Contents

For updates and errata, click on the red-framed section number (use Acrobat Reader). You can also browse the document by using the pdf 's bookmarks. Updates are highlighted by a gray background.

See also CA's Nomenclature Enhancement, since May 2007 at https://www.cas.org (Site Search: 'Naming' leads to 'Naming and Indexing of Chemical Substances for Chemical Abstracts' (pdf file/Adobe Acrobat))

Tables

1 Directions for Use of the Book (Update)

p.1, left-hand column

Update to

In the last years ~~decade~~, several companies have developed computer software which allows the generation of systematic names from drawn structure diagrams and vice versa, see *§ A.1.12*[2)3)4)5)].

§ A.1.12

p.1, left-hand column

Update to

The *International Union of Pure and Applied Chemistry* (IUPAC) has rendered outstanding service to the chemical community by its publications of nomenclature recommendations, in particular of the so-called '*Blue Book*', i.e., *Nomenclature of Organic Chemistry* (1979)[6a)], and the *Guide to IUPAC Nomenclature of Organic Compounds, Recommendations 1993*'[7)]. These have considerably contributed to the creation of internationally accepted nomenclatures for organic compounds. A re-edition of these recommendations is planned in the near future. In December 2013, these recommendations have finally been published: *Nomenclature of Organic Chemistry, IUPAC Recommendations and Preferred Names 2013*[6b)]. Most of the IUPAC recommendations published after 1979 and referenced in the present Book have been incorporated into these 2013 IUPAC recommendations. The most important change in the 2013 IUPAC recommendations is the concept of 'Preferred IUPAC Name' (PIN). However, any name other then a PIN is still acceptable as a 'general IUPAC name' as long as it is unambigous and follows the principals of IUPAC recommendations.Therefore, no updates of IUPAC names have been performed.

References to the IUPAC recommendations appear in the main part of the Book in the margin of the pages as 'IUPAC A–F**,** 'H', or 'R'. More recent IUPAC recommendations and revisions of older recommendations are regularly published by IUPAC in *Pure and Applied Chemistry* and are accessible via the Internet (*§ A.1.12*). A general introduction to the IUPAC recommendations appeared in 1998[8)]. The revised IUPAC recommendations for naming inorganic compounds have been published in 2005 as a new '*Red Book*'[9)].

p.1, right-hand column

Update to

The most frequently used reference publication for the retrieval of chemical information is edited by the American Chemical Society's *Chemical Abstracts Service* (CA). In contrast to IUPAC, CA must select a single preferred name for a compound that is listed in the 'Chemical Substance Index', the so-called index name. Index names are also the names used in CA's databases such as those accessible by the SciFinder® interface or STN® network. In SciFinder®, in addition to the index name with the corresponding formula, CA lists other names and even abbreviations used in the primary literature for a given compound. For the index names, CA has developed a nomenclature that is based on IUPAC recommendations. Contrary to widespread opinion, the index names of CA are in general compatible with the IUPAC recommendations. Notable exceptions concern the seniority rules[10)]. The rules for the selection of the index names are summarized in CA's *Index Guide*, *Appendix IV*[11a)], which has appeared ~~appears~~ in general every two years and refers to the index names of the corresponding period of time. In contrast to the IUPAC recommendations, changes in CA's nomenclature guidelines are infrequent and always clearly reported. A major update of CA's nomenclature has occurred in 2007, at the time when the present Book has been published. These 2007 guidelines, *Naming and Indexing of Chemical Substances for Chemical Abstracts 2007*[11b)], are now available as pdf file from CA's website. References to these latest CA rules appear in the main part

2) Elsevier MDL, San Ramon, CA, USA, 'AutoNom 2000' (see *§ A.1.12*).

3) Advanced Chemistry Development Inc., Toronto, Canada, 'ACD/Name', 2017 ~~Version 9.01 (2005)~~(see *§ A.1.12*).

4) ChemInnovation Software Inc., San Diego, CA, USA, 'Nomenclator' ~~Version 8.0 (2006),~~ and 'NamExpert', ~~Version 8.0 (2006)~~ 2017 (see *§ A.1.12*).

5) PerkinElmer, Inc., Waltham, ~~CambridgeSoft, Cambridge,~~ MA, USA, 'Structure ⇔ Name' and 'Name ⇔ Structure', in 'ChemDraw', 2017 ~~'Struct ⇔ Name Pro', Version 10.0 (2006)~~ (see *§ A.1.12*).

6a) International Union of Pure and Applied Chemistry, Organic Chemistry Division,'Nomenclature of Organic Chemistry, Sections A–F and H', Pergamon Press, Oxford – New York – Toronto – Sydney – Paris – Frankfurt, 1979; IUPAC recommendations A–F and H.

6b) International Union of Pure and Applied Chemistry, H.A. Favre, W.H. Powell, 'Nomenclature of Organic Chemistry, Recommendations and Preferred Names 2013', RSC Publishing, Cambridge, UK, 2014.

7) International Union of Pure and Applied Chemistry, Organic Chemistry Division, 'A Guide to IUPAC Nomenclature of Organic Compounds, Recommendations 1993', Blackwell Scientific Publications, Oxford – London – Edinburgh – Boston – Melbourne – Paris – Berlin – Vienna, 1993 (errata in *Pure Appl. Chem*. **1999**, *71*, 1328); IUPAC recommendations R.

8) G.J. Leigh, H.A. Favre, W.V. Metanomski, 'Principals of Chemical Nomenclature, a Guide to IUPAC Recommendations', Blackwell Science Ltd., Oxford – London – Edinburgh – Malden – Victoria – Paris – Berlin – Tokyo, 1998.

9) International Union of Pure and Applied Chemistry, 'Nomenclature of Inorganic Chemistry, IUPAC Recommendations 2005', RSC Publishing, Cambridge, UK, 2005.

10) For a critical discussion of certain divergences between the IUPAC recommendations and the CA rules as well as of the incomplete systematization of the nomenclature of organic compounds, see D. Hellwinkel, 'Systematic Nomenclature of Organic Chemistry, a Directory to Comprehension and Application of Its Basic Principles', Springer-Verlag, Berlin – Heidelberg – New York, 2001.

11a) American Chemical Society, 'Chemical Abstracts, Index Guide, Appendix IV', Chemical Abstracts Service, Columbus, Ohio, last edition 2004~~; CA rules ¶. A reprint can be obtained free of charge.~~

11b) American Chemical Society, 'Naming and Indexing of Chemical Substances for Chemical Abstracts 2007', Chemical Abstracts Service, Columbus, Ohio, last edition 2007; https://www.cas.org/File%20Library/Training/STN/.../indexguideapp.pdf; CA rules ¶

of this Book in the margin of the pages as 'CA ¶'. The following updates are based on CA's 2007 rules and informations provided by CA's Help Desk. In reality, ~~Appendix IV~~ CA's Index Guide is not a nomenclature manual but a collection of (restricting) nomenclature guidelines for the user of the CA indexes and databases, allowing the user to proceed from the structure of a compound to the place of its registration in the 'Chemical Substance Index' or 'CAS REGISTRY' and vice versa.

2.1 Nomenclature Terms and Definitions (Update)

p. 3, entry '**Blue Book**' [4)]
IUPAC's nomenclature recommendations of organic chemistry, 2013 and 1979. See also the complementary 1993 recommendations[2)].

p. 3, entry **CA Name**
Name assigned according to the Chemical Abstracts nomenclature guidelines for indexes, see '*Index Guide*' [3)].

p. 4, entry **Ending**
Update to
'-phosphonic acid' in '*P*-ethylphosphonic acid'
(Et–P(=O)(OH)$_2$)

p. 4, entry **Eta** (η) **descriptor**
Update to
'(η^3-prop-2-en-1-yl)' ([**C**H$_2$**C**H**C**H$_2$]$^-$)

p. 4, entry **Functional-parent name**
Update to
'-phosphonic acid' (–P(=O)(OH)$_2$) in '*P*-ethylphosphonic acid'
(Et–P(=O)(OH)$_2$)

p. 5, entry **Index name**
Update to
'acetic acid, 2-chloro-, ethyl ester' (ClCH$_2$C(=O)OEt)

p. 5, entry **Kappa** (κ) **descriptor** (κ system, κ convention)
Update to
'(ethane-1,2-diamine-κ*N*^{1},κ*N*^{2})' (H$_2$**N**CH$_2$CH$_2$**N**H$_2$)

p. 5, entry **Lambda** (λ) **convention**
Update to
'2λ^2-1,3,2-dioxastannolane' (⌐CH$_2$O–Sn–OCH$_2$¬; in CA, '1,3,2-dioxastannolan-2-ylidene')

p. 6, new entry **Nontraditional**
Update to
Nontraditional corresponds to *Pseudo*

p. 6, entry **Parent structure, (2) Functional parent**
Update to
Et–P(=O)(OH)$_2$ ('*P*-ethylphosphonic acid', registered in the CA index as 'phosphonic acid, *P*-ethyl-')

p. 7, new entry **PIN**
Update to
PIN
abbreviation of Preferred IUPAC Name, assigned by the recommendations of the latest edition of the *'Blue Book'* [4)]

p. 7, entry **Principal group**
Update to
>P(=O)OH in Me$_2$P(=O)OH ('*P*,*P*-dimethylphosphinic acid')

p. 7, entry **Pseudo, (3) Pseudoamide**
Update by
removing entry and renaming example as
'1-(2-phenyldiazenyl)ethanone' (Ph–N=N–C(=O)Me; no longer pseudoamide but ketone)

p. 7, entry **Pseudo, (4) Pseudoester (= Nontraditional ester)**
Update to
Since 2007, a compound with an ester *characteristic group* –X–acyl (X = O, S, Se, Te) at a heteroatom has no longer been ~~, apart from a Si atom. Such an –X–acyl group is~~ denoted by a *prefix* but by an ester name of a nontraditional alcohol, ~~and not by a *suffix*, even~~ in the absence of another *senior* characteristic group. Now only oxime derivatives RR′C=N–X–acyl of aldehydes and ketones are treated as pseudoesters. E.g.,
'2,2,2-trifluoroacetic acid triaz-1-en-1-yl ester'/ 'triaz-1-en-1-yl 2,2,2-trifluoroacetate' (H$_2$N–N=N–O–C(=O)CF$_3$),
'nitrous acid tetraphenylphosphoranyl ester'/ 'tetraphenyl~phosphoranyl nitrite' (Ph$_4$P–O–N=O);
but
'propane-2-one *O*-acetyloxime' (Me$_2$C=N–O–C(=O)Me).

p. 7, entry **Pseudo, (5) Pseudoimine**
Update to
~~Compound with an imine *characteristic group* =NH at a heteroatom P, As, Sb, or Bi which is incorporated via this heteroatom in a cyclic structure. Such an =NH group is always denoted by the *prefix* 'imino-'~~.
Since 2007, if the =NH group is at a heteroatom P, As, Sb, or Bi of a cyclic structure, an imine name (=NH unsubstituted) or an amine name and the *lambda convention* is used. If the =NH group is at a heteroatom P, As, Sb, or Bi of a heterochain, a *suffix* or an *additive name* is used. E.g.,
'*N*-(2-fluoro-2λ^5-1,3,2-dioxaphospholan-2-ylidene)~benzenamine' (⌐O–CH$_2$–CH$_2$–O–PF(=NPh)¬),
'phosphinimine' (PH=NH),
'phosphine imide' (PH$_3$(=NH)).

3) American Chemical Society, 'Chemical Abstracts, Index Guide, Appendix IV', Chemical Abstracts Service, Columbus, Ohio, last edition 2004. .

American Chemical Society, 'Naming and Indexing of Chemical Substances for Chemical Abstracts 2007', Chemical Abstracts Service, Columbus, Ohio, last edition 2007; https://www.cas.org/File%20Library/Training/STN/.../indexguideapp.pdf; cf. *§1*.

CA Rules are indicated in the margin as 'CA ¶'

4) International Union of Pure and Applied Chemistry, Organic Chemistry Division, 'Nomenclature of Organic Chemistry, Sections A–F and H', Pergamon Press, Oxford – New York – Toronto – Sydney – Paris – Frankfurt, 1979. The corresponding IUPAC recommendations are indicated in the margin as 'IUPAC A–F' or 'H'.

International Union of Pure and Applied Chemistry, H.A. Favre, W.H. Powell, 'Nomenclature of Organic Chemistry, Recommendations and Preferred Names 2013', RSC Publishing, Cambridge, UK, 2014; cf. *§1*.

p. 7, entry **Pseudo, (6) Pseudoketone**

Update to

Compound with a ketone *characteristic group* =X ~~or =C(=X)R~~ (X = O, S, Se, Te) at a heteroatom. Such an =X ~~or –C(=X)R~~ group is denoted by an *additive name* or by a *prefix* and not by a *suffix*, even in the absence of another *senior* characteristic group. E.g.,

'diphosphine 1,2-disulfide' ($S=PH_2–PH_2=S$),

'oxodisilane' ($H_3Si–SiH=O$),

'oxodiphenylplumbane' ($Ph_2Pb=O$);

but now

~~'1-(2-methyl-1-oxopropyl)diphosphine'~~

'1-(diphosphinyl)-2-methylpropan-1-one' ($H_2P–PH–C(=O)–CHMe_2$; no longer pseudoketone but ketone).

p. 8, entry **Substitutive name (1)**

Change '2-methylcyclohexan-1-one' to '2-methylcyclohexanone' (⌐$CH_2CH_2CH_2CH_2CH(Me)C(=O)$–⌐)

Update to

'*P*-ethylphosphonic acid' ($Et–P(=O)(OH)_2$)

p. 8, entry **Substitutive name (2)**

Update to

'propanal 2,2-dimethylhydrazone' ($MeCH_2CH=N–NMe_2$)

p. 8, entry **Subtractive name**

Update to

'2-deoxy-D-ribose' (in CA: 'D-*erythro*-pentose, 2-deoxy-')

Change

'24-nor-5β-cholane' to '5β-24-norcholane'

p. 8, entry **Systematic name**

Change to

'thiazole' (C_3H_3NS).

2.2 Conventions for Enclosing Marks and Vowels in Names (Update)

p. 9, right-hand column, line 6 from top
Update to
'diprop-2-en-1-ylphosphine' (IUPAC: 'di(prop-2-enyl)phosphane'; $(CH_2{=}CHCH)_2PH$)

p. 9, right-hand column, first bullet
Update to
'pentaz-2-en-1-**y**l-', *not* 'pentaz-2-ene-1-yl-' (IUPAC: 'pentaaz-2-en-1-yl-'; $NH_2NH_2N{=}NNH–$),

9, Footnote 2
Update to
'1,2-di-2-furanylethane-1,2-dione' (registered under '1,2-ethane~dione, 1,2-di-2-furanyl-') rather than '1,2-di(furan-2-yl)ethane-1,2-dione' ($C_4H_3O–C(=O)–C(=O)–C_4H_3O$)

p. 9, Footnote 3
Update to
'1,1′-(1,2-ethanediyl)bis[1,1-diethylphosphine]', here (see *§ 1*)
'1,1′-(ethane-1,2-diyl)bis[1,1-diethylphosphine]'
($Et_2P–CH_2CH_2–PEt_2$)

p. 10, left-hand column, first line
Change to
'disil**oxa**ne', *not* 'disilaoxaane' (SiH_3OSiH_3)

p. 10, left-hand column, first bullet
Change to
'cycloheptane-1,2,3,4,5,6-hex**o**l', *not* 'cycloheptane-1,2,3,4,5,6-hexaol' ($C_7H_8(OH)_6$),

p. 10, left-hand column, second bullet
Update to
'2*H*-tetr**a**zole', *not* '2*H*-tetraazole' (CH_2N_4)

p. 10, left-hand column, forth bullet
Update to
'*P*-phenylphosphonamid**i**mid**i**c acid',
not '*P*-phenylphosphonamidoimidoic acid'
($PhP(=NH)(NH_2)(OH)$),
'ethyl *P*-phenylphosphonamid**a**te', *not*
'ethyl *P*-phenylphosphonamidoate' ($PhP(=O)(NH_2)(OEt)$)

p. 10, right-hand column, first bullet
Update to
No elision of the **final** '**e**' **of parent names** before vowels of multiplying affixes, and in the case of 'seleno~phene' and 'tellurophene' before '-yl' to avoid ambiguity. E.g.,
'trisiloxan**e**-1,1,1,3,3,5,5,5-**o**ctol'
($(HO)_3Si–O–Si(OH)_2–O–Si(OH)_3$)
'tellurophene-2-yl-' ($C_4H_3Te–$)

p. 10, right-hand column, fifth bullet
Update to
No elision of the **final** '**a**' **of multiplying affixes** before vowels of prefixes, of class names, of modifications, of central-atom names, and of ligand names. E.g.,
'tetr**a**-*O*-**a**cetylglucose' (IUPAC name), *not* 'tetr-*O*-acetyl~glucose',
'1,2,3,4-tetr**ae**thylbenzene', *not* '1,2,3,4-tetrethylbenzene'
($(Et)_4C_6H_2$),
'diphosphorous tetr**aa**mide', *not* 'diphosphorous tetramide'
($((H_2N)_2P–O–P(NH_2)_2$),
'diethyl tetr**ao**xide', *not* 'diethyl tetroxide' ($Et–(O)_4–Et$),
'cyclohex-5-ene-1,2,3,4-tetrone 1,2,3,4-tetr**ao**xime',
not 'cyclohex-5-ene-1,2,3,4-tetrone 1,2,3,4-tetroxime'
($C_6H_2(C{=}NOH)_4$),
'lanosta-8,24-diene-3,7,11,16,18,22-hexol
3,7,11,22-tetr**aa**cetate', *not* 'lanosta-8,24-diene-3,7,11,16,18,22-hexol 3,7,11,22-tetracetate' ($Lan(OH)_2(OC(=O)Me)_4$),
'tetr**aa**mminetetrabromotetr**aa**luminum (*4Al-Al*)', *not*
'tetramminetetrabromotetraluminum (*4Al-Al*)'
(cyclic $[Al(Br)(NH_3)]_4$),
'hex**aa**mminecobalt(3+)', *not* 'hexamminecobalt(3+)'
($[Co(NH_3)_6]^{3+}$).

p. 11, last two lines
Change to
'(2-ox**oe**thyl)-', *not* '(2-oxethyl)-' ($(CH_2(=O)CH_2–$),
'(amin**oo**xy)-', *not* '(aminoxy)-' ($H_2N–O–$)
Update to
'(isocyan**oi**mino)-', *not* '(isocyanimino)-' (CN-N=)
'tetrahydr**oa**nthracene', *not* 'tetrahydranthracene' ($C_{14}H_{14}$)

3.1 General Procedure and Choice of the Senior Compound Class (Choice of the Principal Group) (Update)

p. 13, Notice (b), third bullet

Update to

Special *exceptions* are groups **=O or –OH** ~~**=O–acyl**~~ (incl. chalcogen analogs), or a substituent **–OOH or –OSH**~~, as well as a **nonacidic acyl substituent** at a heteroatom **N**, **P**, **As**, **Sb**, **Bi**, **B**, **Ge**, **Sn**, **or Pb**~~ of a molecular-skeleton parent. These are not expressed as a suffix or class name but as a prefix or by means of additive nomenclature according to (c), even if the group seems to be the 'principal group' (in this context, see the ~~pseudoesters, pseudoamides,~~ pseudoketones, pseudoalcohols, and pseudohydroperoxides (*§ 2.1*) of the N, P, As, Sb, Bi, B, Ge, Sn, and Pb compounds in *§ 6.25–6.29*). This does not apply to ~~nonacidic acyl substituents such as **–CH(=O)** (aldehydes (!); *Class 8* in *Tab. 3.2*) and nonacidic acyl substituents that can be named as acid derivatives (*Class 6* in *Tab. 3.2*), e.g., **–C(=O)Cl**, **–P(NH$_2$)$_2$**.~~ heteroatoms of groups that could form an acid, acid derivative, acid halide, or amide (*Classes 5* and *6* in *Tab. 3.2*), e.g., **–P(=O)(OH)$_2$** or **–B(OH)$_2$**, **–P(=O)(OMe)$_2$**, **–As(=O)I$_2$**, **–P(=O)(NH$_2$)$_2$**.

Also a substituent **=O** (incl. chalcogen analogs) ~~and a **nonacidic acyl substituent**~~ **at an Si atom** is expressed as a prefix. However, a substituent **–OH** ~~**or =O–acyl**~~ (incl. chalcogen analogs), **–OOH**, **or –OSH at an Si atom** is denoted systematically by means of a suffix or class name (*§ 6.21*, *6.22*, and *6.29*), unless the compound is an acid or acid derivative (*Classes 5* and *6* in *Tab. 3.2*).

A group **=O** or a chalcogen analog **at an S**, **Se**, **or Te atom** is usually treated in a special way, like those of acids or acid derivatives (*Classes 5* and *6* in *Tab. 3.2*), of sulfoxides, sulfones, etc. (*§ 6.31*), or sulfoximines, sulfimides, thionyl imides, etc. (*§ 6.25*).

p. 14, **(e)**, third bullet

Update to

'***N*^{1},*N*^{3},2-trimethylpropane-1,3-diamine'

(MeNH–CH$_2$–CH(Me)–CH$_2$–NHMe).

p. 15, **(g$_1$)**, third bullet

Change '-di' to '-di-'

Update to

'*P,P′*-ethane-1,2-diyl**bis**[phosphonic acid]'

((HO)$_2$P(=O)–CH$_2$CH$_2$–P(=O)(OH)$_2$);

'1,1′-cyclopentylidene**bis**[hydroperoxide)' (in CA: 'hydroperoxide, 1,1′-cyclopentylidene**bis**-'; C$_5$H$_8$(OOH)$_2$)

p. 15, **(g$_1$)**, forth bullet

Change to

For the multiple occurrence of a ligand whose name contains a κ or μ descriptor or parentheses or whose name is composite or ending in -'ato' or -'ito', as a well as of a neutral ligand (in general) (*§ 6.34*). E.g.,

'**bis**(cyano-κ*C*)...' (2 N≡C$^-$ ligands),

'**bis**(μ^3-prop-2-en-1-yl)...' (2 μ^3-(CH$_2$=CHCH$_2^-$) ligands),

'**tris**[sulfato(2–)-κ*O*]...' (3 SO$_3^{2-}$ ligands),

'**bis**(1,1-dimethylethyl)...' (2 Me$_3$C$^-$ ligands),

'**tris**(ethanethiolato)...' (3 MeCH$_2$S$^-$ ligands),

'**tetrakis**(phosphine)...' (4 PH$_3$ ligands).

p. 15, **(g$_3$)**

Change

'hexane-1,2,3,4,5,6-hex**ol**' (= 'hexitol' in CA; HOCH$_2$[CH(OH)]$_4$CH$_2$OH), to

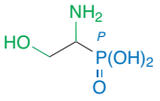
'cycloheptane-1,2,3,4,5,6-hex**ol**' (C$_7$H$_8$(OH)$_6$)

Update to

'prop-2-en-1-yl-' (CH$_2$=CH–CH$_2$–)

p. 16, right-hand column, (b)

Update formula **3** (letter locant '*P*')



3

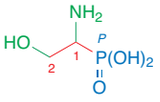
p. 16, right-hand column, (d)

Update formula **5** (letter locant '*P*')

5

p. 16, right-hand column, (g)

Update formula **3** and name (letter locant '*P*')



3 '*P*-(1-amino-2-hydroxyethyl)phosphonic acid'

CA index name: 'phosphonic acid, *P*-(1-amino-2-hydroxy~ethyl)-'

p. 16, right-hand column, line10 from below

Update to

3 '*P*-(1-Amino-2-hydroxyethyl)phosphonic acid'

p. 17, name of **12**, second bullet

Change '-disulfide' to 'disulfide'

p. 18, *Footnote d* of Tab. 3.1

Update to

d) In CA, since 2007, '*aci*-nitro-' has no longer been retained by overstepping a senior principal group, e.g., MeCH=N(=O)–O–CH$_2$CH$_2$COOH is now named '3-[(ethylideneoxidoamino)oxy]propanoic acid'; cf. PhCH=N(=O)–O–Me which is still named '[(methyl-*aci*-nitro)methyl]benzene'.

