eriochrome red B; Na salt, *in* E-00017
▷ Ethanedithioamide, E-00027
[1,2-Ethanediylbis[nitrilobis[methylene]]] tetrakisphosphonic acid, E-00032
4,4′-(1,2-Ethanediyldinitrilo)bis[(2-pentanone)], E-00037
N-(*o*-Ethoxybenzoyl)phenylhydroxylamine, *in* H-00112
5-Ethoxy-11-methyl-9*H*-benzo[*a*] phenoxazin-9-one, E-00057
2-(Ethylamino)-4-methyl-2-(2-thiazolylazo) phenol, E-00066
3-[Ethyl[5-hydroxy-2-methyl-4-[(4-methyl-2-thiazolyl)azo]]]-1-propanesulfonic acid, E-00092
Ferrozine, F-00006
Formaldoxime, *in* F-00035
2-Furancarboxaldehyde thiosemicarbazone, *in* F-00042
5-(2-Furanylmethylene)-2-thioxo-4-thiazolidinone, F-00056
5-[5-(2-Furanyl)-2,4-pentadienylidene]-2-thioxo-4-thiazolidinone, F-00059
5-[3-(2-Furanyl)-2-propenylidene]-2-thioxo-4-thiazolidinone, F-00061
▷ α-Furildioxime, *in* D-00364
▷ Galactaric acid, G-00001
Gallein, G-00004
Glyoxal bis[3,5-bis(trifluoromethyl) phenylthiosemicarbazone], G-00022
Glyoxal bis(4-cyclohexylthiosemicarbazone), G-00023
Glyoxal bis(3,4-dichlorophenylthiosemicarbazone), G-00024
Glyoxal bis(2-fluorophenylthiosemicarbazone), G-00025
Glyoxal bis(2-hydroxyanil), G-00027
Glyoxal bis[4-(6-methyl-2-benzothiazolyl) phenyl]thiosemicarbazone, G-00030
Glyoxal bis(1-naphthylthiosemicarbazone), G-00031
Glyoxal bis(4-nitrophenylthiosemicarbazone), G-00032
Glyoxal bis(phenylthiosemicarbazone), G-00033
Glyoxal bis[4-(3-trifluoromethyl)-4-chlorophenyl]thiosemicarbazone, G-00035
Glyoxal bis[4-(2-trifluoromethyl)phenyl] thiosemicarbazone, G-00036
4,4′-Heptylidenebis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], H-00017
6,7,13,14,15,16,17,18,24,25,31,32,33,34,35,36-Hexadecahydrotetrabenzo[*e*,*m*,*s*,a_1] [1,4,15,18,8,11,22,25] tetraoxatetraazacyclooctacosine, H-00025
▷ Hexadecyltrimethylammonium(1+), H-00029
Hexahydro-2*H*-azepine-2-thione, H-00036
▷ Hexamethylphosphoric triamide, H-00058
2-Hydroxy-1-acetonaphthonoxime, *in* A-00025
2-Hydroxybenzaldehyde *N*-benzoylhydrazone, H-00104
2-Hydroxybenzaldehyde phenylthiosemicarbazone, H-00107
2-Hydroxybenzaldehyde 1-phthalazinylhydrazone, H-00108
2-Hydroxybenzaldehyde; Semicarbazone, *in* H-00101
▷ *N*-Hydroxybenzamide, H-00109
4-Hydroxybenzoic acid (1,2-dimethyl-1,2-ethanediylidene)dihydrazide, H-00117
2-(2-Hydroxybenzylideneamino)phenol, H-00129
3-(2-Hydroxybenzylideneamino)propanoic acid, H-00130
2-[(2-Hydroxy-3,5-dimethylphenyl)azo]-5-sulfobenzoic acid, H-00152
5-[(2-Hydroxy-3,5-dinitrophenyl)azo]-8-quinolinol 1-oxide, H-00161
4-Hydroxy-3-[(2-hydroxybenzoyl)azo]-1-naphthalenesulfonic acid, H-00188
2-[[3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]-2′-[(2-hydroxyphenyl)methylene]carbothioic acid dihydrazide, H-00219
3-Hydroxy-4-[(2-hydroxy-1-naphthalenyl) azo]-7-nitro-1-naphthalenesulfonic acid, H-00224
4-Hydroxy-3-[[(2-hydroxyphenyl)methylene] amino]benzenesulfonic acid, H-00238
2-[[(Hydroxyimino)phenylmethyl]azo]-1*H*-benzimidazole, H-00250
2-[[(Hydroxyimino)phenylmethyl]azo]-1-(phenylmethyl)-1*H*-benzimidazole, *in* H-00250
▷ 8-Hydroxy-7-iodo-5-quinolinesulfonic acid, H-00255
2-Hydroxy-3-isopropyl-2,4,6-cycloheptatrien-1-one, H-00256
N-Hydroxy-4-methoxybenzenecarbothioamide, H-00265
▷ 2-[(4-Hydroxy-3-methoxyphenyl)methylene] hydrazinecarbothioamide, H-00271
2-Hydroxy-3-methyl-2,4,6-cycloheptatrien-1-one, H-00285
α-(Hydroxymethylene)-2-benzoxazoleacetaldehyde, H-00286
6-Hydroxy-2-methyl-7-oxo-1,3,5-cycloheptatriene-1-carboxylic acid, H-00298
N-Hydroxy-*N*-(2-methylphenyl)benzamide, *in* H-00109
N-Hydroxy-*N*-(3-methylphenyl)benzamide, *in* H-00109
N-Hydroxy-*N*-(4-methylphenyl)-3,5-dinitrobenzamide, *in* D-00946
5-Hydroxy-[6-[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]-1-naphthalenesulfonic acid, H-00320
1-Hydroxy-4-methyl-2(1*H*)-pyridinethione, *in* M-00274
3-Hydroxy-4-[(6-methyl-2-pyridinyl)azo]-2,7-naphthalenedisulfonic acid *N*-oxide; Di-Na salt, *in* H-00324
2-[[3-Hydroxy-4-[methyl-2-thiazolylazo] phenyl]amino]ethanesulfonic acid, H-00329
3-[[3-Hydroxy-4-[(4-methyl-2-thiazolyl)azo] phenyl]amino]-1-propanesulfonic acid, H-00330
N-Hydroxy-1-naphthaleneacetamide, H-00337
8-Hydroxy-7-(1-naphthalenylazo)-5-quinolinesulfonic acid, H-00355
5-[(2-Hydroxy-1-naphthalenyl)methylene]-2-thioxo-4-thiazolidinone, H-00364
2-(2-Hydroxy-3-naphthoylazo)-1-hydroxy-4-naphthalenesulfonic acid, H-00374
2-Hydroxy-5-nitrobenzaldehyde; Oxime, *in* H-00380
N-Hydroxy-*N*-nitrosocyclohexanamine; NH_4 salt, *in* H-00411
1-Hydroxy-2-nitroso-3*H*-naphtho[2,1-*b*] pyran-3-one, H-00416
8-Hydroxy-7-nitroso-5-quinolinesulfonic acid; Na salt, *in* H-00421
2-(3-Hydroxy-4-oxo-4*H*-1-benzopyran-2-yl) benzenesulfonic acid, H-00427
2-[(2-Hydroxyphenyl)azo]-4,5-diphenylimidazole, H-00450
2-[(2-Hydroxyphenyl)azo]-1,5-naphthalenediol, H-00453
N-(3-Hydroxyphenyl)-2-mercaptoacetamide, H-00476
[(2-Hydroxyphenyl)methylene](2-pyridinylmethylene)carbonic dihydrazide, H-00482
[(2-Hydroxyphenyl)methylene](2-pyridinylmethylene)carbonothioic dihydrazide, H-00483
[(4-Hydroxyphenyl)methylene](2-pyridinylmethylene)carbonothioic dihydrazide, H-00484
5-[(2-Hydroxyphenyl)methylene]-2-thioxo-4-thiazolidinone, H-00486
5-[(3-Hydroxyphenyl)methylene]-2-thioxo-4-thiazolidinone, H-00487
N-Hydroxy-*N*-phenyl-1-naphthalenecarboxamide, H-00489
4-(3-Hydroxy-3-phenyl-1-triazenyl) benzenesulfonic acid, H-00506
4-Hydroxy-3-(2-pyridinylazo)-1-naphthalenesulfonic acid, H-00522
▷ 8-Hydroxyquinoline, H-00525
N-Hydroxysuccinamic acid, *in* S-00034

8-Hydroxy-7-[(4-sulfo-1-naphthalenyl)azo]-5-quinolinesulfonic acid; Di-Na salt, *in* H-00539
3-Hydroxy-4-(2-thiazolylazo)-2,7-naphthalenedisulfonic acid, H-00548
6-Hydroxy-5-(2-thiazolylazo)-2-naphthalenesulfonic acid, H-00549
2-[[3-Hydroxy-4-(2-thiazolylazo)phenyl] amino]ethanesulfonic acid, H-00550
3-[[3-Hydroxy-4-(2-thiazolylazo)phenyl] amino]-1-propanesulfonic acid, H-00551
1-Hydroxyxanthone, H-00562
▷ 1-Imino-1*H*-isoindol-3-amine, I-00022
▷ Indigo carmine, *in* I-00029
▷ Indoferron, I-00032
N-(*o*-Iodobenzoyl)phenylhydroxylamine, *in* I-00040
5-(4-Isopropylbenzyl)-2-thioxo-4-thiazolidinone, I-00070
3-Isoquinolinecarboxaldehyde 2-pyrimidinylhydrazone, I-00081
3-Isoquinolinecarboxaldehyde 2-quinolinylhydrazone, I-00082
3-Isoquinolinecarboxaldehyde 8-quinolinylhydrazone, I-00084
3-Isoquinolinecarboxaldehyde 2-thiazolylhydrazone, I-00085
▷ Janus blue; Chloride, *in* J-00002
▷ Lumogallion, L-00015
▷ Malachite green; Chloride, *in* M-00006
▷ Merbromin; Di-Na salt, *in* M-00015
▷ Mercaptoacetic acid, M-00016
▷ 1-Mercaptoanthraquinone, M-00018
α-Mercaptobenzeneacetic acid; (±)-*form*, *in* M-00019
4-Mercapto-1,3-benzenediol, M-00021
3-Mercapto-1,3-diphenyl-2-propen-1-one, M-00030
2-Mercapto-3-(1-naphthalenyl)-2-propenoic acid, M-00037
2-Mercapto-5-phenyl-2,4-pentadienoic acid, M-00046
2-Mercapto-3-phenylpropanoic acid; (±)-*form*, *in* M-00047
2-Mercapto-3-phenyl-2-propenoic acid, M-00049
▷ 5-Mercapto-1,3,4-thiadiazoline-2-thione, M-00060
4-Methoxy-2-[(5-methylimidazol-4-yl)azo] phenol, *in* M-00191
2-Methoxy-6-[[5-(1-methyl)-2-piperidinyl-2-pyridyl]azo]phenol, M-00092
N-(4-Methoxyphenyl)-1,4-benzenediamine, *in* A-00185
▷ 5-[(4-Methoxyphenyl)methylene]-2-thioxo-4-thiazolidinone, M-00113
4-Methoxy-2-(2-thiazolylazo)phenol, *in* T-00139
▷ 4-Methyl-1,2-benzenedithiol, M-00129
2,2′-(3-Methyl-1,2-cyclopentanediylidene) bishydrazinecarbothioamide, *in* M-00159
1-Methyl-2,4-dithiobiuret, *in* T-00163
4,4′-Methylenebis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-thione], M-00169
5,5′-Methylenebis[8-quinolinol], M-00174
Methylglyoxal bis(4-hydroxybenzoylhydrazone), M-00183
Methylglyoxime, *in* P-00446
Methyl green; Bromide chloride, *in* M-00185
1-[(5-Methylimidazol-4-yl)azo]-2-naphthol, M-00192
1-(2-Methylindol-3-ylacetyl)-4-(*p*-methoxyphenyl)thiosemicarbazide, M-00195
▷ 4-Methyl-2-pentanone, M-00218
▷ 4-Methyl-3-penten-2-one, M-00219
5-[(4-Methylphenyl)azo]-8-quinolinol; 1-Oxide, *in* M-00224
Methylphenylpyrazolone oxime, *in* M-00239
2-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-1-naphthalenol, M-00251
5-Methyl-2-(2-pyridinylazo)phenol, M-00284
3-[[(5-Methyl-2-pyridinyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, M-00287
2-Methyl-8-quinolinethiol, M-00307
2-[(4-Methyl-2-quinolinyl)azo]-1-acenaphthylenol, M-00308
4-Methyl-2-(1,3,4-thiadiazol-2-ylazo) phenol, M-00314
5-Methyl-4-(2-thiazolylazo)-1,3-benzenediol, M-00321
2-(4-Methyl-2-thiazolylazo)-5-diethylaminobenzoic acid, *in* A-00258
4-Methyl-2-(2-thiazolylazo)phenol, M-00323
▷ Methylthioninium chloride, *in* M-00175
Methylthymol blue, M-00327
▷ Methyl violet, M-00336
Methyl xylenol blue; Na salt, *in* M-00337
▷ 4-Morpholinecarbodithioic acid, M-00345
4-(*N*-Morpholinophenyl)fluorone, M-00349
Murexide, *in* P-00281
▷ 2,3-Naphthalenediol, N-00010
5-(1-Naphthalenylazo)-8-quinolinol; N^1-Oxide, *in* N-00017
Naphthol violet, N-00030
1,2-Naphthoquinone-4-sulfonic acid; Dioxime, *in* N-00033
1,2-Naphthoquinone-4-sulfonic acid; 2-Semicarbazone, *in* N-00033
1,2-Naphthoquinone-4-sulfonic acid; 2-(Thiosemicarbazone), *in* N-00033
Naphthylazoxine 6S, N-00047
Nile blue A; Chloride, *in* N-00069
Nitron, N-00114
4-[(4-Nitrophenyl)azo]-1,2-benzenediol, N-00122
5-[(4-Nitrophenyl)azo]-8-quinolinol; 1-Oxide, *in* N-00129
5-[(4-Nitrophenyl)azo]-2-thioxo-4-thiazolidinone, N-00132
3-[[(5-Nitro-2-pyridinyl)hydrazono]-3-isoquinolinylmethyl]benzenesulfonic acid, N-00150
3-[[(5-Nitro-2-pyridinyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, N-00151
3-[[(5-Nitro-2-pyridinyl)hydrazono]-2-thiazolylmethyl]benzenesulfonic acid, N-00152
▷ 2-Nitroso-1-naphthol, N-00161
Nitroxaminazo, N-00167
▷ Octanoic acid, O-00036
Orthanil A, O-00046
▷ Oxalic acid, O-00048
Oxine blue†, O-00052
▷ 2′,3,4′,5,7-Pentahydroxyflavone, P-00024
▷ 3,3′,4′,5,7-Pentahydroxyflavone, P-00025
▷ 2,4-Pentanedione, P-00030
2,3-Pentanedione bis[*p*-methoxy(thiobenzoyl)hydrazone], P-00031
▷ Pentetic acid, P-00039
9,10-Phenanthraquinone; Dioxime, *in* P-00047
9,10-Phenanthraquinone; Monothiosemicarbazone, *in* P-00047
6-Phenanthridinecarboxaldehyde 2-pyridylhydrazone, P-00050
▷ 5-(Phenylamino)-1,3,4-thiadiazole-2(3*H*)-thione, P-00087
5-[[4-(Phenylazo)phenyl]azo]-2-thioxo-4-thiazolidinone, P-00096
5-Phenylazo-8-quinolinol; *N*-Oxide, *in* P-00100
1-Phenyl-1,2-ethanedione 2-(2-pyrazinyl) hydrazone, P-00128
▷ Phenylhydrazine, P-00134
4,4′-(Phenylmethylene)bis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], P-00147
5-Phenylmethylene-2-thioxo-4-thiazolidinone, P-00148
N-Phenyloctanohydroxamic acid, *in* H-00424
5-(3-Phenyl-2-propenylidene)-2-thioxo-4-thiazolidinone, P-00171
N-Phenyl-2-pyridinecarboximidic acid (oxodi-2-pyridinylethylidene)hydrazide, P-00175
Phthalimide; Monoxime, *in* P-00223
Picramine K, P-00232
Picramine M, P-00233
1,4-Piperazinedicarbodithioic acid, P-00239
4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakisbenzenesulfonic acid, P-00250
2(1*H*)-Pyrazinone (1,2-dipyrazinylethylidene)hydrazone, P-00287
2(1*H*)-Pyrazinone (1,2-di-2-pyridinylethylidene)hydrazone, P-00288
2(1*H*)-Pyrazinone (di-2-pyridinylmethylene) hydrazone, P-00289
2(1*H*)-Pyrazinone [1-pyrazinyl-2-(2-pyridinyl)ethylidene]hydrazone, P-00291
2(1*H*)-Pyrazinone [2-pyrazinyl-1-(2-pyridinyl)ethylidene]hydrazone, P-00292
2(1*H*)-Pyrazinone [1-(3-pyridazinyl) ethylidene]hydrazone, P-00293
2(1*H*)-Pyrazinone [1-(2-pyridinyl)-2-(4-pyrimidinyl)ethylidene]hydrazone, P-00294
2(1*H*)-Pyrazinone [2-(2-pyridinyl)-1-(4-pyrimidinyl)ethylidene]hydrazone, P-00295
Pyrazinyl-2-pyridinylethanedione 2-(2-pyridinylhydrazone) 1-oxime, P-00298
2-Pyrazinyl-1-(2-pyridinyl)ethanone 2-pyrimidinylhydrazone, P-00300
2-Pyrazinyl-1-(2-pyridinyl)ethanone; 2-Thiazolylhydrazone, *in* P-00299
2-Pyridinecarboxaldehyde 2-benzothiazolylhydrazone; (*Z*)-*form*, *in* P-00321
2-Pyridinecarboxaldehyde (5-chloro-2-pyridinyl)hydrzazone, P-00322
2-Pyridinecarboxaldehyde guanylhydrazone, P-00325
2-Pyridinecarboxaldehyde (2-hydroxybenzoyl)hydrazone, P-00326
2-Pyridinecarboxaldehyde (5-methyl-2-pyridinyl)hydrazone, P-00328
2-Pyridinecarboxaldehyde (5-nitro-2-pyridinyl)hydrazone, P-00330
2-Pyridinecarboxaldehyde 2-pyrazinylhydrazone, P-00333
2-Pyridinecarboxaldehyde 2-pyridylhydrazone; (*E*)-*form*, *in* P-00335
2-Pyridinecarboxaldehyde 2-quinolinylhydrazone, P-00337
2-Pyridinecarboxaldehyde 8-quinolinylhydrazone, P-00339
2-Pyridinecarboxaldehyde; Selenosemicarbazone, *in* P-00318
2-Pyridinecarboxaldehyde 2-thiazolylhydrazone, P-00340
2,6-Pyridinedicarboxylic acid, P-00353
2(1*H*)-Pyridinone (1,2-dipyrazinylethylidene)hydrazone, P-00358
2(1*H*)-Pyridinone (1-pyrazinylethylidene) hydrazone, P-00366
2(1*H*)-Pyridinone [1-pyrazinyl-2-(2-pyridinyl)ethylidene]hydrazone, P-00367
2(1*H*)-Pyridinone [2-pyrazinyl-1-(2-pyridinyl)ethylidene]hydrazone, P-00368
2(1*H*)-Pyridinone [1-(3-pyridazinyl) ethylidene]hydrazone, P-00369
2(1*H*)-Pyridinone [1-(2-pyridinyl)-2-(4-pyrimidinyl)ethylidene]hydrazone, P-00370
2(1*H*)-Pyridinone [2-(2-pyridinyl)-1-(4-pyrimidinyl)ethylidene]hydrazone, P-00371
4-(2-Pyridinylazo)-1,3-benzenediol, P-00373
1-(2-Pyridinylazo)-2-naphthalenol, P-00374
10-(2-Pyridinylazo)-9-phenanthrenol, P-00378
3-(2-Pyridinylcarbonyl)benzenesulfonic acid; 2-Pyridylhydrazone, *in* P-00386
5-[1-(2-Pyridinyl)ethylidene]-2-thioxo-4-imidazolidinone; (*E*)-*form*, *in* P-00389
5-(2-Pyridinylmethylene)-2-thioxo-4-imidazolidinone; (*E*)-*form*, *in* P-00398

N-2-Pyridinyl-2-pyridinecarboximidic acid (oxodi-2-pyridinylethylidene)hydrazide, P-00401
1-(2-Pyridinyl)-2-(3-pyridinyl)ethanone 2-thiazolylhydrazone, P-00403
2-Pyridinyl-4-pyrimidinylethanedione 1-(2-pyridinylhydrazone); 2-Oxime, *in* P-00404
1-(2-Pyridinyl)-2-(2-pyrimidinyl)ethanone; 2-Thiazolylhydrazone, *in* P-00405
Pyrocatechol violet, P-00433
1*H*-Pyrrole-2-carboxaldehyde 8-quinolinylhydrazone, P-00438
5-(1*H*-Pyrrol-2-ylmethylene)-2-thioxo-4-thiazolidinone, P-00445
2-Quinolinecarboxaldehyde 2-pyrimidinylhydrazone, Q-00013
8-Quinolinethiol, Q-00021
2(1*H*)-Quinolinone (phenyl-2-pyridinylmethylene)hydrazone, Q-00024
2(1*H*)-Quinolinone [1-(2-pyridinyl) ethylidene]hydrazone, Q-00025
2(1*H*)-Quinolinone [1-(2-quinolinyl) ethylidene]hydrazone, Q-00026
2-(2-Quinolinylazo)-1-naphthalenol, Q-00030
4-(2-Quinolinylazo)phenol, Q-00032
H-Resorcine, R-00001
Rhodamine B, *in* R-00002
▷ Rhodamine 590; Chloride, *in* R-00003
Rose bengal A; Di-Na salt, *in* R-00011
▷ Rose Bengal B, *in* R-00010
Salicylaldehyde benzoylhydrazone, *in* H-00101
▷ Salicylaldoxime, *in* H-00101
5-Salicylidene-1-acetyl-2-thioimidazole, *in* H-00485
Salinazid, S-00003
Semimethyl thymol blue, S-00011
Sodium diethyldithiocarbamate, *in* D-00344
Solochrome azurine BS, S-00016
Solochrome black PV; Na salt, *in* S-00018
Solochrome fast grey RA, S-00019
Sulfarsazen; Na salt, *in* S-00038
Sulfochlorophenol S, S-00045
Sulfonitrazo, S-00050
Sulfonitrophenol K, S-00051
Sulfonitrophenol M, S-00052
2,2′,3,3′-Tetrachlorodithizone, T-00029
2,2′,4,4′-Tetrachlorodithizone, T-00030
2,2′,5,5′-Tetrachlorodithizone, T-00031
2,2′,6,6′-Tetrachlorodithizone, T-00032
3,3′,4,4′-Tetrachlorodithizone, T-00033
3,3′,5,5′-Tetrachlorodithizone, T-00034
▷ 3,3′,4′,7-Tetrahydroxyflavone, T-00075
▷ Tetraphenylarsonium(1+); Chloride, *in* T-00119
1-(1,3,4-Thiadiazol-2-ylazo)-2-naphthalenol, T-00134
4-(2-Thiazolylazo)-1,2-benzenediol, T-00140
1-(2-Thiazolylazo)-2-naphthalenol, T-00142
▷ Thiourea, T-00175
Thoron II, T-00178
2,4,6-Triamino-5-nitrosopyrimidine, T-00193
1,1,1-Trifluoro-4-mercapto-4-(2-thienyl)-3-buten-2-one, T-00249
4,4,4-Trifluoro-1-(2-thienyl)-1,3-butanedione, T-00264
▷ 3,4,5-Trihydroxybenzoic acid, T-00277
4′,5,7-Trihydroxyflavanone; (*S*)-*form*, *in* T-00281
▷ 4′,5,7-Trihydroxyflavone, T-00285
2,6,7-Trihydroxy-9-(4-hydroxy-5-methoxy-2-nitrophenyl)-3*H*-xanthen-3-one, T-00287
2,6,7-Trihydroxy-9-(4-hydroxy-3-methoxyphenyl)-3*H*-xanthen-3-one, T-00288
2,6,7-Trihydroxy-9-(2-hydroxy-1-naphthalenyl)-3*H*-xanthen-3-one, T-00289
2,6,7-Trihydroxy-9-(2-hydroxy-3-nitrophenyl)-3*H*-xanthen-3-one, T-00290
2,6,7-Trihydroxy-9-(2-hydroxyphenyl)-3*H*-xanthen-3-one, T-00292
2,6,7-Trihydroxy-9-[4-(1-methylethyl) phenyl]-3*H*-xanthen-3-one, T-00298
2,6,7-Trihydroxy-9-methyl-3*H*-xanthen-3-one, T-00299
4-[(2,3,4-Trihydroxyphenyl)azo] benzenesulfonic acid, T-00309
2,6,7-Trihydroxy-9-phenyl-3*H*-xanthen-3-one, T-00315
2,6,7-Trihydroxy-9-(trichloromethyl)-3*H*-xanthen-3-one, T-00323
Trilaurylammonium bromide, *in* T-00230
▷ 2,4,6-Trinitrophenol, T-00355
Tris(1,10-phenanthroline-N^1,N^{10})iron(*II*) (2+), T-00412
Victoria blue B; Chloride, *in* V-00002
Victoria blue 4R; Chloride, *in* V-00003
Xylenol orange, X-00006

Analyte - Organic molecule

Alcohol (not phenol)

▷ Acetone, A-00007
Acetyl methanesulfonate, A-00020
9-Anthracenecarbonyl chloride, *in* A-00378
(Azidocarbonyl)ferrocene, A-00459
(3-Azido-3-oxopropyl)ferrocene, A-00461
Azobenzene-4-carboxylic acid; Chloride, *in* A-00467
▷ 1*H*,3*H*-Benzo[1,2-*c*:4,5-*c*']difuran-1,3,5,7-tetrone, *in* B-00029
1-Bromomethyl-2,4-dinitrobenzene, B-00522
N-(*tert*-Butyldimethylsilyl)-*N*-methylacetamide, B-00629
2,3-Butylene chlorophosphate, *in* C-00099
Camphor-10-sulfonic acid; (+)-*form*, Chloride, *in* C-00016
2-(4-Carboxyphenyl)-5,6-dimethylbenzimidazole, C-00040
7-(Chlorocarbonylmethoxy)-4-methylcoumarin, C-00077
Chlorodimethyl(pentafluorophenyl)silane, C-00100
▷ 2-Chloro-1,3,2-dioxaphosphorinane, C-00110
▷ Chlorotriphenylmethane, C-00269
Chrysanthemic acid; (1*R*,3*R*)-*form*, Chloride, *in* C-00296
3-(1-Cyano-2*H*-isoindol-2-yl)benzoyl azide, C-00329
Diacetoxydimethylsilane, D-00031
4-(Diazomethyl)-7-methoxy-2*H*-1-benzopyran-2-one, D-00150
▷ 2,4'-Dibromoacetophenone, D-00176
(3,5-Dichlorophenyl)dihydroxyborane, D-00295
(Diethylamino)dimethyl(pentafluorophenyl) silane, D-00316
3,4-Dihydro-6,7-dimethoxy-4-methyl-3-oxo-2-quinoxalinecarbonyl azide, *in* D-00379
3,4-Dihydro-6,7-dimethoxy-4-methyl-3-oxo-2-quinoxalinecarbonyl chloride, *in* D-00379
4'-Dimethylaminoazobenzene-4-sulfonyl chloride, *in* M-00210
2-[[5-(Dimethylamino)-1-naphthalenyl] sulfonyl]ethyl carbonochloridate, D-00800
4-(Dimethylamino)-α-oxo-1-naphthaleneacetonitrile, D-00807
1,1-Dimethyl-1-(pentafluorophenyl) silanamine, D-00878
▷ 2,4-Dinitrobenzenesulfenyl chloride, D-00943
3,5-Dinitrobenzoic acid, D-00948
3,5-Dinitrobenzoic acid; Anhydride, *in* D-00948
▷ 3,5-Dinitrobenzoic acid; Chloride, *in* D-00948
Drimanoyl chloride, *in* D-01159
Fluorescin; Di-Ac, *in* F-00022
▷ 4-Fluorobenzoic acid; Chloride, *in* F-00024
Heptafluorobutanoic acid; Anhydride, *in* H-00004
▷ 1,1,1,3,3,3-Hexafluoro-2-propanone, H-00033
3-Hydroxyandrost-5-ene-17-carboxylic acid; (3β,17β)-*form*, Ac, chloride, *in* H-00098
2'-Hydroxy-[1,1'-binaphthalene]-2-carboxylic acid; (*S*)-*form*, Me ether, chloride, *in* H-00131
7-Hydroxy-2-oxo-2*H*-1-benzopyran-3-carboxylic acid; Me ether, chloride, *in* H-00426
2-Hydroxy-2-phenyl-3,3,3-trifluoropropanoic acid; (*S*)-*form*, Me ether, *in* H-00512
2-Hydroxy-2-phenyl-3,3,3-trifluoropropanoic acid; (*R*)-*form*, Me ether, chloride, *in* H-00512
▷ 2-Hydroxypropanoic acid, H-00516
2-Isocyanatoanthracene, I-00059
4-Isocyanato-1,1'-biphenyl, I-00060
2-Isocyanato-9*H*-fluorene, I-00061
2-Isocyanato-1-[(4-methylphenyl)sulfonyl] pyrrolidine, I-00062
▷ 1-Isocyanatonaphthalene, I-00064
2-(4-Isocyanatophenyl)-6-methylbenzothiazole, I-00065
(1-Isocyanoethyl)benzene; (*R*)-*form*, *in* I-00067
▷ Isopropenyl acetate, *in* P-00270
Luminarin 4, L-00013
3-Menthoxyacetic acid; (−)-*form*, *in* M-00013
3-Menthoxyacetic acid; (−)-*form*, Chloride, *in* M-00013
7-Methoxycoumarin-3-carboxylic acid, *in* H-00426
7-Methoxy-2-oxo-2*H*-1-benzopyran-3-carbonyl azide, *in* H-00426
7-Methoxy-2-oxo-2*H*-1-benzopyran-4-carbonyl azide, M-00097
α-Methoxy-α-(trifluoromethyl) benzeneacetic acid, *in* H-00512
1-[4-(6-Methyl-2-benzothiazolyl)phenyl]-1*H*-pyrrole-2,5-dione, M-00143
2'-Methyl-α-oxo-[1,1'-binaphthalene]-2-acetonitrile, M-00212
▷ *N*-Methyl-*N*-(trimethylsilyl) trifluoroacetamide, M-00332
4'-Nitro-4-azobenzenecarboxylic acid; Chloride, *in* N-00080
▷ 4-Nitrobenzoic acid; Chloride, *in* N-00093
4-Nitro-1,3-isobenzofurandione, *in* N-00085
Octadecanoic acid; Anhydride, *in* O-00001
1-(1-Oxo-2-phenylbutyl)-1*H*-imidazole; (+)-*form*, *in* O-00066
1-Phenylethylamine; (*R*)-*form*, *in* P-00130
▷ Phenyl isocyanate, P-00138
2-Phenylpropanoic acid; (±)-*form*, Chloride, *in* P-00167
2-(Phenylseleno)propanoic acid, P-00191
N-Phenyl-*N*-(trimethylsilyl)acetamide, P-00210
▷ Phthalic anhydride, P-00222
3-(2-Phthalimidyl)benzoyl azide, P-00225
4-(2-Phthalimidyl)benzoyl azide, P-00226
3-(2-Phthalimidyl)benzoyl chloride, P-00227
4-(2-Phthalimidyl)benzoyl chloride, P-00228
3-(2-Phthalimidyl)-4-methoxybenzoyl chloride, P-00229
2-Propylcyclohexanone; (*S*)-*form*, *in* P-00275
▷ 2-Pyrrolidinone, P-00443
γ-Saccharin chloride, *in* C-00062
▷ Trichloroacetyl isocyanate, T-00220
[(Trifluoroacetyl)amino]acetyl chloride, *in* T-00240
2,2,2-Trifluoro-1-phenylethylamine; (*S*)-*form*, *in* T-00261
4-(Triphenylmethyl)phenyl isocyanate, T-00369
Trolox C; (*S*)-*form*, Me ether, *in* T-00430

Aldehyde

2-Aminobenzaldehyde, A-00096
▷ 2-Aminobiphenyl, A-00116
3-(Aminocarbonyl)-1,4-dimethylpyridinium(1+); Chloride, *in* A-00133
4-Amino-3-hydrazino-5-mercapto-1,2,4-triazole, A-00181
▷ 7-Amino-4-hydroxy-2-naphthalenesulfonic acid, A-00204
▷ Aminooxoacetic acid hydrazide, A-00291
4-Amino-3-penten-2-one, A-00294
1-Anthracenecarboxylic acid; Hydrazide, *in* A-00376
2-Anthracenecarboxylic acid; Hydrazide, *in* A-00377
O-(1-Anthracenylmethyl)hydroxylamine, A-00384
O-(2-Anthracenylmethyl)hydroxylamine, A-00385
O-(9-Anthracenylmethyl)hydroxylamine, A-00386
▷ 1,3,5-Benzenetriol, B-00036
O-Benzylhydroxylamine, B-00184
▷ 2-Biphenylol, B-00210
▷ 4-Biphenylol, B-00211
2,3-Butanediol; (2*R*,3*R*)-*form*, *in* B-00586
▷ 1,3-Cyclohexanedione, C-00338
Dabsyl hydrazine, *in* M-00210
Dansylhydrazine, *in* A-00265
▷ 1,2-Diaminonaphthalene, D-00105
2-(Diethylamino)benzoic acid hydrazide, D-00315
6-(Diethylamino)-2-naphthalenesulfonic acid hydrazide, D-00325
7-(Diethylamino)-2-oxo-2*H*-1-benzopyran-3-carboxylic acid hydrazide, D-00326
2,3-Dihydro-1,4-benzodioxin-6,7-diamine, D-00371
4-(4,5-Dihydro-3-phenyl-1*H*-pyrazol-1-yl) benzenesulfonic acid hydrazide, D-00469
N,*N*'-Dihydroxy-2,3-dimethyl-2,3-butanediamine, D-00578
2-(Diisopropylamino)benzoic acid hydrazide, D-00747
4,5-Dimethoxy-1,2-benzenediamine, *in* D-00049
2-(Dimethylamino)benzoic acid hydrazide, D-00780
N,*N*'-Dimethyl-1,2-bis[3-(trifluoromethyl) phenyl]-1,2-ethanediamine; (*R*,*R*)-*form*, *in* D-00843
▷ 1,1-Dimethylhydrazine, D-00864
▷ (2,4-Dinitrophenyl)hydrazine, D-00972
Diphenadione; 1-Hydrazone, *in* D-00997
▷ *N*,*N*'-Diphenyl-1,2-ethanediamine, D-01011
2,2'-Dithiobis[1-naphthaleneamine], D-01118
▷ Dodecylamine, D-01142
▷ Ephedrine, *in* M-00122
▷ 1,2-Ethanedithiol, E-00028
▷ 1,6-Hexanediamine, H-00061
7-Hydrazino-4-benzofurazansulfonamide, H-00081
7-Hydrazino-4-benzofurazansulfonamide; *N*,*N*-Di-Me, *in* H-00081
4-Hydrazinobenzoic acid, H-00082
4-Hydrazino-7-nitrobenzofurazan, H-00084
2-Hydroxycarbazole, H-00144
Mansylhydrazine, *in* M-00222
▷ MBTH, *in* B-00090
▷ 2-Methylamino-1-phenyl-1-propanol; (1*S*,2*R*)-*form*, *in* M-00122
▷ 5-Methyl-1,3-benzenediol, M-00128
[[4-(5-Methyl-2-benzothiazolyl)phenyl] amino]acetohydrazide, M-00142
▷ 2-Methyl-2,4-pentanediol, M-00217
▷ 1,3-Naphthalenediol, N-00008
O-(*p*-Nitrobenzyl)hydroxylamine, N-00099
▷ (4-Nitrophenyl)hydrazine, N-00138
O-(Pentafluorobenzyl)hydroxylamine; B, HCl, *in* P-00016
▷ (Pentafluorophenyl)hydrazine, P-00020
2-[(4-Phenylazo)phenyl]hydrazinesulfonic acid, P-00097
▷ Phenylhydrazine, P-00134
2-[(Phenylmethyl)amino]ethanol, P-00144
4-Phenylsemicarbazide, P-00193
2-Picoline methiodide, *in* M-00264
Propanal (3-phenyl-2-quinoxalinyl) hydrazone, P-00260
O-Propylhydroxylamine, P-00277
2,2,5,5-Tetrakis(carboxymethylthio)-*p*-dithiane, T-00082

Alkene

▷ 3-Chloroperbenzoic acid, C-00193
▷ 1,3-Dibromo-5,5-dimethyl-2,4-imidazolidinedione, D-00185
▷ Dimethylamine, D-00777

5-(Dimethylamino)-1-naphthalenesulfonyl azide, D-00795
2,4-Dinitrobenzenediazonium(1+); Tetrafluoroborate(1−), *in* D-00938
▷ 1-Dodecanethiol, D-01140
▷ Morpholine, M-00344
Peroxydodecanoic acid, P-00045
2,2′,4,4′-Tetranitrobiphenyl, T-00107
▷ Tetranitromethane, T-00108

Amine

▷ Acetone, A-00007
8-(Acetyloxy)-1,3,6-pyrenetrisulfonyl trichloride, *in* H-00517
Aconitic acid; (*E*)-*form*, *in* A-00061
▷ 4-Amino-5-hydroxy-2,7-naphthalenedisulfonic acid, A-00200
2,3-Anthracenedicarboxaldehyde, A-00379
2-(9-Anthracenyl)ethyl carbonochloridate, A-00383
Azobenzene-4-carboxylic acid; Chloride, *in* A-00467
▷ 1*H*,3*H*-Benzo[1,2-*c*:4,5-*c*′]difuran-1,3,5,7-tetrone, *in* B-00029
▷ 4*H*-1-Benzopyran-4-one, B-00072
▷ 1,4-Benzoquinone, B-00076
(2,1,3-Benzothiadiazole-S^2) dicarbonylchlororhodium, B-00085
3-Benzoyl-2-quinolinecarboxaldehyde, B-00160
▷ Bindone, B-00205
1,2-Bis(3,4-dimethoxyphenyl)-1,2-ethanediamine; (*RS*,*SR*)-*form*, *in* B-00311
1,2-Bis(4-ethoxyphenyl)-1,2-ethanediamine; (*RS*,*SR*)-*form*, *in* B-00350
[Bis(trifluoroacetoxy)iodo]benzene, B-00462
9-(Bromomethyl)acridine, B-00516
4-Bromo-1-naphthalenediazonium(1+); Chloride, *in* B-00536
3-Bromo-2-nitroso-1-naphthalenol, *in* B-00537
▷ 2-Bromopropane, B-00560
Camphor-10-sulfonic acid; (+)-*form*, Chloride, *in* C-00016
▷ Carbon disulfide, C-00023
9-Chloroacridine, C-00057
▷ 1-Chloro-4-(chloromethyl)benzene, C-00080
5-Chloro-2-[7-(diethylamino)-2-oxo-2*H*-1-benzopyran-3-yl]-6-benzoxazolesulfonic acid, C-00091
Chlorodimethyl(pentafluorophenyl)silane, C-00100
▷ 1-Chloro-2,4-dinitrobenzene, C-00106
2-Chloro-3,5-dinitropyridine, C-00107
▷ 2-Chloro-1,3-dinitro-5-(trifluoromethyl) benzene, C-00108
9-Chloro-10-methylacridinium(1+); Trifluoromethanesulfonate, *in* C-00170
▷ 4-Chloro-7-nitrobenzofurazan, C-00189
▷ 2-Chloro-1,3,5-trinitrobenzene, C-00268
Chrysanthemic acid; (1*R*,3*R*)-*form*, Chloride, *in* C-00296
Cinnamamide; Anhydride, *in* P-00169
▷ Cycloheptanone, C-00334
▷ Cyclopentanone, C-00364
Dansylproline; (*S*)-*form*, *in* D-00001
1,2-Diacetylbenzene, D-00032
▷ 2,6-Diaminopyridine, D-00119
▷ Dibenzoyl peroxide, D-00165
5-(Dibutylamino)-1-naphthalenesulfonyl chloride, D-00224
▷ 2,3-Dichloro-5,6-dicyano-1,4-benzoquinone, D-00260
6,9-Dichloro-2-methoxy-10-methylacridinium(1+); Trifluoromethanesulfonate, *in* D-00284
▷ 2,3-Dichloro-1,4-naphthoquinone, D-00286
(3,5-Dichlorophenyl)dihydroxyborane, D-00295
5-[(4,6-Dichloro-1,3,5-triazin-2-yl)amino]-3′,6′-dihydroxyspiro[isobenzofuran-1(3*H*),9′-[9*H*]xanthen]-3-one, D-00304
(Diethylamino)dimethyl(pentafluorophenyl) silane, D-00316
▷ Diethyl dicarbonate, *in* D-00243
3,4-Dihydro-6,7-dimethoxy-4-methyl-3-oxo-2-quinoxalinecarbonyl chloride, *in* D-00379
2,3-Dihydro-2-hydroxy-4*H*-1-benzopyran-4-one, D-00406
9,10-Dimethoxy-2-anthracenesulfonic acid, D-00765
1,1-Dimethoxy-*N*,*N*-dimethylmethylamine, D-00774
4′-Dimethylaminoazobenzene-4-sulfonyl chloride, *in* M-00210
▷ 4-(Dimethylamino)benzaldehyde, D-00779
5-(Dimethylamino)-1-naphthalenesulfinic acid, D-00794
7-(Dimethylamino)-2-oxo-2*H*-1-benzopyran-3-carbonyl fluoride, D-00805
3-[[7-(Dimethylamino)-2-oxo-2*H*-1-benzopyran-3-yl]carbonyl]-2(3*H*)-oxazolone, D-00806
5-[(4-Dimethylamino)phenyl]-2,4-pentadienal; (*E*,*E*)-*form*, *in* D-00821
1,1-Dimethyl-1-(pentafluorophenyl) silanamine, D-00878
▷ *N*,*N*-Dimethyl-1,4-phenylenediamine, *in* D-00048
2,2-Dimethylpropanal, D-00897
▷ 2,4-Dinitrobenzenesulfenyl chloride, D-00943
▷ 2,4-Dinitrobenzenesulfonic acid, D-00944
▷ 3,5-Dinitrobenzoic acid; Chloride, *in* D-00948
1,2-Dinitro-1,2-diphenylethylene, D-00952
[3-[(2,5-Dioxo-1-pyrrolidinyl)oxy]-3-oxopropyl]ferrocene, D-00995
1,2-Diphenyl-1,2-ethanediamine; (1*RS*,2*RS*)-*form*, *in* D-01010
2,3-Diphenylquinolizinium(1+); Bromide, *in* D-01048
▷ 2,2-Diphenyl-1-(2,4,6-trinitrophenyl) hydrazyl, D-01057
3-(2-Dodecenyl)dihydro-2,5-furandione, D-01141
Drimanoyl chloride, *in* D-01159
▷ Ethanethiol, E-00039
9-Ethoxy-10-methylacridinium(1+); Trifluoromethanesulfonate, *in* E-00056
▷ Ethyl chloroformate, E-00068
Ethyl oxanilate, *in* O-00048
Flunoxaprofen; (±)-*form*, Chloride, *in* F-00008
▷ 9*H*-Fluorene-2-carboxaldehyde, F-00012
1-(9*H*-Fluoren-9-yl)ethyl carbonochloridate; (+)-*form*, *in* F-00017
Fluorescamine, F-00019
Fluorescin; Di-Ac, *in* F-00022
▷ 4-Fluorobenzoic acid; Chloride, *in* F-00024
▷ 1-Fluoro-2,4-dinitrobenzene, F-00027
4-Fluoro-7-nitrobenzofurazan, F-00030
1-Fluoro-2-nitro-4-(trifluoromethyl) benzene, F-00032
▷ 2-Furancarboxaldehyde, F-00042
Glycylproline; (*S*)-*form*, *N*-Benzyloxycarbonyl, *in* G-00020
Heptafluorobutanoic acid; Anhydride, *in* H-00004
1-(2,2,3,3,4,4,4-Heptafluoro-1-oxobutyl)-1*H*-imidazole, H-00009
▷ 2,5-Hexanedione, H-00063
(2-Hydroxybenzaldehydato-*O*,*O*′) diphenylboron, H-00100
2′-Hydroxy-[1,1′-binaphthalene]-2-carboxylic acid; (*S*)-*form*, Me ether, chloride, *in* H-00131
▷ 4-Hydroxy-3,5-dimethoxybenzaldehyde, *in* T-00273
4-Hydroxydinaphtho[2,1-*d*:1′,2′-*f*][1,3,2] dioxaphosphepin 4-oxide, H-00153
▷ 4-Hydroxy-3-methoxybenzaldehyde, *in* D-00519
1-[[(4-Hydroxy-3-methoxyphenyl)acetyl] oxy]-2,5-pyrrolidinedione, H-00269
7-Hydroxy-2-oxo-2*H*-1-benzopyran-3-carboxylic acid, H-00426
1-[3-(4-Hydroxyphenyl)-1-oxopropoxy]-2,5-pyrrolidinedione, H-00491
2-Hydroxy-2-phenyl-3,3,3-trifluoropropanoic acid; (*S*)-*form*, Me ether, *in* H-00512
2-Hydroxy-2-phenyl-3,3,3-trifluoropropanoic acid; (*R*)-*form*, Me ether, chloride, *in* H-00512
4-Iodobenzenesulfonyl chloride, *in* I-00039
2-Isocyanato-1-[(4-methylphenyl)sulfonyl] pyrrolidine, I-00062
▷ 2-Isocyanato-2-methylpropane, I-00063
▷ 1-Isocyanatonaphthalene, I-00064
2-(4-Isocyanatophenyl)-6-methylbenzothiazole, I-00065
▷ 1-Isocyanato-3-(trifluoromethyl)benzene, I-00066
(1-Isocyanoethyl)benzene; (*R*)-*form*, *in* I-00067
9-Isothiocyanatoacridine, I-00091
1-(Isothiocyanatomethyl)-1*H*-indole-2,3-dione, I-00096
1-Isothiocyanatopyrene, I-00100
Leucylalanine; (*S*,*S*)-*form*, *in* L-00005
▷ 2-Mercaptoethanol, M-00031
3-Mercapto-1-propanol, M-00053
▷ 4-Methoxybenzaldehyde, M-00075
α-Methoxybenzeneacetyl chloride, *in* M-00007
7-Methoxycoumarin-3-carboxylic acid, *in* H-00426
2-Methoxy-2,4-diphenyl-3(2*H*)-furanone, M-00086
9-Methoxy-10-methylacridinium(1+); Trifluoromethanesulfonate, *in* M-00088
7-Methoxy-2-oxo-2*H*-1-benzopyran-3-carbonyl fluoride, *in* H-00426
3-[(7-Methoxy-2-oxo-2*H*-1-benzopyran-3-yl)carbonyl]-2(3*H*)-oxazolone, M-00098
1-[(Methoxyphenylacetyl)oxy]-2,5-pyrrolidinedione; (*S*)-*form*, *in* M-00105
8-Methoxy-5-quinolinesulfonyl chloride, M-00121
α-Methoxy-α-(trifluoromethyl) benzeneacetic acid, *in* H-00512
3-Methylbenzoic acid; Chloride, *in* M-00137
▷ 3-Methyl-1-butyl nitrite, M-00151
▷ Methylphosphonothioic dichloride, M-00246
▷ *N*-Methyl-*N*-(trimethylsilyl) trifluoroacetamide, M-00332
2-Naphthalenesulfonic acid; Chloride, *in* N-00015
1-[[[[1-(1-Naphthalenyl)ethyl]amino] carbonyl]oxy]-2,5-pyrrolidinedione, N-00019
▷ 1,2-Naphthoquinone-4-sulfonic acid, N-00033
2-Naphthyl chloroformate, N-00048
1-[[(1-Napthalenylamino)carbonyl]oxy]-2,5-pyrrolidinedione, N-00058
4′-Nitro-4-azobenzenecarboxylic acid; Chloride, *in* N-00080
4-Nitrobenzenediazonium(1+); Tetrafluoroborate, *in* N-00084
▷ 2-Nitrobenzenesulfenyl chloride, N-00088
2-Nitro-1,3-indanedione, N-00112
2-Oxo-2*H*-1-benzopyran-6-sulfonyl chloride, *in* O-00057
2-Oxo-3-butynoic acid; Et ester, *in* O-00058
2-Oxo-3-butynoic acid; Isopropyl ester, *in* O-00058
1-(1-Oxo-2-phenylbutyl)-1*H*-imidazole; (+)-*form*, *in* O-00066
1-(1-Oxopropoxy)-2,5-pyrrolidinedione, *in* P-00442
Pentadecafluoroctanal, P-00007
Pentafluorobenzaldehyde, P-00010
1-[[1-(Pentafluorobenzoyl)-2-pyrrolidinyl] carbonyl]-1*H*-imidazole; (*S*)-*form*, *in* P-00013
Pentafluorobenzyl chloroformate, P-00015
2,3,4,5,6-Pentafluoro-α-methoxy-α-methylbenzeneacetic acid; (*S*)-*form*, *in* P-00019
2-Pentenedial, P-00038
1-[[(Phenylamino)carbonyl]oxy]-2,5-pyrrolidinedione, P-00081

5-[[4-(Phenylamino)phenyl]imino]-2(5*H*)-furanone, P-00085
▷ Phenyl isocyanate, P-00138
7-(Phenyloxy)-4-benzofurazansulfonyl fluoride, P-00153
3-(2-Phthalimidyl)benzoyl chloride, P-00227
4-(2-Phthalimidyl)benzoyl chloride, P-00228
3-(2-Phthalimidyl)-4-methoxybenzoyl chloride, P-00229
▷ Polygodial, *in* D-01160
1*H*-Pyrazolo[3,4-*d*]pyrimidine-4,6(5*H*,7*H*)-dione, P-00302
1-Pyrenecarboxaldehyde, P-00306
1-Pyrenecarboxylic acid, P-00307
1-Pyrenesulfonic acid; Chloride, *in* P-00309
5-(4-Pyridinyl)-2-thiophenecarboxaldehyde, P-00409
N-Succinimidoyl tetrathiafulvalene-2-carboxylate, S-00035
▷ Tetrachloro-1,4-benzoquinone, T-00025
▷ Tetracyanoethylene, T-00037
▷ Tetracyanoquinodimethane, T-00038
1,2,3,4-Tetrahydrobenzo[*h*]quinolin-3-ol, T-00051
Texas red, T-00133
▷ 2-Thiophenecarboxaldehyde, T-00169
2,4,6-Triaminopyrimidine, T-00194
2,4,6-Tribromophenyl chloroformate, T-00206
▷ Trichloroacetic acid; Chloride, *in* T-00218
2,2,2-Trichloro-*tert*-butyloxycarbonyl chloride, T-00221
▷ 2,2,2-Trichloroethyl chloroformate, T-00223
▷ Trifluoroacetic acid, T-00239
▷ Trifluoroacetic acid; Anhydride, *in* T-00239
3-(Trifluoroacetyl)-4-thiazolidinecarboxylic acid; (*S*)-*form*, Chloride, *in* T-00243
4-(Trifluoromethyl)benzoic acid; Chloride, *in* T-00253
▷ 2,4,6-Trinitrobenzenesulfonic acid, T-00351
4,5,7-Trinitro-9-oxo-9*H*-fluorene-2-carboxylic acid; Chloride, *in* T-00354
Vinyl chloroformate, V-00005

Amino acid

▷ 3(5)-Amino-1,2,4-triazole, A-00364
Arabinopyranosyl isothiocyanate; α-D-*form*, 2,3,4-Tri-Ac, *in* A-00399
▷ 1,2-Benzenedicarboxaldehyde, B-00016
Benzoic ethylcarbonic anhydride, B-00067
▷ 1,4-Benzoquinone, B-00076
3-Benzoyl-2-naphthalenecarboxaldehyde, B-00137
3-Benzoyl-2-quinolinecarboxaldehyde, B-00160
N,*N*′-Bis(1-phenylethyl)carbodiimide; (*S*,*S*)-*form*, *in* B-00439
2-(Bromomethyl)-4-nitrophenol, B-00531
▷ 2-Bromopropane, B-00560
▷ 1-Butanol, B-00606
▷ 2-Butanol, B-00607
N-(*tert*-Butyldimethylsilyl)-*N*-methylacetamide, B-00629
N-(*tert*-Butyldimethylsilyl)-*N*-methyltrifluoroacetamide, B-00630
Camphor-10-sulfonic acid; (+)-*form*, Chloride, *in* C-00016
N-Chloro-5-(dimethylamino)-1-naphthalenesulfonamide, C-00098
▷ 1-Chloro-2,4-dinitrobenzene, C-00106
N-Chloroformylcarbazole, *in* C-00020
1,2-Diacetylbenzene, D-00032
1-Diazobutane, D-00143
1-Diazopropane, D-00154
1,1-Dibutoxytrimethylamine, D-00221
1,1-Di-*tert*-butoxytrimethylamine, D-00222
Dicarboxidine; B,2HCl, *in* D-00244
▷ 1,3-Dichloro-1,1,3,3-tetrafluoro-2-propanone, D-00303
(Diethoxymethyl)dimethylamine, D-00313
▷ (Diethylamino)trimethylsilane, D-00336
▷ Dihydro-2,5-furandione, D-00405
2,2-Dihydroxy-1*H*-benz[*f*]indene-1,3(2*H*)-dione, D-00529
3′,6′-Dihydroxy-5-isothiocyanatospiro[isobenzofuran-1(3*H*),9′-[9*H*]xanthen]-3-one, D-00638
1,1-Dimethoxy-*N*,*N*-dimethylmethylamine, D-00774
4′-Dimethylaminoazobenzene-4-sulfonyl chloride, *in* M-00210
▷ 5-(Dimethylamino)-1-naphthalenesulfonyl chloride, D-00796
5-[[4-(Dimethylamino)phenyl]azo]-1-naphthalenesulfonyl chloride, *in* A-00314
▷ 4-(Dimethylamino)phenyl isothiocyanate, D-00817
3,3-Dimethyl-2-butanol; (*S*)-*form*, *in* D-00844
Dimethyl(dipropoxymethyl)amine, D-00854
1,2-Dinitro-1,2-diphenylethylene, D-00952
2,5-Dioxo-4-oxazolidinepropanoic acid; (*S*)-*form*, *in* D-00993
6,6′-Dithiobis[2-naphthalenol], D-01119
N-Ethylmaleimide, *in* P-00439
FDNDEA, *in* F-00026
1-(9*H*-Fluoren-9-yl)ethyl carbonochloridate; (+)-*form*, *in* F-00017
9-Fluorenyl methyl chloroformate, F-00018
Fluorescamine, F-00019
5-Fluoro-2,4-dinitroaniline, F-00026
▷ 1-Fluoro-2,4-dinitrobenzene, F-00027
4-Fluoro-7-nitrobenzofurazan, F-00030
Glycylproline; (*S*)-*form*, *N*-Benzyloxycarbonyl, *in* G-00020
▷ Heptadecanoic acid, H-00003
Heptafluorobutanoic acid; Anhydride, *in* H-00004
N-Heptylhydroxyproline; (2*S*,4*R*)-*form*, *in* H-00016
N-Hexadecylhydroxyproline; (2*S*,4*R*)-*form*, *in* H-00027
▷ 1,1,1,3,3,3-Hexafluoro-2-propanone, H-00033
Hydrindantin, H-00088
4-Hydroxydinaphtho[2,1-*d*:1′,2′-*f*][1,3,2]dioxaphosphepin 4-oxide, H-00153
▷ 6-Hydroxy-2-naphthalenesulfonic acid, H-00347
(2-Hydroxy-5-nitrobenzyl)dimethylsulfonium(1+); Bromide, *in* H-00384
Isobutyl chloroformate, I-00057
▷ Isopropenyl acetate, *in* P-00270
9-Isothiocyanatoacridine, I-00091
7-Isothiocyanato-1,7-dimethylbicyclo[2.2.1]heptane; (−)-*form*, *in* I-00093
4-[(4-Isothiocyanatophenyl)azo]-*N*,*N*-dimethylbenzenamine, I-00098
Marfey's reagent, *in* F-00028
▷ (−)-Menthol, *in* M-00012
2-Methoxy-2,4-diphenyl-3(2*H*)-furanone, M-00086
2-Methoxy-2-(1-naphthyl)propanoic acid; (−)-*form*, *in* M-00095
N-[(4-Methoxyphenyl)methyl]-7-nitro-4-benzofurazanamine, M-00114
8-Methoxy-5-quinolinesulfonyl chloride, M-00121
▷ 3-Methyl-1-butanol, M-00147
3-Methyl-2-butanol; (*S*)-*form*, *in* M-00148
▷ Methyl isothiocyanate, M-00196
1-[[*N*-[2-Methyl-*N*-[*N*-[(phenylmethoxy)carbonyl]-L-valyl]alanyl]glycyl]oxy]-2,5-pyrrolidinedione, M-00231
▷ 2-Methyl-1-propanol, M-00255
4-(2-Methylpropyl)-2,5-oxazolidinedione; (*S*)-*form*, *in* M-00261
▷ 2-Naphthalenesulfonic acid, N-00015
1-[(2-Naphthalenylcarbonyl)oxy]-2,5-pyrrolidinedione, N-00018
1-[[(2-Naphthalenyloxy)acetyl]oxy]-2,5-pyrrolidinedione, N-00020
▷ Naproxen; (*S*)-*form*, *in* N-00057
1-[[(1-Napthalenylamino)carbonyl]oxy]-2,5-pyrrolidinedione, N-00058
Neomenthyl isothiocyanate, *in* I-00095
▷ Ninhydrin, N-00071
O-(4-Nitrobenzyl)tyrosine; (*R*)-*form*, Me ester, *in* N-00100
7-Nitro-*N*-(phenylmethyl)-4-benzofurazanamine, *in* A-00282
▷ Octadecanoic acid, O-00001
▷ 2-Octanol, O-00037
4-[1-Oxo-3-phenyl-1*H*-inden-2-yl]benzenesulfonyl chloride, O-00067
Pentafluoroisothiocyanatobenzene, P-00018
▷ 1-Pentanol, P-00034
▷ 9,10-Phenanthraquinone, P-00047
▷ Phenyl isothiocyanate, P-00139
▷ Pivaloyl chloride, *in* D-00899
▷ 1-Propanol, P-00265
Pyridoxal, P-00414
TAGIT, *in* G-00012
Teresantalol; 8-Carboxylic acid, chloride, *in* T-00004
▷ Tetrachloro-1,4-benzoquinone, T-00025
▷ 1,1,3,3-Tetraethoxypropane, T-00040
1,2,3,4-Tetrahydro-3-isoquinolinecarboxylic acid; (*S*)-*form*, *in* T-00063
▷ Trifluoroacetic acid, T-00239
N-(Trifluoroacetyl)-L-prolyl chloride, *in* T-00242
3-(Trifluoroacetyl)-4-thiazolidinecarboxylic acid; (*S*)-*form*, Chloride, *in* T-00243
2,2,2-Trifluoro-*N*-(trimethylsilyl)ethanimidic acid trimethylsilyl ester, T-00266
▷ Trimethyl(dimethylamino)silane, T-00326
▷ 2,4,6-Trinitrobenzenesulfonic acid, T-00351
4,5,7-Trinitro-9-oxo-9*H*-fluorene-2-carboxylic acid; Chloride, *in* T-00354
4-Vinylpyridine, V-00009

Carbohydrate

▷ 4-Amino-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00152
▷ 2-Aminoethanol, A-00171
(2-Aminoethoxy)diphenoxyborane, A-00172
▷ Aminoguanidine, A-00179
7-Amino-4-methyl-2*H*-1-benzopyran-2-one, A-00237
Anthrone, A-00390
Arginine; (*S*)-*form*, *in* A-00400
▷ Benzaldehyde, B-00004
▷ Benzoyl chloride, *in* B-00059
1,2-Bis(4-methoxyphenyl)-1,2-ethanediamine; (1*RS*,2*SR*)-*form*, *in* B-00401
Chlorodimethylphenylsilane, C-00103
▷ Cyanoacetamide, *in* C-00324
1,3-Cyclohexanedione bis(thiosemicarbazone); B, HCl, *in* C-00345
Dabsyl hydrazine, *in* M-00210
Dansylhydrazine, *in* A-00265
3,4-Dihydro-5-hydroxy-1(2*H*)-naphthalenone, D-00413
3,6-Dinitro-1,2-benzenedicarboxylic acid; Monopyridinium salt, *in* D-00939
3,4-Dinitrobenzoic acid, D-00947
2,5-Diphenyl-3-[4-(2-phenylethenyl)phenyl]-2*H*-tetrazolium(1+); Chloride, *in* D-01036
(Ethenyloxy)cyclohexane, E-00047
▷ 2-Furoylhydrazine, *in* F-00050
▷ 2-Hydrazinobenzothiazole, H-00083
4-Hydroxybenzoic acid; Hydrazide, *in* H-00113
2-Hydroxy-3,5-dinitrobenzoic acid, H-00154
4-Methoxybenzamidine, M-00077
▷ 2-Methylaniline, M-00123
▷ 5-Methyl-1,3-benzenediol, M-00128
▷ 1,3-Naphthalenediol, N-00008
▷ 4-Nitrobenzoic acid; Chloride, *in* N-00093
O-(*p*-Nitrobenzyl)hydroxylamine, N-00099
2,2,5,5-Tetrakis(carboxymethylthio)-*p*-dithiane, T-00082
▷ Tetrazolium blue; Dichloride, *in* T-00132
▷ TTC, *in* T-00379

Carboxylic acid

7-Acetoxy-4-(bromomethyl)coumarin, *in* B-00524
▷ Acridine yellow, *in* D-00079
7-[(2-Aminoethyl)amino]-4-benzofurazansulfonamide, A-00174
2-[4-(1-Aminoethyl)-1-naphthyl]-6-methoxy-*N*-methyl-2*H*-benzotriazol-5-amine; (*S*)-*form*, B,2HCl, *in* A-00176
2-[4-(Aminomethyl)phenyl]-*N*,*N*-dimethyl-2*H*-benzotriazol-5-amine, A-00249
2-Amino-*N*-2-naphthalenylpropanamide; (*S*)-*form*, *in* A-00278
7-[(5-Aminopentyl)amino]-4-benzofurazansulfonamide, A-00295
▷ 9-Aminophenanthrene, A-00298
4-(Aminosulfonyl)-7-(1-piperazinyl)-2,1,3-benzoxadiazole, A-00351
9-Anthracenemethanol, A-00380
▷ Benzyl iodide, B-00186
S-Benzylthiuronium chloride, *in* B-00193
▷ 2-Bromoacetophenone, B-00483
2-Bromo-2′,4′-dihydroxyacetophenone, B-00501
2-Bromo-2′,5′-dihydroxyacetophenone, B-00502
▷ 2-Bromo-4′-hydroxyacetophenone, B-00508
1-Bromo-4-(iodomethyl)benzene, B-00514
9-(Bromomethyl)acridine, B-00516
1-(Bromomethyl)anthracene, B-00517
▷ 9-(Bromomethyl)anthracene, B-00518
4-(Bromomethyl)-6,7-dimethoxy-2*H*-1-benzopyran-2-one, B-00519
3-(Bromomethyl)-6,7-dimethoxy-1-methyl-2(1*H*)-quinoxalinone, B-00520
8-(Bromomethyl)-6*H*-1,3-dioxolo[4,5-*g*][1]benzopyran-6-one, B-00523
3-(Bromomethyl)-7-methoxy-2*H*-1,4-benzoxazin-2-one, B-00525
4-(Bromomethyl)-7-methoxy-6-nitro-2*H*-benzopyran-2-one, B-00526
▷ 1-(Bromomethyl)-4-methylbenzene, B-00527
3-(Bromomethyl)-6,7-(methylenedioxy)-1-methyl-2(1*H*)-quinoxalinone, B-00528
1-(Bromomethyl)-4-nitrobenzene, B-00530
▷ (Bromomethyl)pentafluorobenzene, B-00532
2-Bromo-4′-phenylacetophenone, B-00544
2-Bromo-*N*-1-pyrenylacetamide, B-00561
▷ 1-Butanol, B-00606
▷ 2-Butoxyethanol, B-00613
Chloramphenicol base, *in* A-00284
▷ 2-Chloroethanol, C-00114
[(Chloromethoxy)methyl]benzene, C-00167
▷ 9-(Chloromethyl)anthracene, C-00172
1-Chloromethylbenz[*cd*]indol-2(1*H*)-one, *in* B-00050
1-(Chloromethyl)-1*H*-indole-2,3-dione, C-00177
▷ 1-Chloromethyl-4-nitrobenzene, C-00178
2-(Chloromethyl)-5-nitro-1*H*-isoindole-1,3(2*H*)-dione, C-00180
1-Chloro-1,1,3,3,3-pentafluoro-2-propanol, C-00192
4-[2-Cyano-2-(3,4-dimethoxyphenyl)ethenyl]-*N*,*N*,*N*-trimethylbenzenemethanaminium(1+); Methosulfate, *in* C-00327
Cyclohexyl(2-morpholinoethyl)carbodiimide; Metho-*p*-toluenesulfonate, *in* C-00356
▷ Diazoethane, D-00144
1-(1-Diazoethyl)naphthalene, D-00145
(1-Diazoethyl)pentafluorobenzene, D-00147
9-(Diazomethyl)anthracene, D-00148
(Diazomethyl)cyclohexane, D-00149
4-(Diazomethyl)-7-methoxy-2*H*-1-benzopyran-2-one, D-00150
▷ 1-(Diazomethyl)naphthalene, D-00151
(Diazomethyl)pentafluorobenzene, D-00152
1-(Diazomethyl)pyrene, D-00153
▷ 2,4′-Dibromoacetophenone, D-00176
2,4-Dichlorobenzaldehyde, D-00247
(3,5-Dichlorophenyl)dihydroxyborane, D-00295
▷ Dicyclohexylcarbodiimide, D-00309
N-[4-[7-(Diethylamino)-4-methyl-2-oxo-2*H*-1-benzopyran-3-yl]phenyl]-2-iodoacetamide, D-00321
▷ Diethyl sulfate, D-00358
2,3-Dihydro-1,4-benzodioxin-6,7-diamine, D-00371
3,4-Dihydro-6,7-dimethoxy-4-methyl-3-oxo-2-quinoxalinepropanoic acid; Hydrazide, *in* D-00380
2-(1,3-Dihydro-1,3-dioxo-2*H*-benz[*f*]isoindol-2-yl) ethyltrifluoromethanesulfonate, D-00397
N,*N*′-Diisopropyl-*O*-*p*-nitrobenzylisourea, D-00749
1,1-Dimethoxy-*N*,*N*-dimethylmethylamine, D-00774
4-(Dimethylamino)-α-methyl-1-naphthalenemethanamine, D-00790
1-[[5-(Dimethylamino)-1-naphthalenyl]sulfonyl]piperazine, D-00801
Dimethyl (hydroxymethyl)phosphonate, *in* H-00318
3,5-Dinitrobenzyl alcohol; 4-Methylbenzenesulfonyl, *in* D-00950
4-[2*H*-[1,3]Dioxolo[4,5-*f*]benzotriazol-2-yl] benzeneethanamine, D-00992
▷ Ethanol, E-00040
Ethyl acetoacetate, E-00063
▷ 1-Ethylpiperidine, E-00106
▷ 4-Fluorobenzoic acid; Chloride, *in* F-00024
▷ 1,1,1,3,3,3-Hexafluoro-2-propanol, H-00032
4-(Hydroxymethyl)-7-methoxy-2*H*-1-benzopyran-2-one, *in* H-00209
1-(Iodomethyl)-4-methylbenzene, I-00046
1-Iodomethyl-4-nitrobenzene, I-00047
▷ Methoxybenzene, M-00078
(7-Methoxy-2-oxo-2*H*-1-benzopyran-4-yl) methyl-*N*,*N*′-bis(1-methylethyl) carbamimidate, M-00099
(7-Methoxy-2-oxo-2*H*-1-benzopyran-4-yl) methyl *N*,*N*′-dicyclohexylcarbamimidate, M-00100
α-Methyl-1-anthracenemethanamine, M-00125
α-Methyl-2-anthracenemethanamine, M-00126
▷ 2-Methyl-1-propanol, M-00255
▷ 2-Naphthol, N-00026
1-(1-Naphthyl)ethylamine; (*R*)-*form*, *in* N-00049
4-Nitrobenzyl alcohol; 4-Methylbenzenesulfonyl, *in* N-00097
1-(4-Nitrophenyl)ethylamine; (*R*)-*form*, *in* N-00135
▷ (2-Nitrophenyl)hydrazine, N-00137
1-(1-Oxo-2-phenylbutyl)-1*H*-imidazole; (+)-*form*, *in* O-00066
Pentafluorobenzyl *p*-toluenesulfonate, *in* P-00014
▷ 2,2,3,3,3-Pentafluoro-1-propanol, P-00022
Phenylalanine α-naphthylamide; (*S*)-*form*, *in* P-00078
Phenylalanine β-naphthylamide; (*S*)-*form*, *in* P-00079
4-[[4-(Phenylamino)phenyl]azo] benzenesulfonic acid; Na salt, *in* P-00084
Phenyldiazomethane, P-00111
2-Phenylpropanoic acid; (±)-*form*, Chloride, *in* P-00167
2-Phthalimidoethyl trifluoromethanesulfonate, P-00224
▷ 2-Propanol, P-00266
Pyridoxamine, P-00417
▷ Quinine, Q-00005
▷ Tetrachloro-1,4-benzoquinone, T-00025
▷ Tetramethylammonium(1+); Hydroxide, *in* T-00092
▷ 2-Thioxo-4-thiazolidinone, T-00176
▷ 2,2,2-Trifluoroethanol, T-00245
▷ Trimethylanilinium hydroxide, *in* T-00336
Trioctylphosphine oxide, *in* T-00358

Ester

Dibutyl carbonate, D-00229
▷ 4-Morpholinethanamine, M-00347
▷ Peracetic acid, P-00042

Formate

▷ Methoxybenzene, M-00078

Hormones

Pivalic anhydride, *in* D-00899

Hydrazine

[Bis(trifluoroacetoxy)iodo]benzene, B-00462
3-Bromo-2-nitroso-1-naphthalenol, *in* B-00537
▷ 2-Chloro-1,3,5-trinitrobenzene, C-00268
N,*N*-Dichloro-4-methylbenzenesulfonamide, D-00285
2,2-Dihydroxy-1*H*-phenalene-1,3(2*H*)-dione, D-00683
▷ 4-(Dimethylamino)benzaldehyde, D-00779
2-Hydroxy-3,5-dinitrobenzoic acid, H-00154
4-Hydroxy-1-naphthalenesulfonic acid, H-00345
2-Hydroxy-5-nitrobenzaldehyde, H-00380
2-Pentenedial, P-00038
▷ Phenolphthalein, P-00063
Pyridylpyridinium(1+); Chloride, *in* P-00422
▷ 2,4,6-Trinitrobenzenesulfonic acid, T-00351

Hydroxylamine

▷ 2,3-Butanedione, B-00587
9-Chloroacridine, C-00057
Isophthaldihydroxamic acid, *in* B-00019

Ketone

▷ 2-Aminobiphenyl, A-00116
▷ Aminooxoacetic acid hydrazide, A-00291
▷ 1-Aminopiperidine, A-00329
1-Anthracenecarboxylic acid; Hydrazide, *in* A-00376
2-Anthracenecarboxylic acid; Hydrazide, *in* A-00377
O-(1-Anthracenylmethyl)hydroxylamine, A-00384
O-(2-Anthracenylmethyl)hydroxylamine, A-00385
O-(9-Anthracenylmethyl)hydroxylamine, A-00386
O-Benzylhydroxylamine, B-00184
2,3-Butanediol; (2*R*,3*R*)-*form*, *in* B-00586
Dansylhydrazine, *in* A-00265
2,5-Diaminophenol; 5-*N*-Di-Me, *in* D-00111
2-(Diethylamino)benzoic acid hydrazide, D-00315
6-(Diethylamino)-2-naphthalenesulfonic acid hydrazide, D-00325
7-(Diethylamino)-2-oxo-2*H*-1-benzopyran-3-carboxylic acid hydrazide, D-00326
4-(4,5-Dihydro-3-phenyl-1*H*-pyrazol-1-yl) benzenesulfonic acid hydrazide, D-00469
N,*N*′-Dihydroxy-2,3-dimethyl-2,3-butanediamine, D-00578
2-(Diisopropylamino)benzoic acid hydrazide, D-00747
2-(Dimethylamino)benzoic acid hydrazide, D-00780
▷ 1,1-Dimethylhydrazine, D-00864
▷ (2,4-Dinitrophenyl)hydrazine, D-00972
Diphenadione; 1-Hydrazone, *in* D-00997
▷ Ephedrine, *in* M-00122
▷ 1,2-Ethanedithiol, E-00028
3-Ethyl-2-thioxo-4-thiazolidinone, *in* T-00176
▷ Hexahydro-1*H*-azepin-1-amine, H-00034
▷ 1,6-Hexanediamine, H-00061
▷ 4-Hydrazinobenzenesulfonic acid, H-00080
7-Hydrazino-4-benzofurazansulfonamide, H-00081
7-Hydrazino-4-benzofurazansulfonamide; *N*,*N*-Di-Me, *in* H-00081
4-Hydrazinobenzoic acid, H-00082

4-Hydrazino-7-nitrobenzofurazan, H-00084
Mansylhydrazine, *in* M-00222
(7-Methoxy-2-oxo-2*H*-1-benzopyran-4-yl) methyl-*N*,*N*′-bis(1-methylethyl) carbamimidate, M-00099
▷ 2-Methylamino-1-phenyl-1-propanol; (1*S*,2*R*)-*form*, *in* M-00122
[[4-(5-Methyl-2-benzothiazolyl)phenyl] amino]acetohydrazide, M-00142
▷ *O*-Methylhydroxylamine, M-00187
▷ 2-Nitrobenzaldehyde, N-00081
O-(*p*-Nitrobenzyl)hydroxylamine, N-00099
▷ (4-Nitrophenyl)hydrazine, N-00138
O-(Pentafluorobenzyl)hydroxylamine; B, HCl, *in* P-00016
▷ (Pentafluorophenyl)hydrazine, P-00020
2-[(4-Phenylazo)phenyl]hydrazinesulfonic acid, P-00097
▷ Phenylhydrazine, P-00134
4-Phenylsemicarbazide, P-00193
O-Propylhydroxylamine, P-00277

Lipid

12-(9-Anthroyloxy)stearic acid; (±)-*form*, *in* A-00391
2-(Bromoacetyl)naphthalene, B-00484
4-(Bromomethyl)-7-methoxy-2*H*-1-benzopyran-2-one, *in* B-00524
C.I. Basic violet 2; B, HCl, *in* C-00003
▷ 1-Decanol, D-00026
9,10-Diaminophenanthrene, D-00110
2-(1-Diazoethyl)naphthalene, D-00146
1,1-Dibutoxytrimethylamine, D-00221
1,1-Di-*tert*-butoxytrimethylamine, D-00222
2′,7′-Dichlorofluorescein, D-00275
N,*N*′-Dicyclohexyl-*O*-benzylisourea, D-00308
(Diethoxymethyl)dimethylamine, D-00313
Dimethyl(dipropoxymethyl)amine, D-00854
1,6-Diphenyl-1,3,5-hexatriene, D-01019
Mesyl chloride, *in* M-00066
1-(4-Methylphenyl)-3-(phenylmethyl)-1-triazene, M-00237
▷ 1-Naphthylamine, N-00041
Nile red, N-00070
▷ 1-Propanol, P-00265
1-Pyrenedodecanoic acid, P-00308
(3-Trifluoromethylphenyl) trimethylammonium(1+); Hydroxide, *in* T-00256

Nitro compound

▷ Benzeneacetonitrile, *in* P-00076
▷ 2-Chloroacetophenone, C-00055
▷ 3,3′-Diaminodipropylamine, D-00092
▷ Tetraethylenepentamine, T-00044

Nucleic acids and their components

▷ 2-[4-(Aminoiminomethyl)phenyl]-1*H*-indole-6-carboximidamide, A-00227
N-(*tert*-Butyldimethylsilyl)imidazole, B-00628
▷ Chloroacetaldehyde, C-00053
▷ Chlorotriphenylsilane, C-00270
▷ 3,5-Diaminobenzoic acid, D-00051
▷ Homidium bromide, *in* D-00096

Oxalate

4-(3-Hydroxy-3-phenyl-1-triazenyl) benzenesulfonic acid, H-00506

Peptides

▷ 1-Bromo-4-isothiocyanatobenzene, B-00515
Dicarboxidine; B,2HCl, *in* D-00244
4-(Dimethylamino)-1-naphthalenecarboxaldehyde, *in* A-00262
6,6′-Dithiobis[2-naphthalenol], D-01119
1-[(Ethoxycarbonyl)oxy]-2,5-pyrrolidinedione, E-00054
Fluorescamine, F-00019
▷ 1-Fluoro-2,4-dinitrobenzene, F-00027
1-Heptanesulfonic acid; Na salt, *in* H-00011
1-Hexanesulfonic acid; Na salt, *in* H-00064
1-[(3-Hydroxy-1-oxodecyl)oxy]-2,5-pyrrolidinedione, H-00431
4-Isothiocyanato-*N*,*N*-dimethyl-1-naphthalenamine, I-00094
N-[(4-Methoxyphenyl)methyl]-7-nitro-4-benzofurazanamine, M-00114
7-Nitro-*N*-(phenylmethyl)-4-benzofurazanamine, *in* A-00282
1-[(1-Oxodecyl)oxy]-2,5-pyrrolidinedione, O-00061
1-Pentanesulfonic acid; Na salt, *in* P-00032
▷ 1,1,3,3-Tetraethoxypropane, T-00040

Pesticides

4-Bromobenzenesulfonic acid; Chloride, *in* B-00487
(Bromomethyl)dimethylchlorosilane, B-00521
C.I. Basic violet 2; B, HCl, *in* C-00003
2,5-Dichlorobenzenesulfonic acid; Chloride, *in* D-00248
5-(Dimethylamino)-1-naphthalenesulfonyl fluoride, D-00797
4-[(4-Nitrophenyl)methyl]pyridine, N-00139
Pentadecafluorooctanoic acid; Anhydride, *in* P-00008
Pentafluorobenzenesulfonyl chloride, P-00011

Phenol

▷ 4-Aminoazobenzene, A-00094
▷ 4-Amino-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00152
(2-Aminoethoxy)diphenylborane, A-00173
▷ Aminopyrine, A-00339
Azobenzene-4-carboxylic acid; Chloride, *in* A-00467
Chloroacetic acid; Anhydride, *in* C-00054
▷ Chloroacetyl chloride, C-00056
▷ 2-Chloro-1,3-dinitro-5-(trifluoromethyl) benzene, C-00108
▷ Chloroform, C-00118
N-Chloro-2*H*-phenanthro[9,10-*d*]imidazol-2-imine, C-00194
9-[4-(Chlorosulfonyl)-2-sulfophenyl]-3,6-bis(diethylamino)xanthylium, C-00261
▷ 2,6-Dibromo-4-(chloroimino)-2,5-cyclohexadien-1-one, D-00180
▷ 2,6-Dichloro-4-(chloroimino)-2,5-cyclohexadien-1-one, D-00257
3,3-Diethyl-1-(9*H*-fluoren-2-yl)-1-triazene, D-00347
▷ Diethyl phosphorochloridate, D-00355
▷ Diethyl sulfate, D-00358
▷ *N*,*N*-Dimethyl-1,4-phenylenediamine, *in* D-00048
3,5-Dinitrobenzoic acid; Anhydride, *in* D-00948
9*H*-Fluorene-2-sulfonyl chloride, *in* F-00014
▷ 4-Fluorobenzoic acid; Chloride, *in* F-00024
▷ 1-Fluoro-2,4-dinitrobenzene, F-00027
Heptafluorobutanoic acid; Anhydride, *in* H-00004
4-Isocyanato-1,1′-biphenyl, I-00060
4-Nitrobenzenediazonium(1+); Tetrafluoroborate, *in* N-00084
Octadecanoic acid; Anhydride, *in* O-00001
2-Oxo-2*H*-1-benzopyran-6-sulfonyl chloride, *in* O-00057
N-(4-Oxo-2,5-cyclohexadien-1-ylidene) benzenesulfonamide, O-00059
Pentafluorobenzyl *p*-toluenesulfonate, *in* P-00014
N-Phenyl-*N*-(trimethylsilyl)acetamide, P-00210

Prostaglandin

N,*O*-Bis(allyldimethylsilyl) trifluoroacetamide, B-00241
4-(Bromoacetyl)phenyl 9-anthracenecarboxylate, B-00485
4-(Bromomethyl)-2*H*-naphtho[1,2-*b*]pyran-2-one, B-00529
2-Bromo-4′-nitroacetophenone, B-00539
1,1-Dimethyl-*N*,*N*-diphenyl-1-(2-propenyl) silanamine, D-00853
N-(Dimethyl-2-propenylsilyl)-2,2,2-trifluoro-*N*-methylacetamide, D-00901
▷ *O*-Methylhydroxylamine, M-00187
O-(*p*-Nitrobenzyl)hydroxylamine, N-00099
3-Oxo-3*H*-naphtho[2,1-*b*]pyran-2-carboxylic acid; Chloride, *in* O-00064

Protein

4-Acetamido-4′-isothiocyanatostilbene-2,2′-disulfonic acid, *in* A-00230
N-Acetylalanine 1-naphthyl ester; (*S*)-*form*, *in* A-00011
7-Amino-4-methyl-2*H*-1-benzopyran-2-one, A-00237
7-Amino-4-(trifluoromethyl)-2*H*-1-benzopyran-2-one, A-00365
7-Arginylamino-4-methylcoumarin; (*S*)-*form*, *in* A-00401
N-Benzoyltyrosine 4-nitroanilide; (±)-*form*, *in* B-00162
[2,2′-Biquinoline]-4,4′-dicarboxylic acid, B-00237
2-(Bromoacetamido)-4-nitrophenol, B-00482
N-Chloro-5-(dimethylamino)-1-naphthalenesulfonamide, C-00098
3′,6′-Dihydroxy-5-isothiocyanatospiro[isobenzofuran-1(3*H*),9′-[9*H*]xanthen]-3-one, D-00638
4-(Dimethylamino)-1-naphthalenecarboxaldehyde, *in* A-00262
5-(Dimethylamino)-1-naphthalenesulfonyl fluoride, D-00797
1-[[5-(Dimethylamino)-1-naphthalenyl] sulfonyl]aziridine, D-00799
6,6′-Dithiobis[2-naphthalenol], D-01119
Fluorescamine, F-00019
▷ Fluorescein sodium, *in* F-00020
4-Fluoro-7-nitrobenzofurazan, F-00030
▷ 2-Fluoro-3-nitropyridine, F-00031
1-Heptanesulfonic acid; Na salt, *in* H-00011
1-Hexanesulfonic acid; Na salt, *in* H-00064
1-[[(7-Hydroxy-4-methyl-2-oxo-2*H*-benzopyran-3-yl)acetyl]oxy]-2,5-pyrrolidinedione, H-00296
1-[(3-Hydroxy-1-oxodecyl)oxy]-2,5-pyrrolidinedione, H-00431
1-[3-(4-Hydroxyphenyl)-1-oxopropoxy]-2,5-pyrrolidinedione, H-00491
▷ 1-Isocyanatonaphthalene, I-00064
▷ (4-Isothiocyanatophenyl)phenyldiazene, I-00099
2,6-Mansyl chloride, *in* M-00222
N-[(4-Methoxyphenyl)methyl]-7-nitro-4-benzofurazanamine, M-00114
MNB sulfonium bromide, *in* H-00384
MUGB, *in* M-00211
Nile red, N-00070
7-Nitro-*N*-(phenylmethyl)-4-benzofurazanamine, *in* A-00282
2-Oxo-2*H*-1-benzopyran-6-sulfonyl chloride, *in* O-00057
1-[(1-Oxodecyl)oxy]-2,5-pyrrolidinedione, O-00061
1-Pentanesulfonic acid; Na salt, *in* P-00032
Phenoltetrabromosulfonephthalein, P-00065
1-[4-(Phenylamino)-1-naphthalenyl]-1*H*-pyrrole-2,5-dione, P-00083
1-Pyrenylmethyl iodoacetate, P-00310
2′,3′,4′,7′-Tetrabromo-3′,6′-dihydroxy-5-isothiocyanatospiro[isobenzofuran-1(3*H*),9′[9*H*]xanthen]-3-one, T-00016

Tetrabromophenoltetrabromosulfonephthalein, T-00020
Triton X 100; Hexahydro, *in* T-00428

Steroid

6-[(4-Aminobutyl)methylamino]-2,3-dihydro-1,4-phthalazinedione, A-00131
6-[(6-Aminohexyl)ethylamino]-2,3-dihydro-1,4-phthalazinedione, A-00180
Azobenzene-4-sulfonic acid; Chloride, *in* A-00468
▷ Benzoyl chloride, *in* B-00059
N,O-Bis(allyldimethylsilyl) trifluoroacetamide, B-00241
▷ Bis[(chloromethyl)dimethylsilyl]amine, B-00284
tert-Butylboronic acid, B-00620
N-(*tert*-Butyldimethylsilyl)imidazole, B-00628
Chloroacetic acid; Anhydride, *in* C-00054
1-Chloro-1-*tert*-butylsilacyclopentane, C-00076
Chloro(chloromethyl)dimethylsilane, C-00081
Chlorodimethoxymethylsilane, C-00097
Chlorodimethyl-2-propenylsilane, C-00104
Chloro(iodomethyl)dimethylsilane, C-00165
Chloromethoxydimethylsilane, C-00166
3-(1-Cyano-2*H*-isoindol-2-yl)benzoyl azide, C-00329
▷ 1,2-Diamino-4,5-dimethylbenzene, D-00080
2,4-Dichloro-6-(4-ethoxy-1-naphthalenyl)-1,3,5-triazine, D-00272
▷ (Diethylamino)trimethylsilane, D-00336
1-(4,6-Difluoro-1,3,5-triazin-2-yl)-2-methyl-2*H*-isoindole, D-00362
▷ Digitonin, *in* S-00024
[3-[[[5-(Dimethylamino)-1-naphthalenyl] sulfonyl]amino]phenyl]boronic acid, D-00798
1,1-Dimethyl-*N,N*-diphenyl-1-(2-propenyl) silanamine, D-00853
1-(Dimethyl-2-propenylsilyl)-1*H*-imidazole, D-00900
N-(Dimethyl-2-propenylsilyl)-2,2,2-trifluoro-*N*-methylacetamide, D-00901
N-(Dimethylsilyl)-1,1-dimethylsilanamine, D-00915
2,5-Diphenyl-3-[4-(2-phenylethenyl)phenyl]-2*H*-tetrazolium(1+); Chloride, *in* D-01036
2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-Eicosafluoroundecanoic acid; Chloride, *in* E-00002
9*H*-Fluoren-9-one; Hydrazone, *in* F-00015
Girard's reagent T, G-00009
2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-Hexadecafluorononanoic acid; Chloride, *in* H-00022
▷ 2-Hydrazinobenzothiazole, H-00083
▷ 8-Hydroxy-1,3,6-pyrenetrisulfonic acid, H-00517
Isatin hydrazone, *in* I-00056
▷ *O*-Methylhydroxylamine, M-00187
O-(1-Methylpropyl)hydroxylamine, M-00259
O-(2-Methylpropyl)hydroxylamine, M-00260
α-Oxo-1-anthraceneacetonitrile, O-00054
α-Oxo-9-anthraceneacetonitrile, *in* O-00053
Pentadecafluorooctanoic acid; Chloride, *in* P-00008
Pentafluorobenzoic acid; Anhydride, *in* P-00012
O-Pentylhydroxylamine, P-00040
Pipsan, *in* I-00039
▷ Sulfoacetic acid, S-00039
▷ Tetraheptylammonium(1+); Bromide, *in* T-00048
Tetramethylphosphinous amide, T-00102
2,2′,4,4′-Tetranitrobiphenyl, T-00107
▷ Tetrazolium blue; Dichloride, *in* T-00132
▷ Thiacetazone, *in* A-00097
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O′*)europium(*III*), T-00416
▷ TTC, *in* T-00379

Sulfonamides

9-Chloroacridine, C-00057
4-Chloro-3-methyl-5-nitrobenzenesulfonic acid, C-00179
2-Pentenedial, P-00038

Thiol/disulfide

1-(9-Acridinyl)-1*H*-pyrrole-2,5-dione, A-00063
1-[4-(2-Benzoxazolyl)phenyl]-1*H*-pyrrole-2,5-dione, B-00118
1-(4-Benzoylphenyl)-1*H*-pyrrole-2,5-dione, B-00146
3,5-Bis(bromomethyl)-2,6-dimethyl-1*H*,7*H*-pyrazolo[1,2-*a*]pyrazole-1,7-dione, B-00269
▷ Bis(4-dimethylaminophenyl)methanol, B-00321
▷ Bis(4-nitrophenyl) disulfide, B-00431
▷ 2-(Bromomethyl)-1-methoxy-4-nitrobenzene, *in* B-00531
5-(Bromomethyl)-*N,N,N*-,2,6-pentamethyl-1,7-dioxo-1*H*,7*H*-pyrazolo[1,2-*a*] pyrazole-3-methanaminium(1+); Bromide, *in* B-00533
3-(Bromomethyl)-2,5,6-trimethyl-1*H*,7*H*-pyrazolo[1,2-*a*]pyrazole-1,7-dione, B-00535
▷ Carbon disulfide, C-00023
▷ (4-Carboxyphenyl)chloromercury, C-00039
▷ (2-Carboxyphenyl)hydroxymercury, C-00041
7-Chloro-4-benzofurazansulfonic acid; NH_4 salt, *in* C-00063
▷ 1-Chloro-2,4-dinitrobenzene, C-00106
2-Chloro-1-methylpyridinium(1+); Iodide, *in* C-00185
4,5-Dichloro-6-oxo-1(6*H*)-pyridazinepropanoic acid, D-00287
1-[4-[7-(Diethylamino)-4-methyl-2-oxo-2*H*-1-benzopyran-3-yl]phenyl]-1*H*-pyrrole-2,5-dione, D-00322
N-(3′,6′-Dihydroxy-3-oxospiro[isobenzofuran-1(3*H*),9′[9*H*] xanthen]-5-yl)-2-iodoacetamide, D-00681
1-[7-(Dimethylamino)-4-methyl-2-oxo-2*H*-1-benzopyran-3-yl]-1*H*-pyrrole-2,5-dione, D-00791
1-[[5-(Dimethylamino)-1-naphthalenyl] sulfonyl]aziridine, D-00799
(5-Dimethylamino-1-naphthyl) vinyl sulfone, D-00802
N,N-Dimethyl-4-(2-pyridinylazo) benzenamine, D-00909
▷ 2,4-Dinitrobenzenesulfenyl chloride, D-00943
1,2-Dinitro-1,2-diphenylethylene, D-00952
▷ 2,2-Diphenyl-1-(2,4,6-trinitrophenyl) hydrazyl, D-01057
6,6′-Dithiobis[2-naphthalenol], D-01119
3,3′-Dithiobis[6-nitrobenzoic acid], D-01120
▷ 2,2′-Dithiobis[5-nitropyridine], D-01121
▷ Ethacrynic acid, E-00022
2-(Ethenylsulfonyl)ethanol, E-00048
N-Ethylmaleimide, *in* P-00439
(Ethylsulfonyl)ethene, E-00114
1-(3-Fluoranthenyl)-1*H*-pyrrole-2,5-dione, F-00011
Fluorescein-5-maleimide, F-00021
7-Fluoro-4-benzofurazansulfonamide, *in* F-00023
7-Fluoro-4-benzofurazansulfonic acid; NH_4 salt, *in* F-00023
▷ 4-Fluorobenzoic acid; Chloride, *in* F-00024
▷ 2-Fluoro-3-nitropyridine, F-00031
▷ Iodoacetic acid, I-00036
5-[[2-[(Iodoacetyl)amino]ethyl]amino]-1-naphthalenesulfonic acid, I-00037
8-[[2-[(Iodoacetyl)amino]ethyl]amino]-1-naphthalenesulfonic acid, I-00038
2-Iodo-*N*-1-pyrenylacetamide, I-00051
2-Iodo-*N*-(2′,4′,5′,7′-tetrabromo-3′,6′-dihydroxy-3-oxospiro[isobenzofuran-1(3*H*),9′[9*H*]xanthen]-5-yl)acetamide, I-00054
2-(4-Isocyanatophenyl)-6-methylbenzothiazole, I-00065
▷ Isopropenyl acetate, *in* P-00270
▷ Merbromin; Di-Na salt, *in* M-00015
1-[4-(6-Methyl-2-benzothiazolyl)phenyl]-1*H*-pyrrole-2,5-dione, M-00143
4-(6-Methyl-2-naphthalenyl)-4-oxo-2-butenoic acid, M-00204
▷ Methylphosphonic dichloride, M-00245
Pentafluorobenzyl *p*-toluenesulfonate, *in* P-00014
1-[4-(Phenylamino)-1-naphthalenyl]-1*H*-pyrrole-2,5-dione, P-00083
1-[4-(Phenylamino)phenyl]-1*H*-pyrrole-2,5-dione, P-00086
7-(Phenyloxy)-4-benzofurazansulfonyl fluoride, P-00153
1-(1-Pyrenyl)-1*H*-pyrrole-2,5-dione, P-00311
1-[2′,3′,4′,7′-Tetrabromo-3′,6′-dihydroxy-3-oxospiro[isobenzofuran-1(3*H*),9′-[9*H*] xanthen]-5-yl]-1*H*-pyrrole-2,5-dione, T-00017
▷ Tetranitromethane, T-00108
▷ Trichloroacetyl isocyanate, T-00220
1,2,4-Trinitrobenzene, T-00348

Water (in organic solvents)

▷ Acetic acid, A-00006
▷ Acetyl chloride, *in* A-00006
Carboxybenzene S, C-00028
4,5-Dihydroxy-3,6-bis[(4-hydroxyphenyl) azo]-2,7-naphthalenedisulfonic acid, D-00552
4,5-Dihydroxy-3,6-bis[(4-methoxyphenyl) azo]-2,7-naphthalenedisulfonic acid, *in* D-00552
4,5-Dihydroxy-3,6-bis[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00557
4,5-Dihydroxy-3,6-bis[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00565
4,5-Dihydroxy-3,6-bis(*p*-tolylazo)-2,7-naphthalenedisulfonic acid, D-00566
4,5-Dihydroxy-3-[(4-hydroxyphenyl)azo]-6-(phenylazo)-2.7-naphthalenedisulfonic acid, D-00625
1-(4-Hydroxyphenyl)-2,4,6-triphenylpyridinium hydroxide inner salt, H-00513
1-Hydroxyquinolizinium betaine, H-00533
5-Isothiocyanato-2-(4-methylphenyl)-1*H*-benz[*de*]isoquinoline-1,3(2*H*)-dione, I-00097
2-Methyl-5-hydroxyisoquinolinium betaine, M-00186
1-Methyl-6-hydroxyquinolinium betaine, M-00188
1-Methyl-8-hydroxyquinolinium betaine, M-00189
▷ 4-Nitrobenzoic acid; Chloride, *in* N-00093
2,4,6-Triphenyl-*N*-(3,5-diphenyl-4-oxidophenyl)pyridinium betaine, T-00365

Compound group

Amides

N-(Aminoiminomethyl)benzamide, A-00226
5-Amino-2-naphthalenesulfonamide, *in* A-00266
6-Amino-2-naphthalenesulfonamide, *in* A-00268
7-Amino-1-naphthalenesulfonamide, *in* A-00269
4-Amino-1-naphthalenesulfonic acid; Amide, *in* A-00264
5-Amino-1-naphthalenesulfonic acid; Amide, *in* A-00265
8-Amino-2-naphthalenesulfonic acid; Amide, *in* A-00270
2-Amino-*N*-2-naphthalenylpropanamide; (*S*)-*form*, *in* A-00278
▷ 6-Aminonicotinamide, *in* A-00334
Benzoylauramine G, B-00122
Benzoylethylauramine, B-00131
N,*O*-Bis(allyldimethylsilyl) trifluoroacetamide, B-00241
N,*N*′-Bis(butanesulfonyl)-1,2-benzenediamine, B-00271
N,*N*′-Bis(3-dimethylaminopropyl) dithiooxamide, B-00325
▷ *N*,*N*′-Bis(2-hydroxyethyl) ethanedithioamide, B-00374
N,*N*′-Bis(2-mercaptobenzoyl)-1,2-ethanediamine, B-00397
N,*N*′-Bis(2-sulfoethyldithiooxamide), B-00455
Bis(trifluoroacetamide), B-00461
Biuret, B-00474
2-(Bromoacetamido)-4-nitrophenol, B-00482
2-Chloro-*N*-(4-chlorophenyl)-*N*′-(2,3-dimethylphenyl) benzenecarboximidamide, C-00085
N-(4-Chlorophenyl)-*N*′-(2,6-dimethylphenyl) benzenecarboximidamide, C-00214
N-(3-Chlorophenyl)-*N*′-(2,3-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00215
N-(3-Chlorophenyl)-*N*′-(2,5-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00216
N-(4-Chlorophenyl)-*N*′-(2,3-dimethylphenyl)-*N*-hydroxy-4-methylbenzenecarboximidamide, C-00219
4-Chloro-*N*-(2-pyridinyl)benzamide, C-00256
▷ Cyanoacetamide, *in* C-00324
4,4′-Diaminodiphenyldisulfimide, D-00088
▷ Dibenzyldithiooxamide, D-00169
4,4′-Dichlorodiphenyldisulfimide, D-00268
▷ *N*,*N*′-Didodecylethanedithioamide, D-00310
N-[4-[7-(Diethylamino)-4-methyl-2-oxo-2*H*-1-benzopyran-3-yl]phenyl]-2-iodoacetamide, D-00321
2,3-Dihydro-3-oxo-5,6-diphenyl-4-pyridazinecarboxylic acid; Amide, *in* D-00463
N-(2,3-Dimethylphenyl)-*N*′-phenylbenzenecarboximidamide, D-00892
N-(2,6-Dimethylphenyl)-*N*′-phenylbenzenecarboximidamide, D-00893
N,*N*′-Dimethyl-2,6-pyridinedicarbothioamide, D-00908
Diphenyldisulfimide, D-01008
N,*N*′-Di-(8-quinolinyl)-2,6-pyridinedicarboxamide, D-01104
α,α-[(Dithiooxalyl)diimino]di-*m*-toluenesulfonic acid, D-01134
▷ Ethanedithioamide, E-00027
N-(2-Furanylmethyl) hydrazinecarbothioamide, F-00057
2,2,3,3,4,4,4-Heptafluoro-*N*-methyl-*N*-(trimethylsilyl)butanamide, H-00007
▷ 2-Hydroxybenzamide, *in* H-00112
N-Hydroxy-4-methoxy-*N*-phenylbenzamide, *in* D-00704
N-Hydroxy-3-nitrobenzenecarboximidamide, H-00382
N-(3-Hydroxyphenyl)-2-mercaptoacetamide, H-00476
N-(2-Hydroxyphenyl)-1-octanesulfonamide, H-00490
Marfey's reagent, *in* F-00028
2-Mercapto-*N*-(4-methylphenyl)acetamide, M-00036
2-Mercapto-*N*-2-pyridinylacetamide, M-00055
▷ 4-Methylaniline; *N*-Ac, *in* M-00124
N-Methylbis(trifluoroacetamide), *in* B-00461
N-(2-Methylphenyl)-*N*′-(4-chlorophenyl) benzamidine, M-00226
N-(4-Methylphenyl)-*N*′-phenylbenzenecarboximidamide, M-00236
N-Methyl-*N*-(trimethylsilyl)formamide, M-00331
▷ Nicotinamide methochloride, *in* A-00134
N-(3-Nitrophenyl)-β-oxobenzenepropenamide, N-00140
N′-(3-Chloro-4-methylphenyl)-*N*-(4-chlorophenyl)-*N*-hydroxybenzenecarboximidamide, N-00170
Oxamide bisphenylhydrazone, O-00050
3-Oxo-*N*-phenylbutanethioamide, O-00065
2-Oxo-*N*-phenylcyclopentanecarboxamide, *in* O-00060
Phenylalanine β-naphthylamide; (*S*)-*form*, *in* P-00079
N-[(Phenylamino)thioxomethyl] benzenecarbothioamide, P-00088
N-2-Propenyl-1,2-hydrazinedicarbothioamide, P-00272
▷ Pyrazinecarboxamide, *in* P-00285
N-2-Pyridinylbenzenecarbothioamide, P-00383
2-Quinolinecarboxamide, *in* Q-00017
▷ Thioacetamide, *in* E-00038
α-Thiosemicarbazidoisobutyric acid; Amide, *in* T-00174

Aminobiphenyl compounds

▷ 2-Aminobiphenyl, A-00116
▷ 4-Aminobiphenyl, A-00117
4-[(4′-Amino-(1,1′-biphenyl)-4-yl)azo]-1,2-benzenediol, A-00118
4-(4-Amino-4-biphenylylazo)-3,5-dibromobenzenesulfonic acid, A-00119
4-Amino-4′-chlorobiphenyl, A-00136
3-[[4′-Amino-3,3′,5,5′-tetramethyl[1,1-biphenyl]-4-yl]amino]-1-propanesulfonic acid; Na salt, *in* A-00353
Bis(4-aminophenyl)acetylene, B-00249
4-Catecholylazo-4′-acetylaminobiphenyl, *in* A-00118
▷ 4,4′-Diaminobiphenyl, D-00053
2,2′-Diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00059
4,4′-Diamino-3,3′-dibromobiphenyl, D-00068
4,4′-Diamino-2,2′-diethylbiphenyl, D-00072
4,4′-Diamino-3,3′-dimethoxy-1,1′-binaphthyl, D-00077
4,4′-Diamino-3,3′-diphenyl-1,1′-binaphthyl, D-00087
4,4′-Diamino-3,3′-dipropyl-1,1′-binaphthyl, D-00093
4,4′-Diamino-3-ethoxybiphenyl, *in* D-00057
▷ 4,4′-Diamino-3,3′,5,5′-tetramethylbiphenyl, D-00128
▷ Dicarboxidine, D-00244
4,4-Dicarboxy-2,2′-diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid, D-00245
4,4′-Dimethoxy-2,2′-diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid, *in* D-00572
4,4′-Dimethyl-2,2′-diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00849
Dimethylsulfonazo DAL, D-00918
3-Methoxybenzidine, *in* D-00057
N,*N*,*N*′,*N*′-Tetramethylbenzidine-3-sulfonic acid, *in* D-00058

Anabasine derivatives

5-Amino-2-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]phenol, A-00252
6′-[(5-Cyclohexyl-2,4-dihydroxyphenyl)azo]-1-methylanabasine, C-00353
3-Diethylamino-4-[5-(1-methyl-2-piperidinyl)-2-pyridyl]phenol, D-00323
2-[(3,5-Dihydroxy-2-methylphenyl)azo]-5-(1-methyl-2-piperidinyl)pyridine, D-00653
4,5-Dihydroxy-3-[(5-(1-methyl-2-piperidinyl)-2-pyridyl)azo]-2,7-napthalenedisulfonic acid; Di-Na salt, *in* D-00655
2-[(2,7-Dihydroxy-1-naphthyl)azo]-5-(1-methyl-2-piperidinyl)pyridine, D-00662
5-Hydroxy-[6-[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]-1-naphthalenesulfonic acid, H-00320
6-Hydroxy-5-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]-2-naphthalenesulfonic acid, H-00321
4-Hydroxy-3-[[5-(1-methyl-2-piperidinyl)2-pyridinyl]azo]-1-naphthalenesulfonic acid; Na salt, *in* H-00319
8-Hydroxy-7-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]-5-quinolinesulfonic acid; Na salt, *in* H-00322
3-Hydroxy-4-[[5-(1-methyl-2-pyrrolidinyl)-2-pyridinyl]azo]-2-naphthalenecarboxylic acid, H-00325
3-Isopropyl-6-methyl-2-[[5-(1-methylpiperidinyl)-2-pyridinyl]azo] phenol, I-00074
2-Methoxy-6-[[5-(1-methyl)-2-piperidinyl-2-pyridyl]azo]phenol, M-00092
4-Methyl-2-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]phenol, M-00200
2-[[5-(1-Methyl-1-piperidinyl)-2-pyridinyl] azo]-1,4-benzenediol, M-00247
4-[[3-(1-Methyl-2-piperidinyl)-4-pyridinyl] azo]-1,3-benzenediol, M-00248
4-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-1,3-benzenediol, M-00249
1-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-2-naphthalenol, M-00250
2-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-1-naphthalenol, M-00251
3-[(5-(1-Methyl-2-piperidinyl)-2-pyridinyl) azo]-2,6-pyridinediamine, M-00252
7-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-8-quinolinol, M-00253
5-[[5-(1-Methyl-2-piperidinyl)-2-pyridyl] azo]-1-naphthalenesulfonic acid, M-00254

Anthraquinones

▷ Alizarine fluorine blue, A-00076
Alizarine fluorine blue S: K salt, *in* A-00077
Alizarine maroon, A-00079
Alizarine orange, A-00080
Alizarine red S; Na salt, *in* A-00081
▷ 1-Amino-4-hydroxyanthraquinone, A-00182
3-(Aminomethyl)-1,2,5,8-tetrahydroxyanthraquinone-*N*,*N*-diacetic acid, A-00256
3-(Aminomethyl)-1,2,7-trihydroxyanthraquinone-*N*,*N*-diacetic acid, A-00260

▷ Anthraquinone-2-sulfonic acid, A-00388
Anthrazo; B,HCl, *in* A-00389
▷ 1,4-Bis[(4-methylphenylamino)]-9,10-anthracenedione, B-00406
Carmine red, C-00045
▷ 1,2-Diaminoanthraquinone, D-00043
1,4-Diaminoanthraquinone-2,3-disulfonic acid; Di-Na salt, *in* D-00044
3,4-Diaminoanthraquinone-1-sulfonic acid, D-00045
4,8-Diamino-9,10-dihydro-1,5-dihydroxy-9,10-dioxo-2,6-anthracenedisulfonic acid, D-00073
▷ 1,5-Diamino-4,8-dihydroxyanthraquinone, D-00074
▷ 1,8-Diamino-4,5-dihydroxyanthraquinone, D-00075
▷ 1,4-Diamino-5-nitroanthraquinone, D-00107
1,4-Dichloro-5,8-dihydroxyanthraquinone, D-00261
9,10-Dihydro-1,4-dihydroxy-9,10-dioxo-3-(4-sulfophenoxy)-2-anthracenesulfonic acid, D-00377
4-[(9,10-Dihydro-9,10-dioxo-1-anthracenyl) azo]-3-hydroxy-2,7-naphthalenedisulfonic acid; Ba salt, *in* D-00396
N-(9,10-Dihydro-9,10-dioxo-2-sulfoanthracenyl)benzenecarboxamide, *in* A-00093
▷ 1,2-Dihydroxyanthraquinone, D-00510
▷ 1,4-Dihydroxyanthraquinone, D-00511
▷ 1,8-Dihydroxyanthraquinone, D-00512
1,5-Dihydroxyanthraquinone-2,6-disulfonic acid, D-00513
1,2-Dihydroxy-3-[5-(8-hydroxyquinolinyl) azo]anthraquinone, D-00629
3,4-Dihydroxy-10-imino-9(10*H*)-anthracenone, D-00634
5,6-Dihydroxynaphtho[2,3-*f*]quinoline-7,12-dione, D-00661
1,2-Dihydroxy-3-(1,4,7,10,13-pentaoxa-16-azacyclooctadecylmethyl)-9,10-anthracenedione, D-00682
1,4-Dihydroxy-2-(2-pyridylmethyl) anthraquinone, D-00725
1,2-Dihydroxy-3-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-ylmethyl)-9,10-anthracenedione, D-00737
1,2,3,5,6,7-Hexahydroxyanthraquinone, H-00052
1,2,4,5,6,8-Hexahydroxyanthraquinone, H-00053
1-Hydroxyanthraquinone-2-carboxylic acid, H-00099
▷ 1-Hydroxy-4-[(4-methylphenyl)amino]-9,10-anthracenedione, H-00300
1,1′-Iminobis[6-chloroanthraquinone], I-00007
▷ 1,1′-Iminodianthraquinone, I-00011
2,2′-Iminodianthraquinone, I-00012
Lead blue, L-00004
▷ 1-Mercaptoanthraquinone, M-00018
1-[(3-Methyl-5-oxo-1-phenyl-2-pyrazolin-4-yl)azo]anthraquinone, M-00215
Quinizarin S; Na salt, *in* Q-00006
Sudan blue GA, S-00037
2,4,5,7-Tetrabromo-1,8-dihydroxyanthraquinone, T-00015
▷ 1,2,5,8-Tetrahydroxy-9,10-anthraquinone, T-00070
3,4,5,8-Tetrahydroxyanthraquinone-2-sulfonic acid, T-00071
▷ 1,2,4-Trihydroxyanthraquinone, T-00270
1,2,7-Trihydroxyanthraquinone, T-00271
1,3,4-Trihydroxyanthraquinone-2-carboxylic acid, T-00272

Antipyrine derivatives

3-Acetyl-1,5-bis(1,2-dihydro-1,5-dimethyl-3-oxo-2-phenyl-4-pyrazolyl)formazan, A-00014
▷ 4-Amino-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00152
4-[[(4-Amino-2-hydroxyphenyl)]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00209
4-[[2-Amino-5-(1-methyl-2-piperidinyl)-3-pyridinyl]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00251
4-[[2-Amino-1-methyl-6-(3-pyridinyl)-3-piperidinyl]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00254
4-[(4-Amino-1-naphthalenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00275
4-[(4-Aminophenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00312
4-Aminophenyl-4-ethylbenzylaminoantipyrinylcarbinol, A-00322
4-[(6-Amino-3-pyridinyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00335
▷ Aminopyrine, A-00339
4-[(2-Amino-7-quinolinyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00342
2-(4-Antipyrylazo)-5-diethylaminophenol, A-00392
7-(4-Antipyrylazo)-8-hydroxyquinoline, A-00393
Antipyrylazo III, A-00394
5-(4-Antipyrylazo)-2-monoethylamino-*p*-cresol, A-00395
Azonol A1, A-00474
4-[Bis[4-(diethylamino)phenyl] hydroxymethyl]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, B-00295
4-[Bis[*p*-(dimethylamino)phenyl] hydroxymethyl]-4-chloro-3-methyl-1-phenyl-2-pyrazolin-5-one, B-00319
Bis(1-*p*-sulfophenyl-2,3-dimethylpyrazol-5-on-4-yl)methane, B-00456
4-(2-Bromobenzoyl)-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, B-00493
4-[3-Bromo-4-(dimethylamino)-α-[*p*-(dimethylamino)phenyl]-α-hydroxybenzyl]antipyrine, B-00505
N-(5-Chloro-2-methoxyphenyl)-4-[(2,3-dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-2-naphthalenecarboxamide, C-00168
Chromopyrazole, C-00286
Chromopyrazole I, C-00287
Chromopyrazole II, C-00288
4,4′-Diamino-3,3′-dimethoxybiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00078
1,5-Diantipyrinyl-3-formazancarbonitrile, D-00134
1,1-Diantipyrylbutane, D-00135
1,1-Diantipyrylethane, D-00136
1,1-Diantipyrylheptane, D-00137
1,1-Diantipyryl-2-hydroxyphenylmethane, D-00138
1,1-Diantipyrylmethane, D-00139
1,1-Diantipyrylphenylmethane, D-00140
Diantipyrylthiourea, D-00141
5-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-2,4-dihydroxybenzoic acid, D-00381
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-(2-methoxyphenyl)-2-naphthalenecarboxamide, D-00383
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-2-(methylphenyl)-2-naphthalenecarboxamide, D-00384
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-2-naphthalenecarboxylic acid, D-00385
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-1-naphthalenyl-2-naphthalenecarboxamide, D-00387
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-phenyl-2-naphthalenecarboxamide, D-00388
1,2-Dihydro-1,5-dimethyl-4-[(4-oxo-2-thioxo-5-thiazolidinyl)azo]-2-phenyl-3*H*-pyrazol-3-one, D-00389
1,2-Dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione, D-00391
▷ 1,2-Dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00392
1,2-Dihydro-1,5-dimethyl-2-phenyl-4-[(2,4,6-trihydroxyphenyl)azo]-3*H*-pyrazol-3-one, D-00393
1,2-Dihydro-1,5-dimethyl-2-phenyl-4-[5-(1,2,3-trihydroxyphenyl)azo]-3*H*-pyrazol-3-one, D-00394
1,2-Dihydro-4-[(2-hydroxy-5-methylphenyl) methyleneamino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00410
1,2-Dihydro-4-[(1-hydroxy-2-naphthalenyl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00414
1,2-Dihydro-4-[(2-hydroxynaphthalenyl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00415
1,2-Dihydro-4-[(4-hydroxynaphthalenyl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00416
1,2-Dihydro-4-[[(2-hydroxy-1-naphthalenyl) methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00417
1,2-Dihydro-4-[(4-hydroxyphenyl)azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00419
1,2-Dihydro-4-[[(2-hydroxyphenyl) methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00420
1,2-Dihydro-4-[[(4-hydroxyphenyl) methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00421
1,2-Dihydro-4-[(4-hydroxyquinolin-8-yl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00423
1,2-Dihydro-4-[[(4-methoxyphenyl) methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00428
3-[(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]-2-hydroxy-5-methylbenzenesulfonic acid; Na salt, *in* D-00437
2-[(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]-5-nitrobenzenesulfonic acid; K salt, *in* D-00438
4-[(1,7-Dihydroxy-2-naphthalenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00659
4-[(2,4-Dihydroxyphenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00691
4,4′-[*p*-(Dimethylamino)-α-hydroxybenzylidene]diantipyrine, D-00785
4-[[[4-(Dimethylamino)phenyl]methylene] amino]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00818
3,3′-Dimethyl-1,1′-diphenyl-[4,4′-bi-2-pyrazoline]-5,5′-dione, D-00851
Dithioantipyric acid, D-01116
4,4′-Methylenebis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-thione], M-00169
1-[(3-Methyl-5-oxo-1-phenyl-2-pyrazolin-4-yl)azo]anthraquinone, M-00215
Nitrochromopyrazole, N-00103
4,4′-(Phenylmethylene)bis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], P-00147
4,4′-(Propylmethylene)bis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], P-00279
Solochrome fast red; Na salt, *in* S-00020
Solochrome red ERS, S-00022