Instead of '*aci*-nitro-', IUPAC recommends the prefix '(hydroxy**nitroryl**)-' (HO–N(=O)=; IUPAC R-3.3 and R-5.3.2; see (b) of *§ 6.19* and (e) of *§ 6.20*).

p. 18, *Footnote f* of Tab. 3.1

Update to

'ethyl-' in '*P*-ethylphosphonic acid' (Et–P(=O)(OH)$_2$)

p. 19, *Footnote a* of Tab. 3.2

Update to

a) Examples: 'ethyl', 'pyridinyl'. ~~CA also lists in *Class 1* compounds for which no substituent prefixes can be formulated, e.g., '**sulfur diimide**' (HN=S=NH, see *Class 14*)~~. Since 2007, CA has no longer listed in *Class 1* compounds carrying a group containing a tetra- or hexavalent S, Se, or Te atom attached by double bonds to an N atom; such groups have been attributed a substituent prefix (see *Class 14*), and the parent 'sulfur diimide' (HN=S=NH) has been listed with the sulfur compounds (see *Class 22*).

p. 19, *Footnote e* of Tab. 3.2

Update to

e) Anionic compounds are: anionic coordination compounds (see *Footnote d*; for seniorities, see *§ 6.34*), 'ate' anions (e.g., '**carboxylate**'), and 'ide' anions (e.g., ~~'**methoxide**'~~ '**hydrazide**' (H_2NNH^-)). CA does not employ any prefixes for anionic substituents.

p. 20, entry **Carbohydrazonic acid** of Tab. 3.2

Update to

prefix '**(hydrazinylcarbonyl)**-'

p. 20, entry **Sulfonohydrazonic acid** of Tab. 3.2

Update to

prefix '**(hydrazinylsulfonyl)**-'

p. 20, entry **Sulfonodihydrazonic acid** of Tab. 3.2

Update to

prefix '**(*S*-hydrazinylsulfonohydrazonoyl)**-'

p. 20, entry **Sulfonohydrazonimidic acid** of Tab. 3.2

Update to

prefix '**(*S*-hydrazinylsulfonimidoyl)**-'

p. 21, *Footnote n* of Tab. 3.2

Update to

n) See also CA ¶ 219. In the case of S-, Se-,Te-, and N-oxoacids (*Class 5e)* and Si- and B-oxoacids (*Classes 5j* and *5k*), chalcogeno, hydrazono, and imido analogs are denoted by **affixes** instead of infixes. Sb- and Bi-'oxo-acids' (*Classes 5h* and *5i*) have salt names.

Notice that **halogen oxoacids** (cf. *§6.10*) just precede chalcogen oxoacids in this seniority order.

p. 23, *Footnote s* of Tab. 3.2

Update to

s) See CA ¶ 182 and *§ A.1.12*. Notice that a compound in which a B atom is substituted by a chalcogen atom is named as a boron acid in CA. E.g.,

'*B,B′*-hydrazine-1,2-diylbis[boronic acid]'
($(HO)_2B–NHNH–B(OH)_2$).

p. 23, *Footnote v* of Tab. 3.2, first bullet

Update to

v) ...**Anhydrides**...

and ~~'disiloxanehexol'~~ 'silicic acid ($H_6Si_2O_7$)'
($(HO)_3Si–O–Si(OH)_3$).

p. 23, *Footnote v* of Tab. 3.2, third bullet

Update to

v) ... **Amides** whose N atom belongs to a heterocycle or to a heterochain, e.g., R–S(=O)$_2$–N⊃ or R–C(=O)–N=N–R′ (note that R–C(=O)–NHNH$_2$ is a hydrazide!), are no longer named by CA by means of a prefix as acyl-substituted derivatives of the heterocycle or the heterochain (see *§ 6.16* and *6.20*). Since 2007, the name of such a compound has been based on the senior principal group, or in the absence of a principal group, on the senior molecular-skeleton parent. E.g.,

~~'1-acetylpyrrolidine'~~ '1-(pyrrolidin-1-yl)ethanone'
($C_4H_8N–C(=O)Me$; no longer 'unexpressed amide' but ketone).

p. 24, entry **Hydrazide** of Tab. 3.2

Update to

prefix '**(hydrazinylcarbonyl)**-'

p. 24, *Footnote z* of Tab. 3.2

Update to

z) Further suffixes of this kind are:

....

'-**carbohydrazonamide**'
(–C(=N–NH$_2$)NH$_2$; formerly
'-carboxamide hydrazone'; if tautmerism is possible, the preferred tautomer (cf. CA ¶ 122) is
'**-carboximidic acid hydrazide**' (–C(=NH)NH–NH$_2$))

'-**carboximidamide**' (–C(=NH)NH$_2$;
formerly '-carboxamidine'),

....

p. 24, *Footnote bb* of Tab. 3.2, first bullet

Update to

bb) ... **Oximes** ..., followed by a modification such as 'oxime', '*O*-methyloxime', 'hydrazone', '2-alkylidenehydrazone', 'bis(2-methylhydrazone)', or '2-phosphoranylidenehydrazone' (see *Footnote aa*).

p. 24, *Footnote bb* of Tab. 3.2, second bullet

Update to

bb) ...On the other hand, **semicarbazones** (>C=N–NH–C(=O)NH$_2$) are named as 2-alkylidenehydrazinecarboxamides (*Class 6b*), **isosemicarbazones** (>C=N–NH–C(=NH)OH) as 2-alkylidene~ hydrazinecarboximidic acids (*Class 5b*), **carbohydrazones** (>C=N–NH–C(=O)–NH–N=C<) as 2,2'-dialkylidenecarbonic dihydrazides (see *Footnote v*), and **semioxamazones** (>C=N–NH–C(=O)–C(=O)–NH$_2$) as 2-amino-2-oxoacetic acid 2-alklidene~ hydrazides (see *Footnote v*). ...

p. 25, *Class 11* of Tab. 3.2

Change to

Thiohydroperoxide

p. 25, *Footnote cc* of Tab. 3.2

Update to

cc) A group **=O**, **=S**, **=Se**, or **=Te** ~~as well as a **nonacidic acyl substituent**~~ **at a heteroatom N**, **P**, **As**, **Sb**, **Bi**, **B**, **Si**, **Ge**, **Sn**, **Pb**, **S**, **Se**, **or Te** are is a special exceptions. ~~They are~~ Such a group is not expressed by a ketone suffix but by means of an additive name or prefix (see (d) of *§ 6.20*) ~~or as a prefix (see (b) and (c) of *§ 6.20)*~~. This means that such compounds are treated as pseudoketones, ~~pseudoamides, or 'unexpressed amides'~~, except if they are ~~functional parents~~ acids or acid derivatives (*Classes 5* and *6*; e.g., PH(=O)(OH)$_2$ is 'phosphonic acid'), or as acyclic polysulfoxides, polysulfones, polyselenoxides, etc. (see *§ 6.31*), or as sulfoximines, sulfimides, or thionyl imides, etc. (see *§ 6.25*), or corresponding chalcogen analogs.

~~This does not apply to nonacidic acyl substituents that can be named as derivatives of acids (see *Class 6)* and aldehyde groups –CH(=O) and chalcogen analogs.~~

p. 25, *Footnote ee* of Tab. 3.2

Update to

ee) Compounds of the *Classes 11* and *14–24* (see below) have not any principal group expressed by a suffix ~~or functional-parent name~~. The seniority order of cyclic and acyclic structures of the *Classes 14–24*, also of those which contain different kinds of heteroatoms, is described in *§ 3.3*~~; they are all nonfunctional compounds~~.

Since 2007, '**hydroxylamine**' (H$_2$N–OH) and '**thiohydroxyl~amine**' (H$_2$N–SH) (see *Class 14* below) have been treated as nontraditional alcohols in ester names, e.g., 'acetic acid azanyl ester' (MeC(=O)–O–NH$_2$; formerly '*O*-acetylhydroxylamine').

p. 26, *Class 14* of Tab. 3.2

Update to

prefixes

'**triaz-1-en-1-yl**-' ($H_2N–N=N–$)

'**diazenyl**-' (HN=N–)

~~only if unsubstituted~~

~~'{(R)azo}-' if substituted~~

'**hydrazinyl**-' ($H_2N–NH–$)

Update to

Class 14 also includes the substitutive functional parents '**sulfoximine**' ($HN=SH_2(=O)$) and chalcogen analogs, '**sulfilimine**' ($HN=SH_2$), '**sulfimide**' ($HN=S(=O)_2$), and '**thionyl imide**' (HN=S=O). In contrast, since 2007, a '**sulfur diimide**' (HN=S=NH) and '**sulfur triimide**' ($S(=NH)_3$) have been listed in *Class 22* (Sulfur parent compounds) instead of ~~belong to~~ *Class 1*.

p. 27, *Class 19* of Tab. 3.2

Update and change to

prefixes

'**disiloxan-1-yl-**' ($H_3Si–O–SiH_2–$)

'**disilathian-1-yl-**' ($H_3Si–S–SiH_2–$)

'**disilazan-1-yl-**' ($H_3Si–NH–SiH_2–$)

and formulas $H_3Si–SiH_2–SiH_2–$ and $H_3Si–SiH_2–$.

p. 27, *Classes 19–24* of Tab. 3.2

Update to

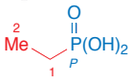
Since 2007, the seniority order has ranked the parent 'silane' (SiH_4) between cyclic carbon compounds and acyclic carbon compounds (see p. 4 of this update; updates in red color)

Seniority (*Class*)	Nonfunctional compound	Name	Substituent	Prefix	Details in
18	**Boron compounds** [s) ee)] (except for compounds of *Classes 1–6*)				*§ 6.28*
	Carbapolyboranes > '**hetero**'-**polyboranes** > **polyboranes** > **heterocyclic boron compounds** > **boranes**				
19	**Silicon compounds** [r) ee)] (except for compounds of *Classes 1–6* and *Class 24* below)				*§ 6.29*
	Heterocycles (*§ 4*) > **homogeneous and heterogeneous heterochains** (*§ 4.3.3*) > **heterochains with replacement names** (*§ 4.3.2*) E.g. (with decreasing seniority, i.e., decrease of the number of heteroatoms and decrease of the seniority of the heteroatom different from the Si atom),				
	$H_3Si–O–SiH_3$	'**disiloxane**'	$H_3Si–O–SiH_2–$	'**disiloxan-1-yl**-'	
	$H_3Si–S–SiH_3$	'**disilathiane**'	$H_3Si–S–SiH_2–$	'**disilathian-1-yl**-'	
	$H_3Si–SiH_2–SiH_3$	'**trisilane**'	$H_3Si–SiH_2–SiH_2–$	'**trisilanyl**-' IUPAC: 'trisilan-1-yl-'	
	$H_3Si–SiH_3$	'**disilane**'	$H_3Si–SiH_2–$	'**disilanyl**-'	
	~~SiH_4~~	~~'**silane**'~~	~~$H_3Si–$~~	~~'**silyl**-'~~	
	Notice $H_3Si–NH–SiH_3$	'***N*-silylsilanamine**' amine > molecular-skeleton parent IUPAC: 'disilazane'	$H_3Si–NH–SiH_2–$	'**disilazan-1-yl**-' CA and IUPAC	
20	**Germanium, tin, and lead compounds** [ee)] (see *Class 19*)				*§ 6.29*
	Heterocycles (*§ 4*) > **homogeneous and heterogeneous heterochains** (*§ 4.3.3*) > **heterochains with replacement names** (*§ 4.3.2*) E.g., '**germane**' (GeH_4) > '**stannane**' (SnH_4) > '**plumbane**' (PbH_4)				
21	**Oxygen compounds** [ee) hh)] (except for compounds of *Classes 1–6*, *8–11*, and *14–20*)				*§ 6.30*
	Heterocycles (*§ 4*) > **acyclic polyoxides** [ee)] > **heterochains with replacement names** (*§ 4.3.2*) [hh)] E.g. (with decreasing seniority, i.e., decrease of the number of O atoms),				
	R–O–O–O–R′	'**(R) (R′) trioxide**' [w)]	R–O–O–O–	'**[(R)trioxy]**-' [w)]	
	R–O–O–R′	'**(R) (R′) peroxide**' [w)]	R–O–O–	'**[(R)peroxy]**-' [w)]	
22	**Sulfur compounds** [ee) ii)] (except for compounds of *Classes 1–6*, *8–11*, and *14–20*)				*§ 6. 31*
	Heterocycles (*§ 4*) > **acyclic polysulfides and their oxides** [ee)] > **heterochains with replacement names** (*§ 4.3.2*) [ii)] E.g. (with decreasing seniority, i.e., decrease of the number of S atoms, then decrease of the O atoms),				
	$R–SO_2–SO_2–SO_2–R′$	'**(R) (R′) trisulfone**' [w)]	$R–SO_2–SO_2–SO_2–$	'**[(R)trisulfonyl]**-' [w)]	
	R–S–S–S–R′	'**(R) (R′) trisulfide**' [w)]	R–S–S–S–	'**[(R)trithio]**-' [w)]	
	$R–SO_2–SO_2–R′$	'**(R) (R′) disulfone**' [w)]	$R–SO_2–SO_2–$	'**[(R)disulfonyl]**-' [w)]	
	R–SO–SO–R′	'**(R) (R′) disulfoxide**' [w)]	R–SO–SO–	'**[(R)disulfinyl]**-' [w)]	
	R–S–S–R′	'**(R) (R′) disulfide**' [w)]	R–S–S–	'**[(R)dithio]**-' [w)]	
	Since 2007, '**sufur diimide**' (HN=S=NH) and '**sulfur triimide**' ($S(=NH)_3$) are sulfur compounds (no longer *Class 1* compounds)				
23	**Selenium and tellurium compounds** [ee) ii)] (see *Class 22*) (except for compounds of *Classes 1–6*, *8–11*, and *14–20*)				*§ 6.31*
	Heterocycles(*§ 4*) > **acyclic polyselenides or polytellurides and their oxides** [ee)] > **heterochains with replacement names** (*§ 4.3.2*) [ii)] E.g., '**(R) (R′) triselenone**' ($R–(SeO_2)_3–R′$; '[(R)triselenonyl]-') > '**(R) (R′) triselenide**' ($R–Se_3–R′$; '[(R)triseleno]-') > '**(R) (R′) diselenone**' ($R–(SeO_2)_2–R′$) > '**(R) (R′) diselenoxide**' ($R–(SeO)_2–R′$; '[(R)diseleninyl]-') > '**(R) (R′) disel~enide**' ($R–Se_2–R′$) > '**(R) (R′) tritellurone**' ($R–(TeO_2)_3–R′$; '[(R)tritelluronyl]-') > '**(R) (R′) tritelluride**' ($R–Te_3–R′$; '[(R)tritelluro]-') > '**(R) (R′) ditellurone**' ($R–(TeO_2)_2–R′$) > '**(R) (R′) ditelluroxide**' ($R–(TeO)_2–R′$; '[(R)ditellurinyl]-') > '**(R) (R′) ditelluride**' ($R–Te_2–R′$)				
24	**Carbon compounds and 'silane' (SiH_4)** (*§ 4.3.3*) [ee)]				*§ 6.32* *§ 6.29*
	Carbocycles (*§ 4*) > '**silane**' **(SiH_4)** > **hydrocarbon chains** (*§ 4*) E.g. (with decreasing seniority),				
	cyclo-C_6H_6	'**benzene**'	*cyclo*-$C_6H_5–$	'**phenyl**-'	*§ 6.32*
	SiH_4	'**silane**'	$H_3Si–$	'**silyl**-'	*§ 6.29*
	$H_3C–CH_2–CH_3$	'**propane**'	$H_3C–CH_2–CH_2–$	'**propyl**-'	*§ 6.32*
Special class	**Halogen compounds**				*§ 6.33*
Special class	**Organometallic and coordination compounds** (see *Classes 2–4*)				*§ 6.34*

3.2 Nomenclature Types (Update)

p. 29, name of **2**

Update to

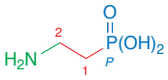


2 '*P*-ethylphosphonic acid'

CA: 'phosphonic acid, *P*-ethyl-'

p. 29, name of **4**

Update to

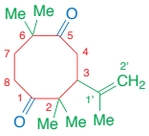


4 '*P*-(2-aminoethyl)phosphonic acid'

CA: 'phosphonic acid, *P*-(2-aminoethyl)-'

p. 29, name of **8**

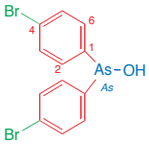
Change formula (locants) and name to



8 '~~4,4,8,8~~2,2,6,6-tetramethyl-3-(1-methylethenyl)~cyclooctane-1,5-dione'

p. 30, name of **13**

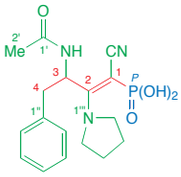
Update to



13 '*As*,*As*-bis(4-bromophenyl)arsinous acid'

p. 30, name of **14**

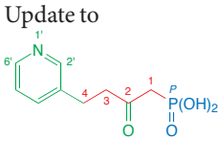
Update to



14 '*P*-[3-(acetylamino)-1-cyano-4-phenyl-2-(pyrrolidin-1-yl)but-1-en-1-yl]phosphonic acid'

p. 30, name of **15**

Update to



15 '*P*-[2-oxo-4-(pyridin-3-yl)butyl]phosphonic acid'

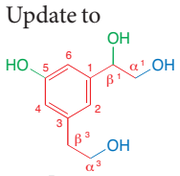
p. 30–31, **(b)**

Update to

C(α) is ... –CN. If the hydrocarbon-chain component with the principal group occurs repeatedly, the locants 'α,β,γ,...' are provided with the superscript numeral locant of the position of attachement of the hydrocarbon-chain component, e.g., 'α¹, β¹' and α³,β³' in **18**[3)]. If two hydrocarbon-chain components with the principal group are attached at the same ring atom, 'α,β,γ...' and 'α′,β′,γ′...' are used. The numbering rules...

p. 31, name of **18** in *Footnote 3*

Update to

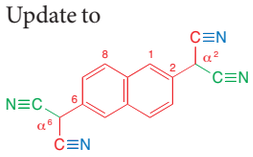


18 'β¹,5-dihydroxybenzene-1,3-diethanol'

'α¹,β¹' and 'α³,β³' are now used instead of 'α,β' and 'α′,β′'

p. 31, name of **19** in *Footnote 3*

Update to

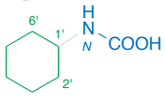


19 'α²,α⁶-dicyanonaphthalene-2,6-diacetonitrile'

'α²' and 'α⁶' are now used instead of 'α' and 'α′'

p. 31, name of **24**

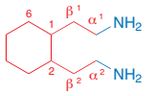
Update to



24 '*N*-cyclohexylcarbamic acid'

p. 32, name of **30**

Update to



30 'cyclohexane-1,2-diethanamine'

'α¹,β¹' and 'α²,β²' are now used instead of 'α,β' and 'α′,β′'

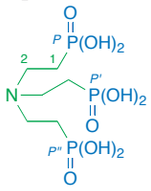
p. 32, *Footnote 4*

Update to

.... e.g., '3-pyridinecarbonitrile, 4,4′-(1,2-ethanediyl)bis[5-ethenyl-' (**34**), 'phosphonic acid, *P*,*P*′,*P*″-(nitrilotri-2,1-ethanediyl)tris-' (**35**), 'hydroperoxide, 1,1′-cyclohexylidenebis-' ($C_6H_{10}(OOH)_2$; the uninverted name is '1,1′-cyclohexylidenebis[hydroperoxide]').

p. 33, name of **35**

Update to



35 '*P*,*P*′,*P*″-(nitrilotriethane-2,1-diyl)tris[phos~phonic acid]'

CA: 'phosphonic acid, *P*,*P*′,*P*″-(nitrilotri-2,1-ethane~diyl)tris-'; CA omits the brackets in inverted names completely or in part (see **34**)

p. 33, **(c)**, second paragraph

Update to

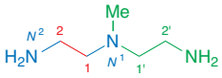
Since 2007, the locants of the linked positions have no longer been omitted, not even in the case of identical units consisting of a mononuclear molecular-skeleton parent, e.g., CH_4 ('methane'), or of a mononuclear functional parent, e.g., $PH(=O)(OH)_2$ ('phosphonic acid'), and not even in the case of identical units with functional-class names, e.g., –OOH ('hydroperoxide'; use locants '1,1′'), –S–S– ('disulfide'; use locants '1,1′'), or $H_2N–O^{\bullet}$ ('nitroxide'; use locants '*N*,*N*′'). If other substituents besides the linking substituent are present at the identical unit, locants must be cited for those as well, e.g., $Cl–CH_2–O–CH_2–Cl$ ('1,1′-oxybis[1-chloromethane]').

Notice that for an identical structural unit consisting of a molecular-skeleton parent of the atoms C, Si, Ge, Sn, Pb, P, As, Sb, Bi, and B, Arabic-numeral locants are used for the linked positions (e.g., '1,1′' for 'phosphonium' ($–^{+}PH_3$)); but for an identical structural unit consisting of the atoms O, S, Se, Te, F, Cl, Br, and I, italic Roman-letter locants must be used (e.g.,'*I*,*I*′' for 'iodonium' ($–^{+}IH$)), unless the chalcogen atom is part of a functional-class parent, in which case Arabic-numeral locants are used (e.g., '1,1′' for 'peroxide' (–O–O–).

On numbering a composite linking substituent, the **locants of noncentral multivalent substituents** in it have the lowest locant nearer to the identical structural unit, i.e., such multivalent substituents are numbered from the identical structure unit towards the central moiety of the composite linking substituent. This locant is cited last in the substituent name, E.g., $–CH_2(\mathbf{1})–CH_2(\mathbf{2})–O–CH_2(\mathbf{2})–CH_2(\mathbf{1})–$ ('(oxydiethane-**2**,**1**-diyl)-').

p. 33, name of **39**

Update to



39 'N^1-(2-aminoethyl)-N^1-methylethane-1,2-diamine'

CA: '1,2-ethanediamine, N^1-(2-aminoethyl)-N^1-methyl-'

p. 34, Table 3.3, left-hand column

Update to

–N=N–	prefix '**diazene-1,2-diyl-**' ~~'**azo-**'~~
–NH–NH–	prefix '**hydrazine-1,2-diyl-**' '**hydrazo-**'
=N–N=, >N–N=, etc.	prefix '**hydrazine-1,2-diylidene-**' ~~'**azino-**'~~
–N=N(=O)–	prefix '**(1-oxidodiazene-1,2-diyl)-**' ~~'**azoxy-**'~~
–N(=O)=N(=O)–	prefix '**(1,2-dioxidodiazene-1,2-diyl)-**' ~~'**(dioxidoazo)-**'~~

p. 34, Table 3.3, right-hand column

Update to

–C(=O)–NHNH–C(=O)–
prefix '**(hydrazine-1,2-diyldicarbonyl)-**' ~~'**(hydrazodicarbonyl)-**'~~

–C(=S)–NHNH–C(=S)–
prefix '**(hydrazine-1,2-diyldicarbonothioyl-**' ~~'**(hydrazodicarbonothioyl)-**'~~

p. 34, Table 3.3, bottom part

Update to

–NH–C(=O)–NHNH–C(=O)–NHNH–C(=O)–NH–
prefix '**[carbonylbis(hydrazine-2,1-diylcarbonylimino)]-**' ~~'**[carbonylbis(hydrazocarbonylimino)]-**'~~

–N=N–C_6H_4–C_6H_4–N=N–
prefix '[[**1,1′-biphenyl]-4,4′-diylbis(diazene-2,1-diyl)**]-' ~~'[[**1,1′-biphenyl]-4,4′-diylbis(azo)]-**'~~

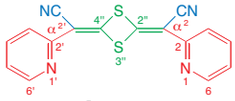
p. 35, name of **42**

Change **42** '1,1′-(cyclohex-4-ene-1,2-diyl)bis[ethan-1-one]' to

42 '1,1′-(cyclohex-4-ene-1,2-diyl)bis[ethanone]'

p. 35, name of **43**

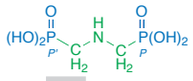
Update to



43 'α²,α²′-1,3-dithietane-2,4-diylidenebis[pyridine-2-acetonitrile]'

p. 35, name of **44**

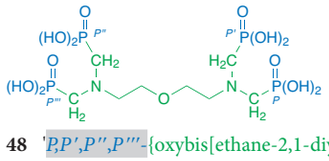
Update to



44 '*P*,*P*′-[iminobis(methylene)]bis[phosphonic acid]'

p. 35, name of **48**

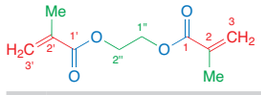
Update to



48 '*P*,*P*′,*P*″,*P*‴-{oxybis[ethane-2,1-diylnitrilo~bis(methylene)]}tetrakis[phosphonic acid]'

p. 35, Additional Examples

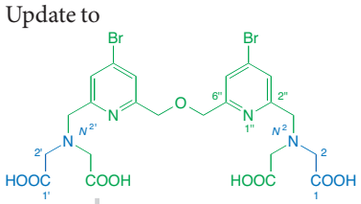
Update to the additional example



51a '2-methylprop-2-enoic acid 1,1′-(ethane-1,2-diyl) ester'/'1,1′-(ethane-1,2-diyl) bis[2-methylprop-2-enoate]'

p. 36, name of **52**

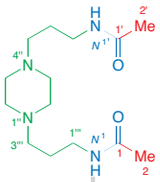
Update to



52 'N^{2},$N^{2'}$-{oxybis[methylene(4-bromopyridine-6,2-diyl)~methylene]}bis[N^{2}-(carboxymethyl)glycine]'

p. 36, name of **53**

Update and change (locants) to



53 'N^{1},$N^{1'}$-(piperazine-1,4-diyldipropane-3,1-diyl)bis[acet~amide]'

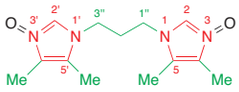
p. 36, *Footnote 7*

Update to

'butadiene monooxide' (= '2-ethenyloxirane';
⌐CH$_2$OCH(CH=CH$_2$)¬)
'propylene oxide' (= '2-methyloxirane';
⌐CH$_2$OCH(Me)¬)

p. 37, Additional Examples

Update to the additional example



59a '1,1′-(propane-1,3-diyl)bis[4,5-dimethyl-1*H*-imidazole] 3,3′-dioxide'

p. 37, name of **62**

Update to

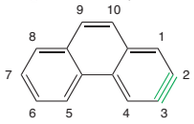
62 '2-(2-methyl-1,2-dioxidodiazenyl)propan-2-ol'

p. 37, name of **65**

Update to

65 ~~'1,4-**di**dehydrobenzene'~~ 'bicyclo[2.2.0]hexa-1,3,5-triene'

Replace **65** by **65a**



65a '2,3-**di**dehydrophenanthrene'

p. 39, name of **77**

Update to

77 '1-methyl-2-(prop-2-en-1-yldithio)ethyl prop-2-en-1-yl trisulfide'

3.3 Determination of the Molecular-Skeleton Parent[1)] (Update)

p. 42, **(b)**, first paragraph

Update to

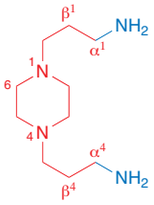
Senior is the **chain or ring structure**[2)] **with senior heteroatom content** in agreement with the seniority order of the compound classes in *Tab. 3.2*, i.e., the molecular-skeleton parent contains with decreasing seniority one or several atoms of the following kind (see **7**–**9** ~~and **13**~~):

N > P > As > Sb > Bi > B > Si > Ge > Sn > Pb > O > S > Se > Te (to that, cf. the *Classes 14–23* in *Tab. 3.2*).

This criterion is not valid for the choice between different ring structures, see (c). Since 2007, the seniority order has ranked 'silane' (SiH_4) between cyclic carbon compounds and acyclic carbon compounds (see **13**); the seniority of other Si compounds is not changed (see **7**).

p. 42, name of **5**

Update formula to



5 'piperazine-1,4-dipropanamine'

p. 42, name of **7**

Update to

7 '1,1,1,2,2-pentamethyl-2-(phenanthren-9-yl)~disilane'

p. 42, name of **9**

Update to

9 '2-(4-cyanophenyl)diazenecarbonitrile'

p. 42, name of **10**

Update to

10 '5-(2-carboxyhydrazinyl)pyridine-2-carboxylic acid'

p. 42, name of **11**

Update to

11 '1-(3-hydroxyoct-1-yn-1-yl)cyclohexanol'

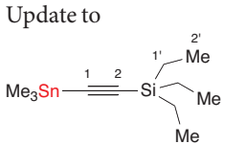
p. 42, name of **12**

Update to

12 '2-(9-chloro-3,7-dimethylnona-1,3,5,7-tetraen-1-yl)-1,3,3-trimethylcyclohex-1-ene'

p. 42, name of **13**

Update to

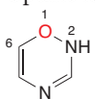


13 '~~triethyl[(trimethylstannyl)ethynyl]silane~~'
'trimethyl[2-(triethylsilyl)ethynyl]stannane'

- (nonfunctional) ~~silicon~~ tin compound (*§ 6.29*)
- Sn skeleton > silane (SiH_4) > C skeleton

p. 44, name of **44**

Update to

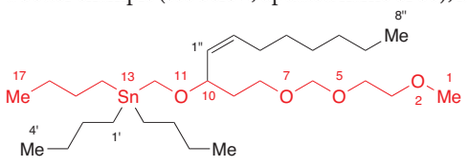


44 '2*H*-1,2,4-oxadiazine'

p. 46, **(d)**

Update to

a better example (see below, updated name of **60**), i.e., to

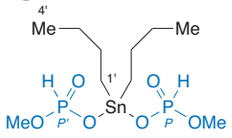


60**a** '13,13-dibutyl-10-[(1*Z*)-oct-1-en-1-yl]-2,5,7,11-tetraoxa-13-stannaheptadecane'

5 heteroatoms > 3 heteroatoms

p. 46, name of **60**

Update to



60 '~~5,5-dibutyl-2,4,6,8-tetraoxa-3,7-diphospha-5-stannanonane 3,7-dioxide~~
'phosphonic acid *P,P′*-(dibutylstannylene) *P,P′*-dimethyl ester'/'*P,P′*-(dibutylstannylene) *P,P′*-dimethyl bis[phosphonate]'

- ~~(nonfunctional) phosphorus compound (*§ 6.26*); *not* ester because of bonds Sn–O (*§ 6.14*)~~ see ester definition in update of *§ 6.14*, i.e., ester of an exotic acid, a common alcohol, and a nontraditional alcohol, i.e., by (b_0) and (c) of updated *§ 6.14*
- ~~7 heteroatoms > 4 heteroatoms~~

p. 46, name of **66**

Update to

66 '1-(disilathian-1-yl)disiloxane'

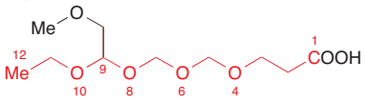
p. 46, **(h)**

Update to

Senior is that structure whose **heading parent** has in turn **lowest locants**[4)] **for principal groups**, i.e. the suffix, **heteroatoms**, **all multiple bonds**, **double bonds**. E.g.,

p. 47, name of **69**

Update to



69 '~~4-ethoxy-2,5,7,9-tetraoxadodecan-12-oic acid~~' '9-(methoxymethyl)-4,6,8,10-tetraoxadodecan~oic acid'

- carboxylic acid (*§ 6.7*)
- ~~'2,5,7,9' > '3,5,7,9' >~~ '4,6,8,**10**' > '4,6,8,**11**'
- since 2007, an acid, acid halide or halogenide, amide, nitrile, or aldehyde principal group at a chain and denoted by a suffix (a so-called Geneva suffix) has always been senior for lowest locant(s) to heteroatoms denoted by a heteroatom syllable; when only one such a principal group is needed, it always has the implied locant '1'

p. 47, name of **70**

Update to

70 '11-(ethoxymethyl)-8-oxo-3,6,9,12-tetraoxa~pentadecanoic acid'

- carboxylic acid (*§ 6.7*)
- '3,6,9,**12**' > '3,6,9,**13**' > '3,7,10,13'
- the locant '1' before '-oic acid' is no longer needed (see **69**)

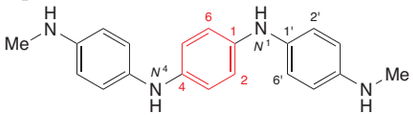
p. 47, name of **72**

Update to

72 '4-(prop-2-en-1-yl)hepta-1,5-dien-4-ol'

p. 47, name of **77**

Update to



77 '*N*^{1},*N*^{4}-bis[4-(methylamino)phenyl]benzene-1,4-diamine'

3.4 Numbering of the Molecular-Skeleton Parent and of Other Structure Components (Update)

p. 49, left-hand column, second bullet

Update to

Locants are **unprimed or primed Arabic numerals** such as '1,2,3...' or '1′,1″,2′,3″...', **Arabic numerals followed by a lowercase Roman letter** such as '1a,5a,5b...' or '1′a,5′a,5′b...', **Greek letters** such as 'α,β,γ...', 'α²,β²,β⁵...', or 'α,α′,β′,β″...', or **capital italic Roman letters** such as '*N,O,P,S,Si...*', '*N′,N″,N‴,S,S′...*', 'N^1,N^3,N^5...', or 'N'^1,N'^3'.

p. 49, left-hand column, third bullet

Update to

In the name, the **order of locants** for identical structure features is: alphabetized capital italic Roman letters ('*As,N,N′,N″*,N^1,N^3,N'^1,N'^3,*P,S...*') > alphabetized Greek letters ('α¹,α³,α⁵,β¹,β³,β⁵...'; 'α,β,α′, α″,β′,β″...') > increasing Arabic numerals ('1,2,1′,2′,2″,3,3a,4′,4a...'), e.g., '*N*,α,4-trimethylbenzenemethanamine' (4-Me–C_6H_4–CH(Me)–NHMe).

This is also the seniority order of locants in the case of choice.

In CA's 2007 update, the description of the locant rules has been significantly changed since *the rules for the omission of locants if no ambiguity arises have been modified*. Therefore, you find below a complete revision of p. 49 (right-hand column, second bullet) to p. 50 (left-hand column, first bullet) concerning the locants of **unsaturations**, **suffixes** (pricipal groups and conjunctive-name parts), **free valences**, and **prefixes**. To improve the reading, this text is not highlighted, except for changes in names with respect to the former rules.

- **Locants of unsaturations** in molecular-skeleton parent names and parent-substituent names:

  (i) The locant of an unsaturation is *omitted* in the name of a *two-membered* hydrocarbon chain (*§ 4.2*) or homogeneous heterochain (*§ 4.3.3.1*) (with or without suffix) and in corresponding prefixes. E.g., § 4.2 § 4.3.3.1

  'ethene' ($H_2C=CH_2$),
  'diarsene' (HAs=AsH),
  'ethynol' (HC≡C–OH),
  'ethenylidene-' ($H_2C=C<$ or $H_2C=C=$),
  'ethene-1,2-diyl-' (–HC=CH–)
  'diazenyl-' (HN=N–),
  'diazene-1,2-diyl-' (–N=N–).

  (ii) The locant of an unsaturation is *omitted* in the name of a carbomonocycle (*§ 4.4*) or homogeneous heteromonocycle (*§ 4.5.5.2*) with a *single unsaturation*, in the absence of an attached principal group (suffix), hydrocarbon chain + principal group (conjunctive-name part; see *§ 3.2.2*), or free valence(s). E.g., § 4.4 § 4.5.5.2 § 3.2.2

  'cyclohexene' ($\frown CH_2CH_2CH_2CH_2CH=CH\frown$),
  'cyclotetrasilene' ($\frown SiH_2SiH_2SiH=SiH\frown$).

  (iii) The locants of unsaturations are cited in all cases not mentioned in (i) and (ii) (see *§ 4.2*, *4.3.2*, *4.3.3.2*, *4.4*, *4.5.4*, *4.5.5.1*, *4.7*, *4.9*, and *4.10*, § 4.2, 4.3.2, 4.3.3.2, 4.4, 4.5.4, 4.5.5.1, 4.7, 4.9, 4.10

  'propa-1,2-diene' ($H_2C=C=CH_2$),
  'triaz-1-ene' ($H_2N–N=NH$),
  'prop-2-enoic acid' ($H_2C=CH–COOH$),
  'prop-2-yn-1-ylidene-' (HC≡C–CH< or HC≡C–CH=),
  'triaz-2-en-1-yl-' (HN=N–NH–),
  'cyclopent-2-en-1-one' ($\frown CH_2CH_2CH=CHC(=O)\frown$),
  'cyclopent-1-ene-1-methanol' ($\frown CH_2CH_2CH_2CH=C(CH_2OH)\frown$),
  'cyclohex-2-en-1-yl-' ($\frown CH_2CH_2CH_2CH=CHCH(-)\frown$),
  'cyclobuta-1,3-dien-1-yl-' ($\frown CH=CH–CH=C(-)\frown$).

  (iv) Only the first locant of a multiple bond is cited.

  Exceptions are **von Baeyer bridged polycycles** (*§ 4.7*) for which a second locant in parentheses is cited for a double bond at a bridgehead when the double bond does not lead to the next higher numbered atom. The numbering of von Baeyer bridged polycycles is determined by application of the following criteria in turn: § 4.7

  1. The numbering proceeds clockwise with a locant difference of 1 being preferred for double bonds.
  2. Citation of both locants of a double bond is minimized.
  3. Lowest locants are used.

- **Locants of** principal groups expressed as a **suffix** or of a hydrocarbon chain + principal group expressed as a **conjunctive-name part** (see *§ 3.2.2*): § 3.2.2

  (v) The locants of principal groups expressed as so-called *Geneva suffixes* are *omitted* in names, i.e., in the case of an acid (*§ 6.7*), an acid halide or halogenide (*§ 6.15*), an amide (*§ 6.16*), a nitrile (*§ 6.18*), or an aldehyde group (*§ 6.19*) *at a chain*, denoted by '-oic acid', '-oyl halide', '-amide', '-al', or another suffix derived from '-...oic acid'. E.g., § 6.7, 6.15 § 6.16, 6.18 § 6.19

  'hex-2-enoic acid' ($MeCH_2CH_2CH=CHCOOH$)),
  '4,7,10,13-tetraoxapentadecanoic acid' ($MeCH_2(OCH_2CH_2)_4COOH$; notice the new atom numbering with –C(**1**)(=O)OH implied in the name),
  'propanedioyl dichloride' ($ClC(=O)CH_2C(=O)Cl$),
  'propanedial' ($O=CHCH_2CH=O$),
  'hex-2-enal' ($MeCH_2CH_2CH=CHCH=O$).

  (vi) The locants of a principal group expressed as a suffix (different from a Geneva suffix, see (v))are *omitted* if there is only *one possible site* of attachment. E.g.,

  'methanol (MeOH),
  'silanamine' (H_3SiNH_2).

(vii) The locant of a *single* principal group expressed as a suffix (different from a Geneva suffix, see (v)) is *omitted* if the principal group is attached to a *two-membered* hydrocarbon chain (*§ 4.2*) or homogeneous heterochain (*§ 4.3.3.1*), to a *saturated* carbomonocycle (*§ 4.4*) or homogeneous heteromonocycle (*§ 4.5.5.2*), or to a *benzene* ring (*§ 4.2*). E.g., § 4.2 § 4.3.3.1 § 4.4, 4.5.5.2 § 4.2

'ethanamine' ($MeCH_2NH_2$),
'diazenecarboxaldehyde' (HN=N–CHO),
'cyclohexanone' ($-CH_2CH_2CH_2CH_2CH_2C(=O)-$),
'cyclotetrasilanylium' ($-SiH_2SiH_2SiH_2SiH^+-$),
'benzenamine' ($C_6H_5–NH_2$).

(viii) The locant of a *single* hydrocarbon chain + principal group expressed as a conjunctive-name part (see *§ 3.2.2*) is *omitted* if it is attached to a *saturated* carbomonocycle (*§ 4.4*) or homogeneous heteromonocycle (*§ 4.5.5.2*), or to a *benzene* ring (*§ 4.2*). E.g., § 3.2.2 § 4.4 § 4.5.5.2, 4.2

'cyclohexaneacetic acid'
($-CH_2CH_2CH_2CH_2CH_2CH(CH_2COOH)-$),
'benzenemethanol' ($C_6H_5–CH_2OH$).

(ix) The locants of a principal group expressed as a suffix or of a hydrocarbon chain + principal group expressed as a conjunctive-name part (see *§ 3.2.2*) are cited in all cases not mentioned in (v)–(viii). E.g., § 3.2.2

'ethane-1,2-diimine' (HN=CH–CH=NH),
'diazene-1,2-dicarboxylic acid' (HOOC–N=N–COOH),
'hexan-2-one' ($MeCH_2CH_2CH_2C(=O)Me$),
'trisilan-1-amine' ($H_3Si–SiH_2–SiH_2–NH_2$),
'trisilane-1,1,1,2,2,3,3,3-octamine'
($(H_2N)_3Si–Si(NH_2)_2–Si(NH_2)_3$),
'disiloxan-1-ol' ($H_3Si–O–SiH_2–OH$),
'cyclopent-2-en-1-one' ($-CH_2CH_2CH=CHC(=O)-$),
'benzene-1,2,3,4,5,6-hexamine' ($C_6(NH_2)_6$),
'benzene-1,2,3,4,5-pentamine' ($C_6H(NH_2)_5$),
'oxirane-2-carboxaldehyde'($-CH_2OCH(CHO)-$),
'bicyclo[2.2.2]octan-2-ol' ($C_8H_{13}–OH$),
'cyclohex-2-ene-1-acetaldehyde'
($-CH_2CH_2CH_2CH=CHCH(CH_2CHO)-$),
'benzene-1,2,3,4,5,6-hexamethanol' ($C_6(CH_2OH)_6$),
'benzene-1,2,3,4,5-pentamethanethiol' ($C_6H(CH_2SH)_5$),
'oxirane-2-methanamine'($-CH_2OCH(CH_2NH_2)-$),
'cyclotetrasiloxane-2-butanenitrile'
($-OSiH_2OSiH_2OSiH_2OSiH(CH_2CH_2CH_2CN)-$).

- **Locants of free valences** in names:

(x) The locants of free valences of acyclic substituents with only *one possible site* of attachment or of substituents with the site of attachment implied in the name are *omitted*. E.g.,

'methyl-' (Me–),
'methylene-' ($H_2C<$ or $H_2C=$),
'amino-' ($H_2N–$),
'imino-'(HN< or HN=),
'acetyl-' ($MeC(=O)–$),
'benzoyl-' ($PhC(=O)–$),
'sulfonimidoyl-' (S(=O)(=NH)<)
'phosphono-' ($P(=O)(OH)_2–$),
'arsinothioyl-' ($H_2As(=S)–$),
'ethoxy-' ($MeCH_2O–$),
'chloro-' (Cl–),
'nitro-' ($O_2N–$).

(xi) The locant of the free valence(s) *at one terminus* of a *saturated two- or poly-membered* hydrocarbon chain (*§ 4.2*) or homogeneous heterochain (*§ 4.3.3.1*) and *at one terminus* of an *unsaturated two-membered* hydrocarbon chain (*§ 4.2*) or homogeneous heterochain (*§ 4.3.3.1*) is *omitted*. E.g., § 4.2, 4.3.3.1 § 4.2 § 4.3.3.1

'ethyl-' ($MeCH_2–$),
'butylidene-' ($MeCH_2CH_2CH<$ or $MeCH_2CH_2CH=$),
'propylidyne-' (e.g., $MeCH_2C\equiv$),
'hydrazinyl-' ($H_2N–NH–$),
'triazanyl-' ($H_2N–NH–NH–$),
'tetrasilanyl-' ($H_3Si–SiH_2–SiH_2–SiH_2–$),
'triphosphinyl-' ($H_2P–PH–PH–$),
'diphosphinylidene-' ($H_2P–P<$ or $H_2P–P=$)
'ethynyl-' ($HC\equiv C–$),
'ethenylidene-' ($H_2C=C<$ or $H_2C=C=$),
'diazenyl-' (HN=N–).
But:
'diphosphene-1,2-diyl-' (–P=P–).

(xii) The locants of one or two free valences at a *homogeneous chalcogen molecular-skeleton parent* (peroxides and polyoxides, see *§ 6.30*; polysulfoxides, polysulfones, polysulfides, and chalcogen analogs, see *§ 6.31*) are *omitted*. E.g., § 6.30 § 6.31

'dioxy- '(–O–O–),
'trisulfinyl-' (–S(=O)–S(=O)–S(=O)–).

(xiii) The locant of one or two free valences *at the same ring atom* of a *saturated* carbomonocycle (*§ 4.4*) or homogeneous heteromonocycle (*§ 4.5.5.2*) is *omitted*. E.g., § 4.4 § 4.5.5.2

'cyclopropyl-' ($-CH_2CH_2CH(-)-$),
'cyclotetrasilanylidene-' (e.g., $-SiH_2SiH_2SiH_2Si(<)-$).

(xiv) The locant of a *single* free valence at the *benzene* ring (*§ 4.4*) is *omitted*. E.g., § 4.4

'phenyl-' ($C_6H_5–$),
'4-chlorophenyl-' ($Cl–C_6H_4–$).

(xv) The locant of the free valence at the heteroatom of a *cationic heterocycle* substituent with a single heteroatom and a parent name ending in '-ium' is *omitted* in the corresponding prefix (*§ 6.3.6*). E.g., § 6.3.6

'pyridinio-'' ($-CH=CH–CH=CH–CH=N^+(-)-$),
'oxiranio-' ($-CH_2O^+(-)CH-$).

(xvi) The locants of free valences are cited in all cases not mentioned in (x)–(xv). E.g.,

'ethane-1,2-diyl-' ($–CH_2–CH_2–$),
'ethane-1,2-diylidene-' (e.g., >CH–CH<),
'prop-2-en-1-ylidene-' ($H_2C=CH–CH<$ or $H_2C=CH–CH=$),
'triaz-2-en-1-yl-' (HN=N–NH–),
'triaz-1-ene-1,3-diyl-' (–NH–N=N–),
'disilazan-1-yl-' ($H_3Si–NH–SiH_2–$),
'cyclohex-2-en-1-yl-' ($-CH_2CH_2CH_2CH=CHCH(-)-$),
'oxiran-2-yl-' ($-CH_2OCH(-)-$),
'pyrazin-2-yl-' ($-CH=N–CH=CH–N=C(-)-$),
'cyclotetrasiloxan-2-yl-' ($-OSiH_2OSiH_2OSiH_2OSiH(-)-$).

- **Locants of** substituents expressed as **prefixes** (notice that (xviii)–(xxiv) are *not valid for multivalent linking substituents* in multiplicative nomenclature; for this, see (xvii) and *§ 3.2.3*): § 3.2.3

(xvii) The locants of attachment of a *multivalent linking substituent* espressed as prefix in multiplicative nomenclature (*§ 3.2.3*) must *always* be cited, even in § 3.2.3

the case of identical units consisting of a mononuclear molecular-skeleton parent or mononuclear functional parent, and even in the case of identical units with functional-class names (cf. update *§ 3.2*, p. 33 (c)). *Arabic numerals* are used for a C, Si, Ge, Sn, Pb, P, As, Sb, Bi, or B mononuclear molecular-skeleton parent, and *capital italic Roman-letter locants* are used for an O, S, Se, Te, F, Cl, Br, or I mononuclear molecular-skeleton parent (see, e.g., *§ 6.3.2.1*). If other substituents besides the linking substituent are present at the identical unit, locants must be cited for those as well. E.g., § 6.3.2.1

'2,2′-thiobis[acetic acid]' ($HOOCCH_2–S–CH_2COOH$),
'1,1′-methylenebis[hydrazine]' ($H_2N–NH–CH_2–NH–NH_2$),
'1,1′-oxybis[methane]' (Me–O–Me),
'1,1′-oxybis[1-chloromethane]' ($ClCH_2–O–CH_2Cl$),
'1,1′-ethane-1,2-diylbis[1,1,1-trimethylphosphonium]' ($Me_3P^+–CH_2CH_2–P^+Me_3$)
'*P,P′*-1,3-phenylenebis[phosphonous acid]' ($(HO)_2P–C_6H_4–P(OH)_2$),
'*S,S′*-butane-1,4-diylbis[*S*-ethyl-*S*-methylsulfonium]' ($EtS^+(Me)–CH_2CH_2CH_2CH_2–S^+(Me)Et$)),
'*N,N′*-methylenebis[carbamic acid] *C,C′*-diethyl ester' (EtO–C(=O)–NH–CH_2–NH–C(=O)–OEt)
'1,1′-[oxybis(methylene)]bis[hydroperoxide]' (HOO–CH_2–O–CH_2–OOH),
'*N,N′*-1,4-phenylenebis[*N*-ethenyl nitroxide]' ($^•O–N(CH=CH_2)–C_6H_4–N(CH=CH_2)–O^•$),
'1,1′-(1,1,4,4-tetramethylbutane-1,4-diyl)bis[2-(1,1-dimeth~ylethyl) peroxide]' ($Me_3C–O–O–C(Me)_2CH_2CH_2C(Me)_2–O–O–CMe_3$),
'1,1′-(ethane-1,2-diyl)bis[2-(naphthalen-1-yl) disulfide]' ($C_{10}H_7–S–S–CH_2CH_2–S–S–C_{10}H_7$).