Azo compounds - chromotropic acid derivatives

p-Acetylarsenazo, A-00012
3-[(3-Acetylphenyl)azo]-6-[(4-chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00030
Acid blue 89, A-00052
Acid chrome blue K; Tri-Na salt, *in* A-00053
Acid monochrome green S; Na salt, *in* A-00057
▷ Acid red 26; Di-Na salt, *in* A-00058
Alpha blue; Di-Na salt, *in* A-00084
5-Amino-3-[[4-aminophenyl]azo]-4-hydroxy-2,7-naphthalenedisulfonic acid; N^4-Ac, Di-Na salt, *in* A-00092
Aminobenzene AE, A-00098
5-Amino-3-[(3-chloro-2-hydroxy-5-nitrophenyl)azo]-4-hydroxy-2,7-naphthalenedisulfonic acid, A-00137
4-Amino-3-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-2,5-naphthalenedisulfonic acid, A-00140
4-Amino-3-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00141
5-Amino-6-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-1,4-naphthalenedisulfonic acid, A-00142
4-Amino-8-[(2,4-dithioxo-5-thiazolidinyl)azo]-5-hydroxy-1,7-naphthalenedisulfonic acid, A-00169
4-Amino-5-hydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* A-00186
5-Amino-4-hydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* A-00187
4-Amino-5-hydroxy-6-[(8-hydroxy-3,6-disulfo-1-naphthalenyl)azo]-2,7-naphthalene-2,7-disulfonic acid, A-00188
5-Amino-4-hydroxy-3-[(2-hydroxy-3-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* A-00189
5-Amino-4-hydroxy-3-[(2-hydroxy-5-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* A-00190
5-Amino-4-hydroxy-3-[(2-hydroxy-3-nitro-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00192
5-Amino-4-hydroxy-3-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, A-00194
5-Amino-4-hydroxy-3-[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00207
4-Amino-5-hydroxy-3-(phenylazo)-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* A-00212
5-Amino-4-hydroxy-3-(2-pyridinylazo)-2,7-naphthalenedisulfonic acid, A-00218
5-Amino-4-hydroxy-3-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, A-00220
8-(7-Amino-1-hydroxy-3-sulfophenylazo)-7-hydroxy-1-naphthalenesulfonic acid; Di-Na salt, *in* A-00223
5-Amino-4-hydroxy-3-[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00224
Aminomethylazo III, A-00235
4-[(4-Amino-1-naphthalenyl)azo]-5-hydroxy-2,7-naphthalenedisulfonic acid; *N*-Et, di-Na salt, *in* A-00276
5-[[4-(Aminosulfonyl)phenyl]azo]-6-hydroxy-2-naphthalenesulfonic acid, A-00350
▷ Anazolene sodium, *in* A-00366
Antipyrylazo III, A-00394
Arsaminazo, A-00402
Arsenazo AE, A-00404
Arsenazo AG, A-00405
Arsenazo B; Di-Na salt, *in* A-00406
Arsenazo DAL, A-00407
Arsenazo DBS, A-00408
Arsenazo H, A-00409
Arsenazo II, A-00411
▷ Arsenazo III, A-00412
Arsenazo I; Tri-Na salt, *in* A-00410
Arsenazo IV, A-00413
Arsenazo M, A-00414
Arsenazo SA, A-00415
Arsenazo 4S3NB, A-00416
Arsenazo SU, A-00417
Arsenazo T, A-00418
3-[(2-Arsonophenyl)azo]-6-[(2-arsono-5-chlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00421
3-[(2-Arsonophenyl)azo]-6-[(2-arsono-5-methylphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00422
3-[(2-Arsonophenyl)azo]-6-[(4-arsonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00423
3-[(2-Arsonophenyl)azo]-6-[(3-chloro-2-hydroxy-5-nitrophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00424
3-[(2-Arsonophenyl)azo]-6-[(5-chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00425
3-[(2-Arsonophenyl)azo]-6-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00426
3-[(2-Arsonophenyl)azo]-6-[(4-chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00427
3-[(2-Arsonophenyl)azo]-6-[[5-(diethylsulfamoyl)-2-methoxyphenyl]azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00428
2-[[7-[(4-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, A-00429
N-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]methyl]-*N*-(carboxymethyl)glycine, A-00430
3-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-4-arsonobenzoic acid, A-00431
3-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-2-hydroxy-5-sulfobenzoic acid, A-00432
2-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-5-sulfobenzoic acid, A-00433
3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00434
3-[(4-Arsonophenyl)azo]-4,5-dihydroxy-6-[(4-methylphenyl)azo]-2,7-naphthalenedisulfonic acid, A-00435
3-[(4-Arsonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00436
3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00437
3-[(4-Arsonophenyl)azo]-4,5-dihydroxy-6-(phenylazo)-2,7-naphthalenedisulfonic acid, A-00438
3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, A-00439
3-[(2-Arsonophenyl)azo]-6-[(4-dimethylaminophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00440
3-[(2-Arsonophenyl)azo]-6-[(3,5-dinitro-2-hydroxyphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00441
3-[(2-Arsonophenyl)azo]-6-[(2-hydroxy-3-nitro-5-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00442
Azorhodine 2G; Di-Na salt, *in* A-00476
▷ Azorubine; Di Na salt, *in* A-00477
▷ Azovan blue, A-00479
4-(1*H*-Benzimidazol-5-ylazo)-3-hydroxy-2,7-naphthalenedisulfonic acid, B-00042
▷ Benzopurpurine 4B; Di-Na salt, *in* B-00071
Beryllon I, B-00198
Beryllon II, B-00199
Beryllon III, *in* A-00211
3,6-Bis[(2-arsono-4,6-dibromophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00255
3,6-Bis[(2-arsono-4-methylphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00256
3,6-[Bis(3-chloro-2-hydroxy-5-nitrophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00282
4,4′-Bis[(1,8-dihydroxy-3,6-disulfo-2-naphthyl)azo]-3,3′-biphenyldicarboxylic acid, B-00301
3,6-Bis[(5-methyl-2-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00426
Brilliant croceine; Di-Na salt, *in* B-00478
3-[(6-Bromo-2-benzothiazolyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00490
3-[(4-Bromophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00546
C.I. Acid violet 3; Di-Na salt, *in* C-00001
C.I. Mordant blue 18, *in* A-00139
Calcichrome; Tetra-Na salt, *in* C-00012
Calconalide I, C-00013
Calcon-*m*-nitroanilide, C-00014
Carboxyarsenazo, C-00026
Carboxyarsenazo B, C-00027
Carboxybenzene S, C-00028
1-(3-Carboxy-2-hydroxy-1-naphthylazo)-2-naphthol-3,6-disulfonic acid, C-00030
Carboxynitrazo, C-00035
2-[[7-[(3-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, C-00036
2-[[7-[(4-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, C-00037
3-[[7-[(2-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]-2-hydroxy-5-sulfobenzoic acid, C-00038
Chlorindazon C, C-00051
Chlorindazon DS, C-00052
3-[(3-Chloro-2-hydroxy-5-nitrophenyl)azo]-6-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00138
3-[(3-Chloro-2-hydroxy-5-nitrophenyl)azo]-6-[(3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00139
3-[(5-Chloro-2-hydroxyphenyl)azo]-6-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00142
2-[[7-[(5-Chloro-2-hydroxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, C-00143
3-[(5-Chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00144
3-[(5-Chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, C-00145
3-[(5-Chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00146
7-[(5-Chloro-2-hydroxyphenyl)azo]-8-hydroxy-1,6-naphthalenedisulfonic acid, C-00147
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-6-[(3-chloro-5-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00153
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2,4-dimethylphenyl)azo]-2,7-naphthalenedisulfonic acid, C-00154
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00155
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, C-00156

3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00157
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00158
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, C-00159
6-(5-Chloro-2-hydroxy-4-sulfophenylazo)-5-hydroxy-1-naphthalenesulfonic acid; Di-Na salt, *in* C-00161
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-6-phenylazo-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00162
3-[[7-[4-Chlorophenylazo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]benzoic acid, C-00201
3-[(3-Chlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* C-00202
3-[(4-Chlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* C-00203
Chlorophosphonazo I, C-00241
Chlorophosphonazo III, C-00242
Chlorophosphonazo mN, C-00243
Chlorophosphonazo pN, C-00244
Chlorophosphonazo R, C-00245
Chlorophosphonazo-*m*-sulfonic acid, C-00246
3-[[7-[(4-Chloro-2-phosphonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, C-00247
N-[4-[[7-[(4-Chloro-2-phosphonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoyl]glycine, C-00248
3-[(4-Chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-6-[(4-iodophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00249
3-[(5-Chloro-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00262
Chromazol KS; Tri-Na salt, *in* C-00276
Chromotrope 2B; Di-Na salt, *in* C-00290
Chromotrope 2C, C-00291
Chromotrope 2R; Di-Na salt, *in* C-00293
Diamond green BW; Di-Na salt, *in* D-00133
Dibromoarsenazo II, D-00177
Dibromoarsenazo III, D-00178
Dibromotichromin, D-00219
3-[(2,4-Dichlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00289
3-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, D-00382
4-[(9,10-Dihydro-9,10-dioxo-1-anthracenyl)azo]-3-hydroxy-2,7-naphthalenedisulfonic acid; Ba salt, *in* D-00396
3-[(4,5-Dihydro-5-oxo-1*H*-pyrazol-4-yl)azo]-4-hydroxy-1-naphthalenesulfonic acid, D-00464
4,5-Dihydroxy-3-[4-(aminomethyl)phenylazo]-2,7-naphthalenedisulfonic acid *N*,*N*-diacetic acid, D-00509
4,5-Dihydroxy-3,6-bis[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00548
4,5-Dihydroxy-3,6-bis[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00549
4,5-Dihydroxy-3,6-bis[(2-hydroxy-3-nitro-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00550
4,5-Dihydroxy-3,6-bis[(4-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00552
4,5-Dihydroxy-3,6-bis[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00553
4,5-Dihydroxy-3,6-bis[(4-methoxyphenyl)azo]-2,7-naphthalenedisulfonic acid, *in* D-00552
4,5-Dihydroxy-3,6-bis[(*o*-methoxyphenyl)azo]-2,7-naphthalenedisulfonic acid, *in* D-00551
4,5-Dihydroxy-3,6-bis[(4-methyl-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid; Tetra-Na salt, *in* D-00554
4,5-Dihydroxy-3,6-bis[(3-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00556
4,5-Dihydroxy-3,6-bis[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00557
4,5-Dihydroxy-3,6-bis[(4-nitro-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00558
4,5-Dihydroxy-3,6-bis(phenylazo)-2,7-naphthalenedisulfonic acid, D-00559
4,5-Dihydroxy-3,6-bis[(2-phosphonophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00560
4,5-Dihydroxy-3,6-bis(8-quinolylazo)-2,7-naphthalenedisulfonic acid, D-00561
4,5-Dihydroxy-3,6-bis[(4-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid, D-00562
4,5-Dihydroxy-3,6-bis[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00563
4,5-Dihydroxy-3,6-bis[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00564
4,5-Dihydroxy-3,6-bis[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00565
4,5-Dihydroxy-3,6-bis(*p*-tolylazo)-2,7-naphthalenedisulfonic acid, D-00566
2-[[1,8-Dihydroxy-7-[(5-chloro-3-sulfophenyl)azo]-3,6-disulfo-2-naphthyl]azo]benzoic acid, D-00568
4,4′-Dihydroxy-2,2′-diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00572
4,5-Dihydroxy-3-[4,5-(dimethyl-2-thiazolyl)azo]-2,7-naphthalenedisulfonic acid, D-00579
4,5-Dihydroxy-3-[(3,5-dinitro-2-hydroxyphenyl)azo]-6-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00580
4,5-Dihydroxy-3-[(3,5-dinitro-2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00581
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[5-chlorosalicylic acid], D-00588
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[2-hydroxy-5-sulfobenzoic acid], D-00589
2,2′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[5-sulfobenzoic acid], D-00590
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bis[4-arsonobenzoic acid], D-00591
2,2′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bisbenzoic acid, D-00592
3,3′-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bisbenzoic acid, D-00593
3-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]benzoic acid, D-00594
4-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]benzoic acid, D-00595
5-[[4′-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo][1,1′-biphenyl]-4-yl]azo]-2-hydroxybenzoic acid; Tri-Na salt, *in* D-00596
5-[[4′-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]-3,3′-dimethyl[1,1′-biphenyl]-4-yl]azo]-2-hydroxybenzoic acid; Tri-Na salt, *in* D-00597
4-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]-2-hydroxybenzoic acid, D-00598
[2-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]phenyl]-2-hydroxyacetic acid, D-00599
3-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]-2-pyridinecarboxylic acid, D-00600
2-(1,8-Dihydroxy-3,6-disulfo-2-naphthylazo)phenoxyacetic acid; Di-Na salt, *in* D-00601
[*o*-[(1,8-Dihydroxy-3,6-disulfo-2-naphthyl)azo]phenyl]acetic acid, D-00602
2-[(1,8-Dihydroxy-3,6-disulfo-2-naphthylazo)phenyl]-2-oxoacetic acid, D-00603
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(3-nitro-5-sulfophenyl)azo]-2-naphthalenyl]azo]benzoic acid, D-00604
4,5-Dihydroxy-3-[(2,4-disulfophenyl)azo]-6-[(4-nitro-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00605
2-[[[1,8-Dihydroxy-3,6-disulfo-7-[(4-phenylazo)phenyl]azo]-2-naphthyl]azo]-5-sulfobenzoic acid, D-00606
4,5-Dihydroxy-3-[(2,4-disulfophenyl)azo]-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00607
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(2-sulfophenyl)azo]-2-naphthalenyl]azo]benzoic acid, D-00608
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(3-sulfophenyl)azo]-2-naphthalenyl]azo]benzoic acid, D-00609
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(4-sulfophenyl)azo]-2-naphthalenyl]azo]benzoic acid, D-00610
3-[[1,8-Dihydroxy-3,6-disulfo-7-[(4-sulfophenyl)azo]-2-naphthalenyl]azo]benzoic acid, D-00611
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-6-[(2-hydroxy-5-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00615
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-6-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00616
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-6-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00617
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00618
4,5-Dihydroxy-3-[[2-[hydroxy(2-methylphenyl)phosphinyl]phenyl]azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00619
4,5-Dihydroxy-3-[(2-hydroxy-4-nitrophenyl)azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00620
4,5-Dihydroxy-3-[(2-hydroxy-5-nitrophenyl)azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00621
4,5-Dihydroxy-3-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-6-[(3-nitro-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00622
4,5-Dihydroxy-3-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-6-(phenylazo)-2,7-naphthalenedisulfonic acid, D-00623
4,5-Dihydroxy-3-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00624
4,5-Dihydroxy-3-[(4-hydroxyphenyl)azo]-6-(phenylazo)-2,7-naphthalenedisulfonic acid, D-00625
4,5-Dihydroxy-3-[(2-hydroxyphenyl)azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00626
o-[[1,8-Dihydroxy-7-[(2-hydroxy-5-sulfophenyl)azo]-3,6-disulfo-2-naphthyl]azo]benzoic acid, D-00630
4,5-Dihydroxy-3-[(2-hydroxy-5-sulfophenyl)azo]-6-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00631
4,5-Dihydroxy-3-[(2-hydroxy-5-sulfophenyl)azo]-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, D-00632

4,5-Dihydroxy-3-[(2-hydroxy-5-sulfophenyl) azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00633
4,5-Dihydroxy-3-[(4-iodophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00635
2-[[1,8-Dihydroxy-7-[(4-methoxyphenyl) azo]-3,6-disulfo-2-naphthyl]azo]benzoic acid, D-00642
4,5-Dihydroxy-3-[(2-methoxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00643
2-[[1,8-Dihydroxy-7-[(3-methylphenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00651
2-[[1,8-Dihydroxy-7-[(4-methylphenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00652
4,5-Dihydroxy-3-(3-methylphenylazo)-6-phenylazo-2,7-naphthalenedisulfonic acid, D-00654
4,5-Dihydroxy-3-[(5-(1-methyl-2-piperidinyl)-2-pyridyl)azo]-2,7-napthalenedisulfonic acid; Di-Na salt, *in* D-00655
2-[[1,8-Dihydroxy-7-[(2-nitrophenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00663
2-[[1,8-Dihydroxy-7-[(3-nitrophenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00664
4,5-Dihydroxy-3-[(2-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00665
4,5-Dihydroxy-3-[(3-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00666
4,5-Dihydroxy-3-[(*p*-nitrophenyl)azo]-6-(phenylazo-2,7-naphthalenedisulfonic acid), D-00667
4,5-Dihydroxy-3-[(*p*-nitrophenyl)azo]-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, D-00668
4,5-Dihydroxy-3-[(*p*-nitrophenyl)azo]-6-[(*p*-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00669
4,5-Dihydroxy-3-[(4-nitro-2-phosphonophenyl)-azo]-2,7-naphthalenedisulfonic acid, D-00671
4,5-Dihydroxy-3-nitroso-6-[(4-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid, D-00676
4,5-Dihydroxy-3-[(5-nitro-3-sulfophenyl) azo]-6-(phenylazo)-2,7-naphthalenedisulfonic acid, D-00677
4,5-Dihydroxy-3-[(4-nitro-2-sulfophenyl) azo]-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00678
4,5-Dihydroxy-3-[(5-nitro-3-sulfophenyl) azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00679
2-[[1,8-Dihydroxy-7-(phenylazo)-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00692
4-[(2,4-Dihydroxyphenyl)azo]-3-hydroxy-1-naphthalenesulfonic acid, D-00697
4,5-Dihydroxy-3-(phenylazo)-6-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, D-00701
4,5-Dihydroxy-3-(phenylazo)-6-[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00702
4,5-Dihydroxy-3-[(4-phenyl-2-thiazolyl) azo]-2,7-naphthalenedisulfonic acid, D-00718
4,5-Dihydroxy-3-[(2-pyridinyl)azo]-2,7-naphthalenedisulfonic acid, D-00722
4,5-Dihydroxy-3-[(3-pyridinyl)azo]-2,7-naphthalenedisulfonic acid, D-00723
o-[[1,8-Dihydroxy-7-(8-quinolylazo)-3,6-disulfo-2-naphthyl]azo]benzoic acid, D-00726
8-[[1,8-Dihydroxy-7-(8-quinolylazo)-3,6-disulfo-2-naphthyl]azo]-1,6-naphthalenedisulfonic acid, D-00727
4,5-Dihydroxy-3-(8-quinolylazo)-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00728
4,5-Dihydroxy-3-(8-quinolylazo)-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00729
4,5-Dihydroxy-3-[(4-sulfo-1-naphthalenyl) azo]-2,7-naphthalenedisulfonic acid, D-00733
4,5-Dihydroxy-3-[(5-sulfo-1-naphthalenyl) azo]-2,7-naphthalenedisulfonic acid, D-00734
4,5-Dihydroxy-3-[(6-sulfo-2-naphthalenyl) azo]-2,7-naphthalenedisulfonic acid, D-00735
4,5-Dihydroxy-3-[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid; Tri-Na salt, *in* D-00736
4,5-Dihydroxy-3-(1*H*-tetrazol-5-ylazo)-2,7-naphthalenedisulfonic acid, D-00738
4,5-Dihydroxy-3-[(2-thiazolyl)azo]-2,7-naphthalenedisulfonic acid, D-00739
Dimethylsulfonazo DAL, D-00918
4-[(3,5-Dinitro-2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00953
3-[(2,4-Dinitrophenyl)azo]-4,5-dihydroxy-6-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, D-00964
3-[(2,4-Dinitrophenyl)azo]-4-hydroxy-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00965
3-[(3,5-Dinitrophenyl)azo]-4-hydroxy-1-naphthalenesulfonic acid; Na salt, *in* D-00967
Eliamina blue FFL; Tetra-Na salt, *in* E-00006
Epsilon blue; Di-Na salt, *in* E-00008
▷ Eriochrome blue black; Na salt, *in* E-00010
Eriochrome blue SE; Di-Na salt, *in* E-00011
Eriochrome green B, E-00016
Eriochrome red B; Na salt, *in* E-00017
3-[(6-Ethoxy-2-benzothiazolyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, E-00053
Fast sulphon black F; Na salt, *in* F-00002
Hexaoxacycloazochrome, H-00067
2-(2-Hydroxy-3,6-disulfo-1-naphthalenylazo)-5-(*N*,*N*-diethylamino) phenol, H-00173
3-Hydroxy-4-[(2-hydroxy-3,5-dinitrophenyl) azo]-2,7-naphthalenedisulfonic acid, H-00198
4-Hydroxy-3-[(2-hydroxy-3,5-dinitrophenyl) azo]-1-naphthalenesulfonic acid, H-00199
6-Hydroxy-5-[(2-hydroxy-3,5-dinitrophenyl) azo]-2-naphthalenesulfonic acid; Na salt, *in* H-00200
3-Hydroxy-4-[[2-hydroxy-3-[[(2-methoxyphenyl)amino]carbonyl]-1-naphthalenyl]azo]-1-naphthalenesulfonic acid, H-00207
3-Hydroxy-4-[[2-hydroxy-3-[[(4-methoxyphenyl)amino]carbonyl]-1-naphthalenyl]azo]-1-naphthalenesulfonic acid, H-00208
8-Hydroxy-7-[(2-hydroxy-4-nitrophenyl) azo]-1,6-naphthalenedisulfonic acid, H-00227
8-Hydroxy-7-[(2-hydroxy-5-nitrophenyl) azo]-1,6-naphthalenedisulfonic acid, H-00228
4-Hydroxy-3-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, H-00229
5-Hydroxy-6-[(2-hydroxy-5-nitro-3-sulfophenyl)-azo]-1-naphthalenesulfonic acid, H-00230
5-Hydroxy-8-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-2-naphthalenesulfonic acid, H-00232
8-Hydroxy-7-[(2-hydroxyphenyl)azo]-1,6-naphthalenedisulfonic acid, H-00233
3-Hydroxy-4-[(2-hydroxy-4-sulfo-1-naphthalenyl)azo]-2-naphthalenecarboxylic acid; Na salt, *in* H-00242
3-Hydroxy-4-[(2-hydroxy-6-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid, H-00243
3-Hydroxy-4-[[2-(methylthio)phenyl]azo]-2,7-naphthalenedisulfonic acid, *in* H-00259
Hydroxynaphthol blue; Tri-Na salt, *in* H-00371
3-Hydroxy-4-(phenylazo)-2,7-naphthalenedisulfonic acid; Disodium salt, *in* H-00454
2-[(1-Hydroxy-7-(phenylazo)-3-sulfo-2-naphthalenyl)azo]benzoic acid, H-00459
3-Hydroxy-4-[(2-phosphonophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* H-00514
4-Hydroxy-3-[(2,3,5-trichloro-6-hydroxyphenyl)azo]-1-naphthalenesulfonic acid; Na salt, *in* H-00556
[2-(*o*-Methylbenzoyl)azo]-1,8-dihydroxynaphthalene-3,6-disulfonic acid, M-00144
Mordant blue 44; Di-Na salt, *in* M-00342
Mordant green 34; Na salt, *in* M-00343
Naphthol black 3B; Tetra-Na salt, *in* N-00028
Nitrobromoarsenazo; Di-Na salt, *in* N-00101
Nitrophosphonazo-mA, N-00147
3-(2-Nitroso-4-sulfo-1-naphthalenylazo)-4,5-dihydroxynaphthalene-2,7-disulfonic acid, N-00163
Omega chrome blue 35, O-00040
Orthanil A, O-00046
Orthanil B, O-00047
Palatine fast blue GGNA CF, P-00001
Palladiazo, P-00002
Picramine K, P-00232
Picramine M, P-00233
H-Resorcine, R-00001
Solochrome red B, S-00021
Stilbazochrome, S-00028
Stilbazokhimdu, S-00031
Sulfochlorophenol K, S-00041
Sulfochlorophenol M, S-00042
Sulfochlorophenol R, S-00044
Sulfonazo, S-00048
Sulfonitrazo, S-00050
Sulfonitrophenol K, S-00051
Sulfonitrophenol M, S-00052
Sulfonitrophenol R, S-00053
Sulfonitrophenol S, S-00054
Sulf-R-azo, *in* H-00543
Tetraoxacycloazochrome, T-00112
Thorin, T-00177
4,4′,4″-[1,3,5-Triazine-2,4,6-triyltris(azo)] tris[3-hydroxy-1-naphthalenesulfonic acid], T-00198
Tribromoarsenazo, T-00203
4-[(2,4,6-Trihydroxyphenyl)azo]-3-hydroxy-1-naphthalenesulfonic acid, T-00312
Trypan blue; Tetra Na salt, *in* T-00433
Trypan red; Penta-Na salt, *in* T-00434

Azo compounds - pyridylazo derivatives

3-[[3-Amino-4-[(5-bromo-2-pyridinyl)azo] phenyl]propylamino]-1-propanesulfonic acid; Na salt, *in* A-00127
4-[(2-Amino-3-hydroxy-4-pyridinyl)azo] benzenesulfonic acid, A-00217
5-Amino-4-methyl-2-(2-pyridinylazo) phenol, A-00253
2-Amino-4-[(4-nitrophenyl)azo]-3-pyridinol, A-00283
N-Benzyl-4-(4-diethylaminophenylazo) pyridinium(1+), B-00176
5-[Bis(2-hydroxy-3-sulfopropyl)amino]-2-[(3,5-dibromo-2-pyridinyl)azo]-4-methylbenzoic acid; Tri-Na salt, *in* B-00395
4-[(5-Bromo-2-pyridinyl)azo]-1,3-benzenediamine, B-00562
2-[(5-Bromo-2-pyridinyl)azo]-5-(diethylamino)phenol, *in* A-00126

2-[(5-Bromo-2-pyridinyl)azo]-5-(dimethylamino)phenol, *in* A-00126
2-[(5-Bromo-2-pyridinyl)azo]-4,5-dimethylphenol, B-00564
2-[(5-Bromo-2-pyridinyl)azo]-5-(ethylamino)-4-methylphenol, *in* A-00125
3-[[4-[(5-Bromo-2-pyridinyl)azo]-5-hydroxy-2-methylphenyl]ethylamino]-1-propanesulfonic acid, B-00565
3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]amino]-1-propanesulfonic acid, B-00566
3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]ethylamino]-1-propanesulfonic acid, B-00567
3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-2-hydroxy-1-propanesulfonic acid; Di-Na salt, *in* B-00568
3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-1-propanesulfonic acid, B-00569
3-[[4-[(6-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-1-propanesulfonic acid, B-00570
5-(5-Bromo-2-pyridinylazo)-6-hydroxy-2(1*H*)-pyridinone, B-00571
2-[(5-Bromo-2-pyridinyl)azo]-5-methoxyphenol, *in* B-00563
4-[(5-Bromo-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, B-00572
1-[(5-Bromo-2-pyridinyl)azo]-2-naphthalenol, B-00573
4-[(5-Chloro-1,2-dihydro-3-hydroxy-2-oxo-4-pyridinyl)azo]benzenesulfonic acid, C-00093
2-[(5-Chloro-2-pyridinyl)azo]-5-(diethylamino)phenol, *in* A-00145
2-[(5-Chloro-2-pyridinyl)azo]-5-(dimethylamino)phenol, *in* A-00145
4-[(5-Chloro-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, C-00253
2-[(5-Chloro-2-pyridinyl)azo]-3-methyl-6-(1-methylethyl)phenol, C-00254
4-[3-Chloro-4-(pyridinylazo)-5-methyl-2-(1-methylethyl)]phenol, C-00255
1-(5-Chloro-2-pyridylazo)-2-naphthol, C-00259
4-Cyclohexyl-6-(2-pyridinylazo)-1,3-benzenediol, C-00358
4-Cyclopentyl-6-(2-pyridinylazo)-1,3-benzenediol, C-00367
2-[(3,5-Dibromo-4-methyl-2-pyridinyl)azo]-5-(diethylamino)phenol, D-00196
4-[(3,5-Dibromo-2-pyridinyl)azo]-1,3-benzenediamine, D-00199
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(diethylamino)benzoic acid, *in* A-00148
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(dimethylamino)benzoic acid, D-00201
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(ethylamino)-4-methylphenol, *in* A-00149
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[ethyl(2-hydroxy-3-sulfopropyl)amino]benzoic acid; Di-Na salt, *in* D-00202
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[ethyl(3-sulfopropyl)amino]benzoic acid; Di-Na salt, *in* D-00203
3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-5-hydroxy-2-methylphenyl]ethylamino]-1-propanesulfonic acid; Di-Na salt, *in* D-00204
3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]amino]-2-hydroxy-1-propanesulfonic acid; Di-Na salt, *in* D-00205
3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]ethylamino]-1-propanesulfonic acid; Di-Na salt, *in* D-00206
3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-1-propanesulfonic acid; Di-Na salt, *in* D-00207
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[(2-hydroxy-3-sulfopropyl)amino]benzoic acid; Di-Na salt, *in* D-00208
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-methoxyphenol, *in* D-00200
2-[(3,5-Dibromo-2-pyridinyl)azo]-4-methyl-5-[(3-sulfopropyl)amino]benzoic acid; Di-Na salt, *in* D-00209
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[(3-sulfopropyl)amino]benzoic acid, *in* A-00148
5-(3,5-Dibromo-2-pyridylazo)-2,4-diaminotoluene, D-00210
2-[(3,5-Dibromo-2-pyridyl)azo]-5-(diethylamino)phenol, *in* A-00150
4-(3,5-Dibromo-2-pyridylazo)-*N*,*N*-diethylaniline, D-00211
4-(3,5-Dibromo-2-pyridylazo)-*N*-ethyl-*N*-(3-sulfopropyl)aniline, D-00212
2-(3,5-Dibromo-2-pyridylazo)-4-methyl-5-(*N*-propyl-*N*-sulfopropylamino)aniline; Na salt, *in* D-00213
2-(3,5-Dibromo-2-pyridylazo)-5-(*N*-propyl-*N*-sulfopropylamino)aniline; Na salt, *in* D-00214
4-[(3,5-Dichloro-2-pyridinyl)azo]-1,3-benzenediamine, D-00299
2-[(3,5-Dichloro-2-pyridinyl)azo]-5-(dimethylamino)phenol, D-00300
4-[(3,5-Dichloro-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, D-00301
3-Diethylamino-4-[5-(1-methyl-2-piperidinyl)-2-pyridyl]phenol, D-00323
5-(Diethylamino)-2-[(5-methyl-2-pyridinyl)azo]phenol, D-00324
4-[[4-(Diethylamino)phenyl]azo]-1-propylpyridinium(1+); Chloride, *in* D-00333
2-(Diethylamino)-6-(2-pyridinylazo)phenol, D-00335
5-(Diethylamino)-2-(2-pyridinylazo)phenol, *in* A-00336
2-[(3,5-Dihydroxy-2-methylphenyl)azo]-5-(1-methyl-2-piperidinyl)pyridine, D-00653
2-[(2,7-Dihydroxy-1-naphthyl)azo]-5-(1-methyl-2-piperidinyl)pyridine, D-00662
6,7-Dihydroxy-5-(2-pyridinylazo)-2-naphthalenesulfonic acid; Na salt, *in* D-00724
5-(Dimethylamino)-2-(2-pyridinylazo)phenol, *in* A-00336
N,*N*-Dimethyl-4-(2-pyridinylazo)benzenamine, D-00909
4,5-Dimethyl-2-(2-pyridinylazo)phenol, D-00910
2-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo]pyridine, D-01024
5-Ethoxy-2-(2-pyridinylazo)phenol, *in* P-00373
5-Hydroxy-6-methyl-2-[(4-nitrophenyl)azo]-3,4-pyridinedimethanol, H-00294
6-Hydroxy-5-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]-2-naphthalenesulfonic acid, H-00321
4-Hydroxy-3-[[5-(1-methyl-2-piperidinyl)2-pyridinyl]azo]-1-naphthalenesulfonic acid; Na salt, *in* H-00319
3-Hydroxy-4-[(6-methyl-2-pyridinyl)azo]-2,7-naphthalenedisulfonic acid *N*-oxide; Di-Na salt, *in* H-00324
3-(3-Hydroxy-3-phenyl-1-triazenyl)pyridine, H-00509
4-Hydroxy-3-(2-pyridinylazo)-1-naphthalenesulfonic acid, H-00522
4-[(5-Iodo-2-pyridinyl)azo]-1,3-benzenediamine, I-00052
3-Isopropyl-6-methyl-2-[[5-(1-methylpiperidinyl)-2-pyridinyl]azo]phenol, I-00074
3-Methoxy-2-methyl-6-(2-pyridinylazo)phenol, *in* M-00278
5-Methoxy-2-[(5-methyl-2-pyridinyl)azo]phenol, *in* M-00279
5-Methoxy-2-(2-pyridinylazo)phenol, *in* P-00373
3-Methyl-6-(1-methylethyl)-2-(2-pyridinylazo)phenol, M-00197
5-Methyl-2-(1-methylethyl)-4-(2-pyridinylazo)phenol, M-00198
4-Methyl-6-[(5-methyl-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, M-00201
4-Methyl-6-[[2-(phenylmethoxy)-2-pyridinyl]azo]-1,3-benzenediamine, M-00232
2-[[5-(1-Methyl-1-piperidinyl)-2-pyridinyl]azo]-1,4-benzenediol, M-00247
4-[[3-(1-Methyl-2-piperidinyl)-4-pyridinyl]azo]-1,3-benzenediol, M-00248
4-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl]azo]-1,3-benzenediol, M-00249
1-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl]azo]-2-naphthalenol, M-00250
3-[(5-(1-Methyl-2-piperidinyl)-2-pyridinyl)azo]-2,6-pyridinediamine, M-00252
7-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl]azo]-8-quinolinol, M-00253
5-[[5-(1-Methyl-2-piperidinyl)-2-pyridyl]azo]-1-naphthalenesulfonic acid, M-00254
4-Methyl-6-(2-pyridinylazo)-1,3-benzenediamine, M-00277
1-[(5-Methyl-2-pyridinyl)azo]-2-naphthalenol, M-00281
1-[(6-Methyl-2-pyridinyl)azo]-2-naphthalenol; *N*-Oxide, *in* M-00282
4-Methyl-2-(2-pyridinylazo)phenol, M-00283
5-Methyl-2-(2-pyridinylazo)phenol, M-00284
2-[(5-Nitro-2-pyridinyl)azo]-1-naphthalenol, N-00148
4-(Phenylmethyl)-6-(2-pyridinylazo)-1,3-benzenediol, P-00149
4-(2-Pyridinylazo)-1,3-benzenediamine, P-00372
4-(2-Pyridinylazo)-1,3-benzenediol, P-00373
2-(2-Pyridinylazo)-1-naphthalenol, P-00375
4-(2-Pyridinylazo)-1-naphthalenol, P-00376
1-(2-Pyridinylazo)-2-phenanthrenol, P-00377
10-(2-Pyridinylazo)-9-phenanthrenol, P-00378
3-(2-Pyridinylazo)-2,6-pyridinediamine, P-00379
5-(4-Pyridinylazo)-8-quinolinol; N^4-Oxide, *in* P-00380
7-(4-Pyridinylazo)-8-quinolinol; N^4-Oxide, *in* P-00382
2-(2-Pyrimidinylazo)-1-naphthalenol, P-00430

Azo compounds - thiazolylazo derivatives

4-Adamantyl-2-(2-hydroxy-1-naphthalenylazo)thiazole, A-00064
3-[(3-Amino-4-oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid, *in* O-00075
4-(2-Benzothiazolylazo)-1,2-benzenediol, B-00091
4-(2-Benzothiazolylazo)-1,3-benzenediol, B-00092
2-(2-Benzothiazolylazo)-4,6-dichlorophenol, B-00093
2-(Benzothiazolylazo)-5-diethylaminobenzoic acid, *in* A-00114
2-(2-Benzothiazolylazo)-5-(dimethylamino)phenol, B-00094
2-[(2-Benzothiazolyl)azo]-4,5-dimethylphenol, B-00095
2-(2-Benzothiazolylazo)-4,6-dimethylphenol, B-00096
5-(2-Benzothiazolylazo)-4-methyl-2-(methylamino)phenol, *in* A-00115
2-(2-Benzothiazolylazo)-4-methylphenol, B-00097
1-(2-Benzothiazolylazo)-2-naphthalenol, B-00098
10-(2-Benzothiazolylazo)-9-phenanthrenol, B-00099
2-[(6-Bromo-2-benzothiazolyl)azo]-5-(diethylamino)phenol, *in* A-00123
2-[(6-Bromo-2-benzothiazolyl)azo]-4-methylphenol, B-00491

1-[(6-Bromo-2-benzothiazolyl)azo]-2-naphthalenol, B-00492
4-Bromo-6-(2-thiazolylazo)-1,3-benzenediol, B-00578
2-(5-Bromo-2-thiazolylazo)-5-(diethylamino)benzoic acid, *in* A-00128
1-[(5-Bromo-2-thiazolyl)azo]-2-naphthalenol, B-00579
4-(Chloromethyl)-2-[(3,4-dihydroxyphenyl)azo]-5-thiazolecarboxylic acid; Me ester, *in* C-00176
4-Chloro-6-(2-thiazolylazo)-1,3-benzenediol, C-00263
5-(Diethylamino)-2-[(4,5-dimethyl-2-thiazolyl)azo]phenol, *in* A-00163
2-(4-Diethylamino-2-hydroxyphenylazo) thiazole, *in* A-00214
5-Diethylamino-2-(2-thiazolylazo)benzoic acid, *in* A-00359
2-(Diethylamino)-6-(2-thiazolylazo)phenol, *in* A-00360
N,*N*-Diethyl-4-(2-thiazolylazo) benzenamine, *in* T-00138
5-[(4,5-Dihydro-5-thioxo-1,3,4-thiadiazol-2-yl)azo]-6-hydroxy-2-naphthalenesulfonic acid; Na salt, *in* D-00495
2,4-Dihydroxy-5-[(5-nitro-2-thiazolyl)azo] benzoic acid, D-00680
2-[(3,4-Dihydroxyphenyl)azo]-4-(4-carboxyphenyl)-5-thiazolecarboxylic acid; 4′-Me ester, 5-Et ester, *in* D-00690
2-[(3,4-Dihydroxyphenyl)azo]-4-(hydroxymethyl)-5-thiazolecarboxylic acid; Me ester, *in* D-00696
2-(3,4-Dihydroxyphenylazo)-4-phenyl-5-benzoylthiazole, D-00699
4-[2-[(3,4-Dihydroxyphenyl)azo]-5-phenyl-4-thiazolyl]benzoic acid; Me ester, *in* D-00700
2-(2,4-Dihydroxyphenylazo)-1,3,4-thiadiazole, D-00703
5-Dimethylamino-2-[(4-methyl-2-thiazolyl) azo]phenol, D-00793
5-(Dimethylamino)-2-(2-thiazolylazo) phenol, *in* A-00214
4,5-Dimethyl-2-[(5-methyl-1,3,4-thiadiazol-2-yl)azo]phenol, D-00872
2-[(4,5-Dimethyl-2-thiazolyl)azo]-4,6-dimethylphenol, D-00921
7-(4,5-Dimethyl-2-thiazolyl)azo-8-hydroxy-5-quinolinesulfonic acid, D-00922
2,4-Dimethyl-6-(2-thiazolylazo)phenol, D-00923
2-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo] thiazole, D-01026
5-(Ethylamino)-4-methyl-2-[(4-phenyl-2-thiazolyl)azo]phenol, *in* A-00250
2-(Ethylamino)-4-methyl-2-(2-thiazolylazo) phenol, E-00066
3-[Ethyl[5-hydroxy-2-methyl-4-[(4-methyl-2-thiazolyl)azo]]]-1-propanesulfonic acid, E-00092
2-[(5-Ethyl-1,3,4-thiadiazol-2-yl)azo]-4-methoxyphenol, E-00116
3-[Ethyl[4-(2-thiazolylazo)phenyl]amino]-1-propanesulfonic acid, E-00118
2-(2-Hydroxy-5-methylphenylazo)-4-methylthiazole, H-00301
4-[[4-(Hydroxymethyl)-2-thiazolyl]azo]-1,2-benzenediol, H-00328
2-[[3-Hydroxy-4-[methyl-2-thiazolylazo] phenyl]amino]ethanesulfonic acid, H-00329
3-[[3-Hydroxy-4-[(4-methyl-2-thiazolyl)azo] phenyl]amino]-1-propanesulfonic acid, H-00330
6-Hydroxy-3-[(4-methyl-2-thiazolyl)azo]-2(1*H*)-pyridinone, H-00331
5-[(2-Hydroxy-1-naphthalenyl)azo]-1,3,4-thiadiazole-2(3*H*)-thione, H-00357
2-[(2-Hydroxy-1-naphthalenyl)azo]-4-thiazolecarboxylic acid, H-00358
3-Hydroxy-4-(2-thiazolylazo)-2,7-naphthalenedisulfonic acid, H-00548
6-Hydroxy-5-(2-thiazolylazo)-2-naphthalenesulfonic acid, H-00549
2-[[3-Hydroxy-4-(2-thiazolylazo)phenyl] amino]ethanesulfonic acid, H-00550
3-[[3-Hydroxy-4-(2-thiazolylazo)phenyl] amino]-1-propanesulfonic acid, H-00551
8-Hydroxy-7-(2-thiazolylazo)-5-quinolinesulfonic acid, H-00552
2-Mercapto-5-(2,4-dihydroxyphenylazo)-1,3,4-thiadiazole, M-00028
2-Mercapto-5-(2-hydroxy-5-methylphenylazo)-1,3,4-thiadiazole; Na salt, *in* M-00032
2-(2-Methoxy-4-methylphenylazo)thiazole, *in* M-00324
4-Methoxy-2-[(4-methyl-2-thiazolyl)azo] phenol, *in* M-00318
4-Methoxy-2-(2-thiazolylazo)phenol, *in* T-00139
5-Methoxy-2-(2-thiazolylazo)phenol, *in* T-00141
2-Methyl-4-[(4-methyl-2-thiazolyl)azo]-1,3-benzenediol, M-00202
4-Methyl-5-[(sulfomethyl)amino]-2-(2-thiazolylazo)benzoic acid, M-00310
1-[(5-Methyl-1,3,4-thiadiazol-2-yl)azo]-2-naphthalenol, M-00313
4-Methyl-2-(1,3,4-thiadiazol-2-ylazo) phenol, M-00314
2-Methyl-4-(2-thiazolylazo)-1,3-benzenediamine, M-00317
4-[(4-Methyl-2-thiazolyl)azo]-1,3-benzenediol, M-00319
4-[(5-Methyl-2-thiazolyl)azo]-1,3-benzenediol, M-00320
5-Methyl-4-(2-thiazolylazo)-1,3-benzenediol, M-00321
2-(4-Methyl-2-thiazolylazo)-5-diethylaminobenzoic acid, *in* A-00258
1-[(4-Methyl-2-thiazolyl)azo]-2-naphthalenol, M-00322
4-Methyl-2-(2-thiazolylazo)phenol, M-00323
4-[(5-Nitro-2-thiazolyl)azo]-1,3-benzenediol, N-00165
2-[(5-Nitro-2-thiazolyl)azo]phenol, N-00166
3-[(4-Oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, O-00075
4-(5-Sulfothiazolylazo)-2-nitroresorcinol, S-00057
1-(1,3,4-Thiadiazol-2-ylazo)-2-naphthalenol, T-00134
4-(2-Thiazolylazo)-1,2-benzenediol, T-00140
4-(2-Thiazolylazo)-1,3-benzenediol, T-00141
1-(2-Thiazolylazo)-2-naphthalenol, T-00142
4-(2-Thiazolylazo)-1-naphthalenol, T-00143
3-(2-Thiazolylazo)-2,4-pentanedione, T-00144
3-(2-Thiazolylazo)-2,6-pyridinediamine, T-00145
5-(2-Thiazolylazo)-2-thioxo-4-thiazolidinone, T-00146
Thioaminazo F, T-00154

Azo compounds - quinolylazo derivatives

5-Amino-4-hydroxy-3-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, A-00220
8-Amino-5-(phenylazo)quinoline, A-00315
8-Amino-7-(phenylazo)-5-quinolinesulfonic acid; Na salt, *in* A-00316
8-Amino-7-(8-quinolinylazo)-3,6-naphthalenedisulfonic acid, A-00343
5-Amino-2-(2-quinolinylazo)phenol, A-00344
1-[(5-Amino-1,3,4-thiadiazol-2-yl)azo]-2-naphthalenol, A-00358
Azoxin H, A-00480
5-(1*H*-Benzimidazol-5-ylazo)-8-quinolinol, B-00043
5-Bromo-8-hydroxy-7-[(2-hydroxy-3,5-dinitrophenyl)azo]quinoline, B-00511
5-[(4-Chlorophenyl)azo]-8-quinolinol, C-00206
4-Cyclopentyl-6-(2-quinolinylazo)-1,3-benzenediol, C-00368
1,2-Dihydro-4-[(4-hydroxyquinolin-8-yl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00423
1,2-Dihydroxy-3-[5-(8-hydroxyquinolinyl) azo]anthraquinone, D-00629
5-(Dimethylamino)-2-(8-quinolinylazo) phenol, D-00825
2-(3,5-Dimethyl-1-pyrazolyl)-8-quinolinol, D-00906
4,5-Dimethyl-2-(2-quinolinylazo)phenol, D-00914
8-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo] quinoline, D-01025
2-(Ethylamino)-4-methyl-5-(8-quinolinylazo)phenol, *in* A-00255
8-Hydroxy-7-[(4-methylphenyl)azo]-5-quinolinesulfonic acid, H-00304
8-Hydroxy-7-(1-naphthalenylazo)-5-quinolinesulfonic acid, H-00355
2-[(1-Hydroxy-2-naphthalenyl)azo]-8-quinolinol, H-00356
8-Hydroxy-7-(2-naphthylazo)quinoline, H-00377
5-(3-Hydroxyphenylazo)-8-quinolinol, H-00457
3-Hydroxy-4-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, H-00530
3-[(8-Hydroxy-7-quinolinyl)azo]-1,5-naphthalenedisulfonic acid; Di-K salt, *in* H-00531
8-[(8-Hydroxy-5-quinolinyl)azo]-1-naphthalenesulfonic acid, H-00532
8-Hydroxy-7-[(4-sulfo-1-naphthalenyl)azo]-5-quinolinesulfonic acid; Di-Na salt, *in* H-00539
2-Isopropyl-5-methyl-4-[(2-quinolinyl)azo] phenol, I-00076
5-[(4-Methylphenyl)azo]-8-quinolinol; 1-Oxide, *in* M-00224
2-[(4-Methyl-2-quinolinyl)azo]-1-acenaphthylenol, M-00308
Naphthylazoxine 4,8S, N-00044
Naphthylazoxine 5,7S, N-00046
5-[(4-Nitrophenyl)azo]-8-quinolinol; 1-Oxide, *in* N-00129
5-Phenylazo-8-quinolinol; *N*-Oxide, *in* P-00100
Phenylazoxine S, P-00101
Picriminazosulfoxine, P-00234
2-(2-Quinolinylazo)-1-acenaphthylenol, Q-00027
5-(2-Quinolinylazo)-1,2,4-benzenetriol, Q-00028
1-(2-Quinolinylazo)-2-naphthalenol, Q-00029
2-(2-Quinolinylazo)-1-naphthalenol, Q-00030
1-(2-Quinolinylazo)-2-phenanthrenol, Q-00031
4-(2-Quinolinylazo)phenol, Q-00032
5-(8-Quinolinylazo)-2,4-thiazolidinedithione, Q-00033
5-(8-Quinolinylazo)-2-thioxo-4-thiazolidinone, Q-00034

Azo compounds - phenylazo derivatives

6-(4-Acetylphenylazo)-2-aminoperimidine, A-00029
Acid alizarin black SE, A-00050
Acid alizarin black SN, A-00051
Acid chrome violet BR; Na salt, *in* A-00054
▷ Acid chrome violet K; Na salt, *in* A-00055
▷ Acid yellow 2G; Na salt, *in* A-00059
Alizarine chrome orange G; Na salt, *in* A-00075
Alizarine yellow G; Na salt, *in* A-00082
▷ Amaranth, A-00087
▷ 4-Aminoazobenzene, A-00094
4-Aminoazobenzene-4′-arsonic acid; *N*-Di-Me, *in* A-00095
4-(4-Amino-4-biphenylylazo)-3,5-dibromobenzenesulfonic acid, A-00119

4-[(4′-Amino-4-biphenylyl)azo]-2,5-dichlorobenzenesulfonic acid; Na salt, *in* A-00120
4-[(2-Amino-5-bromo-3-pyridinyl)azo]-1,3-benzenediol, A-00124
2-[(1-Amino-3,6-disulfo-2-naphthalenyl) azo]benzoic acid, A-00167
6-Amino-4-hydroxy-5-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenesulfonic acid, A-00191
4-Amino-5-hydroxy-7-[(2-hydroxyphenyl) azo]-1,3-naphthalenedisulfonic acid, A-00193
5-Amino-4-hydroxy-3-[(4-hydroxyphenyl) azo]-2,7-naphthalenedisulfonic acid, A-00195
3-Amino-4-hydroxy-3′-nitroazobenzene-*N*,*N*-diacetic acid, A-00206
4-[[(4-Amino-2-hydroxyphenyl)]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00209
[4-[1-[2-Amino-3-hydroxy-4-(2-pyridinyl) phenyl]azo]phenyl]arsonic acid, A-00219
4-Amino-4′-nitroazobenzene, A-00281
4-(4-Aminophenylazo)-3-bromobenzenesulfonic acid; *N*-Di-Me, Na salt, *in* A-00308
4-(4-Aminophenylazo)-3-chlorobenzenesulfonic acid; *N*-Di-Me, Na salt, *in* A-00309
4-(4-Aminophenylazo)-3,5-dibromobenzenesulfonic acid; *N*-Di-Me, Na salt, *in* A-00310
4-[(4-Aminophenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00312
5-[(4-Aminophenyl)azo]-1*H*-1,2,4-triazole-3-carboxylic acid, A-00317
3-[[3-(Aminosulfonyl)-1-hydroxy-2-naphthalenyl]azo]-2-hydroxy-5-nitrobenzenesulfonic acid, A-00348
7-[[5-(Aminosulfonyl)-2-hydroxyphenyl] azo]-8-hydroxy-1,6-naphthalenedisulfonic acid, A-00349
4-[(5-Amino-1,3,4-thiadiazol-2-yl)azo]-1,3-benzenediol, A-00355
4-[(5-Amino-1,3,4-thiadiazol-2-yl)azo]-4-methylphenol, A-00357
4′-Anilino-2,5-dichloroazobenzene-4-sulfonic acid, A-00370
Anthrazo; B,HCl, *in* A-00389
Arsazen, A-00403
4-[4-[(3-Arsono-5-chloro-2-hydroxyphenyl) azo]-4,5-dihydro-3-methyl-5-oxo-1*H*-pyrazol-1-yl]benzenesulfonic acid, A-00419
4-(2-Arsono-4-nitrophenylazo)-4,5-dihydro-3-methyl-1-phenyl-1*H*-pyrazol-5-one, A-00420
4-[4-(2-Arsonophenyltriazinyl)phenylazo] benzenesulfonic acid, A-00445
Azo-azoxy PMP, A-00466
Azobenzene-4-carboxylic acid; Chloride, *in* A-00467
Azobenzene-4-sulfonic acid; Chloride, *in* A-00468
Azophosphon, A-00475
Azothiopyrine, A-00478
Benzyl orange; Na salt, *in* B-00190
Beryllon IV, B-00200
4,4′-Bis(3,4-dihydroxyphenylazo)biphenyl, B-00302
4,4′-Bis(3′,4′-dihydroxyphenylazo)-3,3′-dimethoxybiphenyl, B-00303
4,4′-Bis(*p*-dimethylaminophenylazo) stilbene-2,2′-disulfonic acid, B-00317
7,16-Bis[3-[2-hydroxy-3,5-bis[(4-nitrophenyl)azo]phenyl]-1-oxopropyl]-1,4,10,13-tetraoxa-7,16-diazacyclooctadecane, B-00364
Bis[2-[(tetrahydro-2*H*-pyran-2-yl)thio] phenyl]diazene, B-00458
Brilliant yellow; Di-Na salt, *in* B-00480
4-[(2-Bromo-4,5-dihydroxyphenyl)azo] benzenesulfonic acid, B-00504
4-[(4-Bromophenyl)azo]-1,2,3-benzenetriol, B-00545
5-[(4-Bromophenyl)azo]-6-hydroxy-2-naphthalenesulfonic acid, B-00547
2,3-Butanedione oxime 4-nitrophenylhydrazone, B-00601
1-Butyl-4-[[4-(diethylamino)phenyl]azo] pyridinium(1+), B-00625
▷ C.I. Acid orange 20, *in* O-00043
▷ C.I. 11050 Basic dye, *in* J-00004
C.I. Direct blue 72, C-00004
Carbazol yellow B, C-00021
[5-Chloro-3-[(2,4-dihydroxyphenyl)azo]-2-hydroxyphenyl]arsonic acid, C-00096
5-Chloro-3-[(5-dodecyl-2,4-dihydroxyphenyl)azo]-2-hydroxybenzenesulfonic acid, C-00113
3-[[4-[(5-Chloro-2-hydroxyphenyl)azo]-3-hydroxyphenyl]ethylamino]-1-propanesulfonic acid, C-00148
4-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-3-hydroxy-2-naphthalenecarboxylic acid, C-00160
4-Chloro-2-[(1,3,4,7,8,10,11,13-octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-yl)azo] phenol, C-00191
3-Chloro-4-[(4-phenylamino)phenylazo] benzenesulfonic acid, *in* A-00309
4-[(4-Chlorophenyl)azo]-1,3-benzenediamine, C-00199
4-[(4-Chlorophenyl)azo]-1,2,3-benzenetriol, C-00200
Chrome black special; Mono-Na salt, *in* C-00278
Chrome bordeaux B; Di-Na salt, *in* C-00279
Chrome dark BLN; Na salt, *in* C-00280
Chrome dark green BGN; Na salt, *in* C-00281
Chrome dark green BN; Na salt, *in* C-00282
Chrome red brown 5RD; Di-Na salt, *in* C-00284
Chromocitromin BH, C-00285
Chromorange GR; Di-Na salt, *in* C-00289
Chrysophenine G; Di-Na salt, *in* C-00297
▷ Congo red, C-00301
4-Cyclohexyl-6-[(2-hydroxy-3,5-dinitrophenyl)azo]-1,3-benzenediol, C-00354
8-[[4-[(2,3,5,6,8,9,11,12,14,15-Decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl)azo] phenyl]amino]-1-naphthalenesulfonic acid, D-00006
Diaminazo, D-00041
▷ 2,4-Diamino-4′-ethoxyazobenzene, D-00095
2,4-Diamino-4′-methoxy-5-methylazobenzene, D-00099
2-[(2,4-Diaminophenyl)azo]-4,6-dinitrophenol, D-00112
4-[(2,4-Diaminophenyl)azo]-2-methylphenol, D-00113
4-[(2,4-Diaminophenyl)azo]phenol, D-00114
2,5-Dichloro-4-[[4-(4-dimethylamino) phenyl]azo]benzenesulfonic acid, *in* A-00311
N-[2-(Diethylamino)ethyl]-4-[(8-hydroxy-5-quinolinyl)azo]benzamide, D-00317
2-[4-(Diethylamino)-2-hydroxyphenylazo]-4,6-dinitrophenol, D-00318
[3-(4-Diethylamino-2-hydroxyphenyl)azo]-4-hydroxybenzenesulfonic acid, D-00319
4-[[4-(Diethylamino)-2-hydroxyphenyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, D-00320
5-[[4-Diethylamino-2-hydroxyphenyl]azo]-1*H*-1,2,4-triazole-3-carboxylic acid, *in* A-00215
3-[[4-(Diethylamino)phenyl]azo]-1,4-dimethyl-1*H*-1,2,4-triazolium(1+); Chloride, *in* D-00328
4-[[4-(Diethylamino)phenyl]azo]-1-ethylpyridinium(1+); Chloride, *in* D-00329
3-[2-(5-Diethylaminophenyl)azo]-2-hydroxy-5-nitrobenzenesulfonic acid, D-00330
4-[[4-(Diethylamino)phenyl]azo]-1-methylpyridinium(1+); Chloride, *in* D-00332
4-[[4-(Diethylamino)phenyl]azo]-1-methylpyridinium(1+); Iodide, *in* D-00332
3,4-Dihydro-6,7-dimethoxy-4-methyl-3-oxo-2-quinoxalinecarbonyl azide, *in* D-00379
5-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-2,4-dihydroxybenzoic acid, D-00381
1,2-Dihydro-1,5-dimethyl-2-phenyl-4-[(2,4,6-trihydroxyphenyl)azo]-3*H*-pyrazol-3-one, D-00393
1,2-Dihydro-1,5-dimethyl-2-phenyl-4-[5-(1,2,3-trihydroxyphenyl)azo]-3*H*-pyrazol-3-one, D-00394
1,2-Dihydro-4-[(1-hydroxy-2-naphthalenyl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00414
1,2-Dihydro-4-[(4-hydroxyphenyl)azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00419
[4-[(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]phenyl]arsonic acid, D-00439
4-[(4,5-Dihydro-3-methyl-1-phenyl-5-thioxo-1*H*-pyrazol-4-yl)azo] benzenesulfonic acid; Na salt, *in* D-00445
4-[4,5-Dihydro-3-methyl-4-[(4-sulfophenyl) azo]-5-thioxo-1*H*-pyrazol-1-yl] benzenesulfonic acid; Di-Na salt, *in* D-00459
2,2′-Dihydroxyazobenzene, D-00514
3,4-Dihydroxyazobenzene, D-00515
2,4-Dihydroxy-3,5-bis[(4-nitrophenyl)azo] benzenesulfonic acid, D-00555
2,2′-Dihydroxy-4,4′-dimethylazobenzene, D-00574
2,4-Dihydroxy-6-methyl-4′-nitroazobenzene, D-00650
4-[(2,4-Dihydroxyphenyl)azo] benzenesulfonic acid; Na salt, *in* D-00688
2-[(3,4-Dihydroxyphenyl)azo]benzoic acid, D-00689
2-(3′,4′-Dihydroxyphenyl)azo-3-cyano-4-methyl-5-ethoxycarbonylthiophene, *in* C-00326
3-[(2,4-Dihydroxyphenyl)azo]-4-hydroxybenzenesulfonic acid, D-00693
3-(2,4-Dihydroxyphenylazo)-4-hydroxybiphenyl, D-00694
4-(3,4-Dihydroxyphenylazo)-4′-hydroxybiphenyl, D-00695
3-[2,4-Dihydroxyphenylazo]-2-hydroxy-5-nitrobenzenesulfonic acid, D-00698
3,3′-[(3,3′-Dimethoxy-[1,1′-biphenyl]-4,4′-diyl)bis(azo)]bis[6-hydroxybenzoic acid], D-00769
▷ 4-Dimethylaminoazobenzene, D-00778
4′-Dimethylaminoazobenzene-4-sulfonyl chloride, *in* M-00210
4-Dimethylamino-2,2′-dihydroxyazobenzene, D-00783
2-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-4,6-dinitrophenol, *in* A-00210
3-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-4-hydroxybenzenesulfonic acid, D-00787
4-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-3-hydroxy-1-naphthalenesulfonic acid, D-00788
2-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-4-methylphenol, *in* A-00197
2-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-4-nitrophenol, *in* A-00213
5-(Dimethylamino)-2-[(5-nitro-2-thiazolyl) azo]phenol, *in* A-00289
4-[[4-(Dimethylamino)phenyl]azo]-5,5-dimethyl-1,3-cyclohexanedione, D-00808
4-[[5-(*p*-Dimethylamino)phenyl]azo]-5-methylimidazole, D-00809
5-[[4-(Dimethylamino)phenyl]azo]-1-naphthalenesulfonyl chloride, *in* A-00314

3,3′-[(3,3′-Dimethyl-[1,1′-biphenyl]-4,4′-diyl)bis(azo)]bis[6-hydroxybenzoic acid], D-00836
2-[*o*-[(4,5-Dimethylimidazol-2-yl)azo]phenyl]-4,5,7-trimethyl-8-quinazolinol, D-00867
1,3-Dimethyl-4-(phenylazo)-1*H*-pyrazole-5-thiol, D-00887
2,4-Dimethyl-6-(1*H*-tetrazol-5-ylazo)phenol, D-00920
2,4-Dinitro-6-chlorophenylazothymol, D-00951
1-[(3,5-Dinitro-2-hydroxyphenyl)azo]-2-naphthol, D-00954
4-[(2,4-Dinitrophenyl)azo]-1,2-benzenediol, D-00963
16-[(2,4-Dinitrophenyl)azo]-3,6,9,12-tetraoxabicyclo[12.3.1]octadeca-1(18),14,16-trien-18-ol, D-00970
sym-Diphenylcarbazone, D-01006
2-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo]benzenesulfonic acid, D-01021
2-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo]benzoic acid, D-01022
[2-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo]phenyl]arsonic acid, D-01023
4,5-Diphenyl-2-(phenylazo)-1*H*-imidazole, D-01035
6-Dodecyl-6-[2-hydroxy-3,5-bis(4-nitrophenylazo)benzyl]-1,4,8,11-tetraoxacyclotetradecane, D-01144
6-Dodecyl-6-[2-hydroxy-3-nitro-5-(4-nitrophenylazo)benzyl]-1,4,8,11-tetraoxacyclotetradecane, D-01149
2-[(5-Dodecyl-2-hydroxyphenyl)azo]benzoic acid, D-01150
[2-[(5-Dodecyl-2-hydroxyphenyl)azo]phenyl]arsonic acid, D-01151
Eriochrome fast grey RAS; Na salt, *in* E-00014
4′-Ethoxy-4-hydroxyazobenzene, *in* D-00516
4-[(4-Ethoxyphenyl)azo]-6-methyl-1,3-benzenediamine, *in* H-00451
4-[(4-Ethoxyphenyl)azo]-1-naphthalenamine, *in* A-00277
4-[[4-(Ethylamino)-6-hydroxy-*m*-tolyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, *in* A-00196
3-[Ethyl[3-hydroxy-4-[(2-hydroxy-5-methylphenyl)azo]phenyl]amino]-1-propanesulfonic acid, E-00087
3-[Ethyl[3-hydroxy-4-[(2-hydroxyphenyl)azo]phenyl]amino]-1-propanesulfonic acid, E-00088
4-[(2-Ethylphenyl)azo]-1-naphthalenamine, E-00103
4-[[4-[Ethyl(3-sulfopropyl)amino]-2-hydroxyphenyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, E-00115
Flavazine L; Na salt, *in* F-00007
4-[4-Hydroxy-3-biphenylylazo]-1,3-benzenediol, H-00133
1-(4-Hydroxy-3-biphenylylazo)-2-naphthol, H-00134
2-[(2-Hydroxy-3,5-dimethylphenyl)azo]-5-sulfobenzoic acid, H-00152
4-[(2-Hydroxy-3,5-dinitrophenyl)azo]-1,3-benzenediol, H-00160
5-[(2-Hydroxy-3,5-dinitrophenyl)azo]-8-quinolinol 1-oxide, H-00161
2-(2-Hydroxy-3,6-disulfo-1-naphthalenylazo)-5-[*N*-ethyl-*N*-(sulfopropyl)amino]phenol, H-00174
4-Hydroxy-3-[(5-hydroxybenzo[*a*]phenazin-6-yl)azo]benzenesulfonic acid, H-00187
4-Hydroxy-3-[(2-hydroxybenzoyl)azo]-1-naphthalenesulfonic acid, H-00188
5-Hydroxy-8-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-1-naphthalenesulfonic acid, H-00231
4-Hydroxy-3-[[2-hydroxy-3-(phenylcarbamoyl)-1-naphthyl]azo]benzenesulfonic acid, H-00236
6-Hydroxy-5-[(4-iodophenyl)azo]-2-naphthalenesulfonic acid, H-00254
2-[[2-Hydroxy-4-methyl-5-(1-methylethyl)phenyl]azo]-5-nitrobenzenesulfonic acid; K salt, *in* H-00288
2-[(2-Hydroxy-5-methyl-3-nitrophenyl)azo]-4,6-dinitrophenol, H-00293
2-[(2-Hydroxy-5-methylphenyl)azo]-5-nitrobenzenesulfonic acid; K salt, *in* H-00302
[[2-[(2-Hydroxy-5-methylphenyl)azo]phenyl]thio]acetic acid, H-00303
2-[[5-Hydroxy-3-methyl-1-(phenylmethyl)-1*H*-pyrazol-4-yl]azo]-5-nitrobenzenesulfonic acid, H-00312
4-[3-Hydroxy-6-methyl-4-(4-sulfophenylazo)phenylazo]benzenesulfonic acid, H-00327
4-[(2-Hydroxy-1-naphthalenyl)azo]benzenesulfonic acid; Na salt, *in* H-00348
2-[(2-Hydroxy-1-naphthalenyl)azo]benzoic acid, H-00349
2-[(2-Hydroxy-1-naphthalenyl)azo]-5-nitrobenzenesulfonic acid, H-00351
[[2-[(2-Hydroxy-1-naphthalenyl)azo]phenyl]thio]acetic acid, H-00352
6-[2-Hydroxy-3-nitro-5-[(4-nitrophenyl)azo]benzyl]-6-methyl-1,4,8,11-tetraoxacyclotetradecane, H-00389
2-Hydroxy-4-(4-nitrophenylazo)benzoic acid, H-00393
2-[(2-Hydroxy-5-nitrophenyl)azo]-4,5-diphenylimidazole; Acetate salt, *in* H-00394
1-[(2-Hydroxy-4-nitrophenyl)azo]-2-naphthalenol, H-00395
1-[(2-Hydroxy-5-nitrophenyl)azo]-2-naphthalenol, H-00396
2-Hydroxy-5-(4-nitrophenylazo)phenylmethyl-18-crown-6, H-00399
[2-Hydroxy-5-(4-nitrophenylazo)phenyl]oxymethyl-15-crown-5, H-00400
[2-Hydroxy-5-(4-nitrophenylazo)phenyl]oxymethyl-18-crown-6, H-00401
2-Hydroxy-5-nitro-3-[(tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo]benzenesulfonic acid, H-00422
2-(4-Hydroxyphenylazo)benzaldehyde; Me ether, oxime, *in* H-00448
4-[(2-Hydroxyphenyl)azo]-1,3-benzenediol, H-00449
2-[(2-Hydroxyphenyl)azo]-4,5-diphenylimidazole, H-00450
1-[(2-Hydroxyphenyl)azo]-2-naphthalenol, H-00455
4-[(8-Hydroxy-7-quinolinyl)azo]benzenesulfonic acid, H-00529
2-Hydroxy-4-[(4-sulfophenyl)azo]benzoic acid; Di-Na salt, *in* H-00541
2-Hydroxy-5-[(4-sulfophenyl)azo]benzoic acid; Di-Na salt, *in* H-00542
2-Hydroxy-5-sulfo-3-[(tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo]benzoic acid, H-00545
4-[(4-Iodophenyl)azo]-1,2,3-benzenetriol, I-00049
4-[(4-Isothiocyanatophenyl)azo]-*N*,*N*-dimethylbenzenamine, I-00098
▷ (4-Isothiocyanatophenyl)phenyldiazene, I-00099
Janus black; Chloride, *in* J-00001
▷ Janus blue; Chloride, *in* J-00002
▷ Lumogallion, L-00015
Lumomagneson, L-00016
Magneson IREA, M-00004
Magon, M-00005
Maxilon blue GRL; Chloride, *in* M-00009
2-[(3-Mercaptophenyl)azo]-4-methylphenol, M-00041
1-[(2-Mercaptophenyl)azo]-2-naphthalenol, M-00042
4-Methoxy-2-[(5-methylimidazol-4-yl)azo]phenol, *in* M-00191
6-Methoxy-3-methyl-2-[[4-(methylphenylamino)phenyl]azo]benzothiazolium(1+); Chloride, *in* M-00091
4-[(4-Methoxyphenyl)azo]-1,3-benzenediamine, M-00106
4-Methyl-2-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]phenol, M-00200
4-Methyl-2-[[2-(methylthio)phenyl]azo]phenol, *in* M-00041
▷ Methyl orange; Na salt, *in* M-00210
4-Methyl-2-[[2-[(phenylmethyl)thio]phenyl]azo]phenol, *in* M-00041
2-[(3-Methyl-1-phenyl-4-pyrazolyl)azo]-4-nitrobenzenesulfonic acid, M-00240
2-[(3-Methyl-5-propyl-2-pyrrolidinyl)azo]phenol, M-00263
Methyl red; Na salt, *in* M-00309
2-Methyl-4-(1*H*-1,2,4-triazol-3-ylazo)-1,3-benzenediol, M-00328
5-(1-Naphthalenylazo)-8-quinolinol; N^1-Oxide, *in* N-00017
Nevazol NS, N-00067
3,3′,3″-[Nitrilotris(4,1-phenyleneazo)]tris[6-hydroxybenzoic acid], N-00075
Nitroanisole blue, N-00078
Nitroanthranilazo, N-00079
4′-Nitro-4-azobenzenecarboxylic acid; Chloride, *in* N-00080
4-[(4-Nitrophenyl)azo]-1,2-benzenediol, N-00122
4-[(4-Nitrophenyl)azo]-1,3-benzenediol, N-00123
4-[(4-Nitrophenyl)azo]-1,2,3-benzenetriol, N-00124
3-[(4-Nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, N-00125
4-[(4-Nitrophenyl)azo]-1-naphthalenol, N-00126
19-[(4-Nitrophenyl)azo]-3,6,9,12,15-pentaoxabicyclo[15,3,1]heneicosa-1(21),17,19-trien-21-ol, N-00127
2-[(4-Nitrophenyl)azo]phenol, N-00128
4-[(4-Nitrophenyl)azo]-2-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-yl)phenol, N-00130
(4-Nitrophenyl)diazenecarboxylic acid 2-phenylhydrazide, N-00133
4-[[4-[3-(4-Nitrophenyl)-2-triazenyl]phenyl]azo]benzenesulfonic acid; Na salt, *in* N-00146
Nitroxaminazo, N-00167
4-[(1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-yl)azo]phenol, O-00010
Pallatriazo, P-00003
Phenazo, P-00059
o-Phenolazothiohydantoin, P-00061
4-[[4-(Phenylamino)phenyl]azo]benzenesulfonic acid; Na salt, *in* P-00084
4-[(4-Phenylaminophenyl)azo]-3-bromobenzenesulfonic acid, *in* A-00308
4-(Phenylazo)-1,2,3-benzenetriol, P-00092
▷ 4-Phenylazo-1-naphthylamine, P-00093
▷ 1-[[4-(Phenylazo)phenyl]azo]-2-naphthalenol, P-00095
5-[[4-(Phenylazo)phenyl]azo]-2-thioxo-4-thiazolidinone, P-00096
2-[(4-Phenylazo)phenyl]hydrazinesulfonic acid, P-00097
4,4′-[1,3-Phenylenebis(azo)]bis-1,3-benzenediamine; B,2HCl, *in* P-00117
1-(1*H*-Pyrazol-3-ylazo)-2-naphthalenol, P-00303
Solochrome black PV; Na salt, *in* S-00018
Solochrome fast grey RA, S-00019
Solochrome fast red; Na salt, *in* S-00020
Stilbazo; Di-NH_4 salt, *in* S-00027
Stilbazogall I, S-00029
Stilbazogall II, S-00030
Sulfarsazen; Na salt, *in* S-00038
▷ Tartrazine; Tri-Na salt, *in* T-00003
2-[(Tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo]benzoic acid, T-00060
2,2′-(1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diyldi-3,1-propanediyl)bis[4-[(4-nitrophenyl)azo]phenol], T-00117
Thoron II, T-00178
4-[(2,3,4-Trihydroxyphenyl)azo]benzenesulfonic acid, T-00309
2-[(2,3,4-Trihydroxyphenyl)azo]benzoic acid, T-00310

4-[(2,3,4-Trihydroxyphenyl)azo]benzoic acid, T-00311
2,2′-(1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diyldi-3,1-propanediyl)bis[4-[(4-nitrophenyl)azo] phenol], T-00362
Xylidine blue II, X-00007

Azo compounds - naphthylazo derivatives

8-Amino-7-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-2-naphthalenesulfonic acid, A-00143
8-Amino-7-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-3-naphthalenesulfonic acid, A-00144
5-[(5-Amino-1,3,4-thiadiazol-2-yl)azo]-6-hydroxy-2-naphthalenesulfonic acid, A-00356
Azo-azoxy BN, A-00465
Brilliant congo blue BFL; Tri-Na salt, *in* B-00476
Calmagite, C-00015
2-Chloro-5-[[5-hydroxy-4-[(2-hydroxy-1-naphthalenyl)azo]-2-methylphenyl]azo] benzenesulfonic acid; Na salt, *in* C-00132
5-[(4-Chlorophenyl)azo]-6-hydroxy-2-naphthalenesulfonic acid, C-00204
1-[(3-Chlorophenyl)azo]-2-naphthalenol, C-00205
▷ 2,3-Dihydro-2,2-dimethyl-6-[[4-(phenylazo)-1-naphthalenyl]azo]-1*H*-perimidine, D-00390
4-[(2,3-Dihydroxy-1-naphthalenyl)azo]-3-hydroxy-2,7-naphthalenedisulfonic acid, D-00660
4-[(2,3-Dihydroxy-6-sulfo-1-naphthalenyl) azo]-3-hydroxy-2,7-naphthalenedisulfonic acid, D-00732
4-(3,5-Dinitro-2-hydroxyphenylazo)-1-naphthol, D-00955
3-[(2,4-Dinitrophenyl)azo]-4-hydroxy-1-naphthalenesulfonic acid; Na salt, *in* D-00966
2-Hydroxy-3-[4-hydroxynaphthalenylazo]-5-nitrobenzenesulfonic acid, H-00223
3-Hydroxy-4-[(2-hydroxy-1-naphthalenyl) azo]-7-nitro-1-naphthalenesulfonic acid, H-00224
1-[[2-[(2-Hydroxy-5-methylphenyl)-*O*,*N*,*N*-azoxy]phenyl]azo]-2-naphthalenol, H-00305
3-[(2-Hydroxy-1-naphthalenyl)azo]-1*H*-pyrazole-4-carboxylic acid, H-00353
5-[(2-Hydroxy-1-naphthalenyl)azo]-2,4-(1*H*,3*H*)-pyrimidinedione; NH_4 salt, *in* H-00354
2-[(2-Hydroxy-1-naphthalenyl)azo]-4-thiazolecarboxylic acid, H-00358
2-(2-Hydroxy-3-naphthoylazo)-1-hydroxy-4-naphthalenesulfonic acid, H-00374
p-[(2-Hydroxy-1-naphthyl)azo]benzoic acid, H-00375
3-[(2-Hydroxy-1-naphthyl)azo]-4-pyrazolecarboxylic acid, H-00376
2-[[1-Hydroxy-7-(phenylamino)-3-sulfo-2-naphthalenyl]azo]benzoic acid, *in* A-00222
2-[(2-Hydroxyphenyl)azo]-1,5-naphthalenediol, H-00453
1-[(5-Methylimidazol-4-yl)azo]-2-naphthol, M-00192
Naphthol violet, N-00030
1-(4-Nitro-2-hydroxybenzeneazo)-2-(β-acetylhydrazino)naphthalene, N-00111
1-(2-Pyridinylazo)-2-naphthalenol, P-00374
▷ Solochrome black 6BN; Na salt, *in* S-00017
Solochrome fast blue B, *in* A-00225
1-(1*H*-1,2,4-Triazol-3-ylazo)-2-naphthalenol, T-00200

Benzopyran derivatives

3-Acetyl-4-hydroxy-2H-1-benzopyran-2-one, A-00017
3-Acetyl-5-hydroxy-2-methyl-4*H*-1-benzopyran-4-one, *in* D-00644
6-Acetyl-7-hydroxy-4-methyl-2*H*-1-benzopyran-2-one, A-00018
7-Amino-4-methyl-2*H*-1-benzopyran-2-one, A-00237
8-(Aminomethyl)-6,7-dihydroxy-4-methylcoumarin-*N*,*N*-diacetic acid, A-00241
▷ 4*H*-1-Benzopyran-4-one, B-00072
3-Benzyl-4,5-dihydroxycoumarin, B-00177
4-(Bromomethyl)-6,7-dimethoxy-2*H*-1-benzopyran-2-one, B-00519
8-(Bromomethyl)-6*H*-1,3-dioxolo[4,5-*g*][1] benzopyran-6-one, B-00523
4-(Bromomethyl)-7-methoxy-2*H*-1-benzopyran-2-one, *in* B-00524
4-(Bromomethyl)-7-methoxy-6-nitro-2*H*-benzopyran-2-one, B-00526
4-(Bromomethyl)-2*H*-naphtho[1,2-*b*]pyran-2-one, B-00529
7-(Chlorocarbonylmethoxy)-4-methylcoumarin, C-00077
5-Chloro-2-[7-(diethylamino)-2-oxo-2*H*-1-benzopyran-3-yl]-6-benzoxazolesulfonic acid, C-00091
4-(Diazomethyl)-7-methoxy-2*H*-1-benzopyran-2-one, D-00150
N-[4-[7-(Diethylamino)-4-methyl-2-oxo-2*H*-1-benzopyran-3-yl]phenyl]-2-iodoacetamide, D-00321
7-(Diethylamino)-2-oxo-2*H*-1-benzopyran-3-carboxylic acid hydrazide, D-00326
2-[7-(Diethylamino)-2-oxo-2*H*-1-benzopyran-3-yl]-5-methyl-6-benzoxazolesulfonic acid, D-00327
2,3-Dihydro-2-hydroxy-4*H*-1-benzopyran-4-one, D-00406
2,3-Dihydro-3-hydroxy-4*H*-1-benzopyran-4-one, D-00407
2,3-Dihydro-5-hydroxy-4*H*-1-benzopyran-4-one, D-00408
2,3-Dihydro-8-hydroxy-9-phenyl-7*H*-pyrano[2,3-*f*]-1,4-benzodioxin-7-one, D-00422
▷ 6,7-Dihydroxy-2*H*-1-benzopyran-2-one, D-00538
7,8-Dihydroxy-2*H*-1-benzopyran-2-one, D-00539
6,7-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+); Chloride, *in* D-00576
7,8-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+); Chloride, *in* D-00577
6,7-Dihydroxy-2,4-diphenyl-1-benzopyrylium(1+); Chloride, *in* D-00584
7,8-Dihydroxy-2,4-diphenyl-1-benzopyrylium(1+); Chloride, *in* D-00585
5,7-Dihydroxyflavone, D-00612
4′,5-Dihydroxy-7-methoxyflavone, D-00640
▷ 5,7-Dihydroxy-4′-methoxyflavone, D-00641
▷ 7,8-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00648
7,8-Dihydroxy-3-phenyl-2*H*-1-benzopyran-2-one, D-00705
7,8-Dihydroxy-4-phenyl-2*H*-1-benzopyran-2-one, D-00706
6,7-Dihydroxy-4-phenylcoumarin, D-00708
2-Ethyl-5-hydroxy-4*H*-1-benzopyran-4-one, E-00084
3-Ethyl-5-hydroxy-4*H*-1-benzopyran-4-one, E-00085
3-Ethyl-5-hydroxy-2,7-dimethyl-4*H*-1-benzopyran-4-one, E-00086
2-Ethyl-5-hydroxy-7-methoxyisoflavone, *in* E-00070
2-Ethyl-5-hydroxy-3-methyl-4*H*-1-benzopyran-4-one, E-00090
3-Ethyl-5-hydroxy-2-methyl-4*H*-1-benzopyran-4-one, E-00091
3-(2-Ethyl-3-oxo-1-phenylbutyl)-4-hydroxy-4*H*-1-benzopyran-4-one, E-00101
▷ 3,3′,4′,5,5′,7-Hexahydroxyflavone, H-00055
5-Hydroxy-2,3-dimethyl-4*H*-1-benzopyran-4-one, H-00150
5-Hydroxy-7-methoxy-2,6-dimethyl-4*H*-1-benzopyran-4-one, *in* D-00575
5-Hydroxy-7-methoxy-2-methyl-4*H*-1-benzopyran-4-one, *in* D-00645
5-Hydroxy-3-methyl-4*H*-1-benzopyran-4-one, H-00282
4-(Hydroxymethyl)-7-methoxy-2*H*-1-benzopyran-2-one, *in* H-00209
7-Hydroxy-4-methyl-2-oxo-2*H*-1-benzopyran-3-acetic acid, H-00295
4-Hydroxy-3-nitroso-2*H*-1-benzopyran-2-one, H-00407
1-Hydroxy-2-nitroso-3*H*-naphtho[2,1-*b*] pyran-3-one, H-00416
7-Hydroxy-2-oxo-2*H*-1-benzopyran-3-carboxylic acid, H-00426
2-(3-Hydroxy-4-oxo-4*H*-1-benzopyran-2-yl) benzenesulfonic acid, H-00427
▷ 3-Hydroxy-2-phenyl-4*H*-1-benzopyran-4-one, H-00466
2-Mercapto-4*H*-1-benzopyran-4-thione, M-00024
7-Methoxy-2-oxo-2*H*-1-benzopyran-4-carbonyl azide, M-00097
7-Methoxy-2-oxo-2*H*-1-benzopyran-3-carbonyl fluoride, *in* H-00426
3-[(7-Methoxy-2-oxo-2*H*-1-benzopyran-3-yl)carbonyl]-2(3*H*)-oxazolone, M-00098
(7-Methoxy-2-oxo-2*H*-1-benzopyran-4-yl) methyl *N*,*N*′-dicyclohexylcarbamimidate, M-00100
▷ 4-Methyl-2*H*-1-benzopyran-2-one, M-00141
2-Oxo-2*H*-1-benzopyran-6-sulfonyl chloride, *in* O-00057
3,3′,4′,5,7-Pentahydroxyflavanone; (2*R*,3*R*)-*form*, *in* P-00023
▷ 2′,3,4′,5,7-Pentahydroxyflavone, P-00024
▷ 3,3′,4′,5,7-Pentahydroxyflavone, P-00025
▷ 3,3′,4′,5′,7-Pentahydroxyflavone, P-00026
3,5,7,3′,4′-Pentahydroxyflavone-6′-sulfonic acid, P-00027
▷ Rutin, R-00014
2′,3,5,7-Tetrahydroxyflavone, T-00074
▷ 3,3′,4′,7-Tetrahydroxyflavone, T-00075
▷ 3′,4′,5,7-Tetrahydroxyflavone, T-00077
▷ 3,3′,4′,5-Tetrahydroxy-7-methoxyflavone, T-00078
4′,5,7-Trihydroxyflavanone; (*S*)-*form*, *in* T-00281
5,7,8-Trihydroxyflavanone; (*S*)-*form*, 7-*O*-Glucuronopyranoside, *in* T-00282
3,4′,7-Trihydroxyflavone, T-00283
▷ 3,5,7-Trihydroxyflavone, T-00284
5,7,8-Trihydroxyflavone, T-00286
3′,5,7-Trihydroxy-4′-methoxyflavone, T-00297
4,5,7-Trihydroxy-3-phenyl-2*H*-1-benzopyran-2-one, T-00313

2,2′-Bipyridyl compounds (1,10-phenanthroline-type compounds)

2-Amino-4,6-bis[6-(2-pyridyl)-2-pyridyl]-*s*-triazine, A-00122
5-Amino-1,10-phenanthroline, A-00299
Bathocuproinedisulfonic acid; Di-Na salt, *in* B-00002
Bathophenanthrolinedisulfonic acid; Di-Na salt, *in* B-00003
6-Benzoyl-3-(2,2′-bipyridin-6-yl)-5-phenyl-1,2,4-triazine, B-00123
6-Benzoyl-3-(1,10-phenanthrolin-2-yl)-5-phenyl-1,2,4-triazine, B-00142
▷ 2,2′-Bipyridine, B-00220
[2,2′-Bipyridine]-6-carboximidic acid hydrazide, B-00223
[2,2′-Bipyridine]-4,4′-dicarboxylic acid, B-00224
2-(2,2′-Bipyridin-6-yl)benzimidazole, B-00225

3-(2,2′-Bipyridin-6-yl)-5,6-diphenyl-1,2,4-triazine, B-00227
3-(2,2′-Bipyridin-6-yl)-5,6-di-2-pyridyl-1,2,4-triazine, B-00228
2-(2,2′-Bipyridin-6-yl)-1*H*-imidazo[4,5-*f*][4,7]phenanthroline, B-00229
2-(2,2′-Bipyridin-6-yl)-1*H*-imidazo[4,5-*c*]pyridine, B-00230
2-(2,2′-Bipyridin-6-yl)-3*H*-imidazo[4,5-*h*]quinoline, B-00231
2-(2,2′-Bipyridin-6-yl)-5-phenylbenzimidazole, B-00233
3-(2,2′-Bipyridin-6-yl)-1,2,4-triazino[5,6-*f*][4,7]phenanthroline, B-00234
2,2′-Biquinoline, B-00236
4,4′-([2,2′-Biquinoline]-4,4′-diyldiimino) bisbenzoic acid; Di-Et ester, *in* B-00238
4,4′-Bis(4-biphenylylamino)-2,2′-biquinoline, B-00259
Bis(2,2′:6′,2″-terpyridine-*N*,*N*′,*N*″)iron(*II*)(2+), B-00457
5-Bromo-1,10-phenanthroline, B-00541
5-Chloro-1,10-phenanthroline, C-00195
▷ Cuprotest, C-00322
3,4-Cyclopenteno-1,10-phenanthroline, C-00365
4,4′-Diamino-2,2′-bipyridine, D-00061
4,4′-Dichloro-2,2′-bipyridine, D-00253
4,4′-Dichloro-2,2′-biquinoline, D-00254
6,7-Dihydro-5,8-diphenyldibenzo[*b*,*j*][1,10]phenanthroline, D-00398
2-(4,5-Dihydro-5-methyl-5-phenyl-1*H*-1,2,4-triazol-3-yl)-1,10-phenanthroline, D-00447
6-[4,5-Dihydro-5-methyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-2,2′-bipyridine, D-00454
2-[4.5-Dihydro-5-methyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-1,10-phenanthroline, D-00456
4,5-Dihydro-3-(1,10-phenanthrolin-2-yl)-5-(2-pyridinyl)-1,2,4-triazole, D-00465
4,4′-Dihydroxy-2,2′-biquinoline, D-00545
4,7-Dihydroxy-1,10-phenanthroline; B,HCl, *in* D-00685
4,7-Dimethoxy-1,10-phenanthroline, *in* D-00685
5,6-Dimethoxy-1,10-phenanthroline, *in* D-00686
4,4′-Dimethyl-2,2′-bipyridine, D-00840
2,9-Dimethyl-4,7-dihydroxy-1,10-phenanthroline, D-00850
2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline, D-00852
3,8-Dimethyl-1,10-phenanthroline, D-00881
4,7-Dimethyl-1,10-phenanthroline, D-00882
5,6-Dimethyl-1,10-phenanthroline, D-00883
2-(5,6-Dimethyl-1,2,4-triazin-3-yl)-1,10-phenanthroline, D-00927
4,4′-Diphenyl-2,2′-bipyridine, D-01002
2,9-Diphenyl-1,10-phenanthroline, D-01032
3,8-Diphenyl-1,10-phenanthroline, D-01033
4,7-Diphenyl-1,10-phenanthroline, D-01034
4-Hydroxy-1,10-phenanthroline, H-00437
2-Methyl-1,10-phenanthroline, M-00220
5-Methyl-1,10-phenanthroline, M-00221
5-Nitro-1,10-phenanthroline; B,HCl, *in* N-00116
1,2,3,4,9,10,11,12-Octahydrodibenzo[*c*,*i*][1,10]phenanthroline, O-00016
▷ 1,10-Phenanthroline, P-00052
1,10-Phenanthroline-2-carboximidic acid hydrazide, P-00053
1,10-Phenanthroline-3-sulfonic acid, P-00054
1,10-Phenanthroline-5-sulfonic acid, P-00055
3-(1,10-Phenanthrolin-2-yl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, P-00056
3-[(1,10-Phenanthrolin-2-yl)]-5-phenyl-1,2,4-triazoline, P-00057
2-(1,10-Phenanthrolyl)amidoxime, P-00058
5-Phenyl-1,10-phenanthroline; B,HCl, *in* P-00154
2-(5-Phenyl-1,2,4-triazin-3-yl)-1,10-phenanthroline, P-00207
2-(2-Pyridyl)-1*H*-imidazo[4,5-*f*][4,7]phenanthroline, P-00419
2,2′:6′,2″-Terpyridine, T-00005
7,8,9,10-Tetrahydrobenzo[*c*][1,10]phenanthroline, T-00050
2,4,7,9-Tetramethyl-1,10-phenanthroline, T-00097
3,4,6,7-Tetramethyl-1,10-phenanthroline, T-00098
3,4,6,8-Tetramethyl-1,10-phenanthroline, T-00099
3,4,7,8-Tetramethyl-1,10-phenanthroline, T-00100
3,5,6,8-Tetramethyl-1,10-phenanthroline, T-00101
3,4,6-Trimethyl-1,10-phenanthroline, T-00331
3,4,7-Trimethyl-1,10-phenanthroline, T-00332
3,5,6-Trimethyl-1,10-phenanthroline, T-00333
3,5,7-Trimethyl-1,10-phenanthroline, T-00334
3,5,8-Trimethyl-1,10-phenanthroline, T-00335
4,4′,4″-Triphenyl-2,2:6′,2″-terpyridine, T-00378
Tris(2,2′-bipyridine-*N*,*N*′)iron(*II*)(2+), T-00384
Tris(4,7-dimethyl-1,10-phenanthroline-N^1,N^{10})iron(*II*)(2+); Sulfate, *in* T-00389
Tris(1,10-phenanthroline-N^1,N^{10})iron(*II*)(2+), T-00412

Crown ethers

Benzo-12-crown-4, B-00052
Benzo-14-crown-4, B-00053
Benzo-15-crown-5, B-00054
Benzo-18-crown-6, B-00055
N-(1,4,7,10,13,16,19-Benzoheptaoxacycloheneicosin-21-yl)-2-propenamide, B-00058
6-Benzyl-6-(2-hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, B-00182
6-Benzyl-6-(2-hydroxy-5-nitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, B-00185
Bis(benzo-15-crown-5-ylmethyl)succinate, *in* B-00611
2,2′-Bis[3,4-(15-crown-5)-2-nitrophenylcarbamoxymethyl] tetradecane, B-00290
N,*N*-Bis(2,3,5,6,9,10,12,13,15,16-decahydro-8*H*-1,7,4,7,11,14-benzodioxatetrathiacyclononadecin-19-yl)pentanediamide, B-00291
N,*N*′-Bis(2,3,5,6,8,9,11,12,14,15-decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl) pentanediamide, B-00292
3,26-Bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21-decahydro-29-(3,45-trimethoxyphenyl)-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16] hexaoxacycloheneicosin, B-00328
3,26-Bis(1,1-dimethylethyl)-29-(2,5-dimethylphenyl)-8,9,11,12,14,15,17,18,20,21-decahydro-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16]-hexaoxacycloheneicosin, B-00329
3,29-Bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21,21,23,24-dodecahydro-32-(3,4,5-trimethoxyphenyl)-32*H*-dinaphtho[2,1-*t*:1′,2′-*w*][1,4,7,10,13,16,19] heptaoxacyclotetracosin, B-00330
2,19-Bis(1,1-dimethylethyl)-6,7,9,10,12,13,15,16,23,24,26,27,29,30,32,33-hexadecahydrodibenzo[*b*,*q*][1,4,7,10,13,16,19,22,25,28] decaoxacyclotriacontine, B-00331
ar,*ar*′-Bis(1,1-dimethylethyl)-6,7,9,10,12,13,15,16,18,19,26,27,29,30,32,33,35,36-octadecahydrodibenzo[*b*,*q*][1,4,7,10,13,16,19,22,25,28,31] undecaoxacyclotritriacontin, B-00332
N,*N*′-Bis(2,3,5,6,8,9,11,12,14,15,17,18-dodecahydro-1,4,7,10,13,16,19-benzoheptaoxacycloheneicosin-21-yl) pentanediamide, B-00346
2,13-Bis(dodecyloxy)-6,7,9,10,17,18,20,21-octahydrodibenzo[*b*,*k*][1,4,7,10,13,16] hexaoxacyclooctadecine, B-00347
2,14-Bis(dodecyloxy)-6,7,9,10,17,18,20,21-octahydrodibenzo[*b*,*k*][1,4,7,10,13,16] hexaoxacyclooctadecine, B-00348
2,14-Bis(2-ethoxyethoxy)-6,7,9,10,17,18,20,21-octahydrodibenzo[*b*,*k*][1,4,7,10,13,16] hexaoxacyclooctadecine, B-00349
Bis[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl) methyl]heptanedioate, B-00434
N,*N*′-Bis(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl) pentanediamide, B-00435
16-Bromo-2,3,5,6,8,9,11,12-octahydro-*N*-(2,4,6-trinitrophenyl)-1,4.7,10,13-benzopentaoxacyclopentadecin-15-amine, B-00540
2-Butenedioic acid bis[(2,3,5,6,8,9,11,12,14,15-decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl) methyl]ester, B-00610
2-Butenedioic acid bis[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl) methyl]ester, B-00611
▷ 15-Crown-5, C-00314
▷ 18-Crown-6, C-00315
N-(2,3,5,6,9,10,12,13,15,16-Decahydro-8*H*-1,17,4,7,11,14-benzodioxatetrathiacyclononadecin-19-yl)-2-propenamide, D-00005
8-[[4-[(2,3,5,6,8,9,11,12,14,15-Decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl)azo] phenyl]amino]-1-naphthalenesulfonic acid, D-00006
N-(2,3,5,6,8,9,11,12,14,15-Decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl)-2-propenamide, D-00007
8,9,11,12,14,15,17,18,20,21-Decahydro-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16]hexaoxacycloheneicosin, D-00016
2,3,5,6,8,9,11,12,14,15-Decahydronaphtho[2,3-*b*]-1,4,7,10,13,16-hexaoxacyclooctadecin, D-00017
2,3,5,6,8,9,11,12,14,15-Decahydro-18-nitro-1,4,7,10,13,16-benzohexaoxacyclooctadecin, D-00018
2,3,5,6,8,9,11,12,14,15-Decahydro-19-nitro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-amine, D-00019
6,7,9,10,12,13,15,16,18,19-Decahydro-2,4,21,23-tetramethyl-25-(1-naphthalenyl)-25*H*-dibenzo[*q*,*t*][1,4,7,10,13,16] hexaoxacycloheneicosin, D-00020
2,3,5,6,8,9,11,12,14,15-Decahydro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-amine, D-00021
5-Decyl-2-(1,4,8,11-tetraoxacyclotetradec-6-yl-methoxy)benzoic acid, D-00027
5-Decyl-2-(1,4,7,10-tetraoxacyclotridec-5-ylmethoxy)benzoic acid, D-00028
Dibenzo-16-crown-5, D-00155
▷ Dibenzo-18-crown-6, D-00156
Dibenzo-19-crown-6, D-00157
Dibenzo-22-crown-7, D-00158
Dibenzo-24-crown-8, D-00159
Dibenzo-30-crown-10, D-00160
Dibenzo-36-crown-12, D-00161

6,6-Dibenzyl-1,4,8,11-tetraoxacyclotetradecane, D-00173
2,13-Dibutyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecin, D-00235
7,18-Dibutyl-6,7,9,10,17,18,20,21-octahydrodibenzo-[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecin, D-00236
29-(2,6-Dichlorophenyl)-3,26-bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21-decahydro-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16]hexaoxacycloheneicosin, D-00290
32-(2,6-Dichlorophenyl)-3,29-bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21,23,24-dodecahydro-32*H*-dinaphtho[2,1-*t*:1′,2′-*w*][1,4,7,10,13,16,19]-heptaoxacyclotetracosin, D-00291
2,19-Diethyl-6,7,9,10,12,13,15,16,23,24,26,27,29,30,32,33-hexadecahydrodibenzo[*b,q*][1,4,7,10,13,16,19,22,25,28]decaoxacyclotriacontin, D-00348
2,13-Diethyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecin, D-00351
7,18-Diethyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecin, D-00352
2,13-Diheptyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecin, D-00366
2,13-Dihexyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecin, D-00368
6,7-Dihydrotribenzo[*e,i,m*][1,4,8,11]dioxadiazacyclotetradecine, D-00497
1,2-Dihydroxy-3-(1,4,7,10,13-pentaoxa-16-azacyclooctadecylmethyl)-9,10-anthracenedione, D-00682
1,2-Dihydroxy-3-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-ylmethyl)-9,10-anthracenedione, D-00737
15-(1,1-Dimethylethyl)tetradecahydro-1,4,7,10,13-benzopentaoxacyclopentadecin, D-00860
Dinaphtho-30-crown-10, D-00932
3,5-Dinitro-4-[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentanedecin-15-yl)amino]benzonitrile, D-00956
19-[(2,4-Dinitrophenyl)azo]-3,6,9,12,15-pentaoxabicyclo[15.3.1]heneicosa-1(21),17,19-trien-21-ol, D-00969
16-[(2,4-Dinitrophenyl)azo]-3,6,9,12-tetraoxabicyclo[12.3.1]octadeca-1(18),14,16-trien-18-ol, D-00970
N-(2,4-Dinitrophenyl)-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, D-00973
N-[2,4-Dinitro-6-(trifluoromethyl)phenyl]-3,4,6,7,10,11-hexahydro-2*H*,9*H*-1,5,8,12-benzotetraoxacylotetradecin-14-amine, D-00976
N-[2,4-Dinitro-6-(trifluoromethyl)phenyl]-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, D-00977
N-[2,6-Dinitro-4-(trifluoromethyl)phenyl]-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, D-00978
Dipropyldicyclohexyl-18-crown-6, *in* O-00027
6,7,9,10,12,13,20,21,23,24,26,27-Dodecahydro-2,16-dimethyldibenzo[*b,n*][1,4,7,10,13,16,19,22]octaoxacyclotetracosin, D-01138
6-Dodecyl-*N,N*-diethyl-1,4,8,11-tetraoxacyclotetradecane-6-acetamide, D-01143
6-Dodecyl-6-[2-hydroxy-3,5-bis(4-nitrophenylazo)benzyl]-1,4,8,11-tetraoxacyclotetradecane, D-01144
6-Dodecyl-6-(2-hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, D-01145
6-Dodecyl-6-(2-hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, D-01146
6-Dodecyl-6-(2-hydroxy-5-nitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, D-01148
6-Dodecyl-6-[2-hydroxy-3-nitro-5-(4-nitrophenylazo)benzyl]-1,4,8,11-tetraoxacyclotetradecane, D-01149
Dodecylmethylpropanedioate bis(1,4,7,10-tetraoxacyclododec-2-ylmethyl)ester, D-01152
6-Dodecyl-6-methyl-1,4,8,11-tetraoxacyclotetradecane, D-01153
2-[(Dodecyloxy)methyl]-1,4,7,10-tetraoxacyclododecane, D-01154
Eicosahydro-20*H*-dibenzo[*b,n*][1,4,7,10,13,16]hexaoxacyclononadecin, E-00003
▷ Eicosahydrodibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecine, E-00004
Eicosahydro-2,13-dimethyldibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecin, E-00005
1,4,10,13,16,19-Heptaoxacycloheneicosane, H-00013
6,7,9,10,12,13,15,16,23,24,26,27,29,30,32,33-Hexadecahydro-2,20-dimethyldibenzo[*b,q*][1,4,7,10,13,16,19,22,25,28]decaoxacyclotriacontin, H-00023
6,7,9,10,12,13,15,23,24,26,27,29,30,32,33-Hexadecahydro-2,19-dinitrodibenzo[*b,q*]-[1,4,7,10,13,16,19,22,25,28]decaoxacyclotriacontin, H-00024
6,7,13,14,15,16,17,18,24,25,31,32,33,34,35,36-Hexadecahydrotetrabenzo[*e,m,s,a*$_1$][1,4,15,18,8,11,22,25]tetraoxatetraazacyclooctacosine, H-00025
[(6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b,k*][1,4,7,10,13]pentaoxacyclohexadecin-18-yl)oxy]acetic acid, H-00040
4-[(6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b,k*][1,4,7,10,13]pentaoxacyclohexadecin-18-yl)oxy]butanoic acid, H-00041
2-[6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b,k*]-[1,4,7,10,13-pentaoxacyclohexadecin-18-yl]oxy]hexanoic acid, H-00042
17-[(6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b,k*][1,4,7,10,13]-pentaoxacyclohexadecin-18-yl)oxy]octadecanoic acid, H-00043
7,8,15,16,17,18-Hexahydrodibenzo[*e,m*][1,4,8,11]-tetraazacyclotetradecine, H-00044
5,7,7,12,14,14-Hexamethyl-1,4,8,11-tetraazacyclotetradeca-4,11-diene, H-00059
Hexaoxacycloazochrome, H-00067
1,4,7,10,13,16-Hexathiacyclooctadecane, H-00070
2-Hydroxy-3,5-bis[(4-nitrophenylazo)phenyl]methyl-15-crown-5, H-00141
2-Hydroxy-3,5-dinitrobenzyl-15-crown-5, H-00155
6-(2-Hydroxy-3,5-dinitrobenzyl)-6-methyl-1,4,8,11-tetraoxacyclotetradecane, H-00156
6-(2-Hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, H-00157
(2-Hydroxy-3,5-dinitrophenoxymethyl)-15-crown-5, H-00159
(2-Hydroxy-3,5-dinitrophenyl)oxymethyl-18-crown-6, H-00164
13-Hydroxyethyl-1,4,7,10-tetraoxa-13-azacyclopentadecane, H-00182
7-Hydroxy-4-methyl-8-(1,4,7,10,13-pentaoxa-16-azacyclooctadec-16-ylmethyl)-2*H*-1-benzopyran-2-one, H-00299
7-Hydroxy-4-methyl-8-(1,4,7-trioxa-10-azacyclododec-10-ylmethyl)-2*H*-1-benzopyran-2-one, H-00334
16-(2-Hydroxy-5-nitrobenzyl)-1,4,7,10,13-pentaoxa-16-azacyclooctadecane, H-00385
13-(2-Hydroxy-5-nitrobenzyl)-1,4,7,10-tetraoxa-13-azacyclopentadecane, H-00386
10-(2-Hydroxy-5-nitrobenzyl)-1,4,7-trioxa-10-azacyclododecane, H-00387
6-[2-Hydroxy-3-nitro-5-[(4-nitrophenyl)azo]benzyl]-6-methyl-1,4,8,11-tetraoxacyclotetradecane, H-00389
2-Hydroxy-[5-(4-nitrophenylazo)phenyl]methyl-15-crown-5, H-00398
2-Hydroxy-5-(4-nitrophenylazo)phenylmethyl-18-crown-6, H-00399
[2-Hydroxy-5-(4-nitrophenylazo)phenyl]oxymethyl-15-crown-5, H-00400
[2-Hydroxy-5-(4-nitrophenylazo)phenyl]oxymethyl-18-crown-6, H-00401
(2-Hydroxyphenoxymethyl)-12-crown-4, H-00444
Macrocyclic formazan II, M-00002
10-(2-Methoxyethyl)-1,4,7-trioxa-10-azacyclododecane, *in* T-00359
19-Methoxy-3,6,9,12,15-pentaoxa-21-azabicyclo[15.3.1]heneicosa-1(21),17,19-triene-2,16-dione, M-00101
2-[(2-Methoxyphenoxy)methyl]-1,4,7,10,13,16-hexaoxacyclooctadecane, M-00103
2-[(2-Methoxyphenoxy)methyl]-1,4,7,10,13-pentaoxacyclopentadecane, M-00104
2-(2-Methoxyphenyl)-1,4,7,10,13,16-hexaoxacyclooctadecane, M-00109
2-(2-Methoxyphenyl)-1,4,7,10,13-pentaoxacyclopentadecane, M-00115
15-Methyl-1,4,7,10,13-benzopentaoxacyclopentadecin, M-00139
13-Methyl-1,4,7,10-tetraoxa-13-azacyclopentadecane, *in* T-00111
10-Methyl-1,4,7-trioxa-10-azacyclodecane, *in* T-00359
19-[(4-Nitrophenyl)azo]-3,6,9,12,15-pentaoxabicyclo[15,3,1]heneicosa-1(21),17,19-trien-21-ol, N-00127
4-[(4-Nitrophenyl)azo]-2-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-yl)phenol, N-00130
N-(2,3,5,6,8,9,11,12-Octahydro-1,13,4,7,10-benzodioxatrithiacyclopentadecin-15-yl)-2-propenamide, O-00005
4-[(2,3,5,6,8,9,11,12-Octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl)azo]phenol, O-00006
N-(2,3,5,6,8,9,11,12-Octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl)-2-propenamide, O-00007
1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecine, O-00009
4-[(1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-yl)azo]phenol, O-00010
6,7,9,10,17,18,21,22-Octahydro-16*H*,20*H*-dibenzo-[*h,q*][1,4,7,13,10,16]tetraoxadiazacyclooctadecine, O-00019
6,7,9,10,17,18,20,21-Octahydro-2,13-dimethyldibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecine, O-00023
6,7,9,10,17,18,20,21-Octahydro-7,18-dimethyldibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecine, O-00024
6,7,9,10,17,18,20,21-Octahydro-2,13-dioctyldibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecine, O-00025
6,7,9,10,17,18,20,21-Octahydro-2,13-dipentyldibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecine, O-00026
6,7,9,10,17,18,20,21-Octahydro-2,13-dipropyldibenzo[*b,k*][1,4,7,10,13,16]hexaoxacyclooctadecine, O-00027
2,3,5,6,8,9,11,12-Octahydronaphtho[2,3-*b*]-1,4,7,10,13-pentaoxacyclopentadecine, O-00029

2,3,5,6,8,9,11,12-Octahydro-16-nitro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, O-00030
2,3,5,6,8,9,11,12-Octahydro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, O-00031
2-[(Phenylmethoxy)methyl]-1,4,7,10-tetraoxacyclododecane, P-00141
6-[(Phenylmethoxy)methyl]-1,4,8,11-tetraoxacyclotetradecane, P-00142
5-[(Phenylmethoxy)methyl]-1,4,7,10-tetraoxacyclotridecane, P-00143
Propeller crown 7, P-00268
▷ Tetracosahydrodibenz[*b,n*][1,4,7,10,13,16,19,22]octaoxacyclotetracosin, T-00036
2-[(7,8,16,17-Tetrahydro-6*H*,15*H*-dibenzo[*b,i*][1,4,8,11]tetraoxacyclotetradecin-7-yl)oxy]butanoic acid, T-00056
3-[(7,8,16,17-Tetrahydro-6*H*,15*H*-dibenzo[*b,i*][1,4,8,11]tetraoxacyclotetradecin-7-yl)oxy]propanoic acid, T-00057
2,3,14,15-Tetrakis(2-methoxyphenyl)-1,4,7,10,13,16,19,22-octaoxacyclotetracosa-2,14-diene, T-00087
▷ 1,4,7,10-Tetraoxacyclododecane, T-00113
1,4,10,13-Tetraoxa-7,16-dithiacyclooctadecane, T-00118
1,4,8,11-Tetrathiacyclotetradecane, T-00126
2,4,6-Trinitro-*N*-[2-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-ylmethyl)phenyl]benzenamine, T-00356

Cryptands

N,N-Bis(2-hydroxy-5-nitrobenzyl)-1,10-diaza-4,7,13-trioxacyclopentadecane, B-00382
N,N'-Bis(2-hydroxy-5-nitrobenzyl)10,13-diaza-1,4,7-trioxacyclopentadecane, B-00383
N,N'-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,13,16,19-hexaoxa-10,22-diazacyclotetracosane, B-00384
N,N'-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,10,13-pentaoxa-15,18-diazacycloheneicosane, B-00385
N,N'-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,10-tetraoxa-13,16-diazacyclooctadecane, B-00386
N,N-Bis(2,3,5,6,8,9,11,12-octahydro-1,13,4,7,10-benzodioxatrithiacyclopentadecin-15-yl)pentanediamide, B-00433
Cryptand 5, C-00316
Cryptand 2.2.2 B, C-00317
Cryptand 2.2.2 BB, C-00318
Cryptand 2.2.2 D, C-00319
7,8,9,10,17,18,19,20,21,22-Decahydro-8,19-bis[(4-methylphenyl)sulfonyl]-6*H*,16*H*-dibenzo-[*h,q*][1,7,4,10,13,16]dioxatetraazacyclooctadecine, D-00008
7,8,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*b,k*][1,13,4,10]dioxadiazacyclooctadecine, D-00009
7,8,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h,q*][1,7,4,10,13,16]dioxatetraazacyclooctadecine, D-00010
6,7,8,9,10,11,18,19,20,21-Decahydro-5*H*,17*H*-dibenzo[*b,k*][1,13,4,7,10]dioxatriazacyclooctadecine, D-00011
7,8,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h,q*][1,7,4,10,16]dioxatriazacyclooctadecine, D-00012
7,8,9,10,11,12,19,20,21,22-Decahydrodibenzo[*e,q*][1,4,8,15]tetraazacyclooctadecine, D-00013
6,7,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h,q*][1,4,7,10,16]trioxadiazacyclooctadecine, D-00014
6,7,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h,q*][1,4,7,10,13,16]trioxatriazacyclooctadecine, D-00015
6,7,8,9,10,11,18,19,20,21-Decahydro-8-[(4-methylphenyl)sulfonyl]-5*H*,17*H*-dibenzo[*b,k*][1,13,4,7,10]dioxatriazacyclooctadecine, *in* D-00011
7,8,9,10,17,18,19,20,21,22-Decahydro-8-[(4-methylphenyl)sulfonyl]-6*H*,16*H*-dibenzo[*h,q*][1,7,4,10.16]dioxatriazacyclooctadecine, *in* D-00012
6,7,9,10,17,18,19,20,21,22-Decahydro-19-[(4-methylphenyl)sulfonyl]-16*H*-dibenzo[*h,q*][1,4,7,10,13,16]trioxatriazacyclooctadecine, *in* D-00015
5,14-Dihydro-6,8,15,17-tetramethyldibenzo[*b,i*][1,4,8,11]tetraazacyclotetradecine, D-00491
3-Dodecyl-1,5,9,13-tetraazacyclohexadecane, D-01156
3-Dodecyl-1,5,10,14-tetraazacyclooctadecane, D-01157
6-Dodecyl-1,4,8,11-tetraazacyclotetradecane, D-01158
4,7,10,16,19,24,27-Heptaoxa-1,13-diazabicyclo[11.8.8]nonacosane, H-00014
▷ 1,4,7,10,13,16-Hexaazacyclooctadecane, H-00019
6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e,k*][1,7,10,4,13]oxadithiadiazacyclopentadecine, H-00039
6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e,n*][1,4,10,7,13]-trioxadiazacyclopentadecine, H-00045
6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e,n*][1,4,10,7,13]trithiadiazacyclopentadecine, H-00046
5,5,7.12,12,14-Hexamethyl-1,4,8,11-tetraazacyclotetradecane; (7*RS*,14*RS*)-*form*, *in* H-00060
▷ 4,7,13,16,21,24-Hexaoxa-1,10-diazabicyclo[8.8.8]hexacosane, H-00068
Macrocyclic formazan I, M-00001
7,8.9,10,18,19,20,21-Octahydro-6*H*-dibenzo[*b,l*]-[1,14,5,10]dioxadiazacyclononadecine, O-00011
6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e,n*][1,4,7,13]dioxadiazacyclopentadecine, O-00012
6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e,n*][1,4,8,12]dioxadiazacyclopentadecine, O-00013
5,6,7,8,9,10,16,17-Octahydrodibenzo[*e,m*][1,4,8,11]dioxadiazacyclotetradecine, O-00014
6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e,n*][1,4,7,13]dithiadiazacyclopentadecine, O-00015
8,9,10,11,18,19,20,21-Octahydro-7*H*-dibenzo[*e,p*][1,4,8,14]tetraazacycloheptadecine, O-00017
7,8,9,10,17,18,19,20-Octahydrodibenzo[*e,o*][1,4,8,13]tetraazacyclohexadecine, O-00018
6,7,9,10,18,19,20,21-Octahydrodibenzo[*h,r*][1,4,7,11,16]-trioxadiazacyclononadecine, O-00020
6,7,8,9,10,11,17,18-Octahydro-8-[(4-methylphenyl)sulfonyl]-5*H*-dibenzo[*e,n*][1,4,7,10,13]dioxatriazacyclopentadecine, O-00028
4,7.13,16,21-Pentaoxa-1,10-diazabicyclo[8.8.5]tricosane, P-00037
8,9,17,18-Tetrahydro-7*H*-dibenzo[*e,n*][1,4,8,12]-dioxadiazacyclopentadecine, T-00055
1,4,8,11-Tetramethyl-1,4,8,11-tetrazacyclotetradecane, T-00104
4,7,13,18-Tetraoxa-1,10-diazabicyclo[8.5.5]eicosane, T-00114
2,2'-[1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diylbis(methylene)]bis[4-nitrophenol],9CI, T-00115
2,2'-[1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diylbis(methylene)]bis[*N*-(2,4,6-trinitrophenyl)]benzenamine, T-00116
2,2'-(1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diyldi-3,1-propanediyl)bis[4-[(4-nitrophenyl)azo]phenol], T-00117
4,10,15-Trioxa-1,7-diazabicyclo[5.5.5]heptadecane, T-00360
N,N'-[1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diylbis(methylene-2,1-phenylene)]bis[2,4,6-trinitrobenzenamine], T-00361
2,2'-(1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diyldi-3,1-propanediyl)bis[4-[(4-nitrophenyl)azo]phenol], T-00362

Dansyl compounds

N-(5-Aminopentyl)-5-(dimethylamino)-1-naphthalenesulfonamide, A-00296
N-Chloro-5-(dimethylamino)-1-naphthalenesulfonamide, C-00098
Dansylproline; (*S*)-*form*, *in* D-00001
5-(Dibutylamino)-1-naphthalenesulfonyl chloride, D-00224
5-(Dimethylamino)-1-naphthalenesulfinic acid, D-00794
5-(Dimethylamino)-1-naphthalenesulfonyl azide, D-00795
▷ 5-(Dimethylamino)-1-naphthalenesulfonyl chloride, D-00796
5-(Dimethylamino)-1-naphthalenesulfonyl fluoride, D-00797
[3-[[[5-(Dimethylamino)-1-naphthalenyl]sulfonyl]amino]phenyl]boronic acid, D-00798
1-[[5-(Dimethylamino)-1-naphthalenyl]sulfonyl]aziridine, D-00799
2-[[5-(Dimethylamino)-1-naphthalenyl]sulfonyl]ethyl carbonochloridate, D-00800
1-[[5-(Dimethylamino)-1-naphthalenyl]sulfonyl]piperazine, D-00801

Diazo compounds

4,4'-Azobis[3-hydroxy-2,7-naphthalenedisulfonic acid], A-00469
▷ 4-Diazobenzenesulfonic acid, D-00142
1-Diazobutane, D-00143
▷ Diazoethane, D-00144
1-(1-Diazoethyl)naphthalene, D-00145
2-(1-Diazoethyl)naphthalene, D-00146
(1-Diazoethyl)pentafluorobenzene, D-00147
(Diazomethyl)cyclohexane, D-00149
4-(Diazomethyl)-7-methoxy-2*H*-1-benzopyran-2-one, D-00150
▷ 1-(Diazomethyl)naphthalene, D-00151
(Diazomethyl)pentafluorobenzene, D-00152
1-(Diazomethyl)pyrene, D-00153
1-Diazopropane, D-00154
2,4-Dinitrobenzenediazonium(1+); Tetrafluoroborate(1−), *in* D-00938
3-Hydroxy-4-(1*H*-tetrazol-5-ylazo)-2,7-naphthalenedisulfonic acid, H-00546

β-Diones (acetylacetone derivatives)

5-[(1-Acetyl-2-oxopropyl)azo]-2,3-dihydro-1,4-phthalazinedione, A-00027
Azonol A1, A-00474
4-Benzoyl-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, B-00128
2-Benzoyl-4-nitro-1*H*-indene-1,3(2*H*)-dione, B-00139
Curcumin, C-00323
▷ 1,3-Cyclohexanedione, C-00338
1,1,1,2,2,6,6,7,7,7-Decafluoro-3,5-heptanedione, D-00003
3,5-Diacetyl-4-(2-chlorophenyl)-2,6-heptanedione, D-00034
4-[[4-(Dimethylamino)phenyl]azo]-5,5-dimethyl-1,3-cyclohexanedione, D-00808
5,5-Dimethyl-1,3-cyclohexanedione, D-00847
5,5-Dimethyl-2,4-hexanedione, D-00863

1,3-Di-2-selenophenyl-1,3-propanedione, D-01106
1,1,1,2,2,6,6,7,7,8,8,8-Dodecafluoro-3,5-octanedione, D-01136
1-(2-Furanyl)-3-(2-selenophenyl)-1,3-propanedione, F-00062
(6,6,7,7,8,8,8-Heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*)silver, H-00005
6,6,7,7,8,8,8-Heptafluoro-2,2-dimethyl-3,5-octanedione, H-00006
Hexafluoroacetylacetone, H-00030
1,1,1,5,5,6,6,6-Octafluoro-2,4-hexanedione, O-00003
1,1,1,2,2-Pentafluoro-6,6-dimethyl-3,5-heptanedione, P-00017
▷ 2,4-Pentanedione, P-00030
Selenoylacetone, S-00010
2,2,6,6-Tetramethyl-3,5-heptanedione, T-00095
3-(2-Thiazolylazo)-2,4-pentanedione, T-00144
1-(2-Thienyl)-1,3-butanedione, T-00150
2-Thio-2,4-pentanedione, T-00165
1,1,1,-Trifluoro-5,5-dimethyl-2,4-hexanedione, T-00244
4,4,4-Trifluoro-1,2-furanyl-1,3-butanedione, T-00248
1,1,1-Trifluoro-7-methyl-2,4-octanedione, T-00255
1,1,1-Trifluoro-2,4-pentanedione, T-00257
4,4,4-Trifluoro-1-phenyl-1,3-butanedione, T-00260
1,1,1-Trifluoro-4-thioxo-2-pentanone, T-00265
Tris(1,1,1,5,5,6,6,7,7,7-decafluoro-2,4-heptanedionato-*O,O'*)europium(*III*), T-00385
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*)europium(*III*), T-00394
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*)lanthanum(*III*), T-00398
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*)terbium(*III*), T-00401
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O'*)yttrium(*III*), T-00403
▷ Tris(2,4-pentanedionato-*O,O'*) chromium(*III*), T-00410
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*)dysprosium(*III*), T-00415
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*)europium(*III*), T-00416
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*)holmium(*III*), T-00418
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*) praseodymium(*III*), T-00420
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O,O'*)ytterbium(*III*), T-00421
Tris(3-trifluoroacetyl-*d*-camphorato) europium(*III*), T-00423
Tris(3-trifluoroacetyl-*d*-camphorato) praseodymium(*III*), T-00424
5,7-Undecanedione, U-00001

Dithiocarbamates

3-Amino-4,5-dihydro-5-oxo-1-phenyl-1*H*-pyrazole-4-carbodithioic acid, A-00155
2-Aminophenylcarbamodithioic acid; NH_4 salt, *in* A-00320
4-Aminophenylcarbamodithioic acid; NH_4 salt, *in* A-00321
Ammonium pyrrolidine dithiocarbamate, *in* P-00441
Bis(2-aminoethyl)dithiocarbamic acid, B-00245
Bis(carboxymethyl)dithiocarbamic acid, B-00279
Bis(2-hydroxyethyl)carbamodithioic acid; K salt, *in* B-00373
Bis(2-hydroxyethyl)carbamodithioic acid; Zn salt (2:1), *in* B-00373
Bis(4-sulfobenzyl)dithiocarbamic acid; Tri-Na salt, *in* B-00454
Butyldithiocarbamic acid, B-00631
2-Carboxy-1-pyrrolidinecarbodithioic acid; (*S*)-*form*, *in* C-00044
▷ Contramine, *in* D-00344
Cyclohexylbenzyldithiocarbamate(1 –); Triethylammonium salt, *in* C-00351
Cyclohexyl(phenylmethyl)carbamodithioic acid; Et_3N salt, *in* C-00357
Dibenzyldithiocarbamic acid, *in* D-01124
N-Dibutyldithiocarbamic acid, D-00232
Diethylammonium diethyldithiocarbamate, *in* D-00344
4,5-Dihydro-3-phenyl-1*H*-pyrazole-1-carbodithioic acid, D-00468
4,5-Dihydro-1*H*-pyrazole-1-carbodithioic acid, D-00479
N-(Dithiocarboxy)sarcosine, D-01126
▷ 1,1'-(Dithiodicarbonothioyl)bispiperidine, D-01130
1,2-Ethanediylbis[phenylcarbamodithioic acid]; Di-NH_4 salt, *in* E-00033
Ethylenebisdithiocarbamic acid; Di-NH_4 salt, *in* E-00072
(2-Furanyl)-2,3-dihydro-4-phenyl-1*H*-pyrazole-1-carbonodithioic acid, F-00051
Glycinedithiocarbamic acid, G-00018
Hexahydro-1*H*-azepine-1-carbodithioic acid; K salt, *in* H-00035
[2-Hydroxy-1,1-bis(hydroxymethyl)ethyl] carbamodithioic acid, H-00138
N-Methylpiperazinedithiocarbamic acid, *in* P-00238
▷ 4-Morpholinecarbodithioic acid, M-00345
4-Morpholinecarbodithioic acid; Compd. with morpholine, *in* M-00345
1-Naphthalenecarbodithioic acid; Me_4N salt, *in* N-00002
3-Phenyl-5-(2-furyl)-1-pyrazolinedithiocarbamic acid; Na salt, *in* P-00131
(Phenylsulfonyl)carbonimidodithioic acid; Di-K salt, *in* P-00195
▷ 4-Phenylthiosemicarbazide, P-00200
1,4-Piperazinedicarbodithioic acid, P-00239
1-Piperidinecarbodithioic acid, P-00242
Silver diethyldithiocarbamate, *in* D-00344
Sodium diethyldithiocarbamate, *in* D-00344

Dithiols

Acetyl dithiol, *in* M-00129
Benzoyl dithiol, *in* M-00129
1,4-Dihydro-6-nitro-2,3-quinoxalinedithione, D-00461
2,6-Dimercapto-3,5-dimethyl-4*H*-thiopyran-4-one, D-00754
2,6-Dimercapto-4-oxo-4*H*-thiopyran-3-carboxylic acid, D-00759
4,5-Dimethyl-1,2-benzenedithiol, D-00832
3-Hexyl-2,6-dimercapto-4*H*-thiopyran-4-one, H-00075
▷ 4-Methyl-1,2-benzenedithiol, M-00129

Dithizone derivatives

3,3'-Bis(trifluoromethyl)dithizone, B-00463
4-Bromo-2-methylphenyldiazenecarbothioic acid 2-(4-bromo-2-methylphenyl) hydrazide, B-00534
Di-4-biphenylylthiocarbazone, D-00175
o,o'-Dibromo-*p,p'*-dimethyldithizone, D-00184
2,2'-Dibromodithizone, D-00186
4,4'-Dibromodithizone, D-00187
4,4'-Dibutyldithizone, D-00233
3,3'-Dichloro-2,2'-dimethyldithizone, D-00264
4,4'-Dichloro-2,2'-dimethyldithizone, D-00265
5,5'-Dichloro-2,2'-dimethyldithizone, D-00266
2,2'-Dichlorodithizone, D-00270
4,4'-Dichlorodithizone, D-00271
2,2'-Difluorodithizone, D-00360
4,4'-Difluorodithizone, D-00361
4,4'-Diiododithizone, D-00743
4,4'-Dimethoxydithizone, D-00775
2,2'-Dimethyldithizone, D-00856
3,3'-Dimethyldithizone, D-00857
4,4'-Dimethyldithizone, D-00858
Dinaphthizone, D-00931
1,5-Di-(β-naphthyl)thiocarbazone, D-00933
2,2'-Diphenyldithizone, D-01009
1,5-Diphenyl-3-(2-propenylthio)formazan, D-01043
4,4'-Disulfodithizone; Di-Na salt, *in* D-01109
Selenazone, S-00005
2,2',3,3'-Tetrachlorodithizone, T-00029
2,2',4,4'-Tetrachlorodithizone, T-00030
2,2',5,5'-Tetrachlorodithizone, T-00031
2,2',6,6'-Tetrachlorodithizone, T-00032
3,3',4,4'-Tetrachlorodithizone, T-00033
3,3',5,5'-Tetrachlorodithizone, T-00034

EDTA-type compounds (N—CH_2COOH)

N-Acetamidoiminodiacetic acid, *in* N-00074
3-Amino-4-hydroxy-3'-nitroazobenzene-*N,N*-diacetic acid, A-00206
Aminomethylazo III, A-00235
2-(Aminomethyl)-4-(3,5-dichloro-4-oxo-2,5-cyclohexylideneamino)-6-methylphenol *N,N*-diacetic acid, A-00239
2-(Aminomethyl)-4-(3,5-dichloro-4-oxo-2,5-cyclohexylideneamino)phenol-*N,N*-diacetic acid, A-00240
8-(Aminomethyl)-6,7-dihydroxy-4-methylcoumarin-*N,N*-diacetic acid, A-00241
3-(Aminomethyl)furan-*N,N*-diacetic acid, A-00242
2-(Aminomethyl)-6-hydroxy-9*H*-xanthen-9-one-*N,N*-diacetic acid, A-00245
3-(Aminomethyl)-1,2,5,8-tetrahydroxyanthraquinone-*N,N*-diacetic acid, A-00256
3-(Aminomethyl)-1,2,5-trihydroxyanthraquinone-*N,N*-diacetic acid, A-00259
3-(Aminomethyl)-1,2,7-trihydroxyanthraquinone-*N,N*-diacetic acid, A-00260
5-Amino-2,4,6-pyrimidinetrione-N^5,N^5-diacetic acid, A-00338
2-(2-Aminostyryl)-6-methoxy-8-aminoquinoline-*N,N,N',N'*-tetraacetic acid; (*E*)-*form*, *in* A-00347
N-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]methyl]-*N*-(carboxymethyl)glycine, A-00430
N-Benzylethylenediaminetriacetic acid, *in* E-00079
1,2-Bis(2-amino-5-bromophenoxy)ethane-*N,N,N',N'*-tetraacetic acid, B-00243
3,3'-Bis(aminomethyl)-4,4'-dihydroxystilbene-*N,N,N',N'*-tetraacetic acid; (*E*)-*form*, *in* B-00246
1,5-Bis(aminomethyl)-2,6-naphthalenediol-*N,N,N',N'*-tetraacetic acid, B-00247
1,2-Bis(2-aminophenoxy)ethane-*N,N,N',N'*-tetraacetic acid, B-00248
2-[Bis(carboxymethyl)amino]benzoic acid, B-00276
4-[[Bis(carboxymethyl)amino]methyl]-3-hydroxy-2-naphthoic acid, B-00277
3,12-Bis(carboxymethyl)-6,9-dioxa-3,12-diazatetradecanedioic acid; Na salt, *in* B-00278
N,N'-Bis(2-hydroxybenzyl)ethylenediamine-*N,N'*-diacetic acid; B,2HCl, *in* B-00360
▷ [Bis(2-hydroxyethyl)amino]acetic acid, B-00367
Bromophthalexon S, B-00559
N-Butylethylenediaminetriacetic acid, *in* E-00079

Calcein, C-00010
Calcein blue, C-00011
2-Carboxy-5-hydroxy-4-oxo-1(4*H*)-pyridineacetic acid, C-00031
o-Cresolphthalexon, C-00308
N-(Cyclohexyl)ethylenediaminetriacetic acid, *in* E-00079
4,4′-Diamino-3,3′-biphenyldicarboxylic acid *N,N,N′,N′*-tetraacetic acid; Hexa-Na salt, *in* D-00054
2,2′-Diaminobiphenyl-4,4′-dicarboxylic acid-*N,N,N′,N′*-tetraacetic acid; Hexa-Na salt, *in* D-00055
2,2′-Diaminobiphenyl-*N,N,N′,N′*-tetraacetic acid; Tetra-Na salt, *in* D-00059
1,2-Diaminocyclohexane-*N,N,N′,N′*-tetraacetic acid; (1*RS*,2*RS*)-*form*, *in* D-00065
4,4′-Diamino-3,3′-diethoxybiphenyl-*N,N,N′,N′*-tetraacetic acid; Tetra-Na salt, *in* D-00070
▷ 1,2-Diaminopropane-*N,N,N′,N′*-tetraacetic acid, D-00115
▷ 1,3-Diamino-2-propanol-*N,N,N′,N′*-tetraacetic acid, D-00116
4,4′-Diamino-2,2′-stilbenedisulfonic acid *N,N,N′,N′*-tetraacetic acid, D-00126
4,4′-Diaminostilbene-*N,N,N′,N′*-tetraacetic acid; Tetra-Na salt, *in* D-00127
4,4′-[(4,6-Diamino-1,3,5-triazin-2-yl) amino]-2,2′-stilbenedisulfonic acid-*N,N′,N″,N‴*-tetraacetic acid; Hexa-Na salt, *in* D-00129
4,4-Dicarboxy-2,2′-diaminobiphenyl-*N,N,N′,N′*-tetraacetic acid, D-00245
4,5-Dihydroxy-3-[4-(aminomethyl) phenylazo]-2,7-naphthalenedisulfonic acid *N,N*-diacetic acid, D-00509
3,3′-Dihydroxybenzidine-*N,N,N′,N′*-tetraacetic acid, D-00528
4,5-Dihydroxy-3-[*N,N*-bis(carboxymethyl) aminomethyl]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00547
4,4′-Dihydroxy-2,2′-diaminobiphenyl-*N,N,N′,N′*-tetraacetic acid; Tetra-Na salt, *in* D-00572
4,4′-Dimethoxy-2,2′-diaminobiphenyl-*N,N,N′,N′*-tetraacetic acid, *in* D-00572
4,4′-Dimethyl-2,2′-diaminobiphenyl-*N,N,N′,N′*-tetraacetic acid; Tetra-Na salt, *in* D-00849
N,N′-1,2-Ethanediylbisalanine, E-00029
4,4′-[1,2-Ethenediylbis[2-(aminomethyl) phenol]]-*N,N,N′,N′*-tetraacetic acid; (*E*)-*form*, *in* E-00042
▷ Ethylenediaminetetraacetic acid, E-00078
Fura 2-AM, *in* F-00039
Fura 2; Penta-K salt, *in* F-00039
Glycinecresol red, G-00017
7-Hydroxy-8-(aminomethyl)coumarin-*N*-acetic acid, H-00096
7-Hydroxy-8-(aminomethyl)coumarin-*N,N*-diacetic acid, H-00097
▷ *N*-(2-Hydroxyethyl)ethylenediaminetriacetic acid, H-00177
N-[[1-Hydroxy-4-(4-nitrophenylazo)-2-naphthyl]methyl]glycine, H-00397
6-Hydroxy-1,3,5-triazine-2,4-diyldinitrilotetraacetic acid, H-00555
▷ Indoferron, I-00032
Isocein, I-00058
Mag-fura-2, M-00003
Mag-fura-2; Tetrakis(acetoxymethyl)ester, *in* M-00003
Methylthymol blue, M-00327
Naphthol violet, N-00030
▷ Nitrilotriacetic acid, N-00074
N-Octylethylenediaminetriacetic acid, *in* E-00079
▷ Pentetic acid, P-00039
1,2-Phenylenediamine-*N,N,N′,N′*-tetraacetic acid, P-00126
Phthalexon S, P-00221
Pyrocatecholsulfonephthalein complexan, P-00432
Semimethyl thymol blue, S-00011
Semimethylxylenol blue, S-00012
Semiphthalexon S; Di-Na salt, *in* S-00013
Semixylenol orange, S-00014
Stilbexon, S-00032
Tetraethylenepentamineheptaacetic acid; Tetra-Na salt, *in* T-00045
Thymolphthalexon, T-00183
2,4,6-Triamino-1,3,5-triazine-*N,N,N′,N′,N″,N‴*-hexaacetic acid, T-00195
Triethylenetetramine-*N,N,N′,N″,N‴,N⁗*-hexaacetic acid, T-00233
[Tris[(hydroxymethyl)methyl]amino]acetic acid, T-00407
[Vinylenebis[[(3-sulfo-*p*-phenylene)imino-*s*-triazine-6,2,4-triyl]dinitrilo]]octaacetic acid; Hexa-Na salt, *in* V-00007
N,N′,N″,N‴-[Vinylenebis[(3-sulfo-*p*-phenylene)imino-*s*-triazine-6,2,4-triyl]] tetrasarcosine; Di-Na salt, *in* V-00008
Xylenol orange, X-00006

Formazans

3-Acetyl-1,5-bis[bis(3,5,6-trichloro-2-hydroxyphenyl)]formazan, A-00013
3-Acetyl-1,5-bis(1,2-dihydro-1,5-dimethyl-3-oxo-2-phenyl-4-pyrazolyl)formazan, A-00014
1-(1*H*-Benzimidazol-4-yl)-3-methyl-5-phenylformazan, B-00046
5-(1*H*-Benzimidazol-5-yl)-3-phenyl-1-[1-(phenylmethyl)-1*H*-benzimidazol-2-yl] formazan, B-00049
5-(2-Benzothiazolyl)-1-[4-(dimethylamino) phenyl]-3-phenylformazan, B-00100
5-(2-Benzothiazolyl)-1,3-diphenylformazan, B-00101
5-(2-Benzothiazolyl)-3-(2-hydroxyphenyl)-1-phenylformazan, B-00103
5-Benzothiazolyl-3-(2-methoxyphenyl)-1-phenylformazan, *in* B-00103
5-(2-Benzothiazolyl)-3-methyl-1-phenylformazan, B-00105
5-(2-Benzothiazolyl)-1-(4-nitrophenyl)-3-phenylformazan, B-00106
1-(2-Benzothiazolyl)-3-phenyl-5-(4-sulfophenyl)formazan; Na salt, *in* B-00108
5-(2-Benzoxazolyl)-1-[4-(dimethylamino) phenyl]-3-phenylformazan, B-00114
5-(2-Benzoxazolyl)-1,3-diphenylformazan, B-00115
5-(2-Benzoxazolyl)-3-methyl-1-phenylformazan, B-00116
5-(2-Benzoxazolyl)-1-(4-nitrophenyl)-3-phenylformazan, B-00117
5-(1-Benzyl-1*H*-benzimidazol-2-yl)-1-[4-(dimethylamino)phenyl]-3-phenylformazan, B-00166
5-(1-Benzyl-1*H*-benzimidazol-2-yl)-1,3-diphenylformazan, B-00167
5-(1-Benzyl-2-benzimidazolyl)-1-(2-hydroxyphenyl)-3-phenylformazan, B-00168
5-(1-Benzyl-2-benzimidazolyl)-3-(2-hydroxyphenyl)-1-phenylformazan, B-00169
5-(1-Benzyl-2-benzimidazolyl)-3-(2-methoxyphenyl)-1-phenylformazan, *in* B-00169
p-[1-(1-Benzyl-2-benzimidazolyl)-3-methyl-5-formazano]benzenesulfonic acid, B-00170
1-(1-Benzyl-1*H*-benzimidazol-2-yl)-3-methyl-5-(4-nitrophenyl)formazan, B-00171
5-(1-Benzyl-1*H*-benzimidazol-2-yl)-3-methyl-1-(4-nitrophenyl)formazan, B-00172
5-(1-Benzyl-1*H*-benzimidazol-2-yl)-1-(4-nitrophenyl)-3-phenylformazan, B-00173
1,5-Bis(7-benzyl-2-benzimidazolyl)-3-methylformazan, B-00258
1,5-Bis(2-bromophenyl)-*N*-phenyl-3-formazancarboxamide, B-00270
1,5-Bis[2-(carboxymethoxy)-3,5-dimethylphenyl]-3-phenylformazan, B-00274
1,5-Bis[2-(carboxymethoxy)phenyl]-3-phenylformazan, B-00275
1,5-Bis(5-chloro-2-hydroxyphenyl)-3-cyanoformazan, B-00283
1,5-Bis(2-chlorophenyl)-3-formazancarboxamide, B-00286
1,5-Bis(2-chlorophenyl)-3-nitroformazan, B-00288
1,5-Bis(2-chlorophenyl)-*N*-phenyl-3-formazancarboxamide, *in* B-00286
1,5-Bis(2-fluorophenyl)-*N*-phenyl-3-formazancarboxamide, B-00358
1,5-Bis(2-hydroxy-4-nitrophenyl)-3-acetylformazan, B-00387
1,5-Bis(2-hydroxyphenyl)-3-cyanoformazan, B-00388
1,5-Bis(2-hydroxy-3-sulfo-5-chlorophenyl)-3-cyanoformazan, B-00394
1,5-Bis(2-iodophenyl)-*N*-phenyl-3-formazancarboxamide, B-00396
1,5-Bis(2-methylphenyl)-*N*-phenyl-3-formazancarboxamide, B-00409
1-(2-Carboxymethoxy-4-nitrophenyl)-3-phenyl-5-(carboxymethoxyphenyl) formazan, C-00033
3-(Carboxymethylthio)-1,5-diphenylformazan, C-00034
1-(2-Carboxyphenyl)-5-[1-(2-methoxy-5-sulfophenyl)]-3-phenylformazan, C-00042
3-Cyano-1,5-bis(2-hydroxy-5-sulfophenyl) formazan; Di-Na salt, *in* C-00325
1,5-Diantipyrinyl-3-formazancarbonitrile, D-00134
1,5-Diphenyl-3-(2-propenylthio)formazan, D-01043
1-(1,5-Di-2-thiazolylformazanyl)ethanone, D-01112
N-(5-Ethyl-1,3,4-thiadiazol-2-yl)-4-[3-methyl-5-(1-methyl-1*H*-benzimidazol-2-yl)-1-formazanyl]benzenesulfonamide, E-00117
3-(2-Hydroxyphenyl)-1-phenyl-5-(1-phenyl-2-benzimidazolyl)formazan, H-00495
1-(2-Hydroxy-5-sulfophenyl)-3-phenyl-5-(2-carboxyphenyl)formazan, H-00544
Macrocyclic formazan I, M-00001
Macrocyclic formazan II, M-00002
4-Methoxybenzoic acid [1-[2-(2-nitrophenyl)hydrazino]ethylidene] hydrazide, M-00083
3-(2-Methoxyphenyl)-1,5-diphenylformazan, M-00107
1-(4-Methoxyphenyl)-3-phenyl-5-(1-phthalazinyl)formazan, M-00116
1-(4-Methylphenyl)-3-phenyl-5-(1-phthalazinyl)formazan, M-00238
4-Nitrobenzoic acid [1-[2-(4-nitrophenyl) hydrazino]ethylidene]hydrazide, N-00095
1-(4-Nitrophenyl)-3-phenyl-5-(1-phthalazinyl)formazan, N-00143
1-(5-Nitro-2-pyridinyl)-3,5-diphenylformazan, N-00149
3,3′-[3-[(Phenylamino)carbonyl]-1,5-formazandiyl]bis[4-chlorobenzenesulfonic acid]; Di-K salt, *in* P-00080
3,3′-[3-[(Phenylamino)carbonyl]-1,5-formazandiyl]bis[4-chlorobenzenesulfonic acid], P-00080
3-Phenyl-1-(1-phthalazinyl)-5-(*p*-carboxyphenyl)formazan, P-00165
1-(1-Phthalazinyl)-3,5-diphenylformazan, P-00219
2(1*H*)-Pyridinone [[(3-methoxyphenyl)azo] phenylmethylene]hydrazone, P-00359
2(1*H*)-Pyridinone [[(4-methoxyphenyl)azo] phenylmethylene]hydrazone, P-00360
2(1*H*)-Pyridinone [[(4-methylphenyl)azo] phenylmethylene]hydrazone, P-00361
2(1*H*)-Pyridinone [[(3-nitrophenyl)azo] phenylmethylene]hydrazone, P-00362
2(1*H*)-Pyridinone [[(4-nitrophenyl)azo] phenylmethylene]hydrazone, P-00363
2(1*H*)-Pyridinone [phenyl(phenylazo) methylene]hydrazone, P-00364

1-(2-Pyridinyl)-3,5-diphenylformazan, P-00387
1-(2-Pyridyl)-5-(4-sulfophenyl)-3-phenylformazan, P-00424

Hydrazides

▷ Acetic acid 2-phenylhydrazide, *in* P-00134
3-Acetyl-2-methylindole *p*-tolylthiosemicarbazone, A-00022
2-Aminobenzoic acid 2-benzoylhydrazide, A-00106
2-Aminobenzoic acid [(2,4-dihydroxyphenyl)methylene]hydrazide, A-00107
2-Aminobenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, A-00108
4-Aminobenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, A-00110
2-Aminobenzoic acid (1-methylethylidene) hydrazide, A-00109
▷ Aminooxoacetic acid hydrazide, A-00291
Aminooxoacetic acid [(2-hydroxyphenyl) methylene]hydrazide, A-00292
9-Anthracenecarbonyl chloride, *in* A-00378
1-Anthracenecarboxylic acid; Hydrazide, *in* A-00376
2-Anthracenecarboxylic acid; Hydrazide, *in* A-00377
1-[α-Benzamido-*p*-(dimethylamino) cinnamoyl]-2-isonicotinoylhydrazide, B-00011
Benzenesulfonic acid; 2-Phenylhydrazide, *in* B-00026
Benzoic acid [1-[2-(4-bromo-2-nitrophenyl) hydrazino]ethylidene]hydrazide, B-00060
Benzoic acid [(2,4-dihydroxyphenyl) methylene]hydrazide, B-00061
Benzoic acid [1-[2-(2,4-dinitrophenyl) hydrazino]ethylidene]hydrazide, B-00062
Benzoic acid [(2-hydroxy-1-naphthalenyl) methylene]hydrazide, B-00064
Benzoic acid [1-[2-(2-nitrophenyl) hydrazino]ethylidene]hydrazide, B-00065
Benzoic acid [1-[2-(4-nitrophenyl) hydrazino]ethylidene]hydrazide, B-00066
Benzoylhydrazine, *in* B-00059
2-Benzoyl-4-(2-nitrophenyl)acetohydrazine, B-00141
[2,2′-Bipyridine]-6-carboximidic acid hydrazide, B-00223
Bis(di-2-pyridinylmethylene)carbonothioic dihydrazide, B-00344
1,3-Bis[di(2-pyridyl)methyleneamino]urea, B-00345
Bis[(2-hydroxyphenyl)methylene]carbonic dihydrazide, B-00390
Bis[(2-hydroxyphenyl)methylene] carbonimidic dihydrazide, B-00391
1,5-Bis(6-methyl-4-pyrimidyl)carbazone, B-00425
Bis(2-pyridylmethylene)carbonic acid dihydrazide, B-00442
Bis(2-pyridylmethylene)carbonimidic acid dihydrazide, B-00443
Bis(2-pyridylmethylene)carbonothioic acid dihydrazide, B-00444
4-Bromobenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, B-00489
Butanoic acid 2-[1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenyl] hydrazide, B-00605
4-Chlorobenzoic acid [(2-bromo-6-hydroxyphenyl)methylene]hydrazide, C-00068
2-Chlorobenzoic acid; Hydrazide, *in* C-00066
Dabsyl hydrazine, *in* M-00210
2,6-Diacetylpyridine bis(benzoylhydrazone), D-00036
2,6-Diacetylpyridine bis(2-furoylhydrazone), D-00037
2,6-Diacetylpyridine bis(2-hydroxybenzoylhydrazone), D-00038
2,6-Diacetylpyridine bis (2-pyridylhydrazone), D-00039
6-(Diethylamino)-2-naphthalenesulfonic acid hydrazide, D-00325
7-(Diethylamino)-2-oxo-2*H*-1-benzopyran-3-carboxylic acid hydrazide, D-00326
3,4-Dihydro-6,7-dimethoxy-4-methyl-3-oxo-2-quinoxalinepropanoic acid; Hydrazide, *in* D-00380
4-(4,5-Dihydro-3-phenyl-1*H*-pyrazol-1-yl) benzenesulfonic acid hydrazide, D-00469
2-(Diisopropylamino)benzoic acid hydrazide, D-00747
2-(Dimethylamino)benzoic acid hydrazide, D-00780
▷ 2,2′-Diphenylcarbonothioic dihydrazide, D-01007
Diphenylglyoxal bis(2-hydroxybenzoylhydrazone), D-01017
Di-2-pyridinylethanedione bis(2-hydroxybenzoylhydrazone), D-01065
Ethanedioic acid bis[[(2,4-dihydroxyphenyl) methylene]hydrazide], E-00025
2-Furancarbothioic acid (di-2-pyridinyl) methylenehydrazide, F-00041
2-Furanthiocarboxhydrazide, *in* F-00040
▷ 2-Furoylhydrazine, *in* F-00050
▷ 4-Hydrazinobenzenesulfonic acid, H-00080
▷ 1-Hydrazinophthalazine, H-00086
Hydrazo II, H-00087
2-Hydroxybenzoic acid 2-acetylhydrazide, H-00114
2-Hydroxybenzoic acid [(2,3-dihydroxyphenyl)methylene]hydrazide, H-00115
2-Hydroxybenzoic acid [(2,4-dihydroxyphenyl)methylene]hydrazide, H-00116
4-Hydroxybenzoic acid (1,2-dimethyl-1,2-ethanediylidene)dihydrazide, H-00117
4-Hydroxybenzoic acid; Hydrazide, *in* H-00113
3-Hydroxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, H-00118
4-Hydroxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, H-00119
2-Hydroxybenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, H-00120
2-Hydroxybenzoic acid [2-(2-pyridinyl) ethylidene]hydrazide, H-00121
2-[[3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]-2′-[(2-hydroxyphenyl)methylene]carbonic acid dihydrazide, H-00218
2-[[3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]-2′-[(2-hydroxyphenyl)methylene]carbothioic acid dihydrazide, H-00219
3-Hydroxy-2-naphthalenecarboxylic acid [[3-hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]hydrazide, H-00341
α-Hydroxy-α-phenylbenzeneacetic acid 2-[(4-methylphenyl)sulfonyl]hydrazide, H-00464
[(2-Hydroxyphenyl)methylene] carbonothioic acid (di-2-pyridinylmethylene) dihydrazide, H-00481
[(2-Hydroxyphenyl)methylene](2-pyridinylmethylene)carbonic dihydrazide, H-00482
[(2-Hydroxyphenyl)methylene](2-pyridinylmethylene)carbonothioic dihydrazide, H-00483
o-Hydroxythiobenzhydrazide, *in* H-00110
5*H*-Imidazole-4-carboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, I-00002
▷ Isoniazid, I-00069
3-Isoquinolinecarboximidic acid hydrazide, I-00086
4-Methoxybenzoic acid [(2,4-dihydroxyphenyl)methylene]hydrazide, M-00080
3-Methoxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, M-00081
4-Methoxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, M-00082
1-(2-Methylindol-3-ylacetyl)-4-(*p*-methoxyphenyl)thiosemicarbazide, M-00195
6-Methyl-2-pyridinecarboximidic acid hydrazide, M-00270
2-Methyl-4-pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, M-00272
1-Naphthalenethiocarboxhydrazide, N-00016
p-Nitrobenzhydrazide, *in* N-00093
4-Nitrobenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, N-00094
1-(4-Nitro-2-hydroxybenzeneazo)-2-(β-acetylhydrazino)naphthalene, N-00111
1-(4-Nitrophenyl)-5-phenylcarbazone, N-00141
▷ Oxalic acid; Dihydrazide, *in* O-00048
1,10-Phenanthroline-2-carboximidic acid hydrazide, P-00053
N-Phenyl-2-pyridinecarboximidic acid (oxodiphenylethylidene)hydrazide, P-00174
N-Phenyl-2-pyridinecarboximidic acid (oxodi-2-pyridinylethylidene)hydrazide, P-00175
Propanedioic acid; Dihydrazide, *in* P-00261
Propanoic acid 2-[1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenyl] hydrazide, P-00264
Pyrazinecarboximidic acid hydrazide, P-00284
1-Pyrenebutanoic acid hydrazide, P-00305
3-Pyridazylhydrazidine, P-00314
3-Pyridinecarboxaldehyde; Hydrazide, *in* P-00319
2-Pyridinecarboxylic acid; Hydrazide, *in* P-00342
2-Pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, P-00348
3-Pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, P-00349
4-Pyridinecarboxylic acid [(4-hydroxyphenyl)methylene]hydrazide, P-00350
3-Pyridinecarboxylic acid (2-pyridinylmethylene)hydrazide, P-00351
N-2-Pyridinylbenzenecarboximidic acid (oxodi-2-pyridinylethylidene)hydrazide, P-00384
N-2-Pyridinyl-2-pyridinecarboximidic acid (oxodiphenylethylidene)hydrazide, P-00400
N-2-Pyridinyl-2-pyridinecarboximidic acid (oxodi-2-pyridinylethylidene)hydrazide, P-00401
2-Pyrimidinecarboximidic acid hydrazide, P-00426
4-Pyrimidinecarboximidic acid hydrazide, P-00427
2-Pyrrolethiocarboxhydrazide, *in* P-00437
▷ Salicyloyl hydrazide, *in* H-00112
Salinazid, S-00003
Thiobenzoic acid; Hydrazide, *in* T-00155
2-Thiophenecarbothioic acid; Hydrazide, *in* T-00167

Hydrazones

Acetone; 2,4-Dinitrophenylhydrazone, *in* A-00007
2-Acetylpyrazine pyrazinylhydrazone, A-00034
2-Acetylpyrazine 2-pyrimidinylhydrazone, A-00035
2-Acetylpyrazine 2-quinolylhydrazone, A-00036
2-Acetylpyrazine 3-quinolylhydrazone, A-00037

2-Acetylpyrazine 8-quinolylhydrazone, A-00038
2-Acetylpyrazine; 2-Thiazolylhydrazone, *in* A-00033
2-Acetylpyridine 2-benzothiazolylhydrazone, A-00040
2-Acetylpyridine; Hydrazone, *in* A-00039
2-Acetylpyridine 2-pyrazinylhydrazone, A-00043
2-Acetylpyridine 2-pyrimidinylhydrazone, A-00044
2-Acetylpyridine 2-quinolylhydrazone, A-00045
2-Acetylpyridine 8-quinolylhydrazone, A-00046
2-Acetylpyridine 2-thiazolylhydrazone, A-00047
4-Amino-5-thioxo-1,2,4-triazolidin-3-one di-(2-pyridinylmethylene)hydrazone, A-00363
Benzaldehyde (4-nitrophenyl)hydrazone, B-00005
Benzaldehyde 2-pyridinylhydrazone, B-00006
Benzaldehyde 8-quinolinylhydrazone, B-00007
Benzenecarbothioic acid 2-hydroxy(di-2-pyridinylmethylene)hydrazide, B-00014
Benzenecarboximidic acid *N*-2-pyridinyl-2-pyrazinylhydrazone, B-00015
1*H*-Benzimidazole-2-carboxaldehyde 2-quinolinylhydrazone, B-00040
3-[1*H*-Benzimidazol-2-yl[(5-nitro-2-pyridinyl)hydrazono]methyl] benzenesulfonic acid, B-00047
Benzoic acid 2-hydroxy(di-2-pyridinylmethylene)hydrazide, B-00063
2-Benzothiazolecarboxaldehyde 2-benzothiazolylhydrazone, B-00086
2-Benzothiazolecarboxaldehyde 1(2*H*)-phthalazinylidenehydrazone, B-00087
2-Benzothiazolecarboxaldehyde 2-quinolylhydrazone, B-00088
3-[(2-Benzothiazolylhydrazono)-2-pyridinylmethyl]benzenesulfonic acid, B-00102
3-[2-Benzothiazolyl[(5-nitro-2-pyridinyl) hydrazono]methyl]benzenesulfonic acid, B-00107
Benzoylpyrazine; 2-Pyrimidinylhydrazone, *in* B-00148
2-Benzoylpyrazine 2-quinolylhydrazone, B-00149
2-Benzoylpyrazine 2-thiazolylhydrazone, B-00150
2-Benzoylpyridine azine, B-00152
2-Benzoylpyridine; Hydrazone, *in* B-00151
2-Benzoylpyridine 2-pyridylhydrazone, B-00154
2-Benzoylpyridine 2-pyrimidinylhydrazone, B-00155
2-Benzoylpyridine 3-quinolylhydrazone, B-00156
2-Benzoylpyridine 8-quinolylhydrazone, B-00157
2-Benzoylpyridine 2-thiazolylhydrazone, B-00158
Bis[(2,3-dihydroxyphenyl)methylene] carbonothioic dihydrazide, B-00308
Bis(di-2-pyridinylmethylene)carbonimidic dihydrazide, B-00343
Bis(6-methyl-2-pyridyl)ethanedione; Dihydrazone, *in* B-00415
5-Bromo-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, B-00580
2,3-Butanedione; Bis(2-pyridylhydrazone), *in* B-00587
2,3-Butanedione bis[(thiobenzoyl) hydrazone], B-00598
2,3-Butanedione dihydrazone, *in* B-00587
2,3-Butanedione mono(2-pyridinylhydrazone), B-00600
2,3-Butanedione; Monoxime, 2-pyridylhydrazone, *in* B-00587
2,3-Butanedione; Thiosemicarbazone, (2-pyridyl)hydrazone, *in* B-00587
3-Chlorobenzoic acid (1*H*-pyrrol-2-ylmethylene)hydrazide, C-00069
6-Chloro-3-hydrazinopyridazine, *in* C-00251
3-[[(5-Chloro-2-pyridinyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, C-00257
5-Chloro-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, C-00264
▷ Cuprizone, C-00321
1,2-Cyclohexanedione bisbenzoylhydrazone, C-00340
1,2-Cyclohexanedione bis(2-hydroxybenzoyl)hydrazone, C-00341
1,3-Cyclohexanedione bis(2-hydroxybenzoyl)hydrazone, C-00342
1,2-Cyclohexanedione bis(2-pyridylhydrazone), C-00343
2′,4′-Dihydroxyacetophenone; Phenylhydrazone, *in* D-00507
2,4-Dihydroxybenzaldehyde; Formylhydrazone, *in* H-00517
2-[(3,4-Dihydroxyphenyl)methylene] hydrazinecarboximidamide, D-00712
Diphenadione; 1-Hydrazone, *in* D-00997
Diphenylethanedione bis(2-pyridinylhydrazone), D-01012
Diphenylethanedione mono(pyrazinylhydrazone), D-01013
Diphenylethanedione mono(2-quinolinylhydrazone), D-01014
Diphenylethanedione mono(8-quinolinylhydrazone), D-01015
Di-2-pyridinylethanedione; Bis(pyrazinylhydrazone), *in* D-01063
Di-2-pyridinylethanedione bis(2-pyridinylhydrazone), D-01066
Di-2-pyridinylethanedione bis(2-quinolinylhydrazone), D-01067
Di-2-pyridinylethanedione; Dihydrazone, *in* D-01063
Di-2-pyridinylethanedione; Mono(pyrazinylhydrazone), *in* D-01063
Di-2-pyridinylethanedione mono(2-pyridinylhydrazone), D-01068
Di-2-pyridinylethanedione mono(2-pyrimidinylhydrazone), D-01069
Di-2-pyridinylethanedione; Mono(2-thiazolylhydrazone), *in* D-01063
Di-2-pyridinylethanedione; 2-Quinolylhydrazone, *in* D-01063
1,2-Di-2-pyridinylethanone 2-pyrimidinylhydrazone, D-01070
Di-2-pyridinylmethanone 2-benzothiazolylhydrazone, D-01072
Di-2-pyridinylmethanone benzoylhydrazone, D-01073
Di-2-pyridinylmethanone 2-chlorobenzoylhydrazone, D-01074
Di-2-pyridinylmethanone 3-chlorobenzoylhydrazone, D-01075
Di-2-pyridinylmethanone di-2-pyridinylmethylenehydrazone, D-01076
Di-2-pyridinylmethanone 2-furoylhydrazone, D-01077
Di-2-pyridinylmethanone guanylhydrazone, D-01078
Di-2-pyridinylmethanone; Hydrazone, *in* D-01071
Di-2-pyridinylmethanone 5-nitro-2-pyridylhydrazone, D-01079
Di-2-pyridinylmethanone 2-pyridinylhydrazone, D-01080
Di-2-pyridinylmethanone 2-pyrimidinylhydrazone, D-01081
Di-2-pyridinylmethanone 2-quinolinylhydrazone, D-01082
Di-2-pyridinylmethanone 2-thiazolylhydrazone, D-01083
Di-2-quinolinylmethanone 2-pyridinylhydrazone, D-01102
Di-2-quinolinylmethanone 2-quinolinylhydrazone, D-01103
9*H*-Fluorene-2-carboxaldehyde; 2-Pyridylhydrazone, *in* F-00012
9*H*-Fluoren-9-one; Hydrazone, *in* F-00015
2-Furancarboxaldehyde 2-benzothiazolylhydrazone, F-00044
2-Furancarboxaldehyde 3-bromobenzoylhydrazone, F-00045
2-Furancarboxaldehyde 4-bromobenzoylhydrazone, F-00046
2-Furancarboxaldehyde 1-phthalazinylhydrazone, F-00048
2-Furancarboxaldehyde 2-pyridinylhydrazone, F-00049
Glyoxal bis(4-hydroxybenzoylhydrazone), G-00028
2′-Hydroxyacetophenone; Hydrazone, *in* H-00089
2-Hydroxybenzaldehyde *N*-(4-aminobenzoyl)hydrazone, H-00103
2-Hydroxybenzaldehyde *N*-benzoylhydrazone, H-00104
2-Hydroxybenzaldehyde guanylhydrazone, H-00105
2-Hydroxybenzaldehyde 6-methyl-2-nicotinoylhydrazone, H-00106
2-Hydroxybenzaldehyde; Phenylhydrazone, *in* H-00101
2-Hydroxybenzaldehyde 1-phthalazinylhydrazone, H-00108
2-Hydroxybenzaldehyde; Semicarbazone, *in* H-00101
2-Hydroxybenzoic acid [2-pyridinyl(3-sulfophenyl)methylene]hydrazide, H-00122
8-Hydroxy-2-quinolinecarboxaldehyde 8-quinolylhydrazone, H-00526
Isatin hydrazone, *in* I-00056
Isatin; 3-(4-Nitrophenylhydrazone), *in* I-00056
Isonitrosoacetophenone 2,4-dinitrophenylhydrazone, *in* P-00132
Isonitrosoacetophenone *p*-nitrophenylhydrazone, *in* P-00132
Isopropylidenehydrazide, *in* A-00007
3-Isoquinolinecarboxaldehyde 2-pyrimidinylhydrazone, I-00081
3-Isoquinolinecarboxaldehyde 2-quinolinylhydrazone, I-00082
3-Isoquinolinecarboxaldehyde 3-quinolinylhydrazone, I-00083
3-Isoquinolinecarboxaldehyde 8-quinolinylhydrazone, I-00084
3-Isoquinolinecarboxaldehyde 2-thiazolylhydrazone, I-00085
▷ MBTH, *in* B-00090
2-[[(4-Methoxy-2-nitrophenyl)hydrazono] methyl]-1,3,3-trimethyl-3*H*-indolium(1+); Perchlorate, *in* M-00096
5-Methyl-2-furancarboxaldehyde 1-phthalazinylhydrazone, M-00180
Methylglyoxal bis(4-hydroxybenzoylhydrazone), M-00183
6-Methyl-2-pyridinecarboxaldehyde 2-pyridinylhydrazone, M-00268
6-Methyl-2-pyridinecarboxaldehyde 2-quinolinylhydrazone, M-00269
3-[[(5-Methyl-2-pyridinyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, M-00287
5-Methyl-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, M-00326
2-Naphthalenecarboxaldehyde 2-benzothiazolylhydrazone, N-00004
Neocuprizone, N-00062
▷ Nepresol, *in* D-00370
4-*p*-Nitrobenzeneazo-1-naphthol, *in* N-00032
3-[[(5-Nitro-2-pyridinyl)hydrazono]-3-isoquinolinylmethyl]benzenesulfonic acid, N-00150
3-[[(5-Nitro-2-pyridinyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, N-00151
3-[[(5-Nitro-2-pyridinyl)hydrazono]-2-thiazolylmethyl]benzenesulfonic acid, N-00152
2,3-Pentanedione bis[*p*-methoxy(thiobenzoyl)hydrazone], P-00031
2,3-Pentanedione; 3-Oxime, 4-nitrophenylhydrazone, *in* P-00029
6-Phenanthridinecarboxaldehyde 2-benzothiazolylhydrazone, P-00049
6-Phenanthridinecarboxaldehyde 2-pyridylhydrazone, P-00050

6-Phenanthridinecarboxaldehyde 2-quinolinylhydrazone, P-00051
1-Phenyl-1,3-butanedione 3-[[6-phenyl-4-(phenylmethyl)-3-pyridazinyl] hydrazone], P-00108
1-Phenyl-1,2-ethanedione 2-(2-pyrazinyl) hydrazone, P-00128
Phenylglyoxal; Mono(2-pyridyl)hydrazone, *in* P-00132
Propanal (3-phenyl-2-quinoxalinyl) hydrazone, P-00260
2(1*H*)-Pyrazinone (1,2-dipyrazinylethylidene)hydrazone, P-00287
2(1*H*)-Pyrazinone (1,2-di-2-pyridinylethylidene)hydrazone, P-00288
2(1*H*)-Pyrazinone (di-2-pyridinylmethylene) hydrazone, P-00289
2(1*H*)-Pyrazinone (phenylpyrazinylmethylene)hydrazone, P-00290
2(1*H*)-Pyrazinone [1-pyrazinyl-2-(2-pyridinyl)ethylidene]hydrazone, P-00291
2(1*H*)-Pyrazinone [2-pyrazinyl-1-(2-pyridinyl)ethylidene]hydrazone, P-00292
2(1*H*)-Pyrazinone [1-(3-pyridazinyl) ethylidene]hydrazone, P-00293
2(1*H*)-Pyrazinone [1-(2-pyridinyl)-2-(4-pyrimidinyl)ethylidene]hydrazone, P-00294
2(1*H*)-Pyrazinone [2-(2-pyridinyl)-1-(4-pyrimidinyl)ethylidene]hydrazone, P-00295
Pyrazinyl-2-pyridinylethanedione 2-(2-pyridinylhydrazone) 1-oxime, P-00298
2-Pyrazinyl-1-(2-pyridinyl)ethanone 2-pyrimidinylhydrazone, P-00300
2-Pyrazinyl-1-(2-pyridinyl)ethanone; 2-Thiazolylhydrazone, *in* P-00299
2-Pyridinecarboxaldehyde 2-benzothiazolylhydrazone; (*Z*)-*form*, *in* P-00321
2-Pyridinecarboxaldehyde (5-chloro-2-pyridinyl)hydrzazone, P-00322
2-Pyridinecarboxaldehyde 2-furoylhydrazone, P-00324
2-Pyridinecarboxaldehyde guanylhydrazone, P-00325
2-Pyridinecarboxaldehyde (2-hydroxybenzoyl)hydrazone, P-00326
2-Pyridinecarboxaldehyde (1-mercapto-2-naphthalenyl)hydrazone, P-00327
2-Pyridinecarboxaldehyde (5-methyl-2-pyridinyl)hydrazone, P-00328
2-Pyridinecarboxaldehyde 4-nitrophenylhydrazone; (*E*)-*form*, *in* P-00329
2-Pyridinecarboxaldehyde (5-nitro-2-pyridinyl)hydrazone, P-00330
2-Pyridinecarboxaldehyde; Phenylhydrazone, *in* P-00318
4-Pyridinecarboxaldehyde; Phenylhydrazone, *in* P-00320
2-Pyridinecarboxaldehyde 1-phthalazinylhydrazone, P-00332
2-Pyridinecarboxaldehyde 2-pyrazinylhydrazone, P-00333
2-Pyridinecarboxaldehyde (2-pyridinylmethylene)hydrazone, P-00334
2-Pyridinecarboxaldehyde 2-pyridylhydrazone; (*E*)-*form*, *in* P-00335
2-Pyridinecarboxaldehyde 2-quinolinylhydrazone, P-00337
2-Pyridinecarboxaldehyde 3-quinolinylhydrazone, P-00338
2-Pyridinecarboxaldehyde 8-quinolinylhydrazone, P-00339
2-Pyridinecarboxaldehyde 2-thiazolylhydrazone, P-00340
4-Pyridinecarboxylic acid [[4-(diethylamino)phenyl]methylene] hydrazide, P-00344
4-Pyridinecarboxylic acid [(2,4-dihydroxyphenyl)methylene]hydrazide, P-00345
4-Pyridinecarboxylic acid [[4-(dimethylamino)phenyl]methylene] hydrazide, P-00346
4-Pyridinecarboxylic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, P-00347
2(1*H*)-Pyridinone (1,2-dipyrazinylethylidene)hydrazone, P-00358
2(1*H*)-Pyridinone [2-phenyl-1-(2-pyridinyl) ethylidene]hydrazone, P-00365
2(1*H*)-Pyridinone (1-pyrazinylethylidene) hydrazone, P-00366
2(1*H*)-Pyridinone [1-pyrazinyl-2-(2-pyridinyl)ethylidene]hydrazone, P-00367
2(1*H*)-Pyridinone [2-pyrazinyl-1-(2-pyridinyl)ethylidene]hydrazone, P-00368
2(1*H*)-Pyridinone [1-(3-pyridazinyl) ethylidene]hydrazone, P-00369
2(1*H*)-Pyridinone [1-(2-pyridinyl)-2-(4-pyrimidinyl)ethylidene]hydrazone, P-00370
2(1*H*)-Pyridinone [2-(2-pyridinyl)-1-(4-pyrimidinyl)ethylidene]hydrazone, P-00371
3-(2-Pyridinylcarbonyl)benzenesulfonic acid; Benzoylhydrazone, *in* P-00386
3-(2-Pyridinylcarbonyl)benzenesulfonic acid; 2-Pyridylhydrazone, *in* P-00386
N-2-Pyridinyl-2-pyridinecarboximidic acid 2-pyrazinylhydrazide, P-00402
1-(2-Pyridinyl)-2-(3-pyridinyl)ethanone 2-thiazolylhydrazone, P-00403
2-Pyridinyl-4-pyrimidinylethanedione 1-(2-pyridinylhydrazone); 2-Oxime, *in* P-00404
1-(2-Pyridinyl)-2-(2-pyrimidinyl)ethanone 2-pyrimidinylhydrazone, P-00406
1-(2-Pyridinyl)-2-(2-pyrimidinyl)ethanone; 2-Thiazolylhydrazone, *in* P-00405
Pyridoin phenylhydrazone, P-00413
Pyridoxal nicotinoylhydrazone, P-00415
Pyridoxal; Salicyloylhydrazone, *in* P-00414
1*H*-Pyrrole-2-carboxaldehyde 8-quinolinylhydrazone, P-00438
Pyruvaldehyde 1-(2-benzothiazolylhydrazone), P-00447
Pyruvic acid; 2,4-Dinitrophenylhydrazone, *in* P-00448
2-Quinolinecarboxaldehyde 2-benzothiazolylhydrazone, Q-00010
2-Quinolinecarboxaldehyde 1-phthalazinylhydrazone, Q-00011
2-Quinolinecarboxaldehyde 2-pyridylhydrazone, Q-00012
2-Quinolinecarboxaldehyde 2-pyrimidinylhydrazone, Q-00013
2-Quinolinecarboxaldehyde 2-quinolinylhydrazone, Q-00014
2-Quinolinecarboxaldehyde 8-quinolinylhydrazone, Q-00015
2-Quinolinecarboxaldehyde 2-thiazolylhydrazone, Q-00016
2(1*H*)-Quinolinone [2-phenyl-1-(2-pyridinyl)ethylidene]hydrazone, Q-00023
2(1*H*)-Quinolinone (phenyl-2-pyridinylmethylene)hydrazone, Q-00024
2(1*H*)-Quinolinone [1-(2-pyridinyl) ethylidene]hydrazone, Q-00025
2(1*H*)-Quinolinone [1-(2-quinolinyl) ethylidene]hydrazone, Q-00026
α-(2-Quinolinylhydrazono) benzenepropanoic acid, Q-00035
2-Thiazolecarboxaldehyde 2-quinolinylhydrazone, T-00137
2-Thiophenecarbothioic acid (di-2-pyridinylmethylene)hydrazide, T-00168
2-Thiophenecarboxaldehyde 2-benzothiazolylhydrazone, T-00170
2-Thiophenecarboxaldehyde 3-bromobenzoylhydrazone, T-00171
2-Thiophenecarboxaldehyde 2-quinolinylhydrazone, T-00172

Hydroxylamine derivatives (including hydroxamic acids)

2-(Acetyloxy)-*N*-hydroxy-*N*-phenylbenzamide, A-00028
N-(3-Aminophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, A-00324
N-(4-Aminophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, A-00325
O-(1-Anthracenylmethyl)hydroxylamine, A-00384
O-(2-Anthracenylmethyl)hydroxylamine, A-00385
O-(9-Anthracenylmethyl)hydroxylamine, A-00386
3-(1,3-Benzodioxol-5-yl)-*N*-hydroxy-*N*-(3-methylphenyl)-2-propenamide, *in* B-00056
3-(1,3-Benzodioxol-5-yl)-*N*-hydroxy-*N*-(4-methylphenyl)-2-propenamide, *in* B-00056
3-(1,3-Benzodioxol-5-yl)-*N*-hydroxy-*N*-phenyl-2-propenamide, *in* B-00056
4-(Benzoylhydroxyamino)benzoic acid; Me ester, *in* B-00133
N-Benzoyl-*N*-(1-naphthyl)hydroxylamine, B-00138
N-Benzoyl-*N*-phenylhydroxylamine, *in* P-00135
O-Benzylhydroxylamine, B-00184
N-Benzyl-2-naphthohydroxamic acid, *in* N-00024
N-[3,5-Bis(trifluoromethyl)phenyl]-*N*-hydroxy-3,5-bis(trifluoromethyl) benzamide, B-00465
5-Bromo-*N*,2-dihydroxybenzamide, B-00503
4-Bromo-*N*-hydroxybenzamide, B-00510
N'-(4-Bromophenyl)-*N*-hydroxy-*N*-phenylthiourea, B-00551
N-(4-Bromophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, B-00552
4-Butoxy-*N*-(4-chlorophenyl) benzohydroxamic acid, B-00612
4-Butoxy-*N*-hydroxy-*N*-phenylbenzamide, B-00614
N-(4-Butylbenzoyl)-*N*-phenylhydroxylamine, *in* B-00618
N-(4-Butylcyclohexanoyl)-*N*-phenylhydroxylamine, B-00624
4-Chlorobenzohydroxamic acid, C-00065
2-Chloro-*N*-hydroxy-*N*-(2-methylphenyl) benzamide, *in* C-00064
2-Chloro-*N*-hydroxy-*N*-(3-methylphenyl) benzamide, *in* C-00064
4-Chloro-*N*-hydroxy-*N*-(2-methylphenyl) benzamide, *in* C-00065
4-Chloro-*N*-hydroxy-*N*-(3-methylphenyl) benzamide, *in* C-00065
4-Chloro-*N*-hydroxy-*N*-(4-methylphenyl) benzamide, *in* C-00065
4-Chloro-*N*-hydroxy-*N*-1-naphthalenylbenzamide, C-00136
N-(4-Chlorophenyl)-4-chlorophenoxyisobutyrohydroxamic acid, C-00208
N-(4-Chlorophenyl)-3-(2-furanyl)-*N*-hydroxy-2-propenamide, C-00220
N-(3-Chlorophenyl)-*N*-hydroxybenzamide, *in* H-00109
N-(4-Chlorophenyl)-*N*-hydroxybenzamide, *in* H-00109
N-(4-Chlorophenyl)-*N*-hydroxy-2-butenamide, C-00223
N-(3-Chlorophenyl)-*N*-hydroxy-2-furancarboxamide, *in* F-00064
N-(4-Chlorophenyl)-*N*-hydroxy-2-furancarboxamide, *in* F-00064
N-(4-Chlorophenyl)-*N*-hydroxy-2,4-hexadienamide, *in* H-00185
N-(4-Chlorophenyl)-*N*-hydroxy-3-(4-methoxyphenyl)-2-propenamide, C-00225
N-(4-Chlorophenyl)-*N*-hydroxy-3-(3,4-methylenedioxyphenyl)-2-propenamide, C-00226
N'-(4-Chlorophenyl)-*N*-hydroxy-*N*-phenylbenzenecarboximidamide, C-00231
N-(4-Chlorophenyl)-*N*-hydroxy-3-phenyl-2-propenamide, C-00232
N-(4-Chlorophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, C-00234

N-(4-Chlorophenyl)-*N*-hydroxy-3-(3,4,5-trimethoxyphenyl)-2-propenamide, C-00235
N-Cinnamoylphenylhydroxylamine, *in* H-00499
Cyclohexanoylphenylhydroxylamine, *in* H-00145
2,4-Dichloro-*N*-hydroxy-*N*-phenylbenzamide, D-00281
2-(2,4-Dichlorophenoxy)-*N*-(4-methylphenyl)acetohydroxamic acid, *in* D-00288
2-(2,4-Dichlorophenoxy)-*N*-phenylacetohydroxamic acid, *in* D-00288
α,*N*-Dihydroxybenzeneacetamide; (±)-*form*, *in* D-00521
N,*N*′-Dihydroxy-*N*,*N*′-diphenylheptanediamide, D-00587
N-[4-(Dimethylamino)phenyl]-*N*-hydroxy-3-methoxy-2-naphthalenecarboxamide, D-00814
4-(1,1-Dimethylethyl)-*N*-hydroxy-*N*-(2-methylphenyl)benzamide, *in* B-00619
4-(1,1-Dimethylethyl)-*N*-hydroxy-*N*-phenylbenzamide, *in* B-00619
N-(2,3-Dimethylphenyl)-*N*-hydroxy-3-phenylpropenamide, D-00891
3,5-Dinitrobenzohydroxamic acid, D-00946
5,5′-Dithiodisalicylhydroxamic acid, D-01131
N-(*o*-Ethoxybenzoyl)phenylhydroxylamine, *in* H-00112
O-Ethylhydroxylamine, E-00089
4-Ethyl-*N*-hydroxy-*N*-phenylbenzamide, E-00093
▷ *N*-Fluoren-1-ylbenzohydroxamic acid, F-00016
N-(2-Fluorenyl)-*N*-nitrosohydroxylamine, *in* A-00178
3-(2-Furanyl)-*N*-hydroxy-*N*-(4-methylphenyl)-2-propenamide, *in* F-00053
3-(2-Furanyl)-*N*-hydroxy-*N*-phenyl-2-propenamide, *in* F-00053
2-Hexyl-*N*-hydroxy-*N*-phenyldecanamide, H-00076
2-Hydroxy-1*H*-benz[*de*]isoquinoline-1,3(2*H*)-dione, *in* B-00051
N-Hydroxybutanamide, H-00142
N-Hydroxy-2,4-dimethylbenzenecarboximidamide, *in* D-00835
N-Hydroxy-4-(diphenylmethyl)benzamide, H-00168
N-Hydroxy-*N*,5-diphenyl-2,4-pentadienamide, H-00169
N-Hydroxy-*N*,*N*′-diphenylthiourea, *in* D-01055
N-Hydroxy-2,4-hexadienamide, H-00185
N-Hydroxyhexanamide, H-00186
▷ Hydroxylamine, H-00257
N-Hydroxy-4-methoxybenzamide, H-00264
N-Hydroxy-4-methoxybenzenecarbothioamide, H-00265
N-Hydroxy-2-methoxy-*N*-(2-methylphenyl)benzamide, *in* H-00263
N-Hydroxy-2-methoxy-*N*-(3-methylphenyl)benzamide, *in* H-00263
N-Hydroxy-2-methoxy-*N*-(4-methylphenyl)benzamide, *in* H-00263
N-Hydroxy-2-methoxy-*N*-1-naphthalenylbenzamide, H-00267
N-Hydroxy-4-methoxy-*N*-1-naphthalenylbenzamide, H-00268
N-Hydroxy-2-methoxy-*N*-phenylbenzamide, *in* H-00263
N-Hydroxy-3-(4-methoxyphenyl)-2-propenamide; *N*-(3-Methylphenyl), *in* H-00272
N-Hydroxy-3-(4-methoxyphenyl)-2-propenamide; *N*-(4-Methylphenyl), *in* H-00272
N-Hydroxy-*N*-(3-methoxyphenyl)-3-(2-thienyl)-2-propenamide, H-00273
N-Hydroxy-*N*-(4-methoxyphenyl)-3-(2-thienyl)-2-propenamide, H-00274
N-Hydroxy-2-methyl-*N*-(2-methylphenyl)benzamide, *in* M-00135
N-Hydroxy-2-methyl-*N*-(3-methylphenyl)benzamide, *in* M-00135
N-Hydroxy-4-methyl-*N*-(3-methylphenyl)benzamide, *in* M-00136
N-Hydroxy-2-methyl-*N*-1-naphthalenylbenzamide, H-00290
N-Hydroxy-4-methyl-*N*-1-naphthalenylbenzamide, H-00291
N-Hydroxy-*N*-(2-methylphenyl)benzamide, *in* H-00109
N-Hydroxy-2-methyl-*N*-phenylbenzamide, H-00306
N-Hydroxy-*N*-(3-methylphenyl)benzamide, *in* H-00109
N-Hydroxy-*N*-(4-methylphenyl)benzamide, *in* H-00109
N-Hydroxy-4-methyl-*N*-phenylbenzamide, H-00307
N-Hydroxy-*N*-(4-methylphenyl)-2-butenamide, *in* H-00143
N-Hydroxy-*N*-(3-methylphenyl)decanamide, *in* H-00147
N-Hydroxy-*N*-(4-methylphenyl)decanamide, *in* H-00147
N-Hydroxy-*N*-(4-methylphenyl)-2-furancarboxamide, *in* F-00064
N-Hydroxy-*N*-(3-methylphenyl)-2,4-hexadienamide, *in* H-00185
N-Hydroxy-*N*-(3-methylphenyl)-2-nitrobenzamide, *in* N-00089
N-Hydroxy-*N*-(3-methylphenyl)-3-nitrobenzamide, *in* N-00090
N-Hydroxy-*N*-(4-methylphenyl)-3-nitrobenzamide, *in* N-00090
N-Hydroxy-*N*-(4-methylphenyl)tetradecanamide, H-00316
N-Hydroxy-*N*-(3-methylphenyl)-3-(2-thienyl)-2-propenamide, *in* H-00553
N-Hydroxy-*N*-(4-methylphenyl)-3-(2-thienyl)-2-propenamide, *in* H-00553
N-Hydroxy-*N*′-methyl-*N*-phenylthiourea, *in* T-00175
N-Hydroxy-2-methyl-*N*-[3-(trifluoromethyl)phenyl]benzamide, H-00333
N-Hydroxy-1-naphthaleneacetamide, H-00337
▷ *N*-Hydroxy-2-naphthalenecarboxamide, H-00340
N-Hydroxy-*N*-1-naphthalenyldecanamide, H-00359
N-Hydroxy-*N*-1-naphthalenyldodecanamide, H-00360
N-Hydroxy-*N*-1-naphthalenylhexanamide, H-00361
N-Hydroxy-*N*-1-naphthalenyl-4-nitrobenzamide, H-00365
N-Hydroxy-*N*-1-naphthalenylpentanamide, H-00366
N-Hydroxy-*N*-1-naphthalenyltetradecanamide, H-00368
3-Hydroxy-2-naphthohydroxamic acid, *in* H-00370
N-Hydroxy-3-(3-nitrophenyl)-*N*-phenyl-2-propenamide, H-00402
N-Hydroxy-*N*-(4-nitrophenyl)-3-(2-thienyl)-2-propenamide, H-00405
N-Hydroxy-*N*-nitrosocyclododecanamine, H-00410
N-Hydroxy-*N*-nitrosocyclohexanamine; NH_4 salt, *in* H-00411
N-Hydroxy-*N*-nitroso-2-propanamine, H-00418
N-Hydroxy-4-(octyloxy)-*N*-phenylbenzamide, H-00425
2-[(Hydroxyphenylamino)carbonyl]benzenesulfonic acid; Na salt, *in* H-00445
1-(Hydroxyphenylamino)-5-phenyl-1,4-pentadien-3-one, H-00446
N-Hydroxy-*N*-phenylbenzeneacetamide, H-00463
N-Hydroxy-*N*-phenyl-2-chlorobenzamide, H-00470
N-Hydroxy-*N*-phenyldecanamide, *in* H-00147
N-Hydroxy-*N*-phenyldodecanamide, *in* L-00001
N-Hydroxy-*N*-phenyl-2-furancarboxamide, H-00472
N-Hydroxy-*N*-phenyl-2,4-hexadienamide, *in* H-00185
N-Hydroxy-*N*-phenyl-1-naphthalenecarboxamide, H-00489
N-Hydroxy-*N*-phenyl-2-naphthalenecarboxamide, *in* N-00024
N-Hydroxy-*N*-phenylpentanamide, H-00492
▷ *N*-Hydroxy-3-phenylpropenamide, H-00499
N-Hydroxy-*N*-phenyl-2-propylpentanamide, H-00501
N-Hydroxy-*N*-phenyltetradecanamide, H-00504
N-Hydroxy-*N*-phenyl-3-(2-thienyl)-2-propenamide, H-00505
2-(3-Hydroxy-3-phenyl-1-triazenyl)benzothiazole, H-00508
N-Hydroxy-*N*-phenyl-3-(trifluoromethyl)benzamide, H-00511
1-Hydroxy-1-phenylurea, *in* P-00211
N-Hydroxy-3-pyridinecarboxamide, *in* P-00341
N-Hydroxysuccinamic acid, *in* S-00034
N-Hydroxy-2-thiophenecarboxamide; *N*-(3-Chlorophenyl), *in* H-00554
N-Hydroxy-2-thiophenecarboxamide; *N*-(4-Methylphenyl), *in* H-00554
N-Hydroxy-2-thiophenecarboxamide; *N*-Ph, *in* H-00554
N-Hydroxy-3,5,5-trimethyl-*N*-phenylhexanamide, H-00561
N-(*o*-Iodobenzoyl)phenylhydroxylamine, *in* I-00040
Laurohydroxamic acid, L-00001
p-Methoxy-*N*-phenylcinnamohydroxamic acid, *in* H-00241
3,3′-Methylenebis[*N*,6-dihydroxybenzamide], M-00170
▷ *O*-Methylhydroxylamine, M-00187
N-(4-Methylphenyl)-2-phenoxyacetohydroxamic acid, M-00235
O-(1-Methylpropyl)hydroxylamine, M-00259
O-(2-Methylpropyl)hydroxylamine, M-00260
N-1-Naphthylphenylacetohydroxamic acid, N-00054
2-Nitrobenzohydroxamic acid, N-00089
p-Nitrobenzohydroxamic acid, *in* N-00093
O-(*p*-Nitrobenzyl)hydroxylamine, N-00099
O-(Pentafluorobenzyl)hydroxylamine; B, HCl, *in* P-00016
O-Pentylhydroxylamine, P-00040
1-Phenylazo-2-hydroxy-3-naphthylhydroxamic acid, *in* H-00452
N-Phenylcrotonohydroxamic acid, *in* H-00143
N-Phenyloctanohydroxamic acid, *in* H-00424
N-Phenyl-4-(phenylazo)benzohydroxamic acid, P-00156
N-Phenylthiobenzohydroxamic acid, P-00198
O-Propylhydroxylamine, P-00277
Salicylhydroxamic acid, *in* H-00112
N-(Sulfophenyl)benzohydroxamic acid, *in* H-00109
N-*m*-Tolylcinnamohydroxamic acid, *in* H-00499
N-*o*-Tolylcinnamohydroxamic acid, *in* H-00499
N-*p*-Tolylcinnamohydroxamic acid, *in* H-00499
N-*m*-Tolyl-*o*-iodobenzohydroxamic acid, *in* I-00040
N-*o*-Tolyl-*o*-iodobenzohydroxamic acid, *in* I-00040
N-*p*-Tolyloctanohydroxamic acid, *in* H-00424
Tributylacetohydroxamic acid, T-00207
2,2,2-Trichloroacetohydroxamic acid, T-00219
Trimethylacetohydroxamic acid, T-00324

Imides

▷ Auramine, A-00456
Bis(4-methylphenyl)sulfur diimide, B-00411
2-Bromo-4-[(4-hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, B-00512
2-(Chloromethyl)-5-nitro-1*H*-isoindole-1,3(2*H*)-dione, C-00180
3,4-Dihydroxy-10-imino-9(10*H*)-anthracenone, D-00634
4,7-Dihydroxy-1*H*-isoindole-1,3 (2*H*)-dione, D-00636
N-(4′-Dimethylaminophenyl)-1,4-naphthoquinone imine, D-00820
N-Ethylmaleimide, *in* P-00439
4-Methoxybenzamidine, M-00077
▷ 5-Nitro-2,4,6(1*H*,3*H*,5*H*)-pyrimidinetrione, N-00153

Indophenol derivatives

2-(Aminomethyl)-4-(3,5-dichloro-4-oxo-2,5-cyclohexylideneamino)-6-methylphenol *N*,*N*-diacetic acid, A-00239
2-(Aminomethyl)-4-(3,5-dichloro-4-oxo-2,5-cyclohexylideneamino)phenol-*N*,*N*-diacetic acid, A-00240
4-[[(3-Aminomethyl)-4-hydroxyphenyl] imino]-2,6-dibromo-2,5-cyclohexadien-1-one-*N*,*N*-diacetic acid, A-00243
2-Bromo-4-[(4-hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, B-00512
4-[(3-Chloro-4-hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, C-00149
2,6-Dibromo-4-[(4-hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, D-00191
2,6-Dibromo-4-[(4-hydroxy-2-sulfophenyl) imino]-2,5-cyclohexadien-1-one; Na salt, *in* D-00194
5-[(3,5-Dibromo-4-oxo-2,5-cyclohexylidene) amino]-2-hydroxybenzenesulfonic acid, D-00197
2,6-Dichloro-4-[(3-chloro-4-hydroxyphenyl) imino]-2,5-cyclohexadien-1-one, D-00256
2,6-Dichloro-4-[(2-chloro-4-oxo-2,5-cyclohexadien-1-ylidene)amino]phenol, D-00258
2,6-Dichloro-4-[(3-chloro-4-oxo-2,5-cyclohexadien-1-ylidene)amino]phenol, D-00259
2,6-Dichloro-4-[(4-hydroxy-3-methylphenyl) imino]-2,5-cyclohexadien-1-one, D-00279
2,6-Dichloro-4-[(4-hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, D-00282
Indophenol, I-00034

Isothiocyanates

4-Acetamido-4′-isothiocyanatostilbene-2,2′-disulfonic acid, *in* A-00230
Arabinopyranosyl isothiocyanate; α-D-*form*, 2,3,4-Tri-Ac, *in* A-00399
▷ 1-Bromo-4-isothiocyanatobenzene, B-00515
3,3′-Dihydroxybenzidine-*N*,*N*,*N*′,*N*′-tetraacetic acid, D-00528
3′,6′-Dihydroxy-5-isothiocyanatospiro[isobenzofuran-1(3*H*),9′-[9*H*]xanthen]-3-one, D-00638
▷ 4-(Dimethylamino)phenyl isothiocyanate, D-00817
2,2′-(1,2-Ethenediyl)bis[5-isothiocyanatobenzenesulfonic acid], E-00046
9-Isothiocyanatoacridine, I-00091
7-Isothiocyanato-1,7-dimethylbicyclo[2.2.1] heptane; (−)-*form*, *in* I-00093
4-Isothiocyanato-*N*,*N*-dimethyl-1-naphthalenamine, I-00094
1-(Isothiocyanatomethyl)-1*H*-indole-2,3-dione, I-00096
5-Isothiocyanato-2-(4-methylphenyl)-1*H*-benz[*de*]isoquinoline-1,3(2*H*)-dione, I-00097
4-[(4-Isothiocyanatophenyl)azo]-*N*,*N*-dimethylbenzenamine, I-00098
▷ (4-Isothiocyanatophenyl)phenyldiazene, I-00099
1-Isothiocyanatopyrene, I-00100
▷ Methyl isothiocyanate, M-00196
Neomenthyl isothiocyanate, *in* I-00095
Pentafluoroisothiocyanatobenzene, P-00018
▷ Phenyl isothiocyanate, P-00139
TAGIT, *in* G-00012
2′,3′,4′,7′-Tetrabromo-3′,6′-dihydroxy-5-isothiocyanatospiro[isobenzofuran-1(3*H*),9′[9*H*]xanthen]-3-one, T-00016

Organophosphorus compounds

Benzyltriphenylphosphonium(1+); Chloride, *in* B-00196
▷ Bis(2-chloroethyl) phosphorochloridate, *in* B-00281
Bis(4-chlorophenyl) phosphate, B-00289
Bis(dicyclohexyloxyphosphinothioyl) disulfide, B-00294
Bis(diisopropyloxyphosphinothioyl) disulfide, B-00310
▷ Bis(dimethoxyphosphinothioyl) disulfide, B-00312
Bis[(diphenoxyphosphino)thioyl] disulfide, B-00336
5,6-Bis(diphenylphosphino)bicyclo[2.2.1] hept-2-ene; (1*RS*,5*RS*,6*RS*)-*form*, *P*,*P*′-Dioxide, *in* B-00337
1,2-Bis(diphenylphosphino)ethylene; (*E*)-*form*, *P*,*P*′-Dioxide, *in* B-00339
Bis(diphenylphosphino)methane, B-00340
1,2-Bis(diphenylphosphinyl)ethane, *in* B-00338
▷ Bis(2-ethylhexyl) phosphate, B-00352
▷ *O*,*O*-Bis(2-ethylhexyl) phosphorodithioate, B-00353
O,*O*-Bis[(3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4(5*H*)-ylidene)phenylmethyl] phosphorodithioate; K salt, *in* B-00405
O,*O*-Bis(2-methylpropyl) phosphorodithioate; Na salt, *in* B-00413
Bis(2,4,4-trimethylpentyl)phosphinic acid, B-00468
Bis(2,4,4-trimethylpentyl)phosphinodithioic acid, B-00469
1,4-Butanediamine-*N*,*N*,*N*,*N*′-tetrakis(methylphosphonic acid), B-00585
1,4-Butanediylbis[triphenylphosphonium] (2+); Dibromide, *in* B-00602
2,3-Butylene chlorophosphate, *in* C-00099
Butyltriphenylphosphonium(1+), B-00640
2-Chloro-3,4-dimethyl-5-phenyl-1,3,2-oxazaphospholidine; (2*S*,4*S*,5*R*)-*form*, 2-Sulfide, *in* C-00101
Chlorophosphonazo DAL, *in* C-00242
Chlorophosphonazo I, C-00241
Chlorophosphonazo III, C-00242
Dibutyl-(2-hydroxypropyl)thiophosphonic acid, D-00234
▷ Dibutyl phosphate, D-00237
α-(Dibutylphosphinyl)-α-hydroxybenzeneacetic acid, D-00238
2-(Dibutylphosphinyl)-2-hydroxypropanoic acid, D-00239
O,*O*-Dibutyl phosphonothioate, D-00240
O,*O*-Dibutyl phosphorodithioate; K salt, *in* D-00241
O,*O*-Dibutyl phosphorothioate, D-00242
▷ (3,4-Dichlorobenzyl) triphenylphosphonium(1+); Chloride, *in* D-00252
Dichloro-1-naphthylphosphine, *in* N-00055
Diethyl diethylphosphoramidate, D-00340
Diethylphosphoramidic acid cyclic 1-methyltrimethylene ester, D-00354
Diethylphosphoramidic acid; Diheptyl ester, *in* D-00353
▷ Diethyl phosphorochloridate, D-00355
▷ *O*,*O*-Diethyl phosphorodithioate, D-00356
O,*O*-Diethylphosphoroselenoic acid; Na salt, *in* D-00357
O,*O*-Dihexyl phosphorodithioate, D-00369
4,5-Dihydroxy-3,6-bis[(2-phosphonophenyl) azo]-2,7-naphthalenedisulfonic acid, D-00560
4,5-Dihydroxy-3-[(4-nitro-2-phosphonophenyl)-azo]-2,7-naphthalenedisulfonic acid, D-00671
O,*O*-Diisopentyl phosphorodithioate, D-00746
O,*O*-Diisopropyl phosphorodithioate, D-00750
Dimethyl (hydroxymethyl)phosphonate, *in* H-00318
N-(2,4-Dimethylphenyl)-3-(phosphonooxy)-2-naphthalenecarboxamide, D-00894
▷ *O*,*O*-Dimethyl phosphorodithioate, D-00896
O,*O*-Dipentyl phosphorodithioate, D-00996
O,*O*-Diphenyl phosphorodithioate, D-01040
O,*O*-Di-2-propenyl phosphorodithioate, D-01058
O,*O*-Dipropyl phosphorodithioate, D-01060
▷ *O*,*O*-Di-2-propynyl phosphorodithioate, D-01061
[1,2-Ethanediylbis[imino[(2-hydroxyphenyl) methylene]]]bisphosphonic acid, E-00030
[1,2-Ethanediylbis[imino(phenylmethylene)]] bisphosphonic acid, E-00031
[1,2-Ethanediylbis[nitrilobis[methylene]]] tetrakisphosphonic acid, E-00032
▷ 1,2-Ethanediylbis[triphenylphosphonium] (2+); Dibromide, *in* E-00034
1,2-Ethenediylbis[bis(4-methylphenyl) phosphineoxide], E-00043
α-(Ethylamino)-*p*-(dimethylamino) benzylphosphonic acid; Et ester, *in* E-00064
[(Ethylamino)(2-hydroxyphenyl)methyl] phosphonic acid; Et ester, *in* E-00065
S-Ethyl-*N*-(diisopropylthiophosphoryl) dithiocarbamate, *in* B-00404
[Ethylenebis(iminobenzylidene)] diphosphinic acid, E-00074
[Ethylenebis(iminosalicylidene)] diphosphinic acid, E-00075
Ethylphosphonothioic dichloride, E-00105
▷ Glyphosine, G-00040
Heptyl tetraethylphosphorodiamidate, *in* T-00046
Hexabutylphosphoric triamide, *in* H-00020
Hexabutylphosphorothioic triamide, *in* H-00020
▷ Hexamethylphosphoric triamide, H-00058
O-Hexylbutylphosphonodithioate, *in* B-00638
4-Hydroxydinaphtho[2,1-*d*:1′,2′-*f*][1,3,2] dioxaphosphepin 4-oxide, H-00153
▷ (1-Hydroxyethylidene)bisphosphonic acid, H-00178
3-Hydroxy-4-[(2-phosphonophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* H-00514
(Hydroxy-3-pyridinylmethyl)phosphoric acid, H-00523
1*H*-Inden-2-ylphosphonic acid, I-00026
Isopropyltriphenylphosphonium(1+); Bromide, *in* I-00079
P-Methylphosphonamidothioic acid; *O*-Ph ester, *in* M-00243
Methylphosphonic acid; Bis(3-methylbutyl) ester, *in* M-00244
Methyltriphenylphosphonium(1+); Chloride, *in* M-00335
Mono(2-ethylhexyl) phosphate, M-00339
Mono(4-nitrophenyl) phosphate, M-00340
(1-Naphthylmethyl) triphenylphosphonium(1+); Chloride, *in* N-00052
[1,2-Phenylenebis(methylene)]bis[bis(4-methylphenyl)]phosphine oxide, P-00119
2-Phenylethenylphosphonic acid, P-00129
Phenylphosphinic acid, P-00163
▷ Phenylphosphonic acid, P-00164
N-Phosphocreatine; Di-Na salt, *in* P-00214
Phosphoramidothioic acid *O*,*O*-bis(1-methylethyl)ester, P-00215
Phosphorodithioic acid *O*,*O*-bis(2-methylallyl) ester, P-00216

Phosphorotrithioic acid *O*-[2-(diethylamino)ethyl] ester, P-00217
Phosphorotrithioic acid *O*-[2-(dimethylamino)ethyl]ester, P-00218
2-Quinolinylphosphonic acid, Q-00036
Tetraethyl 1,2-ethanediylbisphosphonate, *in* E-00026
N,N,N′,N′-Tetrakis(phosphonomethyl)-1,2-cyclohexanediamine; Octa-Na salt, *in* T-00089
Tetramethylphosphinous amide, T-00102
Tetraphenylphosphonium(1+); Chloride, *in* T-00120
S-(Thiocarbamoyl)dithiophosphoric acid; *O,O′*-Di-Et, *in* T-00161
S-(Thiocarbamoyl)dithiophosphoric acid; *O,O′*-Di-Me, *in* T-00161
S-(Thiocarbamoyl)dithiophosphoric acid; *O,O′*-Dipropyl, *in* T-00161
▷ Tributyl phosphate, T-00211
▷ Tributylphosphine oxide, T-00213
▷ Tributylphosphine sulfide, T-00214
O,O,O-Tributyl phosphorothioate, T-00215
O,O,S-Triethyl phosphorodithioate, T-00235
N,N′,N″-Trihexylphosphorothioic triamide, T-00267
Trioctylphosphine, T-00358
Trioctylphosphine oxide, *in* T-00358
▷ Triphenyl phosphite, T-00371
Triphenylpropylphosphonium(1+), T-00372
Tris(2-ethylhexyl)phosphine oxide, T-00390
Tris(tetraphenylimidodiphosphinato) praseodymium, T-00422

Oxime - dioximes

Acenaphthenequinone; Dioxime, *in* A-00001
Benzoylmethylglyoxime, *in* P-00109
Benzylmethylglyoxime, *in* P-00107
Bis(4-chlorophenyl)ethanedione; Dioxime, *in* B-00285
Bis(2-hydroxyimino-3-butylidene)-*o*-phenylenediimine, *in* P-00127
Bis(4-nitrophenyl)ethanedione; Dioxime, *in* B-00432
6-Bromo-1,2-naphthoquinone; Dioxime, *in* B-00538
(4-Bromophenyl)phenylethanedione dioxime, B-00555
4-*tert*-Butylnioxime, *in* B-00623
4-Carboxynioxime, *in* D-00989
4-Chloro-1,2-naphthoquinone; Dioxime, *in* C-00187
(4-Chlorophenyl)phenylethanedione; Dioxime, *in* C-00238
1,2-Cyclodecanedione; Dioxime, *in* C-00331
1,2-Cyclododecanedione; Dioxime, *in* C-00332
1,2-Cyclononanedione; Dioxime, *in* C-00360
1,2-Cyclopentanedione dioxime, *in* C-00362
1,2-Cycloundecanedione; Dioxime, *in* C-00369
2,6-Diacetylpyridine; Dioxime, *in* D-00035
5,6-Dihydro-5,6-bis(hydroxyimino)-1-naphthalenesulfonic acid, *in* N-00034
5,6-Dihydro-5,6-bis(hydroxyimino)-2-naphthalenesulfonic acid, *in* N-00035
7,8-Dihydro-7,8-bis(hydroxyimino)-2-naphthalenesulfonic acid, *in* N-00036
4,5-Dihydroxy-3,6-dinitroso-2,7-naphthalenedisulfonic acid, D-00583
2,6-Dihydroxyimine-3-methylenepiperidine, *in* M-00178
5,5-Dimethyl-1,3-cyclohexanedione; Dioxime, *in* D-00847
▷ Dimethylglyoxime, D-00862
3,3-Dimethyl-1,2-indanedione; Dioxime, *in* D-00868
(*E,E*)-Diphenylglyoxime, *in* B-00038
3,3-Diphenyl-1,2-indanedione; Dioxime, *in* D-01027
Dipropylglyoxime, *in* O-00033
2,2′-Dipyridyl-α-glyoxime, *in* D-01063
3,3′-(1,2-Ethanediyldinitrilo)bis-2-butanone; Dioxime, *in* E-00035
N,N′-Ethylenebis(4-methoxy-1,2-benzoquinone 2-imine); Dioxime, *in* E-00076
Ethylmethylglyoxime, *in* P-00029
▷ α-Furildioxime, *in* D-00364
Glutarimide dioxime, *in* G-00014
Heptoxime, *in* C-00333
5-Hydroxy-1,2-naphthoquinone; Dioxime, *in* H-00372
7-Hydroxy-1,2-naphthoquinone; Dioxime, *in* H-00373
1,2,3-Indanetrione; Trioxime, *in* I-00025
Isonitrosodibenzoylmethane, *in* D-01041
4-Isopropylnioxime, *in* I-00071
Methylglyoxime, *in* P-00446
3-Methyl-1,2-indandione; Dioxime, *in* M-00194
3-Methylnioxime, *in* M-00156
1,2-Naphthoquinone; Dioxime (1*Z*,2*E*), *in* N-00031
1,2-Naphthoquinone-4-sulfonic acid; Dioxime, *in* N-00033
Niconoxime, *in* C-00346
Nioxime, *in* C-00337
5-Nitro-1,2-acenaphthylenedione; Dioxime, *in* N-00076
Octoxime, *in* C-00361
2,4-Pentanedione; *Oxo-form*, Dioxime, *in* P-00030
2,3,4-Pentanetrione; Trioxime, *in* P-00033
9,10-Phenanthraquinone; Dioxime, *in* P-00047
Phenylglyoxime, P-00133
3-Phenyl-1,2-indanedione; Dioxime, *in* P-00137
2,6-Pyridinediamidoxime, *in* P-00353
5,8-Quinolinedione; Dioxime, *in* Q-00019

Oxime - ketomonoximes

Acenaphthenequinone; Monoxime, *in* A-00001
Acepox, *in* A-00039
▷ Acetaldoxime, *in* A-00002
▷ Acetamidoxime, A-00004
▷ Acetoxime, *in* A-00007
2-Acetyl-4-ethylpyridine; Oxime (*Z*-), *in* A-00016
2-Acetyl-4-methoxypyridine; Oxime (*Z*-), *in* A-00021
2-Acetyl-4-methylpyridine; Oxime (*E*-), *in* A-00023
2-Acetyl-6-methylpyridine; Oxime (*E*-), *in* A-00024
2-Acetyl-1-naphthol; Oxime, *in* A-00026
2-Acetyl-4-phenylpyridine; Oxime (*E*-), *in* A-00031
2-Acetyl-6-phenylpyridine; Oxime (*E*-), *in* A-00032
α-Benzaldoxime, *in* B-00004
Benzfuroin oxime, *in* F-00052
1*H*-Benzimidazole-2-carboxaldehyde; 1-Benzyl, oxime, *in* B-00039
Benzohydroxamic acid benzenesulfonamide, *in* P-00194
1,4-Benzoquinone *O*-(2-chlorobenzyl) oxime, B-00077
1,4-Benzoquinone *O*-(4-chlorobenzyl) oxime, B-00078
1,4-Benzoquinone mono[*O*-[(*p*-methylphenyl)sulfonyl]]oxime, B-00079
1,4-Benzoquinone mono[*O*-phenylsulfonyl] oxime, B-00081
2-Benzoyl-4-ethylpyridine; Oxime (*E*-), *in* B-00132
2-Benzoyl-4-methylpyridine; Oxime (*E*-), *in* B-00134
2-Benzoyl-6-methylpyridine; Oxime (*E*-), *in* B-00135
2-Benzoyl-6-phenylpyridine; Oxime, *in* B-00145
2-Benzoyl-4-phenylpyridine; Oxime (*E*-), *in* B-00144
2-Benzoylpyridine; (*Z*)-Oxime, *in* B-00151
1-Benzyl-2-(α-hydroxyimino-4-nitrobenzyl)-1*H*-imidazole, B-00183
3-Bromo-2-nitroso-1-naphthalenol, *in* B-00537
1-(4-Bromophenyl)-1,3-butanedione; 3-Oxime, *in* B-00548
O-(*p*-Bromophenylsulfonyl)quinone monoxime, B-00557
2,3-Butanedione (2-benzothiazolyl) hydrazone; Oxime, *in* B-00588
▷ 2,3-Butanedione; Monoxime, *in* B-00587
2,3-Butanedione; Monoxime, (4-nitrophenyl)hydrazone, *in* B-00587
2,3-Butanedione; Monoxime, phenylthiosemicarbazone, *in* B-00587
2,3-Butanedione; Monoxime, 2-pyridylhydrazone, *in* B-00587
2,3-Butanedione; Monoxime, semicarbazone, *in* B-00587
5-Chloro-2-hydroxybenzaldehyde; Oxime, *in* C-00122
5-Chloro-2-hydroxy-4-methylacetophenone; Oxime, *in* C-00135
4-Chloro-2-nitroso-1-naphthol, *in* C-00187
1-(4-Chlorophenyl)-1,3-butanedione; 3-Oxime, *in* C-00207
Dibenzo[*b,e*][1,4]dioxin-2-carboxaldehyde; Oxime, *in* D-00162
▷ 2,6-Dibromo-4-(chloroimino)-2,5-cyclohexadien-1-one, D-00180
3′,5′-Dichloro-2′-hydroxyacetophenone; Oxime, *in* D-00277
2-[[4-(Diethylamino)phenyl]azo]-1,3-indanedione; Monooxime, *in* D-00331
▷ Di(2-furyl)ethanedione; Monoxime, *in* D-00364
Dihydro-2-thioxo-4,5,6(1*H*)-pyrimidinetrione 5-oxime, D-00493
2′,5′-Dihydroxyacetophenone; Oxime, *in* D-00508
2,5-Dihydroxybenzaldehyde; Oxime, *in* D-00518
1-(2,4-Dihydroxyphenyl)-1-butanone; Oxime, *in* D-00707
1-(2,4-Dihydroxyphenyl)-1-pentanone; Oxime, *in* D-00714
1-(2,4-Dihydroxyphenyl)-1-propanone; Oxime, *in* D-00715
▷ Diisonitrosacetone, *in* O-00070
2,4-Dimethyl-3-pentanone; Oxime, *in* D-00879
1,2-Di(1-naphthalenyl)-1,2-ethanedione; Monooxime, *in* D-00930
Diphenylethanedione monoxime, *in* B-00038
Diphenylthiovioluric acid, *in* D-00493
Di-2-pyridinylethanedione mono(2-pyridinylhydrazone); Oxime, *in* D-01068
Di-2-pyridinylmethanone; Oxime, *in* D-01071
Di-2-pyridylmonoxime, *in* D-01063
Di(2-thenoyl)ketoxime, *in* D-01113
Ethyl-α-isonitrosoacetoacetate, *in* D-00986
N-(Ethylsulfonyl)benzamide; Oxime, *in* E-00113
3-Furancarboxaldehyde; Oxime, *in* F-00043
α-Furoinoxime, *in* F-00065
N-Glyoxyloylanthranilic acid; Monooxime, *in* G-00039
4-Heptanone; Oxime, *in* H-00012
2-Hydroxy-1-acetonaphthonoxime, *in* A-00025
2′-Hydroxyacetophenone; Oxime, *in* H-00089
4′-Hydroxyacetophenone; Oxime, *in* H-00090
2-Hydroxy-5-anisaldoxime, *in* D-00518
N-Hydroxy-2,4-dimethylbenzenecarboximidamide, *in* D-00835
α-(Hydroxyimino)benzenepropanoic acid, *in* O-00068
α-(Hydroxyimino)-1,5-dimethyl-1*H*-benzimidazole-2-acetonitrile, H-00244
2-[[1-(Hydroxyimino)ethyl]azo]-1*H*-benzimidazole, H-00245

2-[[1-(Hydroxyimino)-2-methylpropyl]azo]-1-(phenylmethyl)-1*H*-benzimidazole, H-00246
N-[2-(Hydroxyimino)-1-methylpropylidene] glycine, H-00247
2-[2-(Hydroxyimino)-1-methylpropylidene]-*N*-phenylhydrazinecarbothioamide, H-00248
2-[[(Hydroxyimino)phenylmethyl]azo]-1*H*-benzimidazole, H-00250
2-[[(Hydroxyimino)phenylmethyl]azo]-1-(phenylmethyl)-1*H*-benzimidazole, *in* H-00250
α-(Hydroxyimino)-2-pyridineacetonitrile, H-00251
N-Hydroxy-4-methylbenzenecarboximidamide, *in* M-00138
2-Hydroxy-3-methyl-1,4-naphthoquinone; Monoxime, *in* H-00292
1-(2-Hydroxy-5-methylphenyl)-1-butanone; (*E*)-*form*, Oxime, *in* H-00309
1-(2-Hydroxy-5-methylphenyl)-3-(4-hydroxyphenyl)-2-propen-1-one; 4-Me ether, oxime, *in* H-00311
2-Hydroxy-1-naphthaldehyde; Oxime, *in* H-00336
N-Hydroxy-1-naphthalenecarboximidamide, *in* N-00005
2-Hydroxy-5-nitrobenzaldehyde; Oxime, *in* H-00380
N-Hydroxy-3-nitrobenzenecarboximidamide, H-00382
▷ 8-Hydroxy-5-nitrosoquinoline, *in* Q-00019
2-(4-Hydroxyphenylazo)benzaldehyde; Me ether, oxime, *in* H-00448
N-Hydroxy-*N'*-phenyl-1*H*-benzimidazole-2-carboximidamide, *in* P-00102
1-(2-Hydroxyphenyl)-1-butanone; Oxime, *in* H-00469
1-(2-Hydroxyphenyl)-1-propanone; Oxime, *in* H-00498
1*H*-Indane-1,2(3*H*)-dione-2-oxime, *in* I-00023
Isatin; 2-Oxime, *in* I-00056
▷ Isatin; 3-Oxime, *in* I-00056
▷ Isonitrosoacetophenone, *in* P-00132
Isonitrosoacetylacetone, *in* P-00030
Isonitrosodimedone, *in* D-00848
Isonitrosomalonylguanidine, *in* A-00337
N-Methanesulfonylbenzamidoxime, M-00067
O-(*p*-Methoxyphenylsulfonyl)-*o*-methylquinone monoxime, M-00117
O-(*p*-Methoxyphenylsulfonyl)quinone monoxime, M-00118
Methylphenylpyrazolone oxime, *in* M-00239
O-(*p*-Methylphenylsulfonyl)-*o*-methylquinone monoxime, M-00242
6-Methyl-2-pyridinecarboxamidoxime, *in* M-00271
4-Methylsalicylaldoxime, *in* H-00276
1-Naphthalenecarboxaldehyde; Oxime, *in* N-00003
Nicotinamidoxime, *in* P-00341
4-Nitro-*o*-anisaldoxime, *in* H-00379
2-Nitro-*p*-anisaldoxime, *in* H-00381
▷ 1-Nitroso-2-naphthol, N-00160
▷ 2-Nitroso-1-naphthol, N-00161
▷ 2-Nitrosophenol, *in* B-00075
2,3,4-Pentanetrione; 3-Oxime, *in* P-00033
9,10-Phenanthraquinone; Monoxime, *in* P-00047
2-(1,10-Phenanthrolyl)amidoxime, P-00058
2-Phenoxathiincarboxaldehyde; Oxime, *in* P-00074
(Phenylazo)benzaldoxime, P-00091
3-Phenyl-1*H*-pyrazole-4,5-dione; 4-Oxime, *in* P-00173
Phthalimide; Monoxime, *in* P-00223
Propanal oxime, *in* P-00259
2-Propanoyl-1-naphthol; Oxime, *in* P-00267
Pyrazinyl-2-pyridinylethanedione 2-(2-pyridinylhydrazone) 1-oxime, P-00298
▷ 2-Pyridinecarboxaldehyde; Oxime, *in* P-00318
3-Pyridine-[2-(hydroxyimino)-1-methylpropylidene]carboxylic acid, P-00355
1-(2-Pyridyl)-1-hexanone; Oxime, *in* P-00418
2-Pyridyl-2-thienyl-β-ketoxime, *in* P-00408
2-Quinolinecarboxaldehyde; Oxime, *in* Q-00009
2,3,4(1*H*)-Quinolinetrione; 3-Oxime, *in* Q-00022
Resorcylaldoxime, *in* D-00517
2-Selenophenecarboxaldehyde; Oxime, *in* S-00006
1,2,3,4-Tetrahydro-1-hydroxyiminophenazine, *in* D-00466

Phenazines

3-Amino-7-(dimethylamino)-5-phenylphenazinium(1+); Chloride, *in* A-00162
Azocarmine B; Di-Na salt, *in* A-00470
Azocarmine G; Na salt, *in* A-00471
3,7-Bis(dimethylamino)-5-phenylphenazinium(1+); Iodide, *in* B-00323
▷ C.I. 11050 Basic dye, *in* J-00004
▷ 3,7-Diamino-2,8-dimethyl-5-phenylphenazinium(1+); Chloride, *in* D-00084
4-Hydroxy-3-[(5-hydroxybenzo[*a*]phenazin-6-yl)azo]benzenesulfonic acid, H-00187
Induline scarlet; Chloride, *in* I-00035
Janus black; Chloride, *in* J-00001
▷ Janus blue; Chloride, *in* J-00002
Janus green; Chloride, *in* J-00003
Lissamine blue BF; Di-Na salt, *in* L-00007
10-Methyl-2(10*H*)-phenazinone, *in* H-00439
Neutral red; B,HCl, *in* N-00065
Neutral violet; B,HCl, *in* N-00066
Phenosafranine; Chloride, *in* P-00070
Phenosafranine; *N,N,N',N'*-Tetra-Et, chloride, *in* P-00070
Rhoduline violet; Chloride, *in* R-00007
Rosinduline 2G; Na salt, *in* R-00012
1,2,3,4-Tetrahydro-1-hydroxyiminophenazine, *in* D-00466
2,3,7,8-Tetrahydroxyphenazine, T-00079
Wool fast blue BL; Na salt, *in* W-00002

Phenothiazine derivatives

1-Amino-8-ethoxyphenothiazine, *in* H-00440
7-Amino-2-ethylphenothiazine, A-00177
▷ Azure A, *in* L-00003
▷ Azure B, *in* L-00003
▷ Azure C, *in* L-00003
3,7-Bis(dimethylamino)phenothiazine, B-00316
▷ Butaperazine maleate, *in* B-00609
2-Chloro-10*H*-phenothiazine, C-00198
▷ Chlorpromazine, C-00273
1,3-Diamino-8-methoxyphenothiazine, D-00100
▷ Diethazine; B,HCl, *in* D-00312
Ethopropazine hydrochloride, *in* E-00050
Etymemazine; (±)-*form*, *in* E-00123
7-Hydroxy-3*H*-phenothiazin-3-one, H-00441
▷ Methylene green; Chloride, *in* M-00177
▷ Methylthioninium chloride, *in* M-00175
▷ Perazine, P-00043
▷ Pericyazine, P-00044
▷ Perphenazine, P-00046
10*H*-Phenoselenazine, P-00072
▷ Phenothiazine, P-00073
▷ Prochlorperazine, P-00256
▷ Promazine, P-00258
SKF 6270, *in* M-00069
▷ Tentone, *in* M-00070
Thiazine blue; Chloride, *in* T-00136
▷ Thionine hydrochloride, *in* L-00003
▷ Tolonium chloride, *in* T-00189
▷ Trifluoperazine, T-00238
▷ Triflupromazine hydrochloride, *in* F-00010

Phenoxazine derivatives

o-Acetoresorufin, *in* H-00443
Alizarine green; Na salt, *in* A-00078
7-Amino-2-chloro-1-hydroxy-3*H*-phenoxazin-3-one, A-00138
7-Amino-1-hydroxy-3*H*-phenoxazin-3-one, A-00208
5-Amino-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, A-00236
7-Amino-1-methyl-3*H*-phenoxazin-3-one, A-00247
▷ 2-Amino-3*H*-phenoxazin-3-one, A-00303
7-Amino-3*H*-phenoxazin-3-one, A-00304
5-Anilino-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, A-00371
9-Benzo[*a*]phenoxazin-9-one, B-00070
▷ C.I. 51010, *in* B-00477
▷ Capri blue; Chloride, *in* C-00017
Capri blue GN; Chloride, *in* C-00018
9-(Dimethylamino)benzo[*a*]phenoxazin-7-ium-2,5-disulfonic acid(1+), D-00781
9-(Dimethylamino)-5*H*-benzo[*a*]phenoxazin-5-one, D-00782
9-(Dimethylamino)-5-[[4-(dimethylamino)phenyl]amino]benzo[*a*]phenoxazin-7-ium(1+); Chloride, *in* D-00784
7-(Dimethylamino)-1-hydroxy-3*H*-phenoxazin-3-one, D-00786
7-(Dimethylamino)-1-methyl-3*H*-phenoxazin-3-one, D-00792
5-Ethoxy-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, E-00057
Ethyl capri blue; Chloride, *in* E-00067
Gallamine blue; Chloride, *in* G-00003
▷ Gallocyanine; Chloride, *in* G-00005
Gallocyanine MS, G-00006
Gallophenine, G-00007
9-Hydroxy-5*H*-benzo[*a*]phenoxazin-5-one, H-00123
5-Hydroxy-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, H-00280
6-Hydroxy-5-oxo-5*H*-dibenzo[*a,j*]phenoxazine-8,11-disulfonic acid, H-00432
2-Hydroxy-3*H*-phenoxazin-3-one, H-00442
7-Hydroxy-3*H*-phenoxazin-3-one; Me ether, *in* H-00443
7-Hydroxy-3*H*-phenoxazin-3-one; Me ether, 10-oxide, *in* H-00443
Meldola's blue; Chloride, *in* M-00011
5-Methoxy-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, M-00089
11-Methyl-9*H*-benzo[*a*]phenoxazin-9-one, M-00140
Muscarine†; Chloride, *in* M-00350
New methylene blue NCG; Chloride, *in* N-00068
Nile blue A; 5-*N*-Benzyl, chloride, *in* N-00069
Nile blue A; Chloride, *in* N-00069
▷ Resazurin, *in* H-00443
1,7,9-Trihydroxy-3*H*-phenoxazin-3-one, T-00308

Phenylfluorones

4-Acetamidophenylfluorone, *in* A-00328
9-(4-Aminophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, A-00328
Anisylfluorone, A-00372
Anthrafluorone, A-00387
2',7'-Bis(carboxyethyl)carboxyfluorescein, B-00273
9-(5-Bromo-2-hydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, B-00513
9-(4-Bromophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, B-00558
9-(5-Carboxy-2-hydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, C-00032
9-(2-Carboxy-4-pyridyl)fluorone, C-00043
9-(2-Chlorophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, C-00240

Cotarnilfluorone, C-00302
9-Cyclohexyl-2,6,7-trihydroxy-3*H*-xanthen-3-one, C-00359
4,5-Dibromo-9-(3,5-dibromo-2-hydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, D-00181
2,7-Dibromogallein, D-00189
9-(3,4-Dibromophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, D-00198
4-Diethylaminophenylfluorone, *in* A-00328
2′,7′-Dihydroxyfluorescein, D-00613
6,7-Dihydroxy-9-(2-hydroxyphenyl)-3*H*-xanthen-3-one, D-00628
9-(3,4-Dihydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, D-00719
9-[4-(Dimethylamino)phenyl]-2,6,7-trihydroxy-3*H*-xanthen-3-one, D-00824
9-(2,4-Dinitrophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, D-00975
▷ Fluorescein, F-00020
Fluorescin; Di-Ac, *in* F-00022
Gallein, G-00004
2-Hydroxy-3-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, H-00557
2-Hydroxy-4-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, H-00558
3-Hydroxy-2-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, H-00559
▷ Merbromin; Di-Na salt, *in* M-00015
p-Methoxycarbonylphenylfluorone, *in* T-00306
9,9′-[Methylenebis(6-hydroxy-3,1-phenylene)]bis-[2,6,7-trihydroxy-3*H*-xanthen-3-one], M-00172
4-(*N*-Morpholinophenyl)fluorone, M-00349
9,9′-(1,3-Phenylene)bis[2,6,7-trihydroxy-3*H*-xanthen-3-one], P-00124
9,9′-(1,4-Phenylene)bis[2,6,7-trihydroxy-3*H*-xanthen-3-one], P-00125
Pyrogallol red, P-00434
Rhodamine B, *in* R-00002
Rhodamine 4G, *in* R-00005
Rhodamine 3G0; Chloride, *in* R-00004
Rhodamine G; Chloride, *in* R-00005
Rose bengal A; Di-Na salt, *in* R-00011
2-(2,4,5,7-Tetrabromo-6-hydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid ethyl ester, *in* E-00007
Tetrachlorogallein, T-00035
2,6,7-Trihydroxy-9-(4-hydroxy-5-methoxy-2-nitrophenyl)-3*H*-xanthen-3-one, T-00287
2,6,7-Trihydroxy-9-(4-hydroxy-3-methoxyphenyl)-3*H*-xanthen-3-one, T-00288
2,6,7-Trihydroxy-9-(2-hydroxy-1-naphthalenyl)-3*H*-xanthen-3-one, T-00289
2,6,7-Trihydroxy-9-(2-hydroxy-3-nitrophenyl)-3*H*-xanthen-3-one, T-00290
2,6,7-Trihydroxy-9-(2-hydroxy-5-nitrophenyl)-3*H*-xanthen-3-one, T-00291
2,6,7-Trihydroxy-9-(2-hydroxyphenyl)-3*H*-xanthen-3-one, T-00292
2,6,7-Trihydroxy-9-(3-hydroxyphenyl)-3*H*-xanthen-3-one, T-00293
2,6,7-Trihydroxy-9-(4-hydroxyphenyl)-3*H*-xanthen-3-one, T-00294
2,6,7-Trihydroxy-9-(8-hydroxy-2-quinolinyl)-3*H*-xanthen-3-one, T-00295
2,6,7-Trihydroxy-9-[4-(1-methylethyl)phenyl]-3*H*-xanthen-3-one, T-00298
2,6,7-Trihydroxy-9-(2-nitrophenyl)-3*H*-xanthen-3-one, T-00301
2,6,7-Trihydroxy-9-(3-nitrophenyl)-3*H*-xanthen-3-one, T-00302
2,6,7-Trihydroxy-9-(4-nitrophenyl)-3*H*-xanthen-3-one, T-00303
4-(2,6,7-Trihydroxy-3-oxo-3*H*-xanthen-9-yl)-1,3-benzenedisulfonic acid, T-00304
2-(2,6,7-Trihydroxy-3-oxo-3*H*-xanthen-9-yl) benzenesulfonic acid, T-00305
2,6,7-Trihydroxy-9-phenyl-3*H*-xanthen-3-one, T-00315
2,6,7-Trihydroxy-9-(2-pyridinyl)-3*H*-xanthen-3-one, T-00317
2,6,7-Trihydroxy-9-(3-pyridinyl)-3*H*-xanthen-3-one, T-00318
2,6,7-Trihydroxy-9-(4-pyridinyl)-3*H*-xanthen-3-one, T-00319
2,6,7-Trihydroxy-9-(2-quinolinyl)-3*H*-xanthen-3-one, T-00320
2,6,7-Trihydroxy-9-(2-quinoxalinyl)-3*H*-xanthen-3-one, T-00321
2,6,7-Trihydroxy-9-(2-sulfophenyl)-3*H*-xanthen-3-one, T-00322

Porphines

Deuteroporphyrin IX, D-00030
Mesoporphyrin IX, M-00061
Mesotetraethylporphine, M-00062
Mesotetraisobutylporphine, M-00063
Mesotetraoctylporphine, M-00064
Mesotetrapropylporphine, M-00065
N-Methyl-5,10,15,20-tetrakis(4-sulfophenyl) porphine, *in* P-00250
Octaethylporphyrin, O-00002
4,4′,4″-(20-Phenyl-21*H*,23*H*-porphine-5,10,15-triyl)trisbenzenesulfonic acid, P-00166
Phthalocyaninetetrasulfonic acid; Tetra-Na salt, *in* P-00231
4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakisbenzenesulfonic acid, P-00250
4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakisbenzoic acid, P-00251
4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakis[1-methylpyridinium]; Tetrakis(*p*-toluenesulfonate), *in* P-00252
meso-Tetraphenylporphyrin, T-00121

8-Quinolinol derivatives

8-Acetoxyquinaldine, *in* H-00326
2,2′-Azinobis(8-hydroxy-1-methylquinoline), A-00463
Azoxin H, A-00480
5-(1*H*-Benzimidazol-5-ylazo)-8-quinolinol, B-00043
1,4-Bis(8-quinolyloxy)butane, B-00449
1,3-Bis(8-quinolyloxy)-2,2-diethylpropane, B-00450
1,1-Bis(8-quinolyloxymethyl)cyclobutane, B-00451
3,3-Bis(8-quinolyloxymethyl)oxetane, B-00452
1,3-Bis(8-quinolyloxy)propane, B-00453
5-Bromo-8-hydroxy-7-[(2-hydroxy-3,5-dinitrophenyl)azo]quinoline, B-00511
7-[α-(Carbomethoxyanilino)benzyl]-8-hydroxyquinoline, C-00022
▷ 5-Chloro-8-hydroxy-7-iodoquinoline, C-00134
7-Chloro-8-hydroxy-5-quinolinesulfonic acid, C-00152
5-[(4-Chlorophenyl)azo]-8-quinolinol, C-00206
Cryptand 5, C-00316
5,7-Dibromo-8-hydroxy-2-methylquinoline, D-00190
▷ 5,7-Dibromo-8-hydroxyquinoline, D-00193
5,7-Dibromo-8-hydroxyquinoline; *N*-Oxide, *in* D-00193
▷ 5,7-Dichloro-8-hydroxy-2-methylquinoline, D-00280
5,7-Dichloro-8-hydroxyquinoline; 1-Oxide, *in* D-00283
N-[2-(Diethylamino)ethyl]-4-[(8-hydroxy-5-quinolinyl)azo]benzamide, D-00317
8,8′-Dihydroxy-5,5′-biquinoline, D-00546
▷ 5,7-Diiodo-8-quinolinol, D-00744
5-(2,4-Dinitrophenylazo)-8-hydroxyquinoline, D-00968
5-Dioctylaminomethyl-8-quinolinol, *in* A-00244
7-(5,8-Disulfo-2-naphthylazo)-8-hydroxy-5-quinolinesulfonic acid, D-01110
7-(1-Ethenyl-3,3,5,5-tetramethylhexyl)-8-quinolinol, E-00049
5-Fluoro-8-hydroxyquinoline, F-00029
5-[(2-Hydroxy-3,5-dinitrophenyl)azo]-8-quinolinol 1-oxide, H-00161
8-Hydroxy-5,7-dinitroquinoline, H-00165
8-Hydroxy-5,7-dinitroquinoline; *N*-Oxide, *in* H-00165
▷ 8-Hydroxy-7-iodo-5-quinolinesulfonic acid, H-00255
8-Hydroxy-7-[(4-methylphenyl)azo]-5-quinolinesulfonic acid, H-00304
8-Hydroxy-7-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]-5-quinolinesulfonic acid; Na salt, *in* H-00322
8-Hydroxy-2-methylquinoline, H-00326
▷ 8-Hydroxy-5-nitrosoquinoline, *in* Q-00019
8-Hydroxy-7-nitroso-5-quinolinesulfonic acid; Na salt, *in* H-00421
5-(2-Hydroxyphenylazo)-8-quinolinol, H-00456
5-(4-Hydroxyphenylazo)-8-quinolinol, H-00458
8-Hydroxy-2-phenylquinoline, H-00503
▷ 8-Hydroxyquinoline, H-00525
8-Hydroxy-2-quinolinecarboxaldehyde 8-quinolylhydrazone, H-00526
8-Hydroxy-5-quinolinesulfonic acid, H-00528
3-[(8-Hydroxy-7-quinolinyl)azo]-1,5-naphthalenedisulfonic acid; Di-K salt, *in* H-00531
8-[(8-Hydroxy-5-quinolinyl)azo]-1-naphthalenesulfonic acid, H-00532
1-(8-Hydroxy-2-quinolyl)-2-(8-hydroxy-5-quinolyl)ethylene; B, 2HCl, *in* H-00534
8-Hydroxy-7-[(4-sulfo-1-naphthalenyl)azo]-5-quinolinesulfonic acid; Di-Na salt, *in* H-00539
2,2′-Iminobis-8-quinolinol, I-00010
2,2′-Isopropylidenebis(4-acetyl-8-hydroxyquinoline), I-00072
2-Isopropyl-8-quinolinol, I-00078
8-Methoxy-5-quinolinesulfonyl chloride, M-00121
5,5′-Methylenebis[8-quinolinol], M-00174
2,2′-(Methylimino)bis-8-quinolinol, M-00193
5-[(4-Methylphenyl)azo]-8-quinolinol; 1-Oxide, *in* M-00224
7-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-8-quinolinol, M-00253
2-Methyl-8-quinolinethiol, M-00307
5-(1-Naphthalenylazo)-8-quinolinol; N^1-Oxide, *in* N-00017
Naphthylazoxine 4,8S, N-00044
Naphthylazoxine 4S, N-00043
Naphthylazoxine 5,7S, N-00046
Naphthylazoxine 5S, N-00045
Naphthylazoxine 6S, N-00047
5-[(4-Nitrophenyl)azo]-8-quinolinol; 1-Oxide, *in* N-00129
7-Nitroso-8-hydroxyquinoline, N-00158
5-Nitroso-6-quinolinol, N-00162
5-[(Octyloxy)methyl]-8-quinolinol, O-00039
5-Phenylazo-8-quinolinol; *N*-Oxide, *in* P-00100
Phenylazoxine S, P-00101
Picriminazosulfoxine, P-00234
7-(1-Piperidinylmethyl)-8-quinolinol; B,HCl, *in* P-00243
7-(2-Pyridinylazo)-8-quinolinol, P-00381
5-(4-Pyridinylazo)-8-quinolinol; N^4-Oxide, *in* P-00380
7-(4-Pyridinylazo)-8-quinolinol; N^4-Oxide, *in* P-00382
1,2,3,4-Tetrahydro-8-quinolinethiol, T-00067

Quaternary ammonium salts

▷ Benzyldimethyldodecylammonium(1+); Bromide, *in* B-00179
Benzyldimethyloctadecylammonium(1+); Perchlorate, *in* B-00180
▷ Cetylcide, *in* E-00071
Ethyltridodecylammonium(1+); Bromide, *in* E-00120
Girard's reagent T, G-00009
▷ Hexadecyltrimethylammonium(1+), H-00029
2-Hydroxy-*N*,*N*,*N*-trimethyl-1-dodecanaminium(1+); Bromide, *in* H-00560