(xviii) The locants of a substituent prefix are *omitted* for substituents attached to a *single occurrence* of methane (*§ 4.2*) or another *mononuclear* molecular-skeleton parent, incl. the corresponding oxide sulfide, selenide, or telluride (*§ 4.3.3* and *6.26–6.29*). E.g., § 4.2 § 4.3.3, 6.26–6.29

'dichloromethane' (CH_2Cl_2),
'triphenylphosphine oxide' ($Ph_3P=O$),
'trimethylborane' (BMe_3).

(xix) The locants of a substituent prefix are *omitted* for substituents attached to a *single occurrence* of methane (*§ 4.2*) or another *mononuclear* molecular-skeleton parent (*§ 4.3.3* and *6.26–6.29*) which carries a principal group expressed as *suffix*, *except* for principal groups with substitutable H atoms (e.g., $–NH_2$) or for alcohol (e.g. –OH) or acid principal groups (e.g., –COOH, $–SO_3H$). E.g., § 4.2 § 4.3.3, 6.26–6.29

'diphenylmethanethione' ($Ph_2C=S$),
'trimethylsilanecarbonitrile' ($Me_3Si–CN$).
But:
'1,1-dichlorosilanediamine' ($Cl_2Si(NH_2)_2$),
'1-chloromethanol' ($ClCH_2OH$),
'1,1,1-trifluoromethanesulfonic acid' (CF_3SO_3H).

(xx) The locants of a substituent prefix are *omitted* for substituents attached to a *mononuclear N functional parent* such as $H_2N^•$ ('amidogen'), $HN^{2•}$ ('imidogen'), or $H_2N–O^•$ ('nitroxide') (see *§ 6.2*). E.g., § 6.2

'methylamidogen' ($MeNH^•$),
methyl phenyl nitroxide' (MeN(Ph)–$O^•$).

(xxi) The locants of a substituent prefix are *omitted* for secondary substituents attached to a *mononuclear parent substituent* having all its substitutable H atoms at a single atom. E.g.,

'(trifluoromethyl)-' ($CF_3–$),
'(nitromethyl)-' ($O_2N–CH_2–$),
'(dimethylamino)-' ($Me_2N–$),
'(ethylimino)–' ($MeCH_2–N<$ or $MeCH_2–N=$),
'(methylcarbonimidoyl)-'(Me–N=C< or Me–N=C=),
'(diphenylphosphino)-' ($Ph_2P–$),
'(aminomercaptophosphino)-' ($H_2N–P(SH)–$),
'(dimethoxyphosphinyl)–' ($(MeO)_2P(=O)–$),
'(phenylphosphinothioyl)'- (Ph–PH(=S)–).

(xxii) The locant of a substituent prefix is *omitted* for a *single* substituent attached to a *two-membered* hydrocarbon chain (*§ 4.2*) or homogeneous heterochain (*§ 4.3.3.1*) *without a principal group* expressed as a suffix. E.g., § 4.2 § 4.3.3.1

'chloroethyne' (HC≡C–Cl),
'azidoethane' ($MeCH_2–N_3$),
'iodohydrazine' ($H_2N–NH–I$),
'phenyldiazene' (Ph–N=NH),
'oxodisilane' ($H_3Si–SiH=O$).
But:
'2-chloroethenol' (Cl–CH=CH–OH),
'2-phenyldiazenecarboxaldehyde' (Ph–N=N–CHO).

(xxiii) The locants of one or two substituent prefixes are *omitted* for substituents attached to a *hydroperoxide function* (–OOH) or analoga (*§ 6.22*) or to a *homogeneous chalcogen molecular-skeleton parent* (peroxides and polyoxides, see *§ 6.30*; polysulfoxides, polysulfones, polysulfides, and chalcogen analogs, see *§ 6.31*), i.e., before functional-class names (*§ 3.2.6*). E.g., § 6.30 § 6.31 § 3.2.6

'1,1-dimethylethyl hydroperoxide' ($Me_3C–OOH$),
'diethyl tetraoxide' ($MeCH_2–O–O–O–O–CH_2Me$),
'4-methoxyphenyl propyl disulfone' ($MeO–C_6H_4–S(=O)_2–S(=O)_2–CH_2CH_2Me$,
'diphenyl disulfoxide' (Ph–S(=O)–S(=O)–Ph).

(xxiv) The locant of a substituent prefix is *omitted* for a *single* substituent attached to a *saturated* carbomonocycle (*§ 4.4*) or homogeneous heteromonocycle (*§ 4.5.5.2*), or to a *benzene* ring (*§ 4.2*), all *without a principal group* expressed as a suffix. E.g., § 4.4 § 4.5.5.2, 4.2

'methylcyclohexane'(⌐$CH_2CH_2CH_2CH_2CH_2CH(Me)$¬),
'iodobenzene' (PhI),
'methyltriaziridine'(⌐$NH–NH–N(Me)$¬).

(xxv) The locants of the '**hydro**-' prefix are *omitted* in the case of fully saturated cyclic molecular-skeleton parents. E.g.,

'tetrahydrofuran' (C_4H_8O),
'tetrahydro-2*H*-pyran' ($C_5H_{10}O$),
'dihydrofuran-2(3*H*)-one' ($(C_4H_6O)=O$),
'1-chlorodecahydronaphthalene' ($C_{10}H_{17}Cl$).

(xxvi) The capital italic Roman-letter locants of substituent prefixes are *never omitted* for substituents attached to a *functional parent* (C-oxoacids of *§ 6.9*, S-, Se-, Te-, and N-oxoacids of *§ 6.10*, P- and As-oxoacids of *§ 6.11*, B-oxoacids of *§ 6.12*, and all their derivatives of *§ 6.13–6.17*) (see also below, (xxxi)). E.g., § 6.9 § 6.10 § 6.11, 6.12 § 6.13–6.17

'*N*-methylcarbamic acid' (MeNH–C(=O)–OH),
'*N*-methylcarbonimidic acid dimethyl ester' (MeO–C(=NMe)–OMe),

'*N,N,N′*-trimethylcarbamimidic acid methyl ester' ($Me_2N–C(=NMe)–OMe$),
'*N,N,N′,N′*,2-pentamethylimidodicarbonimidic diamide' ($Me_2N–C(=NH)–N(Me)–C(=NH)–NMe_2$),
'*N,N*-dimethylamidoselenic acid' ($Me_2N–Se(=O)_2–OH$),
'*P*-ethylphosphonic acid' ($MeCH_2–P(=O)(OH)_2$),
'*N*-(1,1-dimethylethyl)phosphorimidic tribromide' ($P(=N–CMe_3)Br_3$),
'*P,N*-diethyl-*N*-prop-2-yn-1-ylphosphonoselenoic diamide' ($Et–P(=Se)(NH_2)–N(Et)CH_2C{\equiv}CH$).

(xxvii) The capital italic Roman-letter locant '*O*' of a substituent prefix for a substituent at an *oxime* modification (*§ 6.19* and *6.20*) and the numeral locants '1' and '2' of a substituent prefix for substituents at a *hydrazone* modification (*§ 6.19* and *6.20*) or *hydrazide* modification (*§ 6.17*) are *never omitted*. E.g., § 6.19, 6.20 § 6.19, 6.20 § 6.17

'butan-2-one *O*-acetyloxime' ($MeCH_2C(Me)=N–O–C(=O)Me$),
'propanal 2-methylhydrazone' ($MeCH_2CH=N–NHMe$),
'propanimidic acid 2-[(3-nitrophenyl)methylene]hydrazide' ($MeCH_2C(=NH)–NH–N=CH–C_6H_4–NO_2$).

(xxviii) The locants of substituent prefixes are cited in all cases not mentioned in (xviii)–(xxvii). E.g.,

'1-(hydroxyamino)methanol' ($HONH–CH_2OH$; see (xix)),
'1,1,1-trifluoromethanesulfonic acid' (CF_3SO_3H; see (xix)),
'2-bromoethynol' ($Br–C{\equiv}C–OH$; cf. (xxii)),
'2-oxopropanedinitrile' ($NC–C(=O)–CN$),
'1,1,2,2,2-pentafluoroethanol' (CF_3CF_2OH),
'2-sulfobutanedioic acid' ($HOOC–CH_2CH(SO_3H)–COOH$),
'1-chloroethane-1,2-diol' ($HOCH_2CH(Cl)OH$),
'1-ethyldisiloxane' ($H_3Si–O–SiH_2–CH_2Me$),
'1,2-dichlorodiazene' ($Cl–N=N–Cl$),
'1,2,3,4,5,6-hexamethylbenzene' ($C_6(Me)_6$),
'2-methylenecyclotrisiloxane' ($\underline{\frown OSiH_2OSiH_2OSi(=CH_2)–}\supset$).
'2-methylpyrazine' ($\underline{\frown CH=N–CH=CH–N=C(Me)–}\supset$),
'1,1,1,2,2,3,4,4,4-nonafluoro-3-iodobutane' ($CF_3CF(I)CF_2CF_3$),
'(2,3,4,5,6-pentafluorophenyl)-' ($C_6F_5–$),
'(2-phenylethynyl)-' ($Ph–C{\equiv}C–$),
'(2-oxoethylidene)-' (O=CH–CH< or O=CH–CH=),
'(2-phenyldiazenyl)-' ($Ph–N=N–$)
'[2-(quinolin-2-yl)ethynyl]-' ($(C_9H_9N)–C{\equiv}C–$),
'(2-chloroacetyl)-' ($ClCH_2C(=O)–$).

- **Capital italic Roman-letter locants and Greek-letter locants** in names:

(xxix) Italic Roman-letter locants or Greek-letter locants of substituent prefixes have no superscript numeral locant or prime if *only one possible position* is present in a structure. E.g.,

N,N-diethylethanamine' ($(MeCH_2)_3N$),
P-(2-chloroethyl)-*N,N*-diethylphosphonamidic acid' ($ClCH_2CH_2–P(=O)(OH)–N(CH_2Me)_2$),
'α,β-dimethylbenzeneethanol' ($Ph–CH(Me)–CH(Me)–OH$),
'β,β-diethyl-α-methylbenzeneethanimine' ($Ph–C(CH_2Me)_2–C(Me)=NH$).

(xxx) Italic Roman-letter locants or Greek-letter locants of substituent prefixes have *superscript numeral locants if several possible positions* are present and if such superscript numeral locants can be attributed (rather than unprimed and primed locants). E.g.,

'N^1, N^2-dimethylethane-1,2-diamine' ($MeNH–CH_2CH_2–NHMe$)
'N^1-methylbutanediamide' ($H_2N–C(=O)CH_2CH_2C(=O)–NHMe$),
'N^3-methylpyridine-2,3-disulfonamide' ($MeNH–S(=O)_2–(C_5H_2N)–S(=O)_2–NH_2$),
'α^1,α^4-dimethylcyclohexane-1,4-dipropanenitrile' ($NC–CH(Me)CH_2–C_6H_{10}–CH_2CH(Me)–CN$).

(xxxi) Italic Roman-letter locants or Greek-letter locants of substituent prefixes have *primes if several possible positions* are present but no superscript numeral locants can be attributed (see also (xxvi) or the same superscript numeral locant should be used. E.g.,

'*N*-cyanoguanidine' ($H_2N–C(=NH)–NH–CN$),
'*N,N′*-dimethyl-*N″*-phenylguanidine' ($MeNH–C(=NPh)–NHMe$),
'*N*-cyano-*N′,N″*-dimethylguanidine' ($MeNH–C(=NMe)–NH–CN$),
'*N,N″*-ethane-1,2-diylbis[*N′,N′*-dimethylurea]' ($Me_2N–C(=O)–NH–CH_2CH_2–NH–C(=O)–NMe_2$)
'*N,N,N′,N′*-tetramethyl-*N″*-phenylphosphorodiamid~imidic fluoride' ($F–P(=NPh)(NMe_2)_2$),
'*N,N′*-methylenebis[carbamic acid] *C,C′*-diethyl ester' ($EtO–C(=O)–NHCH_2NH–C(=O)–OEt$)
'*N,N*-dimethyl-*N′*-propylethanimidamide' ($MeC(=NCH_2CH_2Me)–NMe_2$),
'α,α,α′,α′-tetraphenyl-2-(phenylsulfonyl)cyclopropane-1,1-diacetonitrile' ($PhSO_2–C_3H_3(–C(Ph)_2–CN)_2$).

(xxxii) Italic Roman-letter locants or Greek-letter locants of substituent prefixes have *superscript numeral locants and primes* in the case of (1) a multiplicative name for the multiplying linking substituent attached to positions with a superscript numeral locant (see also (xvii), (2) a primed locant that occurs at different positions of the parent structure (see also (xxx), and (3) of a spiropolycycle (*§ 4.9*), ring-assembly derivative (*§ 4.10*), or in a ligand name (*§ 6.34*) which needs primed locants (rather than unprimed and primed locants). E.g., § 3.2.3 § 4.9, 4.10 § 6.34

'N^1,$N^{1\prime}$-hexane-1,6-diylbis[N^4-methylbenzene-1,4-diamine]' ($MeNH–C_6H_4–NH–(CH_2)_6–NH–C_6H_4–NHMe$; (1)),
'N^1,$N^{1\prime}$,N^3,$N^{3\prime}$-tetramethyl-$N^{\prime 1}$,$N^{\prime 3}$-diphenylpropanediimid~amide' ($Me_2N–C(=NPh)–CH_2–C(=NPh)–NMe_2$; (2)),
'[$C^1(Z)$,$C^3(Z)$]-$N^{\prime 1}$,$N^{\prime 3}$-diphenylbenzene-1,3-dicarboximid~amide' ($H_2N–C(=NPh)–C_6H_4–C(=NPh)–NH_2$; (2)),
'α^1,$\alpha^{4\prime}$-dihydroxy-[1,1′-biphenyl]-4,4′-diacetic acid' ($HOOC–CH(OH)–C_6H_4–C_6H_4–CH(OH)–COOH$; (3)),
'[pyridine-2,6-dicarboxylato(2–)-κO^2,κ$O^{\prime 2}$]' ($^-OOC–C_5H_5N–C(OO)>M$; (3))

p.50, **(b_1)**

Update to

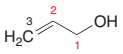
Indicated H atom, taking into account *§ A.5*[1)] (*Caution*: Since 2007, tautomeric structures have been 'normalized' in CA to avoid scattering of information , i.e., rules are applied for selecting a unique index name for two or more tautomers; the most common tautomers handled in this way include compounds containing the N skeletons N–N–N, N–C–N, N–C–O, N–C–S, as well as certain P and S acids and amides (see ¶ 122 and *§ A.5*)). § A.5 ¶ 122, § A.5

p. 50, *Footnote 2*

Update to

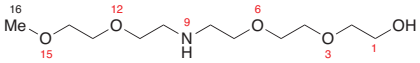
Principal groups or free valences are senior for lowest locants to multiple bonds in acyclic structures (see **7**) and in aliphatic mono- and polycycles (see **8**), however, not in fused polycycles. Since 2007, principal groups (suffix) have also been senior for lowest locants to heteroatom syllables in heterochains with replacement names (see § 4.3.2 and **8a**). E.g.,

§ 4.3.2



7 'prop-2-en-1-ol'
alcohol (*§ 6.21*)

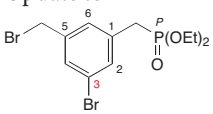
8 'bicyclo[2.2.1]hept-5-en-2-one'
ketone (*§ 6.20*)



8a '~~2,5,11,14-tetraoxa-8-azahexadecan-16-ol~~'
'3,6,12,15-tetraoxa-9-azahexadecan-1-ol'
the O atom of the principal group is not part of the molecular-skeleton parent; the principal group (–OH) determines the numbering of **8a**; the former numbering is valid in the absence of the principal group (–OH→ –H)

p. 52, name of **30**

Update to



30 '*P*-{[3-bromo-5-(bromomethyl)phenyl]methyl}~ phosphonic acid diethyl ester' or
'diethyl *P*-{[3-bromo-5-(bromomethyl)phenyl]methyl}~ phosphonate'

3.5 Alphabetical Order of Prefixes or Parent-Substituent Names[1)2)] (Update)

p. 53, name of **3**

Update to

3 '1-methylpropyl prop-1-en-1-yl trisulfide'

4.2 Hydrocarbon Chains (Update)

p. 56, name of **5**
Update to
5 'prop-2-en-1-yl-'

p. 56, name of **6**
Update to
6 'pent-1-yn-1-yl-'

p. 56, name of **8**
Update to
8 'prop-2-en-1-ylidene-'

p. 56, name of **9**
Update to
9 'pent-2-yn-1-ylidene-'

p. 56, name of **16**
Update to
16 'prop-2-en-1-ylidyne-'

p. 56, name of **17**
Update to
17 'pent-2-yn-1-ylidyne-'

p. 56, Footnote 3
Update to
3) The locant '1' of the free valence(s) at one chain terminus of a *saturated two- or poly-membered* hydrocarbon chain, or at one chain terminus of an *unsaturated two-membered* hydrocarbon chain is omitted ~~in the case of monovalent substituents, e.g., and in the case of di- and trivalent substituents with the free valences at the same terminus of the chain~~, e.g., 'ethyl-' (**4**; $MeCH_2$–), 'propylidene-' ($MeCH_2CH<$ or $MeCH_2CH=$), 'butylidyne-' (e.g., $MeCH_2CH_2C\equiv$), 'ethenyl-' (**39**; $CH_2=CH$–), 'ethenylidene-' (**42**; $CH_2=C<$ or $CH_2=C=$).

Since 2007, the locant '1' of free valence(s) at one terminus of *unsaturated poly-membered* hydrocarbon chains has no longer been omitted, e.g., 'prop-2-en-1-yl-' (**5**; $CH_2=CHCH_2$–)'prop-2-en-1-ylidene-' (**8**; $CH_2=CHCH<$), 'pent-2-yn-1-ylidyne-' (**17**; e.g., $MeCH_2C\equiv C–C\equiv$).

p. 58, name of **5**
Update to
CA: '**2-propen-1-yl**-'

p. 58, name of **41**
Update to
CA: '**2-propyn-1-yl**-'

p. 58, name of **45**
Update to
systematically '[(2*E*)-3,7-dimethylocta-2,6-dien-1-yl]-'

p. 58, name of **46**
Update to
systematically '[(2*Z*)-3,7-dimethylocta-2,6-dien-1-yl]-'

p. 58, name of **47**
Update to
systematically '(1-ethenyl-1,5-dimethylhex-4-en-1-yl)-'

p. 58, name of **48**
Update to
systematically '[(2*E*,6*E*)-3,7,11-trimethyldodeca-2,6,10-trien-1-yl]-'

p. 58, name of **49**
Update to
systematically '[(4*E*)-1-ethenyl-1,5,9-trimethyldeca-4,8-dien-1-yl]-'

p. 58, name of **50**
Update to
systematically '[(2*E*,7*R*,11*R*)-3,7,11,15-tetramethylhexadec-2-en-1-yl]-'

p. 59, name of **60**
Update to
60 '[(2*E*)-pent-2-en-4-yn-1-yl]-'

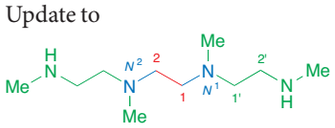
p. 59, name of **61**
Update to
61 '[(2*E*)-pent-2-en-1-ylidene]-'

p. 59, name of **62**
Update to
62 '(3-methylbut-2-en-4-yn-1-yl)-'

4.3 Heterochains (Update)

p. 61, name of **2**

Update to



2 'N^1,N^2-dimethyl-N^1,N^2-bis[2-(methylamino)~ethyl]ethane-1,2-diamine'

p. 61, *Footnote 1*

Update to

–N=N– ('~~azo~~' '-diazene-1,2-diyl-')

p. 62, **(c)**

Update to

The **numbering** is such that heteroatoms as a set, independently of their seniority, have lowest locants, ~~and not the~~ in the absence of principal group(s) ~~or unsaturation(s)~~[4]. If a choice remains, heteroatoms of higher seniority (see (b)) have lower locants, e.g., O > S in '2-oxa-6-thia-1,7-distannaheptane' (**3**). Since 2007, in the presence of principal group(s), lowest locants have been assigned to the suffix, not to heteroatom syllables (see **7a** and **11**), according to ~~If a choice still remains,~~ the numbering rules ~~are applied~~. For the position of the locants in the name, see also the numbering rules.

§ 3.4

p. 62, **(d)**

Update to

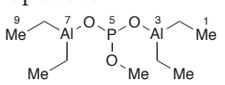
Prefixes of unbranched heterochain substituents with at least four irregularly placed heteroatoms[1] are formed like those of the corresponding hydrocarbon-chain substituents (including numbering!) by attaching the final syllable '-**yl**-', '-**ylidene**-', '-**diyl**-', '-**ylidyne**-', etc., to the names formed according to (b), i.e., free valences must be at a terminus of the chain; note that the locant '1' must always be indicated: e.g., '-ane' → '-1-yl-', '-1-ylidene-', '-1-ylidyne-'; '-ene' → '-en-1-yl-', '-en-1-ylidene-', '-en-1-ylidyne-'; etc. If a choice remains, the numbering is performed by (c). E.g.,

also § 5.4

§ 4.2 (c)

p. 62, name of **7**

Update to



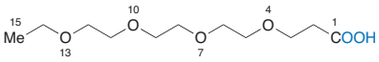
7 '3,7-diethyl-5-methoxy-4,6-dioxa-5-phospha-3,7-dialuminanonane'

7 ~~should rather be~~ is named by CA as a neutral organometallic compound ((h) in *§ 6.34*):

'tetraethyl{μ-[monomethyl phosphito(2–)-κ*O*′,κ*O*″]}dialuminum'

(see (a) and *Tab. 3.2*)

Update to a more convenient example **7a**

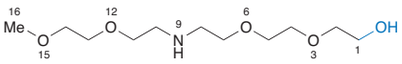


7a '4,7,10,13-tetraoxapentadecanoic acid'

before 2007, the locant set of the heteroatoms (**3**,6,9,12 > **4**,7,10,13) rather than the principal group would have determined the numbering, i.e., the name before 2007 was '3,6,9,12-tetraoxapentadecan-15-oic acid'

p. 62, name of **11**

Update to



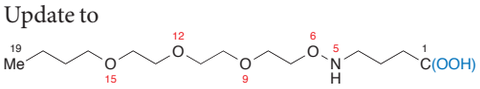
11 ~~'2,5,11,14-tetraoxa-8-azahexadecan(-16-ol)~~

'3,6,12,15-tetraoxa-9-azahexadecan-1-ol'

the O atom of the principal group is not part of the molecular-skeleton parent; ~~number first the molecular-skeleton parent!~~ since 2007, the principal group (–OH) has determined the numbering of **11**; the former numbering is valid in the absence of the principal group (–OH → –H)

p. 62, *Footnote 4*, name of **4**

Update to



4 '6,9,12,15-tetraoxa-5-azanonadecan(oic acid)'

- carboxylic acid (*§ 6.7*)
- '5,**6**,9,12,15' > '5,**8**,11,14,15'; this seniority order is also valid in the absence of the principal group (–COOH → –Me)
- now (2007), ~~not~~ the principal group determines the numbering of **4** which results in the same numbering as before ~~but the molecular-skeleton parent with imposed numbering~~; see also **11**

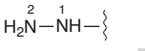
p. 63, name of **28**

Update to

28 'pentaz-2-en-1-ylidene-'

p. 64, name of **39**

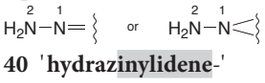
Update to



39 '**hydrazinyl**-'

p. 64, name of **40**

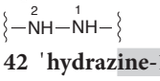
Update to



40 '**hydrazinylidene**-'

p. 64, name of **42**

Update to

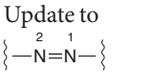


42 '**hydrazine-1,2-diyl**-'/'**diaziridine**'

free valences leading to different atoms / to the same C-atom (e.g., component ring in a spiro structure)

p. 64, name of **43**

Update to

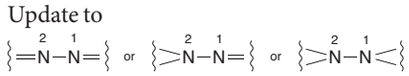


43 '**diazene-1,2-diyl**-'/'**3*H*-diazirine**'

free valences leading to different atoms / to the same C-atom (e.g., component ring in a spiro structure)

p. 64, name of **44**

Update to



44 '**hydrazine-1,2-diylidene**-'

p. 65, name of **58**

Update to

58 'triphosph-1-en-1-yl-'

p. 65, name of **72**

Update to

72 '[1-(trisiloxan-1-yloxy)tetrasiloxan-1-ylidene]-'

4.4 Carbomonocycles[1)] (Update)

p. 69, name of **26**
Update to
26 '(buta-1,3-dien-1-yl)cyclopropane'

p. 70, name of **43**
Update to
CA: '(3-phenyl-2-propen-1-yl)-'

p. 70, name of **48**
Update to
CA: '(3-phenyl-2-propen-1-ylidene)-'

p. 71, name of **55**
Change **55** '1,2,3,3-tetramethylcyclohex-1-ene' to
55 '1,2,3,3-tetramethylcyclohexene'

4.5 Heteromonocycles (Update)

p. 75, name of **20**

Update to

20 '**pyrazine**'
prefix: 'pyrazin-2-yl-' (do not omit the locant)

p. 76, name of **39**

Update to

39 '**selenophene**-**2**-**yl**-'
formerly in CA, '**2**-**selenopheneyl**-' ~~is~~ has been used, as an exception with an inserted 'e' because of the position of the locant '2' (risk of confusion with '...phenyl...')

p. 76, name of **40**

Update to

40 '**tellurophene**-**2**-**yl**-'
formerly in CA, '**2**-**telluropheneyl**-' ~~is~~ has been used, as an exception with an inserted 'e' because of the position of the locant '2' (risk of confusion with '...phenyl...')

p. 82, **(c)**

Update to

Prefixes of heteromonocycle substituents with more than ten ring members are formed like those of the corresponding carbomonocycle substituents by attaching the final syllables '-**yl**-', '-**ylidene**-', '-**diyl**-', etc., to the names formed according to (a); notice that the numbering according to (b) must be retained, and the locant(s) of the free valence(s) must always be indicated, e.g., '-ane'→ '-*x*-yl-', '-*x*-ylidene-'; '-ene'→ '-en-*x*-yl-', '-en-*x*-ylidene-'; etc.; *x* = locant of the free valence(s).

p. 84, **(c)**

Update to

Prefixes of saturated Si-containing heteromonocycle substituents with regular patterns are formed like those of heteromonocyclus substituents with Hantzsch–Widman names ((d) of *§ 4.5.3*). The numbering is performed according to (a) or (b), respectively, whereby the locant 1 of one or two free valences at the same Si atom of a homogeneous heteromonocycle is omitted (see **162**). E.g.,

p. 84, name of **162**

Change **162** 'cyclotrisilan-1-ylidene-' to

162 'cyclotrisilanylidene-'

4.6 Fused Polycycles (Carbo- and Heterocycles) (Update)

p. 87, name of **11**

Change **11** '9,18-dihydrobenzo[*rst*]phenanthro[10,12-*cde*]~pentaphene' to

11 '9,18-dihydrobenzo[*rst*]phenanthro[10,1,2-*cde*]pentaphene'

p. 91, name of **75**

Update to

75 '**tellurophene**'

prefix, e.g., 'tellurophene-2-yl-' (CA formerly: '2-tellurophen**e**yl-'; see (d) of *§ 4.5.2*)

p. 91, name of **76**

Update to

76 '**selenophene**'

prefix, e.g., 'selenophene-2-yl-' (CA formerly: '2-selenophen**e**yl-'; see (d) of *§ 4.5.2*)

p. 92, name of **99**

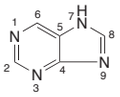
Update to

99 '**pyrazine**'

prefix: 'pyrazin-2-yl-'

p. 93, name of **107**

Update to



107 '**7*H*-purine**' [a)]

- exception of the systematic numbering
- according to the tautomer rules (CA ¶ 122), the name of the preferred tautomer is '9*H*-purine'

p. 94, name of **134**

Change

134 '**1*H*-acrindoline**' [a)]

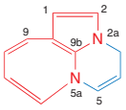
IUPAC: 'indolo[3,2-*e*]acridine' to

134 '**1*H*-acrindoline**' [a)]

IUPAC: 'indolo[3,2-*c*]acridine

p. 95, name of **140**

Change formula, by addition of a double bond, to



140 '3*H*-2a,5a-diazabenz[*cd*]azulene'

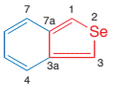
p. 96, *Footnote 9*

Update to

For '**benzothiophene**', '**benzoselenophene**', and '**benzotelluro~phene**', the fusion is indicated as usual in brackets (see (e_1) and (e_{21})); ~~however, see also **160**~~.

p. 96, name of **154**

Change formula, by a red double bond, to



154 'benzo[*c*]selenophene'

p. 96, left-hand column, last paragraph

Change to

Notice that, *exceptionally, a benzoheteromonocycle of this kind can serve on its own as a parent component* (see (c_3)) *or as an attached component* (see (d_3)) if, after the choice of the (senior) parent component according to (b_1)–(b_{10}) and (c_0) and of the attached component(s) according to (d_0), a senior component carries an *ortho*-fused isolated benzo attached component, but in general only, if the fused polycycle contains more than one heterocycle, see, e.g., **233**, ~~**235**,~~ **236**, ~~**245**, **270** (see also (iii)), **271**,~~ **272**, **276**, **279**, **287**, **288**, **290**, **291** (see also (ii)), **292** (see also (ii)), and **294**.

p. 96, right-hand column, **(iii)**

Change to

If the fused polycycle contains only one heteromonocycle besides ~~an additional~~ benzo and ~~or~~ carbocycle components ~~is fused to the *ortho*-fused benzo attached component of the benzoheteromonocycle, i.e., if the *ortho*-fused benzo-attached component is not isolated~~. In such a case, a multicomponent structure, see, e.g., **160**, or a senior attached component is present, seniority from *Tab. 4.2* ~~and~~ or in comparison with 'benzo-', see, e.g., **237**, **238**, **241**, **293**, and **294**; exceptionally, a benzoheterocycle name is used if the alphabetical order of the attached-component names places 'benzo-' directly before the heteromonocycle name, e.g., in 'anthra[1,2-*b*]benzofuran' (not 'anthra[1,2-*b*]benzo[*d*]furan').

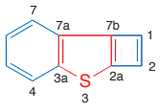
p. 96, right-hand column, first paragraph

Change to

As an exception, a benzoheteromonocycle can be chosen as a parent component in spite of (iii) if two or more attached components are both fused to each other and to the parent component[7)], see **148**, and also **235**, **270** and **271**.

p. 98, name of **160**

Change and update to

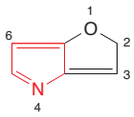


160 'benzo[*b*]cyclobuta[*d*]thiophene'

- CA: not 'cyclobuta[*b*][1]benzothiophene', in spite of the comments on **153** or **154** in *Footnote 9*; the 'thiophene' has a 'benzo-' and a 'cyclobuta-' fused separately from each other; these attached components are arranged in alphabetical order according to (e_{22}), see the modified (iii), just above in this update
- in the case of an additional carbocycle attached component in **153** or **154** (S, Se, and Te analogs), CA sometimes employs, inconsistently, ~~the heteromonocycle as parent component even if (iii) allows~~ a benzoheteromonocycle parent component (see (iii)~~, however, this is not always the case~~: e.g., 'cyclobuta[*f*]-2-benzothiophene' ~~(by (f)) vs.~~ or '1*H*-cyclopropa[*f*]-2-benzothiophene' for the two similar formulas having a 'cyclobuta-' ~~vs.~~ or 'cyclopropa-' attached component at C(5)–C(6) of the S analog of **154**; see also comments on **180** and **181**

p. 98, name of **165**

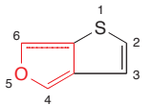
Change formula, by a red double bond, to



165 '2*H*-furo[3,2-*b*]pyrrole'

p. 96, name of **166**

Change formula, by a red double bond, to



166 'thieno[2,3-*c*]furan'

p. 99, name of **171**

Change **171** '4*H*-pyrimido[4,5-*d*]-1,3-oxazine' to
171 '4*H*-pyrimido[4,5-*d*][1,3]oxazine'

- the initial numbering of the parent component does not coincides with that of **171** (see (g_{32})), i.e., CA, just as IUPAC, does not omits the brackets around '1,3' (see (g_2)

p. 99, name of **174**

Change **174** '1*H*-isoindolo[4,5-*cd*]indole' to
174 '1*H*-isoindolo[4,5,6-*cd*]indole'

p. 100, name of **180**

Change and update to
180 '-*f*]benzofuran'

- however, for the chalcogen analogs[9]: '-*f*][1]**benzothiophene**', '-*f*][1]**benzoselenophene**', and '-*f*][1]**benzotellurophene**' (CA also '...4,5]benzo[1,2-*b*]thiophene', etc., ~~neglecting the restriction~~ applying (iii) from (a) (see the modified (iii), above in this update); see comments on **160**)

p. 100, name of **181**

Change and update to
181 '-*f*]isobenzofuran'

- however, for the chalcogen analogs[9]: '-*f*][2]**benzothiophene**', '-*f*][2]**benzoselenophene**', and '-*f*][2]**benzotellurophene**' (CA also '...4,5]benzo[1,2-*c*]thiophene', etc., ~~neglecting the restriction~~ applying (iii) from (a) (see the modified (iii), above in this update); see comments on **160**)

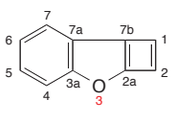
p. 101, name of **188**

Change **188** '-*a*]cyclooctene' to
188 '-~~*a*~~]cyclooctene'

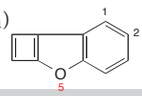
in case of only one primary attached component, no parent-component letter is needed, see, e.g., **219** and **274**, in contrast to **223** and **228**

p. 109, name of **245**

Update to



245 'cyclobuta[*b*]benzofuran'

- without final 'e'
- fusion site by (e_{21})
- '3' > '5', i.e., not 
- some inconsistencies in the naming of benzoheteromonocycles are present in CA; **245** should have the name 'benzo[*b*]cyclobut[*d*]furan', cf. **160** and modified (iii), above in this update

p. 112, name of **269**

Change **269** 'cyclopenta[*i*][1,6]dioxacyclotridecine' to
269 'cyclopenta[*i*][1,6]dioxacyclotridecin' (without final 'e' in CA)

p. 113, name of **272**

Change **272** '3*H*-oxireno[*h*][3]benzoxacyclododecine' to
272 '3*H*-oxireno[*h*][3]benzoxacyclododecin' (without final 'e' in CA)

4.7 Von Baeyer Bridged Polycycles (Carbo- and Heterocycles) (Update

p. 119, Footnote 11

Update to

11) If principal groups or free valences are present in addition to an unsaturation, first the compulsory numbering of the bridged polycycle is applied; then principal groups or free valences are considered to be senior to multiple bonds for lowest locants (see numbering rules, *§ 3.4*; never omit the locants of principal groups, free valences, and unsaturations in the name of a von Baeyer bridged polycycle).

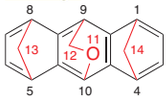
4.8 Bridged Fused Polycycles (Carbo- and Heterocycles) (Update)

p. 124, name of **3**

Change **3** '5*H*-4a,7-ethano-2*H*-[1]benzopyran' to
3 '5*H*-4a,7-ethano-2*H*-1-benzopyran'

p. 124, name of **4**

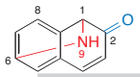
Change formula, by addition of a double bond, to



4 '10,9-(**e**poxymethano)-1,4:5,8-di**m**ethano~anthracene'

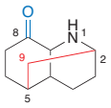
p. 124, name of **5** in *Footnote 4*

Update **5**



5 'naphthalen-1,6-imin-2(1*H*)-one'

to **5'** with the same skeleton but with a senior molecular-skeleton parent (heterocycle > carbocycle)



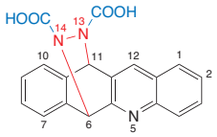
5' 'octahydro-2,5-methanoquinolin-8(2*H*)-one'

Update **5** the more convenient example **5a**

5a 'octahydronaphthalen-4a,8a-imine-9-ethanol'

p. 124, *Footnote 4*

Update by adding example **5b**



5b '6,11-dihydro-6,11-biiminobenz[*b*]acridine-13,14-dicarboxylic acid'

the unbridged heterocycle contains an N atom

p. 126, Table 4.4, left-hand column

According to CA's update of 2007, the divalent binuclear nitrogen substituents 'azino-' and 'azo-' are revised to '1,2-hydrazinediylidene-' and '1,2-diazene~diyl-'. However, the corresponding bridge names '**azimino**-', '**azino**-', '**azo**-', and '**biimino**-' are retained.

–N=N–NH–	'**azimino**-'
=N–N=, =N–N<, or >N–N<	'**azino**-'
–N=N–	'**azo**-'
–NH–NH–	'**biimino**-'

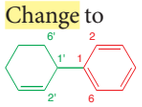
p. 130, name of **50**

Change **50** '3a,8a-epidioxy-4*H*-cyclohepta[1,3]dithiole' to
50 '3a,8a-epidioxy-4*H*-cyclohepta-1,3-dithiole'

4.10 Ring Assemblies of Identical Ring Components (Carbo- and Heterocycles) (Update)

p. 141, name of **2**

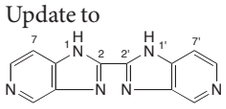
Change to



2 '(cyclohex-2-en-1-yl)benzene'

p. 143, name of **20**

Update to



20 '2,2′-bi-1*H*-imidazo[4,5-*c*]pyridine'

- indicated H atom by (e) of *§ A.5*
- according to the tautomer CIP rule (CA ¶ 122), the name of the preferred tautomer is '2,2'-bi-3*H*-imidazo[4,5-*c*]pyridine'

5.3 Prefixes of Hydrocarbon-Chain Substituents (Update)

p. 146, left-hand column, first bullet

Update by adding

The locant '-1-' is omitted before '-yl-', '-ylidene-' and '-ylidyne-'.

p. 146, left-hand column, second bullet

Update to

Locants for unsaturations and for free valences must always be cited for chains ≥ C_3, see, e.g., **6** vs. 'ethenyl-' (H_2C=CH–).

p. 146, left-hand column, after second bullet

Update to

~~In all cases,~~ Thus, the **locant** '1' for free valence(s) is omitted if only one terminal C atom with free valence(s) is present at a *saturated two- or poly-membered* hydrocarbon chain (e.g., 'butylidyne-' (e.g., $MeCH_2CH_2C\equiv$)) or at an *unsaturated two-membered* hydrocarbon chain (e.g., 'ethenylidene-' (H_2C=C< or H_2C=C=)). In all other cases, the locants for free valence(s) must be cited (e.g., updated **6** and **7**). For this, see updated *§ 3.4*. Free valences of a multivalent substituent have lowest locants as a set. In the name of a multivalent substituent and in case of choice for lowest locants, the following applies: '-**yl**-' > '-**ylidene**-' > '-**ylidyne**-'.

p. 146, name of **6**

Update to

6 'prop-2-en-1-yl-'

p. 146, name of **7**

Update to

7 'hept-2-en-5-yn-1-ylidene-'

5.4 Prefixes of Heterochain Substituents (Update)

p. 147, **(b)** before *Examples* (b)

Update to

The **locant** '**1**' for free valence(s) is omitted if only one terminal atom with free valence(s) is present at a *homogeneous saturated two- or poly-membered* heterochain (e.g., **12**, **13**, and updated **16** and **17**) or at a *homogeneous unsaturated two-membered* heterochain (e.g., 'diazenyl-' (HN=N–)). In all other cases, the locants for free valence(s) must be cited (e.g., 'triaz-2-en-1-yl-' (HN=N–NH–) and updated **14**). For this, see updated *§ 3.4.*

p. 147, name of **14**

Update to

14 'distannox**an**-1-ylidene-'

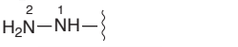
p. 147, right-hand column

Update to

*Former exception*s (b)

p. 147, name of **16**

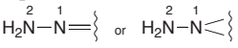
Update to



16 ~~'**hydrazino-**'~~
'**hydrazinyl**-'

p. 147, name of **17**

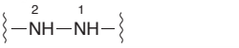
Update to



17 ~~'**hydrazono-**'~~
'**hydrazinylidene**-'

p. 147, name of **19**

Update to

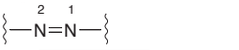


19 ~~'**hydrazo-**'/'**hydrazi-**'~~
'**hydrazine-1,2-diyl**-'/'**diaziridine**'

free valences leading to different atoms / to the same C-atom (i.e., component ring in a spiro structure)

p. 147, name of **20**

Update to

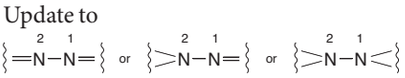


20 ~~'**azo-**'/'**azi-**'~~
'**diazene-1,2-diyl**-'/'**3*H*-diazirine**'

free valences leading to different atoms / to the same C-atom (i.e., component ring in a spiro structure)

p. 147, name of **21**

Update to



21 ~~'**azino-**'~~
'**hydrazine-1,2-diylidene**-'

5.5 Prefixes of Carbocycle Substituents

p. 149, name of 38

Change

38 'spiro[bicyclo[2.2.1]hept-5-ene-2,1′-[3,5]cyclo~ hexadien]-2'-yl-' (CA) to

38 'spiro[bicyclo[2.2.1]hept-5-ene-2,1′-cyclo~ hexa[3,5]dien]-2'-yl-' (this Book)

'spiro-' > '-yl-' > '-ene-' for lowest locants; see (b) of *§ 4.9.3*

5.6 Prefixes of Heterocycle Substituents (Update)

p. 150, **(a)**, before *Examples* (b)

Update to

The **locant** '**1**' is omitted if one or two free valences are present at the same ring atom of a *saturated homogeneous* heteromonocycle (e.g., 'triaziridinyl-' (⌐NH–NH–N(–)¬) and 'cyclotetrasilanylidene-' (⌐SiH_2–SiH_2–SiH_2–Si(<)¬).

5.8 Prefixes of Composite Substituents: Choice of the Parent Substituent (Update)

p. 153, right-hand column, *Exceptions* (a)

Update to

HOAs(=O)<	'**arsinico**-'[3)]
$(HO)_2As(=O)–$	'**arsono**-'
$(HO)_2B–$	'**borono**-'
HOOC–	'**carboxy**-'
~~HN=N–~~	~~'**diazenyl**-'~~
HC(=O)–	'**formyl**-'
HO–O–	'**hydroperoxy**-'

...

p. 153, name of **55**

Update to

55 '(2-phenyldiazenyl)-'

- by ~~concatenation~~ substitution
- *not* '(phenylazo)-', no longer exception

p. 154, name of **60**

Update to

60 '(1-acetylbut-2-en-1-yl)-'

p. 154, name of **65**

Update to

65 '[1-(silylthio)disiloxan-1-yl]-'

p. 154, name of **66**

Update to

66 '(1-acetylprop-2-en-1-yl)-'

p. 154, name of **67**

Update to

67 '[1-(hex-1-en-3-yn-1-yl)hepta-3,5-dien-1-yl]-'

p. 154, name of **69**

Update to

69 '[2-(hept-1-en-4-yn-1-yl)non-5-en-3-yn-1-yl]-'

p. 154, name of **70**

Update to

70 '[1-(pent-4-en-2-yn-1-yl)hex-3-en-5-yn-1-yl]-'

5.9 Prefixes of Carbonyl-Containing Substituents and Analogs (Update)

p. 156, name of **79**

Update to

79 '(2-aminoacetyl)-'

p. 156, (b), and p. 157, (d)

Update to

prefix

'**thioxo**-' (S=[C])

'**selenoxo**-' (Se=[C])

'**telluroxo**-' (Te=[C])

'**hydrazinylidene**-' (H_2NN=[C])

'**imino**-' (HN=[C])

p. 157, *Footnote 9*

Update to

IUPAC recommends ... '**formohydrazonoyl**-' instead of '(~~hydrazono~~hydrazinylidene~~methyl~~)-' (H_2NN=CH–) ... ((d) of *§ 6.9*).

6 Compound Classes

6.1 Preliminary Notes

p. 159, left-hand column, first bullet

Update to

'ethanaminium, *N*,*N*,*N*-triethyl-, chloride (1:1)' ($(Et_4N)^+Cl^-$).

p. 159, left-hand column, second bullet

Update to

'acetic acid, 1,1'-anhydride' (MeC(=O)–O–C(=O)Me),

p. 159, left-hand column, fifth bullet

Update to

'..., sodium salt (1:1)',
'..., acetate (1:1)',
'..., hydrochloride (1:2)'.

p. 159, left-hand column, last bullet

Update to

'..., compd. with...(2:1)',
'..., hydrate (1:2)',
'..., mixture. with...',
'..., mixt. with... (1:1)',
'..., polymer with....'.

6.2 **Radicals** (Class 1) **(Update)**

p. 161, name of **3**
Update to
3 '**hydrazinyl**'

p. 161, name of **4**
Update to
4 'penta-2,4-dien-1-yl'

p. 162, name of **17**
Update to
17 'tetraza-1,3-dien-1-yl'

p. 162, name of **23**
Update to
23 'dioxiran-3-yl'

p. 162, name of **29**
Update to
29 'prop-2-en-1-ylidene'

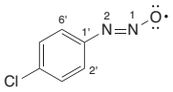
p. 162, name of **30**
Update to
30 'hydrazinylidene'

p. 163, names of **47 and 48**
Update to
NC•
47 '**cyanogen**'
- in CA, 'cyanogen' is not registered as radical but as cation, e.g., in 'cyanogen cyanide ((CN)(NC))' for $^{-}$C≡N^{+}–C≡N; this compound is aso named 'isocyanogen'
- without final 'e'
- $(CN)_2$ is 'ethanedinitrile'
- IUPAC: '**cyanyl**'

CN•
48 '**isocyanogen**'
- see comment on 'cyanogen' above
- without final 'e'
- IUPAC: '**isocyanyl**'

p. 166, name of **93**
Change **93** 'bis(2-hydroxyethyl)nitroxide' to
93 'bis(2-hydroxyethyl) nitroxide'

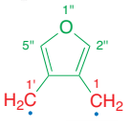
p. 166, name of **94**
Update to



94 '2-(4-chlorophenyl)diazenyloxy'
- by (e)
- ~~presumably it should be '[(4-chlorophenyl)azo]oxy'; see exceptions in (a) of § 5.8, and § 6.25 (there 27 and 29)~~
- IUPAC: '(4-chlorophenyl)diazenyloxyl'

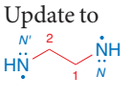
p. 167, name of **100**
Update to
100 'hydrazine-1,2-diyl'

p. 167, name of **104**
Update to



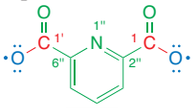
104 '1,1′-(furan-3,4-diyl)bis[methyl]'

p. 167, name of **105**
Update to



105 '*N*,*N*′-ethane-1,2-diylbis[amidogen]'

p. 167, name of **106**
Update to

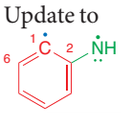


106 '1,1′-(pyridine-2,6-diyl)bis[1-oxomethoxy]'

p. 167, (c)
Update to
On chosing the parent radical center, the following seniority order applies: ~~N atom (amidogen but *not* imidogen) > C atom > O atom~~ C atom > N atom > O atom (see examples **113**–**117**).