▷ Lauryltrimethylammonium(1+); Bromide, *in* L-00002
Moonion A-9Q-08, *in* B-00181
Septonex, *in* E-00061
▷ Tetrabutylammonium(1+); Bromide, *in* T-00023
▷ Tetraethylammonium(1+); Hydroxide, *in* T-00041
Tetraheptylammonium(1+), T-00048
Tetrahexylammonium(1+), T-00049
▷ Tetramethylammonium(1+); Bromide, *in* T-00092
▷ Tetramethylammonium(1+); Hydroxide, *in* T-00092
Tetraoctylammonium(1+); Bromide, *in* T-00110
Tetraoctylammonium(1+); Chloride, *in* T-00110
Tetrapropylammonium(1+); Hydroxide, *in* T-00124
Tridodecylamine; *N*-Oxide, *in* T-00230
Triethylphenylammonium(1+); Hydroxide, *in* T-00234
Trilaurylammonium chloride, *in* T-00230
▷ Trimethylanilinium hydroxide, *in* T-00336
Tris(decyl)ethylammonium(1+); Bromide, *in* T-00386
Zephiramine; Chloride, *in* Z-00001

Rhodanines

3-[(3-Amino-4-oxo-2-thioxo-5-thiazolidinyl) azo]benzenesulfonic acid, *in* O-00075
3-[(3-Amino-4-oxo-2-thioxo-5-thiazolidinyl) azo]-5-chloro-2-hydroxy-benzenesulfonic acid, *in* C-00141
3-[(3-Amino-4-oxo-2-thioxo-5-thiazolidinyl) azo]-2-hydroxy-5-nitrobenzenesulfonic acid, *in* H-00391
3-Aminorhodanine, A-00346
5-[(2-Arsonophenyl)azo]-2,4-thiazolidinedithione, A-00443
5-[(2-Arsonophenyl)azo]-2-thioxo-4-thiazolidinone, A-00444
5-[2,2-Bis(4-dimethylaminophenyl)ethylene] rhodanine, B-00318
5-Chloro-3-[(2,4-dithioxo-5-thiazolidinyl) azo]-2-hydroxybenzenesulfonic acid, C-00112
5-Chloro-2-hydroxy-3-[(3-benzylideneamino-4-oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid, C-00124
5-Chloro-2-hydroxy-3-[(3-(2-hydroxybenzylideneamino)-4-oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, C-00128
5-Chloro-2-hydroxy-3-[(3-(2-hydroxy-3-methoxybenzylideneamino)-4-oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, C-00131
5-Chloro-2-hydroxy-3-[(2-oxo-4-thioxo-5-selenazolidinyl)azo]benzenesulfonic acid, C-00140
5-Chloro-2-hydroxy-3-[(4-oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid, C-00141
5-Chloro-2-hydroxy-3-[(tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo] benzenesulfonic acid, C-00163
5-(Cyclopentylmethylene)-2-thioxo-4-thiazolidinone, C-00366
5-[[4-(Diethylamino)phenyl]methylene]-2-thioxo-4-thiazolidinone, D-00334
▷ 5-[[4-(Dimethylamino)phenyl]ethylene]-2-thioxo-4-thiazolidinone, D-00813
3-Ethyl-2-thioxo-4-thiazolidinone, *in* T-00176
5-(2-Furanylmethylene)-2-thioxo-4-thiazolidinone, F-00056
5-[5-(2-Furanyl)-2,4-pentadienylidene]-2-thioxo-4-thiazolidinone, F-00059
5-[3-(2-Furanyl)-2-propenylidene]-2-thioxo-4-thiazolidinone, F-00061
5-[(2-Hydroxy-3,5-dinitrophenyl)azo]-2,4-thiazolidinedithione, H-00162
5-[(2-Hydroxy-3,5-dinitrophenyl)azo]-2-thioxo-4-thiazolidinone, H-00163
5-[[3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]-2-thioxo-4-thiazolidinone, H-00220
5-[(2-Hydroxy-1-naphthalenyl)methylene]-2-thioxo-4-thiazolidinone, H-00364
2-Hydroxy-5-nitro-3-[(2-oxo-4-thioxo-5-selenazolidinyl)azo]benzenesulfonic acid, H-00390
2-Hydroxy-5-nitro-3-[(4-oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid, H-00391
2-Hydroxy-5-[[4-[(4-oxo-2-thioxo-5-thiazolidinyl)azo]phenyl]azo] benzenesulfonic acid, H-00436
5-[(3-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, H-00461
5-[(4-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, H-00462
5-[(2-Hydroxyphenyl)methylene]-2-thioxo-4-thiazolidinone, H-00486
5-[(3-Hydroxyphenyl)methylene]-2-thioxo-4-thiazolidinone, H-00487
2-Hydroxy-5-sulfo-3-[(tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo]benzoic acid, H-00545
5-(4-Isopropylbenzyl)-2-thioxo-4-thiazolidinone, I-00070
▷ 5-[(4-Methoxyphenyl)methylene]-2-thioxo-4-thiazolidinone, M-00113
5-[(4-Nitrophenyl)azo]-2-thioxo-4-thiazolidinone, N-00132
2-[(4-Oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, O-00074
3-[(4-Oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, O-00075
4-[(4-Oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, O-00076
5-[[4-(Phenylazo)phenyl]azo]-2-thioxo-4-thiazolidinone, P-00096
3-[(Phenylmethylene)amino]-2-thioxo-4-thiazolidinone, P-00146
5-Phenylmethylene-2-thioxo-4-thiazolidinone, P-00148
5-(3-Phenyl-2-propenylidene)-2-thioxo-4-thiazolidinone, P-00171
5-(1*H*-Pyrrol-2-ylmethylene)-2-thioxo-4-thiazolidinone, P-00445
5-(8-Quinolinylazo)-2,4-thiazolidinedithione, Q-00033
5-(8-Quinolinylazo)-2-thioxo-4-thiazolidinone, Q-00034
▷ 2-Thioxo-4-thiazolidinone, T-00176
5-[(1-*p*-Tolylimidazol-4-yl)methylene] rhodanine, T-00191

Semicarbazones (or thiosemicarbazones)

4-Acetylpyridine 4-ethyl-3-thiosemicarbazone, A-00041
2-Acetylpyridine phenylthiosemicarbazone, A-00042
2-Acetylpyridine; Thiosemicarbazone, *in* A-00039
[(Aminothioxomethyl)hydrazono]acetic acid, *in* G-00038
3-[[(Aminothioxomethyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, *in* P-00386
1,2-Benzenedicarboxaldehyde bis(thiosemicarbazone), B-00017
Benzointhiosemicarbazone, *in* B-00068
Benzophenone; Thiosemicarbazone, *in* B-00069
2-Benzoylpyridine phenylthiosemicarbazone, B-00153
2-[2,3-Bis(hydroxyimino)-5,5-dimethylcyclohexylidene] hydrazinecarbothioamide, *in* D-00848
5-Bromo-2-furancarboxaldehyde; Thiosemicarbazone, *in* B-00507
2,3-Butanedione bis(4-biphenylyl) thiosemicarbazone, B-00589
2,3-Butanedione bis[3,5-bis(trifluoromethyl) phenylthiosemicarbazone], B-00590
2,3-Butanedione bis[4-(4-chloro-3-(trifluoromethyl)phenyl) thiosemicarbazone], B-00591
2,3-Butanedione bis[4-(3,4-dichlorophenyl) thiosemicarbazone], B-00592
2,3-Butanedione bis[(2-fluorophenyl) thiosemicarbazone], B-00593
2,3-Butanedione bis[(4-fluorophenyl) thiosemicarbazone], B-00594
2,3-Butanedione bis[[4-(6-methyl-2-benzothiazolyl)phenyl] thiosemicarbazone], B-00595
2,3-Butanedione bis[(4-nitrophenyl) thiosemicarbazone], B-00596
2,3-Butanedione bis(phenylthiosemicarbazone), B-00597
2,3-Butanedione; Bis(2-pyridylhydrazone), *in* B-00587
2,3-Butanedione bis(2-trifluoromethylphenyl) thiosemicarbazone, B-00599
2,3-Butanedione; Monoxime, semicarbazone, *in* B-00587
2,3-Butanedione; Monoxime, thiosemicarbazone, *in* B-00587
2,3-Butanedione; Thiosemicarbazone, *in* B-00587
2,3-Butanedione; Thiosemicarbazone, (2-pyridyl)hydrazone, *in* B-00587
3-(5-Chloro-2-furanoyl)-2-propenal; Thiosemicarbazone, *in* C-00120
5-Chloro-2-hydroxybenzaldehyde phenylthiosemicarbazone, C-00123
5-Chloro-2-hydroxybenzaldehyde; Semicarbazone, *in* C-00122
5-Chloro-2-hydroxybenzaldehyde; Thiosemicarbazone, *in* C-00122
1,3-Cyclohexanedione bis(thiosemicarbazone); B, HCl, *in* C-00345
2,2′-(1,4-Cyclohexanediylidene) bishydrazinecarbothioamide, *in* C-00339
1,3-Cyclopentanedione bis(4-methylthiosemicarbazone); B,HCl, *in* C-00363
2,2′-Diacetyl-4,4′-bithiazolebis(thiosemicarbazone), D-00033
2-[(3,5-Dibromo-2-hydroxyphenyl) methylene]-*N*-phenylhydrazinecarbothioamide, D-00192
3,5-Dichloro-2-hydroxybenzaldehyde phenylthiosemicarbazone, D-00278
2′,4′-Dihydroxyacetophenone; Semicarbazone, *in* D-00507
2′,4′-Dihydroxyacetophenone; Thiosemicarbazone, *in* D-00507
2,4-Dihydroxybenzaldehyde; Semicarbazone, *in* D-00517
2,5-Dihydroxybenzaldehyde; Semicarbazone, *in* D-00518
2,4-Dihydroxybenzaldehyde; Thiosemicarbazone, *in* D-00517
2,4-Dihydroxybenzophenone; Semicarbazone, *in* D-00536
2,2′-Dihydroxybenzophenone; Thiosemicarbazone, *in* D-00535
4,7-Dihydroxy-1*H*-isoindole-1,3 (2*H*)-dione; Dithiosemicarbazone, *in* D-00636
5,5-Dimethyl-1,3-cyclohexanedione; Bisthiosemicarbazone, *in* D-00847
5,5-Dimethyl-1,2,3-cyclohexanetrione; 2-Oxime, 1,3-bisthiosemicarbazone, *in* D-00848
5,5-Dimethyl-1,2,3-cyclohexanetrione; 2-Oxime, 3-thiosemicarbazone, *in* D-00848
5,6-Dimethyl-2-nitro-1,3-indanedione; Bis(thiosemicarbazone), *in* D-00873
2-[5,5-Dimethyl-3-[2-[(phenylamino) thioxomethylhydrazino]-2-cyclohexen-1-ylidene]]-*N*-phenylhydrazinecarbothioamide, *in* D-00847
3,4-Dioxohexanedioic acid bis(thiosemicarbazide); Di-Et ester, *in* D-00990

Diphenylcarbazone, D-01005
1,4-Diphenylthiosemicarbazide, D-01053
2,4-Diphenylthiosemicarbazide, D-01054
Di-2-pyridinylethanedione bis(diphenylsemicarbazone), D-01064
Di-2-pyridinylethanedione bis(phenylthiosemicarbazone), *in* D-01063
Di-2-pyridinylmethanone thiosemicarbazone, D-01084
Di-2-pyridylglyoxal dithiosemicarbazone, *in* D-01063
2-Ethyl-4-(2-furanyl)propenal; Thiosemicarbazone, *in* E-00082
2-Furancarboxaldehyde phenylthiosemicarbazone, F-00047
2-[5-(2-Furanyl)-2,4-pentadienylidene] hydrazinecarbothioamide, *in* F-00058
3-(2-Furanyl)-2-propenal; (*E*)-*form*, Thiosemicarbazone, *in* F-00060
Glyoxal bis(4-biphenylylthiosemicarbazone), G-00021
Glyoxal bis[3,5-bis(trifluoromethyl) phenylthiosemicarbazone], G-00022
Glyoxal bis(4-cyclohexylthiosemicarbazone), G-00023
Glyoxal bis(3,4-dichlorophenylthiosemicarbazone), G-00024
Glyoxal bis(2-fluorophenylthiosemicarbazone), G-00025
Glyoxal bis(4-fluorophenylthiosemicarbazone), G-00026
Glyoxal bis[4-(6-methyl-2-benzothiazolyl) phenyl]thiosemicarbazone, G-00030
Glyoxal bis(1-naphthylthiosemicarbazone), G-00031
Glyoxal bis(4-nitrophenylthiosemicarbazone), G-00032
Glyoxal bis(phenylthiosemicarbazone), G-00033
Glyoxal bis(thiosemicarbazone), G-00034
Glyoxal bis[4-(3-trifluoromethyl)-4-chlorophenyl]thiosemicarbazone, G-00035
Glyoxal bis[4-(2-trifluoromethyl)phenyl] thiosemicarbazone, G-00036
2′-Hydroxyacetophenone; Thiosemicarbazone, *in* H-00089
2-Hydroxybenzaldehyde phenylthiosemicarbazone, H-00107
2-Hydroxybenzaldehyde; Semicarbazone, *in* H-00101
▷ 2-Hydroxybenzaldehyde; Thiosemicarbazone, *in* H-00101
2-[2-(Hydroxyimino)-1-methylpropylidene]-*N*-phenylhydrazinecarbothioamide, H-00248
▷ 2-[(4-Hydroxy-3-methoxyphenyl)methylene] hydrazinecarbothioamide, H-00271
2′-Hydroxy-5′-methylacetophenone; Semicarbazone, *in* H-00275
2-Hydroxy-5-methylbenzaldehyde; Semicarbazone, *in* H-00277
2-Hydroxy-5-methylbenzaldehyde; Thiosemicarbazone, *in* H-00277
2-[(2-Hydroxy-4-methylphenyl)methylene] hydrazinecarboxamide, *in* H-00276
2-Hydroxy-1-naphthaldehyde; Semicarbazone, *in* H-00336
2-Hydroxy-1-naphthaldehyde; Thiosemicarbazone, *in* H-00336
2-[(2-Hydroxy-1-naphthalenyl)methylene]-*N*-phenylhydrazinecarbothioamide, H-00363
2-[(2-Hydroxy-5-nitrophenyl)methylene]-*N*-phenylhydrazinecarbothioamide, *in* H-00380
3-Hydroxy-2-pyridinecarboxaldehyde; Thiosemicarbazone, *in* H-00518
3-Hydroxy-2-pyridinecarboxaldehyde; Thiosemicarbazone; B,HCl, *in* H-00518
1,2,3-Indanetrione; 2-(Thiosemicarbazone), *in* I-00025
2,2′-(1*H*-Indene-1,3(2*H*)-diylidene) bishydrazinecarbothioamide, *in* I-00024
β-Iononethiosemicarbazone, *in* M-00010
4-Methoxybenzaldehyde phenylthiosemicarbazone, M-00076
4-Methoxybenzaldehyde; Thiosemicarbazone, *in* M-00075
2-Methyl-1,3-cyclohexanedione bis(phenylthiosemicarbazone), M-00158
2,2′-(3-Methyl-1,2-cyclopentanediylidene) bishydrazinecarbothioamide, *in* M-00159
2,2′-(1-Methyl-1,2-ethanediylidene)bis[*N*-phenylhydrazinecarbothioamide], *in* P-00446
▷ 2-(1-Methylethylidene) hydrazinecarbothioamide, *in* A-00007
5-Methyl-2-furancarboxaldehyde thiosemicarbazone, *in* M-00179
5-(5-Methyl-2-furanyl)-2,4-pentadienal thiosemicarbazone, M-00181
3-(5-Methyl-2-furanyl)-2-propenal; Thiosemicarbazone, *in* M-00182
6-Methyl-2-pyridinecarboxaldehyde; Thiosemicarbazone, *in* M-00266
1,2-Naphthoquinone-4-sulfonic acid 2-(phenylthiosemicarbazone); Na salt, *in* N-00037
1,2-Naphthoquinone-4-sulfonic acid; 2-Semicarbazone, *in* N-00033
1,2-Naphthoquinone-4-sulfonic acid; 2-(Thiosemicarbazone), *in* N-00033
3-(5-Nitro-2-furanyl)-2-propenal; Thiosemicarbazone, *in* N-00110
▷ Nitrofurazone, *in* N-00109
2-(2-Oxo-1(2*H*)-acenaphthylenylidene) hydrazinecarbothioamide, *in* A-00001
α-Oxobenzeneacetic acid; Thiosemicarbazone, *in* O-00055
2-(1-Oxo-2(1*H*)-naphthalenylidene) hydrazinecarbothioamide, *in* N-00031
9,10-Phenanthraquinone; Dioxime, mono-Me ether, *in* P-00047
9,10-Phenanthraquinone; Monothiosemicarbazone, *in* P-00047
▷ 3-Phenyl-2-propenal; (*E*)-*form*, Thiosemicarbazone, *in* P-00168
4-Phenylsemicarbazide, P-00193
▷ 1-Phenylthiosemicarbazide, P-00199
Phthalimide; Dithiosemicarbazone, *in* P-00223
2-Pyridinecarboxaldehyde diphenylsemicarbazone, P-00323
2-Pyridinecarboxaldehyde phenylthiosemicarbazone, P-00331
2-Pyridinecarboxaldehyde; Selenosemicarbazone, *in* P-00318
3-(2-Pyridinylcarbonyl)benzenesulfonic acid; Phenylthiosemicarbazone, *in* P-00386
▷ 2-(3-Pyridinylmethylene) hydrazinecarbothioamide, *in* P-00319
Pyroracemic acid thiosemicarbazone, *in* P-00448
▷ Thiacetazone, *in* A-00097

Silyl compounds (or silanes)

N,*O*-Bis(allyldimethylsilyl) trifluoroacetamide, B-00241
▷ Bis[(chloromethyl)dimethylsilyl]amine, B-00284
▷ *N*,*O*-Bis(trimethylsilyl)acetamide, B-00470
▷ Bis(trimethylsilyl)amine, B-00471
N,*N*′-Bis(trimethylsilyl)urea, B-00472
(Bromomethyl)dimethylchlorosilane, B-00521
Bromotrimethylsilane, B-00582
N-(*tert*-Butyldimethylsilyl)imidazole, B-00628
N-(*tert*-Butyldimethylsilyl)-*N*-methylacetamide, B-00629
N-(*tert*-Butyldimethylsilyl)-*N*-methyltrifluoroacetamide, B-00630
1-Chloro-1-*tert*-butylsilacyclopentane, C-00076
Chloro(chloromethyl)dimethylsilane, C-00081
Chlorodimethoxymethylsilane, C-00097
Chlorodimethyl(pentafluorophenyl)silane, C-00100
Chlorodimethylphenylsilane, C-00103
Chlorodimethyl-2-propenylsilane, C-00104
Chlorodimethylsilane, C-00105
Chloro(iodomethyl)dimethylsilane, C-00165
Chloromethoxydimethylsilane, C-00166
Chlorotriethylsilane, C-00265
Chlorotrihexylsilane, C-00266
▷ Chlorotrimethylsilane, C-00267
▷ Chlorotriphenylsilane, C-00270
Chlorotripropylsilane, C-00272
Diacetoxydimethylsilane, D-00031
▷ Dichlorodimethylsilane, D-00267
(Diethylamino)dimethyl(pentafluorophenyl) silane, D-00316
▷ (Diethylamino)trimethylsilane, D-00336
1,1-Dimethyl-*N*,*N*-diphenyl-1-(2-propenyl) silanamine, D-00853
1,1-Dimethyl-1-(pentafluorophenyl) silanamine, D-00878
1-(Dimethyl-2-propenylsilyl)-1*H*-imidazole, D-00900
N-(Dimethyl-2-propenylsilyl)-2,2,2-trifluoro-*N*-methylacetamide, D-00901
N-(Dimethylsilyl)-1,1-dimethylsilanamine, D-00915
DSS, *in* T-00344
N-(4-Ethoxyphenyl)-*N*-(trimethylsilyl) acetamide, E-00060
Ethyl trimethylsilylacetate, *in* T-00339
2,2,3,3,4,4,4-Heptafluoro-*N*-methyl-*N*-(trimethylsilyl)butanamide, H-00007
N-Methyl-*N*-(trimethylsilyl)acetamide, M-00330
N-Methyl-*N*-(trimethylsilyl)formamide, M-00331
▷ *N*-Methyl-*N*-(trimethylsilyl) trifluoroacetamide, M-00332
N-Phenyl-*N*-(trimethylsilyl)acetamide, P-00210
N,*N*,*N*′,*N*′-Tetrakis(trimethylsilyl)-1,2-ethanediamine, T-00091
▷ Tetramethylsilane, T-00103
Tributylchlorosilane, T-00209
2,2,2-Trifluoro-*N*-(trimethylsilyl) ethanimidic acid trimethylsilyl ester, T-00266
▷ Trimethyl(dimethylamino)silane, T-00326
▷ *N*-(Trimethylsilyl)acetamide, T-00338
▷ 1-(Trimethylsilyl)-1*H*-imidazole, T-00341
4-(Trimethylsilyl)morpholine, T-00342
1-(Trimethylsilyl)piperidine, T-00343
1-(Trimethylsilyl)pyrrolidine, T-00346
TSP, *in* T-00345

Thiazoles

2-Acetylpyrazine; 2-Thiazolylhydrazone, *in* A-00033
▷ 2-Aminobenzothiazole, A-00113
▷ 2-Amino-4-methylthiazole, A-00257
▷ 5-Amino-1,3,4-thiadiazoline-2(3*H*)-thione, A-00354
2,2′-Azinobis[3-ethyl-2,3-dihydro-6-benzothiazolesulfonic acid], A-00462
2-Benzothiazolecarboxaldehyde 2-benzothiazolylhydrazone, B-00086
2-Benzothiazolecarboxaldehyde 1(2*H*)-phthalazinylidenehydrazone, B-00087
2-Benzothiazolecarboxaldehyde 2-quinolylhydrazone, B-00088
2-Benzothiazolethiol, B-00089
2-[(4-Benzothiazolylimino)methyl]phenol, B-00104
6-Benzoyl-5-phenyl-3-(2-thiazolyl)-1,2,4-triazine, B-00147
2-Benzoylpyrazine 2-thiazolylhydrazone, B-00150
2-Benzoylpyridine 2-thiazolylhydrazone, B-00158
Bismuthiol II, *in* M-00060
Bismuthiol II sulfonic acid, *in* M-00060
2,2′-Diacetyl-4,4′-bithiazolebis(thiosemicarbazone), D-00033
Di-2-benzothiazolylmethane, D-00163

N,*N*-Diethyl-*N*′-(4-methyl-5-nitro-2-thiazolyl)thiourea, D-00349
2,3-Dihydro-2,2-di-(2-pyridinyl) benzothiazole, D-00403
4,5-Dihydro-5-(2-pyridyl)-3-(2-thiazolyl)-1*H*-1,2,4-triazole, D-00487
3,4-Dihydro-4,4,6-trimethyl-1-(4-phenyl-2-thiazolyl)-2(1*H*)-pyrimidinethione, D-00502
2-(3′,4′-Dihydroxyphenyl)azo-3-cyano-4-methyl-5-ethoxycarbonylthiophene, *in* C-00326
5-(Dimethylamino)-2-[(5-nitro-2-thiazolyl) azo]phenol, *in* A-00289
N,*N*-Dimethyl-*N*′-[5-nitro-4-(4-nitrophenyl)-2-thiazolyl]thiourea, D-00874
7-(4,5-Dimethyl-2-thiazolyl)azo-8-hydroxy-5-quinolinesulfonic acid, D-00922
2-(4,5-Dimethyl-2-thiazolyl)-3,5-diphenyl-2*H*-tetrazolium(1+); Bromide, *in* D-00924
3-(4,5-Dimethyl-2-thiazolyl)-2,5-diphenyl-2*H*-tetrazolium(1+); Chloride, *in* D-00925
5,6-Dimethyl-3-(2-thiazolyl)-1,2,4-triazine, D-00926
Di-2-pyridinylmethanone 2-thiazolylhydrazone, D-01083
5,6-Di-2-pyridyl-3-(2-thiazolyl)-1,2,4-triazine, D-01096
1-(1,5-Di-2-thiazolylformazanyl)ethanone, D-01112
▷ 2-Hydrazinobenzothiazole, H-00083
2-Hydroxybenzothiazole, H-00125
4-Hydroxybenzothiazole, H-00126
6-Hydroxybenzothiazole, H-00127
5-[(2-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, H-00460
2-(4-Isocyanatophenyl)-6-methylbenzothiazole, I-00065
5-Mercapto-3-(2-naphthyl)-1,3,4-thiazole-2-thione, M-00039
▷ 5-Mercapto-1,3,4-thiadiazoline-2-thione, M-00060
2-(4-Methoxyphenyl)-5,7-diphenyl-1,3,4-thiadiazolo[3,2-*a*]pyridin-4-ium(1+); Chloride, *in* M-00108
[[4-(5-Methyl-2-benzothiazolyl)phenyl] amino]acetohydrazide, M-00142
1-[4-(6-Methyl-2-benzothiazolyl)phenyl]-1*H*-pyrrole-2,5-dione, M-00143
N-Methyl-*N*′-(4-methyl-5-nitro-2-thiazolyl) thiourea, *in* M-00208
(4-Methyl-5-nitro-2-thiazolyl)thiourea, M-00208
4-Methyl-2-thiazolidinone; (±)-*form*, *in* M-00315
4-Methyl-2(3*H*)-thiazolone, M-00316
5-Methyl-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, M-00326
▷ 6-Nitro-2(3*H*)-benzothiazolethione, N-00096
4-[(5-Nitro-2-thiazolyl)azo]-1,3-benzenediol, N-00165
2-Pyrazinyl-1-(2-pyridinyl)ethanone; 2-Thiazolylhydrazone, *in* P-00299
1-(2-Pyridinyl)-2-(2-pyrimidinyl)ethanone; 2-Thiazolylhydrazone, *in* P-00405
3-(2-Pyridinyl)-1,3,4-thiazolidine-2,5-dithione, P-00407
Pyruvaldehyde 1-(2-benzothiazolylhydrazone), P-00447
γ-Saccharin chloride, *in* C-00062
2,2′,3,3′-Tetrahydro-2,2′-bibenzothiazole, T-00052
▷ Thiamine, T-00135
2-Thiazolecarboxaldehyde 2-quinolinylhydrazone, T-00137
3-(2-Thiazolyl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, T-00147
3-(2-Thiazolyl)-1,2,4-triazine, T-00148
2-(2-Thienyl)benzothiazole, T-00149

Thiourea derivatives

2-[[(Benzoylamino)thioxomethyl]amino] benzoic acid, B-00121
N′-Benzoyl-*N*,*N*-[bis(2-hydroxyethyl)] thiourea, B-00124
N-Benzoyl-*N*′-(5-bromo-2-pyridyl)thiourea, B-00125
β-Benzoyl-α-(ethanol)thiourea, B-00129
N-Benzoyl-*N*′-(2-pyridyl)thiourea, B-00159
S-Benzylthiuronium chloride, *in* B-00193
N,*N*′-Bis(1,1-dimethylethyl)thiourea, *in* T-00175
Bis[[3-hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene] carbothioic dihydrazide, B-00376
▷ *N*,*N*′-Bis(2-methylphenyl)thiourea, B-00412
Bis(2-pyridylmethylene)carbonothioic acid dihydrazide, B-00444
N′-(4-Bromophenyl)-*N*-hydroxy-*N*-phenylthiourea, B-00551
N-[2-(Butylthio)phenyl]-*N*′-phenylthiourea, B-00639
▷ 1-Chloro-2-(chloromethyl)benzene, C-00079
Diantipyrylthiourea, D-00141
N-[(Dibutylamino)thioxomethyl]benzamide, D-00225
N,*N*-Diethyl-*N*′-benzoylthiourea, D-00338
N,*N*-Diethyl-*N*′-(4-methyl-5-nitro-2-thiazolyl)thiourea, D-00349
N,*N*-Dihexyl-*N*′-benzoylthiourea, *in* B-00161
[(2,4-Dihydroxyphenyl)methylene](2-pyridinylmethylene)carbonothioic dihydrazide, D-00713
N,*N*-Dimethyl-*N*′-(4-methyl-5-nitro-2-thiazolyl)thiourea, D-00870
N,*N*-Dimethyl-*N*′-[5-nitro-4-(4-nitrophenyl)-2-thiazolyl]thiourea, D-00874
N,*N*-Dimethyl-*N*′-[4-(4-nitrophenyl)-2-thiazolyl]thiourea, D-00875
▷ 1,3-Di-1-naphthyl-2-thiourea, D-00934
N,*N*-Diphenyl-*N*′-benzoylthiourea, *in* B-00161
▷ *N*,*N*′-Diphenylthiourea, D-01055
N-[(Dipropylamino)thioxomethyl] benzamide, D-01059
Hexahydro-2*H*-1,3-diazepine-2-thione, H-00037
Hexahydro-*N*-(4-methylpentyl)-1*H*-azepine-1-carbothioamide, H-00048
Hexahydro-*N*-phenyl-1*H*-azepine-1-carbothioamide, H-00049
N-Hexyl-*N*′-benzoylthiourea, H-00072
N-Hydroxy-*N*,*N*′-diphenylthiourea, *in* D-01055
N-Hydroxy-*N*′-2-naphthalenyl-*N*-phenylthiourea, H-00367
[(2-Hydroxyphenyl)methylene](2-pyridinylmethylene)carbonothioic dihydrazide, H-00483
[(4-Hydroxyphenyl)methylene](2-pyridinylmethylene)carbonothioic dihydrazide, H-00484
▷ 2-Imidazolidinethione, I-00003
▷ 2-Imidazolidinethione; 1,3-Di-Me, *in* I-00003
2-(3-Mercapto-2-quinoxalinyl)-2-thiopseudourea; B, HCl, *in* M-00058
N-Methyl-*N*′-(4-methyl-5-nitro-2-thiazolyl) thiourea, *in* M-00208
(4-Methyl-5-nitro-2-thiazolyl)thiourea, M-00208
▷ *N*-[[(2-Methylphenyl)amino]thioxomethyl] benzamide, M-00223
▷ *N*-[(Phenylamino)thioxomethyl]benzamide, *in* P-00201
N-Phenylmethyl[[(4-chlorophenyl)amino] thioxomethyl]-*N*′-phenylcarbamimidothioate, P-00145
▷ *N*-Phenyl-*N*′-pyridinylthiourea, P-00177
▷ Phenylthiourea, P-00201
N-(1-Piperidinylthioxomethyl)benzamide, P-00245
2-Pyridinylthiourea, P-00410
▷ Selenourea, S-00009
▷ Thiourea, T-00175

Triazenes

3-(2-Acetophenyl)methyltriazene *N*-oxide, A-00009
Arsazen, A-00403
4-[4-(2-Arsonophenyltriazenyl)phenylazo] benzenesulfonic acid, A-00445
Cadion, C-00006
Cadion 2B, C-00007
Cadion IREA; Di-Na salt, *in* C-00008
3-(4-Chlorophenyl)-3-hydroxy-1-phenyltriazene, C-00233
3,3-Diethyl-1-(9*H*-fluoren-2-yl)-1-triazene, D-00347
1,1′-(2,2′-Disulfo-4,4′-biphenylene)bis(3-hydroxy-3-phenyltriazene); Di-Na salt, *in* D-01108
3-Hydroxy-1,3-bis(4-methylphenyl)triazene, H-00139
3-Hydroxy-3-(*p*-dimethylaminophenyl)-1-phenyltriazene, H-00149
3-Hydroxy-1,3-diphenyl-1-triazene, H-00170
▷ 3-Hydroxy-3-methyl-1-phenyltriazene, H-00317
2-(3-Hydroxy-3-methyl-1-triazenyl)benzoic acid, H-00332
3-Hydroxy-1-(2-nitrophenyl)-3-phenyl-1-triazene, H-00403
3-Hydroxy-1-(4-nitrophenyl)-3-phenyl-1-triazene, H-00404
4-(3-Hydroxy-3-phenyl-1-triazenyl) benzenesulfonic acid, H-00506
2-(3-Hydroxy-3-phenyl-1-triazenyl)benzoic acid, H-00507
2-(3-Hydroxy-3-phenyl-1-triazenyl) benzothiazole, H-00508
3-(3-Hydroxy-3-phenyl-1-triazenyl)pyridine, H-00509
2-(3-Hydroxy-3-phenyl-1-triazenyl)-5-sulfobenzoic acid, H-00510
1-(4-Methylphenyl)-3-[(4-nitrophenyl) methyl]-1-triazene, M-00234
1-(4-Methylphenyl)-3-(phenylmethyl)-1-triazene, M-00237
4-[3-(4-Nitrophenyl)-1-triazenyl] benzenesulfonic acid; Na salt, *in* N-00145
4-[[4-[3-(4-Nitrophenyl)-2-triazenyl]phenyl] azo]benzenesulfonic acid; Na salt, *in* N-00146
2-[3-[4-(Phenylazo)phenyl]-1-triazenyl] phenol, P-00098
[2-[3-[4-(Phenylazo)phenyl]-1-triazenyl] phenyl]arsonic acid, P-00099
2-(3-Phenyl-2-triazenyl)phenol; N^1-Oxide, *in* P-00204
Sulfarsazen; Na salt, *in* S-00038
Titan yellow; Di-Na salt, *in* T-00187

Triazine derivatives

2-Amino-4,6-bis(1-isoquinolyl)-1,3,5-triazine, A-00121
6-Benzoyl-3-(2,2′-bipyridin-6-yl)-5-phenyl-1,2,4-triazine, B-00123
6-Benzoyl-3-(4-methyl-2-pyridyl)-5-methyl-1,2,4-triazine, B-00136
6-Benzoyl-3-(1,10-phenanthrolin-2-yl)-5-phenyl-1,2,4-triazine, B-00142
6-Benzoyl-5-phenyl-3-(2-thiazolyl)-1,2,4-triazine, B-00147
3-[2,2′-Bipyridin-6-yl]-5,6-dimethyl-1,2,4-triazine, B-00226
3-(2,2′-Bipyridin-6-yl)-5,6-diphenyl-1,2,4-triazine, B-00227
3-(2,2′-Bipyridin-6-yl)-5,6-di-2-pyridyl-1,2,4-triazine, B-00228
3-[2,2′-Bipyridin-6-yl]-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, B-00232
2,4-Bis[5,6-bis(2-pyridyl)-1,2,4-triazin-3-yl] pyridine, B-00263
2,6-Bis[5,6-bis(2-pyridyl)-1,2,4-triazin-3-yl] pyridine, B-00264
2,4-Bis(5,6-dimethyl-1,2,4-triazin-3-yl) pyridine, B-00333
2,6-Bis(5,6-dimethyl-1,2,4-triazin-3-yl) pyridine, B-00334

2,4-Bis(5,6-diphenyl-1,2,4-triazin-3-yl) pyridine, B-00341
2,6-Bis(5,6-diphenyl-1,2,4-triazin-3-yl) pyridine, B-00342
4,4′,4″,4‴-[3,3′-Bi-1,2,4-triazine]-5,5′,6,6′-tetrayltetrakisbenzenesulfonic acid; Tetra-NH_4 salt, *in* B-00473
2,4-Diamino-6-(2,2′-bipyridyl)-1,3,5-triazine, D-00062
2,4-Diamino-6-(3-pyridazinyl)-1,3,5-triazine, D-00117
2,4-Diamino-6-(2-pyrimidinyl)-1,3,5-triazine, D-00123
2,4-Diamino-6-(4-pyrimidinyl)-1,3,5-triazine, D-00124
1-(4,6-Diamino-1,3,5-triazin-2-yl) isoquinoline, D-00130
3-(4,6-Diamino-1,3,5-triazin-2-yl) isoquinoline, D-00131
2,4-Dichloro-6-(4-ethoxy-1-naphthalenyl)-1,3,5-triazine, D-00272
5-[(4,6-Dichloro-1,3,5-triazin-2-yl)amino]-3′,6′-dihydroxyspiro[isobenzofuran-1(3*H*),9′-[9*H*]xanthen]-3-one, D-00304
1-(4,6-Difluoro-1,3,5-triazin-2-yl)-2-methyl-2*H*-isoindole, D-00362
2,3-Dihydro-5,6-diphenyl-1,2,4-triazine-3-thione, D-00402
1,6-Dihydro-5-hydroxy-3-mercapto-6,6-dimethyl-1,2,4-triazine, D-00409
3,5-Dihydroxy-6-mercapto-1,2,4-triazine, D-00639
5,6-Dimethyl-3-(4-methyl-2-pyridinyl)-1,2,4-triazine, D-00871
5,6-Dimethyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazine, D-00895
5,6-Dimethyl-3-pyrazinyl-1,2,4-triazine, D-00903
5,6-Dimethyl-3-(3-pyridazinyl)-1,2,4-triazine, D-00907
5,6-Dimethyl-3-(2-pyridinyl)-1,2,4-triazine, D-00911
5,6-Dimethyl-3-(4-pyrimidinyl)-1,2,4-triazine, D-00912
5,6-Dimethyl-3-(2-thiazolyl)-1,2,4-triazine, D-00926
2-(5,6-Dimethyl-1,2,4-triazin-3-yl)-1,10-phenanthroline, D-00927
5,6-Diphenyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazine, D-01037
5,6-Diphenyl-3-(6-phenyl-2-pyridinyl)-1,2,4-triazine, D-01038
5,6-Diphenyl-3-(pyrazinyl)-1,2,4-triazine, D-01044
5,6-Diphenyl-3-(3-pyridazyl)-1,2,4-triazine, D-01045
5,6-Diphenyl-3-(4-pyrimidinyl)-1,2,4-triazine, D-01047
3-(5,6-Diphenyl-1,2,4-triazin-3-yl) isoquinoline, D-01056
5,6-Di-2-pyridinyl-3-(4-pyrimidinyl)-1,2,4-triazine, D-01086
5,6-Di-2-pyridyl-3-(2-thiazolyl)-1,2,4-triazine, D-01096
3-(5,6-Di-2-pyridyl-1,2,4-triazin-3-yl) isoquinoline, D-01097
2-[5,6-Di-(2-pyridyl)-1,2,4-triazin-3-yl]-1,10-phenanthroline, D-01098
2,2′-(1,2-Ethenediyl)bis[4-[[4-amino-6-[bis(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]benzenesulfonic acid]; Di-Na salt, *in* E-00041
2,2′-(1,2-Ethenediyl)bis[5-[(4,6-dichloro-1,3,5-triazin-2-yl)amino]benzenesulfonic acid], E-00044
2,2′-(1,2-Ethenediyl)bis[5-[(4-hydroxy-6-chloro-1,3,5-triazin-2-yl)amino] benzenesulfonic acid], E-00045
3-(4-Ethyl-2-pyridyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, E-00109
3-(4-Ethyl-2-pyridyl)-5,6-diphenyl-1,2,4-triazine, E-00110
Ferene S, *in* F-00003
Ferrozine, F-00006
Hexahydro-1,3,5-trihydroxy-1,3,5-triazine, H-00051
6-Hexyl-4,5-dihydro-5-thioxo-1,2,4-triazin-3(2*H*)-one, H-00074
5-Hydroxy-3-mercapto-6-methyl-1,2,4-triazine, H-00258
6-Hydroxy-1,3,5-triazine-2,4-diyldinitrilotetraacetic acid, H-00555
3-(Isoquinolyl)-5,6-diphenyl-1,2,4-triazine, I-00087
3-(3-Isoquinolyl)-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, I-00090
3-(6-Methyl-2-pyridinyl)-5,6-diphenyl-1,2,4-triazine, M-00286
3-(4-Methyl-2-pyridinyl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, M-00288
3-(4-Methyl-2-pyridinyl)-5-phenyl-1,2,4-triazine, M-00292
3-(4-Methyl-2-pyridinyl)-1,2,4-triazine, M-00294
3-(4-Methyl-2-pyridyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, M-00296
3-(6-Methyl-2-pyridyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, M-00297
3-(4-Methyl-2-pyridyl)-5,6-diphenyl-1,2,4-triazine, M-00298
3-(4-Methyl-2-pyridyl)-5-phenyl-6-(2-pyridyl)-1,2,4-triazine, M-00303
(4-Methyl-2-pyridyl)-1,2,4-triazino[5,6-*f*][4,7]-phenanthroline, M-00305
3-(1,10-Phenanthrolin-2-yl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, P-00056
5-Phenyl-3,6-di-2-pyridyl-1,2,4-triazine, P-00114
Phenyl[5-phenyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazin-6-yl]methanone, P-00157
5-Phenyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazine, P-00158
3-(4-Phenyl-2-pyridinyl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, P-00176
3-(4-Phenyl-2-pyridyl)-5,6-di-2-pyridyl-1,2,4-triazine, P-00180
3-(6-Phenyl-2-pyridyl)-5,6-di-2-pyridyl-1,2,4-triazine, P-00181
6-(5-Phenyl-1,2,4-triazin-3-yl)-2,2′-bipyridine, P-00206
2-(5-Phenyl-1,2,4-triazin-3-yl)-1,10-phenanthroline, P-00207
3-Pyrazinyl-5,6-di-2-pyridyl-1,2,4-triazine, P-00297
3-(Pyrazinyl)-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, P-00301
3-(3-Pyridazyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, P-00313
3-(3-Pyridazyl)-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, P-00315
3-(2-Pyridinyl)-5,6-diphenyl-1,2,4-triazine, P-00388
3-(2-Pyridinyl)-1,2,4-triazine, P-00411
2-Pyridyl-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, P-00425
3-(2-Quinolyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, Q-00038
3-(2-Quinolyl)-5,6-diphenyl-1,2,4-triazine, Q-00039
5,5′,6,6′-Tetramethyl-3,3-bi(1,2,4-triazine), T-00093
3-(2-Thiazolyl)-1,2,4-triazine, T-00148
2,4,6-Triamino-1,3,5-triazine-*N*,*N*,*N*′,*N*′,*N*″,*N*″-hexaacetic acid, T-00195
▷ 1,3,5-Triazine-2,4,6-triamine, T-00197
4,4′,4″-[1,3,5-Triazine-2,4,6-triyltris(azo)] tris[3-hydroxy-1-naphthalenesulfonic acid], T-00198
2,4,6-Tri(2,2′-bipyridin-6-yl)-1,3,5-triazine, T-00202
2,4,6-Tri-2-pyridinyl-1,3,5-triazine, T-00381
3,5,6-Tri-2-pyridinyl-1,2,4-triazine, T-00382
2,4,6-Tris[4-(4-sulfophenyl)-2-pyridyl]-*s*-triazine, T-00413
N,*N*′-[Vinylenebis[(3-sulfo-*p*-phenylene) imino(6-hydroxy-*s*-triazine-4,2-diyl)]] diglycine; Tetra-Na salt, *in* V-00006
[Vinylenebis[[(3-sulfo-*p*-phenylene)imino-*s*-triazine-6,2,4-triyl]dinitrilo]]octaacetic acid; Hexa-Na salt, *in* V-00007
N,*N*′,*N*″,*N*‴-[Vinylenebis[(3-sulfo-*p*-phenylene)imino-*s*-triazine-6,2,4-triyl]] tetrasarcosine; Di-Na salt, *in* V-00008

Triphenylmethane dyes (phthaleins etc)

Acilan fast green; Na salt, *in* A-00060
▷ Aluminon, *in* A-00458
Aminobromothymol blue, A-00129
Anilinesulfonephthalein, A-00369
o-Anize green; Chloride, *in* A-00373
p-Anize green; Chloride, *in* A-00374
Astracyanine B; Chloride, *in* A-00448
Astrazon blue B; Chloride, *in* A-00452
Basic turquoise; Trichlorozincate, *in* B-00001
4,4′-(3*H*-2,1-Benzoxathiol-3-ylidene)bis[2-iodophenol] *S*,*S*-dioxide, B-00111
4,4′-(3*H*-2,1-Benzoxathiol-3-ylidene)bis[3-nitrophenol] *S*,*S*-dioxide, B-00112
3′,6′-Bis(acetyloxy)-5-azidospiro[isobenzofuran-1(3*H*), 9′-[9*H*] xanthen]-3-one, *in* A-00460
2-[Bis[4-(dimethylamino)phenyl]methyl] benzenesulfonic acid, B-00322
3,3-Bis(4-hydroxy-2,5-dimethylphenyl)-1(3*H*)-isobenzofuranone, B-00365
3,3-Bis(4-hydroxy-3,5-dimethylphenyl)-1(3*H*)-isobenzofuranone, B-00366
3,3-Bis(4-hydroxy-2-isopropyl-5-methylphenyl)-1(3*H*)-isobenzofuranone, B-00378
3,3-Bis(4-hydroxy-3-methoxyphenyl)-1(3*H*)-isobenzofuranone, B-00379
3,3-Bis(5-hydroxy-1-naphthalenyl)-1(3*H*)-isobenzofuranone, B-00381
▷ Brilliant green; Hydrogen sulfate, *in* B-00479
2-Bromo-4-[(3-bromo-4-hydroxy-5-methylphenyl)phenylmethylene]-6-methyl-2,5-cyclohexadien-1-one, B-00495
Bromochlorophenol blue, B-00497
Bromocresol green, B-00498
Bromocresol purple, B-00499
Bromophenol blue, B-00542
Bromophenol red, B-00543
Bromophthalexon S, B-00559
Bromopyrogallol red, B-00574
Bromothymol blue, B-00581
Bromoxylenol blue, B-00583
Butylrhodamine B, *in* R-00002
C.I. Basic blue 20; Dichloride, *in* C-00002
C.I. Basic violet 2; B, HCl, *in* C-00003
▷ Ceplac, *in* E-00020
2′-Chlorofluorescein, C-00116
4′-Chlorofluorescein, C-00117
Chlorophenol red, C-00197
Chromal blue G; Di-Na salt, *in* C-00275
Chromazurol S; Tri-Na salt, *in* C-00277
Chrome green G, C-00283
Chromoxane violet R, *in* E-00015
Chromoxan violet 5B, C-00295
o-Cresolbenzein, C-00305
m-Cresolphthalein, C-00306
▷ *o*-Cresolphthalein, C-00307
o-Cresolphthalexon, C-00308
m-Cresol purple, C-00309
Cresol red, C-00310
o-Cresoltetrabromosulfonephthalein, C-00311
o-Cresoltetrachlorosulfonephthalein, C-00312
o-Cresoltetraiodosulfonephthalein, C-00313
▷ Crystal violet; Chloride, *in* C-00320
4′,5′-Dibromofluorescein; Di-Na salt, *in* D-00188
▷ Dibromosulfonephthalein, D-00215
3,3′-Dibromothymolbenzein, D-00217
3,3′-Dibromothymoltetrachlorophthalein, D-00218
2′,4′-Dichlorofluorescein, D-00273
2′,5′-Dichlorofluorescein, D-00274
2′,7′-Dichlorofluorescein, D-00275
4′,5′-Dichlorofluorescein; Di-Na salt, *in* D-00276
2′,7′-Dihydroxyfluorescein, D-00613
2-(2,4-Dihydroxyphenylazo)-1,3,4-thiadiazole, D-00703

▷ *N*-[4-[[4-(Dimethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-*N*-methylmethanaminium(1+); Chloride, *in* D-00812
Dithiofluorescein, D-01132
Eriochrome azurol G; Di-Na salt, *in* E-00009
Eriochrome brilliant violet B, E-00012
Eriochrome cyanine R; Tri-Na salt, *in* E-00013
Eriochrome geranol; Di-Na salt, *in* E-00015
Erio green B; Na salt, *in* E-00019
Ethyl violet; Chloride, *in* E-00122
Fast green FCF; Di-Na salt, *in* F-00001
▷ Fluorescein sodium, *in* F-00020
▷ Fuchsine, *in* R-00009
Glycinecresol red, G-00017
Glycinethymol blue, G-00019
Heptamethoxy red, H-00010
Hexamethoxy red, H-00056
3-(4-Hydroxy-2-methylphenyl)-3-(4-hydroxyphenyl)-1(3*H*)-isobenzofuranone, H-00310
Isothiocyanatobromothymol blue, I-00092
Lissamine violet 10B, L-00008
Methyl green; Bromide chloride, *in* M-00185
Methylthymol blue, M-00327
▷ Methyl violet, M-00336
Methyl xylenol blue; Na salt, *in* M-00337
Naphthalene green; Chloride, *in* N-00013
α-Naphtholsulfonephthalein, N-00029
o-Nitral green; Chloride, *in* N-00072
p-Nitral green; Chloride, *in* N-00073
Nitrobromothymol blue, N-00102
Orcinsulfonephthalein, O-00044
▷ Phenolphthalein, P-00063
▷ Phenolsulfonphthalein, P-00064
Phenoltetrabromosulfonephthalein, P-00065
Phenoltetrachlorosulfonephthalein, P-00066
Phenoltetraiodophthalein, P-00067
Phenoltetraiodosulfonephthalein, P-00068
Phthalein violet, P-00220
Phthalexon S, P-00221
Poirrier blue C4B; Di-Na salt, *in* P-00246
Pyrocatecholsulfonephthalein complexan, P-00432
Rhodamine B, *in* R-00002
Rubrophen, R-00013
Salicyl red, S-00002
Sarcosine cresol red, S-00004
Semimethyl thymol blue, S-00011
Semimethylxylenol blue, S-00012
Semiphthalexon S; Di-Na salt, *in* S-00013
Semixylenol orange, S-00014
Solochrome azurine BS, S-00016
Sulfochrome; Di-NH_4 salt, *in* S-00046
Sulfonamidebromothymol blue, S-00047
Sulfonefluorescein, S-00049
▷ Sulphan blue, S-00058
Tetrabromoanilinesulfonephthalein, T-00011
4,4′-(4,5,6,7-Tetrabromo-3*H*-2,1-benzoxathiol-3-ylidene)bis[2-bromo-6-methylphenol] *S*,*S*-dioxide, T-00013
4,4′-(4,5,6,7-Tetrabromo-3*H*-2,1-benzoxathiol-3-ylidene)bis[2-bromophenol] *S*,*S*-dioxide, T-00014
Tetrabromo-*N*-ethylanilinesulfonephthalein, T-00018
Tetrabromophenolphthalein, T-00019
Tetrabromophenoltetrabromosulfonephthalein, T-00020
Tetrabromophenoltetrachlorosulfonephthalein, T-00021
Tetrabromophenoltetraiodophthalein, T-00022
4,4′-(4,5,6,7-Tetrachloro-3*H*-2,1-benzoxathiol-3-ylidene)bis[2-bromo-6-methylphenol] *S*,*S*-dioxide, T-00026
4,5,6,7-Tetrachloro-3,3-bis(4-hydroxyphenyl)-1(3*H*)-isobenzofuranone, T-00027
Tetraiodophenoltetraiodophthalein, T-00081
3,3′,5,5′-Tetranitrophenolsulfonephthalein, T-00109
Thymolbenzein, T-00180
Thymol blue, T-00181
Thymolphthalein, T-00182
Thymolphthalexon, T-00183
Thymoltetrachlorophthalein, T-00184
2′,4′,5′-Trichlorofluorescein, T-00224
2′,4′,7′-Trichlorofluorescein, T-00225
Tris(4-aminophenyl)methanol, T-00383
Tris(2,4-dihydroxyphenyl)methane, T-00388
Victoria blue B; Chloride, *in* V-00002
Victoria blue 4R; Chloride, *in* V-00003
Victoria pure blue BO; Chloride, *in* V-00004
Xylene brilliant blue FBR; Na salt, *in* X-00003
Xylene cyanole FF; Na salt, *in* X-00004
Xylenol blue, X-00005
Xylenol orange, X-00006

Xanthates

Benzenebutane(dithioic)acid, B-00013
▷ Carbonodithioic acid *O*-(phenylmethyl) ester; K salt, *in* C-00024
Dithiocarbonic acid; *O*-Butyl ester, *in* D-01125
O-[(Tetrahydro-2-furanyl)methyl] carbonodithioate; K salt, *in* T-00062
O-(2,2,2-Trifluoroethyl)carbonodithioate, T-00246
Trifluoroethylxanthic acid; K salt, *in* T-00247
▷ Xanthic acid; K salt, *in* X-00002

Use

Amperometric reagent

1*H*-Benzimidazole-2-methanethiol, B-00041
2,2′-Biquinoxaline, B-00239
4,4′-Bis(1-phenyl-3-methyl-5-pyrazolone), B-00440
N-(4-Chlorophenyl)-3-(2-furanyl)-*N*-hydroxy-2-propenamide, *in* F-00053
3,5-Diethyl-2,6-dimercapto-4*H*-thiopyran-4-one, D-00342
[4-[(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]phenyl]arsonic acid, D-00439
2′,4′-Dihydroxyacetophenone; Oxime, *in* D-00507
2′,5′-Dihydroxyacetophenone; Oxime, *in* D-00508
2′,4′-Dihydroxyacetophenone; Phenylhydrazone, *in* D-00507
2,6-Dimercapto-3,5-dimethyl-4*H*-thiopyran-4-one, D-00754
2,6-Dimercapto-3,5-dipropyl-4*H*-thiopyran-4-one, D-00756
2,6-Dimercapto-3-methyl-4*H*-thiopyran-4-one, D-00758
2,6-Dimercapto-4-oxo-4*H*-thiopyran-3-carboxylic acid, D-00759
1,2-Di-4-morpholinylethane, D-00928
[2-Hydroxy-1,1-bis(hydroxymethyl)ethyl]carbamodithioic acid, H-00138
N-Hydroxy-3-(3-nitrophenyl)-*N*-phenyl-2-propenamide, H-00402
N-Hydroxy-*N*-nitrosocyclohexanamine; NH_4 salt, *in* H-00411
1-(Hydroxyphenylamino)-5-phenyl-1,4-pentadien-3-one, H-00446
4-(3-Hydroxy-3-phenyl-1-triazenyl)benzenesulfonic acid, H-00506
5-Mercapto-3-(2-naphthyl)-1,3,4-thiazole-2-thione, M-00039
1-Methyl-2,4-dithiobiuret, *in* T-00163
2-Selenophenecarboxaldehyde; Oxime, *in* S-00006
▷ Sulphathiazole, S-00059
S-(Thiocarbamoyl)dithiophosphoric acid; *O*,*O*′-Di-Et, *in* T-00161
S-(Thiocarbamoyl)dithiophosphoric acid; *O*,*O*′-Di-Me, *in* T-00161
S-(Thiocarbamoyl)dithiophosphoric acid; *O*,*O*′-Dipropyl, *in* T-00161
▷ Trimethylsulfonium(1+); Iodide, *in* T-00347
Triphenylselenonium(1+); Chloride, *in* T-00375

Biological stain

Acid fuchsin; Di-Na salt, *in* A-00056
▷ Aurantia, *in* H-00065
▷ Azure A, *in* L-00003
▷ Azure B, *in* L-00003
▷ Azure C, *in* L-00003
Berberine; Chloride, *in* B-00197
▷ 3,6-Bis(dimethylamino)acridine, B-00313
▷ Brilliant green; Hydrogen sulfate, *in* B-00479
▷ C.I. 11050 Basic dye, *in* J-00004
▷ Ceplac, *in* E-00020
▷ Congo red, C-00301
▷ Crystal violet; Chloride, *in* C-00320
▷ 3,7-Diamino-2,8-dimethyl-5-phenylphenazinium(1+); Chloride, *in* D-00084
▷ 2,3-Dihydro-2,2-dimethyl-6-[[4-(phenylazo)-1-naphthalenyl]azo]-1*H*-perimidine, D-00390
▷ Eosine; Di-Na salt, *in* E-00007
▷ Erioglaucine A; Di-Na salt, *in* E-00018
Fast green FCF; Di-Na salt, *in* F-00001
▷ Fuchsine, *in* R-00009
Gallein, G-00004
▷ Haematein, H-00001
▷ Haematoxylin; (+)-*form*, *in* H-00002
▷ Homidium bromide, *in* D-00096
4-[(2-Hydroxy-1-naphthalenyl)azo]benzenesulfonic acid; Na salt, *in* H-00348
▷ Indigo carmine, *in* I-00029
Lucifer yellow CH, *in* L-00011
▷ Malachite green; Chloride, *in* M-00006
Methyl green; Bromide chloride, *in* M-00185
▷ Methyl orange; Na salt, *in* M-00210
▷ Methylthioninium chloride, *in* M-00175
Neutral red; B,HCl, *in* N-00065
▷ Nile blue A; Sulfate (2:1), *in* N-00069
Orange G; Di-Na salt, *in* O-00042
Phenosafranine; Chloride, *in* P-00070
▷ 1-[[4-(Phenylazo)phenyl]azo]-2-naphthalenol, P-00095
4,4′-[1,3-Phenylenebis(azo)]bis-1,3-benzenediamine; B,2HCl, *in* P-00117
▷ Phloxine B; Di-Na salt, *in* P-00213
▷ Rhodamine 590; Chloride, *in* R-00003
▷ Rose Bengal B, *in* R-00010
Rose bengal sodium, *in* R-00010
▷ Tetrazolium blue; Dichloride, *in* T-00132
▷ Thionine hydrochloride, *in* L-00003
▷ Tolonium chloride, *in* T-00189
Toluylene blue; Chloride, *in* T-00190
Trypan red; Penta-Na salt, *in* T-00434

Buffer

N-Acetamidoiminodiacetic acid, *in* N-00074
▷ 2-Amino-2-hydroxymethyl-1,3-propanediol, A-00198
2-[(2-Amino-2-oxoethyl)amino]ethanesulfonic acid, A-00293
1,2-Bis(2-amino-5-bromophenoxy)ethane-*N*,*N*,*N*′,*N*′-tetraacetic acid, B-00243
1,2-Bis(2-aminophenoxy)ethane-*N*,*N*,*N*′,*N*′-tetraacetic acid, B-00248
▷ [Bis(2-hydroxyethyl)amino]acetic acid, B-00367
2-[Bis(2-hydroxyethyl)amino]ethanesulfonic acid, B-00369
2-[Bis(2-hydroxyethyl)amino]-2-(hydroxymethyl)-1,3-propanediol, B-00370
3-[Bis(2-hydroxyethyl)amino]-2-hydroxy-1-propanesulfonic acid, B-00371
2-[Bis(2-hydroxyethyl)amino]-2-methyl-1-propanol, B-00372
▷ Citric acid, C-00299
2-(Cyclohexylamino)ethanesulfonic acid, C-00348
3-(Cyclohexylamino)-2-hydroxy-1-propanesulfonic acid, C-00349
3-(Cyclohexylamino)-1-propanesulfonic acid, C-00350
β,*β*′-Dihydroxy-1,4-piperazinedipropanesulfonic acid, D-00720
2-[[2-Hydroxy-1,1-bis(hydroxymethyl)ethyl]amino]ethanesulfonic acid, H-00136
3-[[2-Hydroxy-1,1-bis(hydroxymethyl)ethyl]amino]-1-propanesulfonic acid, H-00137
4-(2-Hydroxyethyl)-1-piperazineethanesulfonic acid, H-00180
4-(2-Hydroxyethyl)-1-piperazinepropanesulfonic acid, H-00181
2-Hydroxy-3-[[2-hydroxy-1,1-bis(hydroxymethyl)ethyl]amino]-1-propanesulfonic acid, H-00192
2-Hydroxy-3-[(2-hydroxy-1,1-dimethylethyl)amino]-1-propanesulfonic acid, H-00197
β-Hydroxy-4-(2-hydroxyethyl)-1-piperazinepropanesulfonic acid, H-00203
β-Hydroxy-4-morpholinepropanesulfonic acid, H-00335
4-Morpholinepropanesulfonic acid, M-00346
2-(*N*-Morpholino)ethanesulfonic acid, M-00348
1,4-Piperazinediethanesulfonic acid, P-00240
2,2′-(1,3-Propanediyldiimino)bis[2-(hydroxymethyl)-1,3-propanediol], P-00263
[Tris[(hydroxymethyl)methyl]amino]acetic acid, T-00407

Chemiluminescence generation reagents

6-[(4-Aminobutyl)ethylamino]-2,3-dihydro-1,4-phthalazinedione, A-00130
6-[(4-Aminobutyl)methylamino]-2,3-dihydro-1,4-phthalazinedione, A-00131
6-Amino-2,3-dihydro-1,4-phthalazinedione, A-00156
6-[(6-Aminohexyl)ethylamino]-2,3-dihydro-1,4-phthalazinedione, A-00180
Bis[4-bromo-2-[[2-(2-methoxyethoxy)ethoxy]carbonyl]phenyl] ethanedioate, B-00268
Bis(2,4-dinitrophenyl) oxalate, B-00335
Bis[2-[[2-[2-(2-methoxyethoxy)ethoxy]ethoxy]carbonyl]-4-nitrophenyl] ethanedioate, B-00399
Bis(2,4,6-trichlorophenyl) oxalate, B-00460
4-Chlorobenzoic acid [(2-bromo-6-hydroxyphenyl)methylene]hydrazide, C-00068
9-[4-(Chlorosulfonyl)-2-sulfophenyl]-3,6-bis(diethylamino)xanthylium, C-00261
6-(Diethylamino)-2,3-dihydro-1,4-phthalazinedione, *in* A-00156
N-[4-[7-(Diethylamino)-4-methyl-2-oxo-2*H*-1-benzopyran-3-yl]phenyl]-2-iodoacetamide, D-00321
6-(Dimethylamino)-2,3-dihydro-1,4-phthalazinedione, *in* A-00156
6-Hydroxybenzothiazole, H-00127
Lucigenine; Dinitrate, *in* L-00012

Chromatographic derivatisation agents

▷ Acetone, A-00007
Acetyl methanesulfonate, A-00020
2-[4-(1-Aminoethyl)-1-naphthyl]-6-methoxy-*N*-methyl-2*H*-benzotriazol-5-amine; (*S*)-*form*, B,2HCl, *in* A-00176
8-Amino-2-naphthalenol; Na salt, *in* A-00274
2-Amino-*N*-2-naphthalenylpropanamide; (*S*)-*form*, *in* A-00278
N-(5-Aminopentyl)-5-(dimethylamino)-1-naphthalenesulfonamide, A-00296
▷ 9-Aminophenanthrene, A-00298
▷ 1-Aminopiperidine, A-00329
▷ Anisoyl chloride, *in* M-00079
2-(9-Anthracenyl)ethyl carbonochloridate, A-00383
(Azidocarbonyl)ferrocene, A-00459
(3-Azido-3-oxopropyl)ferrocene, A-00461
Azobenzene-4-sulfonic acid; Chloride, *in* A-00468
▷ Benzenethiol, B-00030
▷ Benzoic anhydride, *in* B-00059
▷ Benzoyl chloride, *in* B-00059
O-Benzylhydroxylamine, B-00184
▷ Benzyl iodide, B-00186
▷ Bis(2-chloroethyl) phosphorochloridate, *in* B-00281
▷ Bis[(chloromethyl)dimethylsilyl]amine, B-00284
N,*N*′-Bis(1-phenylethyl)carbodiimide; (*S*,*S*)-*form*, *in* B-00439
Bis(trifluoroacetamide), B-00461
▷ 2-Bromoacetophenone, B-00483
2-(Bromoacetyl)naphthalene, B-00484

4-(Bromoacetyl)phenyl 9-anthracenecarboxylate, B-00485
4-Bromobenzenesulfonic acid; Chloride, *in* B-00487
4-Bromobenzoic acid; Bromide, *in* B-00488
4-Bromobenzoic acid; Chloride, *in* B-00488
2-Bromo-2′,4′-dihydroxyacetophenone, B-00501
2-Bromo-2′,5′-dihydroxyacetophenone, B-00502
▷ 2-Bromo-4′-hydroxyacetophenone, B-00508
3-(Bromomethyl)-6,7-dimethoxy-1-methyl-2(1*H*)-quinoxalinone, B-00520
(Bromomethyl)dimethylchlorosilane, B-00521
▷ 1-(Bromomethyl)-4-methylbenzene, B-00527
3-(Bromomethyl)-6,7-(methylenedioxy)-1-methyl-2(1*H*)-quinoxalinone, B-00528
1-(Bromomethyl)-4-nitrobenzene, B-00530
▷ (Bromomethyl)pentafluorobenzene, B-00532
5-(Bromomethyl)-*N*,*N*,*N*,-2,6-pentamethyl-1,7-dioxo-1*H*,7*H*-pyrazolo[1,2-*a*]pyrazole-3-methanaminium(1+); Bromide, *in* B-00533
2-Bromo-4′-nitroacetophenone, B-00539
▷ (4-Bromophenyl)dihydroxyborane, B-00549
▷ 2-Bromopropane, B-00560
2-Bromo-*N*-1-pyrenylacetamide, B-00561
Bromotrimethylsilane, B-00582
▷ 1-Butanol, B-00606
▷ 2-Butoxyethanol, B-00613
tert-Butylboronic acid, B-00620
▷ *tert*-Butylchlorodimethylsilane, B-00621
▷ Butylchloromagnesium, B-00622
N-(*tert*-Butyldimethylsilyl)imidazole, B-00628
N-(*tert*-Butyldimethylsilyl)-*N*-methyltrifluoroacetamide, B-00630
▷ Carbon disulfide, C-00023
2-(4-Carboxyphenyl)-5,6-dimethylbenzimidazole, C-00040
▷ Chloroacetaldehyde, C-00053
Chloroacetic acid; Anhydride, *in* C-00054
▷ Chloroacetyl chloride, C-00056
1-Chloro-1-*tert*-butylsilacyclopentane, C-00076
7-(Chlorocarbonylmethoxy)-4-methylcoumarin, C-00077
▷ 1-Chloro-2-(chloromethyl)benzene, C-00079
Chloro(chloromethyl)dimethylsilane, C-00081
Chlorodifluoroacetic acid; Anhydride, *in* C-00092
Chlorodimethoxymethylsilane, C-00097
Chlorodimethyl(pentafluorophenyl)silane, C-00100
Chlorodimethylphenylsilane, C-00103
Chlorodimethyl-2-propenylsilane, C-00104
2-Chloro-3,5-dinitropyridine, C-00107
2-Chloro-1,3,2-dioxaphospholane, C-00109
▷ 2-Chloro-1,3,2-dioxaphosphorinane, C-00110
▷ 2-Chloroethanol, C-00114
Chloroethylmagnesium, C-00115
Chloro(iodomethyl)dimethylsilane, C-00165
Chloromethoxydimethylsilane, C-00166
9-Chloro-10-methylacridinium(1+); Trifluoromethanesulfonate, *in* C-00170
1-Chloromethylbenz[*cd*]indol-2(1*H*)-one, *in* B-00050
2-Chloro-3-methylbutanoic acid; (*S*)-*form*, Chloride, *in* C-00174
1-(Chloromethyl)-1*H*-indole-2,3-dione, C-00177
2-(Chloromethyl)-5-nitro-1*H*-isoindole-1,3(2*H*)-dione, C-00180
1-(Chloromethyl)-3-(trifluoromethyl) benzene, C-00186
1-Chloro-1,1,3,3,3-pentafluoro-2-propanol, C-00192
Chloropropylmagnesium, C-00250
Chlorotriethylsilane, C-00265
▷ Chlorotrimethylsilane, C-00267
▷ Chlorotriphenylmethane, C-00269
Chlorotripropylsilane, C-00272
▷ Cycloheptanone, C-00334
▷ 1,3-Cyclohexanedione, C-00338
▷ Cyclohexylboronic acid, C-00352
▷ Cyclopentanone, C-00364
1,1,1,2,2,6,6,7,7,7-Decafluoro-3,5-heptanedione, D-00003
1-Decanesulfonic acid, D-00024
▷ 1-Decanol, D-00026
9,10-Diaminophenanthrene, D-00110
1-Diazobutane, D-00143
▷ Diazoethane, D-00144
1-(1-Diazoethyl)naphthalene, D-00145
2-(1-Diazoethyl)naphthalene, D-00146
(1-Diazoethyl)pentafluorobenzene, D-00147
(Diazomethyl)cyclohexane, D-00149
▷ 1-(Diazomethyl)naphthalene, D-00151
(Diazomethyl)pentafluorobenzene, D-00152
1-Diazopropane, D-00154
▷ 2,4′-Dibromoacetophenone, D-00176
1,1-Dibutoxytrimethylamine, D-00221
1,1-Di-*tert*-butoxytrimethylamine, D-00222
5-(Dibutylamino)-1-naphthalenesulfonyl chloride, D-00224
Dibutyl carbonate, D-00229
Dicarboxidine; B,2HCl, *in* D-00244
▷ Dichloroacetic acid; Chloride, *in* D-00246
2,5-Dichlorobenzenesulfonic acid; Chloride, *in* D-00248
▷ Dichlorodimethylsilane, D-00267
6,9-Dichloro-2-methoxy-10-methylacridinium(1+); Trifluoromethanesulfonate, *in* D-00284
(2,4-Dichlorophenyl)dihydroxyborane, D-00293
(2,6-Dichlorophenyl)dihydroxyborane, D-00294
(3,5-Dichlorophenyl)dihydroxyborane, D-00295
▷ 1,3-Dichloro-1,1,3,3-tetrafluoro-2-propanone, D-00303
5-[(4,6-Dichloro-1,3,5-triazin-2-yl)amino]-3′,6′-dihydroxyspiro[isobenzofuran-1(3*H*),9′-[9*H*]xanthen]-3-one, D-00304
9-Dicyanomethylene-2,4,7-trinitrofluorene, D-00306
N,*N*′-Dicyclohexyl-*O*-benzylisourea, D-00308
(Diethoxymethyl)dimethylamine, D-00313
(Diethylamino)dimethyl(pentafluorophenyl) silane, D-00316
N-[4-[7-(Diethylamino)-4-methyl-2-oxo-2*H*-1-benzopyran-3-yl]phenyl]-2-iodoacetamide, D-00321
▷ (Diethylamino)trimethylsilane, D-00336
▷ Diethyl dicarbonate, *in* D-00243
▷ Diethyl phosphorochloridate, D-00355
▷ Diethyl sulfate, D-00358
3,4-Dihydro-6,7-dimethoxy-4-methyl-3-oxo-2-quinoxalinecarbonyl azide, *in* D-00379
3,4-Dihydro-6,7-dimethoxy-4-methyl-3-oxo-2-quinoxalinecarbonyl chloride, *in* D-00379
▷ Dihydro-2,5-furandione, D-00405
N,*N*′-Diisopropyl-*O*-*p*-nitrobenzylisourea, D-00749
1,1-Dimethoxy-*N*,*N*-dimethylmethylamine, D-00774
4-(Dimethylamino)-α-methyl-1-naphthalenemethanamine, D-00790
5-(Dimethylamino)-1-naphthalenesulfinic acid, D-00794
[3-[[[5-(Dimethylamino)-1-naphthalenyl] sulfonyl]amino]phenyl]boronic acid, D-00798
1-[[5-(Dimethylamino)-1-naphthalenyl] sulfonyl]piperazine, D-00801
7-(Dimethylamino)-2-oxo-2*H*-1-benzopyran-3-carbonyl fluoride, D-00805
4-(Dimethylamino)-α-oxo-1-naphthaleneacetonitrile, D-00807
Dimethyl(dipropoxymethyl)amine, D-00854
Dimethyl (hydroxymethyl)phosphonate, *in* H-00318
1,1-Dimethyl-1-(pentafluorophenyl) silanamine, D-00878
2,2-Dimethylpropanal, D-00897
1-(Dimethyl-2-propenylsilyl)-1*H*-imidazole, D-00900
N-(Dimethylsilyl)-1,1-dimethylsilanamine, D-00915
▷ Dimethyl sulfite, D-00917
2,4-Dinitrobenzenediazonium(1+); Tetrafluoroborate(1−), *in* D-00938
[3-[(2,5-Dioxo-1-pyrrolidinyl)oxy]-3-oxopropyl]ferrocene, D-00995
2,5-Diphenyl-3-[4-(2-phenylethenyl)phenyl]-2*H*-tetrazolium(1+); Chloride, *in* D-01036
1,1,1,2,2,6,6,7,7,8,8,8-Dodecafluoro-3,5-octanedione, D-01136
3-(2-Dodecenyl)dihydro-2,5-furandione, D-01141
Drimanoyl chloride, *in* D-01159
2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-Eicosafluoroundecanoic acid; Chloride, *in* E-00002
▷ 1,2-Ethanedithiol, E-00028
5,5′-(1,2-Ethanediyldinitrilo)bis[2,2-dimethyl-3-hexanone], E-00036
▷ Ethanethiol, E-00039
▷ Ethanol, E-00040
(Ethenyloxy)cyclohexane, E-00047
9-Ethoxy-10-methylacridinium(1+); Trifluoromethanesulfonate, *in* E-00056
N-(4-Ethoxyphenyl)-*N*-(trimethylsilyl) acetamide, E-00060
O-Ethylhydroxylamine, E-00089
Ferrocenyldihydroxyborane, F-00005
9-Fluorenyl methyl chloroformate, F-00018
1-Fluoro-2-nitro-4-(trifluoromethyl) benzene, F-00032
Heptafluorobutanoic acid; Anhydride, *in* H-00004
6,6,7,7,8,8,8-Heptafluoro-2,2-dimethyl-3,5-octanedione, H-00006
2,2,3,3,4,4,4-Heptafluoro-*N*-methyl-*N*-(trimethylsilyl)butanamide, H-00007
1-(2,2,3,3,4,4,4-Heptafluoro-1-oxobutyl)-1*H*-imidazole, H-00009
1-Heptanesulfonic acid; Na salt, *in* H-00011
2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-Hexadecafluorononanoic acid; Chloride, *in* H-00022
▷ 1,1,1,3,3,3-Hexafluoro-2-propanol, H-00032
▷ Hexahydro-1*H*-azepin-1-amine, H-00034
1-Hexanesulfonic acid; Na salt, *in* H-00064
3-Hydroxyandrost-5-ene-17-carboxylic acid; (3β,17β)-*form*, Ac, chloride, *in* H-00098
2′-Hydroxy-[1,1′-binaphthalene]-2-carboxylic acid; (*S*)-*form*, Me ether, chloride, *in* H-00131
2-Hydroxy-3,5-dinitrobenzoic acid, H-00154
1-[[(4-Hydroxy-3-methoxyphenyl)acetyl] oxy]-2,5-pyrrolidinedione, H-00269
2-Hydroxy-5-nitrobenzaldehyde, H-00380
1-[3-(4-Hydroxyphenyl)-1-oxopropoxy]-2,5-pyrrolidinedione, H-00491
▷ Iodoacetic acid, I-00036
▷ 1-Iodobutane, I-00042
▷ Iodoethane, I-00043
1-(Iodomethyl)-4-methylbenzene, I-00046
1-Iodomethyl-4-nitrobenzene, I-00047
▷ 1-Iodopropane, I-00050
Isobutyl chloroformate, I-00057
2-Isocyanato-1-[(4-methylphenyl)sulfonyl] pyrrolidine, I-00062
2-(4-Isocyanatophenyl)-6-methylbenzothiazole, I-00065
▷ 1-Isocyanato-3-(trifluoromethyl)benzene, I-00066
Luminarin 4, L-00013
Marfey's reagent, *in* F-00028
Menthyl chloroformate; (−)-*form*, *in* M-00014
3-Mercapto-1-propanol, M-00053
2-Methoxy-2,4-diphenyl-3(2*H*)-furanone, M-00086
9-Methoxy-10-methylacridinium(1+); Trifluoromethanesulfonate, *in* M-00088

1-[2-Methoxy-2-(1-naphthalenyl)-1-oxopropoxy]-2,5-pyrrolidinedione; (+)-*form*, *in* M-00094
2-Methoxy-2-(1-naphthyl)propanoic acid; (−)-*form*, *in* M-00095
N-Methylbis(trifluoroacetamide), *in* B-00461
▷ 3-Methyl-1-butanol, M-00147
▷ Methyl chloroformate, M-00155
▷ 1-Methylimidazole, M-00190
1-Methyl-4-(methylthio)benzene, M-00203
2′-Methyl-α-oxo-[1,1′-binaphthalene]-2-acetonitrile, M-00212
1-[[*N*-[2-Methyl-*N*-[*N*-[(phenylmethoxy) carbonyl]-L-valyl]alanyl]glycyl]oxy]-2,5-pyrrolidinedione, M-00231
1-(4-Methylphenyl)-3-[(4-nitrophenyl) methyl]-1-triazene, M-00234
1-(4-Methylphenyl)-3-(phenylmethyl)-1-triazene, M-00237
▷ 2-Methyl-1-propanol, M-00255
O-(1-Methylpropyl)hydroxylamine, M-00259
O-(2-Methylpropyl)hydroxylamine, M-00260
N-Methyl-*N*-(trimethylsilyl)acetamide, M-00330
N-Methyl-*N*-(trimethylsilyl)formamide, M-00331
▷ *N*-Methyl-*N*-(trimethylsilyl) trifluoroacetamide, M-00332
2-Naphthalenesulfonic acid; Chloride, *in* N-00015
▷ 1-Naphthylamine, N-00041
▷ Naproxen; (*S*)-*form*, *in* N-00057
Neomenthyl isothiocyanate, *in* I-00095
▷ 4-Nitrobenzoic acid; Chloride, *in* N-00093
O-(*p*-Nitrobenzyl)hydroxylamine, N-00099
O-(4-Nitrobenzyl)tyrosine; (*R*)-*form*, Me ester, *in* N-00100
1-Octanesulfonic acid, O-00034
▷ 2-Octanol, O-00037
α-Oxo-1-anthraceneacetonitrile, O-00054
α-Oxo-9-anthraceneacetonitrile, *in* O-00053
1-(1-Oxopropoxy)-2,5-pyrrolidinedione, *in* P-00442
Pentadecafluorooctanal, P-00007
Pentadecafluorooctanoic acid; Anhydride, *in* P-00008
Pentadecafluorooctanoic acid; Chloride, *in* P-00008
Pentafluorobenzenesulfonyl chloride, P-00011
Pentafluorobenzoic acid; Anhydride, *in* P-00012
1-[[1-(Pentafluorobenzoyl)-2-pyrrolidinyl] carbonyl]-1*H*-imidazole; (*S*)-*form*, *in* P-00013
Pentafluorobenzyl chloroformate, P-00015
O-(Pentafluorobenzyl)hydroxylamine; B, HCl, *in* P-00016
▷ (Pentafluorophenyl)hydrazine, P-00020
Pentafluoropropanoic acid; Anhydride, *in* P-00021
▷ 2,2,3,3,3-Pentafluoro-1-propanol, P-00022
▷ 1-Pentanol, P-00034
▷ 2-Pentanone, P-00036
O-Pentylhydroxylamine, P-00040
Pentylmagnesium bromide, P-00041
▷ 9,10-Phenanthraquinone, P-00047
Phenylalanine α-naphthylamide; (*S*)-*form*, *in* P-00078
Phenylalanine β-naphthylamide; (*S*)-*form*, *in* P-00079
1-[[(Phenylamino)carbonyl]oxy]-2,5-pyrrolidinedione, P-00081
5-[[4-(Phenylamino)phenyl]imino]-2(5*H*)-furanone, P-00085
1-[4-(Phenylamino)phenyl]-1*H*-pyrrole-2,5-dione, P-00086
Phenyldiazomethane, P-00111
▷ Phenyldihydroxyborane, P-00112
▷ Phenyl isothiocyanate, P-00139
2-[(Phenylmethyl)amino]ethanol, P-00144
N-Phenyl-*N*-(trimethylsilyl)acetamide, P-00210
▷ Phthalic anhydride, P-00222
Phthalimide; *N*-Chloromethyl, *in* P-00223
Phthalimide; *N*-(4-Methylbenzenesulfonyl), *in* P-00223
3-(2-Phthalimidyl)benzoyl azide, P-00225
4-(2-Phthalimidyl)benzoyl azide, P-00226
Pivalic anhydride, *in* D-00899
▷ 1-Propanol, P-00265
▷ 2-Propanol, P-00266
O-Propylhydroxylamine, P-00277
▷ Sodium tetraphenylborate(*III*), S-00015
N-Succinimidoyl tetrathiafulvalene-2-carboxylate, S-00035
TAGIT, *in* G-00012
▷ Tetraethylammonium(1+); Hydroxide, *in* T-00041
Tetraheptylammonium(1+); Hydroxide, *in* T-00048
Tetrahexylammonium(1+); Hydroxide, *in* T-00049
N,*N*,*N*′,*N*′-Tetrakis(trimethylsilyl)-1,2-ethanediamine, T-00091
▷ Tetramethylammonium(1+); Hydroxide, *in* T-00092
Tetramethylphosphinous amide, T-00102
2-Thio-2,4-pentanedione, T-00165
▷ 2-Thiophenecarboxaldehyde, T-00169
2,4,6-Tribromophenyl chloroformate, T-00206
Tributylchlorosilane, T-00209
▷ Trichloroacetic acid; Chloride, *in* T-00218
2,2,2-Trichloro-*tert*-butyloxycarbonyl chloride, T-00221
▷ 2,2,2-Trichloroethanol, T-00222
▷ Trifluoroacetic acid, T-00239
▷ Trifluoroacetic acid; Anhydride, *in* T-00239
[(Trifluoroacetyl)amino]acetyl chloride, *in* T-00240
1-(Trifluoroacetyl)-1*H*-imidazole, T-00241
▷ 2,2,2-Trifluoroethanol, T-00245
▷ 3-(Trifluoromethyl)benzenesulfonic acid; Chloride, *in* T-00251
4-(Trifluoromethyl)benzoic acid; Chloride, *in* T-00253
[α-(Trifluoromethyl)benzyl]hydrazine; (+)-*form*, *in* T-00254
(3-Trifluoromethylphenyl) trimethylammonium(1+); Hydroxide, *in* T-00256
▷ Trifluoroperacetic acid, T-00258
2,2,2-Trifluoro-1-phenylethylamine; (*S*)-*form*, *in* T-00261
2,2,2-Trifluoro-*N*-(trimethylsilyl) ethanimidic acid trimethylsilyl ester, T-00266
▷ Trimethylanilinium hydroxide, *in* T-00336
▷ Trimethyl(dimethylamino)silane, T-00326
Trimethyloxonium tetrafluoroborate, *in* T-00329
▷ *N*-(Trimethylsilyl)acetamide, T-00338
(Trimethylsilyl)ethenone, T-00340
▷ 1-(Trimethylsilyl)-1*H*-imidazole, T-00341
4-(Trimethylsilyl)morpholine, T-00342
1-(Trimethylsilyl)piperidine, T-00343
1-(Trimethylsilyl)pyrrolidine, T-00346
4,5,7-Trinitro-9-oxo-9*H*-fluorene-2-carboxylic acid; Chloride, *in* T-00354
Trolox C; (*S*)-*form*, Me ether, *in* T-00430
Vinyl chloroformate, V-00005

Enzyme substrate/cofactor

N-Acetylalanine 1-naphthyl ester; (*S*)-*form*, *in* A-00011
N-Benzoyltyrosine 4-nitroanilide; (±)-*form*, *in* B-00162
Dicarboxidine; B,2HCl, *in* D-00244
N-(2,4-Dimethylphenyl)-3-(phosphonooxy)-2-naphthalenecarboxamide, D-00894
Fluorescein; Lactone-*form*, Di-Ac, *in* F-00020
Fluorescein; Lactone-*form*, Mono-β-D-galactopyranoside, *in* F-00020
7-Hydroxy-4-methyl-2*H*-1-benzopyran-2-one; Dihydrogen phosphate, *in* H-00283
7-Hydroxy-3*H*-phenoxazin-3-one; Et ether, *in* H-00443
3-(4-Hydroxyphenyl)propanoic acid, H-00497
Leucyl-*p*-nitroanilide; *S*-*form*, *in* L-00006
Mono(4-nitrophenyl) phosphate, M-00340
Mono(4-nitrophenyl) phosphate; Di-Na salt, *in* M-00340
MUGB, *in* M-00211
N-(4-Nitrophenyl)glutamine; (*S*)-*form*, *in* N-00136
N-Phosphocreatine; Di-Na salt, *in* P-00214
▷ 3-Pyridinecarboxamide, P-00341
Quinizarin S; Na salt, *in* Q-00006

Extractant

Acenaphthenequinone; Dioxime, *in* A-00001
▷ Acetanilide, *in* A-00368
▷ Acetophenone, A-00008
▷ Acet-*o*-toluidide, *in* M-00123
2-Acetyl-4-ethylpyridine; Oxime (*Z*-), *in* A-00016
3-Acetyl-5-hydroxy-2-methyl-4*H*-1-benzopyran-4-one, *in* D-00644
6-Acetyl-7-hydroxy-4-methyl-2*H*-1-benzopyran-2-one, A-00018
2-Acetyl-4-methoxypyridine; Oxime (*Z*-), *in* A-00021
2-Acetyl-4-methylpyridine; Oxime (*E*-), *in* A-00023
2-Acetyl-4-phenylpyridine; Oxime (*E*-), *in* A-00031
2-Acetylpyridine 2-benzothiazolylhydrazone, A-00040
2-Acetylpyridine phenylthiosemicarbazone, A-00042
▷ Acridine yellow, *in* D-00079
4-Adamantyl-2-(2-hydroxy-1-naphthalenylazo)thiazole, A-00064
Adogen 364, A-00065
Alamine 336, A-00072
Alamine, A-00070
Alamine oxide, A-00071
Alamine 336S, A-00073
Aliquat 336, *in* M-00333
Amberlite LA1, A-00088
Amberlite LA2, A-00089
Amiloride, A-00090
▷ 2-Aminobenzenethiol, A-00101
4-Aminobenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, A-00110
2-Aminobenzophenone, A-00111
3-Amino-4,5-dihydro-5-oxo-1-phenyl-1*H*-pyrazole-4-carbodithioic acid, A-00155
2-Aminodiphenylamine, A-00165
▷ 2-Amino-4-methylthiazole, A-00257
6-Amino-5-nitroso-2-[(phenylmethyl)thio]-4(1*H*)-pyrimidinone, A-00286
8-Amino-5-(phenylazo)quinoline, A-00315
N-(3-Aminophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, A-00324
N-(4-Aminophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, A-00325
8-Aminoquinoline; 8-*N*-Octanesulfonyl, *in* A-00340
1-[(5-Amino-1,3,4-thiadiazol-2-yl)azo]-2-naphthalenol, A-00358
2-[[(Aminothioxomethyl)amino]carbonyl]-6-nitrobenzoic acid, A-00361
Ammonium pyrrolidine dithiocarbamate, *in* P-00441
▷ Aniline, A-00368
4′-Anilino-2,5-dichloroazobenzene-4-sulfonic acid, A-00370
o-Anize green; Chloride, *in* A-00373
p-Anize green; Chloride, *in* A-00374
3-[(2-Arsonophenyl)azo]-6-[[5-(diethylsulfamoyl)-2-methoxyphenyl] azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00428
3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, A-00439
Astrafloxine FF; Chloride, *in* A-00449
Astrafloxine G; Chloride, *in* A-00450
Astrazon blue B; Chloride, *in* A-00452
Astrazon orange R; Chloride, *in* A-00453
Astrazon pink FG; Chloride, *in* A-00454
Astrazon red 6B; Chloride, *in* A-00455
Azo-azoxy BN, A-00465
Azo-azoxy PMP, A-00466

Azothiopyrine, A-00478
Basic turquoise; Trichlorozincate, *in* B-00001
Benzenebutane(dithioic)acid, B-00013
Benzenecarbothioic acid 2-hydroxy(di-2-pyridinylmethylene)hydrazide, B-00014
▷ Benzenesulfohydroxamic acid, *in* B-00026
8-(Benzenesulfonylamino)quinoline, B-00028
1*H*-Benzimidazole-2-carboxaldehyde; 1-Benzyl, oxime, *in* B-00039
Benzo-12-crown-4, B-00052
Benzo-14-crown-4, B-00053
Benzo-15-crown-5, B-00054
Benzo-18-crown-6, B-00055
3-(1,3-Benzodioxol-5-yl)-*N*-hydroxy-*N*-(3-methylphenyl)-2-propenamide, *in* B-00056
3-(1,3-Benzodioxol-5-yl)-*N*-hydroxy-*N*-(4-methylphenyl)-2-propenamide, *in* B-00056
N-(1,4,7,10,13,16,19-Benzoheptaoxacycloheneicosin-21-yl)-2-propenamide, B-00058
Benzohydroxamic acid benzenesulfonamide, *in* P-00194
Benzoic acid 2-hydroxy(di-2-pyridinylmethylene)hydrazide, B-00063
2-Benzothiazolecarboxaldehyde 1(2*H*)-phthalazinylidenehydrazone, B-00087
2-Benzothiazolecarboxaldehyde 2-quinolylhydrazone, B-00088
2-(2-Benzothiazolylazo)-5-(dimethylamino) phenol, B-00094
1-Benzo[*b*]thien-2-yl-4,4,4-trifluoro-1,3-butanedione, B-00109
2′-Benzoylacetanilide, *in* A-00111
N-Benzoyl-*N*′-(5-bromo-2-pyridyl)thiourea, B-00125
4-Benzoyl-2-(2-chlorophenyl)-2,4-dihydro-5-methyl-3*H*-pyrazol-3-one, B-00126
4-Benzoyl-2-(4-chlorophenyl)-2,4-dihydro-5-methyl-3*H*-pyrazol-3-one, B-00127
4-Benzoyl-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, B-00128
2-Benzoyl-4-ethylpyridine; Oxime (*E*-), *in* B-00132
4-(Benzoylhydroxyamino)benzoic acid; Me ester, *in* B-00133
2-Benzoyl-4-methylpyridine; Oxime (*E*-), *in* B-00134
2-Benzoyl-4-nitro-1*H*-indene-1,3(2*H*)-dione, B-00139
2-Benzoyl-5-nitro-1*H*-indene-1,3(2*H*)-dione, B-00140
N-Benzoyl-*N*-phenylhydroxylamine, *in* P-00135
4-Benzoyl-3-phenyl-5(4*H*)-isoxazolone, B-00143
2-Benzoyl-4-phenylpyridine; Oxime (*E*-), *in* B-00144
2-Benzoylpyridine phenylthiosemicarbazone, B-00153
N-Benzoyl-*N*′-(2-pyridyl)thiourea, B-00159
N-Benzylaniline, B-00165
1-(1-Benzyl-1*H*-benzimidazol-2-yl)-3-methyl-5-(4-nitrophenyl)formazan, B-00171
N-Benzyl-4-(4-diethylaminophenylazo) pyridinium(1+), B-00176
Benzyldimethyloctadecylammonium(1+); Perchlorate, *in* B-00180
6-Benzyl-6-(2-hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, B-00182
6-Benzyl-6-(2-hydroxy-5-nitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, B-00185
2-Benzylpyridine, B-00192
9-Benzyl-*s*-triazolo-[4,3-*a*]-benzimidazole-3-thione, B-00195
Bindschedler's green; Chloride, *in* B-00206
4-([1,1′-Biphenyl]-4-ylcarbonyl)-2,4-dihydro-5-methyl-2-(2-methylphenyl)-3*H*-pyrazol-3-one, B-00213
▷ 2,3′-Bipyridine, B-00221
4,4′-([2,2′-Biquinoline]-4,4′-diyldiimino) bisbenzoic acid; Di-Et ester, *in* B-00238
N,*N*′-Bis(*o*-amino-α-phenylbenzylidene) ethylenediamine, B-00250
N,*N*′-Bis[1-(2-aminophenyl)]ethylidene-1,2-ethanediamine, B-00252
Bis(benzo-15-crown-5-ylmethyl)succinate, *in* B-00611
1,5-Bis(7-benzyl-2-benzimidazolyl)-3-methylformazan, B-00258
1,5-Bis(2-bromophenyl)-*N*-phenyl-3-formazancarboxamide, B-00270
N,*N*′-Bis(butanesulfonyl)-1,2-benzenediamine, B-00271
Bis(4-chlorophenyl)ethanedione; Dioxime, *in* B-00285
1,5-Bis(2-chlorophenyl)-3-formazancarboxamide, B-00286
Bis(4-chlorophenyl)iodonium(1+); Chloride, *in* B-00287
1,5-Bis(2-chlorophenyl)-3-nitroformazan, B-00288
Bis(4-chlorophenyl) phosphate, B-00289
N,*N*-Bis(2,3,5,6,9,10,12,13,15,16-decahydro-8*H*-1,7,4,7,11,14-benzodioxatetrathiacyclononadecin-19-yl)pentanediamide, B-00291
N,*N*′-Bis(2,3,5,6,8,9,11,12,14,15-decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl) pentanediamide, B-00292
Bis(dicyclohexyloxyphosphinothioyl) disulfide, B-00294
4-[Bis[4-(diethylamino)phenyl] hydroxymethyl]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, B-00295
Bis(diisopropyloxyphosphinothioyl) disulfide, B-00310
▷ Bis(dimethoxyphosphinothioyl) disulfide, B-00312
4-[Bis[*p*-(dimethylamino)phenyl] hydroxymethyl]-4-chloro-3-methyl-1-phenyl-2-pyrazolin-5-one, B-00319
1,1-Bis[4-(dimethylamino)phenyl-3-phenyl-2-propynylium](1+); Chloride, *in* B-00324
N,*N*′-Bis(1,1-dimethylethyl)thiourea, *in* T-00175
Bis[(diphenoxyphosphino)thioyl] disulfide, B-00336
5,6-Bis(diphenylphosphino)bicyclo[2.2.1] hept-2-ene; (1*RS*,5*RS*,6*RS*)-*form*, *P*,*P*′-Dioxide, *in* B-00337
1,2-Bis(diphenylphosphino)ethylene; (*E*)-*form*, *P*,*P*′-Dioxide, *in* B-00339
Bis(diphenylphosphino)methane, B-00340
1,2-Bis(diphenylphosphinyl)ethane, *in* B-00338
2,4-Bis(5,6-diphenyl-1,2,4-triazin-3-yl) pyridine, B-00341
2,6-Bis(5,6-diphenyl-1,2,4-triazin-3-yl) pyridine, B-00342
N,*N*′-Bis(2,3,5,6,8,9,11,12,14,15,17,18-dodecahydro-1,4,7,10,13,16,19-benzoheptaoxacycloheneicosin-21-yl) pentanediamide, B-00346
▷ Bis(2-ethylhexyl) phosphate, B-00352
▷ *O*,*O*-Bis(2-ethylhexyl) phosphorodithioate, B-00353
1,2-Bis[[[2-(ethylthio)ethyl]thio]methyl] benzene, B-00355
1,3-Bis[[[2-(ethylthio)ethyl]thio]methyl] benzene, B-00356
1,4-Bis[[[2-(ethylthio)ethyl]thio]methyl] benzene, B-00357
1,5-Bis(2-fluorophenyl)-*N*-phenyl-3-formazancarboxamide, B-00358
1,2-Bis(hexylthio)ethane, B-00359
2,3-Bis(2-hydroxybenzylideneamino) benzofuran, B-00361
7,16-Bis[3-[2-hydroxy-3,5-bis[(4-nitrophenyl)azo]phenyl]-1-oxopropyl]-1,4,10,13-tetraoxa-7,16-diazacyclooctadecane, B-00364
Bis(2-hydroxyethyl)carbamodithioic acid; Zn salt (2:1), *in* B-00373
N,*N*-Bis(2-hydroxy-5-nitrobenzyl)-1,10-diaza-4,7,13-trioxacyclopentadecane, B-00382
N,*N*′-Bis(2-hydroxy-5-nitrobenzyl)10,13-diaza-1,4,7-trioxacyclopentadecane, B-00383
N,*N*′-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,13,16,19-hexaoxa-10,22-diazacyclotetracosane, B-00384
N,*N*′-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,10,13-pentaoxa-15,18-diazacycloheneicosane, B-00385
N,*N*′-Bis(2-hydroxy-5-nitrobenzyl)-1,4,7,10-tetraoxa-13,16-diazacyclooctadecane, B-00386
1,5-Bis(2-iodophenyl)-*N*-phenyl-3-formazancarboxamide, B-00396
1,2-Bis(2-mercaptobenzylideneamino) ethane, B-00398
O,*O*-Bis[(3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4(5*H*)-ylidene)phenylmethyl] phosphorodithioate; K salt, *in* B-00405
1,5-Bis(2-methylphenyl)-*N*-phenyl-3-formazancarboxamide, B-00409
2,6-Bis(4-methylphenyl)-4-phenylpyrylium(1+); Chloride, *in* B-00410
▷ *N*,*N*′-Bis(2-methylphenyl)thiourea, B-00412
Bis(2-methylpropyl) phenylphosphonate, *in* P-00164
O,*O*-Bis(2-methylpropyl) phosphorodithioate; Na salt, *in* B-00413
2,3-Bis(6-methyl-2-pyridyl)benzo[*g*] quinoxaline, B-00414
2,3-Bis(6-methyl-2-pyridyl)-10*H*-indeno[1,2-*g*]-quinoxaline, B-00416
2,3-Bis(6-methyl-2-pyridyl)-5-nitroquinoxaline, B-00417
2,3-Bis(6-methyl-2-pyridyl)-6-nitroquinoxaline, B-00418
2,3-Bis(6-methyl-2-pyridyl)pyrido[2,3-*b*] pyrazine, B-00421
2,3-Bis(6-methyl-2-pyridyl)-6-quinoxalinecarboxylic acid, B-00423
Bis(nitrooxy)dioctylstannane, B-00429
Bis(4-nitrophenyl)ethanedione; Dioxime, *in* B-00432
N,*N*-Bis(2,3,5,6,8,9,11,12-octahydro-1,13,4,7,10-benzodioxatrithiacyclopentadecin-15-yl) pentanediamide, B-00433
N,*N*′-Bis(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl) pentanediamide, B-00435
1,2-Bis(octanesulfonamido)benzene, B-00436
1,8-Bis(octanesulfonamido)naphthalene, B-00437
4,4′-Bis(1-phenyl-3-methyl-5-pyrazolone), B-00440
N,*N*′-Bis(1*H*-pyrrol-2-ylmethylene)-1,2-ethanediamine, B-00448
Bis(2,2′:6′,2″-terpyridine-*N*,*N*′,*N*″)iron(*II*) (2+), B-00457
Bis[2-[(tetrahydro-2*H*-pyran-2-yl)thio] phenyl]diazene, B-00458
3,3′-Bis(trifluoromethyl)dithizone, B-00463
N-[3,5-Bis(trifluoromethyl)phenyl]-*N*-hydroxy-3,5-bis(trifluoromethyl) benzamide, B-00465
Bis(2,4,4-trimethylpentyl)phosphinic acid, B-00468
Bis(2,4,4-trimethylpentyl)phosphinodithioic acid, B-00469
▷ Brilliant green; Hydrogen sulfate, *in* B-00479
2-[(6-Bromo-2-benzothiazolyl)azo]-4-methylphenol, B-00491
1-[(6-Bromo-2-benzothiazolyl)azo]-2-naphthalenol, B-00492
4-(2-Bromobenzoyl)-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, B-00493
2-Bromobutanoic acid; (±)-*form*, *in* B-00496
2-Bromodecanoic acid, B-00500
5-Bromo-*N*,2-dihydroxybenzamide, B-00503
9-(5-Bromo-2-hydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, B-00513

4-Bromo-2-methylphenyldiazenecarbothioic acid 2-(4-bromo-2-methylphenyl) hydrazide, B-00534
6-Bromo-1,2-naphthoquinone; Dioxime, *in* B-00538
16-Bromo-2,3,5,6,8,9,11,12-octahydro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, B-00540
Bromophenol blue, B-00542
1-(4-Bromophenyl)-1,3-butanedione; 3-Oxime, *in* B-00548
N'-(4-Bromophenyl)-*N*-hydroxy-*N*-phenylthiourea, B-00551
N-(4-Bromophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, B-00552
3-(4-Bromophenyl)-5-mercapto-1,3,4-thiadiazole-2-thione, B-00553
(4-Bromophenyl)phenylethanedione dioxime, B-00555
2-[(5-Bromo-2-pyridinyl)azo]-4,5-dimethylphenol, B-00564
2-[(5-Bromo-2-pyridinyl)azo]-5-methoxyphenol, *in* B-00563
4-[(5-Bromo-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, B-00572
1-[(5-Bromo-2-thiazolyl)azo]-2-naphthalenol, B-00579
2,3-Butanedione (2-benzothiazolyl) hydrazone; Oxime, *in* B-00588
2,3-Butanedione bis[(thiobenzoyl) hydrazone], B-00598
1,4-Butanediylbis[triphenylphosphonium] (2+); Dibromide, *in* B-00602
▷ Butanoic acid, B-00604
2-Butenedioic acid bis[(2,3,5,6,8,9,11,12,14,15-decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl) methyl]ester, B-00610
2-Butenedioic acid bis[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl) methyl]ester, B-00611
4-Butoxy-*N*-(4-chlorophenyl) benzohydroxamic acid, B-00612
▷ 2-Butoxyethanol, B-00613
4-Butoxy-*N*-hydroxy-*N*-phenylbenzamide, B-00614
▷ Butyl acetate, B-00615
▷ Butylamine, B-00616
▷ *N*-Butylaniline, B-00617
N-(4-Butylbenzoyl)-*N*-phenylhydroxylamine, *in* B-00618
N-(4-Butylcyclohexanoyl)-*N*-phenylhydroxylamine, B-00624
1-Butyl-4-[[4-(diethylamino)phenyl]azo] pyridinium(1+), B-00625
1-Butyl-3,4-dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, *in* D-00504
Butyldithiocarbamic acid, B-00631
4-(1-Butylpentyl)pyridine, B-00635
4-*sec*-Butyl-2-(1-phenylethyl)phenol, B-00637
N-Butyl-2-pyridinecarbothioamide, *in* P-00317
Butylrhodamine B, *in* R-00002
N-[2-(Butylthio)phenyl]-*N'*-phenylthiourea, B-00639
Butyltriphenylphosphonium(1+), B-00640
▷ C.I. 51010, *in* B-00477
▷ C.I. 11050 Basic dye, *in* J-00004
▷ C.I. Basic orange 14, *in* B-00313
Cadion 2B, C-00007
▷ Capri blue; Chloride, *in* C-00017
▷ Carbonodithioic acid *O*-(phenylmethyl) ester; K salt, *in* C-00024
4-Carboxynioxime, *in* D-00989
Cationic red violet; Chloride, *in* C-00046
Cationic violet; Chloride, *in* C-00047
▷ Ceplac, *in* E-00020
o-Chloroacetanilide, *in* C-00058
▷ *p*-Chloroacetanilide, *in* C-00060
▷ 2-Chlorobenzoic acid, C-00066
2-Chlorobenzoic acid; Hydrazide, *in* C-00066
3-Chlorobenzoic acid (1*H*-pyrrol-2-ylmethylene)hydrazide, C-00069
4-(2-Chlorobenzoyl)-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, C-00070
2-Chloro-*N*,*N'*-bis(4-chlorophenyl) benzenecarboximidamide; B,HCl, *in* C-00073
6-Chloro-2,3-bis(6-methyl-2-pyridyl) quinoxaline, C-00075
2-Chloro-*N*-(2-chlorophenyl)-*N'*-(4-chlorophenyl)benzenecarboximidamide; B,HCl, *in* C-00083
2-Chloro-*N*-(3-chlorophenyl)-*N'*-(4-chlorophenyl)benzenecarboximidamide; B,HCl, *in* C-00084
2-Chloro-*N*-(4-chlorophenyl)-*N'*-(2,3-dimethylphenyl) benzenecarboximidamide, C-00085
2-Chloro-*N'*-(4-chlorophenyl)-*N*-hydroxy-*N*-(4-methylphenyl)benzamidine, C-00086
2-Chloro-*N*-(4-chlorophenyl)-*N'*-(2-methylphenyl)benzenecarboximidamide, *in* C-00082
2-Chloro-*N*-(4-chlorophenyl)-*N'*-(3-methylphenyl)benzenecarboximidamide, *in* C-00082
2-Chloro-*N*-(4-chlorophenyl)-*N'*-(4-methylphenyl)benzenecarboximidamide, *in* C-00082
2-Chloro-*N*-(2-chlorophenyl)-*N'*-phenylbenzenecarboximidamide, C-00088
2-Chloro-*N*-(4-chlorophenyl)-*N'*-phenylbenzenecarboximidamide; B,HCl, *in* C-00089
4-Chloro-*N*-(2,3-dimethylphenyl)-*N'*-phenylbenzenecarboximidamide, C-00102
6-Chloro-3-hydrazinopyridazine, *in* C-00251
5-Chloro-2-hydroxybenzaldehyde phenylthiosemicarbazone, C-00123
5-Chloro-2-hydroxy-2,4,6-cycloheptatrien-1-one, C-00127
5-Chloro-2-hydroxy-4-methylacetophenone; Oxime, *in* C-00135
2-Chloro-*N*-hydroxy-*N*-(2-methylphenyl) benzamide, *in* C-00064
2-Chloro-*N*-hydroxy-*N*-(3-methylphenyl) benzamide, *in* C-00064
4-Chloro-*N*-hydroxy-*N*-(2-methylphenyl) benzamide, *in* C-00065
4-Chloro-*N*-hydroxy-*N*-(3-methylphenyl) benzamide, *in* C-00065
4-Chloro-*N*-hydroxy-*N*-(4-methylphenyl) benzamide, *in* C-00065
4-Chloro-*N*-hydroxy-*N*-1-naphthalenylbenzamide, C-00136
3-[(5-Chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, C-00145
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, C-00159
▷ *N*-(3-Chloro-4-methylphenyl)acetamide, *in* C-00171
N'-(4-Chloro-2-methylphenyl)-*N*-(4-chlorophenyl)-*N*-hydroxybenzenecarboximidamide, C-00181
N'-(3-Chloro-4-methylphenyl)-*N*-hydroxy-*N*-(4-methylphenyl)benzamidine, C-00182
N'-(3-Chloro-4-methylphenyl)-*N*-hydroxy-*N*-phenylbenzamidine, C-00183
2-Chloro-*N*-(2-methylphenyl)-*N'*-phenylbenzenecarboximidamide, C-00184
4-Chloro-1,2-naphthoquinone; Dioxime, *in* C-00187
6-Chloro-1,2-naphthoquinone; Dioxime, *in* C-00188
4-Chloro-2-nitroso-1-naphthol, *in* C-00187
4-Chloro-2-nitrosophenol, C-00190
4-Chloro-2-[(1,3,4,7,8,10,11,13-octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-yl)azo] phenol, C-00191
1-(4-Chlorophenyl)-1,3-butanedione; 3-Oxime, *in* C-00207
N-(4-Chlorophenyl)-4-chlorophenoxyisobutyrohydroxamic acid, C-00208
N-(2-Chlorophenyl)-*N'*-(4-chlorophenyl) benzenecarboximidamide, C-00209
2-(2-Chlorophenyl)-2,4-dihydro-5-methyl-4-(2-methylbenzoyl)-3*H*-pyrazol-3-one, C-00210
2-(2-Chlorophenyl)-2,4-dihydro-5-methyl-4-(3-methylbenzoyl)-3*H*-pyrazol-3-one, C-00211
2-(2-Chlorophenyl)-2,4-dihydro-5-methyl-4-(4-methylbenzoyl)-3*H*-pyrazol-3-one, C-00212
2-(2-Chlorophenyl)-2,4-dihydro-5-methyl-4-(2-naphthalenylcarbonyl)-3*H*-pyrazol-3-one, C-00213
N-(4-Chlorophenyl)-*N'*-(2,6-dimethylphenyl) benzenecarboximidamide, C-00214
N-(3-Chlorophenyl)-*N'*-(2,3-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00215
N-(3-Chlorophenyl)-*N'*-(2,5-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00216
N-(4-Chlorophenyl)-*N'*-(2,3-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00218
N-(4-Chlorophenyl)-*N'*-(2,3-dimethylphenyl)-*N*-hydroxy-4-methylbenzenecarboximidamide, C-00219
N-(4-Chlorophenyl)-3-(2-furanyl)-*N*-hydroxy-2-propenamide, C-00220
N-(4-Chlorophenyl)-*N*-hydroxy-2-butenamide, C-00223
N-(4-Chlorophenyl)-*N*-hydroxy-3,5-dinitrobenzamide, *in* D-00946
N-(3-Chlorophenyl)-*N*-hydroxy-2-furancarboxamide, *in* F-00064
N-(4-Chlorophenyl)-*N*-hydroxy-2-furancarboxamide, *in* F-00064
N-(4-Chlorophenyl)-*N*-hydroxy-2,4-hexadienamide, *in* H-00185
N-(3-Chlorophenyl)-*N*-hydroxy-*N'*-(4-methoxyphenyl) benzenecarboximidamide, C-00224
N-(4-Chlorophenyl)-*N*-hydroxy-3-(4-methoxyphenyl)-2-propenamide, C-00225
N-(4-Chlorophenyl)-*N*-hydroxy-3-(3,4-methylenedioxyphenyl)-2-propenamide, C-00226
N-(3-Chlorophenyl)-*N*-hydroxy-*N'*-(2-methylphenyl)benzenecarboximidamide, C-00227
N-(3-Chlorophenyl)-*N*-hydroxy-*N'*-(3-methylphenyl)benzenecarboximidamide, C-00228
N-(3-Chlorophenyl)-*N*-hydroxy-*N'*-(4-methylphenyl)benzenecarboximidamide, C-00229
N-(3-Chlorophenyl)-*N*-hydroxy-*N'*-phenylbenzenecarboximidamide, C-00230
N-(4-Chlorophenyl)-*N*-hydroxy-3-phenyl-2-propenamide, C-00232
N-(4-Chlorophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, C-00234
N-(4-Chlorophenyl)-*N*-hydroxy-3-(3,4,5-trimethoxyphenyl)-2-propenamide, C-00235
N-(4-Chlorophenyl)-*N'*-phenylbenzenecarboximidamide, C-00237
(4-Chlorophenyl)phenylethanedione; Dioxime, *in* C-00238
▷ 2-Chloropyridine, C-00252
4-[(5-Chloro-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, C-00253
2-[(5-Chloro-2-pyridinyl)azo]-3-methyl-6-(1-methylethyl)phenol, C-00254

4-[3-Chloro-4-(pyridinylazo)-5-methyl-2-(1-methylethyl)]phenol, C-00255
4-Chloro-2-[(2-pyridinylmethylene)amino] phenol, C-00258
5-Chloro-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, C-00264
Chromopyrazole II, C-00288
N-Cinnamoylphenylhydroxylamine, *in* H-00499
▷ 15-Crown-5, C-00314
▷ 18-Crown-6, C-00315
Cryptand 5, C-00316
Cryptand 2.2.2 B, C-00317
Cryptand 2.2.2 D, C-00319
▷ Cupferron, *in* H-00471
Cupron, *in* B-00068
▷ Cuprotest, C-00322
1,2-Cyclodecanedione; Dioxime, *in* C-00331
▷ Cyclohexanecarboxylic acid, C-00336
1,2-Cyclohexanedione bis(thiosemicarbazone), C-00344
▷ Cyclohexanone, C-00347
Cyclohexylbenzyldithiocarbamate(1 −); Triethylammonium salt, *in* C-00351
4-Cyclohexyl-6-[(2-hydroxy-3,5-dinitrophenyl)azo]-1,3-benzenediol, C-00354
Cyclohexyl(phenylmethyl)carbamodithioic acid; Et_3N salt, *in* C-00357
4-Cyclohexyl-6-(2-pyridinylazo)-1,3-benzenediol, C-00358
1,1,1,5,5,6,6,7,7,7-Decafluoro-2,4-heptanedione, D-00004
N-(2,3,5,6,9,10,12,13,15,16-Decahydro-8*H*-1,17,4,7,11,14-benzodioxatetrathiacyclononadecin-19-yl)-2-propenamide, D-00005
8-[[4-[(2,3,5,6,8,9,11,12,14,15-Decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl)azo] phenyl]amino]-1-naphthalenesulfonic acid, D-00006
N-(2,3,5,6,8,9,11,12,14,15-Decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl)-2-propenamide, D-00007
7,8,9,10,17,18,19,20,21,22-Decahydro-8,19-bis[(4-methylphenyl)sulfonyl]-6*H*,16*H*-dibenzo-[*h*,*q*][1,7,4,10,13,16] dioxatetraazacyclooctadecine, D-00008
7,8,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*b*,*k*][1,13,4,10] dioxadiazacyclooctadecine, D-00009
7,8,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h*,*q*][1,7,4,10,13,16] dioxatetraazacyclooctadecine, D-00010
6,7,8,9,10,11,18,19,20,21-Decahydro-5*H*,17*H*-dibenzo[*b*,*k*][1,13,4,7,10] dioxatriazacyclooctadecine, D-00011
7,8,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h*,*q*][1,7,4,10,16] dioxatriazacycloctadecine, D-00012
7,8,9,10,11,12,19,20,21,22-Decahydrodibenzo[*e*,*q*][1,4,8,15] tetraazacyclooctadecine, D-00013
6,7,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h*,*q*][1,4,7,10,16] trioxadiazacyclooctadecine, D-00014
6,7,9,10,17,18,19,20,21,22-Decahydro-6*H*,16*H*-dibenzo[*h*,*q*][1,4,7,10,13,16] trioxatriazacyclooctadecine, D-00015
8,9,11,12,14,15,17,18,20,21-Decahydro-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16]hexaoxacycloheneicosin, D-00016
6,7,8,9,10,11,18,19,20,21-Decahydro-8-[(4-methylphenyl)sulfonyl]-5*H*,17*H*-dibenzo[*b*,*k*][1,13,4,7,10] dioxatriazacyclooctadecine, *in* D-00011
7,8,9,10,17,18,19,20,21,22-Decahydro-8-[(4-methylphenyl)sulfonyl]-6*H*,16*H*-dibenzo[*h*,*q*][1,7,4,10,16] dioxatriazacyclooctadecine, *in* D-00012
6,7,9,10,17,18,19,20,21,22-Decahydro-19-[(4-methylphenyl)sulfonyl]-16*H*-dibenzo[*h*,*q*][1,4,7,10,13,16] trioxatriazacyclooctadecine, *in* D-00015
2,3,5,6,8,9,11,12,14,15-Decahydro-19-nitro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-amine, D-00019
6,7,9,10,12,13,15,16,18,19-Decahydro-2,4,21,23-tetramethyl-25-(1-naphthalenyl)-25*H*-dibenzo[*q*,*t*][1,4,7,10,13,16] hexaoxacycloheneicosin, D-00020
2,3,5,6,8,9,11,12,14,15-Decahydro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-amine, D-00021
▷ Decanoic acid, D-00025
2,6-Diacetylpyridine bis(benzoylhydrazone), D-00036
2,6-Diacetylpyridine bis(2-hydroxybenzoylhydrazone), D-00038
1,2-Diamino-4-chlorobenzene; B,2HCl, *in* D-00064
1,2-Diaminocyclohexane-*N*,*N*,*N*′,*N*′-tetraacetic acid; (1*RS*,2*RS*)-*form*, *in* D-00065
▷ 1,2-Diamino-4,5-dimethylbenzene, D-00080
▷ 3,7-Diamino-2,8-dimethyl-5-phenylphenazinium(1 +); Chloride, *in* D-00084
1,3-Diamino-8-methoxyphenothiazine, D-00100
3,6-Diamino-10-methylacridinium chloride, *in* D-00042
▷ 1,2-Diamino-4-methylbenzene, D-00101
▷ 1,2-Diamino-4-nitrobenzene, D-00108
1,1-Diantipyrylbutane, D-00135
1,1-Diantipyrylethane, D-00136
1,1-Diantipyrylheptane, D-00137
1,1-Diantipyryl-2-hydroxyphenylmethane, D-00138
1,1-Diantipyrylmethane, D-00139
1,1-Diantipyrylphenylmethane, D-00140
Diantipyrylthiourea, D-00141
▷ Dibenzo-18-crown-6, D-00156
Dibenzo-24-crown-8, D-00159
Dibenzo[*b*,*e*][1,4]dioxin-2-carboxaldehyde; Oxime, *in* D-00162
Dibenzyldithiocarbamic acid, *in* D-01124
▷ Dibenzyldithiooxamide, D-00169
Dibenzyl sulfide, D-00171
▷ Dibenzyl sulfoxide, D-00172
Di-4-biphenylylthiocarbazone, D-00175
o,*o*′-Dibromo-*p*,*p*′-dimethyldithizone, D-00184
2,2′-Dibromodithizone, D-00186
2-[(3,5-Dibromo-2-hydroxyphenyl) methylene]-*N*-phenylhydrazinecarbothioamide, D-00192
2-[(3,5-Dibromo-4-methyl-2-pyridinyl)azo]-5-(diethylamino)phenol, D-00196
4-[(3,5-Dibromo-2-pyridinyl)azo]-1,3-benzenediamine, D-00199
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(diethylamino)benzoic acid, *in* A-00148
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-methoxyphenol, *in* D-00200
5-(3,5-Dibromo-2-pyridylazo)-2,4-diaminotoluene, D-00210
2-[(3,5-Dibromo-2-pyridyl)azo]-5-(diethylamino)phenol, *in* A-00150
N-[(Dibutylamino)thioxomethyl]benzamide, D-00225
▷ Dibutylarsinic acid, D-00226
3,5-Di-*tert*-butyl-1,2-benzenediol, D-00227
Dibutyldiselenocarbamic acid; Na salt, *in* D-00231
N-Dibutyldithiocarbamic acid, D-00232
4,4′-Dibutyldithizone, D-00233
Dibutyl-(2-hydroxypropyl)thiophosphonic acid, D-00234
4,6-Di-*tert*-butyl-3-methoxy-1,2-benzenediol, *in* D-00228
N,*N*-Dibutyl-β-oxobenzenepropanethioamide, *in* O-00056
▷ Dibutyl phosphate, D-00237
α-(Dibutylphosphinyl)-α-hydroxybenzeneacetic acid, D-00238
2-(Dibutylphosphinyl)-2-hydroxypropanoic acid, D-00239
O,*O*-Dibutyl phosphonothioate, D-00240
O,*O*-Dibutyl phosphorodithioate; K salt, *in* D-00241
O,*O*-Dibutyl phosphorothioate, D-00242
▷ (3,4-Dichlorobenzyl) triphenylphosphonium(1 +); Chloride, *in* D-00252
6,7-Dichloro-2,3-bis(6-methyl-2-pyridyl) quinoxaline, D-00255
2,5-Dichloro-4-[[4-(4-dimethylamino) phenyl]azo]benzenesulfonic acid, *in* A-00311
3,3′-Dichloro-2,2′-dimethyldithizone, D-00264
4,4′-Dichloro-2,2′-dimethyldithizone, D-00265
5,5′-Dichloro-2,2′-dimethyldithizone, D-00266
6,7-Dichloro-2,3-di-2-pyridylquinoxaline, D-00269
2,2′-Dichlorodithizone, D-00270
4,4′-Dichlorodithizone, D-00271
3,5-Dichloro-2-hydroxybenzaldehyde phenylthiosemicarbazone, D-00278
▷ 5,7-Dichloro-8-hydroxy-2-methylquinoline, D-00280
5,7-Dichloro-8-hydroxyquinoline, D-00283
2-(2,4-Dichlorophenoxy)-*N*-(4-methylphenyl)acetohydroxamic acid, *in* D-00288
2-(2,4-Dichlorophenoxy)-*N*-phenylacetohydroxamic acid, *in* D-00288
N-2,5-Dichlorophenyl-*N*′-phenylbenzamidine, D-00296
4-[(3,5-Dichloro-2-pyridinyl)azo]-1,3-benzenediamine, D-00299
4-[(3,5-Dichloro-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, D-00301
▷ *N*,*N*′-Didodecylethanedithioamide, D-00310
4,5-Didodecyl-1-naphthalenesulfonic acid, D-00311
▷ Diethazine; B,HCl, *in* D-00312
N-[2-(Diethylamino)ethyl]-4-[(8-hydroxy-5-quinolinyl)azo]benzamide, D-00317
2-(4-Diethylamino-2-hydroxyphenylazo) thiazole, *in* A-00214
5-(Diethylamino)-2-[(5-methyl-2-pyridinyl) azo]phenol, D-00324
3-[[4-(Diethylamino)phenyl]azo]-1,4-dimethyl-1*H*-1,2,4-triazolium(1 +); Chloride, *in* D-00328
4-[[4-(Diethylamino)phenyl]azo]-1-ethylpyridinium(1 +); Chloride, *in* D-00329
4-[[4-(Diethylamino)phenyl]azo]-1-methylpyridinium(1 +); Chloride, *in* D-00332
4-[[4-(Diethylamino)phenyl]azo]-1-propylpyridinium(1 +); Chloride, *in* D-00333
5-(Diethylamino)-2-(2-pyridinylazo)phenol, *in* A-00336
Diethylammonium diethyldithiocarbamate, *in* D-00344
N,*N*-Diethyl-*N*′-benzoylthiourea, D-00338
Diethyl diethylphosphoramidate, D-00340
Diethyldiselenocarbamic acid; K salt, *in* D-00343
N,*N*-Diethyl-*N*′-(4-methyl-5-nitro-2-thiazolyl)thiourea, D-00349
7,18-Diethyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b*,*k*][1,4,7,10,13,16] hexaoxacyclooctadecin, D-00352
Diethylphosphoramidic acid cyclic 1-methyltrimethylene ester, D-00354
Diethylphosphoramidic acid; Diheptyl ester, *in* D-00353
▷ *O*,*O*-Diethyl phosphorodithioate, D-00356
O,*O*-Diethylphosphoroselenoic acid; Na salt, *in* D-00357
4-(2,6-Difluorobenzoyl)-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, D-00359
2,2′-Difluorodithizone, D-00360

4,4′-Difluorodithizone, D-00361
N,*N*-Dihexyl-*N*′-benzoylthiourea, *in* B-00161
O,*O*-Dihexyl phosphorodithioate, D-00369
5,6-Dihydro-5,6-bis(hydroxyimino)-1-naphthalenesulfonic acid, *in* N-00034
5,6-Dihydro-5,6-bis(hydroxyimino)-2-naphthalenesulfonic acid, *in* N-00035
7,8-Dihydro-7,8-bis(hydroxyimino)-2-naphthalenesulfonic acid, *in* N-00036
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-2-naphthalenecarboxylic acid, D-00385
1,2-Dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione, D-00391
▷ 1,2-Dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00392
1,2-Dihydro-1,5-dimethyl-2-phenyl-4-[(2,4,6-trihydroxyphenyl)azo]-3*H*-pyrazol-3-one, D-00393
1,3-Dihydro-4,5-diphenyl-2*H*-imidazole-2-thione, D-00399
2,3-Dihydro-5-hydroxy-4*H*-1-benzopyran-4-one, D-00408
1,4-Dihydro-5-hydroxy-1-(4-methylphenyl)-4-oxo-2-pyridinecarboxylic acid; Et ester, *in* D-00411
1,2-Dihydro-4-[(2-hydroxynaphthalenyl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00415
1,2-Dihydro-4-[(4-hydroxynaphthalenyl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00416
1,2-Dihydro-4-[(4-hydroxyquinolin-8-yl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00423
2,3-Dihydro-2-(2-mercaptophenyl)-1,2,3-benzothiadiazole, D-00425
2,4-Dihydro-4-(2-methoxybenzoyl)-5-methyl-2-phenyl-3*H*-pyrazol-3-one, D-00426
2-[4,5-Dihydro-5-(4-methoxyphenyl)-3-isoxazolyl]-4-methylphenol, D-00427
3,4-Dihydro-1-(4-methoxyphenyl)-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, D-00429
2,4-Dihydro-5-methyl-4-(2-methylbenzoyl)-2-phenyl-3*H*-pyrazol-3-one, D-00431
2,4-Dihydro-5-methyl-2-(2-methylphenyl)-4-(2-naphthalenylcarbonyl)-3*H*-pyrazol-3-one, D-00432
2,4-Dihydro-5-methyl-2-(4-methylphenyl)-4-(2,2,3,3,3-pentafluoro-1-oxopropyl)-3*H*-pyrazol-3-one, D-00433
2,4-Dihydro-5-methyl-2-(methylphenyl)-4-(3,5,5-trimethyl-1-oxohexyl)-3*H*-pyrazol-3-one, D-00434
2,4-Dihydro-5-methyl-4-(1-oxodecyl)-2-phenyl-3*H*-pyrazol-3-one, D-00435
2,4-Dihydro-5-methyl-4-(1-oxooctyl)-2-phenyl-3*H*-pyrazol-3-one, D-00436
3,4-Dihydro-3-methyl-1-phenyl-4-stearoyl-5-pyrazolone, D-00444
2,4-Dihydro-5-methyl-2-phenyl-4-(trifluoroacetyl)-3*H*-pyrazol-3-one, D-00449
2,4-Dihydro-5-methyl-2-phenyl-4-[2-(trifluoromethyl)benzoyl]-3*H*-pyrazol-3-one, D-00450
2,4-Dihydro-4-phenyl-3*H*-1,2,4-triazole-3-thione, D-00471
2,9-Dihydro-9-phenyl-3*H*-1,2,4-triazolo[4,3-*a*]benzimidazole-3-thione, D-00472
4,5-Dihydro-1*H*-pyrazole-1-carbodithioic acid, D-00479
6,7-Dihydrotribenzo[*e*,*i*,*m*][1,4,8,11] dioxadiazacyclotetradecine, D-00497
3,4-Dihydro-4,4,6-trimethyl-1-(4-methyl-2-nitrophenyl)-2(1*H*)-pyrimidinethione, D-00498
3,4-Dihydro-4,4,6-trimethyl-1-(4-nitrophenyl)-2(1*H*)-pyrimidinethione, D-00499
3,4-Dihydro-4,4,6-trimethyl-1-(phenylamino)-2(1*H*)-pyrimidinethione, D-00500
3,4-Dihydro-4,4,6-trimethyl-1-(4-phenyl-2-thiazolyl)-2(1*H*)-pyrimidinethione, D-00502
3,4-Dihydro-4,4,6-trimethyl-1-propyl-2(1*H*)-pyrimidinethione, *in* D-00504
3,4-Dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, D-00504
3,4-Dihydro-4,4,6-trimethyl-1-(2,4,6-trichlorophenyl)-2(1*H*)-pyrimidinethione, D-00505
2′,4′-Dihydroxyacetophenone; Thiosemicarbazone, *in* D-00507
2,4-Dihydroxybenzenecarbodithioic acid, D-00522
3,4-Dihydroxybenzenesulfonic acid, D-00527
8,8′-Dihydroxy-5,5′-biquinoline, D-00546
4,5-Dihydroxy-3,6-bis(8-quinolylazo)-2,7-naphthalenedisulfonic acid, D-00561
4,5-Dihydroxy-3,6-bis[(4-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid, D-00562
6,7-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+); Chloride, *in* D-00576
7,8-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+); Chloride, *in* D-00577
▷ 1,8-Dihydroxy-2,4-dinitronaphthalene, D-00582
6,7-Dihydroxy-2,4-diphenyl-1-benzopyrylium(1+); Chloride, *in* D-00584
7,8-Dihydroxy-2,4-diphenyl-1-benzopyrylium(1+); Chloride, *in* D-00585
N,*N*′-Dihydroxy-*N*,*N*′-diphenylheptanediamide, D-00587
4,5-Dihydroxy-3-[(2-hydroxy-5-sulfophenyl) azo]-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, D-00632
4,7-Dihydroxy-1*H*-isoindole-1,3 (2*H*)-dione; Dithiosemicarbazone, *in* D-00636
4,5-Dihydroxy-1-naphthalenesulfonic acid; Na salt, *in* D-00657
4,5-Dihydroxy-3-[(*p*-nitrophenyl)azo]-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, D-00668
1,2-Dihydroxy-3-(1,4,7,10,13-pentaoxa-16-azacyclooctadecylmethyl)-9,10-anthracenedione, D-00682
4-[(2,4-Dihydroxyphenyl)azo] benzenesulfonic acid; Na salt, *in* D-00688
4-[(2,4-Dihydroxyphenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00691
15,16-Dihydroxy-7-phenyl-5*H*-dibenzo[*b*,*i*][1,11,4,5,7,8] dioxatetraazacyclotridecine, D-00709
1-(2,4-Dihydroxyphenyl)-1-pentanone, D-00714
o-[[1,8-Dihydroxy-7-(8-quinolylazo)-3,6-disulfo-2-naphthyl]azo]benzoic acid, D-00726
8-[[1,8-Dihydroxy-7-(8-quinolylazo)-3,6-disulfo-2-naphthyl]azo]-1,6-naphthalenedisulfonic acid, D-00727
4,5-Dihydroxy-3-(8-quinolylazo)-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00728
1,2-Dihydroxy-3-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-ylmethyl)-9,10-anthracenedione, D-00737
4,4′-Diiododithizone, D-00743
O,*O*-Diisopentyl phosphorodithioate, D-00746
▷ Diisopropyl ether, D-00748
▷ 2,3-Dimercapto-1-propanesulfonic acid, D-00761
4,4′-Dimethoxydithizone, D-00775
4,4′-[*p*-(Dimethylamino)-α-hydroxybenzylidene]diantipyrine, D-00785
2-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-4,6-dinitrophenol, *in* A-00210
4-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-3-hydroxy-1-naphthalenesulfonic acid, D-00788
2-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-4-methylphenol, *in* A-00197
2-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-4-nitrophenol, *in* A-00213
5-(Dimethylamino)-2-nitrosophenol; B,HCl, *in* D-00804
5-(Dimethylamino)-2-[(5-nitro-2-thiazolyl) azo]phenol, *in* A-00289
▷ *N*-[4-[[4-(Dimethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-*N*-methylmethanaminium(1+); Chloride, *in* D-00812
N-[4-(Dimethylamino)phenyl]-*N*-hydroxy-3-methoxy-2-naphthalenecarboxamide, D-00814
2-[2-[(5-Dimethylamino)-2-thienyl]ethenyl]-1,3,3-trimethyl-3*H*-indolium(1+); Perchlorate, *in* D-00826
▷ 2,3-Dimethylaniline; *N*-Ac, *in* D-00827
▷ 2,5-Dimethylaniline; *N*-Ac, *in* D-00828
▷ 2,6-Dimethylaniline; *N*-Ac, *in* D-00829
▷ 3,4-Dimethylaniline; *N*-Ac, *in* D-00830
4,5-Dimethyl-1,2-benzenedithiol, D-00832
N,*N*-Dimethyl-*N*′-benzoylthiourea, *in* T-00175
6,7-Dimethyl-2,3-bis(6-methyl-2-pyridinyl) quinoxaline, D-00842
▷ 3,3-Dimethyl-2-butanone, D-00845
Dimethylcarbamodiselenoic acid; Na salt, *in* D-00846
6,7-Dimethyl-2,3-di(2-pyridyl)quinoxaline, D-00855
2,2′-Dimethyldithizone, D-00856
3,3′-Dimethyldithizone, D-00857
4,4′-Dimethyldithizone, D-00858
4-[4-(1,1-Dimethylethyl)benzoyl]-2,4-dihydro-5-methyl-2-(2-methylphenyl)-3*H*-pyrazol-3-one, D-00859
4-(1,1-Dimethylethyl)-*N*-hydroxy-*N*-(2-methylphenyl)benzamide, *in* B-00619
4-(1,1-Dimethylethyl)-*N*-hydroxy-*N*-phenylbenzamide, *in* B-00619
15-(1,1-Dimethylethyl)tetradecahydro-1,4,7,10,13-benzopentaoxacyclopentadecin, D-00860
▷ Dimethylglyoxime, D-00862
5,5-Dimethyl-2,4-hexanedione, D-00863
3-[3-(3,3-Dimethyl-1(3*H*)-isobenzofuranylidene)-1-propenyl]-1,1-dimethyl-1*H*-isobenzofurylium(1+); Perchlorate, *in* D-00869
N,*N*-Dimethyl-*N*′-(4-methyl-5-nitro-2-thiazolyl)thiourea, D-00870
N,*N*-Dimethyl-*N*′-[5-nitro-4-(4-nitrophenyl)-2-thiazolyl]thiourea, D-00874
N,*N*-Dimethyl-*N*′-[4-(4-nitrophenyl)-2-thiazolyl]thiourea, D-00875
2,8-Dimethyl-4,6-nonanedione, D-00877
2,9-Dimethyl-1,10-phenanthroline, D-00880
▷ 2,6-Dimethylphenol, D-00885
1,3-Dimethyl-4-(phenylazo)-1*H*-pyrazole-5-thiol, D-00887
N′-(2,3-Dimethylphenyl)-*N*-hydroxy-*N*-(4-methylphenyl)benzamidine, D-00889
N′-(2,3-Dimethylphenyl)-*N*-hydroxy-*N*-phenylbenzamidine, D-00890
N-(2,3-Dimethylphenyl)-*N*-hydroxy-3-phenylpropenamide, D-00891
N-(2,3-Dimethylphenyl)-*N*′-phenylbenzenecarboximidamide, D-00892
N-(2,6-Dimethylphenyl)-*N*′-phenylbenzenecarboximidamide, D-00893
▷ *O*,*O*-Dimethyl phosphorodithioate, D-00896
4,5-Dimethyl-2-(2-quinolinylazo)phenol, D-00914
Dimethylsulfonazo DAL, D-00918
7,14-Dimethyl-5,7,12,14-tetraethyl-1,4,8,11-tetraazacyclotetradeca-4,11-diene, D-00919

2-[(4,5-Dimethyl-2-thiazolyl)azo]-4,6-dimethylphenol, D-00921
2,4-Dimethyl-6-(2-thiazolylazo)phenol, D-00923
2-(4,5-Dimethyl-2-thiazolyl)-3,5-diphenyl-2*H*-tetrazolium(1+); Bromide, *in* D-00924
N,*N*′-Di-2-naphthalenyl-1,4-benzenediamine, D-00929
1,2-Di(1-naphthalenyl)-1,2-ethanedione; Monooxime, *in* D-00930
1,5-Di-(β-naphthyl)thiocarbazone, D-00933
4-[(3,5-Dinitrobenzoyl)hydroxyamino] benzoic acid methyl ester, *in* D-00946
3,5-Dinitro-4-[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentanedecin-15-yl) amino]benzonitrile, D-00956
1-[(2,4-Dinitrophenyl)amino]-3,4-dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, D-00962
3-[(2,4-Dinitrophenyl)azo]-4,5-dihydroxy-6-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, D-00964
5-(2,4-Dinitrophenylazo)-8-hydroxyquinoline, D-00968
16-[(2,4-Dinitrophenyl)azo]-3,6,9,12-tetraoxabicyclo[12.3.1]octadeca-1(18),14,16-trien-18-ol, D-00970
N-[2,4-Dinitro-6-(trifluoromethyl)phenyl]-3,4,6,7,10,11-hexahydro-2*H*,9*H*-1,5,8,12-benzotetraoxacylotetradecin-14-amine, D-00976
N-[2,4-Dinitro-6-(trifluoromethyl)phenyl]-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, D-00977
N-[2,6-Dinitro-4-(trifluoromethyl)phenyl]-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, D-00978
Dinonylamine, D-00979
Dinonyltin dinitrate, D-00980
▷ Dioctylamine, D-00981
Dioctylamine; *N*-Methyl, *in* D-00981
5-Dioctylaminomethyl-8-quinolinol, *in* A-00244
Di(*n*-octyl)arsinic acid, D-00982
Dioctyl sulfide, D-00983
Dioctyl sulfoxide, D-00984
2-(1,3-Dioxobutyl)-1*H*-indene-1,3-(2*H*)-dione, D-00987
1,3-Dioxo-2-indanecarboxylic acid; Me ester, *in* D-00991
O,*O*-Dipentyl phosphorodithioate, D-00996
▷ Diphenylacetic acid, D-00999
N,*N*′-Diphenylbenzamidine, D-01001
N,*N*-Diphenyl-*N*′-benzoylthiourea, *in* B-00161
N,*N*′-Diphenylcarbamimidothioic acid decyl ester, *in* D-01055
2,2′-Diphenyldithizone, D-01009
Diphenylethanedione mono(2-quinolinylhydrazone), D-01014
(*E*,*E*)-Diphenylglyoxime, *in* B-00038
▷ 1,3-Diphenylguanidine, D-01018
8-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo] quinoline, D-01025
N,*N*-Diphenylmethyl-4-nitrosobenzenamine, *in* N-00154
2-(Diphenylmethyl)pyridine, D-01030
Diphenylphosphinodithioic acid; Na salt, *in* D-01039
O,*O*-Diphenyl phosphorodithioate, D-01040
1,3-Diphenyl-1,3-propanedione, D-01041
Diphenyl selenoxide, D-01049
N,*N*′-Diphenylthioimidodicarbonic diamide, *in* T-00163
▷ *N*,*N*′-Diphenylthiourea, D-01055
Diphenylthiovioluric acid, *in* D-00493
O,*O*-Di-2-propenyl phosphorodithioate, D-01058
N-[(Dipropylamino)thioxomethyl] benzamide, D-01059
O,*O*-Dipropyl phosphorodithioate, D-01060
▷ *O*,*O*-Di-2-propynyl phosphorodithioate, D-01061
1,1-Di-2-pyridinyl-*N*,*N*′-di-8-quinolinylmethanediamine, D-01062
Di-2-pyridinylethanedione bis(diphenylsemicarbazone), D-01064
Di-2-pyridinylmethanone benzoylhydrazone, D-01073
Di-2-pyridinylmethanone 2-chlorobenzoylhydrazone, D-01074
Di-2-pyridinylmethanone 3-chlorobenzoylhydrazone, D-01075
Di-2-pyridinylmethanone 5-nitro-2-pyridylhydrazone, D-01079
Di-2-pyridinylmethanone 2-pyridinylhydrazone, D-01080
Di-2-pyridinylmethanone 2-quinolinylhydrazone, D-01082
2,3-Di-2-pyridinylquinoxaline, D-01087
2,3-Di-2-pyridylbenzo[*g*]quinoxaline, D-01088
2,2′-Dipyridyl-α-glyoxime, *in* D-01063
2,3-Di-2-pyridyl-6-quinoxalinecarboxylic acid, D-01095
Di-2-quinolinylmethanone 2-pyridinylhydrazone, D-01102
Di-2-quinolinylmethanone 2-quinolinylhydrazone, D-01103
N,*N*′-Di-(8-quinolinyl)-2,6-pyridinedicarboxamide, D-01104
1,3-Di-2-selenophenyl-1,3-propanedione, D-01106
4,4′-Disulfodithizone; Di-Na salt, *in* D-01109
1,12-Di-2-thienyl-2,5,8,11-tetrathiadodecane, D-01115
Dithioantipyric acid, D-01116
5,5′-Dithiodisalicylhydroxamic acid, D-01131
1,1,1,2,2,6,6,7,7,8,8,8-Dodecafluoro-3,5-octanedione, D-01136
1,12-Dodecanediylbis[octylarsinic acid], D-01139
▷ Dodecylamine, D-01142
6-Dodecyl-6-[2-hydroxy-3,5-bis(4-nitrophenylazo)benzyl]-1,4,8,11-tetraoxacyclotetradecane, D-01144
6-Dodecyl-6-(2-hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, D-01145
6-Dodecyl-6-(2-hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, D-01146
6-Dodecyl-6-[2-hydroxy-5-(1,8-naphthalenedicarboximido)benzyl]-1,4,8,11-tetraoxacyclotetradecane, D-01147
6-Dodecyl-6-(2-hydroxy-5-nitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, D-01148
6-Dodecyl-6-[2-hydroxy-3-nitro-5-(4-nitrophenylazo)benzyl]-1,4,8,11-tetraoxacyclotetradecane, D-01149
2-[(5-Dodecyl-2-hydroxyphenyl)azo]benzoic acid, D-01150
[2-[(5-Dodecyl-2-hydroxyphenyl)azo] phenyl]arsonic acid, D-01151
2-[(Dodecyloxy)methyl]-1,4,7,10-tetraoxacyclododecane, D-01154
3-Dodecyl-1,5,9,13-tetraazacyclohexadecane, D-01156
3-Dodecyl-1,5,10,14-tetraazacyclooctadecane, D-01157
6-Dodecyl-1,4,8,11-tetraazacyclotetradecane, D-01158
▷ Eicosahydrodibenzo[*b*,*k*][1,4,7,10,13,16] hexaoxacyclooctadecine, E-00004
▷ Eriochrome blue black; Na salt, *in* E-00010
Ethanebis(thioic) acid; Di-K salt, *in* E-00023
1,2-Ethanediphosphonic acid; *P*,*P*′-Dibutyl ester, *in* E-00026
1,2-Ethanediylbis[phenylcarbamodithioic acid]; Di-NH_4 salt, *in* E-00033
▷ 1,2-Ethanediylbis[triphenylphosphonium] (2+); Dibromide, *in* E-00034
5,5′-(1,2-Ethanediyldinitrilo)bis[2,2-dimethyl-3-hexanone], E-00036
1,2-Ethenediylbis[bis(4-methylphenyl) phosphineoxide], E-00043
5-(*p*-Ethoxyanilino)-5,6-dihydrouracil, E-00052
2-[[2-(2-Ethoxyethoxy)ethyl](2-ethoxyethyl) aminomethyl]-4-nitrophenol, E-00055
1-[(4-Ethoxyphenyl)amino]-2-mercapto-1-propanone, E-00058
5-Ethoxy-2-(2-pyridinylazo)phenol, *in* P-00373
▷ Ethyl acetate, E-00062
5-(Ethylamino)-4-methyl-2-[(4-phenyl-2-thiazolyl)azo]phenol, *in* A-00250
2-(Ethylamino)-4-methyl-2-(2-thiazolylazo) phenol, E-00066
1-Ethyl-3,4-dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, E-00069
S-Ethyl-*N*-(diisopropylthiophosphoryl) dithiocarbamate, *in* B-00404
N,*N*′-Ethylenebis(4-methoxy-1,2-benzoquinone 2-imine); Dioxime, *in* E-00076
▷ 2-Ethyl-1-hexanol; (±)-*form*, *in* E-00083
2-Ethyl-5-hydroxy-4*H*-1-benzopyran-4-one, E-00084
3-Ethyl-5-hydroxy-4*H*-1-benzopyran-4-one, E-00085
3-Ethyl-5-hydroxy-2,7-dimethyl-4*H*-1-benzopyran-4-one, E-00086
2-Ethyl-5-hydroxy-7-methoxyisoflavone, *in* E-00070
2-Ethyl-5-hydroxy-3-methyl-4*H*-1-benzopyran-4-one, E-00090
3-Ethyl-5-hydroxy-2-methyl-4*H*-1-benzopyran-4-one, E-00091
4-Ethyl-*N*-hydroxy-*N*-phenylbenzamide, E-00093
Ethyl-α-isonitrosoacetoacetate, *in* D-00986
Ethylmethylglyoxime, *in* P-00029
N-(4-Ethylphenyl)-*N*′-phenylbenzenecarboximidamide, E-00104
5-Ethyl-*N*-phenyl-2-pyridinecarbothioamide, *in* E-00108
4-Ethyl-*N*-(8-quinolinyl) benzenesulfonamide, E-00112
N-(Ethylsulfonyl)benzamide; Oxime, *in* E-00113
N-(5-Ethyl-1,3,4-thiadiazol-2-yl)-4-[3-methyl-5-(1-methyl-1*H*-benzimidazol-2-yl)-1-formazanyl]benzenesulfonamide, E-00117
Ethyltridodecylammonium(1+); Bromide, *in* E-00120
Ethyl violet; Chloride, *in* E-00122
Etymemazine; (±)-*form*, *in* E-00123
4-(2-Fluorobenzoyl)-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, F-00025
▷ Fuchsine, *in* R-00009
2-Furancarboxaldehyde 2-benzothiazolylhydrazone, F-00044
2-Furancarboxaldehyde 3-bromobenzoylhydrazone, F-00045
2-Furancarboxaldehyde 4-bromobenzoylhydrazone, F-00046
3-Furancarboxaldehyde; Oxime, *in* F-00043
2-Furanthiocarboxhydrazide, *in* F-00040
(2-Furanyl)-2,3-dihydro-4-phenyl-1*H*-pyrazole-1-carbonodithioic acid, F-00051
3-(2-Furanyl)-*N*-hydroxy-*N*-phenyl-2-propenamide, *in* F-00053
1-(2-Furanyl)-3-(2-selenophenyl)-1,3-propanedione, F-00062
Furfurol green; Chloride, *in* F-00063
▷ α-Furildioxime, *in* D-00364
Glyoxal bis(4-biphenylylthiosemicarbazone), G-00021
Glyoxal bis[3,5-bis(trifluoromethyl) phenylthiosemicarbazone], G-00022
Glyoxal bis(4-cyclohexylthiosemicarbazone), G-00023
Glyoxal bis(4-fluorophenylthiosemicarbazone), G-00026

Glyoxal bis(1-naphthylthiosemicarbazone), G-00031
Glyoxal bis[4-(3-trifluoromethyl)-4-chlorophenyl]thiosemicarbazone, G-00035
Gossypol bis[*N*-(2-hydroxy)ethyleneimine], G-00042
Gossypol bis(4-hydroxyphenyl)imine, G-00043
▷ Guanidine, G-00044
6,6,7,7,8,8,8-Heptafluoro-2,2-dimethyl-3,5-octanedione, H-00006
4-(2,2,3,3,4,4,4-Heptafluoro-1-oxobutyl)-2,4-dihydro-5-methyl-2-(4-methylphenyl)-3*H*-pyrazol-3-one, H-00008
1,4,10,13,16,19-Heptaoxacycloheneicosane, H-00013
4,7,10.16,19,24,27-Heptaoxa-1,13-diazabicyclo[11.8.8]nonacosane, H-00014
Heptylarsonic acid, H-00015
4,4′-Heptylidenebis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], H-00017
4,4′-Heptylidenebis[1,2-dihydro-3*H*-pyrazol-3-one], H-00018
Heptyl tetraethylphosphorodiamidate, *in* T-00046
▷ 1,4,7,10,13,16-Hexaazacyclooctadecane, H-00019
Hexabutylphosphoric triamide, *in* H-00020
Hexabutylphosphorothioic triamide, *in* H-00020
6,7,13,14,15,16,17,18,24,25,31,32,33,34,35,36-Hexadecahydrotetrabenzo[*e*,*m*,*s*,a_1][1,4,15,18,8,11,22,25]tetraoxatetraazacyclooctacosine, H-00025
Hexafluoroacetylacetone, H-00030
Hexahydro-1*H*-azepine-1-carbodithioic acid; K salt, *in* H-00035
Hexahydro-2*H*-azepine-2-thione, H-00036
Hexahydro-2*H*-1,3-diazepine-2-thione, H-00037
6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e*,*n*][1,4,10,7,13]dioxathiadiazacyclopentadecine, H-00038
6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e*,*k*][1,7,10,4,13]oxadithiadiazacyclopentadecine, H-00039
[(6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b*,*k*][1,4,7,10,13]pentaoxacyclohexadecin-18-yl)oxy]acetic acid, H-00040
4-[(6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b*,*k*][1,4,7,10,13]pentaoxacyclohexadecin-18-yl)oxy]butanoic acid, H-00041
2-[6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b*,*k*]-[1,4,7,10,13-pentaoxacyclohexadecin-18-yl]oxy]hexanoic acid, H-00042
17-[(6,7,9,10,18,19-Hexahydro-17*H*-dibenzo[*b*,*k*][1,4,7,10,13]-pentaoxacyclohexadecin-18-yl)oxy]octadecanoic acid, H-00043
7,8,15,16,17,18-Hexahydrodibenzo[*e*,*m*][1,4,8,11]-tetraazacyclotetradecine, H-00044
6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e*,*n*][1,4,10,7,13]-trioxadiazacyclopentadecine, H-00045
6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e*,*n*][1,4,10,7,13]trithiadiazacyclopentadecine, H-00046
Hexahydro-*N*-(4-methylpentyl)-1*H*-azepine-1-carbothioamide, H-00048
Hexahydro-*N*-phenyl-1*H*-azepine-1-carbothioamide, H-00049
▷ Hexamethylphosphoric triamide, H-00058
5,7,7,12,14,14-Hexamethyl-1,4,8,11-tetraazacyclotetradeca-4,11-diene, H-00059
▷ Hexanoic acid, H-00066
1,2,5,8,11,14-Hexathiacyclohexadecane, H-00069
1,4,7,10,13,16-Hexathiacyclooctadecane, H-00070
N-Hexyl-*N*′-benzoylthiourea, H-00072
2-Hexylbutanedioic acid; (±)-*form*, *in* H-00073
O-Hexylbutylphosphonodithioate, *in* B-00638
2-Hexyl-*N*-hydroxy-*N*-phenyldecanamide, H-00076
2-Hexylpyridine, H-00077
4′-Hydroxyacetophenone; Oxime, *in* H-00090
1-Hydroxyacridine, H-00091
4-Hydroxyacridine, H-00092
2-Hydroxybenzaldehyde phenylthiosemicarbazone, H-00107
▷ *N*-Hydroxybenzamide, H-00109
▷ 2-Hydroxybenzoic acid, H-00112
2-Hydroxybenzoic acid [(2-hydroxyphenyl)methylene]hydrazide, H-00120
2-Hydroxybenzoic acid [2-(2-pyridinyl)ethylidene]hydrazide, H-00121
2-(2-Hydroxybenzylideneamino)phenol, H-00129
N-Hydroxy-*N*,*N*′-bis(4-methylphenyl)benzenecarboximidamide, *in* H-00308
2-Hydroxy-3,5-bis[(4-nitrophenylazo)phenyl]methyl-15-crown-5, H-00141
5-Hydroxy-2,3-dimethyl-4*H*-1-benzopyran-4-one, H-00150
2-Hydroxy-3,5-dinitrobenzyl-15-crown-5, H-00155
6-(2-Hydroxy-3,5-dinitrobenzyl)-6-methyl-1,4,8,11-tetraoxacyclotetradecane, H-00156
6-(2-Hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, H-00157
(2-Hydroxy-3,5-dinitrophenoxymethyl)-15-crown-5, H-00159
5-[(2-Hydroxy-3,5-dinitrophenyl)azo]-8-quinolinol 1-oxide, H-00161
(2-Hydroxy-3,5-dinitrophenyl)oxymethyl-18-crown-6, H-00164
8-Hydroxy-5,7-dinitroquinoline, H-00165
N-Hydroxy-*N*,*N*′-diphenylbenzenecarboximidamide, *in* D-01001
N-Hydroxy-*N*,5-diphenyl-2,4-pentadienamide, H-00169
N-Hydroxy-*N*,*N*′-diphenylthiourea, *in* D-01055
2-Hydroxydithiobenzoic acid, H-00175
4-Hydroxydithiobenzoic acid, H-00176
13-Hydroxyethyl-1,4,7,10-tetraoxa-13-azacyclopentadecane, H-00182
α-(Hydroxyimino)-1,5-dimethyl-1*H*-benzimidazole-2-acetonitrile, H-00244
N-[2-(Hydroxyimino)-1-methylpropylidene]glycine, H-00247
α-(Hydroxyimino)-2-pyridineacetonitrile, H-00251
α-(Hydroxyimino)-2-quinolineacetonitrile, H-00252
2-Hydroxy-3-isopropyl-2,4,6-cycloheptatrien-1-one, H-00256
N-Hydroxy-4-methoxybenzamide, H-00264
N-Hydroxy-4-methoxybenzenecarbothioamide, H-00265
5-Hydroxy-7-methoxy-2-methyl-4*H*-1-benzopyran-4-one, *in* D-00645
N-Hydroxy-2-methoxy-*N*-(4-methylphenyl)benzamide, *in* H-00263
N-Hydroxy-2-methoxy-*N*-1-naphthalenylbenzamide, H-00267
N-Hydroxy-4-methoxy-*N*-1-naphthalenylbenzamide, H-00268
N-Hydroxy-4-methoxy-*N*-phenylbenzamide, *in* D-00704
N-Hydroxy-*N*′-(4-methoxyphenyl)-*N*-(4-methylphenyl)benzenecarboximidamide, *in* H-00270
N-Hydroxy-*N*′-(4-methoxyphenyl)-*N*-phenylbenzenecarboximidamide, *in* H-00270
N-Hydroxy-3-(4-methoxyphenyl)-2-propenamide; *N*-(3-Methylphenyl), *in* H-00272
N-Hydroxy-3-(4-methoxyphenyl)-2-propenamide; *N*-(4-Methylphenyl), *in* H-00272
N-Hydroxy-*N*-(3-methoxyphenyl)-3-(2-thienyl)-2-propenamide, H-00273
N-Hydroxy-*N*-(4-methoxyphenyl)-3-(2-thienyl)-2-propenamide, H-00274
5-Hydroxy-2-methyl-4*H*-1-benzopyran-4-one, H-00281
5-Hydroxy-3-methyl-4*H*-1-benzopyran-4-one, H-00282
α-(Hydroxymethylene)-2-benzoxazoleacetaldehyde, H-00286
α-(Hydroxymethylene)-2-benzoxazoleacetonitrile, H-00287
N-Hydroxy-2-methyl-*N*-(2-methylphenyl)benzamide, *in* M-00135
N-Hydroxy-2-methyl-*N*-(3-methylphenyl)benzamide, *in* M-00135
N-Hydroxy-4-methyl-*N*-(3-methylphenyl)benzamide, *in* M-00136
3-Hydroxy-2-methyl-1-(4-methylphenyl)-4(1*H*)-pyridinone, H-00289
N-Hydroxy-2-methyl-*N*-1-naphthalenylbenzamide, H-00290
N-Hydroxy-4-methyl-*N*-1-naphthalenylbenzamide, H-00291
7-Hydroxy-4-methyl-8-(1,4,7,10,13-pentaoxa-16-azacyclooctadec-16-ylmethyl)-2*H*-1-benzopyran-2-one, H-00299
N-Hydroxy-*N*-(2-methylphenyl)benzamide, *in* H-00109
N-Hydroxy-2-methyl-*N*-phenylbenzamide, H-00306
N-Hydroxy-*N*-(4-methylphenyl)-2-butenamide, *in* H-00143
N-Hydroxy-*N*-(3-methylphenyl)decanamide, *in* H-00147
N-Hydroxy-*N*-(4-methylphenyl)decanamide, *in* H-00147
N-Hydroxy-*N*-(4-methylphenyl)-3,5-dinitrobenzamide, *in* D-00946
N-Hydroxy-*N*-(4-methylphenyl)-2-furancarboxamide, *in* F-00064
1-(2-Hydroxy-5-methylphenyl)-3-(4-hydroxyphenyl)-2-propen-1-one; 4-Me ether, oxime, *in* H-00311
N-Hydroxy-*N*-(3-methylphenyl)-3-nitrobenzamide, *in* N-00090
N-Hydroxy-*N*′-(4-methylphenyl)-*N*-phenylbenzenecarboximidamide, *in* H-00308
N-Hydroxy-*N*-(4-methylphenyl)-*N*-phenylbenzenecarboximidamide, H-00313
3-Hydroxy-2-methyl-1-phenyl-4(1*H*)-pyridinone, H-00315
N-Hydroxy-*N*-(4-methylphenyl)tetradecanamide, H-00316
N-Hydroxy-*N*-(3-methylphenyl)-3-(2-thienyl)-2-propenamide, *in* H-00553
N-Hydroxy-*N*-(4-methylphenyl)-3-(2-thienyl)-2-propenamide, *in* H-00553
8-Hydroxy-2-methylquinoline, H-00326
2-(3-Hydroxy-3-methyl-1-triazenyl)benzoic acid, H-00332
N-Hydroxy-2-methyl-*N*-[3-(trifluoromethyl)phenyl]benzamide, H-00333
7-Hydroxy-4-methyl-8-(1,4,7-trioxa-10-azacyclododec-10-ylmethyl)-2*H*-1-benzopyran-2-one, H-00334
2-Hydroxy-1-naphthaldehyde; Oxime, *in* H-00336
N-Hydroxy-1-naphthalenecarboximidamide, *in* N-00005
N-Hydroxy-*N*-1-naphthalenyldecanamide, H-00359
N-Hydroxy-*N*-1-naphthalenyldodecanamide, H-00360
N-Hydroxy-*N*-1-naphthalenylhexanamide, H-00361

2-[(2-Hydroxy-1-naphthalenyl)methylene]-*N*-phenylhydrazinecarbothioamide, H-00363
N-Hydroxy-*N*-1-naphthalenyl-4-nitrobenzamide, H-00365
N-Hydroxy-*N*-1-naphthalenylpentanamide, H-00366
N-Hydroxy-*N*-1-naphthalenyltetradecanamide, H-00368
5-Hydroxy-1,2-naphthoquinone; Dioxime, *in* H-00372
7-Hydroxy-1,2-naphthoquinone; Dioxime, *in* H-00373
16-(2-Hydroxy-5-nitrobenzyl)-1,4,7,10,13-pentaoxa-16-azacyclooctadecane, H-00385
13-(2-Hydroxy-5-nitrobenzyl)-1,4,7,10-tetraoxa-13-azacyclopentadecane, H-00386
10-(2-Hydroxy-5-nitrobenzyl)-1,4,7-trioxa-10-azacyclododecane, H-00387
6-[2-Hydroxy-3-nitro-5-[(4-nitrophenyl)azo]benzyl]-6-methyl-1,4,8,11-tetraoxacyclotetradecane, H-00389
2-Hydroxy-[5-(4-nitrophenylazo)phenyl]methyl-15-crown-5, H-00398
2-Hydroxy-5-(4-nitrophenylazo)phenylmethyl-18-crown-6, H-00399
[2-Hydroxy-5-(4-nitrophenylazo)phenyl]oxymethyl-15-crown-5, H-00400
[2-Hydroxy-5-(4-nitrophenylazo)phenyl]oxymethyl-18-crown-6, H-00401
2-[(2-Hydroxy-5-nitrophenyl)methylene]-*N*-phenylhydrazinecarbothioamide, *in* H-00380
N-Hydroxy-*N*-(4-nitrophenyl)-3-(2-thienyl)-2-propenamide, H-00405
2-Hydroxy-3-nitrosobenzoic acid, H-00406
4-Hydroxy-5-nitroso-2,1,3-benzothiadiazole, H-00408
5-Hydroxy-4-nitroso-2,1,3-benzothiadiazole, H-00409
N-Hydroxy-*N*-nitrosocyclohexanamine; NH_4 salt, *in* H-00411
N-Hydroxy-*N*-nitrosocyclooctylamine, H-00412
3-Hydroxy-4-nitroso-2-naphthalenecarboxylic acid, H-00413
1-Hydroxy-2-nitroso-3*H*-naphtho[2,1-*b*]pyran-3-one, H-00416
N-Hydroxy-*N*-nitroso-2-propanamine, H-00418
N-Hydroxy-4-(octyloxy)-*N*-phenylbenzamide, H-00425
4-Hydroxy-5-oxo-1,3,6-cycloheptatriene-1-carbonitrile, *in* H-00428
4-Hydroxy-5-oxo-1,3,6-cycloheptatriene-1-sulfonic acid; NH_4 salt, *in* H-00429
(2-Hydroxyphenoxymethyl)-12-crown-4, H-00444
α-Hydroxy-α-phenylbenzeneacetic acid 2-[(4-methylphenyl)sulfonyl]hydrazide, H-00464
N-Hydroxy-*N'*-phenyl-1*H*-benzimidazole-2-carboximidamide, *in* P-00102
▷ 2-(2-Hydroxyphenyl)benzoxazole, H-00467
1-(2-Hydroxyphenyl)-1-butanone; Oxime, *in* H-00469
N-Hydroxy-*N*-phenyldecanamide, *in* H-00147
N-Hydroxy-*N*-phenyldodecanamide, *in* L-00001
N-Hydroxy-*N*-phenyl-2-furancarboxamide, H-00472
N-Hydroxy-*N*-phenyl-2,4-hexadienamide, *in* H-00185
N-Hydroxy-*N*-phenylhexanamide, *in* H-00186
2-[(2-Hydroxyphenyl)imino]-1-acenaphthenone, H-00473
N-(2-Hydroxyphenyl)methanesulfonamide, *in* A-00300
N-Hydroxy-*N*-phenyl-2-naphthalenecarboxamide, *in* N-00024
N-(2-Hydroxyphenyl)-1-octanesulfonamide, H-00490
N-Hydroxy-*N*-phenylpentanamide, H-00492
N-Hydroxy-*N*-phenyl-2-propylpentanamide, H-00501
N-Hydroxy-*N*-phenyltetradecanamide, H-00504
N-Hydroxy-*N*-phenyl-3-(2-thienyl)-2-propenamide, H-00505
2-(3-Hydroxy-3-phenyl-1-triazenyl)benzoic acid, H-00507
3-(3-Hydroxy-3-phenyl-1-triazenyl)pyridine, H-00509
N-Hydroxy-*N*-phenyl-3-(trifluoromethyl)benzamide, H-00511
N-Hydroxy-3-pyridinecarboxamide, *in* P-00341
▷ 8-Hydroxyquinoline, H-00525
1-(8-Hydroxy-2-quinolyl)-2-(8-hydroxy-5-quinolyl)ethylene; B, 2HCl, *in* H-00534
N-Hydroxy-2-thiophenecarboxamide; *N*-(3-Chlorophenyl), *in* H-00554
N-Hydroxy-2-thiophenecarboxamide; *N*-(4-Chlorophenyl), *in* H-00554
N-Hydroxy-3,5,5-trimethyl-*N*-phenylhexanamide, H-00561
5*H*-Imidazole-4-carboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, I-00002
▷ 2-Imidazolidinethione, I-00003
▷ 2-Imidazolidinethione; 1,3-Di-Me, *in* I-00003
▷ Indoferron, I-00032
4-[(5-Iodo-2-pyridinyl)azo]-1,3-benzenediamine, I-00052
β-Iononethiosemicarbazone, *in* M-00010
1*H*-Isoindole-1,3(2*H*)-dithione, I-00068
Isonitrosodibenzoylmethane, *in* D-01041
Isonitrosodimedone, *in* D-00848
▷ Isooctyl thioglycolate, *in* M-00016
Isophthaldihydroxamic acid, *in* B-00019
O-Isopropyl-*N*-ethylthiocarbamate, *in* T-00159
3-Isopropyl-6-methyl-2-[[5-(1-methylpiperidinyl)-2-pyridinyl]azo]phenol, I-00074
2-Isopropyl-5-methyl-4-[(2-quinolinyl)azo]phenol, I-00076
Isopropyl *N*-methylthiocarbamate, *in* M-00154
4-Isopropylnioxime, *in* I-00071
2-Isopropyl-8-quinolinol, I-00078
Isopropyltriphenylphosphonium(1+); Bromide, *in* I-00079
Isopropyltriphenylphosphonium(1+); Chloride, *in* I-00079
▷ Janus blue; Chloride, *in* J-00002
▷ Lauryltrimethylammonium(1+); Bromide, *in* L-00002
Macrocyclic formazan I, M-00001
Macrocyclic formazan II, M-00002
Magneson IREA, M-00004
Meldola's blue; Chloride, *in* M-00011
Mercaptoacetic acid; 2-Ethylhexyl ester, *in* M-00016
2-Mercapto-1,3-benzenediol, M-00020
▷ 2-Mercaptobenzoic acid, M-00023
2-Mercapto-4*H*-1-benzothiopyran-4-one, M-00025
3-Mercapto-1,3-diphenyl-2-propen-1-one, M-00030
2-Mercapto-3-(4-methoxyphenyl)-2-propenoic acid, M-00034
2-Mercapto-4-methylphenol, M-00035
5-Mercapto-3-(2-naphthyl)-1,3,4-thiazole-2-thione, M-00039
5-Mercapto-3-(2-naphthyl)-1,3,4-thiazole-2-thione; K salt, *in* M-00039
2-[(3-Mercaptophenyl)azo]-4-methylphenol, M-00041
2-Mercapto-3-phenyl-2-butenoic acid, M-00043
3-Mercapto-1-phenyl-2-buten-1-one, M-00044
N-[[(2-Mercaptophenyl)imino]methyl]phenol, M-00045
3-Mercapto-*p*-propionophenetidide, M-00054
2-Mercapto-*N*-2-pyridinylacetamide, M-00055
N-Methanesulfonylbenzamidoxime, M-00067
4-Methoxybenzaldehyde phenylthiosemicarbazone, M-00076
6-Methoxy-2,3-bis(6-methyl-2-pyridyl)quinoxaline, *in* H-00140
6-Methoxy-2,3-di-2-pyridinylquinoxaline, *in* H-00172
10-(2-Methoxyethyl)-1,4,7-trioxa-10-azacyclododecane, *in* T-00359
6-Methoxy-3-methyl-2-[[4-(methylphenylamino)phenyl]azo]benzothiazolium(1+); Chloride, *in* M-00091
3-Methoxy-2-methyl-6-(2-pyridinylazo)phenol, *in* M-00278
5-Methoxy-2-[(5-methyl-2-pyridinyl)azo]phenol, *in* M-00279
2-[[(4-Methoxy-2-nitrophenyl)hydrazono]methyl]-1,3,3-trimethyl-3*H*-indolium(1+); Perchlorate, *in* M-00096
2-[(2-Methoxyphenoxy)methyl]-1,4,7,10,13,16-hexaoxacyclooctadecane, M-00103
2-[(2-Methoxyphenoxy)methyl]-1,4,7,10,13-pentaoxacyclopentadecane, M-00104
p-Methoxy-*N*-phenylcinnamohydroxamic acid, *in* H-00241
2-(4-Methoxyphenyl)-5,7-diphenyl-1,3,4-thiadiazolo[3,2-*a*]pyridin-4-ium(1+); Chloride, *in* M-00108
2-(2-Methoxyphenyl)-1,4,7,10,13,16-hexaoxacyclooctadecane, M-00109
2-[[(2-Methoxyphenyl)hydrazono]methyl]-1,3,3-trimethyl-3*H*-indolinium(1+); Perchlorate, *in* M-00110
3-(*p*-Methoxyphenyl)-5-mercapto-1,3,4-thiadiazole-2-thione, M-00111
2-(2-Methoxyphenyl)-1,4,7,10,13-pentaoxacyclopentadecane, M-00115
1-(4-Methoxyphenyl)-3-phenyl-5-(1-phthalazinyl)formazan, M-00116
N-(2-Methoxyphenyl)-2-pyridinecarbothioamide, *in* H-00502
5-Methoxy-2-(2-pyridinylazo)phenol, *in* P-00373
4-Methoxy-2-(2-thiazolylazo)phenol, *in* T-00139
▷ 4-Methylaniline; *N*-Ac, *in* M-00124
3-Methyl-1,2-benzenediol, M-00127
▷ 4-Methyl-1,2-benzenedithiol, M-00129
6-Methyl-2,3-bis(6-methyl-2-pyridinyl)quinoxaline, M-00146
▷ 3-Methyl-1-butanol, M-00147
▷ 2-Methyl-1-buten-3-yne, M-00149
6-Methyl-2,3-di-2-pyridylquinoxaline, M-00168
4,4′-Methylenebis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-thione], M-00169
1,1′-Methylenebis[4-ethyl-3,5-dipropyl-1*H*-pyrazole], M-00171
5,5′-Methylenebis[8-quinolinol], M-00174
▷ Methylene green; Chloride, *in* M-00177
▷ 2-(1-Methylethylidene)hydrazinecarbothioamide, *in* A-00007
Methyl green; Bromide chloride, *in* M-00185
3-Methyl-6-(1-methylethyl)-2-(2-pyridinylazo)phenol, M-00197
5-Methyl-2-(1-methylethyl)-4-(2-pyridinylazo)phenol, M-00198
N-Methyl-*N'*-(4-methyl-5-nitro-2-thiazolyl)thiourea, *in* M-00208
4-Methyl-6-[(5-methyl-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, M-00201
3-Methylnioxime, *in* M-00156
2-Methyl-4-nitroso-1,3-benzenediol, M-00206
5-Methyl-2-nitrosophenol, M-00207
(4-Methyl-5-nitro-2-thiazolyl)thiourea, M-00208
7-Methyl-2,4-octanedione, M-00209
▷ Methyl orange; Na salt, *in* M-00210
2-Methyl-2,4-pentanediol; (±)-*form*, *in* M-00217
▷ 4-Methyl-2-pentanone, M-00218
▷ 4-Methyl-3-penten-2-one, M-00219

N-(2-Methylphenyl)-*N'*-(4-chlorophenyl) benzamidine, M-00226
4-Methyl-5-phenyl-3*H*-1,2-dithiole-3-thione, M-00227
4-Methyl-6-[[2-(phenylmethoxy)-2-pyridinyl]azo]-1,3-benzenediamine, M-00232
N-(4-Methylphenyl)-2-phenoxyacetohydroxamic acid, M-00235
N-(4-Methylphenyl)-*N'*-phenylbenzenecarboximidamide, M-00236
1-(4-Methylphenyl)-3-phenyl-5-(1-phthalazinyl)formazan, M-00238
P-Methylphosphonamidothioic acid; *O*-Ph ester, *in* M-00243
Methylphosphonic acid; Bis(3-methylbutyl) ester, *in* M-00244
1-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-2-naphthalenol, M-00250
▷ 2-Methylpropyl acetate, M-00257
▷ 4-Methylpyridine, M-00265
6-Methyl-2-pyridinecarboxaldehyde azine, M-00267
2-Methyl-4-pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, M-00272
1-[(6-Methyl-2-pyridinyl)azo]-2-naphthalenol; *N*-Oxide, *in* M-00282
5-Methyl-2-(2-pyridinylazo)phenol, M-00284
4-Methyl-*N*-2-pyridinylbenzamide, M-00285
4-Methyl-2-[(2-pyridinylmethylene)amino] phenol, M-00289
2-[(4-Methyl-2-quinolinyl)azo]-1-acenaphthylenol, M-00308
13-Methyl-1,4,7,10-tetraoxa-13-azacyclopentadecane, *in* T-00111
1-[(5-Methyl-1,3,4-thiadiazol-2-yl)azo]-2-naphthalenol, M-00313
1-[(4-Methyl-2-thiazolyl)azo]-2-naphthalenol, M-00322
▷ Methylthioninium chloride, *in* M-00175
5-Methyl-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, M-00326
6-Methylthiopicolinamide, *in* M-00271
10-Methyl-1,4,7-trioxa-10-azacyclodecane, *in* T-00359
Methyltriphenylarsonium(1+); Chloride, *in* M-00334
Methyltriphenylarsonium(1+); Thiocyanate, *in* M-00334
Methyltriphenylphosphonium(1+); Chloride, *in* M-00335
▷ Methyl violet, M-00336
Methyl xylenol blue; Na salt, *in* M-00337
Mono(2-ethylhexyl) phosphate, M-00339
Moonion A-9Q-08, *in* B-00181
▷ 4-Morpholinecarbodithioic acid, M-00345
1-Naphthalenecarbodithioic acid; Me_4N salt, *in* N-00002
2-Naphthalenecarboxaldehyde 2-benzothiazolylhydrazone, N-00004
▷ 2,3-Naphthalenediol, N-00010
Naphthalene green; Chloride, *in* N-00013
1-Naphthalenethiocarboxhydrazide, N-00016
1,2-Naphthoquinone-4-sulfonic acid; Dioxime, *in* N-00033
N-1-Naphthylacetamide, *in* N-00041
▷ *N*-(1-Naphthyl)ethylenediamine, N-00050
(1-Naphthylmethyl) triphenylphosphonium(1+); Chloride, *in* N-00052
N-1-Naphthylphenylacetohydroxamic acid, N-00054
Neotetrazolium(2+); Dichloride, *in* N-00063
Nile blue A; Chloride, *in* N-00069
o-Nitral green; Chloride, *in* N-00072
p-Nitral green; Chloride, *in* N-00073
▷ Nitrilotriacetic acid, N-00074
5-Nitro-1,2-acenaphthylenedione; Dioxime, *in* N-00076
▷ 4-Nitro-1,2-benzenediol, N-00087
4-Nitrobenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, N-00094
Nitrochromopyrazole, N-00103
6-Nitro-2,3-di-2-pyridylquinoxaline, N-00107
▷ Nitroethane, N-00108
▷ Nitromethane, N-00113
Nitron, N-00114
▷ 2-Nitrophenylarsonic acid, N-00121
4-[(4-Nitrophenyl)azo]-1,2-benzenediol, N-00122
19-[(4-Nitrophenyl)azo]-3,6,9,12,15-pentaoxabicyclo[15,3,1]heneicosa-1(21),17,19-trien-21-ol, N-00127
4-[(4-Nitrophenyl)azo]-2-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-yl)phenol, N-00130
(4-Nitrophenyl)phenylethanedione; Dioxime, *in* N-00142
1-(4-Nitrophenyl)-3-phenyl-5-(1-phthalazinyl)formazan, N-00143
▷ 4-Nitrosodiphenylamine, N-00157
▷ 1-Nitroso-2-naphthol, N-00160
▷ 2-Nitroso-1-naphthol, N-00161
Nitro TB, *in* N-00164
4,6-Nonanedione, N-00168
2-Nonylpyridine; *N*-Oxide, *in* N-00169
N'-(3-Chloro-4-methylphenyl)-*N*-(4-chlorophenyl)-*N*-hydroxybenzenecarboximidamide, N-00170
2,3,5,6,8,9,11,12-Octahydro-1,13,4,7,10-benzodioxatrithiacyclopentadecine, O-00004
N-(2,3,5,6,8,9,11,12-Octahydro-1,13,4,7,10-benzodioxatrithiacyclopentadecin-15-yl)-2-propenamide, O-00005
4-[(2,3,5,6,8,9,11,12-Octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl) azo]phenol, O-00006
N-(2,3,5,6,8,9,11,12-Octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl)-2-propenamide, O-00007
1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-amine, O-00008
1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecine, O-00009
4-[(1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-yl)azo]phenol, O-00010
7,8,9,10,18,19,20,21-Octahydro-6*H*-dibenzo[*b,l*]-[1,14,5,10] dioxadiazacyclononadecine, O-00011
6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e,n*][1,4,7,13] dioxadiazacyclopentadecine, O-00012
6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e,n*][1,4,8,12] dioxadiazacyclopentadecine, O-00013
5,6,7,8,9,10,16,17-Octahydrodibenzo[*e,m*][1,4,8,11] dioxadiazacyclotetradecine, O-00014
6,7,8,9,10,11,17,18-Octahydro-5*H*-dibenzo[*e,n*][1,4,7,13] dithiadiazacyclopentadecine, O-00015
8,9,10,11,18,19,20,21-Octahydro-7*H*-dibenzo[*e,p*][1,4,8,14] tetraazacycloheptadecine, O-00017
7,8,9,10,17,18,19,20-Octahydrodibenzo[*e,o*][1,4,8,13] tetraazacyclohexadecine, O-00018
6,7,9,10,18,19,20,21-Octahydrodibenzo[*h,r*][1,4,7,11,16]-trioxadiazacyclononadecine, O-00020
6,7,10,11,18,19,20,21-Octahydro-5*H*,9*H*,17*H*-dibenzo[*b,k*][1,7,13,4,10] trioxadiazacyclooctadecine, O-00021
7,8,9,10,17,18,21,22-Octahydro-6*H*,16*H*,20*H*-dibenzo-[*b,k*][1,7,13,4,10,16] trioxatriazacyclooctadecine, O-00022
6,7,9,10,17,18,20,21-Octahydro-7,18-dimethyldibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecine, O-00024
6,7,8,9,10,11,17,18-Octahydro-8-[(4-methylphenyl)sulfonyl]-5*H*-dibenzo[*e,n*][1,4,7,10,13] dioxatriazacyclopentadecine, O-00028
7,8,9,10,17,18,21,22-Octahydro-8-[(4-methylphenyl)sulfonyl]-6*H*,16*H*,20*H*-dibenzo[*b,k*][1,7,13,4,10,16] trioxatriazacyclooctadecine, *in* O-00022
2,3,5,6,8,9,11,12-Octahydro-16-nitro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, O-00030
2,3,5,6,8,9,11,12-Octahydro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, O-00031
1,3,4,7,8,10,11,13-Octahydro-*N*-(2,4,6-trinitrophenyl)-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-amine, O-00032
1-Octanesulfonamido-2-naphthol, *in* A-00273
2,4,5,7-Octanetetrone, O-00035
▷ Octanoic acid, O-00036
2-Octylaminopyridine, *in* A-00333
N-Octylaniline, O-00038
5-[(Octyloxy)methyl]-8-quinolinol, O-00039
Oxamide bisphenylhydrazone, O-00050
Oxamidoxime, *in* O-00048
2-(1-Oxo-2(1*H*)-naphthalenylidene) hydrazinecarbothioamide, *in* N-00031
β-Oxo-*N*-phenylbenzenepropanethioamide, *in* O-00056
3-Oxo-*N*-phenylbutanethioamide, O-00065
▷ 2-(1-Oxopropyl)-1*H*-indene-1,3(2*H*)-dione, O-00071
▷ 1,1'-Oxybis(2-chloroethane), O-00077
Panacryl brilliant red; Chloride, *in* P-00004
1,1,1,2,2-Pentafluoro-6,6-dimethyl-3,5-heptanedione, P-00017
▷ 2,4-Pentanedione, P-00030
2,3-Pentanedione bis[*p*-methoxy(thiobenzoyl)hydrazone], P-00031
2,3,4-Pentanetrione; 3-Oxime, *in* P-00033
▷ 2-Pentanol; (±)-*form*, Ac, *in* P-00035
2,5,8,11,14-Pentaoxapentadecane, *in* T-00043
6-Phenanthridinecarboxaldehyde 2-pyridylhydrazone, P-00050
Phenosafrazo blue, P-00071
10*H*-Phenoselenazine, P-00072
2-Phenoxathiincarboxaldehyde; Oxime, *in* P-00074
▷ Phenylacetic acid, P-00076
▷ Phenylacetylene, P-00077
3,3'-[3-[(Phenylamino)carbonyl]-1,5-formazandiyl]bis[4-chlorobenzenesulfonic acid], P-00080
4-[[4-(Phenylamino)phenyl]azo] benzenesulfonic acid; Na salt, *in* P-00084
▷ *N*-[(Phenylamino)thioxomethyl]benzamide, *in* P-00201
N-[(Phenylamino)thioxomethyl] benzenecarbothioamide, P-00088
1-Phenylazo-2-hydroxy-3-naphthylhydroxamic acid, *in* H-00452
5-Phenylazo-8-quinolinol; *N*-Oxide, *in* P-00100
9-Phenylbenzo(1,2)quinolizino[3,4,5,6-*def*] phenanthridinium(1+); Perchlorate, *in* P-00105
N-Phenylcrotonohydroxamic acid, *in* H-00143
N,N'-1,2-Phenylenebismethanesulfonamide, P-00118
[1,4-Phenylenebis(methylene)] bis[dioctylphosphine oxide], P-00120
3-Phenyl-5-(2-furyl)-1-pyrazolinedithiocarbamic acid; Na salt, *in* P-00131
4-Phenyl-2-mercaptoimidazole, P-00140
2-[(Phenylmethoxy)methyl]-1,4,7,10-tetraoxacyclododecane, P-00141
N-Phenylmethyl[[(4-chlorophenyl)amino] thioxomethyl]-*N'*-phenylcarbamimidothioate, P-00145
4,4'-(Phenylmethylene)bis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], P-00147

N-(Phenylmethyl)-2-pyridinecarbothioamide, *in* P-00317
4-(Phenylmethyl)-6-(2-pyridinylazo)-1,3-benzenediol, P-00149
N-Phenyloctanohydroxamic acid, *in* H-00424
3-Phenyl-1-(1-phthalazinyl)-5-(*p*-carboxyphenyl)formazan, P-00165
▷ 2-Phenyl-4-quinolinecarboxylic acid, P-00189
1-Phenyl-3-(selenophen-2-yl)-1,3-propanedione, P-00190
N-Phenyl-2-thiopicolinamide, *in* P-00317
▷ Phenylthiourea, P-00201
1-Phenyl-3-thioxo-1-butanone, P-00202
4-Phenyl-4-thioxo-2-butanone, P-00203
6-Phenyl-1,2,4-triazine-3(2*H*)-thione, P-00205
Phosphorodithioic acid *O*,*O*-bis(2-methylallyl) ester, P-00216
Phosphorotrithioic acid *O*-[2-(diethylamino)ethyl] ester, P-00217
Phosphorotrithioic acid *O*-[2-(dimethylamino)ethyl]ester, P-00218
1-(1-Phthalazinyl)-3,5-diphenylformazan, P-00219
Picramine M, P-00233
1-Piperidinecarbodithioic acid, P-00242
7-(1-Piperidinylmethyl)-8-quinolinol; B,HCl, *in* P-00243
N-(1-Piperidinylthioxomethyl)benzamide, P-00245
▷ Polyethylene glycol, P-00247
Primene JM T, P-00255
▷ Propanedioic acid, P-00261
1-(1*H*-Pyrazol-3-ylazo)-2-naphthalenol, P-00303
2-Pyridinecarboxaldehyde 1-phthalazinylhydrazone, P-00332
2-Pyridinecarboxaldehyde 2-pyridylhydrazone; (*E*)-*form*, *in* P-00335
▷ 2-Pyridinecarboxylic acid, P-00342
▷ 3-Pyridinecarboxylic acid, P-00343
3-Pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, P-00349
▷ Pyridine *N*-oxide, P-00356
2-Pyridinethiol *N*-oxide, *in* P-00357
1-(2-Pyridinylazo)-2-naphthalenol, P-00374
2-(2-Pyridinylazo)-1-naphthalenol, P-00375
4-(2-Pyridinylazo)-1-naphthalenol, P-00376
10-(2-Pyridinylazo)-9-phenanthrenol, P-00378
N-2-Pyridinylbenzenecarbothioamide, P-00383
3-[(2-Pyridinylmethylene)amino]-[1,1′-biphenyl]-4-ol, P-00391
1-[(2-Pyridinylmethylene)amino]-2-naphthalenol, P-00392
2-[(2-Pyridinylmethylene)amino]phenol, P-00393
N-(2-Pyridinylmethylene)benzenamine, P-00394
N-(2-Pyridinylmethylene)-8-quinolinamine, P-00397
3-(2-Pyridinyl)-1,3,4-thiazolidine-2,5-dithione, P-00407
1-(2-Pyridyl)-1-hexanone; Oxime, *in* P-00418
2-Pyrrolethiocarboxhydrazide, *in* P-00437
▷ Quinoline, Q-00007
4-Quinolinecarbodithioic acid, Q-00008
2-Quinolinecarboxaldehyde 1-phthalazinylhydrazone, Q-00011
2-Quinolinecarboxamide, *in* Q-00017
8-Quinolinecarboxylic acid, Q-00018
5,8-Quinolinedione; Dioxime, *in* Q-00019
8-Quinolineselenol, Q-00020
8-Quinolinethiol, Q-00021
2-(2-Quinolinylazo)-1-acenaphthylenol, Q-00027
1-(2-Quinolinylazo)-2-naphthalenol, Q-00029
2-(2-Quinolinylazo)-1-naphthalenol, Q-00030
1-(2-Quinolinylazo)-2-phenanthrenol, Q-00031
N-8-Quinolinyl-1-butanesulfonamide, *in* A-00340
N-8-Quinolinylethanesulfonamide, *in* A-00340
N-8-Quinolinylmethanesulfonamide, *in* A-00340
Rhodamine B, *in* R-00002
▷ Rhodamine 590; Chloride, *in* R-00003
Rhodamine 3G0; Chloride, *in* R-00004
Rhodamine G; Chloride, *in* R-00005
Rhoduline violet; Chloride, *in* R-00007
Rose bengal A; Di-Na salt, *in* R-00011
▷ Saccharin, S-00001
Salicylaldehyde benzoylhydrazone, *in* H-00101
Salicylhydroxamic acid, *in* H-00112
Salinazid, S-00003
Selenazone, S-00005
1-(2-Selenophenyl)-2-propanone, S-00007
1-(2-Selenophenyl)-3-(2-thienyl)-1,3-propanedione, S-00008
Selenoylacetone, S-00010
Sodium diethyldithiocarbamate, *in* D-00344
▷ Sorbitan monolaurate, *in* A-00367
Sulfonitrophenol M, S-00052
4-(5-Sulfothiazolylazo)-2-nitroresorcinol, S-00057
▷ Tentone, *in* M-00070
▷ Tetrabromo-1,2-benzenediol, T-00012
▷ Tetrabutylammonium(1+); Bromide, *in* T-00023
▷ Tetrabutylphosphonium(1+); Chloride, *in* T-00024
2,2′,3,3′-Tetrachlorodithizone, T-00029
2,2′,4,4′-Tetrachlorodithizone, T-00030
2,2′,5,5′-Tetrachlorodithizone, T-00031
2,2′,6,6′-Tetrachlorodithizone, T-00032
3,3′,4,4′-Tetrachlorodithizone, T-00033
3,3′,5,5′-Tetrachlorodithizone, T-00034
Tetrachlorogallein, T-00035
Tetraethyl 1,2-ethanediylbisphosphonate, *in* E-00026
Tetrahexylammonium(1+); Chloride, *in* T-00049
Tetrahexylammonium(1+); Iodide, *in* T-00049
8,9,17,18-Tetrahydro-7*H*-dibenzo[*e*,*n*][1,4,8,12]-dioxadiazacyclopentadecine, T-00055
2-[(7,8,16,17-Tetrahydro-6*H*,15*H*-dibenzo[*b*,*i*][1,4,8,11]tetraoxacyclotetradecin-7-yl)oxy] butanoic acid, T-00056
3-[(7,8,16,17-Tetrahydro-6*H*,15*H*-dibenzo[*b*,*i*][1,4,8,11]tetraoxacyclotetradecin-7-yl)oxy] propanoic acid, T-00057
Tetrahydro-4-methyl-2(1*H*)-pyrimidinethione, T-00064
6,7,9,10-Tetrahydro-18-phenyl-16*H*-dibenzo[*b*,*i*][1,11,14,4,5,7,8]trioxatetraazacyclohexadecine, T-00065
▷ Tetrahydro-2(1*H*)-pyrimidinethione, T-00066
1,2,3,4-Tetrahydro-8-quinolinethiol, T-00067
5,6,17,18-Tetrahydrotetrabenzo[*b*,*f*,*j*,*n*]-1,5,9,13-tetraazacyclohexadecine, T-00068
▷ Tetrahydrothiophene-1,1-dioxide, T-00069
2,2′,3,3′-Tetrakis(6-methyl-2-pyridyl)-6,6′-biquinoxaline, T-00088
5-(1,1,3,3-Tetramethylbutyl)-1,2,3-benzenetriol, T-00094
2,2,6,6-Tetramethyl-3,5-heptanedione, T-00095
1,4,8,11-Tetramethyl-1,4,8,11-tetrazacyclotetradecane, T-00104
▷ Tetramethylthiodicarbonic diamide, T-00105
▷ Tetramethylthiuram disulfide, T-00106
Tetraoctylammonium(1+); Bromide, *in* T-00110
Tetraoctylammonium(1+); Chloride, *in* T-00110
▷ 1,4,7,10-Tetraoxacyclododecane, T-00113
4,7,13,18-Tetraoxa-1,10-diazabicyclo[8.5.5]eicosane, T-00114
2,2′-[1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diylbis(methylene)]bis[4-nitrophenol],9CI, T-00115
2,2′-[1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diylbis(methylene)]bis[*N*-(2,4,6-trinitrophenyl)]benzenamine, T-00116
2,2′-(1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diyldi-3,1-propanediyl)bis[4-[(4-nitrophenyl)azo] phenol], T-00117
Tetraphenylarsonium(1+); Bromide, *in* T-00119
▷ Tetraphenylarsonium(1+); Chloride, *in* T-00119
Tetraphenylphosphonium(1+); Bromide, *in* T-00120
Tetraphenylphosphonium(1+); Chloride, *in* T-00120
Tetraphenylstibonium(1+), T-00122
Tetrapropylammonium(1+); Hydroxide, *in* T-00124
2,3,5,6-Tetra(2-pyridyl)pyrazine, T-00125
1,4,8,11-Tetrathiacyclotetradecane, T-00126
2,2′-(2,5,8,11-Tetrathiadodecane-1,12-diyl) bis[5-chlorothiophene], T-00127
2,2′-(2,5,8,11-Tetrathiadodecane-1,2-diyl) bis[5-methylthiophene], T-00128
3,6,10,13-Tetrathiapentadecane, T-00129
▷ Tetrazole-5-thione; 1,4-Dihydro-*form*, 1-Ph, *in* T-00131
2-Thiazolecarboxaldehyde 2-quinolinylhydrazone, T-00137
1-(2-Thiazolylazo)-2-naphthalenol, T-00142
4-(2-Thiazolylazo)-1-naphthalenol, T-00143
2-(2-Thienyl)benzothiazole, T-00149
▷ Thiobenzoic acid, T-00155
Thiobenzoic acid; Hydrazide, *in* T-00155
S-(Thiocarbamoyl)dithiophosphoric acid; *O*,*O*′-Di-Et, *in* T-00161
S-(Thiocarbamoyl)dithiophosphoric acid; *O*,*O*′-Di-Me, *in* T-00161
S-(Thiocarbamoyl)dithiophosphoric acid; *O*,*O*′-Dipropyl, *in* T-00161
2-Thiophenecarbothioic acid (di-2-pyridinylmethylene)hydrazide, T-00168
2-Thiophenecarboxaldehyde 3-bromobenzoylhydrazone, T-00171
N-*m*-Tolylcinnamohydroxamic acid, *in* H-00499
N-*o*-Tolylcinnamohydroxamic acid, *in* H-00499
N-*p*-Tolylcinnamohydroxamic acid, *in* H-00499
N-*o*-Tolyl-2-thiopicolinamide, *in* P-00317
2,4,6-Triamino-1,3,5-triazine-*N*,*N*,*N*′,*N*′,*N*″,*N*″-hexaacetic acid, T-00195
Tribenzylamine, T-00201
Tributylacetohydroxamic acid, T-00207
▷ Tributylamine, T-00208
Tributyl(hexadecyl)phosphonium(1+); Chloride, *in* T-00210
▷ Tributyl phosphate, T-00211
▷ Tributylphosphine, T-00212
▷ Tributylphosphine oxide, T-00213
▷ Tributylphosphine sulfide, T-00214
O,*O*,*O*-Tributyl phosphorothioate, T-00215
▷ Tributyltin hydroxide, T-00217
2,2,2-Trichloroacetohydroxamic acid, T-00219
6,8-Tridecanedione, T-00228
▷ *N*-Tridecyl-1-tridecanamine, T-00229
Tridodecylamine, T-00230
Tridodecylamine; *N*-Oxide, *in* T-00230
▷ Triethylamine, T-00231
Triethyltelluronium; Bromide, *in* T-00237
1,1,1,-Trifluoro-5,5-dimethyl-2,4-hexanedione, T-00244
4,4,4-Trifluoro-1,2-furanyl-1,3-butanedione, T-00248
1,1,1-Trifluoro-4-mercapto-4-(2-thienyl)-3-buten-2-one, T-00249
1,1,1-Trifluoro-7-methyl-2,4-octanedione, T-00255

1,1,1-Trifluoro-2,4-pentanedione, T-00257
4,4,4-Trifluoro-1-phenyl-1,3-butanedione, T-00260
1,1,1-Trifluoro-4-phenyl-4-thioxo-2-butanone, T-00262
4,4,4-Trifluoro-1-selenophen-2-yl-1,3-butanedione, T-00263
4,4,4-Trifluoro-1-(2-thienyl)-1,3-butanedione, T-00264
1,1,1-Trifluoro-4-thioxo-2-pentanone, T-00265
N,N′,N″-Trihexylphosphorothioic triamide, T-00267
▷ 1,2,4-Trihydroxyanthraquinone, T-00270
2,3,4-Trihydroxybenzoic acid, T-00276
2,6,7-Trihydroxy-9-(2-hydroxyphenyl)-3*H*-xanthen-3-one, T-00292
2,6,7-Trihydroxy-9-(2-nitrophenyl)-3*H*-xanthen-3-one, T-00301
Trilaurylammonium bromide, *in* T-00230
Trilaurylammonium chloride, *in* T-00230
7,7′-Trimethylenebis[1,3-dimethyl-8-thiouric acid]; Na salt, *in* T-00327
1,3,3-Trimethyl-2-[2-(2-methyl-1*H*-indol-3-yl)ethylene]-3*H*-indolium(1+); Chloride, *in* T-00328
2,2,4-Trimethyl-1,3-pentanediol; (±)-*form*, *in* T-00330
2,4,6-Trimethylpyridine, T-00337
▷ Trimethylsulfonium(1+); Iodide, *in* T-00347
▷ 2,4,6-Trinitrophenol, T-00355
2,4,6-Trinitro-*N*-[2-(1,4,7,10-tetraoxa-13-azacyclopentadec-13-ylmethyl)phenyl] benzenamine, T-00356
▷ Trioctylamine, T-00357
Trioctylphosphine, T-00358
Trioctylphosphine oxide, *in* T-00358
Trioctylphosphine; Sulfide, *in* T-00358
4,10,15-Trioxa-1,7-diazabicyclo[5.5.5] heptadecane, T-00360
N,N′-[1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diylbis(methylene-2,1-phenylene)] bis[2,4,6-trinitrobenzenamine], T-00361
2,2′-(1,4,10-Trioxa-7,13-diazacyclopentadecane-7,13-diyldi-3,1-propanediyl)bis[4-[(4-nitrophenyl)azo] phenol], T-00362
▷ Triphenylarsine, T-00363
Triphenylarsine oxide, T-00364
▷ *N,N′,N″*-Triphenylguanidine, T-00366
▷ Triphenylphosphine, T-00370
▷ Triphenyl phosphite, T-00371
Triphenylpropylphosphonium(1+), T-00372
2,4,6-Triphenylpyridine; *N*-Ph, acetate (salt), *in* T-00373
2,4,6-Triphenylpyrylium(1+); Chloride, *in* T-00374
Triphenylselenonium(1+); Chloride, *in* T-00375
Tris(2,2′-bipyridine-*N,N′*)iron(*II*)(2+), T-00384
Tris(decyl)ethylammonium(1+); Bromide, *in* T-00386
Tris(2-ethylhexyl)phosphine oxide, T-00390
Tris(6-methylheptyl)amine; B,HCl, *in* T-00408
Tris(2-methylpropyl)amine, T-00409
Tris(1,10-phenanthroline-N^1,N^{10})iron(*II*) (2+), T-00412
5,7-Undecanedione, U-00001
Victoria blue B; Chloride, *in* V-00002
Victoria blue 4R; Chloride, *in* V-00003
Victoria pure blue BO; Chloride, *in* V-00004
▷ Xanthic acid; K salt, *in* X-00002
▷ Xylometazoline hydrochloride, *in* X-00008

Fluorescent label

4-Acetamido-4′-isothiocyanatostilbene-2,2′-disulfonic acid, *in* A-00230
7-Acetoxy-4-(bromomethyl)coumarin, *in* B-00524
8-(Acetyloxy)-1,3,6-pyrenetrisulfonyl trichloride, *in* H-00517
1-(9-Acridinyl)-1*H*-pyrrole-2,5-dione, A-00063
▷ 2-[4-(Aminoiminomethyl)phenyl]-1*H*-indole-6-carboximidamide, A-00227
7-Amino-4-methyl-2*H*-1-benzopyran-2-one, A-00237
2-[4-(Aminomethyl)phenyl]-*N,N*-dimethyl-2*H*-benzotriazol-5-amine, A-00249
8-Amino-1,3,6-pyrenetrisulfonic acid, A-00332
▷ 2-Aminopyridine, A-00333
7-Amino-4-(trifluoromethyl)-2*H*-1-benzopyran-2-one, A-00365
9-Anthracenecarbonyl chloride, *in* A-00378
1-Anthracenecarboxylic acid; Hydrazide, *in* A-00376
2-Anthracenecarboxylic acid; Hydrazide, *in* A-00377
O-(1-Anthracenylmethyl)hydroxylamine, A-00384
O-(2-Anthracenylmethyl)hydroxylamine, A-00385
O-(9-Anthracenylmethyl)hydroxylamine, A-00386
12-(9-Anthroyloxy)stearic acid; (±)-*form*, *in* A-00391
7-Arginylamino-4-methylcoumarin; (*S*)-*form*, *in* A-00401
1-[4-(2-Benzoxazolyl)phenyl]-1*H*-pyrrole-2,5-dione, B-00118
3′,6′-Bis(acetyloxy)-5-azidospiro[isobenzofuran-1(3*H*), 9′-[9*H*] xanthen]-3-one, *in* A-00460
3,5-Bis(bromomethyl)-2,6-dimethyl-1*H*,7*H*-pyrazolo[1,2-*a*]pyrazole-1,7-dione, B-00269
1,2-Bis(3,4-dimethoxyphenyl)-1,2-ethanediamine; (*RS,SR*)-*form*, *in* B-00311
1,2-Bis(4-ethoxyphenyl)-1,2-ethanediamine; (*RS,SR*)-*form*, *in* B-00350
1-(Bromomethyl)anthracene, B-00517
▷ 9-(Bromomethyl)anthracene, B-00518
4-(Bromomethyl)-6,7-dimethoxy-2*H*-1-benzopyran-2-one, B-00519
3-(Bromomethyl)-6,7-dimethoxy-1-methyl-2(1*H*)-quinoxalinone, B-00520
8-(Bromomethyl)-6*H*-1,3-dioxolo[4,5-*g*][1] benzopyran-6-one, B-00523
3-(Bromomethyl)-7-methoxy-2*H*-1,4-benzoxazin-2-one, B-00525
5-(Bromomethyl)-*N,N,N*,-2,6-pentamethyl-1,7-dioxo-1*H*,7*H*-pyrazolo[1,2-*a*] pyrazole-3-methanaminium(1+); Bromide, *in* B-00533
3-(Bromomethyl)-2,5,6-trimethyl-1*H*,7*H*-pyrazolo[1,2-*a*]pyrazole-1,7-dione, B-00535
7-Chloro-4-benzofurazansulfonic acid; NH_4 salt, *in* C-00063
7-(Chlorocarbonylmethoxy)-4-methylcoumarin, C-00077
N-Chloro-5-(dimethylamino)-1-naphthalenesulfonamide, C-00098
N-Chloroformylcarbazole, *in* C-00020
3-(1-Cyano-2*H*-isoindol-2-yl)benzoyl azide, C-00329
Dansylproline; (*S*)-*form*, *in* D-00001
9-(Diazomethyl)anthracene, D-00148
4-(Diazomethyl)-7-methoxy-2*H*-1-benzopyran-2-one, D-00150
1-(Diazomethyl)pyrene, D-00153
5-(Dibutylamino)-1-naphthalenesulfonyl chloride, D-00224
5-[(4,6-Dichloro-1,3,5-triazin-2-yl)amino]-3′,6′-dihydroxyspiro[isobenzofuran-1(3*H*),9′-[9*H*]xanthen]-3-one, D-00304
2-(Diethylamino)benzoic acid hydrazide, D-00315
1-[4-[7-(Diethylamino)-4-methyl-2-oxo-2*H*-1-benzopyran-3-yl]phenyl]-1*H*-pyrrole-2,5-dione, D-00322
7-(Diethylamino)-2-oxo-2*H*-1-benzopyran-3-carboxylic acid hydrazide, D-00326
1-(4,6-Difluoro-1,3,5-triazin-2-yl)-2-methyl-2*H*-isoindole, D-00362
2,3-Dihydro-1,4-benzodioxin-6,7-diamine, D-00371
3,4-Dihydro-6,7-dimethoxy-4-methyl-3-oxo-2-quinoxalinepropanoic acid; Hydrazide, *in* D-00380
2-(1,3-Dihydro-1,3-dioxo-2*H*-benz[*f*] isoindol-2-yl) ethyltrifluoromethanesulfonate, D-00397
3′,6′-Dihydroxy-5-isothiocyanatospiro[isobenzofuran-1(3*H*),9′-[9*H*]xanthen]-3-one, D-00638
N-(3′,6′-Dihydroxy-3-oxospiro[isobenzofuran-1(3*H*),9′[9*H*] xanthen]-5-yl)-2-iodoacetamide, D-00681
2-(Diisopropylamino)benzoic acid hydrazide, D-00747
4′-Dimethylaminoazobenzene-4-sulfonyl chloride, *in* M-00210
1-[7-(Dimethylamino)-4-methyl-2-oxo-2*H*-1-benzopyran-3-yl]-1*H*-pyrrole-2,5-dione, D-00791
5-(Dimethylamino)-1-naphthalenesulfonyl azide, D-00795
▷ 5-(Dimethylamino)-1-naphthalenesulfonyl chloride, D-00796
5-(Dimethylamino)-1-naphthalenesulfonyl fluoride, D-00797
1-[[5-(Dimethylamino)-1-naphthalenyl] sulfonyl]aziridine, D-00799
2-[[5-(Dimethylamino)-1-naphthalenyl] sulfonyl]ethyl carbonochloridate, D-00800
3-[[7-(Dimethylamino)-2-oxo-2*H*-1-benzopyran-3-yl]carbonyl]-2(3*H*)-oxazolone, D-00806
4-[2*H*-[1,3]Dioxolo[4,5-*f*]benzotriazol-2-yl] benzeneethanamine, D-00992
1,2-Diphenyl-1,2-ethanediamine; (1*RS*,2*RS*)-*form*, *in* D-01010
1,6-Diphenyl-1,3,5-hexatriene, D-01019
6,6′-Dithiobis[2-naphthalenol], D-01119
10-Dodecylacridine orange, *in* B-00315
2,2′-(1,2-Ethenediyl)bis[5-isothiocyanatobenzenesulfonic acid], E-00046
Fluo 3, F-00009
Fluo 3AM, *in* F-00009
1-(3-Fluoranthenyl)-1*H*-pyrrole-2,5-dione, F-00011
▷ 9*H*-Fluorene-2-carboxaldehyde, F-00012
9*H*-Fluorene-2-sulfonyl chloride, *in* F-00014
Fluorescein-5-maleimide, F-00021
▷ Fluorescein sodium, *in* F-00020
7-Fluoro-4-benzofurazansulfonamide, *in* F-00023
7-Fluoro-4-benzofurazansulfonic acid; NH_4 salt, *in* F-00023
Fura 2-AM, *in* F-00039
Fura 2; Penta-K salt, *in* F-00039
Fura 2; Tetra-K salt, *in* F-00039
7-Hydrazino-4-benzofurazansulfonamide, H-00081
7-Hydrazino-4-benzofurazansulfonamide; *N,N*-Di-Me, *in* H-00081
4-Hydrazino-7-nitrobenzofurazan, H-00084
4-(Hydroxymethyl)-7-methoxy-2*H*-1-benzopyran-2-one, *in* H-00209
7-Hydroxy-4-methyl-2-oxo-2*H*-1-benzopyran-3-acetic acid, H-00295
1-[[(7-Hydroxy-4-methyl-2-oxo-2*H*-benzopyran-3-yl)acetyl]oxy]-2,5-pyrrolidinedione, H-00296
7-Hydroxy-2-oxo-2*H*-1-benzopyran-3-carboxylic acid; Me ether, chloride, *in* H-00426
▷ 2′-(4-Hydroxyphenyl)-5-(4-methyl-1-piperazinyl)-2,5′-bi-1*H*-benzimidazole, H-00488
Indo 1, I-00031
Indo 1AM, *in* I-00031
5-[[2-[(Iodoacetyl)amino]ethyl]amino]-1-naphthalenesulfonic acid, I-00037
8-[[2-[(Iodoacetyl)amino]ethyl]amino]-1-naphthalenesulfonic acid, I-00038
4-Iodobenzenesulfonyl chloride, *in* I-00039
2-Iodo-*N*-1-pyrenylacetamide, I-00051

2-Iodo-*N*-(2′,4′,5′,7′-tetrabromo-3′,6′-dihydroxy-3-oxospiro[isobenzofuran-1(3*H*),9′[9*H*]xanthen]-5-yl)acetamide, I-00054
2-Isocyanatoanthracene, I-00059
2-(4-Isocyanatophenyl)-6-methylbenzothiazole, I-00065
9-Isothiocyanatoacridine, I-00091
1-Isothiocyanatopyrene, I-00100
Mag-fura-2, M-00003
Mag-fura-2; Tetrakis(acetoxymethyl)ester, *in* M-00003
2,6-Mansyl chloride, *in* M-00222
4-Methoxybenzamidine, M-00077
7-Methoxycoumarin-3-carboxylic acid, *in* H-00426
7-Methoxy-2-oxo-2*H*-1-benzopyran-3-carbonyl azide, *in* H-00426
7-Methoxy-2-oxo-2*H*-1-benzopyran-4-carbonyl azide, M-00097
7-Methoxy-2-oxo-2*H*-1-benzopyran-3-carbonyl fluoride, *in* H-00426
3-[(7-Methoxy-2-oxo-2*H*-1-benzopyran-3-yl)carbonyl]-2(3*H*)-oxazolone, M-00098
(7-Methoxy-2-oxo-2*H*-1-benzopyran-4-yl) methyl *N*,*N*′-dicyclohexylcarbamimidate, M-00100
N-[(4-Methoxyphenyl)methyl]-7-nitro-4-benzofurazanamine, M-00114
[[4-(5-Methyl-2-benzothiazolyl)phenyl] amino]acetohydrazide, M-00142
1-[4-(6-Methyl-2-benzothiazolyl)phenyl]-1*H*-pyrrole-2,5-dione, M-00143
1-Naphthylmethylamine; *N*-Methyl, *in* N-00051
7-Nitro-*N*-(phenylmethyl)-4-benzofurazanamine, *in* A-00282
α-Oxo-1-anthraceneacetonitrile, O-00054
2-Oxo-2*H*-1-benzopyran-6-sulfonyl chloride, *in* O-00057
4-[1-Oxo-3-phenyl-1*H*-inden-2-yl] benzenesulfonyl chloride, O-00067
ι-Oxo-1-pyrenedecanoic acid, O-00072
1-[1-Oxo-4-(1-pyrenyl)butoxy]-2,5-pyrrolidinedione, O-00073
1-[4-(Phenylamino)-1-naphthalenyl]-1*H*-pyrrole-2,5-dione, P-00083
3-Phenyl-2,7-naphthyridin-1(2*H*)-one, P-00152
3-(2-Phthalimidyl)benzoyl chloride, P-00227
4-(2-Phthalimidyl)benzoyl chloride, P-00228
3-(2-Phthalimidyl)-4-methoxybenzoyl chloride, P-00229
1-Pyrenebutanoic acid hydrazide, P-00305
1-Pyrenecarboxylic acid, P-00307
1-Pyrenedodecanoic acid, P-00308
1-Pyrenesulfonic acid; Chloride, *in* P-00309
1-Pyrenylmethyl iodoacetate, P-00310
1-(1-Pyrenyl)-1*H*-pyrrole-2,5-dione, P-00311
5-(4-Pyridinyl)-2-thiophenecarboxaldehyde, P-00409
Quin 2, Q-00002
Quin 2A, *in* Q-00002
Stil 1, S-00026
2′,3′,4′,7′-Tetrabromo-3′,6′-dihydroxy-5-isothiocyanatospiro[isobenzofuran-1(3*H*),9′[9*H*]xanthen]-3-one, T-00016
1-[2′,3′,4′,7′-Tetrabromo-3′,6′-dihydroxy-3-oxospiro[isobenzofuran-1(3*H*),9′-[9*H*] xanthen]-5-yl]-1*H*-pyrrole-2,5-dione, T-00017
Texas red, T-00133

Gravimetric reagent

1-Acetoxy-4-methyl-2(1*H*)-pyridinethione, *in* M-00274
3-Acetyl-4-hydroxy-2H-1-benzopyran-2-one, A-00017
▷ 3-Acetyl-4-hydroxy-6-methyl-2*H*-pyran-2-one, A-00019
3-Acetyl-2-methylindole *p*-tolylthiosemicarbazone, A-00022
2-Acetyl-1-naphthol; Oxime, *in* A-00026
▷ Acridine, A-00062
▷ 2-Aminobenzoic acid, A-00103
▷ 4-Aminobenzoic acid, A-00105
▷ 2-Aminobenzothiazole, A-00113
3-Amino-1*H*-isoindole-1-thione, A-00229
2-Amino-*N*-(4-methylphenyl) benzenesulfonamide, A-00248
▷ 2-Amino-4-methylthiazole, A-00257
▷ 6-Aminonicotinamide, *in* A-00334
▷ 2-Aminoperimidine, A-00297
N-(2-Aminophenyl)benzenesulfonamide, A-00318
4-Aminophenylcarbamodithioic acid; NH_4 salt, *in* A-00321
N-(2-Aminophenyl)-4-methylbenzenesulfonamide, A-00326
▷ 8-Aminoquinoline, A-00340
▷ 5-Amino-1,3,4-thiadiazoline-2(3*H*)-thione, A-00354
1-(9-Anthracenyl)-2-[[4-(dimethylamino) phenyl]imino]ethanone, A-00382
▷ 1,2-Benzenedicarboxylic acid, B-00018
Benzeneseleninic acid; NH_4 salt, *in* B-00024
▷ Benzenesulfinic acid, B-00025
Benzenesulfonic acid; 2-Phenylhydrazide, *in* B-00026
▷ 1,2,4,5-Benzenetetracarboxylic acid, B-00029
▷ 1,2,4-Benzenetricarboxylic acid, B-00032
1,3,5-Benzenetricarboxylic acid, B-00033
▷ 1,2,3-Benzenetriol, B-00034
▷ 1*H*-Benzotriazole, B-00110
2-Benzoylacetanilide, *in* O-00069
Benzoylmethylglyoxime, *in* P-00109
N-Benzoyl-*N*′-(2-pyridyl)thiourea, B-00159
▷ Benzylpenicillin, B-00191
Benzyltriphenylphosphonium(1+); Chloride, *in* B-00196
2,2′-Biphenyldicarboxylic acid, B-00207
Bis(4-aminophenyl)acetylene, B-00249
4-[Bis(4-aminophenyl)hydroxymethyl]-4-chloro-2,4-dihydro-2,5-diphenyl-3*H*-pyrazol-3-one; N^4,N^4,$N^{4'}$,$N^{4'}$-Tetra-Et, *in* B-00253
4-[Bis(4-aminophenyl)hydroxymethyl]-4-chloro-2,4-dihydro-2,5-diphenyl-3*H*-pyrazol-3-one; N^4,N^4,$N^{4'}$,$N^{4'}$-Tetra-Me, *in* B-00253
Bis(4-chlorophenyl)iodonium(1+); Chloride, *in* B-00287
Bis(4-chlorophenyl) phosphate, B-00289
Bis(diisobutylthiocarbamoyl) disulfide, *in* T-00166
Bis(diisopropylthiocarbamoyl) disulfide, *in* T-00166
Bis(2-hydroxyimino-3-butylidene)-*o*-phenylenediimine, *in* P-00127
Bis(1-naphthylmethyl)amine, B-00427
Brilliant yellow; Di-Na salt, *in* B-00480
2-(4-Bromophenyl)-2-hydroxyacetic acid; (±)-*form*, Na salt, *in* B-00550
1,4-Butanediylbis[triphenylphosphonium] (2+); Dibromide, *in* B-00602
4-*tert*-Butylnioxime, *in* B-00623
▷ (±)-Camphoric acid, *in* T-00325
▷ *S*-Carbamidothioglycollic anilide, C-00019
Cesignost, *in* C-00330
▷ 2-Chlorobenzoic acid, C-00066
N-(*p*-Chlorobenzyl)-1-naphthalenemethylamine, C-00072
5-Chloro-2-hydroxy-4-methylacetophenone; Oxime, *in* C-00135
6-Chloro-1-hydroxy-4-nitro-1*H*-benzotriazole, C-00137
N′-(4-Chloro-2-methylphenyl)-*N*-(4-chlorophenyl)-*N*-hydroxybenzenecarboximidamide; B,HCl, *in* C-00181
N-(2-Chlorophenyl)-*N*-hydroxybenzamide, *in* H-00109
N′-(4-Chlorophenyl)-*N*-hydroxy-*N*-phenylbenzenecarboximidamide, C-00231
3-(4-Chlorophenyl)-3-hydroxy-1-phenyltriazene, C-00233
(3-Chlorophenyl)methoxyacetic acid, *in* C-00221
3-Chloro-2-quinoxalinecarboxylic acid, C-00260
▷ Chlorotriphenylstannane, C-00271
N-Cinnamoylphenylhydroxylamine, *in* H-00499
▷ Cupferron, *in* H-00471
1,2-Cyclodecanedione; Dioxime, *in* C-00331
1,2-Cyclododecanedione; Dioxime, *in* C-00332
1,2-Cyclononanedione; Dioxime, *in* C-00360
1,2-Cyclopentanedione dioxime, *in* C-00362
1,2-Cycloundecanedione; Dioxime, *in* C-00369
1,6-Diallyl-2,5-dithiobiurea, D-00040
5,7-Dibromo-8-hydroxyquinoline; *N*-Oxide, *in* D-00193
3′,5′-Dichloro-2′-hydroxyacetophenone; Oxime, *in* D-00277
2,3-Dihydro-5,6-diphenyl-1,2,4-triazine-3-thione, D-00402
2′,4′-Dihydroxyacetophenone; Phenylhydrazone, *in* D-00507
3,4-Dihydroxybenzaldehyde; 3-Me ether, oxime, *in* D-00519
2,5-Dihydroxybenzaldehyde; Oxime, *in* D-00518
Dihydroxybutenedioic acid, D-00567
4,5-Dihydroxy-4-cyclopentene-1,2,3-trione, D-00571
5,6-Dihydroxynaphtho[2,3-*f*]quinoline-7,12-dione, D-00661
2,3-Dihydroxy-1*H*-phenalen-1-one, D-00684
7,8-Dihydroxy-4-phenyl-2*H*-1-benzopyran-2-one, D-00706
6,7-Dihydroxy-4-phenylcoumarin, D-00708
1-(2,4-Dihydroxyphenyl)-1-pentanone; Oxime, *in* D-00714
N-(2,6-Dimethoxy-4-pyrimidinyl)-4-[[(2-hydroxyphenyl)methylene]amino] benzenesulfonamide, D-00776
(2,5-Dimethylbenzenesulfonylamino) quinoline, D-00833
3,3-Dimethyl-1,2-indanedione; Dioxime, *in* D-00868
▷ Dimethyl sulfate, D-00916
1,2-Di-4-morpholinylethane, D-00928
▷ 2,3-Dinitrophenol, D-00957
▷ 2,4-Dinitrophenol, D-00958
▷ 2,5-Dinitrophenol, D-00959
▷ 2,6-Dinitrophenol, D-00960
▷ 3,4-Dinitrophenol, D-00961
N,*N*′-Diphenylpropanedithioamide, *in* P-00262
1,2-Di(2-pyridyl)ethylene, D-01090
▷ Disulfiram, D-01107
Di(2-thenoyl)ketoxime, *in* D-01113
Dodecyl gallate, *in* T-00277
▷ Edetol, E-00001
3,3′-(1,2-Ethanediyldinitrilo)bis-2-butanone; Dioxime, *in* E-00035
N-(*o*-Ethoxybenzoyl)phenylhydroxylamine, *in* H-00112
1-[(Ethylimino)methyl]-2-naphthalenol, E-00096
Flavazine L; Na salt, *in* F-00007
N-(2-Fluorenyl)-*N*-nitrosohydroxylamine, *in* A-00178
Formamidinesulfinic acid, F-00036
▷ Formic acid, F-00037
2-Furancarboxaldehyde phenylthiosemicarbazone, F-00047
2-Furancarboxaldehyde thiosemicarbazone, *in* F-00042
Heptoxime, *in* C-00333
Heptylarsonic acid, H-00015
Hexahydro-2*H*-azepine-2-thione, H-00036
▷ Hexamethylenetetramine, H-00057
▷ 4,7,13,16,21,24-Hexaoxa-1,10-diazabicyclo[8.8.8]hexacosane, H-00068
2-Hydroxy-1-acetonaphthonoxime, *in* A-00025
2-Hydroxy-5-anisaldoxime, *in* D-00518
▷ 2-Hydroxybenzaldehyde, H-00101

2-Hydroxybenzaldehyde; Phenylhydrazone, *in* H-00101
2-Hydroxybenzoic acid 2-acetylhydrazide, H-00114
4-Hydroxybenzothiazole, H-00126
▷ 1-Hydroxycyclohexanecarboxylic acid, H-00146
8-Hydroxy-5,7-dinitro-2-naphthalenesulfonic acid; Di-Na salt, *in* H-00158
▷ 2-Hydroxy-2,2-diphenylacetic acid, H-00166
N-Hydroxy-*N*,*N*′-diphenylbenzenecarboximidamide, *in* D-01001
2-Hydroxydithiobenzoic acid, H-00175
α-(Hydroxyimino)benzenepropanoic acid, *in* O-00068
N-[2-(Hydroxyimino)-1-methylpropylidene] glycine, H-00247
6-Hydroxy-2-mercapto-4-pyrimidinecarboxylic acid, H-00261
▷ 4-Hydroxy-3-methoxybenzaldehyde, *in* D-00519
N-Hydroxy-*N*-(2-methylphenyl)benzamide, *in* H-00109
1-(2-Hydroxy-5-methylphenyl)-3-(4-hydroxyphenyl)-2-propen-1-one; 4-Me ether, oxime, *in* H-00311
N-Hydroxy-*N*-(3-methylphenyl)-2-nitrobenzamide, *in* N-00089
N-Hydroxy-*N*-(3-methylphenyl)-3-nitrobenzamide, *in* N-00090
[4-[[(5-Hydroxy-3-methyl-1-phenyl)-1*H*-pyrazol-4-yl]azo]phenyl]arsonic acid, H-00314
N-Hydroxy-*N*′-methyl-*N*-phenylthiourea, *in* T-00175
1-Hydroxy-4-methyl-2(1*H*)-pyridinethione, *in* M-00274
8-Hydroxy-2-methylquinoline, H-00326
2-Hydroxy-1-naphthaldehyde, H-00336
2-Hydroxy-1-naphthaldehyde; Oxime, *in* H-00336
2-[[(2-Hydroxy-1-naphthalenyl)methylene] amino]benzoic acid, H-00362
2-Hydroxy-5-nitrobenzaldehyde; Oxime, *in* H-00380
▷ 4-Hydroxy-3-nitrophenylarsonic acid, H-00392
4-Hydroxy-3-nitroso-2*H*-1-benzopyran-2-one, H-00407
N-Hydroxy-*N*-nitrosocyclododecanamine, H-00410
N-Hydroxy-*N*-phenylacetamide, *in* P-00135
N-(3-Hydroxyphenyl)-2-mercaptoacetamide, H-00476
3-(2-Hydroxyphenyl)-1-phenyl-2-propen-1-one, H-00496
1-(2-Hydroxyphenyl)-1-propanone; Oxime, *in* H-00498
▷ *N*-Hydroxy-3-phenylpropenamide, H-00499
2-(3-Hydroxy-3-phenyl-1-triazenyl) benzothiazole, H-00508
▷ 8-Hydroxyquinoline, H-00525
3-Hydroxy-2-quinoxalinecarboxylic acid, H-00537
1*H*-Inden-2-ylphosphonic acid, I-00026
Isonitrosodimedone, *in* D-00848
Mandelic acid; (±)-*form*, *in* M-00007
▷ 2-Mercaptobenzimidazole, M-00022
2-Mercapto-*N*-2-naphthylacetamide, M-00038
4-[(2-Mercaptophenyl)amino]-2-butenoic acid; (*Z*)-*form*, *in* M-00040
▷ 5-Mercapto-1,3,4-thiadiazoline-2-thione, M-00060
α-Methoxy-2-naphthaleneacetic acid, *in* H-00338
N-(4-Methylbenzyl)-1-naphthylmethylamine, M-00145
1-(2-Methylindol-3-ylacetyl)-4-(*p*-methoxyphenyl)thiosemicarbazide, M-00195
▷ 4-Methylnioxime, *in* M-00157
2-[(1-Methyl-3-oxobutylidene)amino] benzenesulfonic acid, M-00213
2-[(1-Methyl-3-oxobutylidene)amino] benzoic acid, M-00214
3-Methyl-3-phenyl-1,2-indanedione; (±)-*form*, Dioxime, *in* M-00230
Methylphenylpyrazolone oxime, *in* M-00239
▷ 2-Methylquinoline, M-00306
4-Methylsalicylaldoxime, *in* H-00276
1-Naphthalenecarboxaldehyde; Oxime, *in* N-00003
2-Naphthaleneselenic acid; NH_4 salt, *in* N-00014
Naphtho[2,3-*c*][1,2,5]selenadiazole, N-00038
1*H*-Naphtho[2,3-*d*]triazole, N-00039
▷ (1-Naphthyl)acetic acid, N-00040
1-Naphthyloxamic acid, N-00053
▷ Neocupferron; NH_4 salt, *in* N-00061
4-Nitro-*o*-anisaldoxime, *in* H-00379
2-Nitro-*p*-anisaldoxime, *in* H-00381
▷ 3-Nitro-1,2-benzenedicarboxylic acid, N-00085
▷ 2-Nitrobenzoic acid, N-00091
Nitron, N-00114
N-(3-Nitrophenyl)-β-oxobenzenepropenamide, N-00140
▷ 5-Nitro-2,4,6(1*H*,3*H*,5*H*)-pyrimidinetrione, N-00153
▷ 1-Nitroso-2-naphthol, N-00160
5-Nitroso-6-quinolinol, N-00162
Octoxime, *in* C-00361
▷ Oxalic acid, O-00048
Oxamidoxime, *in* O-00048
2-Oxo-*N*-phenylcyclopentanecarboxamide, *in* O-00060
4,7,13,16,21-Pentaoxa-1,10-diazabicyclo[8.8.5]tricosane, P-00037
▷ Phenylarsonic acid, P-00090
4-Phenyl-3*H*-1,2-dithiole-3-thione, P-00115
5-Phenyl-3*H*-1,2-dithiole-3-thione, P-00116
1,1′-[1,3-Phenylene]bis-2-tetrazoline-5-thione, P-00122
1,1′-[1,4-Phenylene]bis-2-tetrazoline-5-thione; Di-Na salt, *in* P-00123
3-Phenyl-1,2-indanedione; Dioxime, *in* P-00137
Phenylphosphinic acid, P-00163
3-Phenyl-1*H*-pyrazole-4,5-dione; 4-Oxime, *in* P-00173
Phenyltellurous acid, P-00197
N-Phenylthiobenzohydroxamic acid, P-00198
6-Phenyl-1,2,4-triazine-3(2*H*)-thione, P-00205
2-Propanoyl-1-naphthol; Oxime, *in* P-00267
▷ Purpurogallin, P-00282
2,6-Pyridinedicarboxylic acid, P-00353
Pyridoin, P-00412
▷ Quinoline, Q-00007
Quinoline; *N*-CH_2Ph, nitrate salt, *in* Q-00007
2-Quinolinylphosphonic acid, Q-00036
▷ Salicylaldoxime, *in* H-00101
2-Selenophenecarboxaldehyde; Oxime, *in* S-00006
▷ Sodium tetraphenylborate(*III*), S-00015
3,3′-Sulfonylbis[*N*-8-quinolylbenzenesulfonamide], S-00055
Tannin, T-00001
Tartaric acid, T-00002
Tetrahydroxybutanedioic acid, T-00073
Tetrakis(4-fluorophenyl)borate(1−); Na salt, *in* T-00084
3,3′,5,5′-Tetramethyl-2,2′,4,4′,6,6′-hexanitrodiphenylamine; Na salt, *in* T-00096
▷ Tetramethylthiodicarbonic diamide, T-00105
▷ Tetraphenylarsonium(1+); Chloride, *in* T-00119
1-Thiocarbamido-3-methyl-5-pyrazolone, T-00160
2-Thiophenecarboxaldehyde; Oxime, *in* T-00169
2-Thiophenecarboxaldehyde; Thiosemicarbazone, *in* T-00169
Thiosalicylamide, *in* M-00023
▷ 2,4,6-Tribromophenol, T-00205
Triethyltelluronium, T-00237
Triethyltelluronium; Bromide, *in* T-00237
1,1,1-Trifluoro-4-mercapto-4-(2-thienyl)-3-buten-2-one, T-00249
2,3,4-Trihydroxybenzoic acid, T-00276
1,2,3-Trimethyl-3-pyrazoline-5-thione, *in* D-00451
2,4,6-Triphenylpyridine; *N*-Ph, acetate (salt), *in* T-00373
2,4,6-Triphenylpyrylium(1+); Chloride, *in* T-00374

Indicator

Acid fuchsin; Di-Na salt, *in* A-00056
Alizarine orange, A-00080
▷ Aluminon, *in* A-00458
4-Aminobenzenesulfonic acid; *N*-Ph, Na salt, *in* A-00100
5-Amino-4-hydroxy-3-[(2-hydroxy-5-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* A-00190
5-Amino-4-hydroxy-3-(2-pyridinylazo)-2,7-naphthalenedisulfonic acid, A-00218
8-(Aminomethyl)-6,7-dihydroxy-4-methylcoumarin-*N*,*N*-diacetic acid, A-00241
2-(Aminomethyl)-6-hydroxy-9*H*-xanthen-9-one-*N*,*N*-diacetic acid, A-00245
Amylose, *in* S-00025
Arsenazo I; Tri-Na salt, *in* A-00410
4,4′-Azobis[3-hydroxy-2,7-naphthalenedisulfonic acid], A-00469
Azocarmine B; Di-Na salt, *in* A-00470
Azocarmine G; Na salt, *in* A-00471
▷ Azure A, *in* L-00003
▷ Azure C, *in* L-00003
▷ 2,2′-Bipyridine, B-00220
1,2-Bis(2-amino-5-bromophenoxy)ethane-*N*,*N*,*N*′,*N*′-tetraacetic acid, B-00243
3,3′-Bis(aminomethyl)-4,4′-dihydroxystilbene-*N*,*N*,*N*′,*N*′-tetraacetic acid; (*E*)-*form*, *in* B-00246
Brilliant congo blue BFL; Tri-Na salt, *in* B-00476
Cacotheline, C-00005
Calmagite, C-00015
▷ Ceplac, *in* E-00020
Chrome black special; Mono-Na salt, *in* C-00278
Chromotrope F4B; Di-Na salt, *in* C-00292
Chromoxan violet 5B, C-00295
▷ Colchiceine; (*S*)-*form*, *in* C-00300
o-Cresolphthalexon, C-00308
o-Cresoltetraiodosulfonephthalein, C-00313
4,4′-Diamino-3,3′-biphenyldicarboxylic acid *N*,*N*,*N*′,*N*′-tetraacetic acid; Hexa-Na salt, *in* D-00054
2,2′-Diaminobiphenyl-4,4′-dicarboxylic acid-*N*,*N*,*N*′,*N*′-tetraacetic acid; Hexa-Na salt, *in* D-00055
2,2′-Diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00059
4,4′-Diamino-3,3′-dimethoxybiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00078
4,4′-Diamino-2,2′-stilbenedisulfonic acid *N*,*N*,*N*′,*N*′-tetraacetic acid, D-00126
4,4′-Diaminostilbene-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00127
4′,5′-Dibromofluorescein; Di-Na salt, *in* D-00188
▷ Dibromosulfonephthalein, D-00215
4,4-Dicarboxy-2,2′-diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid, D-00245
4′,5′-Dichlorofluorescein; Di-Na salt, *in* D-00276
2,5-Dihydroxybenzaldehyde, D-00518
4,5-Dihydroxy-3,6-bis[(4-nitro-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00558
4,7-Dihydroxy-1*H*-isoindole-1,3 (2*H*)-dione; Dithiosemicarbazone, *in* D-00636

3-(2,4-Dihydroxyphenylazo)-4-hydroxybiphenyl, D-00694
4,5-Dihydroxy-3-[(2-pyridinyl)azo]-2,7-naphthalenedisulfonic acid, D-00722
4,5-Dihydroxy-3-[(2-thiazolyl)azo]-2,7-naphthalenedisulfonic acid, D-00739
4,4′-Dimethoxy-2,2′-diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid, *in* D-00572
6,7-Dimethoxy-1-isoquinolinecarboxylic acid, *in* D-00637
5-(Dimethylamino)-2-(2-thiazolylazo) phenol, *in* A-00214
2,4-Dimethyl-1*H*-1,5-benzodiazepine, D-00834
4,4′-Dimethyl-2,2′-diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00849
▷ *N*,*N*-Dimethyl-1,4-phenylenediamine, *in* D-00048
Eliamina blue FFL; Tetra-Na salt, *in* E-00006
Eriochrome blue SE; Di-Na salt, *in* E-00011
▷ Erioglaucine A; Di-Na salt, *in* E-00018
Erythrosine Y; Di-Na salt, *in* E-00021
4-Ethoxy-3,6-acridinediamine, *in* H-00094
4-Ethoxyacridone, *in* H-00095
5-(Ethylamino)-4-methyl-2-(2-pyridinylazo) phenol, *in* A-00253
9-Ethyl-9*H*-carbazol-3-amine, *in* A-00132
Fluo 3, F-00009
Fluo 3AM, *in* F-00009
▷ Fluorescein, F-00020
Gallein, G-00004
▷ Gallocyanine; Chloride, *in* G-00005
4-Hydroxy-3-[(2-hydroxybenzoyl)azo]-1-naphthalenesulfonic acid, H-00188
6-Hydroxy-5-[(2-hydroxy-3,5-dinitrophenyl) azo]-2-naphthalenesulfonic acid; Na salt, *in* H-00200
3-Hydroxy-4-[(2-hydroxy-1-naphthalenyl) azo]-7-nitro-1-naphthalenesulfonic acid, H-00224
▷ 4-(Hydroxymethyl)biphenyl, H-00284
N-[7-Hydroxy-4-methyl-2-oxo-(2*H*)-1-(benzopyran-8-yl)methyl]glycine, H-00297
2-[(1-Hydroxy-2-naphthalenyl)azo]-8-quinolinol, H-00356
2-(2-Hydroxy-3-naphthoylazo)-1-hydroxy-4-naphthalenesulfonic acid, H-00374
8-Hydroxy-7-(2-naphthylazo)quinoline, H-00377
▷ 8-Hydroxy-1,3,6-pyrenetrisulfonic acid, H-00517
4-[(8-Hydroxy-7-quinolinyl)azo] benzenesulfonic acid, H-00529
6-Hydroxy-5-(2-thiazolylazo)-2-naphthalenesulfonic acid, H-00549
Indo 1, I-00031
Indo 1AM, *in* I-00031
Magneson IREA, M-00004
2-Methoxy-6-[[5-(1-methyl)-2-piperidinyl-2-pyridyl]azo]phenol, M-00092
4-Methoxy-2-(2-thiazolylazo)phenol, *in* T-00139
▷ 4-Methyl-2*H*-1-benzopyran-2-one, M-00141
Methylcalcein blue, M-00153
Methylcalcein; Di-Na salt, *in* M-00152
4-Methyl-5-(methylamino)-2-(2-pyridinylazo)phenol, *in* A-00253
▷ 1-Methyl-1-phenylethyl hydroperoxide, M-00228
5-Methyl-4-(2-pyridinylazo)-1,3-benzenediol, M-00280
Neutral red; B,HCl, *in* N-00065
Neutral violet; B,HCl, *in* N-00066
2-Phenyl-4*H*-naphtho[1,2-*b*]pyran-4-one, P-00150
▷ *N*-Phenyl-1-naphthylamine, P-00151
Phloxin; Di-K salt, *in* P-00212
Picriminazosulfoxine, P-00234
1-Pyreneacetic acid, P-00304
7-(2-Pyridinylazo)-8-quinolinol, P-00381
Quin 2, Q-00002
Stil 1, S-00026
Stilbexon, S-00032
Tetrahydroxy-1,4-benzoquinone, T-00072
1-(2-Thiazolylazo)-2-naphthalenol, T-00142
Thioflavine S, T-00162
Triethylsulfonium(1+); Iodide, *in* T-00236
Triphenyltelluronium(1+); Iodide, *in* T-00377
▷ Vinyl cyanide, *in* P-00269
Wool fast blue BL; Na salt, *in* W-00002
Xylenol orange, X-00006