Note that ~~an~~ the additional ∈ nonsenior radical center is expressed as a prefix of a divalent substituent since, according to *§ 6.2.2* and (b), (c), and (e) of *§ 6.2.3, a radical name corresponds to the substituent prefix* ~~(see, e.g., **113**). The same applies to a nonsenior substituting radical center, which is expressed by the corresponding prefix~~ (see **113**–**117** and also **107**–**111**). § 6.2.2, 6.2.3 (b) (c) (e)

p. 168, name of **113**
Update to



113 '~~2,1-phenyleneamidogen~~'
'2-iminophenyl'
- ~~without final 'e'~~
- for this, see also **124** and **125**
- IUPAC: '(2-ylophenyl)aminyl'

p. 168, name of **115**
Update to
115 '2-thioprop-2-en-1-yl'

p. 168, name of **116**
Update to
116 '1,1-dimethyl-2-oxyprop-2-en-1-yl'

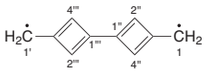
p. 168, name of **117**

Update to

117 '3-nitriloprop-1-en-1-yl'

p. 168, name of **119**

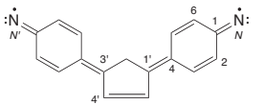
Update to



119 '1,1′-{[bi(cyclobuta-1,3-dien-1-yl)]-3,3′-diyl}bis~[methyl]'

p. 168, name of **120**

Update to



120 '*N,N′*-(cyclopent-4-ene-1,3-diylidenedicyclohexa-2,5-diene-4,1-diylidene)bis[amidogen]'

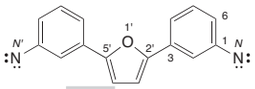
p. 168, name of **121**

Update to

121 '*N,N′*-methanetetraylbis[amidogen]'

p. 168, name of **122**

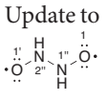
Update to



122 '*N,N′*-(furan-2,5-diyldi-3,1-phenylene)bis[imidogen]'

p. 168, name of **123**

Update to



123 '1,1′-(hydrazine-1,2-diyl)bis[oxy]'

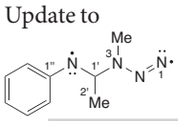
p. 168, name of **124**

Update to

124 ~~'ethane-2,1-diylamidogen'~~
'2-iminoethyl'
by (c)

p. 168, name of **125**

Update to



125 ~~'[1-(1-methyltriaz-2-ene-3,1-diyl)ethyl]phenylamidogen'~~
'3-methyl-3-[1-(phenylimino)ethyl]triaz-1-en-1-yl'
by (c)

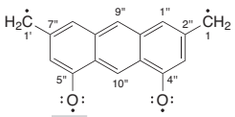
p. 168, name of **128**

Update to

128 '1-dioxy-1-methylprop-2-en-1-yl'

p. 168, name of **129**

Update to



129 '1,1'-[4,5-bis(oxy)anthracene-2,7-diyl]bis[methyl]'

6.3 **Cations** (Class 2) **(Update)**

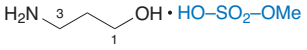
p. 169, top of right-hand column
Update to
name of the unchanged structure
+
modification
'**~~mono~~protonated (*x*:*y*)'**
'**conjugate acid (*x*:*y*)**'
'**~~conjugate monoacid~~**'
'**compd. with... (*x*:*y*)**'
'**hydrohalide (*x*:*y*)**'
acid anion name '**...ate (*x*:*y*)**'
'(*x*:*y*)' being the ratio of the components

p. 169, name of **1**
Update to
1 'benzene, ~~monoprotonated~~ conjugate acid (1:1)'

p. 169, name of **2**
Update to
2 'pyridazine, conjugate ~~mono~~acid (1:1)'

p. 169, name of **3**
Update to
3 'methanamine, hydrochloride (1:1)'

p. 169, name of **4**
Update and change to



4 '~~propanol, compd. with fluorosulfuric acid (1:1)~~'
'1-propanol, 3-amino-, compd. with methyl hydrogen sulfate (1:1)'
- here, 'propan-1-ol, ...
- IUPAC: e.g., '~~propyloxonium fluorosulfate~~' '3-amino~propan-1-ol—methyl hydrogen sulfate (1/1)'

p. 170, left-hand column, line 9 from top
Update to
If required, e.g., in multiplicative names, *Arabic-numeral locants* (e.g., '1,1′') are used for a P, As, Sb, or Bi mononuclear cation (see **20** and **223**), and *capital italic Roman-letter locants* (e.g., '*O*,*O*′', '*I*,*I*′') are used for an O, S, Se, Te, F, Cl, Br, or I cation (see **16**, **21**, and **225**).

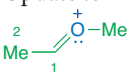
p. 170, name of **18**
Update to
18 '**~~mono~~protonated methane (1:1)**'
- CA: 'methane, ~~mono~~protonated (1:1)'

p. 170, name of **19**
Update to
19 '**~~mono~~protonated silane (1:1)**'
- CA: 'silane, ~~mono~~protonated (1:1)'

p. 170, name of **20**
Update to

20 '(bromomethyl)triphenylphosphonium'
'phosphonium' is considered as a molecular-skeleton parent (cf. **5**), i.e., if necessary, the **locant '1'** is used (compare with **21**; see **223**)

p. 170, name of **21**
Update to



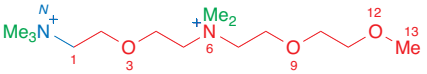
21 'ethylidenemethyloxonium'
'oxonium' is considered as a characteristique group if it is fully substituted (cf. **9**), i.e., if necessary the **locant '*O*'** is used (compare with **20**; see **225**)

p. 170, *Footnote 5*
Update to
In CA's 'Chemical Substance Index', the heading parent of such a cation name is the parent name followed by '-ium', e.g., 'diazenium, 2-ethoxy-1,1-dimethyl-, hexafluorophosphate(1–) (1:1)' (**23**·PF_6^-).

p. 171, name of **22**
Update to
22 '~~mono~~protonated ethane (1:1)'

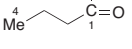
p. 171, name of **24**
Update to
24 '1,1,1,2,2,2-hexamethyldiphosphinium'

p. 171, name of **27**
Update to



27 '~~*N*,*N*,*N*,8,8-pentamethyl-2,5,11-trioxa-8-azoniatridecan-13-aminium~~'
'*N*,*N*,*N*,6,6-pentamethyl-3,9,12-trioxa-6-azoniatridecan-1-aminium'
- principal group (–NH_3^+) > heteroatoms for lowest locants (since 2007)

p. 172, name of **34**
Update to



34 '~~butylidyneoxonium~~'
'1-oxobutylium'
- by (a) of § 6.3.3.2
- triple bond oxonium structures are not adopted

p. 172, name of **35**
Update to
35 'acetyl[3-(acetyloxy)-1-methyl-3-phenylprop-2-en-1-ylidene]oxonium'

p. 172, name of **38**
Change and update
38 '(2-chloro-1,2-dioxoethoxy)dimethylsulfonium' to
38 '[(2-chloro-2-oxoacetyl)oxy]dimethylsulfonium'

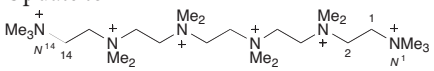
p. 172, name of **50**

Update to

50 '1,4-bis(oxiran-2-ylmethyl)quinoxalinium'

p. 173, name of **54**

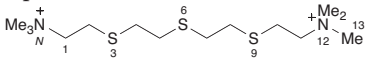
Update to



54 'N^{1},N^{1},N^{1},N^{14},N^{14},N^{14},3,3,6,6,9,9,12,12-tetradeca~methyl-3,6,9,12-tetraazoniatetradecane-1,14-diaminium'

p. 173, name of **55**

Update to



55 '*N*,*N*,*N*,12,12-pentamethyl-3,6,9-trithia-12-azoniatri~decan-1-aminium'

- numbering: ~~'2,5,8,11' > '3,6,9,12' for the heteroatoms of the unsubstituted chain~~ principal group ($-NH_3^+$) > heteroatoms for lowest locants (since 2007)

p. 174, name of **74**

Change

74 '*N*-(phenylmethylidyne)propanaminium' to

74 '*N*-(phenylmethylidyne)propan-1-aminium'

p. 175, left-hand column *Exceptions*

Update to

Exceptions

.....

(iv) Cation centers of this kind at a C or Si atom next to a heteroatom such as O (disubstituted) or N (trisubstituted) are reformulated placing the charge at the heteroatom (see **89**, **95**, and **103**).

p. 175, name of **77**

Update to

77 '*P*,*P*-bis(1-methylethyl)phosphinous iodide'

p. 175, name of **86**

Update to

86 'spiro[2.2]pent-1-ylium'

p. 175, name of **89**

Update to

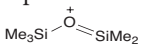
89 ~~'oxiranylium'~~

'2*H*-oxirenium'

- by (iv), exception; see just above
- by (a) of § 6.3.4

p. 176, name of **95**

Update to



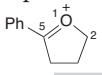
95 ~~'pentamethyldisiloxanylium'~~

'(dimethylsilylene)(trimethylsilyl)oxonium'

- by (iv), exception; see just above
- by (a) of § 6.3.2.1

p. 176, name of **103**

Update to



103 ~~'tetrahydro-2-phenylfuran-2-ylium'~~

'3,4-dihydro-5-phenyl-2*H*-furylium'

- by (iv), exception; see just above
- by (a) of § 6.3.4 (exception (a))

p. 177, left-hand column **(b)**

Update to

The cation name of an acyl cation center $RS(=O)_2^+$ formally derived by the removal of HO^- or analogs from a sulfonic~~, sulfinic, phosphonic, or phosphinic~~ acid ~~and~~ analogs is composed of:

~~**name of the corresponding acyl substituent**~~

~~+~~

~~ending '**-ium**'~~ [11]

substituent prefixes of R– and =O in alphabetical order

+

functional-parent name '-sulfoxonium'

($H_3S(=O)^+$) [11]

The cation name of an acyl cation center $RS(=O)^+$ formally derived by the removal of HO^- or analogs from a sulfinic acid is composed of:

substituent prefix of R–

+

functional-parent name '-sulfoxoniumylidene'

($HS(=O)^+$) [11]

Corresponding cation names derived from phosphonic and phosphinic acids are named as mononuclear cationic coordination compounds according to § 6.34 (c) [11].

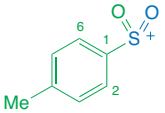
p. 177, *Footnote 11*

Update to

11) In CA's 'Chemical Substance Index', the heading parent of such a cation name is ~~the name of the composite substituent followed by '-ium'~~ the functional-parent name 'sulfoxonium' and 'sulfoxoniumylidene' in the case of sulfonic and sulfinic acids, but ~~the parent-substituent name derived from the functional-parent name~~ the central-atom name with charge number in the case of phosphonic and phosphinic acids (followed, after the comma of inversion, by the ligand names, see § 6.34 (c)), e.g., ~~'phenylsulfonylium, 4-methyl-'~~ 'sulfoxonium, (4-methylphenyl)oxo-' (**109**), but ~~'phosphinylium, hydroxy-' (**110**)~~ 'phosphorus(1+), hydrohydroxyoxo-' (**110**).

p. 177, name of **109**

Update to



109 '~~4-methylphenylsulfonylium~~'

'(4-methylphenyl)oxosulfoxonium'

- cf. **10**
- IUPAC: formerly '*p*-toluenesulfonylium', *not* '*p*-tolylsulfonylium'

p. 177, name of **110**

Update to

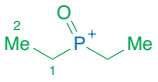
110 '~~hydroxyphosphinylium~~'

'hydrohydroxyoxophosphorus(1+)'

- by (c) of § 6.34, coordination cation
- IUPAC: 'hydrohydroxyphosphorylium' or 'hydroxy~phosphin**o**ylium' (see (c) of § *6.11*)

p. 177, name of **111**

Update to

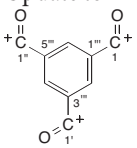


111 '~~di~~ethyl~~phosphinylium~~'
'diethyloxophosphorus(1+)'

- ~~hypothetical~~; by (c) of § 6.34, coordination cation
- IUPAC: 'diethylphosphin**o**ylium' (see (c) of *§ 6.11*)

p. 178, name of **131**

Update to



131 '1,1′,1″-(benzene-1,3,5-triyl)tris[1-oxomethylium]'

p. 178, name of **135**

Update to

135 'prop-2-en-1-ylideneaminylium'

p. 179, name of **145**

Change to

145 '1,3-oxathiazol-3-ium'

IUPAC: '1,3λ⁴-oxathiazol-3-ylium'

p. 182, left-hand column **(b)**

Update to

The prefix of a P-, As-, Sb-, Bi-, O-, S-, Se-, Te-, F-, Cl-, Br-, or I-containing mononuclear and monovalent cation substituent (H atoms substitutable) ends in '-io-' and is formed in the following way:

§ 6.3.2.1 (a)

cation name with ending '**-ium**'
→
cation-substituent name with ending '**-io**-'

Corresponding bivalent cation substituents have the ending '**-iumylidene**-' (for exceptions, see *Footnote 14*), e.g., 'oxoniumylidene-' ($HO^+<$ or $HO^+=$), 'sulfonium~ylidene-' ($HS^+<$ or $HS^+=$), 'bromoniumylidene-' ($Br^+<$ or $Br^+=$).

p. 182, right-hand column **(c)**

Update to

In case of choice, the free valence is senior to the cation center for lowest locant, and the locant for the free valence is cited. In case of cation prefixes derived from acyclic '-ylium' cations, locants are cited for both the cation center and the free valence (see **194** and **209–213**), except for 'methyliumyl-' (H_2C^+–) and 'silyliumyl-' (**195**).

p. 183, name of **207**

Update to

207 '(2-fluorodiazenium-1-ylidene)-'

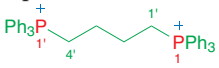
p. 184, name of **212**

Update to

212 'disilyn-2-ylium-1-yl-'

p. 185, name of **223**

Update to

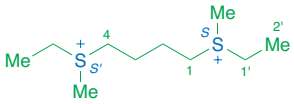


223 '1,1′-(butane-1,4-diyl)bis[1,1,1-triphenyl~phosphonium]'

'phosphonium' is considered as a molecular-skeleton parent (cf. **5** in (a) of *§6.3.2.1*), i.e., the **locant '1'** is used (compare with **225**)

p. 185, name of **225**

Update to



225 '*S*,*S*′-butane-1,4-diylbis[*S*-ethyl-*S*-methyl~sulfonium]'

'sulfonium' is considered as a characteristique group if it is fully substituted (cf. **10** in (a) of *§6.3.2.1*), i.e., the **locant 'S'** is used (compare with **223**)

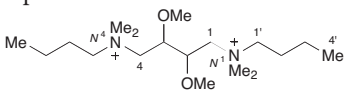
p. 185, name of **226**

Update to

226 'N^1,N^1,N^1,N^3,N^3,N^3-hexamethylpropane-1,3-diaminium'

p. 186, name of **233**

Update to



233 'N^1,N^4-dibutyl-2,3-dimethoxy-N^1,N^1,N^4,N^4-tetramethylbutane-1,4-diaminium'

p. 186, name of **236**

Update to

236 '1-{2-[(dimethylamino)methylene]-5-(dimethyliminio)~pent-3-en-1-ylidene}piperidinium'

6.4 **Anions** (Class 4) **(Update)**

p. 187, **Notice**, first and second bullet
Update to

- **name of the uncharged structure**
  +
  modification
  '**ion(1–)**'
  '**ion(2–)**'
  '**ion(neg.)**'
  '**lithium salt (*x*:*y*)**'
  '~~**mono**~~**sodium salt (*x*:1)**', etc.
  '(*x*:*y*)' and '(*x*:1)' being the ratio of the components

CA ¶ 198, 281A

§ 6.4.2.1, 6.4.2.2 (b) (c)

- In CA[3)], anion names are registered as a modification for salts or in cation names, either as names ending in '-ide', '-ate', and '-ite', ~~and '-oxide'~~ according to *§ 6.4.2.1* and (b) and (c) of *6.4.2.2* or paraphrased as 'salt with...', and sometimes as 'compd. with...' (see **3**–**9**):
  either **name of an uncharged structure**
  or
  cation name
  +
  modification
  anion name ('**-ide**', '**-ate**', '**-ite**',~~'**-oxide**'~~, etc.) + '(***x*:*y***)'
  '**salt with... (*x*:*y*)**'
  '**compd. with... (*x*:*y*)**'
  '(*x*:*y*)' being the ratio of the components

p. 187, name of **2**
Update to
2 'methanamine, ~~mono~~lithium salt (1:1)'

p. 188, name of **5**
Update to
5 'methanaminium, *N*,*N*,*N*-trimethyl-, acetate (1:1)'

p. 188, name of **6**
Update to
6 'methanaminium, *N*,*N*,*N*-trimethyl-, ~~methoxide~~ salt with methanol (1:1)'

p. 188, name of **7**
Update to
7 'methanaminium, *N*,*N*,*N*-trimethyl-, ~~salt with~~ 2,2,2-trichloroacetate ~~ic acid~~ (1:1)'

p. 188, name of **23**
Update to
23 '**hydrazide** ~~($H_3N_2^{1-}$)~~'

p. 189, left-hand column, first to third bullet
Update to

- either **name of the uncharged molecular-skeleton parent**
  or
  name of a corresponding substituted structure
  +
  modification
  '**ion(1–)**'
  '**ion(2–)**', etc.
  '**lithium salt (*x*:*y*)**', etc.
  by *§ 6.4.1* § 6.4.1

  In the case of metal salts, mostly coordination names according to *§6.34* are used, e.g., '**butyllithium**' ($MeCH_2CH_2CH_2Li$).

- either **name of an uncharged structure**
  or
  cation name
  +
  modification[4)]
  '**salt with...**' or '**compd. with...**' followed either by the **name of the uncharged molecular-skeleton parent** or by the **name of a corresponding substituted structure** + '(***x*:*y***)'
  by *§ 6.4.1* § 6.4.1

- either **name of an uncharged structure**
  or
  cation name
  +
  modification[4)]
  parent name followed by '**-ide**' + '(***x*:*y***)'
  only in the case of *unsubstituted* hydrocarbon chains and carbomonocycles
  by *§ 6.4.1* § 6.4.1
  IUPAC: 'silicide'

p. 189, name of **24**
Update to
24 'methane ion(1–)' or, e.g., 'methanide (1:1)'[4)]

p. 189, name of **25**
Update to
25 'cyclopropene ion(1–)' or, e.g., 'cyclopropenide (1:1)'[4)]

p. 189, name of **27**
Update to
27 '1*H*-imidazole lithium salt (1:1)'

p. 189, name of **32**
Update to
32 '1,5-bis(4-methylphenyl)pentaza-1,4-diene cesium salt (1:1)'

p. 189, name of **33**
Update to
33 'benzenide (1:1)'[4)] or, e.g., 'compd. with benzene (1:1)'[4)]

p. 189, name of **35**
Update to
35 'cyclopenta-1,3-diene ion(1–)' or, e.g., 'cyclopentadien~ide (1:2)'[4)]

p. 189, name of **36**
Change to
36 '1,2-dihydropyridine ion(1–)'

p. 190, name of **39**
Update to
39 '4-azabicyclo[5.4.1]dodeca-2,5,7,9,11-pentaene potassium salt (1:1)'

p. 190, **(a)**, first and second bullet
Update to

- **name of the uncharged structure RR′NH or RNH_2**
  +
  modification
  '**ion(1–)**'
  '**ion(2–)**', etc.
  '**lithium salt (*x*:*y*)**', etc.
  by *§ 6.4.1* (§ 6.4.1)
- either **name of an uncharged structure**
  or
  cation name
  +
  modification[4)]
  '**salt with...**' or '**compd. with...**' followed by the **name of the uncharged structure RR′NH or RNH_2** + '**(*x*:*y*)**'
  by *§ 6.4.1* (§ 6.4.1)

p. 190, **(b)**, first and second bullet
Update to

- **name of the uncharged acid**
  +
  modification
  '**ion(1–)**'
  '**ion(2–)**', etc.
  '**lithium salt (*x*:*y*)**', etc.
  by *§ 6.4.1* (§ 6.4.1)
- either **name of an uncharged structure**
  or
  cation name
  +
  modification[4)]
  ~~'**salt with...**' followed by the **name of the uncharged acid**~~
  anion name of the acid + '**(*x*:*y*)**'
  by *§ 6.4.1* and *§ 6.7–6.12* (§ 6.4.1, § 6.7-6.12)
  ~~Exceptionally, the modification is a special anion name[4)], i.e., if such an anion is derived from an *unsubstituted* acid with suffix (carboxylic acids, sulfonic acids, etc.) or from an unsubstituted or substituted acid with a functional-parent name (phosphonic acids, carbonic acids, etc.),~~ i.e.,

			(§ 6.7.5, 6.8 (f), 6.9 (e), 6.10, 6.11 (h), 6.14 (b) (c))
'**-carboxylic acid**'	→	~~special~~ anion name[4)]'**-carboxylate**'	
'**-(o)ic acid**'	→	'**-(o)ate**'	
'**-(o)ous acid**'	→	'**-(o)ite**'	
'**carbonic acid**'	→	'**carbonate**'	
'**carbamic acid**'	→	'**carbamate**'	

Common ~~special~~ anion names[4)] of this kind are:

$MeC(=O)O^-$	'**acetate**'	$^-OS(=O)O^-$	'**sulfite**'
$PhC(=O)O^-$	'**benzoate**'	$N(=O)_2O^-$	'**nitrate**'
$^-OC(=O)O^-$	'**carbonate**'	$N(=O)O^-$	'**nitrite**'
$H_2NC(=O)O^-$	'**carbamate**'	$P(=O)(O^-)_3$	'**phosphate**'
$HC(=O)O^-$	'**formate**'	$P(O^-)_3$	'**phosphite**'
$^-OS(=O)_2O^-$	'**sulfate**'	$Si(O^-)_4$	'**silicate**'
$H_2NS(=O)_2O^-$	'**sulfamate**'		

Note that for salt names and names of esterified salts derived from polybasic acids, the order of the name parts is: cation name > substituent prefix '(R)' (derived from an alcohol ROH in the case of esters) > ~~'hydrogen'~~ > anion name, followed by '(*x*:*y*)' (see (f) of *§ 6.14*). *Notice that 'hydrogen' is omitted, even if present, since it is implied in the ratio* (see CA¶ 198). (§ 6.14 (f))

p. 191, name of **46**
Update to
46 'acetic acid ion(1–)' or, e.g., 'acetate (1:2)'[4)]

p. 191, name of **47**
Update to
47 '2,2-dimethylpropanoic acid ion(1–)' or, e.g., '~~salt with~~ 2,2-dimethylpropanoate ~~ic acid~~ (1:1)'[4)]

p. 191, name of **48**
Update to
48 'ethanethioic acid potassium salt (1:1)' or 'potassium ethanethioate (1:1)'[4)]

p. 191, name of **49**
Update to

49 '*As*-methylarsonic acid ion(2–)' or, e.g., '~~salt with~~ *As*-methylarsonate (2:1)'[4)]

p. 191, **(c)** first and second bullet
Update to

- **name of the uncharged alcohol**
  +
  modification
  '**ion(1–)**'
  '**ion(2–)**', etc.
  '**lithium salt (*x*:*y*)**', etc.
  by *§ 6.4.1* (§ 6.4.1)
- either **name of an uncharged structure**
  or
  cation name
  +
  modification[4)]
  '**salt with...**' or '**compd. with...**' followed by the **name of the uncharged alcohol** + '**(*x*:*y*)**'
  by *§ 6.4.1* (§ 6.4.1)
  ~~Exceptionally, the modification is a special anion name[4)] in the case of such anions derived from the *unsubstituted* alcohols **MeOH**, **EtOH**, **PrOH**, **BuOH**, and **PhOH** (anion names ending in '**-oxide**') or from the *unsubstituted* thiol **PhSH** (anion name ending in '**-olate**'), i.e.,~~
  The '**-oxide**' and '**-olate**' anion names derived from **MeOH**, **EtOH**, **PrOH**, **BuOH**, **PhOH**, and **PhSH** have been abolished, see **50**–**55**:

p. 191, name of **50**
Update to
50 ~~'**methoxide**'[4)]~~ 'methanol ion(1–)', or, e.g., 'compd. with methanol (1:1)'[4)]

p. 191, name of **51**
Update to
51 ~~'**ethoxide**'[4)]~~ 'ethanol ion(1–)', or, e.g., 'compd. with ethanol (1:1)'[4)]

p. 191, name of **52**

Update to

52 '~~**propoxide**~~[4)] 'propan-1-ol ion(1–)', or, e.g., 'compd. with propan-1-ol (1:1)'[4)]

p. 191, name of **53**

Update to

53 '~~**butoxide**~~[4)] 'butan-1-ol ion(1–)', or, e.g., 'compd. with butan-1-ol (1:1)'[4)]

p. 191, name of **54**

Update to

54 '~~**phenoxide**~~[4)] 'phenol ion(1–)', or, e.g., 'compd. with phenol (1:1)'[4)]