Indicator: acid base

Acetone; 2,4-Dinitrophenylhydrazone, *in* A-00007
5-[(1-Acetyl-2-oxopropyl)azo]-2,3-dihydro-1,4-phthalazinedione, A-00027
Acid blue 89, A-00052
Alizarine chrome orange G; Na salt, *in* A-00075
Alizarine red S; Na salt, *in* A-00081
Alizarine yellow G; Na salt, *in* A-00082
Alpha blue; Di-Na salt, *in* A-00084
▷ 4-Aminoazobenzene, A-00094
4-(4-Amino-4-biphenylylazo)-3,5-dibromobenzenesulfonic acid, A-00119
4-[(4′-Amino-4-biphenylyl)azo]-2,5-dichlorobenzenesulfonic acid; Na salt, *in* A-00120
Aminobromothymol blue, A-00129
7-Amino-2-chloro-1-hydroxy-3*H*-phenoxazin-3-one, A-00138
5-Amino-4-hydroxy-1,3-naphthalenedisulfonic acid, A-00201
7-Amino-1-hydroxy-3*H*-phenoxazin-3-one, A-00208
5-Amino-11-methyl-9*H*-benzo[*a*] phenoxazin-9-one, A-00236
▷ 7-Amino-1,3-naphthalenedisulfonic acid, A-00263
5-Amino-2-naphthalenesulfonamide, *in* A-00266
6-Amino-2-naphthalenesulfonamide, *in* A-00268
7-Amino-1-naphthalenesulfonamide, *in* A-00269
4-Amino-1-naphthalenesulfonic acid; Amide, *in* A-00264
5-Amino-1-naphthalenesulfonic acid; Amide, *in* A-00265
6-Amino-1-naphthalenesulfonic acid; Amide, *in* A-00267
8-Amino-2-naphthalenesulfonic acid; Amide, *in* A-00270
4-Amino-1-naphthalenesulfonic acid; Na salt, *in* A-00264
6-Amino-1-naphthalenesulfonic acid; Na salt, *in* A-00267
4-[(4-Amino-1-naphthalenyl)azo]-5-hydroxy-2,7-naphthalenedisulfonic acid; *N*-Et, di-Na salt, *in* A-00276
3-Amino-1-naphthoic acid, A-00279
4-Amino-4′-nitroazobenzene, A-00281
4-(4-Aminophenylazo)-3-bromobenzenesulfonic acid; *N*-Di-Me, Na salt, *in* A-00308
4-(4-Aminophenylazo)-3-chlorobenzenesulfonic acid; *N*-Di-Me, Na salt, *in* A-00309
4-(4-Aminophenylazo)-3,5-dibromobenzenesulfonic acid; *N*-Di-Me, Na salt, *in* A-00310
4-Aminophenylbenzenesulfonamide, *in* A-00319
2-(2-Aminostyryl)-6-methoxy-8-aminoquinoline-*N*,*N*,*N*′,*N*′-tetraacetic acid; (*E*)-*form*, *in* A-00347
▷ Anazolene sodium, *in* A-00366
Anilinesulfonephthalein, A-00369
5-Anilino-11-methyl-9*H*-benzo[*a*] phenoxazin-9-one, A-00371
Astrazon orange R; Chloride, *in* A-00453
Aurin, A-00457
Benzaldehyde (4-nitrophenyl)hydrazone, B-00005
1-[α-Benzamido-*p*-(dimethylamino) cinnamoyl]-2-isonicotinoylhydrazide, B-00011
Benzaurin, B-00012
Benzoflavine, B-00057
9-Benzo[*a*]phenoxazin-9-one, B-00070
5-(2-Benzothiazolyl)-1,3-diphenylformazan, B-00101
4,4′-(3*H*-2,1-Benzoxathiol-3-ylidene)bis[2-iodophenol] *S*,*S*-dioxide, B-00111
4,4′-(3*H*-2,1-Benzoxathiol-3-ylidene)bis[3-nitrophenol] *S*,*S*-dioxide, B-00112
Benzoylauramine G, B-00122
Benzoylethylauramine, B-00131
Benzyl orange; Na salt, *in* B-00190
3′,6′-Bis(acetyloxy)-5-azidospiro[isobenzofuran-1(3*H*), 9′-[9*H*] xanthen]-3-one, *in* A-00460
N,*N*′-Bis(9-acridinyl)hydrazine, B-00240
2,6-Bis(3-bromo-4-hydroxy-5-methoxybenzylidene)cyclohexanone, B-00265
2,6-Bis(3-bromo-4-hydroxy-5-methoxybenzylidene)-3-methyl-1-cyclohexanone, B-00266
2,6-Bis(3-bromo-4-hydroxy-5-methoxybenzylidene)-4-methyl-1-cyclohexanone, B-00267
2′,7′-Bis(carboxyethyl)carboxyfluorescein, B-00273
2,6-Bis(3,4-dihydroxybenzylidene) cyclohexanone, B-00298
2,6-Bis(3,4-dihydroxybenzylidene)-3-methyl-1-cyclohexanone, B-00299
2,6-Bis(3,4-dihydroxybenzylidene)-4-methyl-1-cyclohexanone, B-00300
1,10-Bis(2,4-dihydroxyphenyl)-1,10-decanedione, B-00304
5,5-[Bis(2,4-dihydroxyphenyl)]-2(5*H*)-furanone, B-00305
1,7-Bis(2,4-dihydroxyphenyl)-1,7-heptanedione, B-00306
1,6-Bis(2,4-dihydroxyphenyl)-1,6-hexanedione, B-00307
1,9-Bis(2,4-dihydroxyphenyl)-1,9-nonanedione, B-00309
4,4′-Bis(*p*-dimethylaminophenylazo) stilbene-2,2′-disulfonic acid, B-00317
3,6-Bis(dimethylamino)-9*H*-xanthen-9-one, *in* D-00132
2,6-Bis(3-ethoxy-4-hydroxybenzylidene) cyclohexanone, *in* B-00298
2,6-Bis(3-ethoxy-4-hydroxybenzylidene)-3-methyl-1-cyclohexanone, *in* B-00299
2,6-Bis(3-ethoxy-4-hydroxybenzylidene)-4-methyl-1-cyclohexanone, *in* B-00300
3,3-Bis(4-hydroxy-2,5-dimethylphenyl)-1(3*H*)-isobenzofuranone, B-00365
3,3-Bis(4-hydroxy-3,5-dimethylphenyl)-1(3*H*)-isobenzofuranone, B-00366
3,3-Bis(4-hydroxy-2-isopropyl-5-methylphenyl)-1(3*H*)-isobenzofuranone, B-00378
3,3-Bis(4-hydroxy-3-methoxyphenyl)-1(3*H*)-isobenzofuranone, B-00379
3,3-Bis(5-hydroxy-1-naphthalenyl)-1(3*H*)-isobenzofuranone, B-00381
5,5-Bis(4-hydroxyphenyl)-2(5*H*)-furanone, B-00389
[[Bis(4-nitrophenyl)amino]methylene] propanedinitrile, B-00430
1,6-Bis(2,4,6-trihydroxyphenyl)-1,6-hexanedione, B-00467
▷ Brazilin; (+)-*form*, *in* B-00475
2-Bromo-4-[(3-bromo-4-hydroxy-5-methylphenyl)phenylmethylene]-6-methyl-2,5-cyclohexadien-1-one, B-00495
Bromochlorophenol blue, B-00497
Bromocresol green, B-00498
Bromocresol purple, B-00499
Bromophenol blue, B-00542
Bromophenol red, B-00543
3-[(4-Bromophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00546
2-(4-Bromophenyl)-4-methyl-1*H*-1,5-benzodiazepine, B-00554
6-(4-Bromophenyl)-5*H*-2-pyrindine-5,7(6*H*)-dione, B-00556
Bromothymol blue, B-00581
Bromoxylenol blue, B-00583
▷ C.I. Acid orange 20, *in* O-00043
C.I. Direct blue 72, C-00004

Carbazol yellow B, C-00021
4-[(3-Chloro-4-hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, C-00149
Chlorophenol red, C-00197
3-Chloro-4-[(4-phenylamino)phenylazo] benzenesulfonic acid, *in* A-00309
2-(4-Chlorophenyl)-4-methyl-1*H*-1,5-benzodiazepine, C-00236
6-(4-Chlorophenyl)-5*H*-2-pyridine-5,7(6*H*)-dione, C-00239
Chromorange GR; Di-Na salt, *in* C-00289
▷ Congo red, C-00301
o-Cresolbenzein, C-00305
m-Cresolphthalein, C-00306
▷ *o*-Cresolphthalein, C-00307
m-Cresol purple, C-00309
Cresol red, C-00310
o-Cresoltetrabromosulfonephthalein, C-00311
o-Cresoltetrachlorosulfonephthalein, C-00312
▷ 1-(Cyanomethyl)-4-nitrobenzene, *in* N-00120
▷ 2,4-Diamino-4′-ethoxyazobenzene, D-00095
2,4-Diamino-4′-methoxy-5-methylazobenzene, D-00099
4-[(2,4-Diaminophenyl)azo]-2-methylphenol, D-00113
4-[(2,4-Diaminophenyl)azo]phenol, D-00114
4,4′-[(4,6-Diamino-1,3,5-triazin-2-yl) amino]-2,2′-stilbenedisulfonic acid-*N*,*N*′,*N*″,*N*‴-tetraacetic acid; Hexa-Na salt, *in* D-00129
2,6-Dibromo-4-[(4-hydroxyphenyl)imino]-2.5-cyclohexadien-1-one, D-00191
5-[(3,5-Dibromo-4-oxo-2,5-cyclohexylidene) amino]-2-hydroxybenzenesulfonic acid, D-00197
3,3′-Dibromothymolbenzein, D-00217
3,3′-Dibromothymoltetrachlorophthalein, D-00218
2,6-Dichloro-4-[(2-chloro-4-oxo-2,5-cyclohexadien-1-ylidene)amino]phenol, D-00258
2,6-Dichloro-4-[(3-chloro-4-oxo-2,5-cyclohexadien-1-ylidene)amino]phenol, D-00259
2,5-Dichloro-4-[[4-(4-dimethylamino) phenyl]azo]benzenesulfonic acid, *in* A-00311
2,6-Dichloro-4-[(4-hydroxy-3-methylphenyl) imino]-2,5-cyclohexadien-1-one, D-00279
3-[(2,4-Dichlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, D-00289
▷ Dicoumarol, D-00305
2,3-Dicyano-1,4-benzenediol, *in* D-00525
4-[[4-(Diethylamino)phenyl]azo]-5,5-dimethyl-1,3-cyclohexanedione, *in* A-00313
2-[[4-(Diethylamino)phenyl]azo]-1,3-indanedione; Monooxime, *in* D-00331
1,5-Di-2-furanyl-1,4-pentadien-3-one, D-00363
3,7-Dihydro-8-[[(4-hydroxyphenyl)amino] methyl]-1,3,7-trimethyl-1*H*-purine-2,6-dione, D-00418
▷ 1,2-Dihydroxyanthraquinone, D-00510
2,4-Dihydroxybenzenecarbothioic acid; *S*-Propyl ester, *in* D-00523
2,5-Dihydroxy-1,4-benzenedisulfonic acid, D-00526
2,4-Dihydroxy-3,5-bis[(4-nitrophenyl)azo] benzenesulfonic acid, D-00555
3,4-Dihydroxy-10-imino-9(10*H*)-anthracenone, D-00634
4,5-Dihydroxy-3-[(4-iodophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00635
4,7-Dihydroxy-1*H*-isoindole-1,3 (2*H*)-dione, D-00636
5,7-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00646
4-[(2,4-Dihydroxyphenyl)azo] benzenesulfonic acid; Na salt, *in* D-00688
2,4-Dihydroxy-5-sulfobenzoic acid, D-00731
3,6-Dihydroxyxanthone, D-00742
▷ 4-Dimethylaminoazobenzene, D-00778
9-(Dimethylamino)-5*H*-benzo[*a*] phenoxazin-5-one, D-00782
7-(Dimethylamino)-1-hydroxy-3*H*-phenoxazin-3-one, D-00786
7-(Dimethylamino)-1-methyl-3*H*-phenoxazin-3-one, D-00792
4-[[4-(Dimethylamino)phenyl]azo]-5,5-dimethyl-1,3-cyclohexanedione, D-00808
2,4-Dinitro-6-chlorophenylazothymol, D-00951
▷ 2,3-Dinitrophenol, D-00957
▷ 2,4-Dinitrophenol, D-00958
▷ 2,5-Dinitrophenol, D-00959
▷ 2,6-Dinitrophenol, D-00960
▷ 3,4-Dinitrophenol, D-00961
3-[(2,4-Dinitrophenyl)azo]-4-hydroxy-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00965
3-[(2,4-Dinitrophenyl)azo]-4-hydroxy-1-naphthalenesulfonic acid; Na salt, *in* D-00966
▷ (2,4-Dinitrophenyl)hydrazine, D-00972
2-(2,4-Dinitrophenyl)pyridinium(1+); Chloride, *in* D-00974
1,5-Di-2-thienyl-1,4-pentadien-3-one, D-01114
Epsilon blue; Di-Na salt, *in* E-00008
▷ Eriochrome blue black; Na salt, *in* E-00010
2,2′-(1,2-Ethenediyl)bis[4-[[4-amino-6-[bis(2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]benzenesulfonic acid]; Di-Na salt, *in* E-00041
2,2′-(1,2-Ethenediyl)bis[5-[(4,6-dichloro-1,3,5-triazin-2-yl)amino]benzenesulfonic acid], E-00044
2,2′-(1,2-Ethenediyl)bis[5-[(4-hydroxy-6-chloro-1,3,5-triazin-2-yl)amino] benzenesulfonic acid], E-00045
4′-Ethoxy-4-hydroxyazobenzene, *in* D-00516
4-[(4-Ethoxyphenyl)azo]-6-methyl-1,3-benzenediamine, *in* H-00451
4-[(4-Ethoxyphenyl)azo]-1-naphthalenamine, *in* A-00277
1-(4-Ethoxyphenyl)-4-(4-hydroxybenzylidene)-2,3-pyrrolidinedione, E-00059
Ethylbis(2,4-dinitrophenyl) acetate, *in* D-00971
4-(4-*N*-Ethyl-*N*-hydroxyaminophenylazo)-5,5-dimethyl-1,3-cyclohexanedione, *in* A-00313
3-(2-Ethyl-3-oxo-1-phenylbutyl)-4-hydroxy-4*H*-1-benzopyran-4-one, E-00101
4-[(2-Ethylphenyl)azo]-1-naphthalenamine, E-00103
6-(4-Fluorophenyl)-5*H*-2-pyrindine-5,7(6*H*)-dione, F-00033
Gallamine blue; Chloride, *in* G-00003
▷ Haematein, H-00001
Heptamethoxy red, H-00010
Hexamethoxy red, H-00056
2-Hydroxybenzaldehyde; Semicarbazone, *in* H-00101
9-Hydroxy-5*H*-benzo[*a*]phenoxazin-5-one, H-00123
▷ 7-Hydroxy-2*H*-1-benzopyran-2-one, H-00124
1-Hydroxy-4-[(3,5-dichloro-4-oxo-2,5-cyclohexadien-1-ylidene)amino]-2-naphthalenesulfonic acid, H-00148
5-Hydroxy-11-methyl-9*H*-benzo[*a*] phenoxazin-9-one, H-00280
▷ 7-Hydroxy-4-methyl-2*H*-1-benzopyran-2-one, H-00283
3-(4-Hydroxy-2-methylphenyl)-3-(4-hydroxyphenyl)-1(3*H*)-isobenzofuranone, H-00310
▷ 3-Hydroxy-2,7-naphthalenedisulfonic acid, H-00342
7-Hydroxy-1,3-naphthalenedisulfonic acid, H-00343
1-Hydroxy-2-naphthalenesulfonic acid, H-00344
4-Hydroxy-1-naphthalenesulfonic acid, H-00345
5-Hydroxy-1-naphthalenesulfonic acid, H-00346
▷ 6-Hydroxy-2-naphthalenesulfonic acid, H-00347
4-[(2-Hydroxy-1-naphthalenyl)azo] benzenesulfonic acid; Na salt, *in* H-00348
1-Hydroxy-4-[(4-oxo-2,5-cyclohexadien-1-ylidene)amino]-2-naphthalenesulfonic acid, H-00430
2-(2-Hydroxyphenyl)benzimidazole, H-00465
3-(2-Hydroxyphenyl)-2-propenoic acid, H-00500
▷ 2-Hydroxy-3-prenylnaphthoquinone, H-00515
3,3′-Iminobis[1-(4-methylphenyl)-2-propen-1-one], I-00008
3,3′-Iminobis[1-phenyl-2-propen-1-one], I-00009
2,2′-(Iminodimethylidene) biscyclododecanone, I-00016
2,2′-(Iminodimethylidene)biscyclohexanone, I-00017
2,2′-(Iminodimethylidene)bis[3,4-dihydro-5,7-dimethyl-1(2*H*)-naphthalenone], I-00018
2,2′-(Iminodimethylidene)bis[3,4-dihydro-1(2*H*)-naphthalenone], I-00019
1,1′-(Iminodimethylidene)bis-2(1*H*)-naphthalenone, I-00020
6,6′-(Iminodimethylidene)bis[6,7,8,9-tetrahydro-5*H*-benzocyclohepten-5-one], I-00021
▷ 6-Isopropyl-3-methyl-2,4-dinitrophenol, I-00073
Isothiocyanatobromothymol blue, I-00092
Lithmus, L-00009
Lucigenine; Dinitrate, *in* L-00012
▷ Malachite green; Chloride, *in* M-00006
▷ 2-Methoxybenzaldehyde, M-00074
▷ 7-Methoxy-1-methyl-β-carboline, M-00090
4-[(4-Methoxyphenyl)azo]-1,3-benzenediamine, M-00106
2-(4-Methoxyphenyl)-4-methyl-1*H*-1,5-benzodiazepine, M-00112
6-Methoxy-4-quinolinecarboxylic acid, *in* H-00527
4-Methyl-2-(4-methylphenyl)-1*H*-1,5-benzodiazepine, M-00199
4-Methyl-2-(3-nitrophenyl)-1*H*-1,5-benzodiazepine, M-00205
▷ Methyl orange; Na salt, *in* M-00210
4-Methyl-2-phenyl-1*H*-1,5-benzodiazepine, M-00225
Methyl red; Na salt, *in* M-00309
▷ *N*-Methyl-*N*,2,4,6-tetranitroaniline, M-00312
▷ 1-Naphthalenecarboxylic acid, N-00005
▷ 2-Naphthol, N-00026
Naphthol AS, *in* H-00370
α-Naphtholbenzein, N-00027
α-Naphtholsulfonephthalein, N-00029
▷ 2-Naphthylamine, N-00042
Neutral red; B,HCl, *in* N-00065
Nitroanisole blue, N-00078
p-Nitrobenzhydrazide, *in* N-00093
Nitrobromothymol blue, N-00102
▷ 2-Nitrophenol, N-00117
▷ 3-Nitrophenol, N-00118
▷ 4-Nitrophenol, N-00119
4-[(4-Nitrophenyl)azo]-1,2-benzenediol, N-00122
4-[(4-Nitrophenyl)azo]-1,3-benzenediol, N-00123
▷ (4-Nitrophenyl)hydrazine, N-00138
1-(5-Nitro-2-pyridinyl)-3,5-diphenylformazan, N-00149
▷ 2-Nitrosophenol, *in* B-00075
Orcinsulfonephthalein, O-00044
8-Oxo-5-(*p*-diethylaminophenylimino)-5,8-dihydroquinoline, O-00062
Pentamethoxy red, P-00028
▷ Phenolphthalein, P-00063
▷ Phenolsulfonphthalein, P-00064

Phenoltetrabromosulfonephthalein, P-00065
Phenoltetrachlorosulfonephthalein, P-00066
Phenoltetraiodophthalein, P-00067
Phenoltetraiodosulfonephthalein, P-00068
4-[[4-(Phenylamino)phenyl]azo] benzenesulfonic acid; Na salt, *in* P-00084
4-[(4-Phenylaminophenyl)azo]-3-bromobenzenesulfonic acid, *in* A-00308
▷ 4-Phenylazo-1-naphthylamine, P-00093
α-(Phenylazo)-4-nitrobenzeneacetonitrile, P-00094
▷ Phloxine B; Di-Na salt, *in* P-00213
Pinachrome; Iodide, *in* P-00236
Poirrier blue C4B; Di-Na salt, *in* P-00246
S-Propyl 2,4-dihydroxydithiobenzoate, P-00276
2-Pyridinecarboxaldehyde 4-nitrophenylhydrazone; (*E*)-*form*, *in* P-00329
2-Pyridinecarboxaldehyde; Phenylhydrazone, *in* P-00318
4-Pyridinecarboxaldehyde; Phenylhydrazone, *in* P-00320
5-(4-Pyridinylazo)-8-quinolinol; N^4-Oxide, *in* P-00380
7-(4-Pyridinylazo)-8-quinolinol; N^4-Oxide, *in* P-00382
1-(2-Pyridinyl)-3,5-diphenylformazan, P-00387
Pyrocatechol violet, P-00433
Pyruvic acid; 2,4-Dinitrophenylhydrazone, *in* P-00448
Quinaldine red; Iodide, *in* Q-00004
Rubrophen, R-00013
Salicyl red, S-00002
Sinalbine, *in* H-00128
Sulfonamidebromothymol blue, S-00047
Sulfonefluorescein, S-00049
▷ Sulphan blue, S-00058
Tetrabromoanilinesulfonephthalein, T-00011
4,4′-(4,5,6,7-Tetrabromo-3*H*-2,1-benzoxathiol-3-ylidene)bis[2-bromo-6-methylphenol] *S*,*S*-dioxide, T-00013
4,4′-(4,5,6,7-Tetrabromo-3*H*-2,1-benzoxathiol-3-ylidene)bis[2-bromophenol] *S*,*S*-dioxide, T-00014
Tetrabromo-*N*-ethylanilinesulfonephthalein, T-00018
Tetrabromophenolphthalein, T-00019
Tetrabromophenoltetrabromosulfonephthalein, T-00020
Tetrabromophenoltetrachlorosulfonephthalein, T-00021
Tetrabromophenoltetraiodophthalein, T-00022
4,4′-(4,5,6,7-Tetrachloro-3*H*-2,1-benzoxathiol-3-ylidene)bis[2-bromo-6-methylphenol] *S*,*S*-dioxide, T-00026
Tetraiodophenoltetraiodophthalein, T-00081
3,3′,5,5′-Tetranitrophenolsulfonephthalein, T-00109
Thymolbenzein, T-00180
Thymol blue, T-00181
Thymolphthalein, T-00182
Thymoltetrachlorophthalein, T-00184
1,3,3-Trimethyl-2-[2-(2-methyl-1*H*-indol-3-yl)ethylene]-3*H*-indolium(1+); Chloride, *in* T-00328
▷ 1,3,5-Trinitrobenzene, T-00349
▷ 2,4,5-Triphenylimidazole, T-00367
Triphenylmethanol, T-00368
Tris(2,4-dihydroxyphenyl)methane, T-00388
[Vinylenebis[[(3-sulfo-*p*-phenylene)imino-*s*-triazine-6,2,4-triyl]dinitrilo]]octaacetic acid; Hexa-Na salt, *in* V-00007
N,*N*′,*N*″,*N*‴-[Vinylenebis[(3-sulfo-*p*-phenylene)imino-*s*-triazine-6,2,4-triyl]] tetrasarcosine; Di-Na salt, *in* V-00008
Xylenol blue, X-00005

Indicator: argentimetric

3-Acetyl-4,5,6,7-tetrachloro-3-(2-hydroxyphenyl)-1(3*H*)-isobenzofuranone, A-00048
3-Acetyl-4,5,6,7-tetrachloro-3-(4-hydroxyphenyl)-1(3*H*)-isobenzofuranone, A-00049
4-Bromo-*N*,*N*′-bis(2-hydroxypropyl)-1,2-benzenediamine, B-00494
▷ 2,4-Diamino-4′-ethoxyazobenzene, D-00095
3-(3,5-Dibromo-2,4-dihydroxyphenyl)-4,5-dimethoxy-1(3*H*)-isobenzofuranone, D-00710
3-(2,4-Dihydroxyphenyl)-4,5-dimethoxy-1(3*H*)-isobenzofuranone, D-00710
3-[(3,5-Dinitrophenyl)azo]-4-hydroxy-1-naphthalenesulfonic acid; Na salt, *in* D-00967
3-(4-Hydroxyphenyl)-1-(3*H*)-isobenzofuranone, H-00474
3-[2-Hydroxyphenyl]-3-phenylnaphtho[2,1-*b*]furan-1(3*H*)-one, H-00493
3-[4-Hydroxyphenyl]-3-phenylnaphtho[2,1-*b*]furan-1(3*H*)-one, H-00494
▷ 4-Phenylazo-1-naphthylamine, P-00093
4,5,6,7-Tetrachloro-3,3-bis(4-hydroxyphenyl)-1(3*H*)-isobenzofuranone, T-00027
4,5,6,7-Tetrachloro-3-(2,4-dihydroxyphenyl)-3-methyl-1(3*H*)-isobenzofuranone, T-00028

Indicator: complexometric

Acid alizarin black SE, A-00050
Acid alizarin black SN, A-00051
Acid chrome blue K; Tri-Na salt, *in* A-00053
Acid chrome violet BR; Na salt, *in* A-00054
▷ Acid chrome violet K; Na salt, *in* A-00055
Alizarine green; Na salt, *in* A-00078
5-Amino-3-[(3-chloro-2-hydroxy-5-nitrophenyl)azo]-4-hydroxy-2,7-naphthalenedisulfonic acid, A-00137
3-[[(2-Aminoethyl)imino]methyl]-2-hydroxybenzoic acid, A-00175
5-Amino-4-hydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* A-00187
5-Amino-4-hydroxy-3-[(2-hydroxy-3-nitro-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00192
3-Amino-4-hydroxy-3′-nitroazobenzene-*N*,*N*-diacetic acid, A-00206
8-(7-Amino-1-hydroxy-3-sulfophenylazo)-7-hydroxy-1-naphthalenesulfonic acid; Di-Na salt, *in* A-00223
2-(Aminomethyl)-4-(3,5-dichloro-4-oxo-2,5-cyclohexylideneamino)-6-methylphenol *N*,*N*-diacetic acid, A-00239
2-(Aminomethyl)-4-(3,5-dichloro-4-oxo-2,5-cyclohexylideneamino)phenol-*N*,*N*-diacetic acid, A-00240
4-[[(3-Aminomethyl)-4-hydroxyphenyl] imino]-2,6-dibromo-2,5-cyclohexadien-1-one-*N*,*N*-diacetic acid, A-00243
5-Amino-2-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]phenol, A-00252
3-(Aminomethyl)-1,2,5-trihydroxyanthraquinone-*N*,*N*-diacetic acid, A-00259
Aspartic acid; (±)-*form*, *in* A-00447
5-(2-Benzothiazolyl)-1,3-diphenylformazan, B-00101
1-(2-Benzothiazolyl)-3-phenyl-5-(4-sulfophenyl)formazan; Na salt, *in* B-00108
2,2′-Bibenzoxazole, B-00202
N,*N*′-Bis[3-carboxysalicylidene] ethylenediamine; Di-Na salt, *in* B-00280
2,5-Bis(2-hydroxyethylamino)-1,4-benzenedicarboxylic acid, B-00368
▷ *N*,*N*′-Bis(2-hydroxyethyl) ethanedithioamide, B-00374
5-Bromo-8-hydroxy-7-[(2-hydroxy-3,5-dinitrophenyl)azo]quinoline, B-00511
3-[(4-Bromophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00546
2-[(5-Bromo-2-pyridinyl)azo]-5-(ethylamino)-4-methylphenol, *in* A-00125
Bromopyrogallol red, B-00574
Butanoic acid 2-[1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenyl] hydrazide, B-00605
C.I. Mordant black 38, *in* A-00205
Calcein blue, C-00011
Calconalide I, C-00013
Calcon-*m*-nitroanilide, C-00014
Carboxyarsenazo, C-00026
1-(3-Carboxy-2-hydroxy-1-naphthylazo)-2-naphthol-3,6-disulfonic acid, C-00030
2-Carboxy-1-pyrrolidinecarbodithioic acid; (*S*)-*form*, K salt, *in* C-00044
2-Chloro-5-[[5-hydroxy-4-[(2-hydroxy-1-naphthalenyl)azo]-2-methylphenyl]azo] benzenesulfonic acid; Na salt, *in* C-00132
4-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-3-hydroxy-2-naphthalenecarboxylic acid, C-00160
6-(5-Chloro-2-hydroxy-4-sulfophenylazo)-5-hydroxy-1-naphthalenesulfonic acid; Di-Na salt, *in* C-00161
3-[(3-Chlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* C-00202
3-[(4-Chlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* C-00203
Chromazurol S; Tri-Na salt, *in* C-00277
Chrome bordeaux B; Di-Na salt, *in* C-00279
Chrome green G, C-00283
Chrome red brown 5RD; Di-Na salt, *in* C-00284
4,4′-Diamino-3,3′-diethoxybiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00070
▷ 1,4-Diamino-5-nitroanthraquinone, D-00107
▷ 1,2-Diaminopropane-*N*,*N*,*N*′,*N*′-tetraacetic acid, D-00115
Diamond green BW; Di-Na salt, *in* D-00133
3-[(2,4-Dichlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00289
4-[[4-(Diethylamino)-2-hydroxyphenyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, D-00320
9,10-Dihydro-1,4-dihydroxy-9,10-dioxo-3-(4-sulfophenoxy)-2-anthracenesulfonic acid, D-00377
1,2-Dihydro-1,5-dimethyl-2-phenyl-4-[5-(1,2,3-trihydroxyphenyl)azo]-3*H*-pyrazol-3-one, D-00394
3-[(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]-2-hydroxy-5-methylbenzenesulfonic acid; Na salt, *in* D-00437
▷ 2′,4′-Dihydroxyacetophenone, D-00507
2′,4′-Dihydroxyacetophenone; Oxime, *in* D-00507
▷ 3,5-Dihydroxybenzoic acid, D-00534
4,5-Dihydroxy-3,6-bis[(4-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid, D-00562
4,4′-Dihydroxy-2,2′-diaminobiphenyl-*N*,*N*,*N*′,*N*′-tetraacetic acid; Tetra-Na salt, *in* D-00572
4,5-Dihydroxy-3,6-dinitroso-2,7-naphthalenedisulfonic acid, D-00583
4-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]-2-hydroxybenzoic acid, D-00598
2′,7′-Dihydroxyfluorescein, D-00613
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00618

4,5-Dihydroxy-3-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00624
4,5-Dihydroxy-3-[(4-iodophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00635
▷ 7,8-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00648
4-[(2,3-Dihydroxy-1-naphthalenyl)azo]-3-hydroxy-2,7-naphthalenedisulfonic acid, D-00660
4,5-Dihydroxy-3-nitroso-2,7-naphthalenedisulfonic acid, D-00672
4,5-Dihydroxy-3-nitroso-6-[(4-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid, D-00676
4-[(2,4-Dihydroxyphenyl)azo]-3-hydroxy-1-naphthalenesulfonic acid, D-00697
1-(2,4-Dihydroxyphenyl)-1-butanone; Oxime, *in* D-00707
1-(2,4-Dihydroxyphenyl)-1-pentanone, D-00714
1-(2,4-Dihydroxyphenyl)-1-propanone, D-00715
1-(2,4-Dihydroxyphenyl)-1-propanone; Oxime, *in* D-00715
6,7-Dihydroxy-5-(2-pyridinylazo)-2-naphthalenesulfonic acid; Na salt, *in* D-00724
4-[(2,3-Dihydroxy-6-sulfo-1-naphthalenyl)azo]-3-hydroxy-2,7-naphthalenedisulfonic acid, D-00732
4,5-Dihydroxy-3-[(4-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid, D-00733
4,5-Dihydroxy-3-[(5-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid, D-00734
4,5-Dihydroxy-3-[(6-sulfo-2-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid, D-00735
5-(Dimethylamino)-2-[(5-methylimidazol-4-yl)azo]phenol, D-00789
N,*N*-Dimethyl-4-(2-pyridinylazo)benzenamine, D-00909
Diphenylcarbazide, D-01004
Eriochrome fast grey RAS; Na salt, *in* E-00014
Eriochrome geranol; Di-Na salt, *in* E-00015
Eriochrome red B; Na salt, *in* E-00017
Ethyl acetoacetate, E-00063
4-[[4-(Ethylamino)-6-hydroxy-*m*-tolyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, *in* A-00196
Fast sulphon black F; Na salt, *in* F-00002
Glycinecresol red, G-00017
2′-Hydroxyacetophenone; Oxime, *in* H-00089
7-Hydroxy-8-(aminomethyl)coumarin-*N*-acetic acid, H-00096
7-Hydroxy-8-(aminomethyl)coumarin-*N*,*N*-diacetic acid, H-00097
▷ 2-Hydroxybenzamide, *in* H-00112
4-[4-Hydroxy-3-biphenylylazo]-1,3-benzenediol, H-00133
3-Hydroxy-4-[[2-hydroxy-3-[[(2-methoxyphenyl)amino]carbonyl]-1-naphthalenyl]azo]-1-naphthalenesulfonic acid, H-00207
3-Hydroxy-4-[[2-hydroxy-3-[[(4-methoxyphenyl)amino]carbonyl]-1-naphthalenyl]azo]-1-naphthalenesulfonic acid, H-00208
4-Hydroxy-3-[[2-hydroxy-3-(phenylcarbamoyl)-1-naphthyl]azo]benzenesulfonic acid, H-00236
3-Hydroxy-4-[(2-hydroxy-4-sulfo-1-naphthalenyl)azo]-2-naphthalenecarboxylic acid; Na salt, *in* H-00242
3-Hydroxy-4-[(2-hydroxy-6-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid, H-00243
2′-Hydroxy-5′-methylacetophenone; Semicarbazone, *in* H-00275
▷ 2-Hydroxy-3-methylbenzoic acid, H-00278
2-Hydroxy-5-methylbenzoic acid, H-00279
2-[(2-Hydroxy-5-methyl-3-nitrophenyl)azo]-4,6-dinitrophenol, H-00293
▷ 3-Hydroxy-2-methyl-4*H*-pyran-4-one, H-00323
6-Hydroxy-3-[(4-methyl-2-thiazolyl)azo]-2(1*H*)-pyridinone, H-00331
5-[(2-Hydroxy-1-naphthalenyl)azo]-2,4-(1*H*,3*H*)-pyrimidinedione; NH_4 salt, *in* H-00354
8-Hydroxy-7-(1-naphthalenylazo)-5-quinolinesulfonic acid, H-00355
Hydroxynaphthol blue; Tri-Na salt, *in* H-00371
1-[(2-Hydroxy-4-nitrophenyl)azo]-2-naphthalenol, H-00395
N-[[1-Hydroxy-4-(4-nitrophenylazo)-2-naphthyl]methyl]glycine, H-00397
2-Hydroxy-3-nitrosobenzoic acid, H-00406
2-[(3-Hydroxy-1-oxo-1*H*-inden-2-yl)imino]-1*H*-indene-1,3(2*H*)-dione, H-00433
2-[(2-Hydroxyphenyl)azo]-1,5-naphthalenediol, H-00453
1-[(2-Hydroxyphenyl)azo]-2-naphthalenol, H-00455
▷ *N*-Hydroxy-3-phenylpropenamide, H-00499
4-(3-Hydroxy-3-phenyl-1-triazenyl)benzenesulfonic acid, H-00506
4-Hydroxy-3-(2-pyridinylazo)-1-naphthalenesulfonic acid, H-00522
8-Hydroxy-7-[(4-sulfo-1-naphthalenyl)azo]-5-quinolinesulfonic acid; Di-Na salt, *in* H-00539
1-(2-Hydroxy-5-sulfophenyl)-3-phenyl-5-(2-carboxyphenyl)formazan, H-00544
3-Hydroxy-4-(2-thiazolylazo)-2,7-naphthalenedisulfonic acid, H-00548
4-Hydroxy-3-[(2,3,5-trichloro-6-hydroxyphenyl)azo]-1-naphthalenesulfonic acid; Na salt, *in* H-00556
▷ Indoferron, I-00032
Lead blue, L-00004
▷ Lumogallion, L-00015
Mercaptobutanedioic acid; (±)-*form*, *in* M-00026
4-Methoxyaniline; Thiocyanate salt, *in* M-00073
4-Methoxy-2-[(5-methylimidazol-4-yl)azo]phenol, *in* M-00191
4-Methoxy-2-[(4-methyl-2-thiazolyl)azo]phenol, *in* M-00318
N-(4-Methoxyphenyl)-1,4-benzenediamine, *in* A-00185
1-[(5-Methylimidazol-4-yl)azo]-2-naphthol, M-00192
4-[[3-(1-Methyl-2-piperidinyl)-4-pyridinyl]azo]-1,3-benzenediol, M-00248
4-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl]azo]-1,3-benzenediol, M-00249
2-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl]azo]-1-naphthalenol, M-00251
5-Methyl-4-(2-thiazolylazo)-1,3-benzenediol, M-00321
4-Methyl-2-(2-thiazolylazo)phenol, M-00323
Mordant blue 44; Di-Na salt, *in* M-00342
Mordant green 34; Na salt, *in* M-00343
Murexide, *in* P-00281
Naphthol black 3B; Tetra-Na salt, *in* N-00028
Naphthol violet, N-00030
1,2-Naphthoquinone-4-sulfonic acid 2-(phenylthiosemicarbazone); Na salt, *in* N-00037
1,2-Naphthoquinone-4-sulfonic acid; 2-(Thiosemicarbazone), *in* N-00033
Naphthylazoxine 4,8S, N-00044
Naphthylazoxine 4S, N-00043
Naphthylazoxine 5,7S, N-00046
Naphthylazoxine 5S, N-00045
Naphthylazoxine 6S, N-00047
4-[(4-Nitrophenyl)azo]-1,2-benzenediol, N-00122
1-(5-Nitro-2-pyridinyl)-3,5-diphenylformazan, N-00149
▷ 2-Nitrosophenol, *in* B-00075
3-(2-Nitroso-4-sulfo-1-naphthalenylazo)-4,5-dihydroxynaphthalene-2,7-disulfonic acid, N-00163
Palatine fast blue GGNA CF, P-00001
9,10-Phenanthraquinone; Dioxime, mono-Me ether, *in* P-00047
6-Phenanthridinecarboxaldehyde 2-benzothiazolylhydrazone, P-00049
6-Phenanthridinecarboxaldehyde 2-quinolinylhydrazone, P-00051
Phenylazoxine S, P-00101
2-Pyridinecarboxaldehyde 2-benzothiazolylhydrazone; (*Z*)-*form*, *in* P-00321
2-Pyridinecarboxaldehyde 2-quinolinylhydrazone, P-00337
4-(2-Pyridinylazo)-1,3-benzenediol, P-00373
1-(2-Pyridinylazo)-2-naphthalenol, P-00374
1-(2-Pyridinyl)-3,5-diphenylformazan, P-00387
1-(2-Pyridyl)-5-(4-sulfophenyl)-3-phenylformazan, P-00424
2-Quinolinecarboxaldehyde 2-benzothiazolylhydrazone, Q-00010
1-(2-Quinolinylazo)-2-phenanthrenol, Q-00031
Resorcylaldoxime, *in* D-00517
β-Resorcylamide, *in* D-00531
Solochrome azurine BS, S-00016
Solochrome black PV; Na salt, *in* S-00018
Solochrome fast red; Na salt, *in* S-00020
Solochrome red B, S-00021
Sudan blue GA, S-00037
Sulfarsazen; Na salt, *in* S-00038
Sulfochlorophenol R, S-00044
4-(2-Thiazolylazo)-1,3-benzenediol, T-00141
Thymolphthalexon, T-00183
▷ Tiron, T-00186
2,5,8-Trihydroxy-1,4-naphthoquinone, T-00300
2-(2,6,7-Trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzenesulfonic acid, T-00305

Indicator: redox

o-Acetoresorufin, *in* H-00443
4-(Acetylamino)diphenylamine, *in* A-00166
Acilan fast green; Na salt, *in* A-00060
4-Aminobenzenesulfonic acid; *N*-Ph, Ba salt, *in* A-00100
▷ 2-Aminobenzenethiol, A-00101
7-Amino-2-chloro-1-hydroxy-3*H*-phenoxazin-3-one, A-00138
4-Amino-2,4′-dimethoxydiphenylamine, A-00160
3-Amino-7-(dimethylamino)-5-phenylphenazinium(1+); Chloride, *in* A-00162
▷ 4-Aminodiphenylamine, A-00166
7-Amino-1-hydroxy-3*H*-phenoxazin-3-one, A-00208
5-Amino-2-[(4-methoxyphenyl)amino]benzenesulfonic acid, A-00232
5-Amino-2-[(4-methoxyphenyl)amino]benzenesulfonic acid; Me ester, *in* A-00232
5-Amino-2-[(4-methoxyphenyl)amino]-*N*-phenylbenzamide, A-00233
5-Amino-*N*-(2-methoxyphenyl)-2-[(4-methoxyphenyl)amino]benzenesulfonamide, A-00234
5-Amino-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, A-00236
4-Amino-2-methyl-4′-methoxydiphenylamine, A-00246
7-Amino-1-methyl-3*H*-phenoxazin-3-one, A-00247
5-Amino-1,10-phenanthroline, A-00299
▷ 2-Amino-3*H*-phenoxazin-3-one, A-00303
7-Amino-3*H*-phenoxazin-3-one, A-00304
Astracyanine B; Chloride, *in* A-00448
Azocarmine G; Na salt, *in* A-00471
9-Benzo[*a*]phenoxazin-9-one, B-00070
2,2′-([1,1′-Biphenyl]-4,4′-diyldiimino)bisbenzoic acid, B-00209
[2,2′-Bipyridine]-4,4′-dicarboxylic acid, B-00224

4,4′-Bis(dimethylamino)-3,3′-dimethylbiphenyl, *in* D-00083
3,7-Bis(dimethylamino)-5-phenylphenazinium(1+); Iodide, *in* B-00323
Bis(2,2′:6′,2″-terpyridine-*N*,*N*′,*N*″)iron(*II*)(2+), B-00457
2-Bromo-4-[(4-hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, B-00512
5-Bromo-1,10-phenanthroline, B-00541
▷ C.I. 51010, *in* B-00477
C.I. Azoic diazo compound 35, *in* A-00185
Capri blue GN†, *in* C-00017
Capri blue GN; Chloride, *in* C-00018
4-[(3-Chloro-4-hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, C-00149
7-Chloro-8-hydroxy-5-quinolinesulfonic acid, C-00152
5-Chloro-1,10-phenanthroline, C-00195
3,4-Cyclopenteno-1,10-phenanthroline, C-00365
4,4′-Diamino-1,1′-binaphthalene-3,3′-disulfonic acid, D-00052
4,4′-Diamino-3,3′-dibromobiphenyl, D-00068
4,4′-Diamino-3,3′-diethoxybiphenyl, *in* D-00056
4,4′-Diamino-3,3′-diethyl-1,1′-binaphthyl, D-00071
4,4′-Diamino-2,2′-diethylbiphenyl, D-00072
4,4′-Diamino-3,3′-diisopropyl-1,1′-binaphthyl, D-00076
4,4′-Diamino-3,3′-dimethoxy-1,1′-binaphthyl, D-00077
▷ 4,4′-Diamino-3,3′-dimethoxybiphenyl, *in* D-00056
4,4′-Diamino-3,3′-dimethyl-[1,1′-binaphthalene]-6,6′-disulfonic acid, D-00081
4,4′-Diamino-3,3′-dimethyl-1,1′-binaphthyl, D-00082
▷ 2,4-Diaminodiphenylamine, D-00085
4,4′-Diaminodiphenylamine, D-00086
4,4′-Diamino-3,3′-diphenyl-1,1′-binaphthyl, D-00087
4,4′-Diamino-3,3′-dipropyl-1,1′-binaphthyl, D-00093
▷ 2,4-Diamino-4′-ethoxyazobenzene, D-00095
4,4′-Diamino-3-ethoxybiphenyl, *in* D-00057
3,6-Diamino-10-methylacridinium chloride, *in* D-00042
4,4′-Diamino-3-methylbiphenyl; B, HCl, *in* D-00102
4,4′-Dianilinobiphenyl, *in* D-00053
▷ 1,1′-Dibenzyl-4,4′-bipyridinium(2+); Dichloride, *in* D-00167
2,6-Dibromo-4-[(4-hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, D-00191
2,6-Dibromo-4-[(4-hydroxy-2-sulfophenyl)imino]-2,5-cyclohexadien-1-one; Na salt, *in* D-00194
5-[(3,5-Dibromo-4-oxo-2,5-cyclohexylidene)amino]-2-hydroxybenzenesulfonic acid, D-00197
4,4′-Dichloro-2,2′-bipyridine, D-00253
2,6-Dichloro-4-[(3-chloro-4-hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, D-00256
2,6-Dichloro-4-[(4-hydroxyphenyl)imino]-2,5-cyclohexadien-1-one, D-00282
▷ Diethazine; B,HCl, *in* D-00312
N,*N*′-Diethylbenzidine, *in* D-00053
1,1′-Diethyl-4,4′-bipyridinium(2+); Dichloride, *in* D-00339
6,7-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00647
3,3′-(3,3′-Dimethoxy[1,1′-biphenyl]-4,4′-diyl)bis[2,5-bis(4-nitrophenyl)-2*H*-tetrazolium](2+) 9CI; Dichloride, *in* D-00770
2,2′-[(3,3′-Dimethoxy[1,1′-biphenyl]-4,4′-diyl)diimino]bisbenzoic acid, D-00772
9-(Dimethylamino)benzo[*a*]phenoxazin-7-ium-2,5-disulfonic acid(1+), D-00781
9-(Dimethylamino)-5-[[4-(dimethylamino)phenyl]amino]benzo[*a*]phenoxazin-7-ium(1+); Chloride, *in* D-00784
7-(Dimethylamino)-1-hydroxy-3*H*-phenoxazin-3-one, D-00786
7-(Dimethylamino)-1-methyl-3*H*-phenoxazin-3-one, D-00792
N,*N*′-Dimethylbenzidine, *in* D-00053
2,2′-[(3,3′-Dimethyl[1,1′-biphenyl]-4,4′-diyl)diimino]bisbenzoic acid, D-00837
N,*N*′-Dimethyldiphenylbenzidine, *in* D-00053
4,4′-Diphenyl-2,2′-bipyridine, D-01002
3,8-Diphenyl-1,10-phenanthroline, D-01033
▷ Erioglaucine A; Di-NH_4 salt, *in* E-00018
Erio green B; Na salt, *in* E-00019
5-Ethoxy-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, E-00057
N-Ethylbenzidine, *in* D-00053
Ethyl capri blue; Chloride, *in* E-00067
Fast green FCF; Di-Na salt, *in* F-00001
5-Fluoro-8-hydroxyquinoline, F-00029
Gallophenine, G-00007
1-Hydroxy-4-[(3,5-dichloro-4-oxo-2,5-cyclohexadien-1-ylidene)amino]-2-naphthalenesulfonic acid, H-00148
5-Hydroxy-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, H-00280
1-Hydroxy-4-[(4-oxo-2,5-cyclohexadien-1-ylidene)amino]-2-naphthalenesulfonic acid, H-00430
7-Hydroxy-3*H*-phenothiazin-3-one, H-00441
2-Hydroxy-3*H*-phenoxazin-3-one, H-00442
7-Hydroxy-3*H*-phenoxazin-3-one; Et ether, *in* H-00443
7-Hydroxy-3*H*-phenoxazin-3-one; Et-ether, 10-oxide, *in* H-00443
7-Hydroxy-3*H*-phenoxazin-3-one; Me ether, *in* H-00443
7-Hydroxy-3*H*-phenoxazin-3-one; Me ether, 10-oxide, *in* H-00443
▷ 2,2′-Iminodibenzoic acid, I-00013
2,3′-Iminodibenzoic acid, I-00014
2,4′-Iminodibenzoic acid, I-00015
Indigo-5-sulfonic acid, I-00027
Indigo-5,5′,7,7′-tetrasulfonic acid, I-00028
Indigo-5,5′,7-trisulfonic acid, I-00030
Induline scarlet; Chloride, *in* I-00035
Lissamine blue BF; Di-Na salt, *in* L-00007
Lissamine violet 10B, L-00008
3-Methoxy-4-aminodiphenylamine, M-00071
3-Methoxybenzidine, *in* D-00057
▷ 2′-Methoxydiphenylamine-2-carboxylic acid, *in* H-00167
5-Methoxy-11-methyl-9*H*-benzo[*a*]phenoxazin-9-one, M-00089
N-(4-Methoxyphenyl)-1,4-benzenediamine, *in* A-00185
11-Methyl-9*H*-benzo[*a*]phenoxazin-9-one, M-00140
3-Methyldiphenylamine, M-00161
4-Methyldiphenylamine, M-00162
▷ 2′-Methyldiphenylamine-2-carboxylic acid, M-00163
▷ 3′-Methyldiphenylamine-2-carboxylic acid, M-00164
2-Methyldiphenylamine-4-sulfonic acid, M-00165
N-Methyldiphenylamine-4-sulfonic acid, M-00166
2-Methyl-1,10-phenanthroline, M-00220
5-Methyl-1,10-phenanthroline, M-00221
10-Methyl-2(10*H*)-phenazinone, *in* H-00439
▷ Methylthioninium chloride, *in* M-00175
Muscarine†; Chloride, *in* M-00350
Neutral blue; Chloride, *in* N-00064
New methylene blue NCG; Chloride, *in* N-00068
Nile blue A; 5-*N*-Benzyl, chloride, *in* N-00069
▷ 2-Nitrodiphenylamine, N-00104
▷ 4-Nitrodiphenylamine, N-00105
▷ 2′-Nitrodiphenylamine-2-carboxylic acid, N-00106
5-Nitro-1,10-phenanthroline; B,HCl, *in* N-00116
1,2,3,4,9,10,11,12-Octahydrodibenzo[*c*,*i*][1,10]phenanthroline, O-00016
N-(3-Oxo-3*H*-phenoxazin-2-yl)acetamide, *in* A-00303
▷ Paraquat dichloride, *in* D-00841
1,10-Phenanthroline-3-sulfonic acid, P-00054
1,10-Phenanthroline-5-sulfonic acid, P-00055
▷ Phenol blue, P-00062
Phenonaphthoxazine G acid; Chloride, di-K salt, *in* P-00069
Phenosafranine; *N*,*N*,*N*′,*N*′-Tetra-Et, chloride, *in* P-00070
4-[[4-(Phenylamino)phenyl]azo]benzenesulfonic acid; Na salt, *in* P-00084
▷ *N*-Phenylanthranilic acid, P-00089
N-Phenyl-2-(4-methoxyphenylamino)-5-aminobenzenesulfonamide, *in* A-00232
5-Phenyl-1,10-phenanthroline; B,HCl, *in* P-00154
▷ Resazurin, *in* H-00443
Rhodamine B, *in* R-00002
Rosinduline 2G; Na salt, *in* R-00012
3,3′,4,4′-Tetraamino-1,1′-binaphthyl, T-00006
N,*N*,*N*′,*N*′-Tetraethylbenzidine, *in* D-00053
7,8,9,10-Tetrahydrobenzo[*c*][1,10]phenanthroline, T-00050
N,*N*,*N*′,*N*′-Tetramethylbenzidine, *in* D-00053
N,*N*,*N*′,*N*′-Tetramethylbenzidine-3-sulfonic acid, *in* D-00058
5,5′,6,6′-Tetramethyl-3,3-bi(1,2,4-triazine), T-00093
2,4,7,9-Tetramethyl-1,10-phenanthroline, T-00097
3,4,6,7-Tetramethyl-1,10-phenanthroline, T-00098
3,4,6,8-Tetramethyl-1,10-phenanthroline, T-00099
3,4,7,8-Tetramethyl-1,10-phenanthroline, T-00100
3,5,6,8-Tetramethyl-1,10-phenanthroline, T-00101
Thiazine blue; Chloride, *in* T-00136
Thioindigo 5,5′-disulfonic acid, T-00164
▷ Tolonium chloride, *in* T-00189
Toluylene blue; Chloride, *in* T-00190
3,4,6-Trimethyl-1,10-phenanthroline, T-00331
3,4,7-Trimethyl-1,10-phenanthroline, T-00332
3,5,6-Trimethyl-1,10-phenanthroline, T-00333
3,5,7-Trimethyl-1,10-phenanthroline, T-00334
3,5,8-Trimethyl-1,10-phenanthroline, T-00335
Tris(2,2′-bipyridine-*N*,*N*′)iron(*II*)(2+), T-00384
Tris(1,10-phenanthroline-N^1,N^{10})iron(*II*)(2+), T-00412
Trypan red; Penta-Na salt, *in* T-00434
Xylene brilliant blue FBR; Na salt, *in* X-00003
Xylene cyanole FF; Na salt, *in* X-00004

Masking agent (by complexation)

▷ Acetic acid, A-00006
▷ 2-Aminoethanethiol, A-00170
3-(Benzenesulfonylamino)propanoic acid, B-00027
▷ 2,2′-Bipyridine, B-00220
3,12-Bis(carboxymethyl)-6,9-dioxa-3,12-diazatetradecanedioic acid; Na salt, *in* B-00278
Bis(carboxymethyl)dithiocarbamic acid, B-00279
▷ [Bis(2-hydroxyethyl)amino]acetic acid, B-00367
▷ Citric acid, C-00299
▷ Cordycepic acid, *in* M-00008

1,2-Diaminocyclohexane-*N,N,N′,N′*-tetraacetic acid; (1*RS*,2*RS*)-*form*, *in* D-00065
▷ 1,2-Diaminopropane-*N,N,N′,N′*-tetraacetic acid, D-00115
▷ 2,3-Dimercaptobutanedioic acid, D-00751
▷ 2,3-Dimercapto-1-propanesulfonic acid, D-00761
▷ 2,3-Dimercapto-1-propanol, D-00763
N-(Dithiocarboxy)sarcosine, D-01126
▷ Ethylenediaminetetraacetic acid, E-00078
▷ *N*-(2-Hydroxyethyl)ethylenediaminetriacetic acid, H-00177
3-Hydroxy-4-[(2-hydroxy-1-naphthalenyl) azo]-7-nitro-1-naphthalenesulfonic acid, H-00224
▷ Nitrilotriacetic acid, N-00074
▷ Oxalic acid, O-00048
▷ Pentetic acid, P-00039
▷ Tetraethylenepentamine, T-00044
2,2′-Thiobisethanamine; B,2HCl, *in* T-00156
▷ Tris(2-hydroxyethyl)amine, T-00406
▷ Vitamin C, *in* A-00446

Membrane ionophore (used in ion-selective electrodes)

2,2′-Bis[3,4-(15-crown-5)-2-nitrophenylcarbamoxymethyl] tetradecane, B-00290
3,26-Bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21-decahydro-29-(3,45-trimethoxyphenyl)-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16] hexaoxacycloheneicosin, B-00328
3,26-Bis(1,1-dimethylethyl)-29-(2,5-dimethylphenyl)-8,9,11,12,14,15,17,18,20,21-decahydro-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16]-hexaoxacycloheneicosin, B-00329
3,29-Bis(1,1-dimethylethyl)-8.9,11,12,14,15,17,18,20,21,23,24-dodecahydro-32-(3,4,5-trimethoxyphenyl)-32*H*-dinaphtho[2,1-*t*:1′,2′-*w*][1,4,7,10,13,16,19] heptaoxacyclotetracosin, B-00330
2,19-Bis(1,1-dimethylethyl)-6,7,9,10,12,13,15,16,23,24,26,27,29,30, 32,33-hexadecahydrodibenzo[*b,q*] [1,4,7,10,13,16,19,22,25,28] decaoxacyclotriacontine, B-00331
ar,ar′-Bis(1,1-dimethylethyl)-6,7,9,10,12,13,15,16,18,19,26,27,29,30, 32,33,35,36-octadecahydrodibenzo[*b,q*] [1,4,7,10,13,16,19,22,25,28,31] undecaoxacyclotritriacontin, B-00332
2,13-Bis(dodecyloxy)-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecine, B-00347
2,14-Bis(dodecyloxy)-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecine, B-00348
2,14-Bis(2-ethoxyethoxy)-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecine, B-00349
Bis[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-yl) methyl]heptanedioate, B-00434
Cryptand 2.2.2 BB, C-00318
8,9,11,12,14,15,17,18,20,21-Decahydro-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16]hexaoxacycloheneicosin, D-00016
2,3,5,6,8,9,11,12,14,15-Decahydronaphtho[2,3-*b*]-1,4,7,10,13,16-hexaoxacyclooctadecin, D-00017
2,3,5,6,8,9,11,12,14,15-Decahydro-18-nitro-1,4,7,10,13,16-benzohexaoxacyclooctadecin, D-00018
6,7.9.10,12,13,15,16,18,19-Decahydro-2,4,21,23-tetramethyl-25-(1-naphthalenyl)-25*H*-dibenzo[*q,t*][1,4,7,10,13,16] hexaoxacycloheneicosin, D-00020
5-Decyl-2-(1,4,8,11-tetraoxacyclotetradec-6-yl-methoxy)benzoic acid, D-00027
5-Decyl-2-(1,4,7,10-tetraoxacyclotridec-5-ylmethoxy)benzoic acid, D-00028
Dibenzo-16-crown-5, D-00155
Dibenzo-19-crown-6, D-00157
Dibenzo-22-crown-7, D-00158
Dibenzo-30-crown-10, D-00160
Dibenzo-36-crown-12, D-00161
6,6-Dibenzyl-1,4,8,11-tetraoxacyclotetradecane, D-00173
2,13-Dibutyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecin, D-00235
7,18-Dibutyl-6,7,9,10,17,18,20,21-octahydrodibenzo-[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecin, D-00236
29-(2,6-Dichlorophenyl)-3,26-bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21-decahydro-29*H*-dinaphtho[2,1-*q*:1′,2′-*t*][1,4,7,10,13,16]hexaoxacycloheneicosin, D-00290
32-(2,6-Dichlorophenyl)-3,29-bis(1,1-dimethylethyl)-8,9,11,12,14,15,17,18,20,21,23,24-dodecahydro-32*H*-dinaphtho[2,1-*t*:1′,2′-*w*][1,4,7,10,13,16,19]-heptaoxacyclotetracosin, D-00291
2,19-Diethyl-6,7,9,10,12,13,15,16,23,24,26,27,29,30, 32,33-hexadecahydrodibenzo[*b,q*] [1.4,7,10,13,16,19,22,25,28] decaoxacyclotriacontin, D-00348
2,13-Diethyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecin, D-00351
2,13-Diheptyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecin, D-00366
2,13-Dihexyl-6,7,9,10,17,18,20,21-octahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecin, D-00368
16,17-Dihydro-5*H*,15*H*-dibenzo[*b,i*][1,11,4,5,7,8] dioxatetraazacyclotetradecine-7-carbonitrile, D-00375
Dinaphtho-30-crown-10, D-00932
N-(2,4-Dinitrophenyl)-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, D-00973
Dipropyldicyclohexyl-18-crown-6, *in* O-00027
6,7,9,10,12,13,20,21,23,24,26,27-Dodecahydro-2,16-dimethyldibenzo[*b,n*] [1,4,7,10,13,16,19,22] octaoxacyclotetracosin, D-01138
6-Dodecyl-*N,N*-diethyl-1,4,8,11-tetraoxacyclotetradecane-6-acetamide, D-01143
Dodecylmethylpropanedioate bis(1,4,7,10-tetraoxacyclododec-2-ylmethyl)ester, D-01152
6-Dodecyl-6-methyl-1,4,8,11-tetraoxacyclotetradecane, D-01153
Eicosahydro-20*H*-dibenzo[*b,n*][1,4,7,10,13,16] hexaoxacyclononadecin, E-00003
▷ Eicosahydrodibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecine, E-00004
Eicosahydro-2,13-dimethyldibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecin, E-00005
6,7,9,10,12,13,15,16,23,24,26,27,29,30,32,33-Hexadecahydro-2,20-dimethyldibenzo[*b,q*] [1,4,7,10,13,16,19,22,25,28] decaoxacyclotriacontin, H-00023
6,7.9,10,12,13,15,23,24,26,27,29,30,32,33-Hexadecahydro-2,19-dinitrodibenzo[*b,q*]-[1,4,7,10,13,16,19,22,25,28] decaoxacyclotriacontin, H-00024
19-Methoxy-3,6,9,12,15-pentaoxa-21-aza-bicyclo[15.3.1]heneicosa-1(21),17,19-triene-2,16-dione, M-00101
15-Methyl-1,4,7,10,13-benzopentaoxacyclopentadecin, M-00139
6,7,9,10,17,18,21,22-Octahydro-16*H*,20*H*-dibenzo-[*h,q*][1,4,7,13,10,16] tetraoxadiazacyclooctadecine, O-00019
6,7,9,10,17,18,20,21-Octahydro-2,13-dimethyldibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecine, O-00023
6,7,9,10,17,18,20,21-Octahydro-2,13-dioctyldibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecine, O-00025
6,7,9,10,17,18,20,21-Octahydro-2,13-dipentyldibenzo[*b,k*][1,4,7.10,13,16] hexaoxacyclooctadecine, O-00026
6,7,9,10,17,18,20,21-Octahydro-2,13-dipropyldibenzo[*b,k*][1,4,7,10,13,16] hexaoxacyclooctadecine, O-00027
2,3,5,6,8,9,11,12-Octahydronaphtho[2,3-*b*]-1,4,7,10,13-pentaoxacyclopentadecine, O-00029
6-[(Phenylmethoxy)methyl]-1,4,8,11-tetraoxacyclotetradecane, P-00142
5-[(Phenylmethoxy)methyl]-1,4,7,10-tetraoxacyclotridecane, P-00143
Propeller crown 7, P-00268
Tetrakis(4-chlorophenyl)borate(1 −); K salt, *in* T-00083
2,3,14,15-Tetrakis(2-methoxyphenyl)-1,4,7,10,13,16,19,22-octaoxacyclotetracosa-2,14-diene, T-00087
1,4,10,13-Tetraoxa-7,16-dithiacyclooctadecane, T-00118

Microanalysis reference material

▷ Acetanilide, *in* A-00368
▷ (Acetato-*O*)phenylmercury, A-00005
Alanine; (±)-*form*, *in* A-00074
▷ 2-Aminophenylarsonic acid, A-00306
▷ Anthracene, A-00375
▷ Atropine, *in* T-00431
▷ Benzoic acid, B-00059
S-Benzylthiuronium chloride, *in* B-00193
▷ 4-Bromobenzoic acid, B-00488
▷ Carbon tetrachloride, C-00025
▷ 4-Chlorobenzoic acid, C-00067
▷ 1-Chloro-2,4-dinitrobenzene, C-00106
▷ Dibenzyl disulfide, D-00168
▷ 1,3-Dinitrobenzene, D-00936
▷ Diphenyl sulfone, D-01052
▷ *N*-(4-Ethoxyphenyl)acetamide, *in* E-00051
4-Fluorobenzoic acid, F-00024
▷ Hexachlorobenzene, H-00021
▷ Hippuric acid, H-00078
▷ 4-Hydroxy-3-methoxybenzaldehyde, *in* D-00519
▷ 8-Hydroxyquinoline, H-00525
4-Iodobenzoic acid, I-00041
Mannitol, M-00008
▷ 2-Methylbenzimidazole, M-00134
▷ Naphthalene, N-00001
▷ Narcotine; (1*R*,9*S*)-*form*, *in* N-00060
▷ 4-Nitroaniline, N-00077
▷ Nitrobenzene, N-00083
1,2,3,4,6-Penta-*O*-acetylglucopyranose, P-00006
▷ 3-Phenyl-2-propenoic acid, P-00169
▷ Sucrose, S-00036
▷ 1,3,5-Triazine-2,4,6-triamine, T-00197
3-(Trifluoromethyl)benzoic acid, T-00252
2,2,2-Trifluoro-*N*-phenylacetamide, T-00259
▷ Triphenylphosphine, T-00370
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O,O′*) praseodymium(*III*), T-00400

NMR reagent

(2-Aminoethoxy)diphenoxyborane, A-00172

Aqua[1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraacetato(4−)]europate(*III*) (1−), A-00396
Aqua[1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraacetato(4−)]gadolinate(*III*) (1−), A-00397
Bis[bis(3-methyl-2-pyridylimino) isoindolinato-*N*,*N*′,*N*″]manganese(*II*), B-00262
2,3-Butylene chlorophosphate, *in* C-00099
Caesium tetraphenylborate(1−), C-00009
(Cyano-*C*)triphenylborate(1−); Cs salt, *in* C-00330
1,1,1,5,5,6,6,7,7,7-Decafluoro-2,4-heptanedione, D-00004
1,4-Dibromo-2,3,5,6-tetrafluorobenzene, D-00216
Dichloro[29*H*,31*H*-phthalocyaninato(2−)] silicon, D-00297
N,*N*′-Dimethyl-1,2-bis[3-(trifluoromethyl) phenyl]-1,2-ethanediamine; (*R*,*R*)-*form*, *in* D-00843
N-(3,5-Dinitrobenzoyl)-α-phenylethylamine; (*R*)-*form*, *in* D-00949
DSS, *in* T-00344
(6,6,7,7,8,8,8-Heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)silver, H-00005
▷ Hexafluorobenzene, H-00031
▷ 1,1,1,3,3,3-Hexafluoro-2-propanone, H-00033
α-Methoxy-α-(trifluoromethyl) benzeneacetic acid, *in* H-00512
(1,4,7,10-Tetraazacyclododecane-*N*,*N*′,*N*″,*N*‴-tetramethylenephosphonato) dysprosate(5−), T-00008
[1,4,7,10-Tetraazacyclododecane-*N*,*N*′,*N*″,*N*‴-tetramethylenephosphonato]terbate(*III*) (5−), T-00009
[1,4,7,10-Tetraazacyclododecane-*N*,*N*′,*N*″,*N*‴-tetramethylenephosphonato]thulate(*III*) (5−), T-00010
Tetrakis(4,4,4-trifluoro-1-phenyl-1,3-butanedionato-*O*,*O*′)uranium, T-00090
▷ Tetramethylsilane, T-00103
Triaqua[[*N*,*N*′-(1-methyl-1,2-ethanediyl) bis[*N*-(carboxymethyl)glycinato]](4−)-*N*,*N*′-*O*,*O*′,*O*^{N},*O*$^{N'}$]europate(1−); Na salt, *in* T-00196
α-(Trifluoromethyl)-9-anthracenemethanol; (*R*)-*form*, *in* T-00250
Tris(1,1,1,5,5,6,6,7,7,7-decafluoro-2,4-heptanedionato-*O*,*O*′)europium(*III*), T-00385
Tris(2,6-di-*tert*-butylphenoxy)cerium(*III*), T-00387
Tris(3-heptafluorobutyryl-*d*-camphorato) europium(*III*), T-00391
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)europium(*III*), T-00394
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)gadolinium(*III*), T-00395
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)holmium(*III*), T-00396
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)lanthanum(*III*), T-00398
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′) neodymium(*III*), T-00399
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′) praseodymium(*III*), T-00400
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)terbium(*III*), T-00401
Tris(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato-*O*,*O*′)yttrium(*III*), T-00403
Tris[3-(heptafluoropropylhydroxymethylene)-*d*-camphorato]praseodymium(*III*), T-00404
Tris(1,1,1,5,5,5-hexafluoro-2,4-pentanedionato-*O*,*O*′)chromium(*III*), T-00405
▷ Tris(2,4-pentanedionato-*O*,*O*′) chromium(*III*), T-00410
▷ Tris(2,4-pentanedionato-*O*,*O*′)iron(*III*), T-00411
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)chromium(*III*), T-00414
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)dysprosium(*III*), T-00415
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)europium(*III*), T-00416
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)holmium(*III*), T-00418
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′) praseodymium(*III*), T-00420
Tris(2,2,6,6-tetramethyl-3,5-heptanedionato-*O*,*O*′)ytterbium(*III*), T-00421
Tris(tetraphenylimidodiphosphinato) praseodymium, T-00422
Tris(3-trifluoroacetyl-*d*-camphorato) europium(*III*), T-00423
Tris(3-trifluoroacetyl-*d*-camphorato) praseodymium(*III*), T-00424
Tris[4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedionato-*O*,*O*′]praseodymium(*III*), T-00425
Tris[4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedionato-*O*,*O*′]ytterbium(*III*), T-00426
TSP, *in* T-00345

Resolving agent

Arabinopyranosyl isothiocyanate; α-D-*form*, 2,3,4-Tri-Ac, *in* A-00399
2,3-Butanediol; (2*R*,3*R*)-*form*, *in* B-00586
▷ 2-Butanol, B-00607
Camphor-10-sulfonic acid; (+)-*form*, Chloride, *in* C-00016
Chloramphenicol base, *in* A-00284
3-[(Chlorocarbonyl)oxy]butanoic acid; (*S*)-*form*, *tert*-Butyl ester, *in* C-00078
Chrysanthemic acid; (1*R*,3*R*)-*form*, Chloride, *in* C-00296
▷ Cinchonine, C-00298
Dansylproline; (*S*)-*form*, *in* D-00001
▷ Dexamphetamine, *in* P-00172
N-(3,5-Dimethoxybenzoyl)isoleucine; L-*form*, *in* D-00767
4-(Dimethylamino)-α-methyl-1-naphthalenemethanamine, D-00790
3,3-Dimethyl-2-butanol; (*S*)-*form*, *in* D-00844
N-(3,5-Dinitrobenzoyl)-1-naphthylglycine, *in* A-00261
Di-*p*-toluoyl tartrate, *in* T-00002
Drimanoyl chloride, *in* D-01159
▷ Ephedrine, *in* M-00122
Flunoxaprofen; (±)-*form*, Chloride, *in* F-00008
1-(9*H*-Fluoren-9-yl)ethyl carbonochloridate; (+)-*form*, *in* F-00017
Glycylproline; (*S*)-*form*, *N*-Benzyloxycarbonyl, *in* G-00020
N-Heptylhydroxyproline; (2*S*,4*R*)-*form*, *in* H-00016
N-Hexadecylhydroxyproline; (2*S*,4*R*)-*form*, *in* H-00027
3-Hydroxyandrost-5-ene-17-carboxylic acid; (3β,17β)-*form*, Ac, chloride, *in* H-00098
4-Hydroxydinaphtho[2,1-*d*:1′,2′-*f*][1,3,2] dioxaphosphepin 4-oxide, H-00153
▷ 6-Hydroxy-2-naphthalenesulfonic acid, H-00347
2-Hydroxy-2-phenyl-3,3,3-trifluoropropanoic acid; (*S*)-*form*, Me ether, *in* H-00512
2-Hydroxy-2-phenyl-3,3,3-trifluoropropanoic acid; (*R*)-*form*, Me ether, chloride, *in* H-00512
▷ 2-Hydroxypropanoic acid, H-00516
(1-Isocyanoethyl)benzene; (*R*)-*form*, *in* I-00067
7-Isothiocyanato-1,7-dimethylbicyclo[2.2.1] heptane; (−)-*form*, *in* I-00093
Levamphetamine, *in* P-00172
Marfey's reagent, *in* F-00028
▷ (−)-Menthol, *in* M-00012
3-Menthoxyacetic acid; (−)-*form*, *in* M-00013
3-Menthoxyacetic acid; (−)-*form*, Chloride, *in* M-00013
Menthyl chloroformate; (−)-*form*, *in* M-00014
α-Methoxybenzeneacetyl chloride, *in* M-00007
1-[2-Methoxy-2-(1-naphthalenyl)-1-oxopropoxy]-2,5-pyrrolidinedione; (+)-*form*, *in* M-00094
2-Methoxy-2-(1-naphthyl)propanoic acid; (−)-*form*, *in* M-00095
1-[(Methoxyphenylacetyl)oxy]-2,5-pyrrolidinedione; (*S*)-*form*, *in* M-00105
α-Methoxy-α-(trifluoromethyl) benzeneacetic acid, *in* H-00512
▷ 2-Methylamino-1-phenyl-1-propanol; (1*S*,2*R*)-*form*, *in* M-00122
α-Methyl-1-anthracenemethanamine, M-00125
α-Methyl-2-anthracenemethanamine, M-00126
2′-Methyl-α-oxo-[1,1′-binaphthalene]-2-acetonitrile, M-00212
1-[[[[1-(1-Naphthalenyl)ethyl]amino] carbonyl]oxy]-2,5-pyrrolidinedione, N-00019
1-(2-Naphthalenylsulfonyl)-2-pyrrolidinecarbonyl chloride; (*S*)-*form*, *in* N-00022
2-Naphthyl chloroformate, N-00048
1-(1-Naphthyl)ethylamine; (*R*)-*form*, *in* N-00049
Neomenthyl isothiocyanate, *in* I-00095
1-(4-Nitrophenyl)ethylamine; (*R*)-*form*, *in* N-00135
1-(1-Oxo-2-phenylbutyl)-1*H*-imidazole; (+)-*form*, *in* O-00066
Phenylalanine α-naphthylamide; (*S*)-*form*, *in* P-00078
Phenylalanine β-naphthylamide; (*S*)-*form*, *in* P-00079
1-Phenylethylamine; (*R*)-*form*, *in* P-00130
2-(Phenylseleno)propanoic acid, P-00191
▷ Quinine, Q-00005
TAGIT, *in* G-00012
Teresantalol; 8-Carboxylic acid, chloride, *in* T-00004
1,2,3,4-Tetrahydro-3-isoquinolinecarboxylic acid; (*S*)-*form*, *in* T-00063
▷ L-Threaric acid, *in* T-00002
[(Trifluoroacetyl)amino]acetyl chloride, *in* T-00240
N-(Trifluoroacetyl)-L-prolyl chloride, *in* T-00242
[α-(Trifluoromethyl)benzyl]hydrazine; (+)-*form*, *in* T-00254
2,2,2-Trifluoro-1-phenylethylamine; (*S*)-*form*, *in* T-00261
4,5,7-Trinitro-9-oxo-9*H*-fluorene-2-carboxylic acid; Chloride, *in* T-00354
Tris(1,10-phenanthroline-N^{1},N^{10})iron(*II*) (2+); Λ-*form*, (2*R*,3*R*)-Antimonytartrate salt, *in* T-00412
Trolox C; (*S*)-*form*, Me ether, *in* T-00430
Tyrosine; (*S*)-*form*, Hydrazide, *in* T-00435

Scintillator

2-(4-Biphenylyl)-5-(4-*tert*-butylphenyl)-1,3,4-oxadiazole, B-00212
2-[1,1′-Biphenyl]-4-yl-5-phenoxazole, B-00214
2-(4-Biphenylyl)-6-phenylbenzoxazole, B-00215

2-[1,1′-Biphenyl]-4-yl-5-phenyl-1,3,4-oxadiazole, B-00216
2,5-Bis([1,1′-biphenyl]-4-yl)oxazole, B-00260
2,5-Bis[5-*tert*-butyl-2-benzoxazolyl] thiophene, B-00272
1,4-Bis[2-(2-methylphenyl)ethenyl]benzene, B-00407
1,4-Bis(4-methyl-5-phenyl-2-oxazolyl) benzene, B-00408
1,6-Diphenyl-1,3,5-hexatriene, D-01019
▷ 2,5-Diphenyloxazole, D-01031
DPS, *in* D-00174
2-(1-Naphthalenyl)-5-phenyloxazole, N-00021
2,2′-(1,4-Phenylene)bis[5-phenyloxazole], P-00121

Spectrofluorimetric reagent

3-Acetyl-5-hydroxy-2-methyl-4*H*-1-benzopyran-4-one, *in* D-00644
6-Acetyl-7-hydroxy-4-methyl-2*H*-1-benzopyran-2-one, A-00018
2-Acetylpyridine; Hydrazone, *in* A-00039
Acid chrome blue K; Tri-Na salt, *in* A-00053
Aconitic acid; (*E*)-*form*, *in* A-00061
3-(Aminocarbonyl)-1,4-dimethylpyridinium(1+); Chloride, *in* A-00133
2-Amino-3-(3,4-dihydroxyphenyl)propanoic acid; (*S*)-*form*, *in* A-00158
▷ 2-Aminoethanol, A-00171
▷ 1-Amino-4-hydroxyanthraquinone, A-00182
3-Amino-2-hydroxy-5-sulfobenzoic acid, A-00221
▷ 2-[4-(Aminoiminomethyl)phenyl]-1*H*-indole-6-carboximidamide, A-00227
Aminooxoacetic acid [(2-hydroxyphenyl) methylene]hydrazide, A-00292
8-Amino-7-(phenylazo)-5-quinolinesulfonic acid; Na salt, *in* A-00316
▷ 2-Amino-1-propene-1,1,3-tricarbonitrile, A-00330
3-Amino-2(1*H*)-quinolinethione, A-00341
9-Anthracenemethanol, A-00380
1,4,9,10-Anthracenetetrol, A-00381
Arginine; (*S*)-*form*, *in* A-00400
4-[4-[(3-Arsono-5-chloro-2-hydroxyphenyl) azo]-4,5-dihydro-3-methyl-5-oxo-1*H*-pyrazol-1-yl]benzenesulfonic acid, A-00419
8-(Benzenesulfonylamino)quinoline, B-00028
1*H*-Benzimidazole-2-carboxaldehyde 2-quinolinylhydrazone, B-00040
Benzoic acid [(2-hydroxy-1-naphthalenyl) methylene]hydrazide, B-00064
▷ 1,4-Benzoquinone, B-00076
1,4-Benzoquinone *O*-(2-chlorobenzyl) oxime, B-00077
1,4-Benzoquinone *O*-(4-chlorobenzyl) oxime, B-00078
1,4-Benzoquinone mono[*O*-[(*p*-methylphenyl)sulfonyl]]oxime, B-00079
1,4-Benzoquinone mono[*O*-[(*p*-nitrophenyl) sulfonyl]oxime], B-00080
1,4-Benzoquinone mono[*O*-phenylsulfonyl] oxime, B-00081
1,4-Benzoquinone *O*-(*m*-nitrobenzyl)oxime, B-00082
1,4-Benzoquinone *O*-(*p*-nitrobenzyl)oxime, B-00083
2-[(4-Benzothiazolylimino)methyl]phenol, B-00104
2-(Benzoylamino)-3-[4-(dimethylamino) phenyl]-2-propenoic acid, B-00120
2-Benzoylpyridine; Hydrazone, *in* B-00151
3-Benzoyl-2-quinolinecarboxaldehyde, B-00160
1,5-Bis(aminomethyl)-2,6-naphthalenediol-*N*,*N*,*N*′,*N*′-tetraacetic acid, B-00247
4-[[Bis(carboxymethyl)amino]methyl]-3-hydroxy-2-naphthoic acid, B-00277
Bis[(2,3-dihydroxyphenyl)methylene] carbonothioic dihydrazide, B-00308
▷ *N*,*N*′-Bis(2-hydroxybenzylidene)-1,2-ethanediamine, B-00363
Bis[(2-hydroxyphenyl)methylene]carbonic dihydrazide, B-00390
Bis[(2-hydroxyphenyl)methylene] carbonimidic dihydrazide, B-00391
3,3-Bis[(2-methoxyphenoxy)methyl]oxetane, B-00400
2,6-Bis(4-methylphenyl)-4-phenylpyrylium(1+); Chloride, *in* B-00410
3,3-Bis(1-naphthyloxymethyl)oxetane, B-00428
1,4-Bis(8-quinolyloxy)butane, B-00449
1,3-Bis(8-quinolyloxy)-2,2-diethylpropane, B-00450
1,1-Bis(8-quinolyloxymethyl)cyclobutane, B-00451
3,3-Bis(8-quinolyloxymethyl)oxetane, B-00452
1,3-Bis(8-quinolyloxy)propane, B-00453
4-Bromobenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, B-00489
5-Bromo-2-hydroxybenzaldehyde; Semicarbazone, *in* B-00509
9-(Bromomethyl)acridine, B-00516
4-(Bromomethyl)-7-methoxy-2*H*-1-benzopyran-2-one, *in* B-00524
4-(Bromomethyl)-2*H*-naphtho[1,2-*b*]pyran-2-one, B-00529
O-(*p*-Bromophenylsulfonyl)quinone monoxime, B-00557
2,3-Butanedione dihydrazone, *in* B-00587
N-(5-*tert*-Butyl-2-hydroxybenzylidene)-2-hydroxy-5-methylaniline, B-00632
Cannabiscitrin, *in* H-00055
Carmine red, C-00045
5-Chloro-2-[7-(diethylamino)-2-oxo-2*H*-1-benzopyran-3-yl]-6-benzoxazolesulfonic acid, C-00091
5-Chloro-3-[(5-dodecyl-2,4-dihydroxyphenyl)azo]-2-hydroxybenzenesulfonic acid, C-00113
2′-Chlorofluorescein, C-00116
4′-Chlorofluorescein, C-00117
4-Chloro-2-hydroxybenzaldehyde; Semicarbazone, *in* C-00121
5-Chloro-2-hydroxybenzaldehyde; Semicarbazone, *in* C-00122
5-Chloro-2-hydroxybenzaldehyde; Thiosemicarbazone, *in* C-00122
4-Chloro-2-(2-hydroxybenzylideneamino) phenol, C-00125
5-Chloro-*N*-(2-hydroxy-5-bromobenzylidene)-2-hydroxyaniline, C-00126
4-Chloro-2-hydroxy-*N*-(2-hydroxybenzylidene)aniline, C-00129
5-Chloro-2-hydroxy-*N*-(2-hydroxy-5-chlorobenzylidene)aniline, C-00130
4′-Chloro-2-hydroxy-4-methoxybenzophenone, *in* C-00095
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00158
▷ 4-(Chloroimino)-2,5-cyclohexadien-1-one, C-00164
1-Chloromethylbenz[*cd*]indol-2(1*H*)-one, *in* B-00050
▷ 4-Chloro-7-nitrobenzofurazan, C-00189
Dansylhydrazine, *in* A-00265
Deuteroporphyrin IX, D-00030
▷ 3,5-Diaminobenzoic acid, D-00051
4,8-Diamino-9,10-dihydro-1,5-dihydroxy-9,10-dioxo-2,6-anthracenedisulfonic acid, D-00073
1,2-Diamino-4,5-methylenedioxybenzene, D-00103
▷ 1,2-Diaminonaphthalene, D-00105
2,3-Diaminonaphthalene, D-00106
▷ 2,6-Diaminopyridine, D-00119
Di-2-benzothiazolylmethane, D-00163
Dibenzyl selenide, D-00170
▷ 2,6-Dibromo-4-(chloroimino)-2,5-cyclohexadien-1-one, D-00180
▷ (3,4-Dichlorobenzyl) triphenylphosphonium(1+); Chloride, *in* D-00252
1,4-Dichloro-5,8-dihydroxyanthraquinone, D-00261
2,4-Dichloro-6-(4-ethoxy-1-naphthalenyl)-1,3,5-triazine, D-00272
2′,4′-Dichlorofluorescein, D-00273
2′,5′-Dichlorofluorescein, D-00274
2′,7′-Dichlorofluorescein, D-00275
4′,5′-Dichlorofluorescein; Di-Na salt, *in* D-00276
6-(Diethylamino)-2,3-dihydro-1,4-phthalazinedione, *in* A-00156
6-(Diethylamino)-2-naphthalenesulfonic acid hydrazide, D-00325
2-[7-(Diethylamino)-2-oxo-2*H*-1-benzopyran-3-yl]-5-methyl-6-benzoxazolesulfonic acid, D-00327
4,5-Dihydro-3,5-diphenylisoxazole; (±)-*form*, *in* D-00400
4,5-Dihydro-1,5-diphenyl-3-(2-phenylethenyl)-1*H*-pyrazole, D-00401
2,3-Dihydro-3-hydroxy-4*H*-1-benzopyran-4-one, D-00407
1,2-Dihydro-4-[(2-hydroxy-5-methylphenyl) methyleneamino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00410
3,4-Dihydro-5-hydroxy-1(2*H*)-naphthalenone, D-00413
1,2-Dihydro-4-[[(2-hydroxy-1-naphthalenyl) methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00417
1,2-Dihydro-4-[[(4-hydroxyphenyl) methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00421
1,2-Dihydro-4-[[(4-methoxyphenyl) methylene]amino]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00428
4-[4,5-Dihydro-3-methyl-4-[(4-sulfophenyl) azo]-5-thioxo-1*H*-pyrazol-1-yl] benzenesulfonic acid; Di-Na salt, *in* D-00459
4,5-Dihydro-5-phenyl-3-(2-phenylethenyl) isoxazole, D-00467
4-(4,5-Dihydro-3-phenyl-1*H*-pyrazol-1-yl) benzenesulfonic acid hydrazide, D-00469
4,5-Dihydro-1,3,5-triphenyl-1*H*-pyrazole, D-00506
▷ 2′,4′-Dihydroxyacetophenone, D-00507
▷ 1,4-Dihydroxyanthraquinone, D-00511
▷ 1,8-Dihydroxyanthraquinone, D-00512
2,4-Dihydroxybenzaldehyde; Formylhydrazone, *in* D-00517
2,4-Dihydroxybenzaldehyde; Semicarbazone, *in* D-00517
2,5-Dihydroxybenzaldehyde; Semicarbazone, *in* D-00518
▷ 2,4-Dihydroxybenzophenone, D-00536
2,2′-Dihydroxy-4,4′-dimethylazobenzene, D-00574
3-[(2,4-Dihydroxyphenyl)azo]-4-hydroxybenzenesulfonic acid, D-00693
3-(2,4-Dihydroxyphenylazo)-4-hydroxybiphenyl, D-00694
4-[(2,4-Dihydroxyphenyl)azo]-3-hydroxy-1-naphthalenesulfonic acid, D-00697
2-(Diisopropylamino)benzoic acid hydrazide, D-00747
9,10-Dimethoxy-2-anthracenesulfonic acid, D-00765
4,5-Dimethoxy-1,2-benzenediamine, *in* D-00049
2-(Dimethylamino)benzoic acid hydrazide, D-00780
4-[[[4-(Dimethylamino)phenyl]methylene] amino]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00818
N-(4′-Dimethylaminophenyl)-1,4-naphthoquinone imine, D-00820
N-[5-(1,1-Dimethylpropyl)-2-hydroxyphenyl]-2-hydroxyaniline, D-00902
2-(3,5-Dimethyl-1-pyrazolyl)-8-quinolinol, D-00906
Di-2-pyridinylethanedione bis(2-quinolinylhydrazone), D-01067

Di-2-pyridinylethanedione; Dihydrazone, *in* D-01063
Di-2-pyridinylmethanone di-2-pyridinylmethylenehydrazone, D-01076
Di-2-pyridinylmethanone 2-furoylhydrazone, D-01077
Di-2-pyridinylmethanone; Hydrazone, *in* D-01071
Di-2-pyridinylmethanone; Phenylhydrazone, *in* D-01071
2,2′-Dithiobis[1-naphthaleneamine], D-01118
▷ Eosine; Di-Na salt, *in* E-00007
Ethanedioic acid bis[[(2,4-dihydroxyphenyl) methylene]hydrazide], E-00025
4,4′-[1,2-Ethenediylbis[2-(aminomethyl) phenol]]-*N*,*N*,*N*′,*N*′-tetraacetic acid; (*E*)-*form*, *in* E-00042
4-Ethoxy-2-hydroxy-*N*-salicylideneaniline, *in* D-00614
3-Ethyl-5-hydroxy-4*H*-1-benzopyran-4-one, E-00085
3-Ethyl-5-hydroxy-2,7-dimethyl-4*H*-1-benzopyran-4-one, E-00086
2-Ethyl-5-hydroxy-3-methyl-4*H*-1-benzopyran-4-one, E-00090
3-Ethyl-5-hydroxy-2-methyl-4*H*-1-benzopyran-4-one, E-00091
FDNDEA, *in* F-00026
9*H*-Fluorene-2-carboxaldehyde; 2-Pyridylhydrazone, *in* F-00012
Fluorescamine, F-00019
5-Fluoro-2,4-dinitroaniline, F-00026
4-Fluoro-7-nitrobenzofurazan, F-00030
Hexafluoroacetylacetone, H-00030
3,3a,4,5,6,7-Hexahydro-2,3-diphenyl-2*H*-indazole, H-00047
3,3a,4,5,6,7-Hexahydro-3-phenyl-2,1-benzisoxazole, H-00050
▷ 3,3′,4′,5,5′,7-Hexahydroxyflavone, H-00055
▷ Homidium bromide, *in* D-00096
2-[2-(4-Hydrazinophenyl)ethenyl]pyridine, H-00085
1-Hydroxyanthraquinone-2-carboxylic acid, H-00099
(2-Hydroxybenzaldehydato-*O*,*O*′) diphenylboron, H-00100
2-Hydroxybenzaldehyde; Semicarbazone, *in* H-00101
▷ 2-Hydroxybenzaldehyde; Thiosemicarbazone, *in* H-00101
2-Hydroxybenzoic acid [(2,3-dihydroxyphenyl)methylene]hydrazide, H-00115
3-Hydroxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, H-00118
4-Hydroxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, H-00119
2-(2-Hydroxybenzylideneamino)phenol, H-00129
N-(2-Hydroxy-3-biphenylyl)methylene-2-hydroxyaniline, H-00135
5-Hydroxy-2,3-dimethyl-4*H*-1-benzopyran-4-one, H-00150
2-[(2-Hydroxyethyl)imino]methylphenol, H-00179
4-Hydroxy-*N*-(2-hydroxybenzylidene)-3-biphenylamine, H-00189
2-Hydroxy-*N*-(2-hydroxybenzylidene)-4-methylaniline, H-00190
2-Hydroxy-*N*-(2-hydroxybenzylidene)-5-methylaniline, H-00191
2-Hydroxy-*N*-(2-hydroxy-5-bromobenzylidene)aniline, H-00193
2-Hydroxy-*N*-(2-hydroxy-5-*tert*-butylbenzylidene)aniline, H-00194
2-Hydroxy-*N*-(2-hydroxy-5-carbomethoxybenzylidene)aniline, *in* H-00237
2-Hydroxy-*N*-(2-hydroxy-3-chlorobenzylidene)aniline, H-00195
2-Hydroxy-*N*-(2-hydroxy-5-chlorobenzylidene)aniline, H-00196
3-Hydroxy-4-[(2-hydroxy-3,5-dinitrophenyl) azo]-2,7-naphthalenedisulfonic acid, H-00198
2-Hydroxy-*N*-(2-hydroxy-5-ethylbenzylidene)aniline, H-00201
2-Hydroxy-*N*-(2-Hydroxy-5-ethylbenzylidene)-5-methylaniline, H-00202
2-Hydroxy-*N*-(2-hydroxy-5-iodobenzylidene)aniline, H-00204
2-Hydroxy-*N*-(2-hydroxy-3-isopropyl-6-methylbenzylidene)aniline, H-00205
2-Hydroxy-*N*-(2-hydroxy-6-isopropyl-3-methylbenzylidene)aniline, H-00206
2-Hydroxy-*N*-(2-hydroxy-3-methylbenzylidene)aniline, H-00210
2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)aniline, H-00211
2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)aniline, H-00212
2-Hydroxy-*N*-(2-hydroxy-3-methylbenzylidene)-5-methylaniline, H-00213
2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)-4-methylaniline, H-00214
2-Hydroxy-*N*-(2-hydroxy-4-methylbenzylidene)-5-methylaniline, H-00215
2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)-4-methylaniline, H-00216
2-Hydroxy-*N*-(2-hydroxy-5-methylbenzylidene)-5-methylaniline, H-00217
2-Hydroxy-4-(4-hydroxy-6-methyl-2-oxo-2*H*-pyran-3-yl)-4-oxo-2-butenoic acid; Et ester, *in* H-00221
2-Hydroxy-*N*-(2-hydroxynaphthylidene) aniline, H-00226
2-Hydroxy-*N*-(2-hydroxy-5-phenylbenzylidene)aniline, H-00234
2-Hydroxy-*N*-(2-hydroxy-5-phenylbenzylidene)-5-methylaniline, H-00235
4-Hydroxy-3-[[(2-hydroxyphenyl)methylene] amino]benzenesulfonic acid, H-00238
3-Hydroxy-4-[[(2-hydroxyphenyl)methylene] amino]benzoic acid, H-00239
4-Hydroxy-3-[[(2-hydroxyphenyl)methylene] amino]benzoic acid, H-00240
N-(2-Hydroxy-3-methoxybenzylidene)-2-hydroxyaniline, *in* D-00541
N-2-Hydroxy-5-methoxybenzylidene-2-hydroxyaniline, *in* D-00543
5-Hydroxy-7-methoxy-2-methyl-4*H*-1-benzopyran-4-one, *in* D-00645
4-Hydroxy-3-methoxyphenylacetic acid, *in* D-00687
2-Hydroxy-4-methoxy-*N*-salicylideneaniline, *in* D-00614
2-Hydroxy-5-methylbenzaldehyde; Semicarbazone, *in* H-00277
2-Hydroxy-5-methylbenzaldehyde; Thiosemicarbazone, *in* H-00277
5-Hydroxy-2-methyl-4*H*-1-benzopyran-4-one, H-00281
5-Hydroxy-3-methyl-4*H*-1-benzopyran-4-one, H-00282
2-[(2-Hydroxy-4-methylphenyl)methylene] hydrazinecarboxamide, *in* H-00276
2-Hydroxy-1-naphthaldehyde; Semicarbazone, *in* H-00336
2-(2-Hydroxy-1-naphthylideneamino)-4-biphenylol, H-00378
7-Hydroxy-2-oxo-2*H*-1-benzopyran-3-carboxylic acid, H-00426
▷ 3-Hydroxy-2-phenyl-4*H*-1-benzopyran-4-one, H-00466
N-2-Hydroxy-5-phenylbenzylidene-2-hydroxy-5-phenylaniline, H-00468
2-[[(2-Hydroxyphenyl)methylene]amino]-9*H*-fluoren-3-ol, H-00477
2-[[[(2-Hydroxyphenyl)methylene]amino] methyl]phenol, H-00478
2-[[(2-Hydroxyphenyl)methylene]amino]-3-pyridinol, H-00480
3-Hydroxy-2-pyridinecarboxaldehyde [(3-hydroxy-2-pyridinyl)methylene] hydrazone, H-00519
3-Hydroxy-2-pyridinecarboxaldehyde; Thiosemicarbazone, *in* H-00518
8-Hydroxy-2-quinolinecarboxaldehyde 8-quinolylhydrazone, H-00526
1-Hydroxyxanthone, H-00562
2,2′-Iminobis-8-quinolinol, I-00010
Isocein, I-00058
Leucylalanine; (*S*,*S*)-*form*, *in* L-00005
Lumomagneson, L-00016
Mansylhydrazine, *in* M-00222
Mesoporphyrin IX, M-00061
Mesotetraethylporphine, M-00062
Mesotetraisobutylporphine, M-00063
Mesotetraoctylporphine, M-00064
Mesotetrapropylporphine, M-00065
3-Methoxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, M-00081
4-Methoxybenzoic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, M-00082
2-Methoxy-2,4-diphenyl-3(2*H*)-furanone, M-00086
(7-Methoxy-2-oxo-2*H*-1-benzopyran-4-yl) methyl-*N*,*N*′-bis(1-methylethyl) carbamimidate, M-00099
O-(*p*-Methoxyphenylsulfonyl)-*o*-methylquinone monoxime, M-00117
O-(*p*-Methoxyphenylsulfonyl)quinone monoxime, M-00118
8-Methoxy-5-quinolinesulfonyl chloride, M-00121
4,4′-Methylenebis[3-methyl-1-(2-pyridyl)-5-pyrazol-ol], M-00173
2,2′-(Methylimino)bis-8-quinolinol, M-00193
4-(6-Methyl-2-naphthalenyl)-4-oxo-2-butenoic acid, M-00204
O-(*p*-Methylphenylsulfonyl)-*o*-methylquinone monoxime, M-00242
2,3-Naphthalenedicarboxaldehyde, N-00006
1-[(2-Naphthalenylcarbonyl)oxy]-2,5-pyrrolidinedione, N-00018
1-[[(2-Naphthalenyloxy)acetyl]oxy]-2,5-pyrrolidinedione, N-00020
▷ 1,4-Naphthoquinone, N-00032
1*H*-Naphtho[2,3-*d*]triazole, N-00039
1-[[(1-Napthalenylamino)carbonyl]oxy]-2,5-pyrrolidinedione, N-00058
Octaethylporphyrin, O-00002
2,3,5,6,8,9,11,12-Octahydro-1,13,4,7,10-benzodioxatrithiacyclopentadecine, O-00004
6,7,9,10,17,18,21,22-Octahydro-16*H*,20*H*-dibenzo-[*h*,*q*][1,4,7,13,10,16] tetraoxadiazacyclooctadecine, O-00019
7,8,9,10,17,18,21,22-Octahydro-6*H*,16*H*,20*H*-dibenzo-[*b*,*k*][1,7,13,4,10,16] trioxatriazacyclooctadecine, O-00022
7,8,9,10,17,18,21,22-Octahydro-8-[(4-methylphenyl)sulfonyl]-6*H*,16*H*,20*H*-dibenzo[*b*,*k*][1,7,13,4,10,16] trioxatriazacyclooctadecine, *in* O-00022
3-Oxo-3*H*-naphtho[2,1-*b*]pyran-2-carboxylic acid; Chloride, *in* O-00064
1,1,1,2,2-Pentafluoro-6,6-dimethyl-3,5-heptanedione, P-00017
▷ 3,3′,4′,5,7-Pentahydroxyflavone, P-00025
3,5,7,3′,4′-Pentahydroxyflavone-6′-sulfonic acid, P-00027
2-Phenoxybenzoic acid, P-00075
6-(Phenylamino)-2-naphthalenesulfonic acid, P-00082
2-(3-Phenyl-2-triazenyl)phenol; N^1-Oxide, *in* P-00204
Phloxin; Di-K salt, *in* P-00212
▷ Protriptyline hydrochloride, *in* P-00280
2-Pyridinecarboxaldehyde 2-furoylhydrazone, P-00324
2-Pyridinecarboxaldehyde (2-hydroxybenzoyl)hydrazone, P-00326
2-Pyridinecarboxaldehyde 2-pyridylhydrazone; (*E*)-*form*, *in* P-00335
4-Pyridinecarboxylic acid [(2,4-dihydroxyphenyl)methylene]hydrazide, P-00345

3-Pyridinecarboxylic acid (2-pyridinylmethylene)hydrazide, P-00351
3-Pyridine-[2-(hydroxyimino)-1-methylpropylidene]carboxylic acid, P-00355
2(1*H*)-Pyridinone [2-phenyl-1-(2-pyridinyl) ethylidene]hydrazone, P-00365
2-(2-Pyridinyl)-1*H*-benzimidazole, P-00385
2-(2-Pyridinyl)phenol, P-00399
Pyridoxal, P-00414
Pyridoxal nicotinoylhydrazone, P-00415
▷ Pyridoxal phosphate, P-00416
Pyridoxamine, P-00417
2-Quinolinecarboxaldehyde 2-pyridylhydrazone, Q-00012
2(1*H*)-Quinolinone [2-phenyl-1-(2-pyridinyl)ethylidene]hydrazone, Q-00023
Rhodamine 4G, *in* R-00005
Rhodamine 3G0; Chloride, *in* R-00004
5-Salicylidene-1-acetyl-2-thioimidazole, *in* H-00485
Solochrome red ERS, S-00022
Sulfonitrophenol R, S-00053
Taurin, *in* O-00063
▷ Tetracycline, T-00039
2′,3,5,7-Tetrahydroxyflavone, T-00074
▷ Thiamine, T-00135
2-Thiophenecarboxaldehyde 2-quinolinylhydrazone, T-00172
2′,4′,5′-Trichlorofluorescein, T-00224
2′,4′,7′-Trichlorofluorescein, T-00225
1,3,4-Trihydroxyanthraquinone-2-carboxylic acid, T-00272
2,4,4′-Trihydroxybenzophenone, T-00279
3,4′,7-Trihydroxyflavone, T-00283
3′,5,7-Trihydroxy-4′-methoxyflavanone; (*S*)-*form*, *in* T-00296

Spectrophotometric reagent

Acenaphthenequinone; Dioxime, *in* A-00001
Acenaphthenequinone; Monoxime, *in* A-00001
Acepox, *in* A-00039
N-Acetamidoiminodiacetic acid, *in* N-00074
4-Acetamidophenylfluorone, *in* A-00328
▷ Acetamidoxime, A-00004
▷ Acetanilide, *in* A-00368
▷ Acetic acid, A-00006
3-(2-Acetophenyl)methyltriazene *N*-oxide, A-00009
▷ Acetoxime, *in* A-00007
▷ 2-Acetoxybenzoic acid, A-00010
1-Acetoxy-2(1*H*)-pyridinethione, *in* P-00357
▷ Acet-*o*-toluidide, *in* M-00123
p-Acetylarsenazo, A-00012
3-Acetyl-1,5-bis[bis(3,5,6-trichloro-2-hydroxyphenyl)]formazan, A-00013
3-Acetyl-1,5-bis(1,2-dihydro-1,5-dimethyl-3-oxo-2-phenyl-4-pyrazolyl)formazan, A-00014
2-Acetyl-4-ethylpyridine; Oxime (*Z*-), *in* A-00016
3-Acetyl-4-hydroxy-2H-1-benzopyran-2-one, A-00017
2-Acetyl-4-methoxypyridine; Oxime (*Z*-), *in* A-00021
3-Acetyl-2-methylindole *p*-tolylthiosemicarbazone, A-00022
2-Acetyl-4-methylpyridine; Oxime (*E*-), *in* A-00023
2-Acetyl-6-methylpyridine; Oxime (*E*-), *in* A-00024
2-(Acetyloxy)-*N*-hydroxy-*N*-phenylbenzamide, A-00028
6-(4-Acetylphenylazo)-2-aminoperimidine, A-00029
3-[(3-Acetylphenyl)azo]-6-[(4-chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00030
2-Acetyl-4-phenylpyridine; Oxime (*E*-), *in* A-00031
2-Acetyl-6-phenylpyridine; Oxime (*E*-), *in* A-00032
2-Acetylpyrazine pyrazinylhydrazone, A-00034
2-Acetylpyrazine 2-pyrimidinylhydrazone, A-00035
2-Acetylpyrazine 3-quinolylhydrazone, A-00037
2-Acetylpyrazine 8-quinolylhydrazone, A-00038
2-Acetylpyrazine; 2-Thiazolylhydrazone, *in* A-00033
2-Acetylpyridine 2-benzothiazolylhydrazone, A-00040
2-Acetylpyridine phenylthiosemicarbazone, A-00042
2-Acetylpyridine 2-pyrazinylhydrazone, A-00043
2-Acetylpyridine 2-pyrimidinylhydrazone, A-00044
2-Acetylpyridine 2-quinolylhydrazone, A-00045
2-Acetylpyridine 8-quinolylhydrazone, A-00046
2-Acetylpyridine 2-thiazolylhydrazone, A-00047
2-Acetylpyridine; Thiosemicarbazone, *in* A-00039
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▷ Acid chrome violet K; Na salt, *in* A-00055
Acid monochrome green S; Na salt, *in* A-00057
▷ Acid red 26; Di-Na salt, *in* A-00058
▷ Acid yellow 2G; Na salt, *in* A-00059
▷ Acridine yellow, *in* D-00079
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Alizarine red S; Na salt, *in* A-00081
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Aluminophthalexon A, A-00086
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4-Aminoazobenzene-4′-arsonic acid; *N*-Di-Me, *in* A-00095
2-Aminobenzaldehyde, A-00096
Aminobenzene AE, A-00098
2-Aminobenzenesulfonic acid, A-00099
▷ 4-Aminobenzenesulfonic acid, A-00100
▷ 2-Aminobenzenethiol, A-00101
5-Amino-2-benzimidazolethiol, A-00102
▷ 3-Aminobenzoic acid, A-00104
2-Aminobenzoic acid 2-benzoylhydrazide, A-00106
2-Aminobenzoic acid [(2,4-dihydroxyphenyl)methylene]hydrazide, A-00107
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4-Aminobenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, A-00110
2-Aminobenzoic acid (1-methylethylidene) hydrazide, A-00109
2-Aminobenzophenone, A-00111
7-Amino-2,1,3-benzothiadiazole-4,6-disulfonic acid, A-00112
▷ 2-Aminobenzothiazole, A-00113
4-[(4′-Amino-(1,1′-biphenyl)-4-yl)azo]-1,2-benzenediol, A-00118
2-Amino-4,6-bis[6-(2-pyridyl)-2-pyridyl]-*s*-triazine, A-00122
3-[[3-Amino-4-[(5-bromo-2-pyridinyl)azo] phenyl]propylamino]-1-propanesulfonic acid; Na salt, *in* A-00127
2-Amino-4-chlorobenzenethiol, A-00135
5-Amino-3-[(3-chloro-2-hydroxy-5-nitrophenyl)azo]-4-hydroxy-2,7-naphthalenedisulfonic acid, A-00137
4-Amino-3-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-2,5-naphthalenedisulfonic acid, A-00140
4-Amino-3-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00141
5-Amino-6-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-1,4-naphthalenedisulfonic acid, A-00142
8-Amino-7-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-2-naphthalenesulfonic acid, A-00143
8-Amino-7-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-3-naphthalenesulfonic acid, A-00144
2-Amino-1-cyclohexene-1-dithiocarboxylic acid, A-00146
2-Amino-1-cyclopentene-1-dithiocarboxylic acid, A-00147
6-Amino-2-(diethylamino)-5-nitroso-4(1*H*)-pyrimidinone, *in* D-00109
▷ 4-Amino-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00152
6-Amino-2,3-dihydro-5-nitroso-1-phenyl-2-thioxo-4(1*H*)-pyrimidinone, A-00153
6-Amino-2,3-dihydro-5-nitroso-2-thioxo-4(1*H*)-pyrimidinone, A-00154
3-Amino-4,5-dihydro-5-oxo-1-phenyl-1*H*-pyrazole-4-carbodithioic acid, A-00155
▷ 5-Amino-2,4-dihydroxypyrimidine, A-00159
6-Amino-2-(dimethylamino)-5-nitroso-4(1*H*)-pyrimidinone, A-00161
▷ 2-Amino-4,6-dinitrophenol, A-00164
2-Aminodiphenylamine, A-00165
2-[(1-Amino-3,6-disulfo-2-naphthalenyl) azo]benzoic acid, A-00167
4-Amino-8-[(2,4-dithioxo-5-thiazolidinyl) azo]-5-hydroxy-1,7-naphthalenedisulfonic acid, A-00169
▷ 2-Aminoethanethiol; *N*-Di-Et, *in* A-00170
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7-Amino-2-ethylphenothiazine, A-00177
2-Amino-*N*-hydroxybenzamide, *in* A-00103
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▷ 4-Amino-2-hydroxybenzoic acid, A-00184
5-Amino-4-hydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* A-00187
4-Amino-5-hydroxy-6-[(8-hydroxy-3,6-disulfo-1-naphthalenyl)azo]-2,7-naphthalene-2,7-disulfonic acid, A-00188
5-Amino-4-hydroxy-3-[(2-hydroxy-5-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* A-00190
6-Amino-4-hydroxy-5-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenesulfonic acid, A-00191
5-Amino-4-hydroxy-3-[(4-hydroxyphenyl) azo]-2,7-naphthalenedisulfonic acid, A-00195
5-Amino-4-hydroxy-3-[(4-methoxyphenyl) azo]-2,7-naphthalenedisulfonic acid, *in* A-00195
3-Amino-5-hydroxy-2,7-naphthalenedisulfonic acid, A-00199
▷ 4-Amino-5-hydroxy-2,7-naphthalenedisulfonic acid, A-00200
4-Amino-3-hydroxy-1-naphthalenesulfonic acid, A-00202
6-Amino-4-hydroxy-2-naphthalenesulfonic acid, A-00203
▷ 7-Amino-4-hydroxy-2-naphthalenesulfonic acid, A-00204
5-Amino-4-hydroxy-3-[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00207
4-[[(4-Amino-2-hydroxyphenyl)]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00209
2-Amino-3-hydroxypyridine, A-00216
4-[(2-Amino-3-hydroxy-4-pyridinyl)azo] benzenesulfonic acid, A-00217
[4-[1-[2-Amino-3-hydroxy-4-(2-pyridinyl) phenyl]azo]phenyl]arsonic acid, A-00219

5-Amino-4-hydroxy-3-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, A-00220
5-Amino-4-hydroxy-3-[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00224
N-(Aminoiminomethyl)benzamide, A-00226
3-[(Aminoiminomethyl)thio]propanoic acid, A-00228
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3-(Aminomethyl)furan-*N*,*N*-diacetic acid, A-00242
2-Amino-*N*-(4-methylphenyl) benzenesulfonamide, A-00248
4-[[2-Amino-5-(1-methyl-2-piperidinyl)-3-pyridinyl]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00251
5-Amino-2-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]phenol, A-00252
4-[[2-Amino-1-methyl-6-(3-pyridinyl)-3-piperidinyl]azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00254
3-(Aminomethyl)-1,2,5,8-tetrahydroxyanthraquinone-*N*,*N*-diacetic acid, A-00256
▷ 2-Amino-4-methylthiazole, A-00257
2-Amino-6-(methylthio)-4-pyrimidinecarboxylic acid, *in* A-00231
5-Amino-1,3,7-naphthalenetrisulfonic acid, A-00271
8-Amino-1,3,5-naphthalenetrisulfonic acid, A-00272
4-[(4-Amino-1-naphthalenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, A-00275
2-Amino-4-[(4-nitrophenyl)azo]-3-pyridinol, A-00283
6-Amino-5-nitroso-2-[(phenylmethyl)thio]-4(1*H*)-pyrimidinone, A-00286
2-Amino-5-nitroso-4,6(1*H*,5*H*)-pyrimidinedione, A-00287
6-Amino-5-nitroso-2,4(1*H*,3*H*)-pyrimidinedione, A-00288
▷ 5-Aminoorotic acid, A-00290
3-[(3-Amino-4-oxo-2-thioxo-5-thiazolidinyl) azo]benzenesulfonic acid, *in* O-00075
3-[(3-Amino-4-oxo-2-thioxo-5-thiazolidinyl) azo]-5-chloro-2-hydroxy-benzenesulfonic acid, *in* C-00141
▷ 2-Aminoperimidine, A-00297
▷ 4-Aminophenol, A-00302
1-[(2-Aminophenyl)amino]-2-propanol, A-00305
▷ 2-Aminophenylarsonic acid, A-00306
▷ 4-Aminophenylarsonic acid, A-00307
8-Amino-5-(phenylazo)quinoline, A-00315
5-[(4-Aminophenyl)azo]-1*H*-1,2,4-triazole-3-carboxylic acid, A-00317
2-Aminophenylcarbamodithioic acid; NH_4 salt, *in* A-00320
4-Aminophenyl-4-ethylbenzylaminoantipyrinylcarbinol, A-00322
N-(3-Aminophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, A-00324
N-(4-Aminophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, A-00325
N-(2-Aminophenyl)-4-methylbenzenesulfonamide, A-00326
[(4-Aminophenyl)thio]acetic acid, A-00327
9-(4-Aminophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, A-00328
▷ 1-Aminopyrene, A-00331
▷ Aminopyrine, A-00339
▷ 8-Aminoquinoline, A-00340
8-Amino-7-(8-quinolinylazo)-3,6-naphthalenedisulfonic acid, A-00343
5-Amino-2-(2-quinolinylazo)phenol, A-00344
2-Amino-3-quinoxalinethiol, A-00345
3-Aminorhodanine, A-00346
3-[[3-(Aminosulfonyl)-1-hydroxy-2-naphthalenyl]azo]-2-hydroxy-5-nitrobenzenesulfonic acid, A-00348
7-[[5-(Aminosulfonyl)-2-hydroxyphenyl] azo]-8-hydroxy-1,6-naphthalenedisulfonic acid, A-00349
5-[[4-(Aminosulfonyl)phenyl]azo]-6-hydroxy-2-naphthalenesulfonic acid, A-00350
5′-Amino-2′,3,3′,4-tetrahydro-4,4,6-trimethyl-2,2′-dithioxo[1(2*H*),4′-bipyrimidin]-6′(1′*H*)-one, A-00352
1-[(5-Amino-1,3,4-thiadiazol-2-yl)azo]-2-naphthalenol, A-00358
2-[[(Aminothioxomethyl)amino]carbonyl] benzoic acid, *in* B-00018
2-[[(Aminothioxomethyl)amino]carbonyl]-6-nitrobenzoic acid, A-00361
4-[(Aminothioxomethyl)amino]-4-oxobutanoic acid, A-00362
3-[[(Aminothioxomethyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, *in* P-00386
4-Amino-5-thioxo-1,2,4-triazolidin-3-one di-(2-pyridinylmethylene)hydrazone, A-00363
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Anabasine; *N*-Ac, *in* P-00244
4′-Anilino-2,5-dichloroazobenzene-4-sulfonic acid, A-00370
Anisylfluorone, A-00372
o-Anize green; Chloride, *in* A-00373
p-Anize green; Chloride, *in* A-00374
1,4,9,10-Anthracenetetrol, A-00381
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▷ Anthraquinone-2-sulfonic acid, A-00388
Anthrazo; B,HCl, *in* A-00389
2-(4-Antipyrylazo)-5-diethylaminophenol, A-00392
7-(4-Antipyrylazo)-8-hydroxyquinoline, A-00393
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4-(2-Arsono-4-nitrophenylazo)-4,5-dihydro-3-methyl-1-phenyl-1*H*-pyrazol-5-one, A-00420
3-[(2-Arsonophenyl)azo]-6-[(2-arsono-5-chlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00421
3-[(2-Arsonophenyl)azo]-6-[(2-arsono-5-methylphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00422
3-[(2-Arsonophenyl)azo]-6-[(4-arsonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00423
3-[(2-Arsonophenyl)azo]-6-[(3-chloro-2-hydroxy-5-nitrophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00424
3-[(2-Arsonophenyl)azo]-6-[(5-chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00425
3-[(2-Arsonophenyl)azo]-6-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00426
3-[(2-Arsonophenyl)azo]-6-[(4-chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00427
3-[(2-Arsonophenyl)azo]-6-[[5-(diethylsulfamoyl)-2-methoxyphenyl] azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00428
2-[[7-[(4-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, A-00429
N-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]methyl]-*N*-(carboxymethyl)glycine, A-00430
3-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-4-arsonobenzoic acid, A-00431
3-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-2-hydroxy-5-sulfobenzoic acid, A-00432
2-[[7-[(2-Arsonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]-5-sulfobenzoic acid, A-00433
3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00434
3-[(4-Arsonophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00436
3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, A-00437
3-[(2-Arsonophenyl)azo]-4,5-dihydroxy-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, A-00439
3-[(2-Arsonophenyl)azo]-6-[(4-dimethylaminophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00440
3-[(2-Arsonophenyl)azo]-6-[(3,5-dinitro-2-hydroxyphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00441
3-[(2-Arsonophenyl)azo]-6-[(2-hydroxy-3-nitro-5-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, A-00442
5-[(2-Arsonophenyl)azo]-2,4-thiazolidinedithione, A-00443
5-[(2-Arsonophenyl)azo]-2-thioxo-4-thiazolidinone, A-00444
4-[4-(2-Arsonophenyltriazinyl)phenylazo] benzenesulfonic acid, A-00445
Astrafloxine FF; Chloride, *in* A-00449
Astrafloxine G; Chloride, *in* A-00450
Astra violet 3R; Chloride, *in* A-00451
Astrazon blue B; Chloride, *in* A-00452
Astrazon orange R; Chloride, *in* A-00453
Astrazon pink FG; Chloride, *in* A-00454
Astrazon red 6B; Chloride, *in* A-00455
▷ Atarax, *in* H-00563
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2,2′-Azinobis[3-ethyl-2,3-dihydro-6-benzothiazolesulfonic acid], A-00462
2,2′-Azinobis(8-hydroxy-1-methylquinoline), A-00463
Azo-azoxy AN, A-00464
Azo-azoxy BN, A-00465
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Azorhodine 2G; Di-Na salt, *in* A-00476
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Basic turquoise; Trichlorozincate, *in* B-00001
Bathocuproinedisulfonic acid; Di-Na salt, *in* B-00002
Bathophenanthrolinedisulfonic acid; Di-Na salt, *in* B-00003
Benzaldehyde 2-pyridinylhydrazone, B-00006
α-Benzamido-*o*-chlorocinnamic acid isonicotinylhydrazide, B-00010
Benzenecarbothioic acid 2-hydroxy(di-2-pyridinylmethylene)hydrazide, B-00014
Benzenecarboximidic acid *N*-2-pyridinyl-2-pyrazinylhydrazone, B-00015
1,2-Benzenedicarboxaldehyde bis(thiosemicarbazone), B-00017
▷ 1,2-Benzenediol, B-00020
▷ 1,3-Benzenediol, B-00021
▷ 1,4-Benzenediol, B-00022
Benzeneethane(dithioic) acid; Et_4N salt, *in* B-00023
▷ Benzenesulfinic acid, B-00025
▷ Benzenesulfohydroxamic acid, *in* B-00026

3-(Benzenesulfonylamino)propanoic acid, B-00027
▷ 1,2,3-Benzenetriol, B-00034
▷ 1,2,4-Benzenetriol, B-00035
Benzfuroin oxime, *in* F-00052
1*H*-Benzimidazole-2-carboxaldehyde; 1-Benzyl, oxime, *in* B-00039
4-(1*H*-Benzimidazol-5-ylazo)-3-hydroxy-2,7-naphthalenedisulfonic acid, B-00042
5-(1*H*-Benzimidazol-5-ylazo)-8-quinolinol, B-00043
1-(1*H*-Benzimidazol-4-yl)-3-methyl-5-phenylformazan, B-00046
3-[1*H*-Benzimidazol-2-yl[(5-nitro-2-pyridinyl)hydrazono]methyl] benzenesulfonic acid, B-00047
2-(2-Benzimidazolyl)-4,7-phenanthroline, B-00048
5-(1*H*-Benzimidazol-5-yl)-3-phenyl-1-[1-(phenylmethyl)-1*H*-benzimidazol-2-yl] formazan, B-00049
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Benzo-14-crown-4, B-00053
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3-(1,3-Benzodioxol-5-yl)-*N*-hydroxy-*N*-(3-methylphenyl)-2-propenamide, *in* B-00056
3-(1,3-Benzodioxol-5-yl)-*N*-hydroxy-*N*-(4-methylphenyl)-2-propenamide, *in* B-00056
Benzohydroxamic acid benzenesulfonamide, *in* P-00194
▷ Benzoic acid, B-00059
Benzoic acid [1-[2-(4-bromo-2-nitrophenyl) hydrazino]ethylidene]hydrazide, B-00060
Benzoic acid [(2,4-dihydroxyphenyl) methylene]hydrazide, B-00061
Benzoic acid [1-[2-(2,4-dinitrophenyl) hydrazino]ethylidene]hydrazide, B-00062
Benzoic acid 2-hydroxy(di-2-pyridinylmethylene)hydrazide, B-00063
Benzoic acid [1-[2-(2-nitrophenyl) hydrazino]ethylidene]hydrazide, B-00065
Benzoic acid [1-[2-(4-nitrophenyl) hydrazino]ethylidene]hydrazide, B-00066
Benzophenone; Thiosemicarbazone, *in* B-00069
▷ Benzopurpurine 4B; Di-Na salt, *in* B-00071
2-[2-(3*H*,5*H*-Benzo[*i*,*j*]quinolizin-9-yl) ethenyl]-1,3,3-trimethyl-3*H*-indolium(1+); Iodide, *in* B-00074
▷ 1,4-Benzoquinone, B-00076
2,1,3-Benzoselenadiazole-Se^{IV}, B-00084
2-Benzothiazolecarboxaldehyde 2-benzothiazolylhydrazone, B-00086
2-Benzothiazolecarboxaldehyde 1(2*H*)-phthalazinylidenehydrazone, B-00087
2-Benzothiazolecarboxaldehyde 2-quinolylhydrazone, B-00088
2-Benzothiazolethiol, B-00089
4-(2-Benzothiazolylazo)-1,2-benzenediol, B-00091
4-(2-Benzothiazolylazo)-1,3-benzenediol, B-00092
2-(2-Benzothiazolylazo)-4,6-dichlorophenol, B-00093
2-(Benzothiazolylazo)-5-diethylaminobenzoic acid, *in* A-00114
2-(2-Benzothiazolylazo)-5-(dimethylamino) phenol, B-00094
2-[(2-Benzothiazolyl)azo]-4,5-dimethylphenol, B-00095
2-(2-Benzothiazolylazo)-4,6-dimethylphenol, B-00096
5-(2-Benzothiazolylazo)-4-methyl-2-(methylamino)phenol, *in* A-00115
2-(2-Benzothiazolylazo)-4-methylphenol, B-00097
1-(2-Benzothiazolylazo)-2-naphthalenol, B-00098
10-(2-Benzothiazolylazo)-9-phenanthrenol, B-00099
5-(2-Benzothiazolyl)-1-[4-(dimethylamino) phenyl]-3-phenylformazan, B-00100
3-[(2-Benzothiazolylhydrazono)-2-pyridinylmethyl]benzenesulfonic acid, B-00102
5-(2-Benzothiazolyl)-3-(2-hydroxyphenyl)-1-phenylformazan, B-00103
5-Benzothiazolyl-3-(2-methoxyphenyl)-1-phenylformazan, *in* B-00103
5-(2-Benzothiazolyl)-3-methyl-1-phenylformazan, B-00105
5-(2-Benzothiazolyl)-1-(4-nitrophenyl)-3-phenylformazan, B-00106
3-[2-Benzothiazolyl[(5-nitro-2-pyridinyl) hydrazono]methyl]benzenesulfonic acid, B-00107
1-Benzo[*b*]thien-2-yl-4,4,4-trifluoro-1,3-butanedione, B-00109
▷ 2(3*H*)-Benzoxazolethione, B-00113
5-(2-Benzoxazolyl)-1-[4-(dimethylamino) phenyl]-3-phenylformazan, B-00114
5-(2-Benzoxazolyl)-1,3-diphenylformazan, B-00115
5-(2-Benzoxazolyl)-3-methyl-1-phenylformazan, B-00116
5-(2-Benzoxazolyl)-1-(4-nitrophenyl)-3-phenylformazan, B-00117
2-Benzoylacetanilide, *in* O-00069
2′-Benzoylacetanilide, *in* A-00111
6-(Benzoylacetyl)-1,4-benzodioxan, B-00119
2-[[(Benzoylamino)thioxomethyl]amino] benzoic acid, B-00121
6-Benzoyl-3-(2,2′-bipyridin-6-yl)-5-phenyl-1,2,4-triazine, B-00123
N′-Benzoyl-*N*,*N*-[bis(2-hydroxyethyl)] thiourea, B-00124
N-Benzoyl-*N*′-(5-bromo-2-pyridyl)thiourea, B-00125
4-Benzoyl-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, B-00128
Benzoyl dithiol, *in* M-00129
β-Benzoyl-*α*-(ethanol)thiourea, B-00129
N-Benzoyl-*N*′-(ethoxycarbonylmethyl) selenourea, B-00130
2-Benzoyl-4-ethylpyridine; Oxime (*E*-), *in* B-00132
Benzoylhydrazine, *in* B-00059
4-(Benzoylhydroxyamino)benzoic acid; Me ester, *in* B-00133
2-Benzoyl-4-methylpyridine; Oxime (*E*-), *in* B-00134
2-Benzoyl-6-methylpyridine; Oxime (*E*-), *in* B-00135
6-Benzoyl-3-(4-methyl-2-pyridyl)-5-methyl-1,2,4-triazine, B-00136
2-Benzoyl-4-nitro-1*H*-indene-1,3(2*H*)-dione, B-00139
2-Benzoyl-5-nitro-1*H*-indene-1,3(2*H*)-dione, B-00140
2-Benzoyl-4-(2-nitrophenyl)acetohydrazine, B-00141
6-Benzoyl-3-(1,10-phenanthrolin-2-yl)-5-phenyl-1,2,4-triazine, B-00142
N-Benzoyl-*N*-phenylhydroxylamine, *in* P-00135
2-Benzoyl-6-phenylpyridine; Oxime, *in* B-00145
2-Benzoyl-4-phenylpyridine; Oxime (*E*-), *in* B-00144
6-Benzoyl-5-phenyl-3-(2-thiazolyl)-1,2,4-triazine, B-00147
Benzoylpyrazine; 2-Pyrimidinylhydrazone, *in* B-00148
2-Benzoylpyrazine 2-thiazolylhydrazone, B-00150
2-Benzoylpyridine azine, B-00152
2-Benzoylpyridine; Hydrazone, *in* B-00151
2-Benzoylpyridine; (*Z*)-Oxime, *in* B-00151
2-Benzoylpyridine phenylthiosemicarbazone, B-00153
2-Benzoylpyridine 2-pyridylhydrazone, B-00154
2-Benzoylpyridine 2-pyrimidinylhydrazone, B-00155
2-Benzoylpyridine 3-quinolylhydrazone, B-00156
2-Benzoylpyridine 8-quinolylhydrazone, B-00157
N-Benzoyl-*N*′-(2-pyridyl)thiourea, B-00159
2-Benzylaminopyridine, B-00164
5-(1-Benzyl-1*H*-benzimidazol-2-yl)-1-[4-(dimethylamino)phenyl]-3-phenylformazan, B-00166
5-(1-Benzyl-1*H*-benzimidazol-2-yl)-1,3-diphenylformazan, B-00167
5-(1-Benzyl-2-benzimidazolyl)-1-(2-hydroxyphenyl)-3-phenylformazan, B-00168
5-(1-Benzyl-2-benzimidazolyl)-3-(2-hydroxyphenyl)-1-phenylformazan, B-00169
5-(1-Benzyl-2-benzimidazolyl)-3-(2-methoxyphenyl)-1-phenylformazan, *in* B-00169
p-[1-(1-Benzyl-2-benzimidazolyl)-3-methyl-5-formazano]benzenesulfonic acid, B-00170
1-(1-Benzyl-1*H*-benzimidazol-2-yl)-3-methyl-5-(4-nitrophenyl)formazan, B-00171
5-(1-Benzyl-1*H*-benzimidazol-2-yl)-3-methyl-1-(4-nitrophenyl)formazan, B-00172
5-(1-Benzyl-1*H*-benzimidazol-2-yl)-1-(4-nitrophenyl)-3-phenylformazan, B-00173
1-Benzyl-5-bromo-1,3-dihydro-2*H*-benzimidazole-2-thione, B-00175
N-Benzyl-4-(4-diethylaminophenylazo) pyridinium(1+), B-00176
3-Benzyl-4,5-dihydroxycoumarin, B-00177
3-Benzyl-2,6-dimercapto-4*H*-thiopyran-4-one, B-00178
▷ Benzyldimethyldodecylammonium(1+); Bromide, *in* B-00179
Benzyldimethyloctadecylammonium(1+); Perchlorate, *in* B-00180
1-Benzyl-2-(*α*-hydroxyimino-4-nitrobenzyl)-1*H*-imidazole, B-00183
6-[(Benzylmercapto)methyl]-5-hydroxy-3-mercapto-1,2,4-triazine, B-00187
1-Benzyl-5-methoxy-1,3-dihydro-2*H*-benzimidazole-2-thione, B-00188
1-Benzyl-5-methyl-2,3-dihydro-2*H*-benzimidazole-2-thione, B-00189
5-Benzyl-2-thioxo-4-imidazolidinone, B-00194
9-Benzyl-*s*-triazolo-[4,3-*a*]-benzimidazole-3-thione, B-00195
Beryllon I, B-00198
Beryllon II, B-00199
Beryllon III, *in* A-00211
Beryllon IV, B-00200
[9,9-Bianthracene]-10,10′(9*H*,9′*H*)-dione, *in* B-00201
3,3′-Bi[2,6-dimercapto-4*H*-thiopyran-4-one], B-00203
Bindschedler's green; Chloride, *in* B-00206
2,2′-([1,1′-Biphenyl]-4,4′-diyldiimino) bisbenzoic acid, B-00209
2,2′-Bipyrazine, B-00218
3,3′-Bipyridazine, B-00219
▷ 2,2′-Bipyridine, B-00220
▷ 2,3′-Bipyridine, B-00221
[2,2′-Bipyridine]-6-carboximidic acid hydrazide, B-00223
2-(2,2′-Bipyridin-6-yl)benzimidazole, B-00225
3-[2,2′-Bipyridin-6-yl]-5,6-dimethyl-1,2,4-triazine, B-00226
3-(2,2′-Bipyridin-6-yl)-5,6-diphenyl-1,2,4-triazine, B-00227
3-(2,2′-Bipyridin-6-yl)-5,6-di-2-pyridyl-1,2,4-triazine, B-00228
2-(2,2′-Bipyridin-6-yl)-1*H*-imidazo[4,5-*f*][4,7]phenanthroline, B-00229
2-(2,2′-Bipyridin-6-yl)-1*H*-imidazo[4,5-*c*] pyridine, B-00230
2-(2,2′-Bipyridin-6-yl)-3*H*-imidazo[4,5-*h*] quinoline, B-00231
3-[2,2′-Bipyridin-6-yl]-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, B-00232
2-(2,2′-Bipyridin-6-yl)-5-phenylbenzimidazole, B-00233
3-(2,2′-Bipyridin-6-yl)-1,2,4-triazino[5,6-*f*][4,7]phenanthroline, B-00234
2,2′-Bipyrimidine, B-00235
2,2′-Biquinoline, B-00236

[2,2′-Biquinoline]-4,4′-dicarboxylic acid, B-00237
4,4′-([2,2′-Biquinoline]-4,4′-diyldiimino) bisbenzoic acid; Di-Et ester, *in* B-00238
2,2′-Biquinoxaline, B-00239
N,N′-Bis(*o*-aminobenzylidene) ethylenediamine, B-00242
Bis(2-aminoethyl)dithiocarbamic acid, B-00245
N,N′-Bis(*o*-amino-α-phenylbenzylidene) ethylenediamine, B-00250
▷ Bis(2-aminophenyl) disulfide, B-00251
N,N′-Bis[1-(2-aminophenyl)]ethylidene-1,2-ethanediamine, B-00252
3,6-Bis[(2-arsono-4,6-dibromophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00255
3,6-Bis[(2-arsono-4-methylphenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00256
N,N′-Bis(4-benzoylethyl)-1,2-benzenediamine, B-00257
1,5-Bis(7-benzyl-2-benzimidazolyl)-3-methylformazan, B-00258
4,4′-Bis(4-biphenylylamino)-2,2′-biquinoline, B-00259
2,6-Bis[3-(2,2′-bipyridin-6-yl)-1,2,4-triazolin-5-yl]pyridine, B-00261
2,4-Bis[5,6-bis(2-pyridyl)-1,2,4-triazin-3-yl] pyridine, B-00263
2,6-Bis[5,6-bis(2-pyridyl)-1,2,4-triazin-3-yl] pyridine, B-00264
1,5-Bis[2-(carboxymethoxy)-3,5-dimethylphenyl]-3-phenylformazan, B-00274
1,5-Bis[2-(carboxymethoxy)phenyl]-3-phenylformazan, B-00275
2-[Bis(carboxymethyl)amino]benzoic acid, B-00276
3,6-[Bis(3-chloro-2-hydroxy-5-nitrophenyl) azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00282
1,5-Bis(5-chloro-2-hydroxyphenyl)-3-cyanoformazan, B-00283
Bis(4-chlorophenyl)ethanedione; Dioxime, *in* B-00285
Bis(4-chlorophenyl)iodonium(1+); Chloride, *in* B-00287
▷ Bis(2,4-dichloro-6-hydroxyphenyl)disulfide, B-00293
Bis(dicyclohexyloxyphosphinothioyl) disulfide, B-00294
4,4′-Bis(diethylamino)-2,2′-biquinoline, *in* D-00063
4-[Bis[4-(diethylamino)phenyl] hydroxymethyl]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, B-00295
Bis[4-(diethylamino)phenyl]methanethione, *in* B-00254
2,4-Bis(4,5-dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)pyridine, B-00296
2,6-Bis(4,5-dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)pyridine, B-00297
4,4′-Bis[(1,8-dihydroxy-3,6-disulfo-2-naphthyl)azo]-3,3′-biphenyldicarboxylic acid, B-00301
4,4′-Bis(3,4-dihydroxyphenylazo)biphenyl, B-00302
4,4′-Bis(3′,4′-dihydroxyphenylazo)-3,3′-dimethoxybiphenyl, B-00303
Bis(diisopropyloxyphosphinothioyl) disulfide, B-00310
▷ Bis(dimethoxyphosphinothioyl) disulfide, B-00312
4,4′-Bis(dimethylamino)-3,3′-dimethylbiphenyl, *in* D-00083
3,7-Bis(dimethylamino)phenothiazine, B-00316
5-[2,2-Bis(4-dimethylaminophenyl)ethylene] rhodanine, B-00318
4-[Bis[*p*-(dimethylamino)phenyl] hydroxymethyl]-4-chloro-3-methyl-1-phenyl-2-pyrazolin-5-one, B-00319
2-[Bis[4-(dimethylamino)phenyl]methyl] benzenesulfonic acid, B-00322
1,1-Bis[4-(dimethylamino)phenyl-3-phenyl-2-propynylium](1+); Chloride, *in* B-00324
N,N′-Bis(3-dimethylaminopropyl) dithiooxamide, B-00325
4,4′-Bis(dimethylamino)thiobenzophenone, B-00326
2,4-Bis(5,6-dimethyl-1,2,4-triazin-3-yl) pyridine, B-00333
2,6-Bis(5,6-dimethyl-1,2,4-triazin-3-yl) pyridine, B-00334
Bis[(diphenoxyphosphino)thioyl] disulfide, B-00336
2,4-Bis(5,6-diphenyl-1,2,4-triazin-3-yl) pyridine, B-00341
2,6-Bis(5,6-diphenyl-1,2,4-triazin-3-yl) pyridine, B-00342
Bis(di-2-pyridinylmethylene)carbonimidic dihydrazide, B-00343
Bis(di-2-pyridinylmethylene)carbonothioic dihydrazide, B-00344
1,3-Bis[di(2-pyridyl)methyleneamino]urea, B-00345
▷ Bis(2-ethylhexyl)amine, B-00351
1,2-Bis(hexylthio)ethane, B-00359
2,3-Bis(2-hydroxybenzylideneamino) benzofuran, B-00361
N,N′-Bis(2-hydroxybenzylidene)-1,2-benzenediamine, B-00362
7,16-Bis[3-[2-hydroxy-3,5-bis[(4-nitrophenyl)azo]phenyl]-1-oxopropyl]-1,4,10,13-tetraoxa-7,16-diazacyclooctadecane, B-00364
▷ [Bis(2-hydroxyethyl)amino]acetic acid, B-00367
Bis(2-hydroxyethyl)carbamodithioic acid; K salt, *in* B-00373
Bis(2-hydroxyethyl)carbamodithioic acid; Zn salt (2:1), *in* B-00373
Bis[[3-hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]carbonic dihydrazide, B-00375
Bis[[3-hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene] carbothioic dihydrazide, B-00376
Bis(3-hydroxy-6-hydroxymethyl-4-oxo-4*H*-pyran-2-yl)methanone, B-00377
N,N-Bis(2-hydroxy-5-nitrobenzyl)-1,10-diaza-4,7,13-trioxacyclopentadecane, B-00382
1,5-Bis(2-hydroxy-4-nitrophenyl)-3-acetylformazan, B-00387
1,5-Bis(2-hydroxyphenyl)-3-cyanoformazan, B-00388
N,N′-Bis(2-hydroxypropyl)-1,2-benzenediamine, B-00392
N,N-Bis(2-hydroxypropyl)ethanolamine, B-00393
1,5-Bis(2-hydroxy-3-sulfo-5-chlorophenyl)-3-cyanoformazan, B-00394
5-[Bis(2-hydroxy-3-sulfopropyl)amino]-2-[(3,5-dibromo-2-pyridinyl)azo]-4-methylbenzoic acid; Tri-Na salt, *in* B-00395
N,N′-Bis(2-mercaptobenzoyl)-1,2-ethanediamine, B-00397
1,2-Bis(2-mercaptobenzylideneamino) ethane, B-00398
N-[Bis(4-methoxyphenyl)methylene] benzenemethanamine, B-00402
O,O-Bis[(3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4(5*H*)-ylidene)phenylmethyl] phosphorodithioate; K salt, *in* B-00405
▷ 1,4-Bis[(4-methylphenylamino)]-9,10-anthracenedione, B-00406
▷ *N,N′*-Bis(2-methylphenyl)thiourea, B-00412
2,3-Bis(6-methyl-2-pyridyl)benzo[*g*] quinoxaline, B-00414
Bis(6-methyl-2-pyridyl)ethanedione; Dihydrazone, *in* B-00415
2,3-Bis(6-methyl-2-pyridyl)-10*H*-indeno[1,2-*g*]-quinoxaline, B-00416
2,3-Bis(6-methyl-2-pyridyl)-5-nitroquinoxaline, B-00417
2,3-Bis(6-methyl-2-pyridyl)-6-nitroquinoxaline, B-00418
3,6-Bis(4-methyl-2-pyridyl)-4-phenylpyridazine, B-00419
2,3-Bis(6-methyl-2-pyridyl)pyrido[2,3-*b*] pyrazine, B-00421
2,3-Bis(6-methyl-2-pyridyl)quinoxaline, B-00422
2,3-Bis(6-methyl-2-pyridyl)-6-quinoxalinecarboxylic acid, B-00423
2,6-Bis[3-(4-methyl-2-pyridyl)-1,2,4-triazolin-5-yl]pyridine, B-00424
1,5-Bis(6-methyl-4-pyrimidyl)carbazone, B-00425
3,6-Bis[(5-methyl-2-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00426
Bismuthiol II sulfonic acid, *in* M-00060
Bis(4-nitrophenyl)ethanedione; Dioxime, *in* B-00432
N,N′-Bis[4-(phenylazo)phenyl]-1,10-phenanthroline-4,7-diamine, B-00438
4,4′-Bis(1-phenyl-3-methyl-5-pyrazolone), B-00440
N,N′-Bis(pyridinylmethylene)-1,2-ethanediamine, B-00441
Bis(2-pyridylmethylene)carbonic acid dihydrazide, B-00442
Bis(2-pyridylmethylene)carbonimidic acid dihydrazide, B-00443
Bis(2-pyridylmethylene)carbonothioic acid dihydrazide, B-00444
2,4-Bis[5-(2-pyridyl)-1,2,4-triazolin-3-yl] pyridine, B-00445
2,6-Bis[3-(2-pyridyl)-1,2,4-triazolin-5-yl] pyridine, B-00446
2,6-Bis[5-(2-pyridyl)-1,2,4-triazolin-3-yl] pyridine, B-00447
N,N′-Bis(1*H*-pyrrol-2-ylmethylene)-1,2-ethanediamine, B-00448
Bis(4-sulfobenzyl)dithiocarbamic acid; Tri-Na salt, *in* B-00454
N,N′-Bis(2-sulfoethyldithiooxamide), B-00455
Bis(1-*p*-sulfophenyl-2,3-dimethylpyrazol-5-on-4-yl)methane, B-00456
Bis(2,2′:6′,2″-terpyridine-*N,N′,N″*)iron(*II*) (2+), B-00457
Bis[2-[(tetrahydro-2*H*-pyran-2-yl)thio] phenyl]diazene, B-00458
Bis(1*H*-tetrazol-5-ylazo)acetic acid; Et ester, di-Na salt, *in* B-00459
[Bis(trifluoroacetoxy)iodo]benzene, B-00462
3,3′-Bis(trifluoromethyl)dithizone, B-00463
Bis(2,3,4-trihydroxybenzyl)methylamine, B-00466
4,4′,4″,4‴-[3,3′-Bi-1,2,4-triazine]-5,5′,6,6′-tetrayltetrakisbenzenesulfonic acid; Tetra-NH_4 salt, *in* B-00473
Brilliant croceine; Di-Na salt, *in* B-00478
▷ Brilliant green; Hydrogen sulfate, *in* B-00479
▷ Bromazepam, B-00481
Bromazepam; B,2HCl, *in* B-00481
4-Bromo-1,3-benzenediol, B-00486
2-[(6-Bromo-2-benzothiazolyl)azo]-5-(diethylamino)phenol, *in* A-00123
3-[(6-Bromo-2-benzothiazolyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00490
2-[(6-Bromo-2-benzothiazolyl)azo]-4-methylphenol, B-00491
1-[(6-Bromo-2-benzothiazolyl)azo]-2-naphthalenol, B-00492
4-Bromo-*N,N′*-bis(2-hydroxypropyl)-1,2-benzenediamine, B-00494
2-Bromobutanoic acid; (±)-*form*, *in* B-00496
Bromocresol green, B-00498
Bromocresol purple, B-00499
5-Bromo-*N*,2-dihydroxybenzamide, B-00503
4-[(2-Bromo-4,5-dihydroxyphenyl)azo] benzenesulfonic acid, B-00504
4-[3-Bromo-4-(dimethylamino)-α-[*p*-(dimethylamino)phenyl]-α-hydroxybenzyl]antipyrine, B-00505
▷ 7-Bromo-1-[3-(dimethylamino)propyl]-1,3-dihydro-5-(2-pyridyl)-2*H*-1,4-benzodiazepin-2-one; B,2HCl, *in* B-00506

9-(5-Bromo-2-hydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, B-00513
4-Bromo-2-methylphenyldiazenecarbothioic acid 2-(4-bromo-2-methylphenyl) hydrazide, B-00534
6-Bromo-1,2-naphthoquinone; Dioxime, *in* B-00538
16-Bromo-2,3,5,6,8,9,11,12-octahydro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, B-00540
Bromophenol blue, B-00542
4-[(4-Bromophenyl)azo]-1,2,3-benzenetriol, B-00545
3-[(4-Bromophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, B-00546
5-[(4-Bromophenyl)azo]-6-hydroxy-2-naphthalenesulfonic acid, B-00547
1-(4-Bromophenyl)-1,3-butanedione; 3-Oxime, *in* B-00548
N'-(4-Bromophenyl)-*N*-hydroxy-*N*-phenylthiourea, B-00551
N-(4-Bromophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, B-00552
3-(4-Bromophenyl)-5-mercapto-1,3,4-thiadiazole-2-thione, B-00553
(4-Bromophenyl)phenylethanedione dioxime, B-00555
9-(4-Bromophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, B-00558
Bromophthalexon S, B-00559
4-[(5-Bromo-2-pyridinyl)azo]-1,3-benzenediamine, B-00562
2-[(5-Bromo-2-pyridinyl)azo]-5-(diethylamino)phenol, *in* A-00126
2-[(5-Bromo-2-pyridinyl)azo]-4,5-dimethylphenol, B-00564
3-[[4-[(5-Bromo-2-pyridinyl)azo]-5-hydroxy-2-methylphenyl]ethylamino]-1-propanesulfonic acid, B-00565
3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]amino]-1-propanesulfonic acid, B-00566
3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]ethylamino]-1-propanesulfonic acid, B-00567
3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-2-hydroxy-1-propanesulfonic acid; Di-Na salt, *in* B-00568
3-[[4-[(5-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-1-propanesulfonic acid, B-00569
3-[[4-[(6-Bromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-1-propanesulfonic acid, B-00570
5-(5-Bromo-2-pyridinylazo)-6-hydroxy-2(1*H*)-pyridinone, B-00571
2-[(5-Bromo-2-pyridinyl)azo]-5-methoxyphenol, *in* B-00563
4-[(5-Bromo-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, B-00572
1-[(5-Bromo-2-pyridinyl)azo]-2-naphthalenol, B-00573
Bromopyrogallol red, B-00574
8-*N*-(5-Bromosalicylidene)aminoquinoline, B-00575
4-Bromo-6-(2-thiazolylazo)-1,3-benzenediol, B-00578
2-(5-Bromo-2-thiazolylazo)-5-(diethylamino)benzoic acid, *in* A-00128
1-[(5-Bromo-2-thiazolyl)azo]-2-naphthalenol, B-00579
5-Bromo-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, B-00580
Bromothymol blue, B-00581
▷ Brucine, B-00584
1,4-Butanediamine-*N*,*N*,*N*,*N'*-tetrakis(methylphosphonic acid), B-00585
▷ 2,3-Butanedione, B-00587
2,3-Butanedione (2-benzothiazolyl) hydrazone; Oxime, *in* B-00588
2,3-Butanedione bis(4-biphenylyl) thiosemicarbazone, B-00589
2,3-Butanedione bis[3,5-bis(trifluoromethyl) phenylthiosemicarbazone], B-00590
2,3-Butanedione bis[4-(4-chloro-3-(trifluoromethyl)phenyl) thiosemicarbazone], B-00591
2,3-Butanedione bis[4-(3,4-dichlorophenyl) thiosemicarbazone], B-00592
2,3-Butanedione bis[(2-fluorophenyl) thiosemicarbazone], B-00593
2,3-Butanedione bis[(4-fluorophenyl) thiosemicarbazone], B-00594
2,3-Butanedione bis[[4-(6-methyl-2-benzothiazolyl)phenyl] thiosemicarbazone], B-00595
2,3-Butanedione bis[(4-nitrophenyl) thiosemicarbazone], B-00596
2,3-Butanedione bis(phenylthiosemicarbazone), B-00597
2,3-Butanedione bis[(thiobenzoyl) hydrazone], B-00598
2,3-Butanedione mono(2-pyridinylhydrazone), B-00600
▷ 2,3-Butanedione; Monoxime, *in* B-00587
2,3-Butanedione; Monoxime, (4-nitrophenyl)hydrazone, *in* B-00587
2,3-Butanedione; Monoxime, phenylthiosemicarbazone, *in* B-00587
2,3-Butanedione; Monoxime, 2-pyridylhydrazone, *in* B-00587
2,3-Butanedione oxime 4-nitrophenylhydrazone, B-00601
2,3-Butanedione; Thiosemicarbazone, *in* B-00587
1,4-Butanediylbis[triphenylphosphonium] (2+); Dibromide, *in* B-00602
Butanoic acid 2-[1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenyl] hydrazide, B-00605
▷ Butaperazine maleate, *in* B-00609
4-Butoxy-*N*-(4-chlorophenyl) benzohydroxamic acid, B-00612
▷ 2-Butoxyethanol, B-00613
4-Butoxy-*N*-hydroxy-*N*-phenylbenzamide, B-00614
1-Butyl-4-[[4-(diethylamino)phenyl]azo] pyridinium(1+), B-00625
1-Butyl-3,4-dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, *in* D-00504
Butyldithiocarbamic acid, B-00631
3-(Butylphenylamino)-1-propanesulfonic acid; Na salt, *in* B-00636
Butylrhodamine B, *in* R-00002
Butyltriphenylphosphonium(1+), B-00640
▷ C.I. 51010, *in* B-00477
C.I. Acid violet 3; Di-Na salt, *in* C-00001
▷ C.I. 11050 Basic dye, *in* J-00004
▷ C.I. Basic orange 14, *in* B-00313
C.I. Mordant blue 18, *in* A-00139
Cacotheline, C-00005
Cadion, C-00006
Cadion 2B, C-00007
Cadion IREA; Di-Na salt, *in* C-00008
Calcein, C-00010
Calcichrome; Tetra-Na salt, *in* C-00012
Calmagite, C-00015
▷ Capri blue; Chloride, *in* C-00017
7-[α-(Carbomethoxyanilino)benzyl]-8-hydroxyquinoline, C-00022
▷ Carbonodithioic acid *O*-(phenylmethyl) ester; K salt, *in* C-00024
Carboxyarsenazo, C-00026
Carboxyarsenazo B, C-00027
Carboxybenzene S, C-00028
4-Carboxy-6,7-dihydroxy-2-phenyl-1-benzopyrylium(1+); Chloride, *in* C-00029
2-Carboxy-5-hydroxy-4-oxo-1(4*H*)-pyridineacetic acid, C-00031
9-(5-Carboxy-2-hydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, C-00032
1-(2-Carboxymethoxy-4-nitrophenyl)-3-phenyl-5-(carboxymethoxyphenyl) formazan, C-00033
Carboxymethyl cellulose, *in* C-00049
3-(Carboxymethylthio)-1,5-diphenylformazan, C-00034
4-Carboxynioxime, *in* D-00989
Carboxynitrazo, C-00035
2-[[7-[(3-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl] azo]benzoic acid, C-00036
2-[[7-[(4-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl] azo]benzoic acid, C-00037
3-[[7-[(2-Carboxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl] azo]-2-hydroxy-5-sulfobenzoic acid, C-00038
1-(2-Carboxyphenyl)-5-[1-(2-methoxy-5-sulfophenyl)]-3-phenylformazan, C-00042
9-(2-Carboxy-4-pyridyl)fluorone, C-00043
2-Carboxy-1-pyrrolidinecarbodithioic acid; (*S*)-*form*, *in* C-00044
Carmine red, C-00045
4-Catecholylazo-4'-acetylaminobiphenyl, *in* A-00118
Cationic red violet; Chloride, *in* C-00046
Cationic violet; Chloride, *in* C-00047
▷ Ceplac, *in* E-00020
▷ Chloramine T, *in* M-00130
Chlorindazon C, C-00051
Chlorindazon DS, C-00052
o-Chloroacetanilide, *in* C-00058
▷ *p*-Chloroacetanilide, *in* C-00060
▷ 4-Chloro-1,3-benzenediol, C-00061
▷ 2-Chlorobenzoic acid, C-00066
2-Chlorobenzoic acid; Hydrazide, *in* C-00066
1-(*p*-Chlorobenzyl)-4,6-diphenyl-2-pyridinethione, C-00071
2-Chloro-*N*,*N'*-bis(4-chlorophenyl) benzenecarboximidamide; B,HCl, *in* C-00073
2-Chloro-*N*,*N'*-bis(4-chlorophenyl)-*N*-hydroxybenzenecarboximidamide, C-00074
6-Chloro-2,3-bis(6-methyl-2-pyridyl) quinoxaline, C-00075
▷ 1-Chloro-4-(chloromethyl)benzene, C-00080
2-Chloro-*N*-(2-chlorophenyl)-*N'*-(4-chlorophenyl)benzenecarboximidamide; B,HCl, *in* C-00083
2-Chloro-*N*-(3-chlorophenyl)-*N'*-(4-chlorophenyl)benzenecarboximidamide; B,HCl, *in* C-00084
2-Chloro-*N*-(4-chlorophenyl)-*N'*-(2,3-dimethylphenyl) benzenecarboximidamide, C-00085
2-Chloro-*N'*-(4-chlorophenyl)-*N*-hydroxy-*N*-(4-methylphenyl)benzamidine, C-00086
2-Chloro-*N'*-(4-chlorophenyl)-*N*-hydroxy-*N*-phenylbenzenecarboximidamide, C-00087
2-Chloro-*N*-(4-chlorophenyl)-*N'*-(2-methylphenyl)benzenecarboximidamide, *in* C-00082
2-Chloro-*N*-(4-chlorophenyl)-*N'*-(3-methylphenyl)benzenecarboximidamide, *in* C-00082
2-Chloro-*N*-(4-chlorophenyl)-*N'*-(4-methylphenyl)benzenecarboximidamide, *in* C-00082
2-Chloro-*N*-(2-chlorophenyl)-*N'*-phenylbenzenecarboximidamide, C-00088
2-Chloro-*N*-(4-chlorophenyl)-*N'*-phenylbenzenecarboximidamide; B,HCl, *in* C-00089
2-Chloro-5-cyano-3,6-dihydroxybenzoquinone; Di-Na salt, *in* C-00090
4-[(5-Chloro-1,2-dihydro-3-hydroxy-2-oxo-4-pyridinyl)azo]benzenesulfonic acid, C-00093
5-Chloro-2-[(4,5-dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]benzoic acid, C-00094
[5-Chloro-3-[(2,4-dihydroxyphenyl)azo]-2-hydroxyphenyl]arsonic acid, C-00096
4-Chloro-*N*-(2,3-dimethylphenyl)-*N'*-phenylbenzenecarboximidamide, C-00102

5-Chloro-3-[(2,4-dithioxo-5-thiazolidinyl) azo]-2-hydroxybenzenesulfonic acid, C-00112
2′-Chlorofluorescein, C-00116
4′-Chlorofluorescein, C-00117
3-(5-Chloro-2-furanoyl)-2-propenal; Thiosemicarbazone, *in* C-00120
6-Chloro-3-hydrazinopyridazine, *in* C-00251
5-Chloro-2-hydroxybenzaldehyde phenylthiosemicarbazone, C-00123
5-Chloro-2-hydroxy-3-[(3-benzylideneamino-4-oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid, C-00124
5-Chloro-2-hydroxy-3-[(3-(2-hydroxybenzylideneamino)-4-oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, C-00128
5-Chloro-2-hydroxy-3-[(3-(2-hydroxy-3-methoxybenzylideneamino)-4-oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, C-00131
5-Chloro-2-hydroxy-3-[(2-imino-4-oxo-5-thiazolidinyl)azo]benzenesulfonic acid, C-00133
▷ 5-Chloro-8-hydroxy-7-iodoquinoline, C-00134
5-Chloro-2-hydroxy-4-methylacetophenone; Oxime, *in* C-00135
2-Chloro-*N*-hydroxy-*N*-(2-methylphenyl) benzamide, *in* C-00064
2-Chloro-*N*-hydroxy-*N*-(3-methylphenyl) benzamide, *in* C-00064
4-Chloro-*N*-hydroxy-*N*-(2-methylphenyl) benzamide, *in* C-00065
4-Chloro-*N*-hydroxy-*N*-(3-methylphenyl) benzamide, *in* C-00065
4-Chloro-*N*-hydroxy-*N*-(4-methylphenyl) benzamide, *in* C-00065
4-Chloro-*N*-hydroxy-*N*-1-naphthalenylbenzamide, C-00136
3-[(3-Chloro-2-hydroxy-5-nitrophenyl)azo]-6-[(5-chloro-2-hydroxy-3-sulfophenyl) azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00138
3-[(3-Chloro-2-hydroxy-5-nitrophenyl)azo]-6-[(3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00139
5-Chloro-2-hydroxy-3-[(2-oxo-4-thioxo-5-selenazolidinyl)azo]benzenesulfonic acid, C-00140
5-Chloro-2-hydroxy-3-[(4-oxo-2-thioxo-5-thiazolidinyl)azo]benzenesulfonic acid, C-00141
3-[(5-Chloro-2-hydroxyphenyl)azo]-6-[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00142
2-[[7-[(5-Chloro-2-hydroxyphenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl] azo]benzoic acid, C-00143
3-[(5-Chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00144
3-[(5-Chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, C-00145
3-[(5-Chloro-2-hydroxyphenyl)azo]-4,5-dihydroxy-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00146
7-[(5-Chloro-2-hydroxyphenyl)azo]-8-hydroxy-1,6-naphthalenedisulfonic acid, C-00147
3-[[4-[(5-Chloro-2-hydroxyphenyl)azo]-3-hydroxyphenyl]ethylamino]-1-propanesulfonic acid, C-00148
4-Chloro-2-[[(2-hydroxyphenyl)methylene] amino]phenol, C-00150
7-Chloro-8-hydroxy-5-quinolinesulfonic acid, C-00152
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-6-[(3-chloro-5-sulfophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00153
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2,4-dimethylphenyl) azo]-2,7-naphthalenedisulfonic acid, C-00154
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, C-00156
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00157
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-4,5-dihydroxy-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, C-00159
3-[(5-Chloro-2-hydroxy-3-sulfophenyl)azo]-6-phenylazo-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, C-00162
5-Chloro-2-hydroxy-3-[(tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo] benzenesulfonic acid, C-00163
▷ 4-(Chloroimino)-2,5-cyclohexadien-1-one, C-00164
N-(5-Chloro-2-methoxyphenyl)-4-[(2,3-dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-2-naphthalenecarboxamide, C-00168
4-(Chloromethyl)-2-[(3,4-dihydroxyphenyl) azo]-5-thiazolecarboxylic acid; Me ester, *in* C-00176
▷ *N*-(3-Chloro-4-methylphenyl)acetamide, *in* C-00171
N′-(4-Chloro-2-methylphenyl)-*N*-(4-chlorophenyl)-*N*-hydroxybenzenecarboximidamide, C-00181
N′-(3-Chloro-4-methylphenyl)-*N*-hydroxy-*N*-(4-methylphenyl)benzamidine, C-00182
N′-(3-Chloro-4-methylphenyl)-*N*-hydroxy-*N*-phenylbenzamidine, C-00183
2-Chloro-*N*-(2-methylphenyl)-*N*′-phenylbenzenecarboximidamide, C-00184
4-Chloro-1,2-naphthoquinone; Dioxime, *in* C-00187
6-Chloro-1,2-naphthoquinone; Dioxime, *in* C-00188
4-Chloro-2-nitroso-1-naphthol, *in* C-00187
4-Chloro-2-nitrosophenol, C-00190
4-Chloro-2-[(1,3,4,7,8,10,11,13-octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-yl)azo] phenol, C-00191
▷ 4-Chlorophenol, C-00196
2-Chloro-10*H*-phenothiazine, C-00198
4-[(4-Chlorophenyl)azo]-1,3-benzenediamine, C-00199
4-[(4-Chlorophenyl)azo]-1,2,3-benzenetriol, C-00200
3-[[7-[4-Chlorophenylazo]-1,8-dihydroxy-3,6-disulfo-2-naphthyl]azo]benzoic acid, C-00201
5-[(4-Chlorophenyl)azo]-6-hydroxy-2-naphthalenesulfonic acid, C-00204
1-[(3-Chlorophenyl)azo]-2-naphthalenol, C-00205
5-[(4-Chlorophenyl)azo]-8-quinolinol, C-00206
1-(4-Chlorophenyl)-1,3-butanedione; 3-Oxime, *in* C-00207
N-(4-Chlorophenyl)-4-chlorophenoxyisobutyrohydroxamic acid, C-00208
N-(2-Chlorophenyl)-*N*′-(4-chlorophenyl) benzenecarboximidamide, C-00209
N-(4-Chlorophenyl)-*N*′-(2,6-dimethylphenyl) benzenecarboximidamide, C-00214
N-(3-Chlorophenyl)-*N*′-(2,3-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00215
N-(3-Chlorophenyl)-*N*′-(2,5-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00216
N-(3-Chlorophenyl)-*N*′-(2,6-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00217
N-(4-Chlorophenyl)-*N*′-(2,3-dimethylphenyl)-*N*-hydroxybenzenecarboximidamide, C-00218
N-(4-Chlorophenyl)-*N*′-(2,3-dimethylphenyl)-*N*-hydroxy-4-methylbenzenecarboximidamide, C-00219
N-(4-Chlorophenyl)-3-(2-furanyl)-*N*-hydroxy-2-propenamide, C-00220
2-(4-Chlorophenyl)-2-hydroxyacetic acid; (±)-*form*, *in* C-00222
N-(4-Chlorophenyl)-*N*-hydroxy-2-butenamide, C-00223
N-(4-Chlorophenyl)-*N*-hydroxy-3,5-dinitrobenzamide, *in* D-00946
N-(3-Chlorophenyl)-*N*-hydroxy-2-furancarboxamide, *in* F-00064
N-(4-Chlorophenyl)-*N*-hydroxy-2-furancarboxamide, *in* F-00064
N-(4-Chlorophenyl)-*N*-hydroxy-2,4-hexadienamide, *in* H-00185
N-(3-Chlorophenyl)-*N*-hydroxy-*N*′-(4-methoxyphenyl) benzenecarboximidamide, C-00224
N-(4-Chlorophenyl)-*N*-hydroxy-3-(4-methoxyphenyl)-2-propenamide, C-00225
N-(4-Chlorophenyl)-*N*-hydroxy-3-(3,4-methylenedioxyphenyl)-2-propenamide, C-00226
N-(3-Chlorophenyl)-*N*-hydroxy-*N*′-(2-methylphenyl)benzenecarboximidamide, C-00227
N-(3-Chlorophenyl)-*N*-hydroxy-*N*′-(3-methylphenyl)benzenecarboximidamide, C-00228
N-(3-Chlorophenyl)-*N*-hydroxy-*N*′-(4-methylphenyl)benzenecarboximidamide, C-00229
N-(3-Chlorophenyl)-*N*-hydroxy-*N*′-phenylbenzenecarboximidamide, C-00230
N-(4-Chlorophenyl)-*N*-hydroxy-3-phenyl-2-propenamide, C-00232
N-(4-Chlorophenyl)-*N*-hydroxy-3-(2-thienyl)-2-propenamide, C-00234
N-(4-Chlorophenyl)-*N*-hydroxy-3-(3,4,5-trimethoxyphenyl)-2-propenamide, C-00235
N-(4-Chlorophenyl)-*N*′-phenylbenzenecarboximidamide, C-00237
(4-Chlorophenyl)phenylethanedione; Dioxime, *in* C-00238
9-(2-Chlorophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, C-00240
Chlorophosphonazo I, C-00241
Chlorophosphonazo III, C-00242
Chlorophosphonazo mN, C-00243
Chlorophosphonazo pN, C-00244
Chlorophosphonazo R, C-00245
Chlorophosphonazo-*m*-sulfonic acid, C-00246
3-[[7-[(4-Chloro-2-phosphonophenyl)azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, C-00247
N-[4-[[7-[(4-Chloro-2-phosphonophenyl) azo]-1,8-dihydroxy-3,6-disulfo-2-naphthalenyl]azo]benzoyl]glycine, C-00248
3-[(4-Chloro-2-phosphonophenyl)azo]-4,5-dihydroxy-6-[(4-iodophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00249
▷ 2-Chloropyridine, C-00252
2-[(5-Chloro-2-pyridinyl)azo]-5-(diethylamino)phenol, *in* A-00145
2-[(5-Chloro-2-pyridinyl)azo]-5-(dimethylamino)phenol, *in* A-00145
4-[(5-Chloro-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, C-00253
2-[(5-Chloro-2-pyridinyl)azo]-3-methyl-6-(1-methylethyl)phenol, C-00254

4-[3-Chloro-4-(pyridinylazo)-5-methyl-2-(1-methylethyl)]phenol, C-00255
4-Chloro-*N*-(2-pyridinyl)benzamide, C-00256
3-[[(5-Chloro-2-pyridinyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, C-00257
4-Chloro-2-[(2-pyridinylmethylene)amino] phenol, C-00258
1-(5-Chloro-2-pyridylazo)-2-naphthol, C-00259
3-[(5-Chloro-3-sulfophenyl)azo]-4,5-dihydroxy-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, C-00262
4-Chloro-6-(2-thiazolylazo)-1,3-benzenediol, C-00263
5-Chloro-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, C-00264
▷ 2-Chloro-1,3,5-trinitrobenzene, C-00268
▷ Chlorpromazine, C-00273
Chromal blue G; Di-Na salt, *in* C-00275
Chromazol KS; Tri-Na salt, *in* C-00276
Chromazurol S; Tri-Na salt, *in* C-00277
Chrome black special; Mono-Na salt, *in* C-00278
Chrome dark BLN; Na salt, *in* C-00280
Chrome dark green BGN; Na salt, *in* C-00281
Chrome dark green BN; Na salt, *in* C-00282
Chromocitromin BH, C-00285
Chromopyrazole, C-00286
Chromopyrazole I, C-00287
Chromopyrazole II, C-00288
Chromotrope 2B; Di-Na salt, *in* C-00290
Chromotrope 2C, C-00291
Chromotrope 2R; Di-Na salt, *in* C-00293
Chromotropic acid, C-00294
Chromoxane violet R, *in* E-00015
Chrysophenine G; Di-Na salt, *in* C-00297
Cinnamamide; Anhydride, *in* P-00169
N-Cinnamoylphenylhydroxylamine, *in* H-00499
Cotarnilfluorone, C-00302
o-Cresolphthalexon, C-00308
Cresol red, C-00310
▷ 18-Crown-6, C-00315
Cryptand 2.2.2 B, C-00317
▷ Crystal violet; Chloride, *in* C-00320
▷ Cupferron, *in* H-00471
▷ Cuprizone, C-00321
Cuproselect, *in* D-01137
▷ Cuprotest, C-00322
Curcumin, C-00323
3-Cyano-1,5-bis(2-hydroxy-5-sulfophenyl) formazan; Di-Na salt, *in* C-00325
2-Cyano-3-iminodithiobutyric acid; NH_4 salt, *in* C-00328
1,2-Cyclodecanedione; Dioxime, *in* C-00331
1,2-Cyclohexanedione bisbenzoylhydrazone, C-00340
1,2-Cyclohexanedione bis(2-hydroxybenzoyl)hydrazone, C-00341
1,3-Cyclohexanedione bis(2-hydroxybenzoyl)hydrazone, C-00342
1,2-Cyclohexanedione bis(2-pyridylhydrazone), C-00343
1,2-Cyclohexanedione bis(thiosemicarbazone), C-00344
1,3-Cyclohexanedione bis(thiosemicarbazone); B, HCl, *in* C-00345
2,2′-(1,4-Cyclohexanediylidene) bishydrazinecarbothioamide, *in* C-00339
▷ Cyclohexanone, C-00347
Cyclohexylbenzyldithiocarbamate(1 −); Triethylammonium salt, *in* C-00351
4-Cyclohexyl-6-[(2-hydroxy-3,5-dinitrophenyl)azo]-1,3-benzenediol, C-00354
Cyclohexyl(2-morpholinoethyl) carbodiimide; Metho-*p*-toluenesulfonate, *in* C-00356
9-Cyclohexyl-2,6,7-trihydroxy-3*H*-xanthen-3-one, C-00359
1,3-Cyclopentanedione bis(4-methylthiosemicarbazone); B,HCl, *in* C-00363
5-(Cyclopentylmethylene)-2-thioxo-4-thiazolidinone, C-00366
4-Cyclopentyl-6-(2-pyridinylazo)-1,3-benzenediol, C-00367
4-Cyclopentyl-6-(2-quinolinylazo)-1,3-benzenediol, C-00368
▷ Cysteine; (±)-*form*, *in* C-00370
▷ Daxime, D-00002
8-[[4-[(2,3,5,6,8,9,11,12,14,15-Decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-yl)azo] phenyl]amino]-1-naphthalenesulfonic acid, D-00006
2,3,5,6,8,9,11,12,14,15-Decahydro-19-nitro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-amine, D-00019
2,3,5,6,8,9,11,12,14,15-Decahydro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13,16-benzohexaoxacyclooctadecin-18-amine, D-00021
Decanediperoxoic acid, D-00023
▷ Desferrioxamine, D-00029
3,5-Diacetyl-4-(2-chlorophenyl)-2,6-heptanedione, D-00034
2,6-Diacetylpyridine bis(benzoylhydrazone), D-00036
2,6-Diacetylpyridine bis(2-furoylhydrazone), D-00037
2,6-Diacetylpyridine bis(2-hydroxybenzoylhydrazone), D-00038
2,6-Diacetylpyridine bis (2-pyridylhydrazone), D-00039
2,6-Diacetylpyridine; Dioxime, *in* D-00035
Diaminazo, D-00041
1,4-Diaminoanthraquinone-2,3-disulfonic acid; Di-Na salt, *in* D-00044
3,4-Diaminoanthraquinone-1-sulfonic acid, D-00045
▷ 1,2-Diaminobenzene, D-00046
▷ 1,3-Diaminobenzene, D-00047
▷ 1,4-Diaminobenzene, D-00048
3,4-Diaminobenzoic acid, D-00050
▷ 4,4′-Diaminobiphenyl, D-00053
6,6′-Diamino-3,3′-bipyridazine, D-00060
4,4′-Diamino-2,2′-bipyridine, D-00061
2,4-Diamino-6-(2,2′-bipyridyl)-1,3,5-triazine, D-00062
1,2-Diamino-4,5-dichlorobenzene, D-00069
4,8-Diamino-9,10-dihydro-1,5-dihydroxy-9,10-dioxo-2,6-anthracenedisulfonic acid, D-00073
▷ 1,5-Diamino-4,8-dihydroxyanthraquinone, D-00074
▷ 1,8-Diamino-4,5-dihydroxyanthraquinone, D-00075
▷ 4,4′-Diamino-3,3′-dimethoxybiphenyl, *in* D-00056
▷ 1,2-Diamino-4,5-dimethylbenzene, D-00080
4,4′-Diamino-3,3′-dimethyl-[1,1′-binaphthalene]-6,6′-disulfonic acid, D-00081
▷ 4,4′-Diamino-3,3′-dimethylbiphenyl, D-00083
▷ 3,7-Diamino-2,8-dimethyl-5-phenylphenazinium(1 +); Chloride, *in* D-00084
▷ 4,4′-Diaminodiphenyl sulfide, D-00089
▷ 4,4′-Diaminodiphenyl sulfone, D-00090
▷ 4,4′-Diaminodiphenyl sulfoxide, D-00091
▷ 2,7-Diaminofluorene, D-00097
4,5-Diamino-6-hydroxypyrimidine; Sulfate, *in* D-00098
1,3-Diamino-8-methoxyphenothiazine, D-00100
3,6-Diamino-10-methylacridinium chloride, *in* D-00042
▷ 1,2-Diamino-4-methylbenzene, D-00101
5,6-Diamino-2-methyl-4(1*H*)-pyrimidinone, D-00104
2,3-Diaminonaphthalene, D-00106
▷ 1,4-Diamino-5-nitroanthraquinone, D-00107
▷ 1,2-Diamino-4-nitrobenzene, D-00108
2,6-Diamino-5-nitroso-4(1*H*)-pyrimidinone, D-00109
2-[(2,4-Diaminophenyl)azo]-4,6-dinitrophenol, D-00112
▷ 1,2-Diaminopropane-*N*,*N*,*N*′,*N*′-tetraacetic acid, D-00115
2,4-Diamino-6-(3-pyridazinyl)-1,3,5-triazine, D-00117
▷ 2,3-Diaminopyridine, D-00118
5,6-Diamino-2,4(1*H*,3*H*)-pyrimidinedione; 1,3-Di-Me, *in* D-00120
5,6-Diamino-2,4(1*H*,3*H*)-pyrimidinedithione, D-00121
5,6-Diamino-4(1*H*)-pyrimidinethione, D-00122
2,4-Diamino-6-(2-pyrimidinyl)-1,3,5-triazine, D-00123
2,4-Diamino-6-(4-pyrimidinyl)-1,3,5-triazine, D-00124
4,4′-Dianilinobiphenyl, *in* D-00053
1,5-Diantipyrinyl-3-formazancarbonitrile, D-00134
1,1-Diantipyryl-2-hydroxyphenylmethane, D-00138
1,1-Diantipyrylmethane, D-00139
Diantipyrylthiourea, D-00141
▷ 4-Diazobenzenesulfonic acid, D-00142
2-Diazoniumbenzenesulfonate, *in* S-00040
Dibenzo[*b*,*e*][1,4]dioxin-2-carboxaldehyde; Oxime, *in* D-00162
2,5-Dibenzoyl-3,4-dihydroxyselenophene, D-00164
▷ Dibenzyldithiooxamide, D-00169
Dibenzyl selenide, D-00170
Dibenzyl sulfide, D-00171
Di-4-biphenylylthiocarbazone, D-00175
Dibromoarsenazo II, D-00177
Dibromoarsenazo III, D-00178
4,5-Dibromo-9-(3,5-dibromo-2-hydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, D-00181
2,5-Dibromo-3,6-dihydroxy-1,4-benzoquinone, D-00182
o,*o*′-Dibromo-*p*,*p*′-dimethyldithizone, D-00184
2,2′-Dibromodithizone, D-00186
2,7-Dibromogallein, D-00189
2-[(3,5-Dibromo-2-hydroxyphenyl) methylene]-*N*-phenylhydrazinecarbothioamide, D-00192
▷ 5,7-Dibromo-8-hydroxyquinoline, D-00193
5,7-Dibromo-8-hydroxyquinoline; *N*-Oxide, *in* D-00193
2-[(3,5-Dibromo-4-methyl-2-pyridinyl)azo]-5-(diethylamino)phenol, D-00196
9-(3,4-Dibromophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, D-00198
4-[(3,5-Dibromo-2-pyridinyl)azo]-1,3-benzenediamine, D-00199
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(diethylamino)benzoic acid, *in* A-00148
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(dimethylamino)benzoic acid, D-00201
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(ethylamino)-4-methylphenol, *in* A-00149
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[ethyl(2-hydroxy-3-sulfopropyl)amino]benzoic acid; Di-Na salt, *in* D-00202
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[ethyl(3-sulfopropyl)amino]benzoic acid; Di-Na salt, *in* D-00203
3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-5-hydroxy-2-methylphenyl]ethylamino]-1-propanesulfonic acid; Di-Na salt, *in* D-00204
3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]amino]-2-hydroxy-1-propanesulfonic acid; Di-Na salt, *in* D-00205
3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]ethylamino]-1-propanesulfonic acid; Di-Na salt, *in* D-00206

3-[[4-[(3,5-Dibromo-2-pyridinyl)azo]-3-hydroxyphenyl]propylamino]-1-propanesulfonic acid; Di-Na salt, *in* D-00207
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[(2-hydroxy-3-sulfopropyl)amino]benzoic acid; Di-Na salt, *in* D-00208
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-methoxyphenol, *in* D-00200
2-[(3,5-Dibromo-2-pyridinyl)azo]-4-methyl-5-[(3-sulfopropyl)amino]benzoic acid; Di-Na salt, *in* D-00209
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-[(3-sulfopropyl)amino]benzoic acid, *in* A-00148
5-(3,5-Dibromo-2-pyridylazo)-2,4-diaminotoluene, D-00210
2-[(3,5-Dibromo-2-pyridyl)azo]-5-(diethylamino)phenol, *in* A-00150
4-(3,5-Dibromo-2-pyridylazo)-*N*,*N*-diethylaniline, D-00211
4-(3,5-Dibromo-2-pyridylazo)-*N*-ethyl-*N*-(3-sulfopropyl)aniline, D-00212
2-(3,5-Dibromo-2-pyridylazo)-4-methyl-5-(*N*-propyl-*N*-sulfopropylamino)aniline; Na salt, *in* D-00213
2-(3,5-Dibromo-2-pyridylazo)-5-(*N*-propyl-*N*-sulfopropylamino)aniline; Na salt, *in* D-00214
Dibromotichromin, D-00219
2,6-Dibromo-3,4,5-trihydroxybenzoic acid, D-00220
3,5-Di-*tert*-butyl-1,2-benzenediol, D-00227
3,5-Dibutyl-2,6-dimercapto-4*H*-thiopyran-4-one, D-00230
Dibutyldiselenocarbamic acid; Na salt, *in* D-00231
4,4′-Dibutyldithizone, D-00233
4,6-Di-*tert*-butyl-3-methoxy-1,2-benzenediol, *in* D-00228
2-(Dibutylphosphinyl)-2-hydroxypropanoic acid, D-00239
▷ Dicarboxidine, D-00244
2,5-Dichloro-1,4-benzoquinone, D-00250
▷ 2,6-Dichloro-1,4-benzoquinone, D-00251
▷ (3,4-Dichlorobenzyl) triphenylphosphonium(1+); Chloride, *in* D-00252
4,4′-Dichloro-2,2′-biquinoline, D-00254
6,7-Dichloro-2,3-bis(6-methyl-2-pyridyl) quinoxaline, D-00255
▷ 2,3-Dichloro-5,6-dicyano-1,4-benzoquinone, D-00260
▷ 2,5-Dichloro-3,6-dihydroxy-1,4-benzoquinone, D-00262
3,6-Dichloro-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, D-00263
2,5-Dichloro-4-[[4-(4-dimethylamino) phenyl]azo]benzenesulfonic acid, *in* A-00311
3,3′-Dichloro-2,2′-dimethyldithizone, D-00264
4,4′-Dichloro-2,2′-dimethyldithizone, D-00265
5,5′-Dichloro-2,2′-dimethyldithizone, D-00266
6,7-Dichloro-2,3-di-2-pyridylquinoxaline, D-00269
2,2′-Dichlorodithizone, D-00270
4,4′-Dichlorodithizone, D-00271
2′,4′-Dichlorofluorescein, D-00273
2′,5′-Dichlorofluorescein, D-00274
2′,7′-Dichlorofluorescein, D-00275
4′,5′-Dichlorofluorescein; Di-Na salt, *in* D-00276
3′,5′-Dichloro-2′-hydroxyacetophenone; Oxime, *in* D-00277
3,5-Dichloro-2-hydroxybenzaldehyde phenylthiosemicarbazone, D-00278
5,7-Dichloro-8-hydroxyquinoline, D-00283
5,7-Dichloro-8-hydroxyquinoline; 1-Oxide, *in* D-00283
2-(2,4-Dichlorophenoxy)-*N*-(4-methylphenyl)acetohydroxamic acid, *in* D-00288
2-(2,4-Dichlorophenoxy)-*N*-phenylacetohydroxamic acid, *in* D-00288
3-[(2,4-Dichlorophenyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00289
N-2,5-Dichlorophenyl-*N*′-phenylbenzamidine, D-00296
4-[(3,5-Dichloro-2-pyridinyl)azo]-1,3-benzenediamine, D-00299
2-[(3,5-Dichloro-2-pyridinyl)azo]-5-(dimethylamino)phenol, D-00300
4-[(3,5-Dichloro-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, D-00301
6,7-Dichloro-5,8-quinolinedione, D-00302
▷ Dicyclohexylcarbodiimide, D-00309
▷ *N*,*N*′-Didodecylethanedithioamide, D-00310
▷ Diethazine; B,HCl, *in* D-00312
▷ Diethylamine, D-00314
5-(Diethylamino)-2-[(4,5-dimethyl-2-thiazolyl)azo]phenol, *in* A-00163
N-[2-(Diethylamino)ethyl]-4-[(8-hydroxy-5-quinolinyl)azo]benzamide, D-00317
2-[4-(Diethylamino)-2-hydroxyphenylazo]-4,6-dinitrophenol, D-00318
[3-(4-Diethylamino-2-hydroxyphenyl)azo]-4-hydroxybenzenesulfonic acid, D-00319
4-[[4-(Diethylamino)-2-hydroxyphenyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, D-00320
2-(4-Diethylamino-2-hydroxyphenylazo) thiazole, *in* A-00214
5-[[4-Diethylamino-2-hydroxyphenyl]azo]-1*H*-1,2,4-triazole-3-carboxylic acid, *in* A-00215
5-(Diethylamino)-2-[(5-methyl-2-pyridinyl) azo]phenol, D-00324
5-(Diethylamino)-2-nitrosophenol, *in* A-00285
3-[[4-(Diethylamino)phenyl]azo]-1,4-dimethyl-1*H*-1,2,4-triazolium(1+); Chloride, *in* D-00328
4-[[4-(Diethylamino)phenyl]azo]-1-ethylpyridinium(1+); Chloride, *in* D-00329
3-[2-(5-Diethylaminophenyl)azo]-2-hydroxy-5-nitrobenzenesulfonic acid, D-00330
4-[[4-(Diethylamino)phenyl]azo]-1-methylpyridinium(1+); Chloride, *in* D-00332
4-[[4-(Diethylamino)phenyl]azo]-1-methylpyridinium(1+); Iodide, *in* D-00332
4-[[4-(Diethylamino)phenyl]azo]-1-propylpyridinium(1+); Chloride, *in* D-00333
4-Diethylaminophenylfluorone, *in* A-00328
5-[[4-(Diethylamino)phenyl]methylene]-2-thioxo-4-thiazolidinone, D-00334
2-(Diethylamino)-6-(2-pyridinylazo)phenol, D-00335
5-(Diethylamino)-2-(2-pyridinylazo)phenol, *in* A-00336
5-Diethylamino-2-(2-thiazolylazo)benzoic acid, *in* A-00359
2-(Diethylamino)-6-(2-thiazolylazo)phenol, *in* A-00360
3,5-Diethyl-2,6-dimercapto-4*H*-thiopyran-4-one, D-00342
Diethyldiselenocarbamic acid; K salt, *in* D-00343
▷ Diethylenetriamine, D-00345
3,3-Diethyl-1-(9*H*-fluoren-2-yl)-1-triazene, D-00347
N,*N*-Diethyl-*N*′-(4-methyl-5-nitro-2-thiazolyl)thiourea, D-00349
N,*N*-Diethyl-4-nitrosoaniline, D-00350
▷ *N*,*N*-Diethyl-1,4-phenylenediamine, *in* D-00048
▷ *O*,*O*-Diethyl phosphorodithioate, D-00356
N,*N*-Diethyl-4-(2-thiazolylazo) benzenamine, *in* T-00138
4,4′-Difluorodithizone, D-00361
▷ Di(2-furyl)ethanedione; Monoxime, *in* D-00364
2-(2,3-Dihydro-2-benzothiazolyl)phenol, D-00372
5,6-Dihydro-5,6-bis(hydroxyimino)-1-naphthalenesulfonic acid, *in* N-00034
5,6-Dihydro-5,6-bis(hydroxyimino)-2-naphthalenesulfonic acid, *in* N-00035
7,8-Dihydro-7,8-bis(hydroxyimino)-2-naphthalenesulfonic acid, *in* N-00036
16,17-Dihydro-5*H*,15*H*-dibenzo[*b*,*i*][1,11,4,5,7,8] dioxatetraazacyclotetradecine-7-carbonitrile, D-00375
3,4-Dihydro-6,7-dimethoxy-4-methyl-3-oxo-2-quinoxalinecarbonyl azide, *in* D-00379
5-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-2,4-dihydroxybenzoic acid, D-00381
3-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, D-00382
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-(2-methoxyphenyl)-2-naphthalenecarboxamide, D-00383
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-2-(methylphenyl)-2-naphthalenecarboxamide, D-00384
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-2-naphthalenecarboxylic acid, D-00385
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-1-naphthalenyl-2-naphthalenecarboxamide, D-00387
4-[(2,3-Dihydro-1,5-dimethyl-3-oxo-2-phenyl-1*H*-pyrazol-4-yl)azo]-3-hydroxy-*N*-phenyl-2-naphthalenecarboxamide, D-00388
1,2-Dihydro-1,5-dimethyl-4-[(4-oxo-2-thioxo-5-thiazolidinyl)azo]-2-phenyl-3*H*-pyrazol-3-one, D-00389
1,2-Dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione, D-00391
▷ 1,2-Dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00392
1,2-Dihydro-1,5-dimethyl-2-phenyl-4-[(2,4,6-trihydroxyphenyl)azo]-3*H*-pyrazol-3-one, D-00393
1,2-Dihydro-1,5-dimethyl-2-phenyl-4-[5-(1,2,3-trihydroxyphenyl)azo]-3*H*-pyrazol-3-one, D-00394
2-(2,3-Dihydro-2,2-dinitro-3-oxo-1*H*-inden-1-ylidene)-1*H*-indene-1,3(2*H*)-dione, D-00395
4-[(9,10-Dihydro-9,10-dioxo-1-anthracenyl) azo]-3-hydroxy-2,7-naphthalenedisulfonic acid; Ba salt, *in* D-00396
N-(9,10-Dihydro-9,10-dioxo-2-sulfoanthracenyl)benzenecarboxamide, *in* A-00093
6,7-Dihydro-5,8-diphenyldibenzo[*b*,*j*][1,10] phenanthroline, D-00398
1,3-Dihydro-4,5-diphenyl-2*H*-imidazole-2-thione, D-00399
2,3-Dihydro-5,6-diphenyl-1,2,4-triazine-3-thione, D-00402
2,3-Dihydro-2,2-di-(2-pyridinyl) benzothiazole, D-00403
2,3-Dihydro-2-hydroxy-4*H*-1-benzopyran-4-one, D-00406
2,3-Dihydro-5-hydroxy-4*H*-1-benzopyran-4-one, D-00408
1,6-Dihydro-5-hydroxy-3-mercapto-6,6-dimethyl-1,2,4-triazine, D-00409
1,4-Dihydro-5-hydroxy-1-(4-methylphenyl)-4-oxo-2-pyridinecarboxylic acid; Et ester, *in* D-00411
Dihydro-4-hydroxy-2-(1-methyl-1-piperidinoethyl)-3(2*H*)-furanone, D-00412
1,2-Dihydro-4-[(1-hydroxy-2-naphthalenyl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00414
1,2-Dihydro-4-[(2-hydroxynaphthalenyl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00415
1,2-Dihydro-4-[(4-hydroxynaphthalenyl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00416

1,2-Dihydro-4-[(4-hydroxyphenyl)azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00419
2,3-Dihydro-8-hydroxy-9-phenyl-7*H*-pyrano[2,3-*f*]-1,4-benzodioxin-7-one, D-00422
1,2-Dihydro-4-[(4-hydroxyquinolin-8-yl) azo]-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00423
▷ 1,3-Dihydro-2*H*-imidazole-2-thione, D-00424
2,3-Dihydro-2-(2-mercaptophenyl)-1,2,3-benzothiadiazole, D-00425
2-[4,5-Dihydro-5-(4-methoxyphenyl)-3-isoxazolyl]-4-methylphenol, D-00427
3,4-Dihydro-1-(4-methoxyphenyl)-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, D-00429
4,5-Dihydro-5-methyl-3,5-di-2-pyridyl-1*H*-1,2,4-triazole, D-00430
2,4-Dihydro-5-methyl-4-(1-oxodecyl)-2-phenyl-3*H*-pyrazol-3-one, D-00435
2-[(4,5-Dihydro-3-methyl-5-oxo-1-phenyl-1*H*-pyrazol-4-yl)azo]-5-nitrobenzenesulfonic acid; K salt, *in* D-00438
4,5-Dihydro-3-methyl-5-oxo-1*H*-pyrazole-4-carbodithioic acid, D-00440
2,4-Dihydro-5-methyl-2-phenyl-4-(phenylthioxomethyl)-3*H*-pyrazol-3-one, D-00442
▷ 2,4-Dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, D-00443
4-[(4,5-Dihydro-3-methyl-1-phenyl-5-thioxo-1*H*-pyrazol-4-yl)azo] benzenesulfonic acid; Na salt, *in* D-00445
2-(4,5-Dihydro-5-methyl-5-phenyl-1*H*-1,2,4-triazol-3-yl)-4-methylpyridine, D-00446
2-(4,5-Dihydro-5-methyl-5-phenyl-1*H*-1,2,4-triazol-3-yl)-1,10-phenanthroline, D-00447
2-(4,5-Dihydro-5-methyl-5-phenyl-1*H*-1,2,4-triazol-3-yl)-4-phenylpyridine, D-00448
4,5-Dihydro-3-(4-methyl-2-pyridinyl)-5-phenyl-1*H*-1,2,4-triazole, D-00452
4,5-Dihydro-3-(4-methyl-2-pyridinyl)-5-(2-pyridinyl)-1,2,4-triazole, D-00453
6-[4,5-Dihydro-5-methyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-2,2′-bipyridine, D-00454
2-[4,5-Dihydro-5-methyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-4-methylpyridine, D-00455
2-[4,5-Dihydro-5-methyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-1,10-phenanthroline, D-00456
2-[4,5-Dihydro-5-methyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-4-phenylpyridine, D-00457
2-[2-(1,2-Dihydro-1-methyl-6-quinolinyl) ethenyl]-1,3,3-trimethyl-3*H*-indolinium(1+); Chloride, *in* D-00458
4-[4,5-Dihydro-3-methyl-4-[(4-sulfophenyl) azo]-5-thioxo-1*H*-pyrazol-1-yl] benzenesulfonic acid; Di-Na salt, *in* D-00459
2-(4,5-Dihydro-5-methyl-1*H*-1,2,4-triazol-3-yl)pyridine, *in* M-00329
2,3-Dihydro-5-methyl-2-ureido-3*H*-pyrazol-3-one, D-00460
1,4-Dihydro-6-nitro-2,3-quinoxalinedithione, D-00461
Dihydro-5-nitroso-2-thioxo-4,6(1*H*,5*H*)-pyrimidinedione, D-00462
3-[(4,5-Dihydro-5-oxo-1*H*-pyrazol-4-yl) azo]-4-hydroxy-1-naphthalenesulfonic acid, D-00464
4,5-Dihydro-3-(1,10-phenanthrolin-2-yl)-5-(2-pyridinyl)-1,2,4-triazole, D-00465
4,5-Dihydro-3-phenyl-1*H*-pyrazole-1-carbodithioic acid, D-00468
2-[4,5-Dihydro-5-phenyl-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-1,10-phenanthroline, D-00470
2,4-Dihydro-4-phenyl-3*H*-1,2,4-triazole-3-thione, D-00471
2,9-Dihydro-9-phenyl-3*H*-1,2,4-triazolo[4,3-*a*]benzimidazole-3-thione, D-00472
6-(2,5-Dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)-2,2′-bipyridine, D-00473
2-(4,5-Dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)pyrazine, D-00474
3-(4,5-Dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)pyridazine, D-00475
2-(4,5-Dihydro-4-phenyl-1*H*-1,2,4-triazol-3-yl)pyridine, D-00476
4-(2,5-Dihydro-5-phenyl-1*H*-1,2,4-triazol-3-yl)pyrimidine, D-00477
1,3-Dihydro-2*H*-purine-2-thione, D-00478
4,5-Dihydro-1*H*-pyrazole-3,4-dicarboxylic acid; Diamide, *N*-di-Me, *in* D-00480
1,2-Dihydro-3,6-pyridazinedione; *A-form*, *in* D-00481
2,3-Dihydro-5-(2-pyridinyl)-1*H*-imidazole, D-00482
6-[4,5-Dihydro-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]-2,2′-bipyridine, D-00483
[4,5-Dihydro-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]pyrazine, D-00484
3-[4,5-Dihydro-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]pyridazine, D-00485
4-[4,5-Dihydro-5-(2-pyridinyl)-1*H*-1,2,4-triazol-3-yl]pyrimidine, D-00486
4,5-Dihydro-5-(2-pyridyl)-3-(2-thiazolyl)-1*H*-1,2,4-triazole, D-00487
2-[4,5-Dihydro-3-(2-pyridyl)-1*H*-1,2,4-triazolyl]phenol, D-00488
▷ 1,4-Dihydro-2,3-quinoxalinedithione, D-00489
Dihydro-5-[3-(1,2,3,4-tetrahydro-6-hydroxy-4-oxo-5-pyrimidinyl)-2-propenylidene]-4,6(1*H*,5*H*)-pyrimidinedione, D-00490
5,14-Dihydro-6,8,15,17-tetramethyldibenzo[*b*,*i*][1,4,8,11] tetraazacyclotetradecine, D-00491
▷ Dihydro-2-thioxo-4,6(1*H*,5*H*)-pyrimidinedione, D-00492
Dihydro-2-thioxo-4,5,6(1*H*)-pyrimidinetrione 5-oxime, D-00493
▷ 2,3-Dihydro-2-thioxo-4(1*H*)-pyrimidinone, D-00494
5-[(4,5-Dihydro-5-thioxo-1,3,4-thiadiazol-2-yl)azo]-6-hydroxy-2-naphthalenesulfonic acid; Na salt, *in* D-00495
1,2-Dihydro-3*H*-1,2,4-triazole-3-thione; K salt, *in* D-00496
3,4-Dihydro-4,4,6-trimethyl-1-(4-methyl-2-nitrophenyl)-2(1*H*)-pyrimidinethione, D-00498
3,4-Dihydro-4,4,6-trimethyl-1-(4-nitrophenyl)-2(1*H*)-pyrimidinethione, D-00499
3,4-Dihydro-4,4,6-trimethyl-1-(phenylamino)-2(1*H*)-pyrimidinethione, D-00500
▷ 3,4-Dihydro-4,4,6-trimethyl-1-phenyl-2(1*H*)-pyrimidinethione, D-00501
3,4-Dihydro-4,4,6-trimethyl-1-(4-phenyl-2-thiazolyl)-2(1*H*)-pyrimidinethione, D-00502
3,4-Dihydro-4,4,6-trimethyl-1-propyl-2(1*H*)-pyrimidinethione, *in* D-00504
3,4-Dihydro-4,4,6-trimethyl-1-(2-pyridinyl)-2(1*H*)-pyrimidinethione, D-00503
3,4-Dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, D-00504
3,4-Dihydro-4,4,6-trimethyl-1-(2,4,6-trichlorophenyl)-2(1*H*)-pyrimidinethione, D-00505
▷ 2′,4′-Dihydroxyacetophenone, D-00507
2′,4′-Dihydroxyacetophenone; Semicarbazone, *in* D-00507
2′,4′-Dihydroxyacetophenone; Thiosemicarbazone, *in* D-00507
4,5-Dihydroxy-3-[4-(aminomethyl) phenylazo]-2,7-naphthalenedisulfonic acid *N*,*N*-diacetic acid, D-00509
▷ 1,2-Dihydroxyanthraquinone, D-00510
▷ 1,8-Dihydroxyanthraquinone, D-00512
1,5-Dihydroxyanthraquinone-2,6-disulfonic acid, D-00513
2,2′-Dihydroxyazobenzene, D-00514
3,4-Dihydroxyazobenzene, D-00515
2,4-Dihydroxybenzaldehyde, D-00517
▷ 3,4-Dihydroxybenzaldehyde, D-00519
2,4-Dihydroxybenzaldehyde guanylhydrazone, D-00520
2,4-Dihydroxybenzaldehyde; Thiosemicarbazone, *in* D-00517
α,*N*-Dihydroxybenzeneacetamide; (±)-*form*, *in* D-00521
2,4-Dihydroxybenzenecarbodithioic acid, D-00522
3,4-Dihydroxybenzenesulfonic acid, D-00527
6,7-Dihydroxy-3(2*H*)-benzofuranone, D-00530
▷ 2,5-Dihydroxybenzoic acid, D-00532
2,6-Dihydroxybenzoic acid, D-00533
2,4-Dihydroxybenzophenone; Semicarbazone, *in* D-00536
2,2′-Dihydroxybenzophenone; Thiosemicarbazone, *in* D-00535
4,5-Dihydroxy-2*H*-1-benzopyran-2-one, D-00537
▷ 6,7-Dihydroxy-2*H*-1-benzopyran-2-one, D-00538
2,5-Dihydroxy-1,4-benzoquinone, D-00540
4,4′-Dihydroxy-2,2′-biquinoline, D-00545
8,8′-Dihydroxy-5,5′-biquinoline, D-00546
4,5-Dihydroxy-3-[*N*,*N*-bis(carboxymethyl) aminomethyl]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00547
4,5-Dihydroxy-3,6-bis[(5-chloro-2-hydroxy-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00548
4,5-Dihydroxy-3,6-bis[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00549
4,5-Dihydroxy-3,6-bis[(2-hydroxy-3-nitro-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00550
4,5-Dihydroxy-3,6-bis[(4-hydroxyphenyl) azo]-2,7-naphthalenedisulfonic acid, D-00552
4,5-Dihydroxy-3,6-bis[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00553
4,5-Dihydroxy-3,6-bis[(4-methoxyphenyl) azo]-2,7-naphthalenedisulfonic acid, *in* D-00552
4,5-Dihydroxy-3,6-bis[(*o*-methoxyphenyl) azo]-2,7-naphthalenedisulfonic acid, *in* D-00551
4,5-Dihydroxy-3,6-bis[(4-methyl-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid; Tetra-Na salt, *in* D-00554
4,5-Dihydroxy-3,6-bis[(3-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00556
4,5-Dihydroxy-3,6-bis[(4-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00557
4,5-Dihydroxy-3,6-bis(phenylazo)-2,7-naphthalenedisulfonic acid, D-00559
4,5-Dihydroxy-3,6-bis[(2-phosphonophenyl) azo]-2,7-naphthalenedisulfonic acid, D-00560
4,5-Dihydroxy-3,6-bis(8-quinolylazo)-2,7-naphthalenedisulfonic acid, D-00561
4,5-Dihydroxy-3,6-bis[(4-sulfo-1-naphthalenyl)azo]-2,7-naphthalenedisulfonic acid, D-00562
4,5-Dihydroxy-3,6-bis[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00563
4,5-Dihydroxy-3,6-bis[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00564
4,5-Dihydroxy-3,6-bis[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00565
4,5-Dihydroxy-3,6-bis(*p*-tolylazo)-2,7-naphthalenedisulfonic acid, D-00566
Dihydroxybutenedioic acid, D-00567
2-[[1,8-Dihydroxy-7-[(5-chloro-3-sulfophenyl)azo]-3,6-disulfo-2-naphthyl] azo]benzoic acid, D-00568
▷ 3,4-Dihydroxy-3-cyclobutene-1,2-dione, D-00569
5,6-Dihydroxy-5-cyclohexene-1,2,3,4-tetrone; Di-K salt, *in* D-00570
4,5-Dihydroxy-4-cyclopentene-1,2,3-trione, D-00571

6,7-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+); Chloride, *in* D-00576
7,8-Dihydroxy-2,4-dimethyl-1-benzopyrylium(1+); Chloride, *in* D-00577
N,N'-Dihydroxy-2,3-dimethyl-2,3-butanediamine, D-00578
4,5-Dihydroxy-3-[4,5-(dimethyl-2-thiazolyl) azo]-2,7-naphthalenedisulfonic acid, D-00579
4,5-Dihydroxy-3-[(3,5-dinitro-2-hydroxyphenyl)azo]-6-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00580
4,5-Dihydroxy-3-[(3,5-dinitro-2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00581
▷ 1,8-Dihydroxy-2,4-dinitronaphthalene, D-00582
6,7-Dihydroxy-2,4-diphenyl-1-benzopyrylium(1+); Chloride, *in* D-00584
7,8-Dihydroxy-2,4-diphenyl-1-benzopyrylium(1+); Chloride, *in* D-00585
N,N'-Dihydroxy-*N,N'*-diphenylheptanediamide, D-00587
3,3'-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[5-chlorosalicylic acid], D-00588
3,3'-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[2-hydroxy-5-sulfobenzoic acid], D-00589
2,2'-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalene)bis(azo)]bis[5-sulfobenzoic acid], D-00590
3,3'-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bis[4-arsonobenzoic acid], D-00591
2,2'-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bisbenzoic acid, D-00592
3,3'-[(1,8-Dihydroxy-3,6-disulfo-2,7-naphthalenediyl)bis(azo)]bisbenzoic acid, D-00593
3-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]benzoic acid, D-00594
4-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]benzoic acid, D-00595
5-[[4'-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo][1,1'-biphenyl]-4-yl] azo]-2-hydroxybenzoic acid; Tri-Na salt, *in* D-00596
5-[[4'-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]-3,3'-dimethyl[1,1'-biphenyl]-4-yl]azo]-2-hydroxybenzoic acid; Tri-Na salt, *in* D-00597
3-[(1,8-Dihydroxy-3,6-disulfo-2-naphthalenyl)azo]-2-pyridinecarboxylic acid, D-00600
2-(1,8-Dihydroxy-3,6-disulfo-2-naphthylazo)phenoxyacetic acid; Di-Na salt, *in* D-00601
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(3-nitro-5-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, D-00604
4,5-Dihydroxy-3-[(2,4-disulfophenyl)azo]-6-[(4-nitro-2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00605
2-[[[1,8-Dihydroxy-3,6-disulfo-7-[(4-phenylazo)phenyl]azo]-2-naphthyl]azo]-5-sulfobenzoic acid, D-00606
4,5-Dihydroxy-3-[(2,4-disulfophenyl)azo]-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00607
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(3-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, D-00609
2-[[1,8-Dihydroxy-3,6-disulfo-7-[(4-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, D-00610
3-[[1,8-Dihydroxy-3,6-disulfo-7-[(4-sulfophenyl)azo]-2-naphthalenyl]azo] benzoic acid, D-00611
5,7-Dihydroxyflavone, D-00612
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-6-[(2-hydroxy-5-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00615
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-6-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00616
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-6-[(2-hydroxy-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00617
4,5-Dihydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00618
4,5-Dihydroxy-3-[[2-[hydroxy(2-methylphenyl)phosphinyl]phenyl]azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00619
4,5-Dihydroxy-3-[(2-hydroxy-4-nitrophenyl) azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00620
4,5-Dihydroxy-3-[(2-hydroxy-5-nitrophenyl) azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00621
4,5-Dihydroxy-3-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-6-[(3-nitro-5-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00622
4,5-Dihydroxy-3-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-6-(phenylazo)-2,7-naphthalenedisulfonic acid, D-00623
4,5-Dihydroxy-3-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* D-00624
4,5-Dihydroxy-3-[(4-hydroxyphenyl)azo]-6-(phenylazo)-2,7-naphthalenedisulfonic acid, D-00625
4,5-Dihydroxy-3-[(2-hydroxyphenyl)azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00626
6,7-Dihydroxy-2-(3-hydroxyphenyl)-4-methyl-1-benzopyrylium(1+); Chloride, *in* D-00627
6,7-Dihydroxy-9-(2-hydroxyphenyl)-3*H*-xanthen-3-one, D-00628
1,2-Dihydroxy-3-[5-(8-hydroxyquinolinyl) azo]anthraquinone, D-00629
o-[[1,8-Dihydroxy-7-[(2-hydroxy-5-sulfophenyl)azo]-3,6-disulfo-2-naphthyl] azo]benzoic acid, D-00630
4,5-Dihydroxy-3-[(2-hydroxy-5-sulfophenyl) azo]-6-[(2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00631
4,5-Dihydroxy-3-[(2-hydroxy-5-sulfophenyl) azo]-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, D-00632
4,5-Dihydroxy-3-[(2-hydroxy-5-sulfophenyl) azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00633
2,6-Dihydroxyimine-3-methylenepiperidine, *in* M-00178
4,5-Dihydroxy-3-[(4-iodophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00635
4,7-Dihydroxy-1*H*-isoindole-1,3 (2*H*)-dione; Dithiosemicarbazone, *in* D-00636
3,5-Dihydroxy-6-mercapto-1,2,4-triazine; Di-Na salt, *in* D-00639
▷ 5,7-Dihydroxy-4'-methoxyflavone, D-00641
2-[[1,8-Dihydroxy-7-[(4-methoxyphenyl) azo]-3,6-disulfo-2-naphthyl]azo]benzoic acid, D-00642
5,7-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00646
6,7-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00647
▷ 7,8-Dihydroxy-4-methyl-2*H*-1-benzopyran-2-one, D-00648
2,4-Dihydroxy-6-methyl-4'-nitroazobenzene, D-00650
2-[[1,8-Dihydroxy-7-[(3-methylphenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00651
2-[[1,8-Dihydroxy-7-[(4-methylphenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00652
6,7-Dihydroxy-4-methyl-2-(3-sulfophenyl)-1-benzopyrylium(1+); Chloride, *in* D-00656
6,7-Dihydroxy-2-naphthalenesulfonic acid, D-00658
4,5-Dihydroxy-1-naphthalenesulfonic acid; Na salt, *in* D-00657
4-[(1,7-Dihydroxy-2-naphthalenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00659
2-[[1,8-Dihydroxy-7-[(2-nitrophenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00663
2-[[1,8-Dihydroxy-7-[(3-nitrophenyl)azo]-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00664
4,5-Dihydroxy-3-[(2-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00665
4,5-Dihydroxy-3-[(3-nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00666
4,5-Dihydroxy-3-[(*p*-nitrophenyl)azo]-6-(phenylazo-2,7-naphthalenedisulfonic acid), D-00667
4,5-Dihydroxy-3-[(*p*-nitrophenyl)azo]-6-(8-quinolylazo)-2,7-naphthalenedisulfonic acid, D-00668
4,5-Dihydroxy-3-[(*p*-nitrophenyl)azo]-6-[(*p*-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00669
4,5-Dihydroxy-3-[(4-nitro-2-phosphonophenyl)-azo]-2,7-naphthalenedisulfonic acid, D-00671
2,6-Dihydroxy-3-nitrosopyridine, D-00673
4,6-Dihydroxy-5-nitroso-3-pyridinecarboxylic acid; Et ester, *in* D-00674
4,6-Dihydroxy-5-nitroso-3-pyridinecarboxylic acid; Pentyl ester, *in* D-00674
2,4-Dihydroxy-3-nitrosoquinoline, D-00675
4,5-Dihydroxy-3-[(5-nitro-3-sulfophenyl) azo]-6-(phenylazo)-2,7-naphthalenedisulfonic acid, D-00677
4,5-Dihydroxy-3-[(4-nitro-2-sulfophenyl) azo]-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00678
4,5-Dihydroxy-3-[(5-nitro-3-sulfophenyl) azo]-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00679
2,4-Dihydroxy-5-[(5-nitro-2-thiazolyl)azo] benzoic acid, D-00680
2,2-Dihydroxy-1*H*-phenalene-1,3(2*H*)-dione, D-00683
2,3-Dihydroxy-1*H*-phenalen-1-one, D-00684
4,7-Dihydroxy-1,10-phenanthroline; B,HCl, *in* D-00685
2-[(3,4-Dihydroxyphenyl)azo]benzoic acid, D-00689
2-[(3,4-Dihydroxyphenyl)azo]-4-(4-carboxyphenyl)-5-thiazolecarboxylic acid; 4'-Me ester, 5-Et ester, *in* D-00690
2-(3',4'-Dihydroxyphenyl)azo-3-cyano-4-methyl-5-ethoxycarbonylthiophene, *in* C-00326
4-[(2,4-Dihydroxyphenyl)azo]-1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-one, D-00691
2-[[1,8-Dihydroxy-7-(phenylazo)-3,6-disulfo-2-naphthalenyl]azo]benzoic acid, D-00692
4-(3,4-Dihydroxyphenylazo)-4'-hydroxybiphenyl, D-00695
2-[(3,4-Dihydroxyphenyl)azo]-4-(hydroxymethyl)-5-thiazolecarboxylic acid; Me ester, *in* D-00696
3-[2,4-Dihydroxyphenylazo]-2-hydroxy-5-nitrobenzenesulfonic acid, D-00698
2-(3,4-Dihydroxyphenylazo)-4-phenyl-5-benzoylthiazole, D-00699
4-[2-[(3,4-Dihydroxyphenyl)azo]-5-phenyl-4-thiazolyl]benzoic acid; Me ester, *in* D-00700
4,5-Dihydroxy-3-(phenylazo)-6-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, D-00701

4,5-Dihydroxy-3-(phenylazo)-6-[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00702
7,8-Dihydroxy-3-phenyl-2*H*-1-benzopyran-2-one, D-00705
7,8-Dihydroxy-4-phenyl-2*H*-1-benzopyran-2-one, D-00706
1-(2,4-Dihydroxyphenyl)-1-butanone; Oxime, *in* D-00707
6,7-Dihydroxy-4-phenylcoumarin, D-00708
2-[(3,4-Dihydroxyphenyl)methylene] hydrazinecarboximidamide, D-00712
[(2,4-Dihydroxyphenyl)methylene](2-pyridinylmethylene)carbonothioic dihydrazide, D-00713
1-(2,4-Dihydroxyphenyl)-1-pentanone, D-00714
1-(2,4-Dihydroxyphenyl)-1-propanone; Oxime, *in* D-00715
2-(3,4-Dihydroxyphenyl)-3,5,6,7-tetrahydroxy-4*H*-1-benzopyran-4-one, D-00717
4,5-Dihydroxy-3-[(4-phenyl-2-thiazolyl) azo]-2,7-naphthalenedisulfonic acid, D-00718
9-(3,4-Dihydroxyphenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, D-00719
▷ 2,6-Dihydroxy-4-pyridinecarboxylic acid, D-00721
4,5-Dihydroxy-3-[(2-pyridinyl)azo]-2,7-naphthalenedisulfonic acid, D-00722
4,5-Dihydroxy-3-[(3-pyridinyl)azo]-2,7-naphthalenedisulfonic acid, D-00723
1,4-Dihydroxy-2-(2-pyridylmethyl) anthraquinone, D-00725
o-[[1,8-Dihydroxy-7-(8-quinolylazo)-3,6-disulfo-2-naphthyl]azo]benzoic acid, D-00726
8-[[1,8-Dihydroxy-7-(8-quinolylazo)-3,6-disulfo-2-naphthyl]azo]-1,6-naphthalenedisulfonic acid, D-00727
4,5-Dihydroxy-3-(8-quinolylazo)-6-[(2-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00728
4,5-Dihydroxy-3-(8-quinolylazo)-6-[(3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, D-00729
2,4-Dihydroxy-5-sulfobenzoic acid, D-00731
4,5-Dihydroxy-3-[(5-sulfo-1-naphthalenyl) azo]-2,7-naphthalenedisulfonic acid, D-00734
4,5-Dihydroxy-3-[(4-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid; Tri-Na salt, *in* D-00736
4,5-Dihydroxy-3-(1*H*-tetrazol-5-ylazo)-2,7-naphthalenedisulfonic acid, D-00738
4,5-Dihydroxy-3-[(2-thiazolyl)azo]-2,7-naphthalenedisulfonic acid, D-00739
▷ 2,5-Dihydroxy-3-undecyl-1,4-benzoquinone, D-00740
4,4′-Diiododithizone, D-00743
▷ 5,7-Diiodo-8-quinolinol, D-00744
▷ 3,5-Diiodosalicylic acid, D-00745
2,3-Dimercapto-2-butenedinitrile, *in* D-00753
2,6-Dimercapto-3,5-dimethyl-4*H*-thiopyran-4-one, D-00754
2,6-Dimercapto-3,5-diphenyl-4*H*-thiopyran-4-one, D-00755
2,6-Dimercapto-3,5-dipropyl-4*H*-thiopyran-4-one, D-00756
2,6-Dimercapto-3-methyl-5-phenyl-4*H*-thiopyran-4-one, D-00757
2,6-Dimercapto-3-methyl-4*H*-thiopyran-4-one, D-00758
2,6-Dimercapto-4-oxo-4*H*-thiopyran-3-carboxylic acid, D-00759
2,6-Dimercapto-3-pentyl-4*H*-thiopyran-4-one, D-00760
▷ 2,3-Dimercapto-1-propanesulfonic acid, D-00761
2,3-Dimercaptopropanoic acid, D-00762
▷ 2,3-Dimercapto-1-propanol, D-00763
2,6-Dimercapto-3-propyl-4*H*-thiopyran-4-one, D-00764
▷ 1,2-Dimethoxybenzene, D-00766
3,3′-[(3,3′-Dimethoxy-[1,1′-biphenyl]-4,4′-diyl)bis(azo)]bis[6-hydroxybenzoic acid], D-00769
3,3′-(3,3′-Dimethoxy[1,1′-biphenyl]-4,4′-diyl)bis[2,5-bis(4-nitrophenyl)-2*H*-tetrazolium](2+) 9Cl; Dichloride, *in* D-00770
3,3′-(3,3′-Dimethoxy[1,1′-biphenyl]-4,4′-diyl)bis[2-(3-nitrophenyl)-5-phenyl-2*H*-tetrazolium](2+); Dichloride, *in* D-00771
2,2′-[(3,3′-Dimethoxy[1,1′-biphenyl]-4,4′-diyl)diimino]bisbenzoic acid, D-00772
6,6′-Dimethoxy-3,3′-bipyridazine, D-00773
4,4′-Dimethoxydithizone, D-00775
4,7-Dimethoxy-1,10-phenanthroline, *in* D-00685
5,6-Dimethoxy-1,10-phenanthroline, *in* D-00686
4,4′-Dimethoxystilbene, *in* D-00730
▷ 4-(Dimethylamino)benzaldehyde, D-00779
4-Dimethylamino-2,2′-dihydroxyazobenzene, D-00783
4,4′-[*p*-(Dimethylamino)-α-hydroxybenzylidene]diantipyrine, D-00785
2-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-4,6-dinitrophenol, *in* A-00210
3-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-4-hydroxybenzenesulfonic acid, D-00787
4-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-3-hydroxy-1-naphthalenesulfonic acid, D-00788
2-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-4-methylphenol, *in* A-00197
2-[[4-(Dimethylamino)-2-hydroxyphenyl] azo]-4-nitrophenol, *in* A-00213
5-Dimethylamino-2-[(4-methyl-2-thiazolyl) azo]phenol, D-00793
3-Dimethylamino-6-nitroso-1-naphthol, D-00803
5-(Dimethylamino)-2-nitrosophenol; B,HCl, *in* D-00804
5-(Dimethylamino)-2-[(5-nitro-2-thiazolyl) azo]phenol, *in* A-00289
4-Dimethylamino-1,2-phenylenediamine, *in* T-00192
4-[2-[4-(Dimethylamino)phenyl]ethenyl]-1-phenylquinolinium(1+); Chloride, *in* D-00810
2-[2-[4-(Dimethylamino)phenyl]ethenyl]-1,3,3-trimethyl-3*H*-indolium(1+); Chloride, *in* D-00811
▷ *N*-[4-[[4-(Dimethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-*N*-methylmethanaminium(1+); Chloride, *in* D-00812
▷ 5-[[4-(Dimethylamino)phenyl]ethylene]-2-thioxo-4-thiazolidinone, D-00813
N-[4-(Dimethylamino)phenyl]-*N*-hydroxy-3-methoxy-2-naphthalenecarboxamide, D-00814
2-[[*p*-(Dimethylamino)phenyl]imino]-2′-acetonaphthone, D-00815
4-(4′-Dimethylaminophenyl)-1-phenylthiosemicarbazide, D-00822
3-[4-(Dimethylamino)phenyl]-2-propenal; (*E*)-*form*, *in* D-00823
9-[4-(Dimethylamino)phenyl]-2,6,7-trihydroxy-3*H*-xanthen-3-one, D-00824
5-(Dimethylamino)-2-(2-pyridinylazo) phenol, *in* A-00336
5-(Dimethylamino)-2-(8-quinolinylazo) phenol, D-00825
5-(Dimethylamino)-2-(2-thiazolylazo) phenol, *in* A-00214
2-[2-[(5-Dimethylamino)-2-thienyl]ethenyl]-1,3,3-trimethyl-3*H*-indolium(1+); Perchlorate, *in* D-00826
▷ 2,3-Dimethylaniline; *N*-Ac, *in* D-00827
▷ 2,5-Dimethylaniline; *N*-Ac, *in* D-00828
▷ 2,6-Dimethylaniline; *N*-Ac, *in* D-00829
▷ 3,4-Dimethylaniline; *N*-Ac, *in* D-00830
4,5-Dimethyl-1,2-benzenedithiol, D-00832
3,3′-[(3,3′-Dimethyl-[1,1′-biphenyl]-4,4′-diyl)bis(azo)]bis[6-hydroxybenzoic acid], D-00836
2,2′-[(3,3′-Dimethyl[1,1′-biphenyl]-4,4′-diyl) diimino]bisbenzoic acid, D-00837
5,5′-Dimethyl-3,3′-bipyridazine, D-00838
6,6′-Dimethyl-3,3′-bipyridazine, D-00839
4,4′-Dimethyl-2,2′-bipyridine, D-00840
6,7-Dimethyl-2,3-bis(6-methyl-2-pyridinyl) quinoxaline, D-00842
▷ 3,3-Dimethyl-2-butanone, D-00845
Dimethylcarbamodiselenoic acid; Na salt, *in* D-00846
5,5-Dimethyl-1,3-cyclohexanedione, D-00847
5,5-Dimethyl-1,3-cyclohexanedione; Bisthiosemicarbazone, *in* D-00847
5,5-Dimethyl-1,3-cyclohexanedione; Dioxime, *in* D-00847
5,5-Dimethyl-1,2,3-cyclohexanetrione; 2-Oxime, 1,3-bisthiosemicarbazone, *in* D-00848
5,5-Dimethyl-1,2,3-cyclohexanetrione; 2-Oxime, 3-thiosemicarbazone, *in* D-00848
2,9-Dimethyl-4,7-dihydroxy-1,10-phenanthroline, D-00850
N,*N*′-Dimethyldiphenylbenzidine, *in* D-00053
3,3′-Dimethyl-1,1′-diphenyl-[4,4′-bi-2-pyrazoline]-5,5′-dione, D-00851
2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline, D-00852
6,7-Dimethyl-2,3-di(2-pyridyl)quinoxaline, D-00855
2,2′-Dimethyldithizone, D-00856
3,3′-Dimethyldithizone, D-00857
4,4′-Dimethyldithizone, D-00858
▷ Dimethylglyoxime, D-00862
5,5-Dimethyl-2,4-hexanedione, D-00863
2-[*o*-[(4,5-Dimethylimidazol-2-yl)azo] phenyl]-4,5,7-trimethyl-8-quinazolinol, D-00867
N,*N*-Dimethyl-*N*′-(4-methyl-5-nitro-2-thiazolyl)thiourea, D-00870
5,6-Dimethyl-3-(4-methyl-2-pyridinyl)-1,2,4-triazine, D-00871
4,5-Dimethyl-2-[(5-methyl-1,3,4-thiadiazol-2-yl)azo]phenol, D-00872
5,6-Dimethyl-2-nitro-1,3-indanedione; Bis(thiosemicarbazone), *in* D-00873
N,*N*-Dimethyl-*N*′-[5-nitro-4-(4-nitrophenyl)-2-thiazolyl]thiourea, D-00874
N,*N*-Dimethyl-*N*′-[4-(4-nitrophenyl)-2-thiazolyl]thiourea, D-00875
▷ *N*,*N*-Dimethyl-4-nitrosoaniline, D-00876
2,9-Dimethyl-1,10-phenanthroline, D-00880
3,8-Dimethyl-1,10-phenanthroline, D-00881
4,7-Dimethyl-1,10-phenanthroline, D-00882
5,6-Dimethyl-1,10-phenanthroline, D-00883
▷ 2,4-Dimethylphenol, D-00884
▷ 2,6-Dimethylphenol, D-00885
▷ 3,4-Dimethylphenol, D-00886
2-[5,5-Dimethyl-3-[2-[(phenylamino) thioxomethylhydrazino]-2-cyclohexen-1-ylidene]]-*N*-phenylhydrazinecarbothioamide, *in* D-00847
1,3-Dimethyl-4-(phenylazo)-1*H*-pyrazole-5-thiol, D-00887
▷ *N*,*N*-Dimethyl-1,4-phenylenediamine, *in* D-00048
N′-(2,3-Dimethylphenyl)-*N*-hydroxy-*N*-(4-methylphenyl)benzamidine, D-00889
N′-(2,3-Dimethylphenyl)-*N*-hydroxy-*N*-phenylbenzamidine, D-00890
N-(2,3-Dimethylphenyl)-*N*-hydroxy-3-phenylpropenamide, D-00891
N-(2,3-Dimethylphenyl)-*N*′-phenylbenzenecarboximidamide, D-00892
N-(2,6-Dimethylphenyl)-*N*′-phenylbenzenecarboximidamide, D-00893
5,6-Dimethyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazine, D-00895

2,2′-[(1,3-Dimethyl-1,3-propanediylidene) dinitrilo]bisbenzenethiol, D-00898
5,6-Dimethyl-3-pyrazinyl-1,2,4-triazine, D-00903
3,5-Dimethyl-1*H*-pyrazole, D-00904
5,6-Dimethyl-3-(3-pyridazinyl)-1,2,4-triazine, D-00907
N,*N*′-Dimethyl-2,6-pyridinedicarbothioamide, D-00908
4,5-Dimethyl-2-(2-pyridinylazo)phenol, D-00910
5,6-Dimethyl-3-(2-pyridinyl)-1,2,4-triazine, D-00911
1,3-Dimethyl-2,4,6(1*H*,3*H*,5*H*)-pyrimidinetrione, *in* P-00429
5,6-Dimethyl-3-(4-pyrimidinyl)-1,2,4-triazine, D-00912
4,5-Dimethyl-2-(2-quinolinylazo)phenol, D-00914
Dimethylsulfonazo DAL, D-00918
7,14-Dimethyl-5,7,12,14-tetraethyl-1,4,8,11-tetraazacyclotetradeca-4,11-diene, D-00919
1,3-Dimethyl-5-[(tetrahydro-1,3-dimethyl-2,4,6-trioxo-5(2*H*)-pyrimidinylidene) amino]-2,4,6(1*H*,3*H*, 5*H*)-pyrimidinetrione, *in* P-00281
2,4-Dimethyl-6-(1*H*-tetrazol-5-ylazo) phenol, D-00920
2-[(4,5-Dimethyl-2-thiazolyl)azo]-4,6-dimethylphenol, D-00921
7-(4,5-Dimethyl-2-thiazolyl)azo-8-hydroxy-5-quinolinesulfonic acid, D-00922
2,4-Dimethyl-6-(2-thiazolylazo)phenol, D-00923
2-(4,5-Dimethyl-2-thiazolyl)-3,5-diphenyl-2*H*-tetrazolium(1+); Bromide, *in* D-00924
3-(4,5-Dimethyl-2-thiazolyl)-2,5-diphenyl-2*H*-tetrazolium(1+); Chloride, *in* D-00925
5,6-Dimethyl-3-(2-thiazolyl)-1,2,4-triazine, D-00926
2-(5,6-Dimethyl-1,2,4-triazin-3-yl)-1,10-phenanthroline, D-00927
N,*N*′-Di-2-naphthalenyl-1,4-benzenediamine, D-00929
1,2-Di(1-naphthalenyl)-1,2-ethanedione; Monooxime, *in* D-00930
Dinaphthizone, D-00931
1,5-Di-(β-naphthyl)thiocarbazone, D-00933
▷ 1,3-Di-1-naphthyl-2-thiourea, D-00934
▷ 2,4-Dinitro-1,3-benzenediol, D-00940
3,4-Dinitro-1,2-benzenediol, D-00941
4-[(3,5-Dinitrobenzoyl)hydroxyamino] benzoic acid methyl ester, *in* D-00946
4-[(3,5-Dinitro-2-hydroxyphenyl)azo]-2,7-naphthalenedisulfonic acid, D-00953
1-[(3,5-Dinitro-2-hydroxyphenyl)azo]-2-naphthol, D-00954
4-(3,5-Dinitro-2-hydroxyphenylazo)-1-naphthol, D-00955
▷ 2,4-Dinitrophenol, D-00958
1-[(2,4-Dinitrophenyl)amino]-3,4-dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, D-00962
4-[(2,4-Dinitrophenyl)azo]-1,2-benzenediol, D-00963
3-[(2,4-Dinitrophenyl)azo]-4,5-dihydroxy-6-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, D-00964
5-(2,4-Dinitrophenylazo)-8-hydroxyquinoline, D-00968
19-[(2,4-Dinitrophenyl)azo]-3,6,9,12,15-pentaoxabicyclo[15.3.1]heneicosa-1(21),17,19-trien-21-ol, D-00969
16-[(2,4-Dinitrophenyl)azo]-3,6,9,12-tetraoxabicyclo[12.3.1]octadeca-1(18),14,16-trien-18-ol, D-00970
9-(2,4-Dinitrophenyl)-2,6,7-trihydroxy-3*H*-xanthen-3-one, D-00975
N-[2,4-Dinitro-6-(trifluoromethyl)phenyl]-3,4,6,7,10,11-hexahydro-2*H*,9*H*-1,5,8,12-benzotetraoxacylotetradecin-14-amine, D-00976
N-[2,4-Dinitro-6-(trifluoromethyl)phenyl]-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, D-00977
N-[2,6-Dinitro-4-(trifluoromethyl)phenyl]-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, D-00978
Dioctylamine; *N*-Methyl, *in* D-00981
5-Dioctylaminomethyl-8-quinolinol, *in* A-00244
Di(*n*-octyl)arsinic acid, D-00982
2,3-Dioxobutanoic acid; 2-(2-Hydroxyphenyl)hydrazone, Et ester, *in* D-00986
2-(1,3-Dioxobutyl)-1*H*-indene-1,3-(2*H*)-dione, D-00987
N-(3,6-Dioxo-1,4-cyclohexadien-1-yl) benzenesulfonamide, D-00988
3,4-Dioxohexanedioic acid bis(thiosemicarbazide); Di-Et ester, *in* D-00990
1,3-Dioxo-2-indanecarboxylic acid; Me ester, *in* D-00991
4-(1,3-Dioxo-3-phenylpropyl) benzenesulfonic acid, D-00994
▷ Diphenhydramine hydrochloride, *in* D-00998
▷ Diphenylamine, D-01000
N,*N*′-Diphenylbenzamidine, D-01001
4,4′-Diphenyl-2,2′-bipyrimidine, D-01003
Diphenylcarbazide, D-01004
Diphenylcarbazone, D-01005
sym-Diphenylcarbazone, D-01006
▷ 2,2′-Diphenylcarbonothioic dihydrazide, D-01007
2,2′-Diphenyldithizone, D-01009
Diphenylethanedione bis(2-pyridinylhydrazone), D-01012
Diphenylethanedione mono(2-quinolinylhydrazone), D-01014
Diphenylethanedione monoxime, *in* B-00038
▷ 1,1-Diphenylethylene, D-01016
Diphenylglyoxal bis(2-hydroxybenzoylhydrazone), D-01017
(*E*,*E*)-Diphenylglyoxime, *in* B-00038
▷ 1,3-Diphenylguanidine, D-01018
2-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo] benzoic acid, D-01022
8-[(4,5-Diphenyl-1*H*-imidazol-2-yl)azo] quinoline, D-01025
4-(Diphenylmethylene)-2-hydroxy-1(4*H*)-naphthalenone, D-01029
N,*N*-Diphenylmethyl-4-nitrosobenzenamine, *in* N-00154
1,3-Diphenyl-5-nitrosobarbituric acid, *in* P-00428
2,9-Diphenyl-1,10-phenanthroline, D-01032
4,7-Diphenyl-1,10-phenanthroline, D-01034
4,5-Diphenyl-2-(phenylazo)-1*H*-imidazole, D-01035
5,6-Diphenyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazine, D-01037
O,*O*-Diphenyl phosphorodithioate, D-01040
1,3-Diphenyl-1,3-propanedione, D-01041
1,5-Diphenyl-3-(2-propenylthio)formazan, D-01043
5,6-Diphenyl-3-(pyrazinyl)-1,2,4-triazine, D-01044
5,6-Diphenyl-3-(3-pyridazyl)-1,2,4-triazine, D-01045
4,6-Diphenyl-2-(2-pyridinyl)pyrimidine, D-01046
5,6-Diphenyl-3-(4-pyrimidinyl)-1,2,4-triazine, D-01047
Diphenyl selenoxide, D-01049
2,4-Diphenylsemicarbazide, D-01050
N,*N*′-Diphenylthioimidodicarbonic diamide, *in* T-00163
1,4-Diphenylthiosemicarbazide, D-01053
2,4-Diphenylthiosemicarbazide, D-01054
▷ *N*,*N*′-Diphenylthiourea, D-01055
3-(5,6-Diphenyl-1,2,4-triazin-3-yl) isoquinoline, D-01056
▷ 2,2-Diphenyl-1-(2,4,6-trinitrophenyl) hydrazyl, D-01057
1,1-Di-2-pyridinyl-*N*,*N*′-di-8-quinolinylmethanediamine, D-01062
Di-2-pyridinylethanedione bis(diphenylsemicarbazone), D-01064
Di-2-pyridinylethanedione bis(2-hydroxybenzoylhydrazone), D-01065
Di-2-pyridinylethanedione bis(2-pyridinylhydrazone), D-01066
Di-2-pyridinylethanedione bis(2-quinolinylhydrazone), D-01067
Di-2-pyridinylethanedione mono(2-pyridinylhydrazone), D-01068
Di-2-pyridinylethanedione mono(2-pyrimidinylhydrazone), D-01069
Di-2-pyridinylethanedione; 2-Quinolylhydrazone, *in* D-01063
1,2-Di-2-pyridinylethanone 2-pyrimidinylhydrazone, D-01070
Di-2-pyridinylmethanone 2-benzothiazolylhydrazone, D-01072
Di-2-pyridinylmethanone benzoylhydrazone, D-01073
Di-2-pyridinylmethanone di-2-pyridinylmethylenehydrazone, D-01076
Di-2-pyridinylmethanone 5-nitro-2-pyridylhydrazone, D-01079
Di-2-pyridinylmethanone 2-pyridinylhydrazone, D-01080
Di-2-pyridinylmethanone 2-pyrimidinylhydrazone, D-01081
Di-2-pyridinylmethanone 2-quinolinylhydrazone, D-01082
Di-2-pyridinylmethanone 2-thiazolylhydrazone, D-01083
Di-2-pyridinylmethanone thiosemicarbazone, D-01084
5-(Di-2-pyridinylmethylene)-2-thioxo-4-imidazolidinone, D-01085
5,6-Di-2-pyridinyl-3-(4-pyrimidinyl)-1,2,4-triazine, D-01086
2,3-Di-2-pyridinylquinoxaline, D-01087
2,3-Di-2-pyridylbenzo[*g*]quinoxaline, D-01088
1,2-Di-2-pyridyl-1,2-ethanediol, D-01089
1,2-Di(2-pyridyl)ethylene, D-01090
2,2′-Dipyridyl-α-glyoxime, *in* D-01063
2,4-Di-2-pyridylpyrimidine, D-01092
4,6-Di-2-pyridylpyrimidine, D-01093
Di-2-pyridylquinazoline, D-01094
2,3-Di-2-pyridyl-6-quinoxalinecarboxylic acid, D-01095
5,6-Di-2-pyridyl-3-(2-thiazolyl)-1,2,4-triazine, D-01096
3-(5,6-Di-2-pyridyl-1,2,4-triazin-3-yl) isoquinoline, D-01097
2-[5,6-Di-(2-pyridyl)-1,2,4-triazin-3-yl]-1,10-phenanthroline, D-01098
3,5-Di-2-pyridyl-1,2,4-triazole, D-01099
3,5-Di-2-pyridyl-1,2,4-triazoline, *in* D-01099
Di-2-quinolinylmethanone 2-pyridinylhydrazone, D-01102
Di-2-quinolinylmethanone 2-quinolinylhydrazone, D-01103
1,3-Di-2-selenophenyl-1,3-propanedione, D-01106
▷ Disulfiram, D-01107
1,1′-(2,2′-Disulfo-4,4′-biphenylene)bis(3-hydroxy-3-phenyltriazene); Di-Na salt, *in* D-01108
4,4′-Disulfodithizone; Di-Na salt, *in* D-01109
7-(5,8-Disulfo-2-naphthylazo)-8-hydroxy-5-quinolinesulfonic acid, D-01110
Dithioantipyric acid, D-01116
Dithiobenzoic acid, D-01117
3,3′-Dithiobis[6-nitrobenzoic acid], D-01120
▷ 2,2′-Dithiobispyridine, D-01122
4,4′-Dithiobispyridine, D-01123
N-(Dithiocarboxy)sarcosine, D-01126
1,1′-(Dithiodicarbonothioyl)bis[hexahydro-1*H*-azepine], D-01127
▷ 4,4′-(Dithiodicarbonothioyl)bismorpholine, D-01128
1,1′-(Dithiodicarbonothioyl) bis[octahydroazocine], D-01129