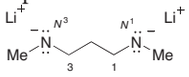
p. 191, name of **55**

Update to

55 '~~**benzenethiolate**~~[4)] 'benzenethiol ion(1–),' or, e.g., 'compd. with benzenethiol (1:1)'[4)]

p. 192, name of **59**

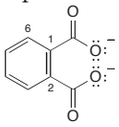
Update to



59 'N^1,N^3-dimethylpropane-1,3-diamine ~~di~~lithium salt (1:2)'

p. 192, name of **63**

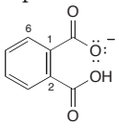
Update to



63 'benzene-1,2-dicarboxylic acid ion(2–)' or, e.g., 'benzene-1,2-dicarboxylate (2:1)'[4)]

p. 192, name of **64**

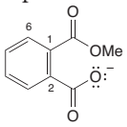
Update to



64 'benzene-1,2-dicarboxylic acid ion(1–)' or, e.g., '~~salt with~~ benzene-1,2-dicarboxylate ~~ic acid~~ (1:1)'[4)]

p. 192, name of **65**

Update to



65 'benzene-1,2-dicarboxylic acid ~~mono~~ 1-methyl ester ion(1–)' or, e.g., '1-methyl benzene-1,2-dicarboxylate (1:2)'[4)]

p. 192, name of **66**

Update to

66 '2-hydroxybenzoic acid ion(1–)' or, e.g., '~~salt with~~ 2-hydroxybenzoate ~~ic acid~~ (1:1)'[4)]

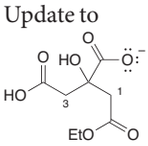
p. 192, name of **69**

Update to

69 '2,3-dihydroxybutanedioic acid ion(2–)' or, e.g., '~~salt with~~ 2,3-dihydroxybutanedioate ~~ic acid~~ (2:1)'[4)]

p. 192, name of **70**

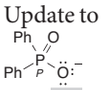
Update to



70 '2-hydroxypropane-1,2,3-tricarboxylic acid ~~O^3~~ 1-ethyl ester ion(1–)' or, e.g., '~~salt with~~ 1-ethyl 2-hydroxypropane-1,2,3-tricarboxylate ~~ic acid O^3-ethyl ester~~ (1:1)'[4)]

p. 193, name of **72**

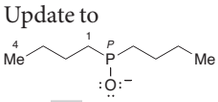
Update to



72 '*P*,*P*-diphenylphosphinic acid ion(1–)' or '*P*,*P*-diphenylphosphinate'[4)]

p. 193, name of **73**

Update to



73 '*P*,*P*-dibutylphosphinous acid ion(1–)' or '*P*,*P*-dibutylphosphinite'[4)]

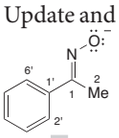
p. 193, name of **74**

Update to

74 '*P*-methylphosphonous acid ion(2–)' or '*P*-methylphosphonite'[4)]

p. 193, name of **79**

Update and change to



79 '1-phenylethanone oxime ion(1–)' or, e.g., 'salt with 1-phenylethanone oxime (1:1)'

p. 193, name of **83**

Update to

83 'tetramethylphosphanuide'

CA: '~~phosphate(1–), tetramethyl-', by (a), i.e., (g) of *§ 6.34*~~ 'phosphorane, tetramethyl-, ion(1–)'; by (b) of *§ 6.4.2.1*

p. 193, name of **85**

Update to

85 '2,2-dimethyl-2*H*-2-benzoborol-2-uide'

- also '2,2-dimethyl-2*H*-2-boranuidaindene'
- CA: 'borate(1–), [1,1'-(3,5-cyclohexadiene-1,2-diylidene)bis[methyl]]~~-dimethylidyne~~)dimethyl-' (hypothetical); by (a), i.e., (g) of *§ 6.34*

p. 194, name of **97**

Update to

97 'dilithium 1,4-phenylenediphosphanide'

CA: 'phosphine, 1,1'-(1,4-phenylene)bis-, ~~di~~lithium salt (1:2)'

p. 194, name of **100**

Update to

100 'disodium 3-oxidonaphthalene-2-carboxylate'

CA: '2-naphthalenecarboxylic acid, 3-hydroxy-, ~~di~~sodium salt (1:2)'

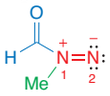
6.5 **Zwitterions** (Classes 2 and 4) **(Update)**

p. 195, **Notice**
Update to
(b) zwitterion with cation center and carbanion center at different structure components but directly neighboring: formal ylides;

p. 195, **(a)**
Update to
cation name with ending '-**ium**', '-**ylium**',
§ 6.3 or with '**onia**' syllables, by *§ 6.3*
+
modification
'**inner salt**' ~~or, in special cases,~~
'~~-**ylide**~~' (see also (b))[2)]

p. 195, name of **1**
Update to
1 '1-ethylidyne-2-(4-nitrophenyl)hydrazinium inner salt'

p. 195, name of **2**
Update to



2 '~~1-formyl-1-methyldiazenium inner salt~~'
'1-methylisodiazenecarboxaldehyde'
- ~~by (b) of *§ 6.3.2.1*~~ by (a) of *§ 6.19*

p. 195, *Footnote 2*
Update to
~~As an exception,~~ Since 2007, a *carbanion center directly neighboring the cation center* at the same molecular-skeleton parent ~~is~~ has no longer been expressed by the modification 'ylide' ~~instead of~~ but also by 'inner salt', see zwitterion **4** and (b).

p. 196, name of **4**
Update to
4 '1-cyano-2-methyl-1*H*-2-benzothiopyranium ~~ylide~~ inner salt'[2)]

p. 196, **(b)**
Update to
cation name with ending '-**ium**', '-**ylium**',
§ 6.3 or with '**onia**' syllables, by *§ 6.3*
+
modification ~~consisting of the~~
~~**hydrocarbon parent substituent** by *§ 5.2–5.8*,~~
~~followed by the ending '-**ide**'[3)],~~
~~i.e. the composite ending is '-**ylide**'~~
'**inner salt**'[3)]

p. 196, *Footnote 3*
Update to
In CA, such a zwitterion is registered under the cation name, followed by ~~the 'ylide' name for the carbanion~~ 'inner salt' as a modification (see *Footnote 2*), e.g., 'oxonium, ~~di~~ trimethyl-, ~~methylide~~ inner salt' (7).

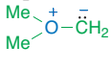
p. 196, **(ii)**
Update to
(ii) An alkanaminium zwitterion such as **6** with a directly neighboring *carbanion* center in the alkane part is denoted by the modification ~~'-**ylide**'~~ '**inner salt**' in CA (no longer exception).

p. 196, name of **5**
Update to

5 'triphenyl(phenylmethylene)phosphorane'
- by (i), exception
- if explicitly the zwitterion is meant, 'triphenyl(phenylmethyl)phosphonium ~~phenylmethylide~~ inner salt' must be used

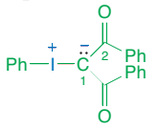
p. 196, name of **6**
Update to
6 '*N*-ethylidynemethanaminium ~~ylide~~ inner salt'
by (ii), no longer exception

p. 196, name of **7**
Update to



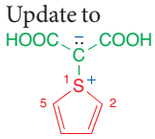
7 '~~di~~ trimethyloxonium ~~methylide~~ inner salt'
by (a) of *§ 6.3.2.1* ~~and *§ 5.2*~~

p. 196, name of **8**
Update to



8 '(1-benzoyl-2-oxo-2-phenylethyl)phenyl~ iodonium ~~1-benzoyl-2-oxo-2-phenylethylide~~ inner salt'
by (a) of *§ 6.3.2.1* ~~and *§ 5.3*~~

p. 196, name of **9**
Update to



9 '1-(dicarboxymethyl)thiophenium ~~dicarboxy~~ ~~methylide~~ inner salt'
by (b) of *§ 6.3.2.1* ~~and *§ 5.2*~~

p. 196, **(c)**
Update to
cation name with ending '-**ium**', '-**ylium**',
or with '**onia**' syllables by *§ 6.3* § 6.3
+
modification
'**inner salt**'[2)] ~~or, in special cases,~~
'~~-**ylide**~~' (see also (b))[4)]

6

p. 197, name of **18**

Update to

18 '1-methyl-5,7-dioxo-6-phenyl-2-(prop-1-en-1-yl)-4,6-diaza-3-azoniaspiro[2.4]heptane inner salt'

p. 197, name of **19**

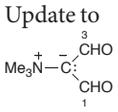
Change to

19 '1-[(1,1-dimethylethoxy)carbonyl]-2,3,4,5-tetrahydro-8,9-dimethoxy-4-oxo-1*H*-5,10b-diaza-3a-azoniaace~phenanthrylene inner salt'

- IUPAC: e.g., '1-[(*tert*-butoxy)carbonyl]-2,3,4,5-tetrahydro-8,9-dimethoxy-4-oxo-1*H*-3aλ^5,5,10b-triazaacephenanthrylen-3a-ylium-5-ide', by (a) of *§ 6.3.4* and (b) of *§ 6.4.2.1*; '3aλ^5' by *§ A.7*

p. 197, name of **20**

Update to

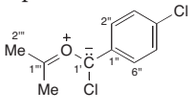


20 '*N*,*N*,*N*-~~di~~ trimethyl-1,3-dioxo~~methan~~propan-2-aminium ~~1-formyl-2-oxoethylide~~ inner salt''

by (b), and (b) of *§ 6.3.2.2* ~~and *§ 5.3*~~

p. 197, name of **21**

Update to

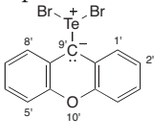


21 '[chloro(4-chlorophenyl)methyl](1-methylethylidene)~oxonium ~~chloro(4-chlorophenyl)methylide~~ inner salt'

by (b), and (a) of *§ 6.3.2.1* ~~and *§ 5.3*~~

p. 197, name of **22**

Update to



22 'dibromo-9*H*-xanthen-9-yltelluronium ~~9*H*-xanthen-9-ylide~~ inner salt'

by (b), and (a) of *§ 6.3.2.1* ~~and (a) of *§ 5.6*~~

p. 197, name of **23**

Update to

23 '4-carboxy-1-(tetrahydro-2,4,5-trioxofuran-3-yl)~pyridinium ~~4,5-dihydro-2,4,5-trioxofuran-3(2*H*)-ylide~~ inner salt'

- by (b), and (b) of *§ 6.3.2.1* ~~and (a) of *§ 5.6*~~
- ~~'added' indicated H atom by (i,) of *§ A.5*~~

p. 198, name of **24**

Update to

24 '4-methyl-2-[2-(4-nitrophenyl)-2-oxoethyl]phthal~azinium ~~2-[2-(4-nitrophenyl)-2-oxoethylide]~~ inner salt'

by (b), and (b) of *§ 6.3.2.1* ~~and *§ 5.3*~~

p. 198, name of **25**

Update to

25 '1-(trioxocyclobutyl)-1-azoniabicyclo[2.2.2]octane ~~trioxocyclobutylide~~ inner salt'

by (b), and (c) of *§ 6.3.2.1* ~~and (a) of *§ 5.5*~~

6.6 Radical Ions (Classes 1,2, and 4) **(Update)**

p. 202, name of **40**

Update to

40 'buta-1,3-diene-1,1,2,3,4,4-hexacarbonitrile radical ion(1–)'

p. 202, name of **50**

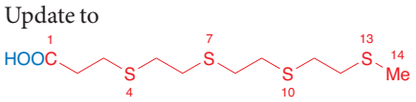
Update to

50 '1-ethyl-2-[3-(1-ethyl-1,3-dihydro-3,3-dimethyl-2*H*-indol-2-ylidene)prop-1-en-1-yl]-3,3-dimethyl-3*H*-indolium radical ion(1+)'

6.7 Carboxylic, Carbothioic, Carboselenoic, Carbotelluroic, Carbohydrazonic, Carboximidic, and Corresponding Carboperoxoic Acids (Classes 5a and 5b) and Salts (Update)

p. 204, name of **8b**

Update to



8b '4,7,10,13-tetrathiatetradecanoic acid'/'(1-oxo-4,7,10,13-tetrathiatetradec-1-yl)-'

~~notice that the numbering of **8b** is that of the molecular-skeleton parent, in contrast,~~ notice that since 2007, the principal group (–COOH) has been senior to the heteroatoms for lowest locants; the corresponding heterochain substituent is numbered like the corresponding hydrocarbon-chain substituent (see (d) of *§ 4.3.2*) and like the acid

p. 206, name of **18**

Update to

18 'hydrazinecarboxylic acid'/'(hydrazinylcarbonyl)-'

p. 206, name of **23**

Update to

23 '(hydrazinylcarbonyl)-'

p. 206, name of **36**

Update to

36 'prop-2-enoic acid'/'(1-oxoprop-2-en-1-yl)-'

p. 206, name of **37**

Update to

37 'prop-2-ynoic acid'/'(1-oxoprop-2-yn-1-yl)-'

p. 206, name of **38**

Update to

38 '2-methylprop-2-enoic acid'/'(2-methyl-1-oxoprop-2-en-1-yl)-'

p. 206, name of **39**

Update to

39 '(9*Z*)-octadec-9-enoic acid'/'[(9*Z*)-1-oxooctadec-9-en-1-yl]-'

p. 206, name of **40**

Update to

40 '(2*E*,4*E*)-hexa-2,4-dienoic acid'/'[(2*E*,4*E*)-1-oxohexa-2,4-dien-1-yl]-'

p. 207, name of **41**

Update to

41 '(9*Z*,12*Z*)-octadeca-9,12-dienoic acid'/'[(9*Z*,12*Z*)-1-oxooctadeca-9,12-dien-1-yl]-'

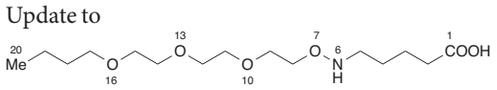
p. 207, name of **42**

Update to

42 '(9*Z*,12*Z*,15*Z*)-octadeca-9,12,15-trienoic acid'/'[(9*Z*,12*Z*,15*Z*)-1-oxooctadeca-9,12,15-trien-1-yl]-'

p. 207, name of **44**

Update to



44 '7,10,13,16-tetraoxa-6-azaeicosanoic acid'/'(1-oxo-7,10,13,16-tetraoxa-6-azaeicos-1-yl)-' (see (c) of *§ 4.3.2*)

~~the numbering of **44** is determined by the position of the heteroatoms, i.e., '5,8,11,14,15' > '6,7,10,13,16', notice the different~~ notice that since 2007, the principal group (–COOH) has been senior to the heteroatoms for lowest locants; the numbering of the substituent according to (d) of *§ 4.3.2* is now the same as that of the acid

p. 207, name of **47**

Update to

47 '(2*E*)-3-phenylprop-2-enoic acid'/'[(2*E*)-1-oxo-3-phenylprop-2-en-1-yl]-'

p. 207, name of **48**

Update to

48 'α-methylenebenzeneacetic acid'/'(1-oxo-2-phenylprop-2-en-1-yl)-'

p. 207, name of **49**

Update to

49 'α-(prop-2-en-1-yl)benzeneacetic acid'/'(1-oxo-2-phenylpent-4-en-1-yl)-'

p. 207, name of **51**

Update to

51 'α-[(5-phenyl-2-thienyl)methylene]benzeneacetic acid'/'[1-oxo-2-phenyl-3-(5-phenyl-2-thienyl)prop-2-en-1-yl]-'

p. 207, name of **52**

Update to

52 '(2-chloro-2-oxoacetyl)-'

p. 207, name of **53**

Update to

53 '[2-(pyridin-2-yl)acetyl]-'

p. 207, name of **56**

Update to

56 'diazene-1,2-dicarboxylic acid'/'(diazene-1,2-dicarbonyl)-' (see (d) of *§ 4.3.3.1)*

p. 209, left-hand column, lines 15 and 17 from bottom

Update to

'**tartronic acid**'	(= '2-hydroxypropanedioic acid'; $HOOCCH(OH)COOH$)/'**tartronoyl**-'
'**malic acid**'	(= '2-hydroxybutanedioic acid'; $HOOCCH_2CH(OH)COOH$; see **120**)/'**maloyl**-'

p. 209, right-hand column, lines 13 and 16 from top

Update to

'**mesoxalic acid**'	(= '2-oxopropanedioic acid'; $HOOCC(=O)COOH$; see **131**)/'**mesoxalyl**-'/'**mesoxazolo**-'
'**oxalacetic acid**'	(= '2-oxobutanedioic acid'; $HOOCCH_2C(=O)COOH$; see **132**)/'**oxalacetyl**-'/'**oxalaceto**-'

p. 210, left-hand column, *Exceptions* (b)
Update to
α-Aminocarboxylic acids **81**–**108** have stereoparent names, including the stereodescriptor '**L**-' (analogously for the '**D**-' series), which are senior to the systematic names. For the seniority order of α-aminocarboxylic acids , see *§ A.1.3*. ....

§ A.1.3

p. 210, name of **90**
Update to
90 '**glycine**' (Gly, G)/ 'glycyl-'
systematically: '2-aminoacetic acid'/ '(2-aminoacetyl)-'

p. 212, name of **114**
Update to
114 '2-hydroxyacetic acid'/ '(2-hydroxyacetyl)-

p. 212, name of **119**
Update to
119 'α-hydroxy-α-phenylbenzeneacetic acid'/ '(2-hydroxy-2,2-diphenylacetyl)-

p. 213, name of **120**
Update to
120 '2-hydroxybutanedioic acid'/ '(2-hydroxy-1,4-dioxobutane-1,4-diyl)-'

p. 213, name of **122**
Update to
122 'α-hydroxybenzeneacetic acid'/ '(2-hydroxy-2-phenylacetyl)-'

p. 213, name of **125**
Update to
125 '2-oxoacetic acid'/ '(2-oxoacetyl)-'

p. 213, name of **131**
Update to
131 '2-oxopropanedioic acid'/ '(1,2,3-trioxopropane-1,3-diyl)-'
IUPAC: formerly '**mesoxalic acid**'/ 'mesoxal**yl**-' (–CO–CO–CO–)/ 'mesoxal**o**-' (HOOC–CO-CO–; CA: '(2-carboxy-2-oxoacetyl)-')

p. 213, name of **132**
Update to
132 '2-oxobutanedioic acid'/ '(1,2,4-trioxobutane-1,4-diyl)-'

p. 213, name of **134**
Update to
134 '(2-hydroxy-2-phenylacetyl)-'

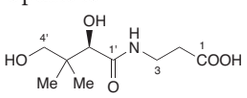
p. 213, name of **136**
Update to
136 '(2-oxoacetyl)-'

p. 213, name of **137**
Update to
137 '(2-thioxoacetyl)-'

p. 214, name of **140**
Update to
140 '*N*-benzoylglycine'/ '[2-(benzoylamino)acetyl]-'

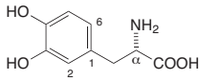
p. 214, name of **141**
Update to
141 '*N*-methylglycine'/ '[2-(methylamino)acetyl]-'

p. 214, name of **142**
Update to



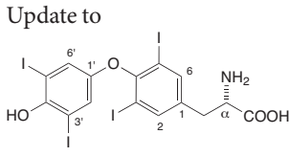
142 '*N*-[(2*R*)-2,4-dihydroxy-3,3-dimethyl-1-oxobutyl]-β-alanine'/ '{3-{[(2*R*)-2,4-dihydroxy-3,3-dimethyl-1-oxobutyl]amino}-1-oxopropyl}-'

p. 214, name of **143**
Update to



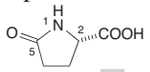
143 '3-hydroxyt-L-yrosine'/ '[(2*S*)-2-amino-3-(3,4-dihydroxy~phenyl)-1-oxopropyl]-'
• trivially '**L-dopa**'

p. 214, name of **144**
Update to



144 '*O*-(4-hydroxy-3,5-diiodophenyl)-3,5-diiodo-L-tyrosine'/ '{(2*S*)-2-amino-3-[4-(4-hydroxy-3,5-diiodophenoxy)-3,5-diiodophenyl]-1-oxopropyl}-'
• trivially '**L-thyroxine**'

p. 214, name of **145**
Update to



145 '5-oxo-L-proline'/ '{[(2*S*)-5-oxopyrrolidin-2-yl]carbonyl}-'
• trivially '**L-pyroglutamic acid**' (Glp)

p. 214, name of **146**
Update to
146 '2-amino-2-oxoacetic acid'/ '(2-amino-2-oxoacetyl)-'

p. 214, name of **149**
Update to
149 '*N*-(aminocarbonyl)glycine'/ '[*N*-(aminocarbonyl)glycyl]-' (for peptides) or '{2-[(aminocarbonyl)amino]acetyl}-'

p. 215, Footnote 7
Update to
H_2N–NH–C(=O)CH_2CH_2– '(3-hydrazinyl-3-oxopropyl)-'

p. 216, left-hand column, lines 10, 12, 15 and 17 from below
Update to

H_2N–NH–C(=O)–	'(hydrazinylcarbonyl)-' [7]
H_2N–C(=O)–	'(aminocarbonyl)-' [7]
H_2N–NH–C(=S)–	'(hydrazinylthioxomethyl)-' [7]
H_2N–C(=Se)–	'(aminoselenoxomethyl)-' [7]
H_2N–C(=Te)–	'(aminotelluroxomethyl)-' [7]

Analogously to (a):

HO–C(=NNH_2)–	'(hydrazinylidenehydroxymethyl)-' [7]
HO–C(=NH)–	'(hydroxyimi**n**omethyl)-' [7]
HS–C(=NNH_2)–	'(hydrazinylidenemercaptomethyl)-' [7]
HSe–C(=NH)–	'(imi**n**oselenylmethyl)-' [7]
HTe–C(=NH)–	'(imi**n**otellurylmethyl)-' [7]

p. 217, left-hand column, **(c)**
Update to
prefix

'**thioxo**-'	(S=[C] [1])
'**selenoxo**-'	(Se=[C] [1])
'**telluroxo**-'	(Te=[C] [1])
'**hydrazinylidene**-'	(H_2NN=[C] [1])
'**imino**-'	(HN=[C] [1])

p. 217, name of **163**
Change
163 '[1-thioxo-3-(thiocarboxy)propyl]-' to
163 '[3-(thiocarboxy)-1-thioxopropyl]-'

p. 218, name of **182**
Update to
182 '[3-hydrazinylidene-3-(pyridin-3-yl)propyl]-'
not '{2-[hydrazinylidene(pyridin-3-yl)methyl]ethyl}-'

p. 220, left-hand column, **(a)**
Update to

name of the carboxylic acid or of the analog,
§6.7.2–6.7.4 by *§ 6.7.2–6.7.4*
+
modification
'**lithium salt (1:1)**' (1 Li^+)
'**sodium salt (1:1)**' (1 Na^+)
'~~di~~**potassium salt (1:2)**' (2 K^+)
'**copper(2+) salt (2:1)**' (1 Cu^{2+})
etc.
the ratio (in parentheses) of the acid and the cation(s) must always be cited in the order of citation

p. 220, left-hand column, **(b)**
Update to

§3.5 **cation name(s)**, in alphabetical order
+
anion name
+
ratio '(*x*:*y*)', etc.
the ratio (in parentheses) of the cation(s) and the anion must always be cited in the order of citation

p. 220, name of **198**
Update to
198 'lithium pentanoate (1:1)'
CA index: 'pentanoic acid, lithium salt (1:1)', by (a)

p. 220, name of **199**
Update to
199 'potassium sodium butanedioate (1:1:1)'
CA index: 'butanedioic acid, potassium sodium salt (1:1:1)', by (a)

p. 220, name of **200**
Update to
200 'disodium 2-carboxylatocyclohexaneacetate (2:1)'
CA index: 'cyclohexaneacetic acid, 2-carboxy-, ~~di~~sodium salt (1:2)', by (a)

p. 220, right-hand column, **(c)**
Update to

cation name(s), in alphabetical order
+
'~~**hydrogen**~~', '~~**dihydrogen**~~', etc.
+
anion name
+
ratio '(*x*:*y*)', etc.
the ratio (in parentheses) of the cation(s) and the anion must always be cited in the order of citation

p. 220, right-hand column, *Notice* (c)
Update to

The numbering of the corresponding acid is retained. Since 2007, the cation name(s) have directly preceded the anion name, and possibly required 'hydrogen', 'dihydrogen', etc., has been omitted and replaced by
§6.14 (f) the ratio. For partially esterified salts, see (f) of *§ 6.14*.