▷ 1,1′-(Dithiodicarbonothioyl)bispiperidine, D-01130
5,5′-Dithiodisalicylhydroxamic acid, D-01131
Dithiofluorescein, D-01132
3*H*-1,2-Dithiole-3-thione, D-01133
α,α-[(Dithiooxalyl)diimino]di-*m*-toluenesulfonic acid, D-01134
▷ Dodecylamine, D-01142
6-Dodecyl-6-(2-hydroxy-3,5-dinitrobenzyl)-1,4,8,11-tetraoxacyclotetradecane, D-01146
6-Dodecyl-6-[2-hydroxy-5-(1,8-naphthalenedicarboximido)benzyl]-1,4,8,11-tetraoxacyclotetradecane, D-01147
▷ 1-Dodecyl sulfate, D-01155
Ecarazine hydrochloride, *in* T-00188
▷ Edetol, E-00001
▷ Eosine; Di-Na salt, *in* E-00007
▷ Ephedrine, *in* M-00122
Eriochrome azurol G; Di-Na salt, *in* E-00009
▷ Eriochrome blue black; Na salt, *in* E-00010
Eriochrome blue SE; Di-Na salt, *in* E-00011
Eriochrome brilliant violet B, E-00012
Eriochrome cyanine R; Tri-Na salt, *in* E-00013
Eriochrome geranol; Di-Na salt, *in* E-00015
Eriochrome green B, E-00016
Ethanebis(thioic) acid; Di-K salt, *in* E-00023
▷ Ethanedithioamide, E-00027
N,*N*′-1,2-Ethanediylbisalanine, E-00029
[1,2-Ethanediylbis[nitrilobis[methylene]]] tetrakisphosphonic acid, E-00032
1,2-Ethanediylbis[phenylcarbamodithioic acid]; Di-NH_4 salt, *in* E-00033
▷ 1,2-Ethanediylbis[triphenylphosphonium] (2+); Dibromide, *in* E-00034
4,4′-(1,2-Ethanediyldinitrilo)bis[(2-pentanone)], E-00037
7-(1-Ethenyl-3,3,5,5-tetramethylhexyl)-8-quinolinol, E-00049
Ethopropazine hydrochloride, *in* E-00050
5-(*p*-Ethoxyanilino)-5,6-dihydrouracil, E-00052
3-[(6-Ethoxy-2-benzothiazolyl)azo]-4,5-dihydroxy-2,7-naphthalenedisulfonic acid, E-00053
1-[(4-Ethoxyphenyl)amino]-2-mercapto-1-propanone, E-00058
5-Ethoxy-2-(2-pyridinylazo)phenol, *in* P-00373
α-(Ethylamino)-*p*-(dimethylamino) benzylphosphonic acid; Et ester, *in* E-00064
[(Ethylamino)(2-hydroxyphenyl)methyl] phosphonic acid; Et ester, *in* E-00065
4-[[4-(Ethylamino)-6-hydroxy-*m*-tolyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, *in* A-00196
5-(Ethylamino)-4-methyl-2-[(4-phenyl-2-thiazolyl)azo]phenol, *in* A-00250
5-(Ethylamino)-4-methyl-2-(2-pyridinylazo) phenol, *in* A-00253
2-(Ethylamino)-4-methyl-5-(8-quinolinylazo)phenol, *in* A-00255
2-(Ethylamino)-4-methyl-2-(2-thiazolylazo) phenol, E-00066
1-Ethyl-3,4-dihydro-4,4,6-trimethyl-2(1*H*)-pyrimidinethione, E-00069
[Ethylenebis(iminosalicylidene)] diphosphinic acid, E-00075
N,*N*′-Ethylenebis(4-methoxy-1,2-benzoquinone 2-imine); Dioxime, *in* E-00076
▷ Ethylenediaminetetraacetic acid, E-00078
Ethylenedithiodiacetic acid; Di-Na salt, *in* E-00080
1-Ethyl-2-(1-ethyl-1,4-dihydro-4-pyridinyl)-6-methylquinolinium(1+); Iodide, *in* E-00081
2-Ethyl-4-(2-furanyl)propenal; Thiosemicarbazone, *in* E-00082
2-Ethyl-5-hydroxy-4*H*-1-benzopyran-4-one, E-00084
3-[Ethyl[3-hydroxy-4-[(2-hydroxy-5-methylphenyl)azo]phenyl]amino]-1-propanesulfonic acid, E-00087
3-[Ethyl[3-hydroxy-4-[(2-hydroxyphenyl) azo]phenyl]amino]-1-propanesulfonic acid, E-00088
2-Ethyl-5-hydroxy-7-methoxyisoflavone, *in* E-00070
3-[Ethyl[5-hydroxy-2-methyl-4-[(4-methyl-2-thiazolyl)azo]]]-1-propanesulfonic acid, E-00092
4,4′-Ethylidenebis[3-methyl-2-isoxazolin-5-one], E-00094
Ethyl-α-isonitrosoacetoacetate, *in* D-00986
3-[Ethyl(3-methoxyphenyl)amino]-1-propanesulfonic acid; Na salt, *in* E-00097
Ethylmethylglyoxime, *in* P-00029
3-[Ethyl-(2-methylphenyl)amino]-1-propanesulfonic acid; Na salt, *in* E-00098
3-[Ethyl-(3-methylphenyl)amino]-1-propanesulfonic acid; Na salt, *in* E-00099
3-[Ethyl-(4-methylphenyl)amino]-1-propanesulfonic acid; Na salt, *in* E-00100
3-(Ethylphenylamino)-1-propanesulfonic acid; Na salt, *in* E-00102
N-(4-Ethylphenyl)-*N*′-phenylbenzenecarboximidamide, E-00104
5-Ethyl-*N*-phenyl-2-pyridinecarbothioamide, *in* E-00108
▷ 2-Ethyl-4-pyridinecarbothioamide, E-00107
3-(4-Ethyl-2-pyridyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, E-00109
3-(4-Ethyl-2-pyridyl)-5,6-diphenyl-1,2,4-triazine, E-00110
2-(4-Ethyl-2-pyridyl)-3*H*-imidazo[4,5-*h*] quinoline, E-00111
4-Ethyl-*N*-(8-quinolinyl) benzenesulfonamide, E-00112
N-(Ethylsulfonyl)benzamide; Oxime, *in* E-00113
4-[[4-[Ethyl(3-sulfopropyl)amino]-2-hydroxyphenyl]azo]-3-hydroxy-1-naphthalenesulfonic acid, E-00115
2-[(5-Ethyl-1,3,4-thiadiazol-2-yl)azo]-4-methoxyphenol, E-00116
N-(5-Ethyl-1,3,4-thiadiazol-2-yl)-4-[3-methyl-5-(1-methyl-1*H*-benzimidazol-2-yl)-1-formazanyl]benzenesulfonamide, E-00117
[[2-(Ethylthio)ethyl]thio]acetic acid, E-00119
3-Ethyl-2-thioxo-4-thiazolidinone, *in* T-00176
Ethyltridodecylammonium(1+); Bromide, *in* E-00120
9-Ethyl-2,6,7-trihydroxy-3*H*-xanthen-3-one, E-00121
Ethyl violet; Chloride, *in* E-00122
Etymemazine; (±)-*form*, *in* E-00123
Fast sulphon black F; Na salt, *in* F-00002
Ferene S, *in* F-00003
▷ Ferrocene, F-00004
Ferrozine, F-00006
9*H*-Fluoren-9-one; Hydrazone, *in* F-00015
▷ *N*-Fluoren-1-ylbenzohydroxamic acid, F-00016
▷ Fluorescein, F-00020
4-(2-Fluorobenzoyl)-2,4-dihydro-5-methyl-2-phenyl-3*H*-pyrazol-3-one, F-00025
▷ Fluphenazine, F-00034
Formaldoxime, *in* F-00035
Formamidinesulfinic acid, F-00036
▷ Fuchsine, *in* R-00009
2-Furancarbothioic acid (di-2-pyridinyl) methylenehydrazide, F-00041
2-Furancarboxaldehyde 2-benzothiazolylhydrazone, F-00044
3-Furancarboxaldehyde; Oxime, *in* F-00043
2-Furancarboxaldehyde 1-phthalazinylhydrazone, F-00048
2-Furancarboxaldehyde 2-pyridinylhydrazone, F-00049
2-Furanthiocarboxhydrazide, *in* F-00040
(2-Furanyl)-2,3-dihydro-4-phenyl-1*H*-pyrazole-1-carbonodithioic acid, F-00051
3-(2-Furanyl)-*N*-hydroxy-*N*-phenyl-2-propenamide, *in* F-00053
3-(2-Furanyl)-2-mercapto-2-propenoic acid, F-00054
1-(2-Furanylmethyl)-4,6-diphenyl-2(1*H*)-pyridinethione, F-00055
5-(2-Furanylmethylene)-2-thioxo-4-thiazolidinone, F-00056
N-(2-Furanylmethyl) hydrazinecarbothioamide, F-00057
2-[5-(2-Furanyl)-2,4-pentadienylidene] hydrazinecarbothioamide, *in* F-00058
5-[5-(2-Furanyl)-2,4-pentadienylidene]-2-thioxo-4-thiazolidinone, F-00059
3-(2-Furanyl)-2-propenal; (*E*)-*form*, Thiosemicarbazone, *in* F-00060
5-[3-(2-Furanyl)-2-propenylidene]-2-thioxo-4-thiazolidinone, F-00061
1-(2-Furanyl)-3-(2-selenophenyl)-1,3-propanedione, F-00062
Furfurol green; Chloride, *in* F-00063
▷ α-Furildioxime, *in* D-00364
α-Furoinoxime, *in* F-00065
Gallamine; B,HCl, *in* G-00002
Gallein, G-00004
Gallocyanine MS, G-00006
Gluconic acid; D-*form*, *in* G-00011
Glutarimide dioxime, *in* G-00014
▷ Glycerol, G-00015
Glycinedithiocarbamic acid, G-00018
Glycinethymol blue, G-00019
Glyoxal bis(4-biphenylylthiosemicarbazone), G-00021
Glyoxal bis[3,5-bis(trifluoromethyl) phenylthiosemicarbazone], G-00022
Glyoxal bis(4-cyclohexylthiosemicarbazone), G-00023
Glyoxal bis(4-fluorophenylthiosemicarbazone), G-00026
Glyoxal bis(2-hydroxyanil), G-00027
Glyoxal bis(4-hydroxybenzoylhydrazone), G-00028
Glyoxal bis(2-mercaptoanil), G-00029
Glyoxal bis(1-naphthylthiosemicarbazone), G-00031
Glyoxal bis(phenylthiosemicarbazone), G-00033
Glyoxal bis(thiosemicarbazone), G-00034
Glyoxal bis[4-(3-trifluoromethyl)-4-chlorophenyl]thiosemicarbazone, G-00035
N-Glyoxyloylanthranilic acid; Monooxime, *in* G-00039
▷ Glyphosine, G-00040
Gossypol; (±)-*form*, *in* G-00041
Gossypol bis[*N*-(2-hydroxy)ethyleneimine], G-00042
Gossypol bis(4-hydroxyphenyl)imine, G-00043
2-Guanidino-1,2-dihydro-5-methyl-3*H*-pyrazol-3-one, G-00045
Gum arabic, *in* A-00398
▷ Haematein, H-00001
▷ Haematoxylin; (+)-*form*, *in* H-00002
4-Heptanone; Oxime, *in* H-00012
Heptyl 4-aminobenzoate, *in* A-00105
4,4′-Heptylidenebis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], H-00017
▷ 1-Hexadecylpyridinium(1+), H-00028
▷ Hexadecyltrimethylammonium(1+), H-00029
Hexahydro-1*H*-azepine-1-carbodithioic acid; K salt, *in* H-00035
Hexahydro-2*H*-azepine-2-thione, H-00036
Hexahydro-2*H*-1,3-diazepine-2-thione, H-00037
6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e*,*n*][1,4,10,7,13] dioxathiadiazacyclopentadecine, H-00038

6,7,10,11,17,18-Hexahydro-5*H*,9*H*-dibenzo[*e*,*n*][1,4,10,7,13]trithiadiazacyclopentadecine, H-00046
Hexahydro-1,3,5-trihydroxy-1,3,5-triazine, H-00051
1,2,3,5,6,7-Hexahydroxyanthraquinone, H-00052
2,3,3′,4,4′,5′-Hexahydroxybenzophenone, H-00054
▷ Hexamethylphosphoric triamide, H-00058
5,7,7,12,14,14-Hexamethyl-1,4,8,11-tetraazacyclotetradeca-4,11-diene, H-00059
5,5,7,12,12,14-Hexamethyl-1,4,8,11-tetraazacyclotetradecane; (7*RS*,14*RS*)-*form*, *in* H-00060
▷ 2,2′,4,4′,6,6′-Hexanitrodiphenylamine, H-00065
Hexaoxacycloazochrome, H-00067
1,4,7,10,13,16-Hexathiacyclooctadecane, H-00070
O-Hexylbutylphosphonodithioate, *in* B-00638
6-Hexyl-4,5-dihydro-5-thioxo-1,2,4-triazin-3(2*H*)-one, H-00074
3-Hexyl-2,6-dimercapto-4*H*-thiopyran-4-one, H-00075
▷ Hydrazinecarboxaldehyde, *in* F-00037
▷ 4-Hydrazinobenzenesulfonic acid, H-00080
▷ 1-Hydrazinophthalazine, H-00086
Hydrazo II, H-00087
4′-Hydroxyacetophenone; Oxime, *in* H-00090
2-Hydroxy-5-anisaldoxime, *in* D-00518
2-Hydroxybenzaldehyde *N*-(4-aminobenzoyl)hydrazone, H-00103
2-Hydroxybenzaldehyde *N*-benzoylhydrazone, H-00104
2-Hydroxybenzaldehyde guanylhydrazone, H-00105
2-Hydroxybenzaldehyde 6-methyl-2-nicotinoylhydrazone, H-00106
2-Hydroxybenzaldehyde phenylthiosemicarbazone, H-00107
2-Hydroxybenzaldehyde 1-phthalazinylhydrazone, H-00108
2-Hydroxybenzaldehyde; Semicarbazone, *in* H-00101
▷ 2-Hydroxybenzaldehyde; Thiosemicarbazone, *in* H-00101
▷ *N*-Hydroxybenzamide, H-00109
4-Hydroxy-1,3-benzenedisulfonic acid, H-00111
2-Hydroxy-1*H*-benz[*de*]isoquinoline-1,3(2*H*)-dione, *in* B-00051
▷ 2-Hydroxybenzoic acid, H-00112
2-Hydroxybenzoic acid [(2,4-dihydroxyphenyl)methylene]hydrazide, H-00116
4-Hydroxybenzoic acid (1,2-dimethyl-1,2-ethanediylidene)dihydrazide, H-00117
2-Hydroxybenzoic acid [(2-hydroxyphenyl)methylene]hydrazide, H-00120
2-Hydroxybenzoic acid [2-(2-pyridinyl)ethylidene]hydrazide, H-00121
2-Hydroxybenzoic acid [2-pyridinyl(3-sulfophenyl)methylene]hydrazide, H-00122
2-(2-Hydroxybenzylideneamino)phenol, H-00129
4-Hydroxy-3-biphenylcarboxylic acid, H-00132
N-Hydroxy-*N*,*N*′-bis(4-methylphenyl)benzenecarboximidamide, *in* H-00308
3-Hydroxy-1,3-bis(4-methylphenyl)triazene, H-00139
N-Hydroxybutanamide, H-00142
▷ 4-Hydroxy-3,5-dimethoxybenzaldehyde, *in* T-00273
3-Hydroxy-3-(*p*-dimethylaminophenyl)-1-phenyltriazene, H-00149
N-Hydroxy-2,4-dimethylbenzenecarboximidamide, *in* D-00835
2-[(2-Hydroxy-3,5-dimethylphenyl)azo]-5-sulfobenzoic acid, H-00152
2-Hydroxy-3,5-dinitrobenzoic acid, H-00154
(2-Hydroxy-3,5-dinitrophenoxymethyl)-15-crown-5, H-00159
5-[(2-Hydroxy-3,5-dinitrophenyl)azo]-8-quinolinol 1-oxide, H-00161
5-[(2-Hydroxy-3,5-dinitrophenyl)azo]-2,4-thiazolidinedithione, H-00162
5-[(2-Hydroxy-3,5-dinitrophenyl)azo]-2-thioxo-4-thiazolidinone, H-00163
8-Hydroxy-5,7-dinitroquinoline, H-00165
8-Hydroxy-5,7-dinitroquinoline; *N*-Oxide, *in* H-00165
N-Hydroxy-*N*,*N*′-diphenylbenzenecarboximidamide, *in* D-01001
N-Hydroxy-4-(diphenylmethyl)benzamide, H-00168
N-Hydroxy-*N*,5-diphenyl-2,4-pentadienamide, H-00169
N-Hydroxy-*N*,*N*′-diphenylthiourea, *in* D-01055
3-Hydroxy-1,3-diphenyl-1-triazene, H-00170
4-Hydroxy-2,6-di-2-pyridinylpyrimidine, H-00171
2-(2-Hydroxy-3,6-disulfo-1-naphthalenylazo)-5-(*N*,*N*-diethylamino)phenol, H-00173
2-(2-Hydroxy-3,6-disulfo-1-naphthalenylazo)-5-[*N*-ethyl-*N*-(sulfopropyl)amino]phenol, H-00174
2-Hydroxydithiobenzoic acid, H-00175
4-Hydroxydithiobenzoic acid, H-00176
▷ (1-Hydroxyethylidene)bisphosphonic acid, H-00178
3′-Hydroxyflavone, H-00183
N-Hydroxyhexanamide, H-00186
4-Hydroxy-3-[(5-hydroxybenzo[*a*]phenazin-6-yl)azo]benzenesulfonic acid, H-00187
4-Hydroxy-3-[(2-hydroxybenzoyl)azo]-1-naphthalenesulfonic acid, H-00188
3-Hydroxy-4-[(2-hydroxy-3,5-dinitrophenyl)azo]-2,7-naphthalenedisulfonic acid, H-00198
4-Hydroxy-3-[(2-hydroxy-3,5-dinitrophenyl)azo]-1-naphthalenesulfonic acid, H-00199
2-[[3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]-2′-[(2-hydroxyphenyl)methylene]carbonic acid dihydrazide, H-00218
2-[[3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]-2′-[(2-hydroxyphenyl)methylene]carbothioic acid dihydrazide, H-00219
5-[[3-Hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]-2-thioxo-4-thiazolidinone, H-00220
▷ 5-Hydroxy-2-(hydroxymethyl)-4*H*-pyran-4-one, H-00222
2-Hydroxy-3-[4-hydroxynaphthalenylazo]-5-nitrobenzenesulfonic acid, H-00223
3-Hydroxy-4-[(2-hydroxy-1-naphthalenyl)azo]-7-nitro-1-naphthalenesulfonic acid, H-00224
4-Hydroxy-5-[[(2-hydroxy-1-naphthalenyl)methylene]amino]-2,7-naphthalenedisulfonic acid, H-00225
8-Hydroxy-7-[(2-hydroxy-4-nitrophenyl)azo]-1,6-naphthalenedisulfonic acid, H-00227
8-Hydroxy-7-[(2-hydroxy-5-nitrophenyl)azo]-1,6-naphthalenedisulfonic acid, H-00228
4-Hydroxy-3-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-2,7-naphthalenedisulfonic acid, H-00229
5-Hydroxy-6-[(2-hydroxy-5-nitro-3-sulfophenyl)-azo]-1-naphthalenesulfonic acid, H-00230
5-Hydroxy-8-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-1-naphthalenesulfonic acid, H-00231
5-Hydroxy-8-[(2-hydroxy-5-nitro-3-sulfophenyl)azo]-2-naphthalenesulfonic acid, H-00232
8-Hydroxy-7-[(2-hydroxyphenyl)azo]-1,6-naphthalenedisulfonic acid, H-00233
3-Hydroxy-4-[(2-hydroxy-4-sulfo-1-naphthalenyl)azo]-2-naphthalenecarboxylic acid; Na salt, *in* H-00242
2-[[1-(Hydroxyimino)ethyl]azo]-1*H*-benzimidazole, H-00245
2-[[1-(Hydroxyimino)-2-methylpropyl]azo]-1-(phenylmethyl)-1*H*-benzimidazole, H-00246
N-[2-(Hydroxyimino)-1-methylpropylidene]glycine, H-00247
2-[2-(Hydroxyimino)-1-methylpropylidene]-*N*-phenylhydrazinecarbothioamide, H-00248
2-Hydroxy-3-[(2-imino-4-oxo-5-thiazolidinyl)azo]-5-nitrobenzenesulfonic acid, H-00249
2-[[(Hydroxyimino)phenylmethyl]azo]-1*H*-benzimidazole, H-00250
α-(Hydroxyimino)-2-pyridineacetonitrile, H-00251
α-(Hydroxyimino)-2-quinolineacetonitrile, H-00252
5-Hydroxy-1*H*-indole-2-carboxylic acid, H-00253
6-Hydroxy-5-[(4-iodophenyl)azo]-2-naphthalenesulfonic acid, H-00254
▷ 8-Hydroxy-7-iodo-5-quinolinesulfonic acid, H-00255
2-Hydroxy-3-isopropyl-2,4,6-cycloheptatrien-1-one, H-00256
▷ Hydroxylamine, H-00257
5-Hydroxy-3-mercapto-6-methyl-1,2,4-triazine, H-00258
6-Hydroxy-8-mercaptopurine, H-00260
N-Hydroxy-4-methoxybenzamide, H-00264
N-Hydroxy-4-methoxybenzenecarbothioamide, H-00265
4-(4-Hydroxy-3-methoxybenzylidene)-3-methyl-5(4*H*)-isoxazolone, H-00266
5-Hydroxy-7-methoxyflavone, *in* D-00612
N-Hydroxy-2-methoxy-*N*-(4-methylphenyl)benzamide, *in* H-00263
N-Hydroxy-2-methoxy-*N*-1-naphthalenylbenzamide, H-00267
N-Hydroxy-4-methoxy-*N*-1-naphthalenylbenzamide, H-00268
▷ 2-[(4-Hydroxy-3-methoxyphenyl)methylene]hydrazinecarbothioamide, H-00271
N-Hydroxy-*N*′-(4-methoxyphenyl)-*N*-(4-methylphenyl)benzenecarboximidamide, *in* H-00270
N-Hydroxy-*N*′-(4-methoxyphenyl)-*N*-phenylbenzenecarboximidamide, *in* H-00270
N-Hydroxy-3-(4-methoxyphenyl)-2-propenamide; *N*-(3-Methylphenyl), *in* H-00272
N-Hydroxy-3-(4-methoxyphenyl)-2-propenamide; *N*-(4-Methylphenyl), *in* H-00272
N-Hydroxy-*N*-(3-methoxyphenyl)-3-(2-thienyl)-2-propenamide, H-00273
N-Hydroxy-*N*-(4-methoxyphenyl)-3-(2-thienyl)-2-propenamide, H-00274
2-[[2-Hydroxy-4-methyl-5-(1-methylethyl)phenyl]azo]-5-nitrobenzenesulfonic acid; K salt, *in* H-00288
N-Hydroxy-2-methyl-*N*-(2-methylphenyl)benzamide, *in* M-00135
N-Hydroxy-2-methyl-*N*-(3-methylphenyl)benzamide, *in* M-00135
N-Hydroxy-4-methyl-*N*-(3-methylphenyl)benzamide, *in* M-00136
3-Hydroxy-2-methyl-1-(4-methylphenyl)-4(1*H*)-pyridinone, H-00289
N-Hydroxy-2-methyl-*N*-1-naphthalenylbenzamide, H-00290
N-Hydroxy-4-methyl-*N*-1-naphthalenylbenzamide, H-00291
2-Hydroxy-3-methyl-1,4-naphthoquinone; Monoxime, *in* H-00292
5-Hydroxy-6-methyl-2-[(4-nitrophenyl)azo]-3,4-pyridinedimethanol, H-00294
6-Hydroxy-2-methyl-7-oxo-1,3,5-cycloheptatriene-1-carboxylic acid, H-00298

▷ 1-Hydroxy-4-[(4-methylphenyl)amino]-9,10-anthracenedione, H-00300
2-(2-Hydroxy-5-methylphenylazo)-4-methylthiazole, H-00301
2-[(2-Hydroxy-5-methylphenyl)azo]-5-nitrobenzenesulfonic acid; K salt, *in* H-00302
[[2-[(2-Hydroxy-5-methylphenyl)azo]phenyl]thio]acetic acid, H-00303
8-Hydroxy-7-[(4-methylphenyl)azo]-5-quinolinesulfonic acid, H-00304
N-Hydroxy-*N*-(2-methylphenyl)benzamide, *in* H-00109
1-(2-Hydroxy-5-methylphenyl)-1-butanone; (*E*)-*form*, Oxime, *in* H-00309
N-Hydroxy-*N*-(4-methylphenyl)-2-butenamide, *in* H-00143
N-Hydroxy-*N*-(4-methylphenyl)-3,5-dinitrobenzamide, *in* D-00946
N-Hydroxy-*N*-(4-methylphenyl)-2-furancarboxamide, *in* F-00064
1-(2-Hydroxy-5-methylphenyl)-3-(4-hydroxyphenyl)-2-propen-1-one; 4-Me ether, oxime, *in* H-00311
2-[[5-Hydroxy-3-methyl-1-(phenylmethyl)-1*H*-pyrazol-4-yl]azo]-5-nitrobenzenesulfonic acid, H-00312
N-Hydroxy-*N'*-(4-methylphenyl)-*N*-phenylbenzenecarboximidamide, *in* H-00308
N-Hydroxy-*N*-(4-methylphenyl)-*N*-phenylbenzenecarboximidamide, H-00313
3-Hydroxy-2-methyl-1-phenyl-4(1*H*)-pyridinone, H-00315
N-Hydroxy-*N*-(4-methylphenyl)tetradecanamide, H-00316
N-Hydroxy-*N*-(3-methylphenyl)-3-(2-thienyl)-2-propenamide, *in* H-00553
N-Hydroxy-*N*-(4-methylphenyl)-3-(2-thienyl)-2-propenamide, *in* H-00553
N-Hydroxy-*N'*-methyl-*N*-phenylthiourea, *in* T-00175
▷ 3-Hydroxy-3-methyl-1-phenyltriazene, H-00317
5-Hydroxy-[6-[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]-1-naphthalenesulfonic acid, H-00320
1-Hydroxy-4-methyl-2(1*H*)-pyridinethione, *in* M-00274
3-Hydroxy-4-[(6-methyl-2-pyridinyl)azo]-2,7-naphthalenedisulfonic acid *N*-oxide; Di-Na salt, *in* H-00324
8-Hydroxy-2-methylquinoline, H-00326
4-[[4-(Hydroxymethyl)-2-thiazolyl]azo]-1,2-benzenediol, H-00328
2-[[3-Hydroxy-4-[methyl-2-thiazolylazo]phenyl]amino]ethanesulfonic acid, H-00329
3-[[3-Hydroxy-4-[(4-methyl-2-thiazolyl)azo]phenyl]amino]-1-propanesulfonic acid, H-00330
6-Hydroxy-3-[(4-methyl-2-thiazolyl)azo]-2(1*H*)-pyridinone, H-00331
3-Hydroxy-4-[[2-(methylthio)phenyl]azo]-2,7-naphthalenedisulfonic acid, *in* H-00259
2-(3-Hydroxy-3-methyl-1-triazenyl)benzoic acid, H-00332
2-Hydroxy-1-naphthaldehyde; Oxime, *in* H-00336
2-Hydroxy-1-naphthaldehyde; Thiosemicarbazone, *in* H-00336
1-Hydroxy-2-naphthalenecarbodithioic acid, H-00339
▷ *N*-Hydroxy-2-naphthalenecarboxamide, H-00340
N-Hydroxy-1-naphthalenecarboximidamide, *in* N-00005
3-Hydroxy-2-naphthalenecarboxylic acid [[3-hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methylene]hydrazide, H-00341
▷ 3-Hydroxy-2,7-naphthalenedisulfonic acid, H-00342
4-[(2-Hydroxy-1-naphthalenyl)azo]benzenesulfonic acid; Na salt, *in* H-00348
2-[(2-Hydroxy-1-naphthalenyl)azo]benzoic acid, H-00349
4-[(2-Hydroxy-1-naphthalenyl)azo]-1-naphthalenesulfonic acid; Ba salt, *in* H-00350
2-[(2-Hydroxy-1-naphthalenyl)azo]-5-nitrobenzenesulfonic acid, H-00351
[[2-[(2-Hydroxy-1-naphthalenyl)azo]phenyl]thio]acetic acid, H-00352
3-[(2-Hydroxy-1-naphthalenyl)azo]-1*H*-pyrazole-4-carboxylic acid, H-00353
2-[(1-Hydroxy-2-naphthalenyl)azo]-8-quinolinol, H-00356
5-[(2-Hydroxy-1-naphthalenyl)azo]-1,3,4-thiadiazole-2(3*H*)-thione, H-00357
2-[(2-Hydroxy-1-naphthalenyl)azo]-4-thiazolecarboxylic acid, H-00358
N-Hydroxy-*N*-1-naphthalenyldecanamide, H-00359
N-Hydroxy-*N*-1-naphthalenyldodecanamide, H-00360
N-Hydroxy-*N*-1-naphthalenylhexanamide, H-00361
2-[(2-Hydroxy-1-naphthalenyl)methylene]-*N*-phenylhydrazinecarbothioamide, H-00363
5-[(2-Hydroxy-1-naphthalenyl)methylene]-2-thioxo-4-thiazolidinone, H-00364
N-Hydroxy-*N*-1-naphthalenyl-4-nitrobenzamide, H-00365
N-Hydroxy-*N*-1-naphthalenylpentanamide, H-00366
N-Hydroxy-*N'*-2-naphthalenyl-*N*-phenylthiourea, H-00367
N-Hydroxy-*N*-1-naphthalenyltetradecanamide, H-00368
3-Hydroxy-2-naphthohydroxamic acid, *in* H-00370
▷ 3-Hydroxy-2-naphthoic acid, H-00370
Hydroxynaphthol blue; Tri-Na salt, *in* H-00371
5-Hydroxy-1,2-naphthoquinone; Dioxime, *in* H-00372
7-Hydroxy-1,2-naphthoquinone; Dioxime, *in* H-00373
2-(2-Hydroxy-3-naphthoylazo)-1-hydroxy-4-naphthalenesulfonic acid, H-00374
p-[(2-Hydroxy-1-naphthyl)azo]benzoic acid, H-00375
3-[(2-Hydroxy-1-naphthyl)azo]-4-pyrazolecarboxylic acid, H-00376
N-Hydroxy-3-nitrobenzenecarboximidamide, H-00382
2-Hydroxy-5-nitrobenzoic acid, H-00383
10-(2-Hydroxy-5-nitrobenzyl)-1,4,7-trioxa-10-azacyclododecane, H-00387
2-Hydroxy-5-nitro-3-[(2-oxo-4-thioxo-5-selenazolidinyl)azo]benzenesulfonic acid, H-00390
2-Hydroxy-5-nitro-3-[(4-oxo-2-thioxo-5-thiazoliidinyl)azo]benzenesulfonic acid, H-00391
2-Hydroxy-4-(4-nitrophenylazo)benzoic acid, H-00393
2-[(2-Hydroxy-5-nitrophenyl)azo]-4,5-diphenylimidazole; Acetate salt, *in* H-00394
1-[(2-Hydroxy-5-nitrophenyl)azo]-2-naphthalenol, H-00396
[2-Hydroxy-5-(4-nitrophenylazo)phenyl]oxymethyl-15-crown-5, H-00400
[2-Hydroxy-5-(4-nitrophenylazo)phenyl]oxymethyl-18-crown-6, H-00401
2-[(2-Hydroxy-5-nitrophenyl)methylene]-*N*-phenylhydrazinecarbothioamide, *in* H-00380
3-Hydroxy-1-(2-nitrophenyl)-3-phenyl-1-triazene, H-00403
3-Hydroxy-1-(4-nitrophenyl)-3-phenyl-1-triazene, H-00404
N-Hydroxy-*N*-(4-nitrophenyl)-3-(2-thienyl)-2-propenamide, H-00405
2-Hydroxy-3-nitrosobenzoic acid, H-00406
4-Hydroxy-3-nitroso-2*H*-1-benzopyran-2-one, H-00407
4-Hydroxy-5-nitroso-2,1,3-benzothiadiazole, H-00408
5-Hydroxy-4-nitroso-2,1,3-benzothiadiazole, H-00409
N-Hydroxy-*N*-nitrosocyclododecanamine, H-00410
N-Hydroxy-*N*-nitrosocyclohexanamine; NH_4 salt, *in* H-00411
N-Hydroxy-*N*-nitrosocyclooctylamine, H-00412
3-Hydroxy-4-nitroso-2-naphthalenecarboxylic acid, H-00413
4-Hydroxy-3-nitroso-1-naphthalenesulfonic acid, H-00415
1-Hydroxy-2-nitroso-3*H*-naphtho[2,1-*b*]pyran-3-one, H-00416
3-[(3-Hydroxy-4-nitrosophenyl)propylamino]-1-propanesulfonic acid, H-00417
N-Hydroxy-*N*-nitroso-2-propanamine, H-00418
4-Hydroxy-3-nitroso-2(1*H*)-pyridinone, H-00419
6-Hydroxy-5-nitroso-2,4(1*H*,3*H*)-pyrimidinedione, H-00420
▷ 8-Hydroxy-5-nitrosoquinoline, *in* Q-00019
8-Hydroxy-7-nitroso-5-quinolinesulfonic acid; Na salt, *in* H-00421
2-Hydroxy-5-nitro-3-[(tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo]benzenesulfonic acid, H-00422
2-Hydroxy-5-nitro-3-[(2-thioxo-4-oxopyrrolidinyl)azo]benzenesulfonic acid, H-00423
N-Hydroxy-4-(octyloxy)-*N*-phenylbenzamide, H-00425
2-(3-Hydroxy-4-oxo-4*H*-1-benzopyran-2-yl)benzenesulfonic acid, H-00427
6-Hydroxy-5-oxo-5*H*-dibenzo[*a,j*]phenoxazine-8,11-disulfonic acid, H-00432
2-[(3-Hydroxy-1-oxo-1*H*-inden-2-yl)imino]-1*H*-indene-1,3(2*H*)-dione, H-00433
5-Hydroxy-4-oxo-4*H*-pyran-2-carboxylic acid; Et ester, *in* H-00434
2-Hydroxy-5-[[4-[(4-oxo-2-thioxo-5-thiazolidinyl)azo]phenyl]azo]benzenesulfonic acid, H-00436
4-Hydroxy-1,10-phenanthroline, H-00437
2-[(Hydroxyphenylamino)carbonyl]benzenesulfonic acid; Na salt, *in* H-00445
2-(4-Hydroxyphenylazo)benzaldehyde; Me ether, oxime, *in* H-00448
3-Hydroxy-4-(phenylazo)-2,7-naphthalenedisulfonic acid; Disodium salt, *in* H-00454
5-[(2-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, H-00460
5-[(3-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, H-00461
5-[(4-Hydroxyphenyl)azo]-2-thioxo-4-thiazolidinone, H-00462
2-Hydroxy-*N*-phenylbenzamide, *in* H-00112
α-Hydroxy-α-phenylbenzeneacetic acid 2-[(4-methylphenyl)sulfonyl]hydrazide, H-00464
2-(2-Hydroxyphenyl)benzimidazole, H-00465
1-(2-Hydroxyphenyl)-1-butanone; Oxime, *in* H-00469
N-Hydroxy-*N*-phenyl-2-chlorobenzamide, H-00470
N-Hydroxy-*N*-phenyldodecanamide, *in* L-00001
N-Hydroxy-*N*-phenyl-2-furancarboxamide, H-00472
N-Hydroxy-*N*-phenyl-2,4-hexadienamide, *in* H-00185
2-[(2-Hydroxyphenyl)imino]-1-acenaphthenone, H-00473
5-Hydroxy-3-phenyl-4-isoxazolecarboxylic acid; Et ester, *in* H-00475
[(2-Hydroxyphenyl)methylene]carbonothioic acid (di-2-pyridinylmethylene) dihydrazide, H-00481

[(2-Hydroxyphenyl)methylene](2-pyridinylmethylene)carbonic dihydrazide, H-00482
[(2-Hydroxyphenyl)methylene](2-pyridinylmethylene)carbonothioic dihydrazide, H-00483
[(4-Hydroxyphenyl)methylene](2-pyridinylmethylene)carbonothioic dihydrazide, H-00484
5-[(2-Hydroxyphenyl)methylene]-2-thioxo-4-thiazolidinone, H-00486
5-[(3-Hydroxyphenyl)methylene]-2-thioxo-4-thiazolidinone, H-00487
N-Hydroxy-*N*-phenyl-2-naphthalenecarboxamide, *in* N-00024
N-Hydroxy-*N*-phenylpentanamide, H-00492
3-(2-Hydroxyphenyl)-1-phenyl-5-(1-phenyl-2-benzimidazolyl)formazan, H-00495
N-Hydroxy-*N*-phenyltetradecanamide, H-00504
N-Hydroxy-*N*-phenyl-3-(2-thienyl)-2-propenamide, H-00505
4-(3-Hydroxy-3-phenyl-1-triazenyl) benzenesulfonic acid, H-00506
2-(3-Hydroxy-3-phenyl-1-triazenyl)benzoic acid, H-00507
3-(3-Hydroxy-3-phenyl-1-triazenyl)pyridine, H-00509
2-(3-Hydroxy-3-phenyl-1-triazenyl)-5-sulfobenzoic acid, H-00510
1-(4-Hydroxyphenyl)-2,4,6-triphenylpyridinium hydroxide inner salt, H-00513
3-Hydroxy-4-[(2-phosphonophenyl)azo]-2,7-naphthalenedisulfonic acid; Di-Na salt, *in* H-00514
3-Hydroxy-2-pyridinecarboxaldehyde [(3-hydroxy-2-pyridinyl)methylene] hydrazone, H-00519
3-Hydroxy-2-pyridinecarboxaldehyde; Thiosemicarbazone; B,HCl, *in* H-00518
N-Hydroxy-3-pyridinecarboxamide, *in* P-00341
3-Hydroxy-2(1*H*)-pyridinethione, H-00520
3-Hydroxy-2(1*H*)-pyridinone, H-00521
4-Hydroxy-3-(2-pyridinylazo)-1-naphthalenesulfonic acid, H-00522
(Hydroxy-3-pyridinylmethyl)phosphoric acid, H-00523
▷ 2-Hydroxy-2-(2-pyridyl)methanesulfonic acid, H-00524
▷ 8-Hydroxyquinoline, H-00525
8-Hydroxy-5-quinolinesulfonic acid, H-00528
3-Hydroxy-4-(8-quinolinylazo)-2,7-naphthalenedisulfonic acid, H-00530
3-[(8-Hydroxy-7-quinolinyl)azo]-1,5-naphthalenedisulfonic acid; Di-K salt, *in* H-00531
8-[(8-Hydroxy-5-quinolinyl)azo]-1-naphthalenesulfonic acid, H-00532
1-Hydroxyquinolizinium betaine, H-00533
1-(8-Hydroxy-2-quinolyl)-2-(8-hydroxy-5-quinolyl)ethylene; B, 2HCl, *in* H-00534
5-[(8-Hydroxy-5-quinolyl)imino-8(5*H*)-quinolone], H-00535
N-Hydroxysuccinamic acid, *in* S-00034
▷ 2-Hydroxy-5-sulfobenzoic acid, H-00538
1-Hydroxy-4-sulfo-2-naphthoic acid, H-00540
2-Hydroxy-4-[(4-sulfophenyl)azo]benzoic acid; Di-Na salt, *in* H-00541
2-Hydroxy-5-[(4-sulfophenyl)azo]benzoic acid; Di-Na salt, *in* H-00542
2-Hydroxy-5-sulfo-3-[(tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo]benzoic acid, H-00545
3-Hydroxy-3′,4′,5,7-tetramethoxyflavone, *in* P-00025
3-Hydroxy-4-(1*H*-tetrazol-5-ylazo)-2,7-naphthalenedisulfonic acid, H-00546
3-Hydroxy-4-(2-thiazolylazo)-2,7-naphthalenedisulfonic acid, H-00548
2-[[3-Hydroxy-4-(2-thiazolylazo)phenyl] amino]ethanesulfonic acid, H-00550
3-[[3-Hydroxy-4-(2-thiazolylazo)phenyl] amino]-1-propanesulfonic acid, H-00551
8-Hydroxy-7-(2-thiazolylazo)-5-quinolinesulfonic acid, H-00552
o-Hydroxythiobenzhydrazide, *in* H-00110
N-Hydroxy-2-thiophenecarboxamide; *N*-(3-Chlorophenyl), *in* H-00554
N-Hydroxy-2-thiophenecarboxamide; *N*-(4-Chlorophenyl), *in* H-00554
2-Hydroxy-3-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, H-00557
2-Hydroxy-4-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, H-00558
3-Hydroxy-2-(2,6,7-trihydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid, H-00559
1-Hydroxyxanthone, H-00562
▷ 1*H*-Imidazole, I-00001
5*H*-Imidazole-4-carboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, I-00002
▷ 2-Imidazolidinethione, I-00003
▷ 2-Imidazolidinethione; 1,3-Di-Me, *in* I-00003
1-(1*H*-Imidazo[4,5-*c*]pyridin-2-yl) isoquinoline, I-00004
2-(3*H*-Imidazo[4,5-*h*]quinolin-2-yl)-4,7-phenanthroline, I-00006
1,1′-Iminobis[6-chloroanthraquinone], I-00007
▷ 1,1′-Iminodianthraquinone, I-00011
2,2′-Iminodianthraquinone, I-00012
▷ 2,2′-Iminodibenzoic acid, I-00013
2,3′-Iminodibenzoic acid, I-00014
2,4′-Iminodibenzoic acid, I-00015
1,2,3-Indanetrione, I-00025
1,2,3-Indanetrione; 2-(Thiosemicarbazone), *in* I-00025
1,2,3-Indanetrione; Trioxime, *in* I-00025
2,2′-(1*H*-Indene-1,3(2*H*)-diylidene) bishydrazinecarbothioamide, *in* I-00024
▷ Indigo carmine, *in* I-00029
▷ Indoferron, I-00032
▷ Indole, I-00033
Indophenol, I-00034
INT, *in* I-00048
4-[(4-Iodophenyl)azo]-1,2,3-benzenetriol, I-00049
4-[(5-Iodo-2-pyridinyl)azo]-1,3-benzenediamine, I-00052
2-Iodosylbenzoic acid, I-00053
β-Iononethiosemicarbazone, *in* M-00010
Isatin hydrazone, *in* I-00056
Isatin; 2-Oxime, *in* I-00056
▷ Isatin; 3-Oxime, *in* I-00056
1*H*-Isoindole-1,3(2*H*)-dithione, I-00068
▷ Isoniazid, I-00069
Isonitrosodibenzoylmethane, *in* D-01041
Isonitrosodimedone, *in* D-00848
Isonitrosomalonylguanidine, *in* A-00337
Isophthaldihydroxamic acid, *in* B-00019
5-(4-Isopropylbenzyl)-2-thioxo-4-thiazolidinone, I-00070
Isopropylidenehydrazide, *in* A-00007
3-Isopropyl-6-methyl-2-[[5-(1-methylpiperidinyl)-2-pyridinyl]azo] phenol, I-00074
2-Isopropyl-5-methyl-4-[(2-quinolinyl)azo] phenol, I-00076
4-Isopropylnioxime, *in* I-00071
Isopropyltriphenylphosphonium(1+); Bromide, *in* I-00079
▷ Isoquinoline, I-00080
3-Isoquinolinecarboxaldehyde 2-pyrimidinylhydrazone, I-00081
3-Isoquinolinecarboxaldehyde 2-quinolinylhydrazone, I-00082
3-Isoquinolinecarboxaldehyde 3-quinolinylhydrazone, I-00083
3-Isoquinolinecarboxaldehyde 8-quinolinylhydrazone, I-00084
3-Isoquinolinecarboxaldehyde 2-thiazolylhydrazone, I-00085
3-(3-Isoquinolyl)-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, I-00090
5-Isothiocyanato-2-(4-methylphenyl)-1*H*-benz[*de*]isoquinoline-1,3(2*H*)-dione, I-00097
Janus black; Chloride, *in* J-00001
▷ Janus blue; Chloride, *in* J-00002
Janus green; Chloride, *in* J-00003
Laurohydroxamic acid, L-00001
▷ Lauryltrimethylammonium(1+); Bromide, *in* L-00002
▷ α-Lobeline, *in* L-00010
▷ Lumogallion, L-00015
Lumomagneson, L-00016
Macrocyclic formazan I, M-00001
Magneson IREA, M-00004
Magon, M-00005
▷ Malachite green; Chloride, *in* M-00006
Mandelic acid; (±)-*form*, *in* M-00007
Maxilon blue GRL; Chloride, *in* M-00009
▷ MBTH, *in* B-00090
Meldola's blue; Chloride, *in* M-00011
▷ Mellaril hydrochloride, *in* T-00173
▷ Mercaptoacetic acid, M-00016
4-[(Mercaptoacetyl)amino]benzenesulfonic acid; Na salt, *in* M-00017
2-Mercapto-1,3-benzenediol, M-00020
▷ 2-Mercaptobenzimidazole, M-00022
▷ 2-Mercaptobenzoic acid, M-00023
2-Mercapto-4*H*-1-benzopyran-4-thione, M-00024
Mercaptobutanedioic acid; (±)-*form*, *in* M-00026
2-Mercapto-2,4,6-cycloheptatrien-1-one, M-00027
2-Mercapto-5-(2,4-dihydroxyphenylazo)-1,3,4-thiadiazole, M-00028
3-Mercapto-1,3-diphenyl-2-propen-1-one, M-00030
▷ 2-Mercaptoethanol, M-00031
2-Mercapto-5-(2-hydroxy-5-methylphenylazo)-1,3,4-thiadiazole; Na salt, *in* M-00032
2-Mercapto-*N*-(4-methoxyphenyl) acetamide, M-00033
2-Mercapto-3-(4-methoxyphenyl)-2-propenoic acid, M-00034
2-Mercapto-4-methylphenol, M-00035
2-Mercapto-*N*-(4-methylphenyl)acetamide, M-00036
5-Mercapto-3-(2-naphthyl)-1,3,4-thiazole-2-thione, M-00039
5-Mercapto-3-(2-naphthyl)-1,3,4-thiazole-2-thione; K salt, *in* M-00039
2-[(3-Mercaptophenyl)azo]-4-methylphenol, M-00041
1-[(2-Mercaptophenyl)azo]-2-naphthalenol, M-00042
2-Mercapto-3-phenyl-2-butenoic acid, M-00043
3-Mercapto-1-phenyl-2-buten-1-one, M-00044
N-[[(2-Mercaptophenyl)imino]methyl] phenol, M-00045
3-Mercapto-3-phenylpropanoic acid; (±)-*form*, *in* M-00048
▷ 3-Mercapto-1,2-propanediol, M-00050
▷ 3-Mercaptopropanoic acid, M-00052
2-Mercaptopropanoic acid; (±)-*form*, *in* M-00051
3-Mercapto-*p*-propionophenetidide, M-00054
2-Mercapto-*N*-2-pyridinylacetamide, M-00055
2-(3-Mercapto-2-quinoxalinyl)-2-thiopseudourea; B, HCl, *in* M-00058
S-(3-Mercapto-2-quinoxalinyl) thiuronium(1+); Chloride, *in* M-00059
▷ 5-Mercapto-1,3,4-thiadiazoline-2-thione, M-00060
▷ Metamizole sodium, *in* D-01100
N-Methanesulfonylbenzamidoxime, M-00067
▷ 4-Methoxyaniline, M-00073
4-Methoxybenzaldehyde phenylthiosemicarbazone, M-00076
▷ Methoxybenzene, M-00078
4-Methoxybenzoic acid [(2,4-dihydroxyphenyl)methylene]hydrazide, M-00080
4-Methoxybenzoic acid [1-[2-(2-nitrophenyl)hydrazino]ethylidene] hydrazide, M-00083
1-(*p*-Methoxybenzyl)-4,6-diphenylpyridine-2-thione, M-00084

6-Methoxy-2,3-bis(6-methyl-2-pyridyl) quinoxaline, *in* H-00140
▷ 2′-Methoxydiphenylamine-2-carboxylic acid, *in* H-00167
6-Methoxy-2,3-di-2-pyridinylquinoxaline, *in* H-00172
2-(2-Methoxy-4-methylphenylazo)thiazole, *in* M-00324
2-Methoxy-6-[[5-(1-methyl)-2-piperidinyl-2-pyridyl]azo]phenol, M-00092
3-Methoxy-2-methyl-6-(2-pyridinylazo) phenol, *in* M-00278
5-Methoxy-2-[(5-methyl-2-pyridinyl)azo] phenol, *in* M-00279
2-Methoxy-4-[*N*-(*p*-morpholinophenyl) formimidoyl]phenol, M-00093
2-[[(4-Methoxy-2-nitrophenyl)hydrazono] methyl]-1,3,3-trimethyl-3*H*-indolium(1+); Perchlorate, *in* M-00096
▷ 3-Methoxy-4-nitrosophenol, *in* N-00156
▷ 2-Methoxyphenol, M-00102
p-Methoxy-*N*-phenylcinnamohydroxamic acid, *in* H-00241
3-(2-Methoxyphenyl)-1,5-diphenylformazan, M-00107
2-(4-Methoxyphenyl)-5,7-diphenyl-1,3,4-thiadiazolo[3,2-*a*]pyridin-4-ium(1+); Chloride, *in* M-00108
2-[[(2-Methoxyphenyl)hydrazono]methyl]-1,3,3-trimethyl-3*H*-indolinium(1+); Perchlorate, *in* M-00110
3-(*p*-Methoxyphenyl)-5-mercapto-1,3,4-thiadiazole-2-thione, M-00111
▷ 5-[(4-Methoxyphenyl)methylene]-2-thioxo-4-thiazolidinone, M-00113
1-(4-Methoxyphenyl)-3-phenyl-5-(1-phthalazinyl)formazan, M-00116
4′-(4-Methoxyphenyl)-2,2′:6′,2″-terpyridine, M-00119
▷ 2-Methoxy-4-(2-propenyl)phenol, M-00120
5-Methoxy-2-(2-pyridinylazo)phenol, *in* P-00373
4-Methoxy-2-(2-thiazolylazo)phenol, *in* T-00139
5-Methoxy-2-(2-thiazolylazo)phenol, *in* T-00141
▷ 4-Methylaniline, M-00124
▷ 4-Methylaniline; *N*-Ac, *in* M-00124
3-Methyl-1,2-benzenediol, M-00127
▷ 4-Methyl-1,2-benzenedithiol, M-00129
▷ 2-Methylbenzenethiol, M-00131
3-Methylbenzenethiol, M-00132
▷ 4-Methylbenzenethiol, M-00133
6-Methyl-2,3-bis(6-methyl-2-pyridinyl) quinoxaline, M-00146
▷ 3-Methyl-1-butanol, M-00147
▷ 2-Methyl-1-buten-3-yne, M-00149
4,4′-(3-Methylbutylidene)bis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], M-00150
2-Methyl-1,3-cyclohexanedione bis(phenylthiosemicarbazone), M-00158
2,2′-(3-Methyl-1,2-cyclopentanediylidene) bishydrazinecarbothioamide, *in* M-00159
N-Methyldiphenylamine-4-sulfonic acid, M-00166
2-Methyl-4,6-di-2-pyridinylpyrimidine, M-00167
6-Methyl-2,3-di-2-pyridylquinoxaline, M-00168
4,4′-Methylenebis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazol-3-thione], M-00169
3,3′-Methylenebis[*N*,6-dihydroxybenzamide], M-00170
9,9′-[Methylenebis(6-hydroxy-3,1-phenylene)]bis-[2,6,7-trihydroxy-3*H*-xanthen-3-one], M-00172
5,5′-Methylenebis[8-quinolinol], M-00174
▷ Methylene green; Chloride, *in* M-00177
2,2′-(1-Methyl-1,2-ethanediylidene)bis[*N*-phenylhydrazinecarbothioamide], *in* P-00446
▷ 2-(1-Methylethylidene) hydrazinecarbothioamide, *in* A-00007
5-Methyl-2-furancarboxaldehyde 1-phthalazinylhydrazone, M-00180
5-(5-Methyl-2-furanyl)-2,4-pentadienal thiosemicarbazone, M-00181
3-(5-Methyl-2-furanyl)-2-propenal; Thiosemicarbazone, *in* M-00182
Methylglyoxal bis(4-hydroxybenzoylhydrazone), M-00183
Methylglyoxime, *in* P-00446
Methyl green; Bromide chloride, *in* M-00185
2-Methyl-5-hydroxyisoquinolinium betaine, M-00186
1-Methyl-6-hydroxyquinolinium betaine, M-00188
1-Methyl-8-hydroxyquinolinium betaine, M-00189
1-(2-Methylindol-3-ylacetyl)-4-(*p*-methoxyphenyl)thiosemicarbazide, M-00195
3-Methyl-6-(1-methylethyl)-2-(2-pyridinylazo)phenol, M-00197
5-Methyl-2-(1-methylethyl)-4-(2-pyridinylazo)phenol, M-00198
N-Methyl-*N*′-(4-methyl-5-nitro-2-thiazolyl) thiourea, *in* M-00208
4-Methyl-2-[[5-(1-methyl-2-piperidinyl)-2-pyridinyl]azo]phenol, M-00200
4-Methyl-6-[(5-methyl-2-pyridinyl)azo]-6-methyl-1,3-benzenediamine, M-00201
2-Methyl-4-[(4-methyl-2-thiazolyl)azo]-1,3-benzenediol, M-00202
4-Methyl-2-[[2-(methylthio)phenyl]azo] phenol, *in* M-00041
4-(6-Methyl-2-naphthalenyl)-4-oxo-2-butenoic acid, M-00204
3-Methylnioxime, *in* M-00156
▷ 4-Methylnioxime, *in* M-00157
2-Methyl-4-nitroso-1,3-benzenediol, M-00206
5-Methyl-2-nitrosophenol, M-00207
(4-Methyl-5-nitro-2-thiazolyl)thiourea, M-00208
▷ Methyl orange; Na salt, *in* M-00210
1-[(3-Methyl-5-oxo-1-phenyl-2-pyrazolin-4-yl)azo]anthraquinone, M-00215
▷ 4-Methyl-2-pentanone, M-00218
▷ *N*-[[(2-Methylphenyl)amino]thioxomethyl] benzamide, M-00223
5-[(4-Methylphenyl)azo]-8-quinolinol; 1-Oxide, *in* M-00224
N-(2-Methylphenyl)-*N*′-(4-chlorophenyl) benzamidine, M-00226
4-Methyl-5-phenyl-3*H*-1,2-dithiole-3-thione, M-00227
4-Methyl-6-[[2-(phenylmethoxy)-2-pyridinyl]azo]-1,3-benzenediamine, M-00232
1-[(4-Methylphenyl)methyl]-4,6-diphenyl-2(1*H*)-pyridinethione, M-00233
4-Methyl-2-[[2-[(phenylmethyl)thio]phenyl] azo]phenol, *in* M-00041
N-(4-Methylphenyl)-2-phenoxyacetohydroxamic acid, M-00235
N-(4-Methylphenyl)-*N*′-phenylbenzenecarboximidamide, M-00236
1-(4-Methylphenyl)-3-phenyl-5-(1-phthalazinyl)formazan, M-00238
2-[(3-Methyl-1-phenyl-4-pyrazolyl)azo]-4-nitrobenzenesulfonic acid, M-00240
2-Methyl-4-phenyl-6-(2-pyridinyl) pyrimidine, M-00241
P-Methylphosphonamidothioic acid; *O*-Ph ester, *in* M-00243
N-Methylpiperazinedithiocarbamic acid, *in* P-00238
4-[[3-(1-Methyl-2-piperidinyl)-4-pyridinyl] azo]-1,3-benzenediol, M-00248
4-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-1,3-benzenediol, M-00249
1-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-2-naphthalenol, M-00250
2-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-1-naphthalenol, M-00251
3-[(5-(1-Methyl-2-piperidinyl)-2-pyridinyl) azo]-2,6-pyridinediamine, M-00252
7-[[5-(1-Methyl-2-piperidinyl)-2-pyridinyl] azo]-8-quinolinol, M-00253
5-[[5-(1-Methyl-2-piperidinyl)-2-pyridyl] azo]-1-naphthalenesulfonic acid, M-00254
3-Methyl-5-propyl-2,6-dimercapto-4*H*-thiopyran-4-one, M-00258
2-[(3-Methyl-5-propyl-2-pyrrolidinyl)azo] phenol, M-00263
▷ 4-Methylpyridine, M-00265
6-Methyl-2-pyridinecarboxaldehyde 2-quinolinylhydrazone, M-00269
6-Methyl-2-pyridinecarboxaldehyde; Thiosemicarbazone, *in* M-00266
6-Methyl-2-pyridinecarboxamidoxime, *in* M-00271
6-Methyl-2-pyridinecarboximidic acid hydrazide, M-00270
2-Methyl-4-pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, M-00272
3-Methyl-2-pyridinethiol; *N*-Oxide, *in* M-00273
5-Methyl-2(1*H*)-pyridinethione; *N*-Oxide, *in* M-00275
6-Methyl-2(1*H*)-pyridinethione; *N*-Oxide, *in* M-00276
4-Methyl-6-(2-pyridinylazo)-1,3-benzenediamine, M-00277
5-Methyl-4-(2-pyridinylazo)-1,3-benzenediol, M-00280
1-[(5-Methyl-2-pyridinyl)azo]-2-naphthalenol, M-00281
1-[(6-Methyl-2-pyridinyl)azo]-2-naphthalenol; *N*-Oxide, *in* M-00282
4-Methyl-2-(2-pyridinylazo)phenol, M-00283
5-Methyl-2-(2-pyridinylazo)phenol, M-00284
4-Methyl-*N*-2-pyridinylbenzamide, M-00285
3-(6-Methyl-2-pyridinyl)-5,6-diphenyl-1,2,4-triazine, M-00286
3-[[(5-Methyl-2-pyridinyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, M-00287
3-(4-Methyl-2-pyridinyl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, M-00288
4-Methyl-2-[(2-pyridinylmethylene)amino] phenol, M-00289
5-[(6-Methyl-2-pyridinyl)methylene]-4-imidazolidinone; (*E*)-*form*, *in* M-00290
5-[(6-Methyl-2-pyridinyl)methylene]-2-thioxo-4-imidazolidinone, M-00291
3-(4-Methyl-2-pyridinyl)-5-phenyl-1,2,4-triazine, M-00292
3-(4-Methyl-2-pyridinyl)-5-phenyl-1,2,4-triazole, M-00293
3-(4-Methyl-2-pyridinyl)-1,2,4-triazine, M-00294
2-(4-Methyl-2-pyridyl)benzimidazole, M-00295
3-(4-Methyl-2-pyridyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, M-00296
3-(4-Methyl-2-pyridyl)-5,6-diphenyl-1,2,4-triazine, M-00298
2-(4-Methyl-2-pyridyl)-1*H*-imidazo[4,5-*f*][4,7]phenanthroline, M-00299
2-(4-Methyl-2-pyridyl)-1*H*-imidazo[4,5-*c*] pyridine, M-00300
2-(4-Methyl-2-pyridyl)-2*H*-imidazo[4,5-*h*] quinoline, M-00301
2-(4-Methyl-2-pyridyl)-5-phenylbenzimidazole, M-00302
3-(4-Methyl-2-pyridyl)-5-phenyl-6-(2-pyridyl)-1,2,4-triazine, M-00303
5-Methyl-2-(2-pyridyl)pyrimidine, M-00304
(4-Methyl-2-pyridyl)-1,2,4-triazino[5,6-*f*][4,7]-phenanthroline, M-00305
Methyl red; Na salt, *in* M-00309
4-Methyl-5-[(sulfomethyl)amino]-2-(2-thiazolylazo)benzoic acid, M-00310
N-Methyl-*N*-sulfopropylaniline; Na salt, *in* M-00311
N-Methyl-5,10,15,20-tetrakis(4-sulfophenyl) porphine, *in* P-00250
1-[(5-Methyl-1,3,4-thiadiazol-2-yl)azo]-2-naphthalenol, M-00313
4-Methyl-2-thiazolidinone; (±)-*form*, *in* M-00315

4-Methyl-2(3*H*)-thiazolone, M-00316
2-Methyl-4-(2-thiazolylazo)-1,3-benzenediamine, M-00317
4-[(4-Methyl-2-thiazolyl)azo]-1,3-benzenediol, M-00319
4-[(5-Methyl-2-thiazolyl)azo]-1,3-benzenediol, M-00320
2-(4-Methyl-2-thiazolylazo)-5-diethylaminobenzoic acid, *in* A-00258
1-[(4-Methyl-2-thiazolyl)azo]-2-naphthalenol, M-00322
4-Methyl-2-(2-thiazolylazo)phenol, M-00323
4-(Methylthio)-1,2-benzenediamine, M-00325
▷ Methylthioninium chloride, *in* M-00175
5-Methyl-2-thiophenecarboxaldehyde 2-benzothiazolylhydrazone, M-00326
6-Methylthiopicolinamide, *in* M-00271
Methylthymol blue, M-00327
2-Methyl-4-(1*H*-1,2,4-triazol-3-ylazo)-1,3-benzenediol, M-00328
2-(5-Methyl-1*H*-1,2,4-triazol-3-yl)pyridine, M-00329
Methyltriphenylarsonium(1+); Chloride, *in* M-00334
Methyltriphenylarsonium(1+); Thiocyanate, *in* M-00334
▷ Methyl violet, M-00336
Methyl xylenol blue; Na salt, *in* M-00337
▷ Metol, *in* A-00302
Moonion A-9Q-08, *in* B-00181
▷ 4-Morpholinecarbodithioic acid, M-00345
4-(*N*-Morpholinophenyl)fluorone, M-00349
Murexide, *in* P-00281
1-Naphthalenecarbodithioic acid; Me_4N salt, *in* N-00002
2-Naphthalenecarboxaldehyde 2-benzothiazolylhydrazone, N-00004
1,8-Naphthalenediol, N-00009
▷ 2,3-Naphthalenediol, N-00010
1,8-Naphthalenedithiol, N-00012
Naphthalene green; Chloride, *in* N-00013
1-Naphthalenethiocarboxhydrazide, N-00016
5-(1-Naphthalenylazo)-8-quinolinol; N^1-Oxide, *in* N-00017
Naphthochrome green G; Di-Na salt, *in* N-00023
▷ 1-Naphthol, N-00025
▷ 2-Naphthol, N-00026
Naphthol black 3B; Tetra-Na salt, *in* N-00028
1,2-Naphthoquinone-4-sulfonic acid; Dioxime, *in* N-00033
Naphtho[2,3-*c*][1,2,5]selenadiazole, N-00038
1*H*-Naphtho[2,3-*d*]triazole, N-00039
N-1-Naphthylacetamide, *in* N-00041
▷ 1-Naphthylamine, N-00041
Naphthylazoxine 4,8S, N-00044
Naphthylazoxine 5S, N-00045
▷ *N*-(1-Naphthyl)ethylenediamine, N-00050
(1-Naphthylmethyl) triphenylphosphonium(1+); Chloride, *in* N-00052
N-1-Naphthylphenylacetohydroxamic acid, N-00054
Neocuprizone, N-00062
Neotetrazolium(2+); Dichloride, *in* N-00063
▷ Nepresol, *in* D-00370
Nevazol NS, N-00067
Niconoxime, *in* C-00346
Nile blue A; Chloride, *in* N-00069
Nioxime, *in* C-00337
o-Nitral green; Chloride, *in* N-00072
▷ Nitrilotriacetic acid, N-00074
3,3′,3″-[Nitrilotris(4,1-phenyleneazo)]tris[6-hydroxybenzoic acid], N-00075
5-Nitro-1,2-acenaphthylenedione; Dioxime, *in* N-00076
▷ 4-Nitroaniline, N-00077
Nitroanthranilazo, N-00079
4-Nitrobenzenediazonium(1+); Tetrafluoroborate, *in* N-00084
▷ 4-Nitro-1,2-benzenediol, N-00087
p-Nitrobenzohydroxamic acid, *in* N-00093
4-Nitrobenzoic acid [(2-hydroxyphenyl) methylene]hydrazide, N-00094
4-Nitrobenzoic acid [1-[2-(4-nitrophenyl) hydrazino]ethylidene]hydrazide, N-00095
Nitrobromoarsenazo; Di-Na salt, *in* N-00101
Nitrochromopyrazole, N-00103
▷ 2′-Nitrodiphenylamine-2-carboxylic acid, N-00106
6-Nitro-2,3-di-2-pyridylquinoxaline, N-00107
3-(5-Nitro-2-furanyl)-2-propenal; Thiosemicarbazone, *in* N-00110
▷ Nitrofurazone, *in* N-00109
1-(4-Nitro-2-hydroxybenzeneazo)-2-(β-acetylhydrazino)naphthalene, N-00111
2-Nitro-1,3-indanedione, N-00112
Nitron, N-00114
4-[(4-Nitrophenyl)azo]-1,2-benzenediol, N-00122
4-[(4-Nitrophenyl)azo]-1,2,3-benzenetriol, N-00124
3-[(4-Nitrophenyl)azo]-2,7-naphthalenedisulfonic acid, N-00125
19-[(4-Nitrophenyl)azo]-3,6,9,12,15-pentaoxabicyclo[15,3,1]heneicosa-1(21),17,19-trien-21-ol, N-00127
5-[(4-Nitrophenyl)azo]-8-quinolinol; 1-Oxide, *in* N-00129
5-[(4-Nitrophenyl)azo]-4-thioxo-2-selenazolidinone, N-00131
5-[(4-Nitrophenyl)azo]-2-thioxo-4-thiazolidinone, N-00132
(4-Nitrophenyl)diazenecarboxylic acid 2-phenylhydrazide, N-00133
2-(4-Nitrophenyl)-3,5-diphenyl-2*H*-tetrazolium(1+); Chloride, *in* N-00134
4-[(4-Nitrophenyl)methyl]pyridine, N-00139
1-(4-Nitrophenyl)-5-phenylcarbazone, N-00141
(4-Nitrophenyl)phenylethanedione; Dioxime, *in* N-00142
1-(4-Nitrophenyl)-3-phenyl-5-(1-phthalazinyl)formazan, N-00143
4-[3-(4-Nitrophenyl)-1-triazenyl] benzenesulfonic acid; Na salt, *in* N-00145
4-[[4-[3-(4-Nitrophenyl)-2-triazenyl]phenyl] azo]benzenesulfonic acid; Na salt, *in* N-00146
Nitrophosphonazo-mA, N-00147
2-[(5-Nitro-2-pyridinyl)azo]-1-naphthalenol, N-00148
1-(5-Nitro-2-pyridinyl)-3,5-diphenylformazan, N-00149
3-[[(5-Nitro-2-pyridinyl)hydrazono]-3-isoquinolinylmethyl]benzenesulfonic acid, N-00150
3-[[(5-Nitro-2-pyridinyl)hydrazono]-2-pyridinylmethyl]benzenesulfonic acid, N-00151
3-[[(5-Nitro-2-pyridinyl)hydrazono]-2-thiazolylmethyl]benzenesulfonic acid, N-00152
▷ 5-Nitro-2,4,6(1*H*,3*H*,5*H*)-pyrimidinetrione, N-00153
▷ 4-Nitroso-1,3-benzenediol, N-00156
▷ 4-Nitrosodiphenylamine, N-00157
7-Nitroso-8-hydroxyquinoline, N-00158
1-Nitroso-2,7-naphthalenediol, N-00159
▷ 1-Nitroso-2-naphthol, N-00160
▷ 2-Nitroso-1-naphthol, N-00161
▷ Nitroso R salt, *in* H-00414
Nitro TB, *in* N-00164
4-[(5-Nitro-2-thiazolyl)azo]-1,3-benzenediol, N-00165
2-[(5-Nitro-2-thiazolyl)azo]phenol, N-00166
Nitroxaminazo, N-00167
N′-(3-Chloro-4-methylphenyl)-*N*-(4-chlorophenyl)-*N*-hydroxybenzenecarboximidamide, N-00170
1,3,4,7,8,10,11,13-Octahydro-6*H*-2,5,9,12-benzotetrathiacyclopentadecine, O-00009
7,8,9,10,17,18,19,20-Octahydrodibenzo[*e*,*o*][1,4,8,13] tetraazacyclohexadecine, O-00018
2,3,5,6,8,9,11,12-Octahydro-16-nitro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, O-00030
2,3,5,6,8,9,11,12-Octahydro-*N*-(2,4,6-trinitrophenyl)-1,4,7,10,13-benzopentaoxacyclopentadecin-15-amine, O-00031
1,3,4,7,8,10,11,13-Octahydro-*N*-(2,4,6-trinitrophenyl)-6*H*-2,5,9,12-benzotetrathiacyclopentadecin-15-amine, O-00032
2,4,5,7-Octanetetrone, O-00035
OP 7, O-00041
▷ Orotic acid, O-00045
Orthanil A, O-00046
Orthanil B, O-00047
▷ Oxalic acid, O-00048
Oxamide bisphenylhydrazone, O-00050
Oxamidoxime, *in* O-00048
▷ 1,4-Oxathiane, O-00051
2-(2-Oxo-1(2*H*)-acenaphthylenylidene) hydrazinecarbothioamide, *in* A-00001
3-Oxo-*N*-phenylbutanethioamide, O-00065
▷ 2-(1-Oxopropyl)-1*H*-indene-1,3(2*H*)-dione, O-00071
3-[(4-Oxo-2-thioxo-5-thiazolidinyl)azo] benzenesulfonic acid, O-00075
▷ Pachycarpine, *in* S-00023
Palladiazo, P-00002
Pallatriazo, P-00003
Panacryl brilliant red; Chloride, *in* P-00004
▷ Papaverine, P-00005
▷ 5,5′-(1,3-Pentadien-1-yl-5-ylidene) dibarbituric acid, P-00009
3,3′,4′,5,7-Pentahydroxyflavanone; (2*R*,3*R*)-*form*, *in* P-00023
▷ 2′,3,4′,5,7-Pentahydroxyflavone, P-00024
▷ 3,3′,4′,5′,7-Pentahydroxyflavone, P-00026
2,3-Pentanedione bis[*p*-methoxy(thiobenzoyl)hydrazone], P-00031
2,4-Pentanedione; *Oxo-form*, Dioxime, *in* P-00030
2,3,4-Pentanetrione; 3-Oxime, *in* P-00033
2,3,4-Pentanetrione; Trioxime, *in* P-00033
4,7,13,16,21-Pentaoxa-1,10-diazabicyclo[8.8.5]tricosane, P-00037
2,5,8,11,14-Pentaoxapentadecane, *in* T-00043
▷ Pentetic acid, P-00039
▷ Perazine, P-00043
Perazine; Maleate (1:2), *in* P-00043
▷ Pericyazine, P-00044
▷ Perphenazine, P-00046
9,10-Phenanthraquinone; Dioxime, mono-Me ether, *in* P-00047
9,10-Phenanthraquinone; Monothiosemicarbazone, *in* P-00047
9,10-Phenanthraquinone; Monoxime, *in* P-00047
6-Phenanthridinecarboxaldehyde 2-pyridylhydrazone, P-00050
▷ 1,10-Phenanthroline, P-00052
1,10-Phenanthroline-2-carboximidic acid hydrazide, P-00053
3-(1,10-Phenanthrolin-2-yl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, P-00056
3-[(1,10-Phenanthrolin-2-yl)]-5-phenyl-1,2,4-triazoline, P-00057
2-(1,10-Phenanthrolyl)amidoxime, P-00058
Phenazo, P-00059
▷ Phenol, P-00060
o-Phenolazothiohydantoin, P-00061
▷ Phenolphthalein, P-00063
Phenoltetrabromosulfonephthalein, P-00065
Phenosafrazo blue, P-00071
10*H*-Phenoselenazine, P-00072
▷ Phenothiazine, P-00073
2-Phenoxathiincarboxaldehyde; Oxime, *in* P-00074

3,3′-[3-[(Phenylamino)carbonyl]-1,5-formazandiyl]bis[4-chlorobenzenesulfonic acid]; Di-K salt, *in* P-00080
1-[[(Phenylamino)carbonyl]oxy]-2,5-pyrrolidinedione, P-00081
4-[[4-(Phenylamino)phenyl]azo] benzenesulfonic acid; Na salt, *in* P-00084
▷ 5-(Phenylamino)-1,3,4-thiadiazole-2(3*H*)-thione, P-00087
N-[(Phenylamino)thioxomethyl] benzenecarbothioamide, P-00088
(Phenylazo)benzaldoxime, P-00091
4-(Phenylazo)-1,2,3-benzenetriol, P-00092
1-Phenylazo-2-hydroxy-3-naphthylhydroxamic acid, *in* H-00452
▷ 1-[[4-(Phenylazo)phenyl]azo]-2-naphthalenol, P-00095
5-[[4-(Phenylazo)phenyl]azo]-2-thioxo-4-thiazolidinone, P-00096
2-[3-[4-(Phenylazo)phenyl]-1-triazenyl] phenol, P-00098
[2-[3-[4-(Phenylazo)phenyl]-1-triazenyl] phenyl]arsonic acid, P-00099
5-Phenylazo-8-quinolinol; *N*-Oxide, *in* P-00100
Phenylazoxine S, P-00101
9-Phenylbenzo(1,2)quinolizino[3,4,5,6-*def*] phenanthridinium(1+); Perchlorate, *in* P-00105
4-Phenyl-3,6-bis(4-phenyl-2-pyridyl) pyridazine, P-00106
1-Phenyl-1,3-butanedione 3-[[6-phenyl-4-(phenylmethyl)-3-pyridazinyl] hydrazone], P-00108
1-Phenyl-1,2,3-butanetrione; 2-Oxime, *in* P-00109
N-Phenylcrotonohydroxamic acid, *in* H-00143
2-Phenyl-4,6-di-2-pyridinylpyrimidine, P-00113
5-Phenyl-3,6-di-2-pyridyl-1,2,4-triazine, P-00114
1-Phenyl-2,4-dithiobiuret, *in* T-00163
9,9′-(1,3-Phenylene)bis[2,6,7-trihydroxy-3*H*-xanthen-3-one], P-00124
9,9′-(1,4-Phenylene)bis[2,6,7-trihydroxy-3*H*-xanthen-3-one], P-00125
1-Phenyl-1,2-ethanedione 2-(2-pyrazinyl) hydrazone, P-00128
3-Phenyl-5-(2-furyl)-1-pyrazolinedithiocarbamic acid; Na salt, *in* P-00131
Phenylglyoxal, P-00132
Phenylglyoxal; Mono(2-pyridyl)hydrazone, *in* P-00132
Phenylglyoxime, P-00133
▷ Phenylhydrazine, P-00134
1,1′-(Phenylimino)bis-2-propanol, P-00136
4-Phenyl-2-mercaptoimidazole, P-00140
N-Phenylmethyl[[(4-chlorophenyl)amino] thioxomethyl]-*N*′-phenylcarbamimidothioate, P-00145
3-[(Phenylmethylene)amino]-2-thioxo-4-thiazolidinone, P-00146
4,4′-(Phenylmethylene)bis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], P-00147
5-Phenylmethylene-2-thioxo-4-thiazolidinone, P-00148
4-(Phenylmethyl)-6-(2-pyridinylazo)-1,3-benzenediol, P-00149
2-Phenyl-4*H*-naphtho[1,2-*b*]pyran-4-one, P-00150
[Phenyl(phenylamino)]methylphosphonic acid; Mono-octyl ester, *in* P-00155
N-Phenyl-4-(phenylazo)benzohydroxamic acid, P-00156
Phenyl[5-phenyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazin-6-yl]methanone, P-00157
5-Phenyl-3-(4-phenyl-2-pyridinyl)-1,2,4-triazine, P-00158
5-Phenyl-2-(4-phenyl-2-pyridyl) benzimidazole, P-00159
5-Phenyl-3-(4-phenyl-2-pyridyl)-6-(2-pyridyl)-1,2,4-triazine, P-00160
5-Phenyl-3-(4-phenyl-2-pyridyl)-1,2,4-triazoline, P-00161
4-Phenyl-2-(5-phenyl-1,2,4-triazol-3-yl) pyridine, P-00162
3-Phenyl-1-(1-phthalazinyl)-5-(*p*-carboxyphenyl)formazan, P-00165
4,4′,4″-(20-Phenyl-21*H*,23*H*-porphine-5,10,15-triyl)trisbenzenesulfonic acid, P-00166
▷ 3-Phenyl-2-propenal; (*E*)-*form*, Thiosemicarbazone, *in* P-00168
▷ 3-Phenyl-2-propenoic acid, P-00169
5-(3-Phenyl-2-propenylidene)-2-thioxo-4-thiazolidinone, P-00171
N-Phenyl-2-pyridinecarboximidic acid (oxodiphenylethylidene)hydrazide, P-00174
N-Phenyl-2-pyridinecarboximidic acid (oxodi-2-pyridinylethylidene)hydrazide, P-00175
3-(4-Phenyl-2-pyridinyl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, P-00176
▷ *N*-Phenyl-*N*′-pyridinylthiourea, P-00177
2-(4-Phenyl-2-pyridyl)benzimidazole, P-00178
5-Phenyl-2-(2-pyridyl)benzimidazole, P-00179
3-(4-Phenyl-2-pyridyl)-5,6-di-2-pyridyl-1,2,4-triazine, P-00180
2-(4-Phenyl-2-pyridyl)-1*H*-imidazo[4,5-*f*][4,7]phenanthroline, P-00182
2-(4-Phenyl-2-pyridyl)-1*H*-imidazo[4,5-*c*] pyridine, P-00183
2-(4-Phenyl-2-pyridyl)-3*H*-imidazo[4,5-*h*] quinoline, P-00184
3-(4-Phenyl-2-pyridyl)-5-(2-pyridyl)-1,2,4-triazoline, P-00185
4-Phenyl-2-(2-pyridyl)pyrimidine, P-00186
4-Phenyl-6-(2-pyridyl)pyrimidine, P-00187
5-Phenyl-2-(2-pyridyl)pyrimidine, P-00188
▷ 2-Phenyl-4-quinolinecarboxylic acid, P-00189
1-Phenyl-3-(selenophen-2-yl)-1,3-propanedione, P-00190
(Phenylsulfonyl)carbonimidodithioic acid; Di-K salt, *in* P-00195
▷ 1-Phenylthiosemicarbazide, P-00199
▷ 4-Phenylthiosemicarbazide, P-00200
▷ Phenylthiourea, P-00201
1-Phenyl-3-thioxo-1-butanone, P-00202
4-Phenyl-4-thioxo-2-butanone, P-00203
6-Phenyl-1,2,4-triazine-3(2*H*)-thione, P-00205
6-(5-Phenyl-1,2,4-triazin-3-yl)-2,2′-bipyridine, P-00206
2-(5-Phenyl-1,2,4-triazin-3-yl)-1,10-phenanthroline, P-00207
2-(5-Phenyl-1*H*-1,2,4-triazol-3-yl)pyridine, P-00208
2-Phenyl-1-(2,4,6-trihydroxyphenyl) ethanone, P-00209
1-(1-Phthalazinyl)-3,5-diphenylformazan, P-00219
Phthalein violet, P-00220
Phthalexon S, P-00221
Phthalimide; Dithiosemicarbazone, *in* P-00223
Phthalocyaninetetrasulfonic acid; Tetra-Na salt, *in* P-00231
Picramine K, P-00232
Picramine M, P-00233
Picriminazosulfoxine, P-00234
▷ Picrolonic acid, P-00235
1,4-Piperazinedicarbodithioic acid, P-00239
7-(1-Piperidinylmethyl)-8-quinolinol; B,HCl, *in* P-00243
▷ Polyethylene glycol, P-00247
Polyoxyethylenedecylamine, P-00248
4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakisbenzenesulfonic acid, P-00250
4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakisbenzoic acid, P-00251
4,4′,4″,4‴-(21*H*,23*H*-Porphine-5,10,15,20-tetrayl)tetrakis[1-methylpyridinium]; Tetrakis(*p*-toluenesulfonate), *in* P-00252
▷ Prochlorperazine, P-00256
▷ Promazine, P-00258
Propanedioic acid; Dihydrazide, *in* P-00261
Propanoic acid 2-[1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenyl] hydrazide, P-00264
8-(2-Propenylthio)-5-quinolinesulfonic acid, *in* M-00057
5,5′-(1-Propen-1-yl-3-ylidene)bis[2-thiobarbituric acid], P-00273
▷ 2-Propylamine, P-00274
▷ Propyl gallate, *in* T-00277
4,4′-(Propylmethylene)bis[1,2-dihydro-1,5-dimethyl-2-phenyl-3*H*-pyrazole-3-thione], P-00279
▷ Protriptyline hydrochloride, *in* P-00280
▷ Purpurogallin, P-00282
Pyrazine; B, MeI, *in* P-00283
▷ Pyrazinecarboxamide, *in* P-00285
Pyrazinecarboximidic acid hydrazide, P-00284
2,3-Pyrazinedicarboxylic acid, P-00286
2(1*H*)-Pyrazinone (1,2-dipyrazinylethylidene)hydrazone, P-00287
2(1*H*)-Pyrazinone (1,2-di-2-pyridinylethylidene)hydrazone, P-00288
2(1*H*)-Pyrazinone (di-2-pyridinylmethylene) hydrazone, P-00289
2(1*H*)-Pyrazinone (phenylpyrazinylmethylene)hydrazone, P-00290
2(1*H*)-Pyrazinone [1-pyrazinyl-2-(2-pyridinyl)ethylidene]hydrazone, P-00291
2(1*H*)-Pyrazinone [2-pyrazinyl-1-(2-pyridinyl)ethylidene]hydrazone, P-00292
2(1*H*)-Pyrazinone [1-(3-pyridazinyl) ethylidene]hydrazone, P-00293
2(1*H*)-Pyrazinone [1-(2-pyridinyl)-2-(4-pyrimidinyl)ethylidene]hydrazone, P-00294
2(1*H*)-Pyrazinone [2-(2-pyridinyl)-1-(4-pyrimidinyl)ethylidene]hydrazone, P-00295
2-(Pyrazinyl)benzimidazole, P-00296
3-Pyrazinyl-5,6-di-2-pyridyl-1,2,4-triazine, P-00297
Pyrazinyl-2-pyridinylethanedione 2-(2-pyridinylhydrazone) 1-oxime, P-00298
2-Pyrazinyl-1-(2-pyridinyl)ethanone 2-pyrimidinylhydrazone, P-00300
2-Pyrazinyl-1-(2-pyridinyl)ethanone; 2-Thiazolylhydrazone, *in* P-00299
3-(Pyrazinyl)-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, P-00301
1*H*-Pyrazolo[3,4-*d*]pyrimidine-4,6(5*H*,7*H*)-dione, P-00302
1-(1*H*-Pyrazol-3-ylazo)-2-naphthalenol, P-00303
2-(3-Pyridazinyl)benzimidazole, P-00312
3-(3-Pyridazyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, P-00313
3-Pyridazylhydrazidine, P-00314
3-(3-Pyridazyl)-1,2,4-triazino[5,6-*f*][4,7] phenanthroline, P-00315
2-Pyridinecarboxaldehyde (5-chloro-2-pyridinyl)hydrzazone, P-00322
2-Pyridinecarboxaldehyde diphenylsemicarbazone, P-00323
2-Pyridinecarboxaldehyde guanylhydrazone, P-00325
3-Pyridinecarboxaldehyde; Hydrazide, *in* P-00319
2-Pyridinecarboxaldehyde (1-mercapto-2-naphthalenyl)hydrazone, P-00327
2-Pyridinecarboxaldehyde (5-methyl-2-pyridinyl)hydrazone, P-00328
2-Pyridinecarboxaldehyde (5-nitro-2-pyridinyl)hydrazone, P-00330
2-Pyridinecarboxaldehyde phenylthiosemicarbazone, P-00331
2-Pyridinecarboxaldehyde 1-phthalazinylhydrazone, P-00332
2-Pyridinecarboxaldehyde 2-pyrazinylhydrazone, P-00333
2-Pyridinecarboxaldehyde (2-pyridinylmethylene)hydrazone, P-00334
2-Pyridinecarboxaldehyde 2-pyridylhydrazone; (*E*)-*form*, *in* P-00335

2-Pyridinecarboxaldehyde 2-quinolinylhydrazone, P-00337
2-Pyridinecarboxaldehyde 3-quinolinylhydrazone, P-00338
2-Pyridinecarboxaldehyde 8-quinolinylhydrazone, P-00339
2-Pyridinecarboxaldehyde; Selenosemicarbazone, *in* P-00318
2-Pyridinecarboxaldehyde 2-thiazolylhydrazone, P-00340
▷ 3-Pyridinecarboxylic acid, P-00343
2-Pyridinecarboxylic acid; Hydrazide, *in* P-00342
4-Pyridinecarboxylic acid [(2-hydroxy-1-naphthalenyl)methylene]hydrazide, P-00347
2-Pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, P-00348
3-Pyridinecarboxylic acid [(2-hydroxyphenyl)methylene]hydrazide, P-00349
4-Pyridinecarboxylic acid [(4-hydroxyphenyl)methylene]hydrazide, P-00350
2,6-Pyridinediacetoxime, *in* P-00352
2,6-Pyridinediamidoxime, *in* P-00353
2,6-Pyridinedicarboxylic acid, P-00353
▷ Pyridine *N*-oxide, P-00356
▷ 2(1*H*)-Pyridinethione, P-00357
2(1*H*)-Pyridinone (1,2-dipyrazinylethylidene)hydrazone, P-00358
2(1*H*)-Pyridinone [2-phenyl-1-(2-pyridinyl)ethylidene]hydrazone, P-00365
2(1*H*)-Pyridinone (1-pyrazinylethylidene)hydrazone, P-00366
2(1*H*)-Pyridinone [1-pyrazinyl-2-(2-pyridinyl)ethylidene]hydrazone, P-00367
2(1*H*)-Pyridinone [2-pyrazinyl-1-(2-pyridinyl)ethylidene]hydrazone, P-00368
2(1*H*)-Pyridinone [1-(3-pyridazinyl)ethylidene]hydrazone, P-00369
2(1*H*)-Pyridinone [1-(2-pyridinyl)-2-(4-pyrimidinyl)ethylidene]hydrazone, P-00370
2(1*H*)-Pyridinone [2-(2-pyridinyl)-1-(4-pyrimidinyl)ethylidene]hydrazone, P-00371
4-(2-Pyridinylazo)-1,3-benzenediamine, P-00372
4-(2-Pyridinylazo)-1,3-benzenediol, P-00373
1-(2-Pyridinylazo)-2-naphthalenol, P-00374
2-(2-Pyridinylazo)-1-naphthalenol, P-00375
4-(2-Pyridinylazo)-1-naphthalenol, P-00376
1-(2-Pyridinylazo)-2-phenanthrenol, P-00377
10-(2-Pyridinylazo)-9-phenanthrenol, P-00378
3-(2-Pyridinylazo)-2,6-pyridinediamine, P-00379
N-2-Pyridinylbenzenecarbothioamide, P-00383
N-2-Pyridinylbenzenecarboximidic acid (oxodi-2-pyridinylethylidene)hydrazide, P-00384
3-(2-Pyridinylcarbonyl)benzenesulfonic acid; Benzoylhydrazone, *in* P-00386
3-(2-Pyridinylcarbonyl)benzenesulfonic acid; Phenylthiosemicarbazone, *in* P-00386
3-(2-Pyridinyl)-5,6-diphenyl-1,2,4-triazine, P-00388
5-[1-(2-Pyridinyl)ethylidene]-2-thioxo-4-imidazolidinone; (*E*)-*form*, *in* P-00389
N-2-Pyridinyl-2-furancarboxamide, P-00390
3-[(2-Pyridinylmethylene)amino]-[1,1′-biphenyl]-4-ol, P-00391
1-[(2-Pyridinylmethylene)amino]-2-naphthalenol, P-00392
2-[(2-Pyridinylmethylene)amino]phenol, P-00393
N-(2-Pyridinylmethylene)benzenamine, P-00394
▷ 2-(3-Pyridinylmethylene) hydrazinecarbothioamide, *in* P-00319
N-(2-Pyridinylmethylene)-1-naphthalenamine, P-00395
N-(2-Pyridinylmethylene)-2-pyridinamine, P-00396
N-(2-Pyridinylmethylene)-8-quinolinamine, P-00397
5-(2-Pyridinylmethylene)-2-thioxo-4-imidazolidinone; (*E*)-*form*, *in* P-00398
N-2-Pyridinyl-2-pyridinecarboximidic acid (oxodiphenylethylidene)hydrazide, P-00400
N-2-Pyridinyl-2-pyridinecarboximidic acid (oxodi-2-pyridinylethylidene)hydrazide, P-00401
N-2-Pyridinyl-2-pyridinecarboximidic acid 2-pyrazinylhydrazide, P-00402
1-(2-Pyridinyl)-2-(3-pyridinyl)ethanone 2-thiazolylhydrazone, P-00403
2-Pyridinyl-4-pyrimidinylethanedione 1-(2-pyridinylhydrazone); 2-Oxime, *in* P-00404
1-(2-Pyridinyl)-2-(2-pyrimidinyl)ethanone 2-pyrimidinylhydrazone, P-00406
1-(2-Pyridinyl)-2-(2-pyrimidinyl)ethanone; 2-Thiazolylhydrazone, *in* P-00405
3-(2-Pyridinyl)-1,3,4-thiazolidine-2,5-dithione, P-00407
2-Pyridinylthiourea, P-00410
3-(2-Pyridinyl)-1,2,4-triazine, P-00411
Pyridoin phenylhydrazone, P-00413
Pyridoxal; Salicyloylhydrazone, *in* P-00414
1-(2-Pyridyl)-1-hexanone; Oxime, *in* P-00418
2-(2-Pyridyl)-1*H*-imidazo[4,5-*f*][4,7]phenanthroline, P-00419
2-(2-Pyridyl)-1*H*-imidazo[4,5-*c*]pyridine, P-00420
2-(2-Pyridyl)-3*H*-imidazo[4,5-*h*]quinoline, P-00421
Pyridylpyridinium(1+); Chloride, *in* P-00422
2-(2-Pyridyl)quinazoline, P-00423
2-(2-Pyridyl)-5,6,7,8-tetrahydroquinazoline, *in* P-00423
2-Pyridyl-2-thienyl-β-ketoxime, *in* P-00408
2-Pyridyl-1,2,4-triazino[5,6-*f*][4,7]phenanthroline, P-00425
2-Pyrimidinecarboximidic acid hydrazide, P-00426
4-Pyrimidinecarboximidic acid hydrazide, P-00427
▷ 2,4,5,6(1*H*,3*H*)-Pyrimidinetetrone 5-oxime, P-00428
▷ 2,4,6(1*H*,3*H*,5*H*)-Pyrimidinetrione, P-00429
2-(2-Pyrimidinylazo)-1-naphthalenol, P-00430
2-(2-Pyrimidinyl)benzimidazole, P-00431
Pyrocatecholsulfonephthalein complexan, P-00432
Pyrocatechol violet, P-00433
Pyrogallol red, P-00434
▷ Pyronine G; Chloride, *in* P-00435
▷ Pyrrole, P-00436
1*H*-Pyrrole-2-carboxaldehyde 8-quinolinylhydrazone, P-00438
2-Pyrrolethiocarboxhydrazide, *in* P-00437
▷ 2,5-Pyrrolidinedione, P-00442
5-(1*H*-Pyrrol-2-ylmethylene)-2-thioxo-4-thiazolidinone, P-00445
Pyruvaldehyde 1-(2-benzothiazolylhydrazone), P-00447
▷ Quinine, Q-00005
▷ Quinoline, Q-00007
4-Quinolinecarbodithioic acid, Q-00008
2-Quinolinecarboxaldehyde; Oxime, *in* Q-00009
2-Quinolinecarboxaldehyde 1-phthalazinylhydrazone, Q-00011
2-Quinolinecarboxaldehyde 2-quinolinylhydrazone, Q-00014
2-Quinolinecarboxaldehyde 8-quinolinylhydrazone, Q-00015
2-Quinolinecarboxaldehyde 2-thiazolylhydrazone, Q-00016
2-Quinolinecarboxamide, *in* Q-00017
8-Quinolinecarboxylic acid, Q-00018
2-Quinolinecarboxylic acid; *N*-Oxide, *in* Q-00017
5,8-Quinolinedione; Dioxime, *in* Q-00019
8-Quinolinethiol, Q-00021
2,3,4(1*H*)-Quinolinetrione; 3-Oxime, *in* Q-00022
2(1*H*)-Quinolinone (phenyl-2-pyridinylmethylene)hydrazone, Q-00024
2(1*H*)-Quinolinone [1-(2-pyridinyl)ethylidene]hydrazone, Q-00025
2-(2-Quinolinylazo)-1-acenaphthylenol, Q-00027
5-(2-Quinolinylazo)-1,2,4-benzenetriol, Q-00028
1-(2-Quinolinylazo)-2-naphthalenol, Q-00029
2-(2-Quinolinylazo)-1-naphthalenol, Q-00030
1-(2-Quinolinylazo)-2-phenanthrenol, Q-00031
4-(2-Quinolinylazo)phenol, Q-00032
5-(8-Quinolinylazo)-2,4-thiazolidinedithione, Q-00033
5-(8-Quinolinylazo)-2-thioxo-4-thiazolidinone, Q-00034
α-(2-Quinolinylhydrazono) benzenepropanoic acid, Q-00035
2-(2-Quinolyl)benzimidazole, Q-00037
3-(2-Quinolyl)-5,6-bis(2-pyridyl)-1,2,4-triazine, Q-00038
3-(2-Quinolyl)-5,6-diphenyl-1,2,4-triazine, Q-00039
H-Resorcine, R-00001
Rhodamine B, *in* R-00002
▷ Rhodamine 590; Chloride, *in* R-00003
Rhodamine 4G, *in* R-00005
Rhodamine G; Chloride, *in* R-00005
Rhodamine S; Chloride, *in* R-00006
Rhoduline violet; Chloride, *in* R-00007
▷ Rivanol, *in* D-00094
Rose bengal A; Di-Na salt, *in* R-00011
▷ Rutin, R-00014
Salicylaldehyde benzoylhydrazone, *in* H-00101
Salicylamidoxime, *in* H-00112
Salicylhydroxamic acid, *in* H-00112
5-Salicylidene-1-acetyl-2-thioimidazole, *in* H-00485
▷ Salicyloyl hydrazide, *in* H-00112
Salinazid, S-00003
Sarcosine cresol red, S-00004
1-(2-Selenophenyl)-3-(2-thienyl)-1,3-propanedione, S-00008
▷ Selenourea, S-00009
Semimethyl thymol blue, S-00011
Semimethylxylenol blue, S-00012
Semiphthalexon S; Di-Na salt, *in* S-00013
Semixylenol orange, S-00014
Septonex, *in* E-00061
SKF 6270, *in* M-00069
Sodium diethyldithiocarbamate, *in* D-00344
Solochrome azurine BS, S-00016
▷ Solochrome black 6BN; Na salt, *in* S-00017
Solochrome black PV; Na salt, *in* S-00018
Solochrome fast grey RA, S-00019
Solochrome fast red; Na salt, *in* S-00020
▷ Solochrome red B; Tri-Na salt, *in* S-00021
Solochrome red ERS, S-00022
▷ D-Sorbitol, *in* G-00010
Stilbazochrome, S-00028
Stilbazo; Di-NH_4 salt, *in* S-00027
Stilbazogall I, S-00029
Stilbazogall II, S-00030
Stilbazokhimdu, S-00031
▷ Strychnine, S-00033
▷ Sulfanilamide, *in* A-00100
Sulfarsazen; Na salt, *in* S-00038
Sulfochlorophenol K, S-00041
Sulfochlorophenol M, S-00042
Sulfochlorophenol N, S-00043
Sulfochlorophenol R, S-00044
Sulfochlorophenol S, S-00045
Sulfochrome; Di-NH_4 salt, *in* S-00046
Sulfonazo, S-00048
Sulfonitrazo, S-00050
Sulfonitrophenol K, S-00051
Sulfonitrophenol M, S-00052
Sulfonitrophenol R, S-00053

Sulfonitrophenol S, S-00054
N-(4-Sulfophenyl)-2-aminobenzoic acid, S-00056
Sulf-R-azo, *in* H-00543
▷ Tentone, *in* M-00070
2,2′:6′,2″-Terpyridine, T-00005
▷ 3,3′,4,4′-Tetraaminobiphenyl, T-00007
▷ Tetrabromo-1,2-benzenediol, T-00012
2,4,5,7-Tetrabromo-1,8-dihydroxyanthraquinone, T-00015
2-(2,4,5,7-Tetrabromo-6-hydroxy-3-oxo-3*H*-xanthen-9-yl)benzoic acid ethyl ester, *in* E-00007
▷ Tetrachloro-1,4-benzoquinone, T-00025
2,2′,3,3′-Tetrachlorodithizone, T-00029
2,2′,4,4′-Tetrachlorodithizone, T-00030
2,2′,5,5′-Tetrachlorodithizone, T-00031
2,2′,6,6′-Tetrachlorodithizone, T-00032
3,3′,4,4′-Tetrachlorodithizone, T-00033
3,3′,5,5′-Tetrachlorodithizone, T-00034
Tetrachlorogallein, T-00035
▷ Tetracyanoquinodimethane, T-00038
Tetraethylenepentaminehеptaacetic acid; Tetra-Na salt, *in* T-00045
1,2,3,4-Tetrahydrobenzo[*h*]quinolin-3-ol, T-00051
2,2′,3,3′-Tetrahydro-2,2′-bibenzothiazole, T-00052
5,6,7,8-Tetrahydro-2,4-bis(2-pyridyl) quinazoline, T-00054
8,9,17,18-Tetrahydro-7*H*-dibenzo[*e*,*n*][1,4,8,12]-dioxadiazacyclopentadecine, T-00055
▷ Tetrahydro-2,5-dimethoxyfuran, T-00059
2-[(Tetrahydro-2,4-dithioxo-2*H*-1,3-thiazin-5-yl)azo]benzoic acid, T-00060
O-[(Tetrahydro-2-furanyl)methyl] carbonodithioate; K salt, *in* T-00062
1,2,3,4-Tetrahydro-1-hydroxyiminophenazine, *in* D-00466
Tetrahydro-4-methyl-2(1*H*)-pyrimidinethione, T-00064
1,2,3,4-Tetrahydro-8-quinolinethiol, T-00067
▷ 1,2,5,8-Tetrahydroxy-9,10-anthraquinone, T-00070
3,4,5,8-Tetrahydroxyanthraquinone-2-sulfonic acid, T-00071
2′,3,5,7-Tetrahydroxyflavone, T-00074
▷ 3,3′,4′,7-Tetrahydroxyflavone, T-00075
▷ 3,3′,4′,5-Tetrahydroxy-7-methoxyflavone, T-00078
2,3,7,8-Tetrahydroxyphenazine, T-00079
2,2′,3,3′-Tetrakis(6-methyl-2-pyridyl)-6,6′-biquinoxaline, T-00088
5,5′,6,6′-Tetramethyl-3,3-bi(1,2,4-triazine), T-00093
5-(1,1,3,3-Tetramethylbutyl)-1,2,3-benzenetriol, T-00094
1,4,8,11-Tetramethyl-1,4,8,11-tetrazacyclotetradecane, T-00104
▷ Tetramethylthiodicarbonic diamide, T-00105
▷ Tetramethylthiuram disulfide, T-00106
Tetraoxacycloazochrome, T-00112
4,7,13,18-Tetraoxa-1,10-diazabicyclo[8.5.5] eicosane, T-00114
2,2′-[1,4,10,13-Tetraoxa-7,16-diazacyclooctadecane-7,16-diylbis(methylene)]bis[4-nitrophenol],9CI, T-00115
▷ Tetraphenylarsonium(1+); Chloride, *in* T-00119
Tetraphenylphosphonium(1+); Bromide, *in* T-00120
meso-Tetraphenylporphyrin, T-00121
Tetrapropylammonium(1+); Hydroxide, *in* T-00124
2,3,5,6-Tetra(2-pyridyl)pyrazine, T-00125
1,4,8,11-Tetrathiacyclotetradecane, T-00126
▷ Tetrazole-5-thione; 1,4-Dihydro-*form*, 1-Ph, *in* T-00131
▷ Tetrazolium blue; Dichloride, *in* T-00132
▷ Thiacetazone, *in* A-00097
2-Thiazolecarboxaldehyde 2-quinolinylhydrazone, T-00137
4-(2-Thiazolylazo)-1,2-benzenediol, T-00140
4-(2-Thiazolylazo)-1,3-benzenediol, T-00141
1-(2-Thiazolylazo)-2-naphthalenol, T-00142
4-(2-Thiazolylazo)-1-naphthalenol, T-00143
3-(2-Thiazolylazo)-2,6-pyridinediamine, T-00145
5-(2-Thiazolylazo)-2-thioxo-4-thiazolidinone, T-00146
3-(2-Thiazolyl)-9*H*-indeno[1,2-*e*]-1,2,4-triazin-9-one, T-00147
3-(2-Thiazolyl)-1,2,4-triazine, T-00148
2-(2-Thienyl)benzothiazole, T-00149
1-(2-Thienyl)-1,3-butanedione, T-00150
Thioaminazo F, T-00154
2,2′-Thiobisethanethiol, T-00157
3,3′-Thiobis[6-hydroxybenzoic acid], T-00158
1-Thiocarbamido-3-methyl-5-pyrazolone, T-00160
▷ Thionine hydrochloride, *in* L-00003
2-Thiophenecarbothioic acid (di-2-pyridinylmethylene)hydrazide, T-00168
2-Thiophenecarboxaldehyde 2-benzothiazolylhydrazone, T-00170
α-Thiosemicarbazidoisobutyric acid; Amide, *in* T-00174
α-Thiosemicarbazidoisobutyric acid; Nitrile, *in* T-00174
▷ Thiourea, T-00175
▷ 2-Thioxo-4-thiazolidinone, T-00176
Thorin, T-00177
Thoron II, T-00178
Thymolphthalexon, T-00183
▷ Tiron, T-00186
Titan yellow; Di-Na salt, *in* T-00187
N-*m*-Tolylcinnamohydroxamic acid, *in* H-00499
N-*o*-Tolylcinnamohydroxamic acid, *in* H-00499
N-*p*-Tolylcinnamohydroxamic acid, *in* H-00499
5-[(1-*p*-Tolylimidazol-4-yl)methylene] rhodanine, T-00191
N-*m*-Tolyl-*o*-iodobenzohydroxamic acid, *in* I-00040
N-*o*-Tolyl-*o*-iodobenzohydroxamic acid, *in* I-00040
2,4,6-Triamino-5-nitrosopyrimidine, T-00193
▷ 1,3,5-Triazine-2,4,6-triamine, T-00197
4,4′,4″-[1,3,5-Triazine-2,4,6-triyltris(azo)] tris[3-hydroxy-1-naphthalenesulfonic acid], T-00198
1-(1*H*-1,2,4-Triazol-3-ylazo)-2-naphthalenol, T-00200
2,4,6-Tri(2,2′-bipyridin-6-yl)-1,3,5-triazine, T-00202
Tribromoarsenazo, T-00203
4,5,6-Tribromo-1,2,3-benzenetriol, T-00204
Tributyl(hexadecyl)phosphonium(1+); Chloride, *in* T-00210
2,2,2-Trichloroacetohydroxamic acid, T-00219
2′,4′,5′-Trichlorofluorescein, T-00224
2′,4′,7′-Trichlorofluorescein, T-00225
▷ Triethylamine, T-00231
▷ Triethylenetetramine, T-00232
O,*O*,*S*-Triethyl phosphorodithioate, T-00235
▷ Trifluoperazine, T-00238
O-(2,2,2-Trifluoroethyl)carbonodithioate, T-00246
4,4,4-Trifluoro-1,2-furanyl-1,3-butanedione, T-00248
1,1,1-Trifluoro-4-mercapto-4-(2-thienyl)-3-buten-2-one, T-00249
4,4,4-Trifluoro-1-phenyl-1,3-butanedione, T-00260
1,1,1-Trifluoro-4-phenyl-4-thioxo-2-butanone, T-00262
4,4,4-Trifluoro-1-selenophen-2-yl-1,3-butanedione, T-00263
4,4,4-Trifluoro-1-(2-thienyl)-1,3-butanedione, T-00264
1,1,1-Trifluoro-4-thioxo-2-pentanone, T-00265
▷ Triflupromazine hydrochloride, *in* F-00010
▷ 2′,3′,4′-Trihydroxyacetophenone, T-00269
▷ 1,2,4-Trihydroxyanthraquinone, T-00270
1,2,7-Trihydroxyanthraquinone, T-00271
1,3,4-Trihydroxyanthraquinone-2-carboxylic acid, T-00272
2,3,4-Trihydroxybenzenesulfonic acid; Na salt, *in* T-00274
3,4,6-Trihydroxy-5*H*-benzocyclohepten-5-one, T-00275
2,3,4-Trihydroxybenzoic acid, T-00276
▷ 3,4,5-Trihydroxybenzoic acid, T-00277
2,3,4-Trihydroxybenzophenone, T-00278
4-[(3,4,5-Trihydroxybenzoyl)amino]benzoic acid, T-00280
5,7,8-Trihydroxyflavanone; (*S*)-*form*, 7-*O*-Glucuronopyranoside, *in* T-00282
▷ 3,5,7-Trihydroxyflavone, T-00284
▷ 4′,5,7-Trihydroxyflavone, T-00285
5,7,8-Trihydroxyflavone, T-00286
2,6,7-Trihydroxy-9-(4-hydroxy-5-methoxy-2-nitrophenyl)-3*H*-xanthen-3-one, T-00287
2,6,7-Trihydroxy-9-(4-hydroxy-3-methoxyphenyl)-3*H*-xanthen-3-one, T-00288
2,6,7-Trihydroxy-9-(2-hydroxy-1-naphthalenyl)-3*H*-xanthen-3-one, T-00289
2,6,7-Trihydroxy-9-(2-hydroxy-3-nitrophenyl)-3*H*-xanthen-3-one, T-00290
2,6,7-Trihydroxy-9-(2-hydroxy-5-nitrophenyl)-3*H*-xanthen-3-one, T-00291
2,6,7-Trihydroxy-9-(2-hydroxyphenyl)-3*H*-xanthen-3-one, T-00292
2,6,7-Trihydroxy-9-(8-hydroxy-2-quinolinyl)-3*H*-xanthen-3-one, T-00295
3′,5,7-Trihydroxy-4′-methoxyflavanone; (*S*)-*form*, *in* T-00296
2,6,7-Trihydroxy-9-[4-(1-methylethyl) phenyl]-3*H*-xanthen-3-one, T-00298
2,6,7-Trihydroxy-9-methyl-3*H*-xanthen-3-one, T-00299
2,6,7-Trihydroxy-9-(2-nitrophenyl)-3*H*-xanthen-3-one, T-00301
2,6,7-Trihydroxy-9-(3-nitrophenyl)-3*H*-xanthen-3-one, T-00302
2,6,7-Trihydroxy-9-(4-nitrophenyl)-3*H*-xanthen-3-one, T-00303
4-(2,6,7-Trihydroxy-3-oxo-3*H*-xanthen-9-yl)-1,3-benzenedisulfonic acid, T-00304
2-(2,6,7-Trihydroxy-3-oxo-3*H*-xanthen-9-yl) benzenesulfonic acid, T-00305
2,6,7-Trihydroxy-9-pentadecyl-3*H*-xanthen-3-one, T-00307
4-[(2,3,4-Trihydroxyphenyl)azo] benzenesulfonic acid, T-00309
2-[(2,3,4-Trihydroxyphenyl)azo]benzoic acid, T-00310
4-[(2,3,4-Trihydroxyphenyl)azo]benzoic acid, T-00311
1-(2,3,4-Trihydroxyphenyl)-1-butanone, T-00314
2,6,7-Trihydroxy-9-phenyl-3*H*-xanthen-3-one, T-00315
2,6,7-Trihydroxy-9-propyl-3*H*-xanthen-3-one, T-00316
2,6,7-Trihydroxy-9-(2-pyridinyl)-3*H*-xanthen-3-one, T-00317
2,6,7-Trihydroxy-9-(3-pyridinyl)-3*H*-xanthen-3-one, T-00318
2,6,7-Trihydroxy-9-(4-pyridinyl)-3*H*-xanthen-3-one, T-00319
2,6,7-Trihydroxy-9-(2-quinolinyl)-3*H*-xanthen-3-one, T-00320
2,6,7-Trihydroxy-9-(2-quinoxalinyl)-3*H*-xanthen-3-one, T-00321
2,6,7-Trihydroxy-9-(2-sulfophenyl)-3*H*-xanthen-3-one, T-00322
2,6,7-Trihydroxy-9-(trichloromethyl)-3*H*-xanthen-3-one, T-00323
Trilaurylammonium bromide, *in* T-00230
7,7′-Trimethylenebis[1,3-dimethyl-8-thiouric acid]; Na salt, *in* T-00327
1,3,3-Trimethyl-2-[2-(2-methyl-1*H*-indol-3-yl)ethylene]-3*H*-indolium(1+); Chloride, *in* T-00328
1,2,4-Trinitrobenzene, T-00348
▷ 2,4,6-Trinitrobenzoic acid, T-00352
▷ 2,4,6-Trinitrophenol, T-00355

▷ Triphenylarsine, T-00363
2,4,6-Triphenyl-*N*-(3,5-diphenyl-4-oxidophenyl)pyridinium betaine, T-00365
▷ *N*,*N*′,*N*″-Triphenylguanidine, T-00366
▷ Triphenylphosphine, T-00370
2,4,6-Triphenylpyridine; *N*-Ph, acetate (salt), *in* T-00373
2,4,6-Triphenylpyrylium(1+); Chloride, *in* T-00374
Triphenylselenonium(1+); Chloride, *in* T-00375
4,4′,4″-Triphenyl-2,2:6′,2″-terpyridine, T-00378
2,4,6-Tri-2-pyridinyl-1,3,5-triazine, T-00381
3,5,6-Tri-2-pyridinyl-1,2,4-triazine, T-00382
Tris(4-aminophenyl)methanol, T-00383
Tris(2,2′-bipyridine-*N*,*N*′)iron(*II*)(2+), T-00384
Tris(decyl)ethylammonium(1+); Bromide, *in* T-00386
Tris(4,7-dimethyl-1,10-phenanthroline-N^1,N^{10})iron(*II*)(2+); Sulfate, *in* T-00389
▷ Tris(2-hydroxyethyl)amine, T-00406
Tris(1,10-phenanthroline-N^1,N^{10})iron(*II*)(2+), T-00412
2,4,6-Tris[4-(4-sulfophenyl)-2-pyridyl]-*s*-triazine, T-00413
▷ Triton X 100, T-00428
Triton X 305, T-00429
▷ Tropolone, T-00432
Trypan blue; Tetra Na salt, *in* T-00433
▷ TTC, *in* T-00379
Tyrosine; (±)-*form*, *in* T-00435
5,7-Undecanedione, U-00001
Victoria blue B; Chloride, *in* V-00002
Victoria blue 4R; Chloride, *in* V-00003
Victoria pure blue BO; Chloride, *in* V-00004
▷ Vitamin C, *in* A-00446
Wood's reagent, W-00001
▷ Xanthic acid; K salt, *in* X-00002
Xylenol orange, X-00006
Xylidine blue II, X-00007
▷ Xylometazoline hydrochloride, *in* X-00008
Zephiramine; Chloride, *in* Z-00001

Surfactant

Carboxymethyl cellulose, *in* C-00049
▷ 3-[(3-Cholamidopropyl)dimethylammonio]-1-propanesulfonate, C-00274
▷ 1-Dodecyl sulfate, D-01155
▷ Gelatin, G-00008
▷ 1-Hexadecylpyridinium(1+), H-00028
▷ Hexadecyltrimethylammonium(1+), H-00029
OP 7, O-00041
▷ Sorbitan monolaurate, *in* A-00367
▷ Triton X 100, T-00428
Triton X 305, T-00429
Triton X 100; Hexahydro, *in* T-00428

Titrant

▷ Benzenesulfonic acid; Amide, *N*-Chloro, Na salt, *in* B-00026
3,12-Bis(carboxymethyl)-6,9-dioxa-3,12-diazatetradecanedioic acid; Na salt, *in* B-00278
2,5-Bis(2-hydroxyethylamino)-1,4-benzenedicarboxylic acid, B-00368
Bis(4-sulfobenzyl)dithiocarbamic acid; Tri-Na salt, *in* B-00454
4-Bromo-1-naphthalenediazonium(1+); Chloride, *in* B-00536
▷ *N*-Bromosuccinimide, B-00576
N-Chlorobenzamide, *in* B-00008
1,2-Diaminocyclohexane-*N*,*N*,*N*′,*N*′-tetraacetic acid; (1*RS*,2*RS*)-*form*, *in* D-00065
2-[(3,5-Dibromo-2-pyridinyl)azo]-5-(ethylamino)-4-methylphenol, *in* A-00149
▷ Dicyclohexylamine, D-00307
1,3-Diphenyl-2-propanone; Tosylhydrazone, *in* D-01042
▷ 1-Ethylpiperidine, E-00106
▷ *N*-(2-Hydroxyethyl)ethylenediaminetriacetic acid, H-00177
▷ (1-Hydroxyethylidene)bisphosphonic acid, H-00178
▷ 2-Iodylbenzoic acid, I-00055
▷ Pentetic acid, P-00039
5,5′,6,6′-Tetramethyl-3,3-bi(1,2,4-triazine), T-00093
▷ Tripropylamine, T-00380

Turbidimetric/nephelometric reagent

4-Amino-4′-chlorobiphenyl, A-00136
▷ 2-Aminoperimidine, A-00297
Gum arabic, *in* A-00398
▷ Octadecanoic acid, O-00001