p. 220, name of **201**
Update to
201 'ammonium ~~hydrogen~~ ethanedioate (1:1)'
CA index: 'ethanedioic acid, ~~mono~~ammonium salt (1:1)', by (a)

p. 220, name of **202**
Update to
202 'sodium ~~hydrogen~~ 3-nitrobenzene-1,2-di~carboxylate (1:1)'
CA index: '1,2-benzenedicarboxylic acid, 3-nitro-, ~~mono~~sodium salt (1:1)', by (a)

p. 220, name of **203**
Update to
203 'L-alanine sodium salt (1:1)' or 'sodium L-alaninate (1:1)'

p. 221, name of **204**
Update to
204 'benzoic acid sodium salt (1:1)' or 'sodium benzoate (1:1)'

p. 221, name of **205**
Update to
205 'phosphinecarboxylic acid sodium salt (1:1)' or 'sodium phosphinecarboxylate (1:1)'

p. 221, name of **206**
Update to
206 'benzene-1,4-dicarboxylic acid lithium sodium salt (1:1:1)' or 'lithium sodium benzene-1,4-dicarboxylate (1:1:1)'

p. 221, name of **207**
Update to
207 'ethaneselenothioic acid sodium salt (1:1)' or 'sodium ethaneselenothioate (1:1)'

p. 221, name of **208**
Update to
208 'propanehydrazonic acid sodium salt (1:1)' or 'sodium propanehydrazonate (1:1)'

p. 221, name of **209**
Update to
209 'cyclohexanecarboximidic acid potassium salt (1:1)' or 'potassium cyclohexanecarboximidate (1:1)'

p. 221, name of **210**
Update to
210 'propaneperoxoic acid sodium salt (1:1)' or 'sodium propaneperoxoate (1:1)'

p. 221, name of **211**
Update to
211 'benzenecarboselenothioic acid lithium salt (1:1)' or 'lithium benzenecarboselenothioate (1:1)'

p. 221, name of **212**
Update to
212 'buta-1,3-diene-1,2,4-tricarboxylic acid ~~mono~~sodium salt (1:1)' or 'sodium ~~dihydrogen~~ buta-1,3-diene-1,2,4-tricarboxylate (1:1)'

p. 221, name of **213**
Update to
213 'L-asparagine sodium salt (1:1)' or 'sodium L-asparaginate (1:1)'

p. 221, name of **214**
Update to
214 'L-aspartic acid ~~di~~sodium salt (1:2)' or '~~di~~sodium L-aspartate (2:1)'

p. 221, name of **215**
Update to
215 'L-glutamine sodium salt (1:1)' or 'sodium L-glutaminate (1:1)'

p. 221, name of **216**
Update to
216 'L-glutamic acid ~~mono~~sodium salt (1:1)' or 'sodium ~~hydrogen~~ L-glutamate (1:1)'

6.8 Sulfonic, Sulfinic, and Sulfenic Acids, Selenonic, Seleninic, and Selenenic Acids, Telluronic, Tellurinic, and Tellurenic Acids, Their Chalcogeno, Hydrazono, Imido, and Peroxy Replacement Analogs (Classes 5a and 5c), and Corresponding Salts[1] (Update)

p. 223, right-hand column, *Notice* (a), second bullet

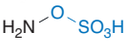
Update to

Since 2007, CA ~~considers~~ has no longer considered a hydroxylamine ($H_2N–OH$) substituted at its O atom with an $–SO_3H$ group (or a derivative of that) as a sulfonic acid ~~and not~~ but as a sulfuric acid ester (see **5** and *§ 6.10*, *6.23*, and *6.25*).

§ 6.10, 6.23, 6.25

p. 224, name of **5**

Update to



5 '~~hydroxylamine-O-sulfonic acid~~'
'sulfuric acid monoazanyl ester'/
'azanyl hydrogen sulfate'

ester of a common acid and a nontraditional alcohol, i.e., by (b_0) and (c) of *§ 6.14* ; since 2007, esters formed from hydroxy derivatives of N, P, As, Sb, Bi, Ge, Sn, and Pb (i.e., from nontraditional alcohols) have been named as such, regardless of the type of acid, acyclic N-substituents being named as 'azanyl-' ($H_2N–$), 'diazanyl-' ($H_2N–NH–$), 'diazenyl-' ($HN=N–$), etc. (¶ 185)

p. 225, right-hand column, lines 12 and 14 from below

Update to

$H_2N–S(=O)_2–$	'(aminosulfonyl)-'
$H_2N–NH–S(=O)_2–$	'(hydrazinylsulfonyl)-'
$H_2N–S(=S)_2–$	'(aminosulfonodithioyl)-'
$H_2N–NH–S(=O)(=NH)–$	'(*S*-hydrazinylsulfonimidoyl)'[2]
$H_2N–S(=S)(=NH)–$	'(*S*-aminosulfonimidothioyl)-'
$H_2N–S(=O)–$	'(aminosulfinyl)-'

p. 226, name of **20**

Update to

20 '[(trifluoromethyl)sulfonyl]-'

trivially also '**triflyl**-'; *not* for acid or salt, e.g., not '**triflate**' but '1,1,1-trifluoromethanesulfonate' ($CF_3SO_3^-$), see (f)

p. 227, left-hand column, (**f**), first bullet

Update to

name of the acid by (a)–(c) or (e)
+
modification
'**lithium salt (1:1)**' (1 Li^+)
'**sodium salt (1:1)**' (1 Na^+)
'**~~di~~potassium salt (1:2)**' (2 K^+)
'**copper(2+) salt (2:1)**' (1 Cu^{2+})
etc.

the ratio (in parentheses) of the acid and the cation(s) must always be cited in the order of citation

p. 227, left-hand column, (**f**), second bullet

Update to

cation name(s), in alphabetical order[5]
+
anion name
+
ratio '(***x*:*y***)', etc.

the ratio (in parentheses) of the cation(s) and the anion must always be cited in the order of citation

p. 227, *Footnote 5*

Update to

Since 2007, the cation name(s) ~~precedes~~ have directly proceded the anion name, and possibly required '**hydrogen**' has been omitted and replaced by the ratio, e.g., 'sodium ~~hydrogen~~ ethane-1,2-disulfinate (1:1)' ($NaSO_2CH_2CH_2SO_2H$). For partially esterified salts, see (f) of *§ 6.14*.

p. 227, name of **25**

Update to

25 '~~di~~potassium propane-1,2-disulfonate (2:1)'

CA index: '1,2-propanedisulfonic acid, ~~di~~potassium salt (1:2)'

p. 227, name of **26**

Update to

26 '*S*-sodium butane-2-sulfinothioate (1:1)'

CA index: '2-butanesulfinothioic acid, ~~S~~-sodium salt (1:1)'

p. 227, name of **27**

Update to

27 'lithium pyridine-2-sulfinimidate (1:1)'

CA index: '2-pyridinesulfinimidic acid, lithium salt (1:1)'

p. 227, name of **28**

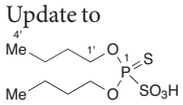
Update to

28 '*OTe*-sodium benzenetellureno(telluro~peroxoate) (1:1)'[1]

CA index: 'benzenetellureno(telluroperoxoic)acid, *OTe*-sodium salt (1:1)'

p. 227, name of **35**

Update to



35 '1,1-dibutoxyphosphinesulfonic acid 1-sulfide'

6

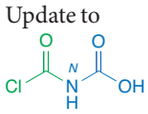
6.9 C-Oxoacids: Carbonic and Formic Acid and Their Replacement Analogs (Class 5d) and Corresponding Salts (Update)

p. 231, name of **17**
Update to

17 '**formyl halide**'[2)]

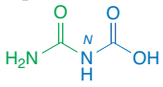
- e.g., 'fluoride', 'chloride', 'bromide', 'iodide', 'azide', 'isocyanate', 'isothiocyanate', 'isocyanide' (*not* 'cyanide', see '2-oxoacetonitrile' (**10**) in *§ 6.15*)

p. 232, name of **36**
Update to



36 '*N*-(chlorocarbonyl)carbamic acid'

p. 232, name of **37**
Update to



37 '*N*-(aminocarbonyl)carbamic acid'

p. 233, left-hand column, top
Update to

Tab. 3.1, 3.2 prefix for **X–** by *Tab. 3.1* and *3.2*[5)]
+
either parent-substituent name

'-**carbonyl**-'	(–C(=O)–)

or for X–C(=Y)– (Y ≠ O) prefix

'**thioxo**-'	(S=[C][6)])
'**selenoxo**-'	(Se=[C][6)])
'**telluroxo**-'	(Te=[C][6)])
'**hydrazinylidene**-'	(H_2NN=[C][6)])
'**imino**-'	(HN=[C][6)])

followed by the parent-substituent name

'-**methyl**-'	(–C(=[Y])–[6)])

p. 233, name of **43**
Update to

43 '(hydrazinylcarbonyl)-'

p. 233, right-hand column, **(d)**
Update to

'**formyl**-'	(O=CH–, only unsubstituted)
'**(thioxomethyl)**-'	(S=CH–)
'**(selenoxomethyl)**-'	(Se=CH–)
'**(telluroxomethyl)**-'	(Te=CH–)
'**(hydrazinylidenemethyl)**-'	(H_2NN=CH–)
'**(iminomethyl)**-'	(HN=CH–)

p. 233, right-hand column, **(e)** first bullet
Update to

name of the acid by (a) or (b)
+
modification
'**ammonium salt (1:1)**' (1 NH_4^+)
'**barium salt (1:1)**' (1 Ba^{2+})
'**magnesium salt (2:1)**' (1 Mg^{2+})
etc.
the ratio (in parentheses) of the acid and the cation(s) must always be cited in the order of citation

p. 234, left-hand column, **(e)**, second bullet
Update to

cation name(s), in alphabetical order[7)]
+
anion name
+
ratio '(***x*:*y***)', etc.
the ratio (in parentheses) of the cation(s) and the anion must always be cited in the order of citation

p. 234, *Footnote 7*
Update to

7) Since 2007, the cation name(s) ~~precedes~~ have directly preceded the anion name, and possibly required '**hydrogen**' has been omitted and replaced by the ratio, e.g., 'sodium ~~hydrogen~~ carbonate (1:1)' ($NaHCO_3$; IUPAC: 'sodium hydrogencarbonate', see 'Red Book', *§ A.1.12*). For partially esterified salts, see (f) of *§ 6.14*.

p. 234, name of **45**
Update to

45 '~~di~~sodium carbonate (2:1)'
CA index: 'carbonic acid, ~~di~~sodium salt (1:2)'

p. 234, name of **46**
Update to

46 '~~*S*,*S*-di~~potassium carbonodithioate (2:1)'
CA index: 'carbonodithioic acid, ~~*S*,*S*-di~~potassium salt (1:2)'

p. 234, name of **47**
Update to

47 'calcium ~~di~~carbamate (1:2)'
CA index: 'carbamic acid, calcium salt (2:1)'

p. 234, name of **48**
Update to

48 'sodium formate (1:1)'
CA index: 'formic acid, sodium salt (1:1)'

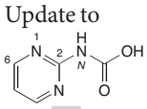
p. 234, name of **49**
Update to

49 'ammonium methanimidate (1:1)'

- CA: 'methanimidic acid, ammonium salt (1:1)'
- *Footnote 1* is not considered

p. 234, name of **58**

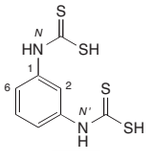
Update to



58 '*N*-(pyrimidin-2-yl)carbamic acid'

p. 234, name of **59**

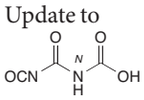
Update to



59 '*N*,*N*′-1,3-phenylenebis[carbamodithioic acid]'

p. 234, name of **62**

Update to



62 '*N*-(isocyanatocarbonyl)carbamic acid'

p. 235, name of **64**

Update to

64 '(aminohydrazinylidenemethyl)-'

p. 235, name of **65**

Update to

65 '(hydrazinyliminomethyl)-'

p. 235, name of **67**

Update to

67 '(hydrazine-1,2-diyldicarbonothioyl)-'

p. 235, name of **68**

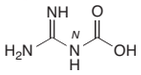
Change

68 '[(2-chloro-2-oxoethyl)thio]benzoic acid' to

68 '2-[(2-chloro-2-oxoethyl)thio]benzoic acid'

p. 235, name of **70**

Update to



70 '*N*-(aminoiminomethyl)carbamic acid'

6.10 S-, Se-, Te-, and N-Oxoacids (Class 5e) (Update)

p. 237, left-hand column, third bullet

Update and change to

CA ¶ 188, 219
Tab.3.2, n

Names of halogen-containing oxoacids (seniority just above chalcogen oxoacids; see *Tab. 3.2*, updated *Footnote n*) and further inorganic acids and their salts are summarized below (for some acyl names, see *§ 6.33*):

§ 6.33

$HOClO_3$

'**perchloric acid**'/ 'perchlorate' (ClO_4^{1-})

- likewise 'perfluoric acid' and 'perbromic acid'
- I analogs: 'periodic acid (H_5IO_6)'/ 'periodate (IO_6^{5-})' (IUPAC: 'orthoperiodic acid'/ 'orthoperiodate') for $(HO)_5IO$/ IO_6^{5-};
  'periodic acid (HIO_4)'/ 'periodate (IO_4^{1-})' (IUPAC: 'periodic acid'/ 'periodate') for $HOIO_3$/ IO_4^-

$HOClO_2$

'**chloric acid**'/ 'chlorate' (ClO_3^{1-})

- likewise 'fluoric acid' and 'bromic acid'
- I analogs: 'iodic acid (H_2IO_4)'/ 'iodate (IO_4^{2-})' for $(HO)_2IO_2$/ IO_4^{2-};
  'iodic acid (HIO_3)'/ 'iodate (IO_3^{1-})' (IUPAC: 'iodic acid'/ 'iodate') for $HOIO_2$/ IO_3^-

p. 238, name of **3**

Update to

3 '**orthosulfurous acid**'

- only for replacement analogs, see **20** in (b)
- CA index: 'sulfur hydroxide ($S(OH)_4$))'

p. 238, name of **11**

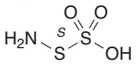
Update to

11 '~~**hydroxylamine-*O*-sulfonic acid**~~'
'**sulfuric acid monoazanyl ester**'/
'**azanyl hydrogen sulfate**'

ester of a common acid and a nontraditional alcohol, i.e., by (b_0) and (c) of *§ 6.14* ; since 2007, esters formed from hydroxy derivatives of N, P, As, Sb, Bi, Ge, Sn, and Pb (i.e., from nontraditional alcohols) have been named as such, regardless of the type of acid, acyclic N-substituents being named as 'azanyl-' ($H_2N–$), 'diazanyl-' ($H_2N–NH–$), 'diazenyl-' ($HN=N–$), etc. (¶ 185)

p. 239, name of **13**

Update to

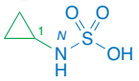


13 '~~**thiohydroxylamine-*S*-sulfonic acid**~~'
'**thiosulfuric acid ($H_2S_2O_3$) *S*-azanyl ester**'/
'***S*-azanyl hydrogen thiosulfate ($S_2O_3^{2-}$)**'

ester of an exotic acid and a nontraditional) alcohol, i.e., by (b_0) and (c) of *§ 6.14*; since 2007, esters formed from hydroxy derivatives of N, P, As, Sb, Bi, Ge, Sn, and Pb (i.e., from nontraditional alcohols) have been named as such, regardless of the type of acid, acyclic N-substituents being named as 'azanyl-' ($H_2N–$), 'diazanyl-' ($H_2N–NH–$), 'diazenyl-' ($HN=N–$), etc. (¶ 185)

p. 239, name of **17**

Update to



17 '*N*-cyclopropylsulfamic acid'

p. 239, name of **18**

Update to

18 'amidothiosulfurous acid ($(H_2N)S(S)(SH)$)'

p. 240, left-hand column, bottom

Update to

$H_2N–S(=O)_2–$	'(aminosulfonyl)-' (IUPAC: '**sulfamoyl**-')
$H_2N–NH–S(=O)_2–$	'(hydrazinylsulfonyl)-'
$Cl–S(=O)–$	'(chlorosulfinyl)-'
$H_2N–S(=NH)–$	'(aminosulfinimidoyl)-'

p. 240, right-hand column, **(e)**

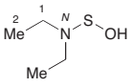
Update to

prefix by (d) for

(HXYZ)X′– **Y′–X′(YZ)–** **$O_2N–$**	**(HXY)X′–** **Y′–X′(Y)–** **O=N–**	**(HX)X′–** **Y′–X′–** **S=N–**
+		
'**-oxy**-'	(Z′ = O)	
'**-thio**-'	(Z′ = S)	
'**-seleno**-'	(Z′ = Se)	
'**-telluro**-'	(Z′ = Te)	
'**-amino**-'	(Z′ = NH)	
'**-hydrazinyl**-'	(Z′ = NHNH	

p. 241, name of **40**

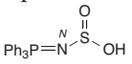
Update to



40 '*N,N*-diethylamidosulfoxylic acid'

p. 241, name of **43**

Update to



43 '*N*-(triphenylphosphoranylidene)amidosulfurous acid'

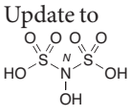
p. 241, name of **44**

Update to

44 '*N*-(aminoiminomethyl)sulfamic acid'

p. 241, name of **47**

Update to



47 '*N*-hydroxyimidodisulfuric acid'

6.11 P- and As-Oxoacids (Classes 5f and 5g) (Update)

p. 243, left-hand column, second bullet

Update to

All P- and As-oxoacids are functional-class parents. In CA, they are indexed as functional-parent names, *not* as conjunctive names according to *§ 3.2.2*, e.g., 'phos~phonic acid, *P*-phenyl-' ($PhPO_3H$); see also **9**.

§ 3.2.2

p. 243, right-hand column, **(a)**

Update to

Mononuclear P- and As-oxoacids and their salts have the following functional-parent and salt names; note that the H atoms directly attached to the nuclear P or As atom are substitutable; since 2007, substituent prefixes have been preceded by the letter locants '*P*-' or '*As*-':

p. 244, name of **7**

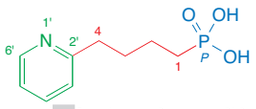
Update to

7 '**phosphenic acid**' (X′= P)/ 'phosphenate' (PO_3^{1-})
or
'**metaphosphoric acid (HPO$_3$)**' (X′= P)/ 'metaphosphate (PO_3^{1-})'
'**arsenenic acid**' (X′= As)/ 'arsenenate' (AsO_3^{1-})

for the unsubstituted P-oxoacid **7** and its esters and salts, '**metaphosphoric acid (HPO$_3$)**' is used; but names of replacement analogs are based on 'phosphenic acid' (see (b)), with the exception of the trivial name '**metaphos~phimic acid** ~~**((HO)P(O)(NH)**~~ **(H_2PO_2N)**' for P(=O)(=NH)OH and its chalcogen analogs (also P(≡N)$(OH)_2$ is called 'metaphosphimic acid ($(HO)_2PN$)', not 'phosphoronitridic acid')

p. 244, name of **9**

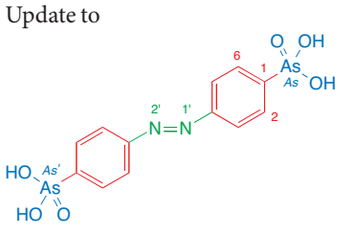
Update to



9 '*P*-[4-(pyridin-2-yl)butyl]phosphonic acid'

p. 244, name of **10**

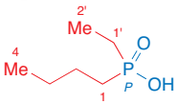
Update to



10 '*As*,*As*′-(diazene-1,2-diyldi-4,1-phenylene)~bis[arsonic acid]'

p. 244, name of **11**

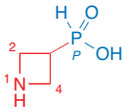
Update to



11 '*P*-butyl-*P*-ethylphosphinic acid'

p. 244, name of **12**

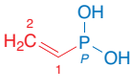
Update to



12 '*P*-azetidin-3-ylphosphinic acid'

p. 244, name of **13**

Update to



13 '*P*-ethenylphosphonous acid'

p. 245, name of **14**

Update to

14 '*P*-(2-cyanoethyl)-*P*-propylphosphinous acid'

p. 245, **(b)**, first bullet

Change to

functional-parent name of **1**–**8**
+
infix

	(–XH, –Y′, –Z′ replacer)
'-**fluorid(o)**-'	(–F)
'-**chlorid(o)**-'	(–Cl)
'-**bromid(o)**-'	(–Br)
'-**iodid(o)**-'	(–I)
'-**azid(o)**-'	($–N_3$)
'-**isocyanatid(o)**-'	(–NCO)
'-**(isothiocyanatid(o))**-'	(–NCS)
'-**(isoselenocyanatid(o))**-'	(–NCSe)
'-**(isotellurocyanatid(o))**-'	(–NCTe)

.....

p. 246, name of **30**

Update to

30 '*P*-(3,3-dimethylbut-1-en-1-yl)-*P*-methyl-*N*-(trimethylsilyl)phosphinimidic acid'

p. 248, name of **41**

Change to

41 '(*P*-aminophosphinimyl)-'

p. 249, left-hand column, top

Update to

'-**seleno**-'	(X″ = Se)
'-**telluro**-'	(X″ = Te)
'-**amino**-'	(X″ = NH)
'-**hydrazinyl**-'	(X″ = NHNH)

p. 249, name of **47**

Change to

47 '[(diiodoarsino)oxy]-'

p. 249, right-hand column, **(h)**, first bullet

Update to

name of the acid by (a), (b), or (g)
+
modification
'**trisodium salt (1:3)**' (3 Na^+)
'**ammonium magnesium salt (1:1:1)**' (1 NH_4^+, 1 Mg^{2+})
etc.
the ratio (in parentheses) of the acid and the cation(s) must always be cited in the order of citation

p. 249, right-hand column, **(h)**, second bullet

Update to

cation name(s), in alphabetical order[6)]
+
anion name
+
ratio '(*x*:*y*)', etc.
the ratio (in parentheses) of the cation(s) and the anion must always be cited in the order of citation

p. 249, *Footnote 6*

Update to

6) Since 2007, the cation names ~~precede~~ have directly preceded the anion name, and possibly required '**hydrogen**', 'dihydrogen' has been omitted and replaced by the ratio, e.g., 'ammonium sodium ~~hydrogen~~ phosphate (1:1:1)' ($Na(NH_4)HPO_4$; IUPAC: 'ammonium sodium hydrogenphosphate' (see 'Red Book', *§ A.1.12*); CA index: 'phosphoric acid, ~~compounds,~~ ~~mono~~ammonium ~~mono~~sodium salt (1:1:1)'). For partially esterified salts, see (f) of *§ 6.14*.

p. 249, name of **55**

Update to

55 'ammonium phosphorodifluoridate (1:1)'
CA index: 'phosphorodifluoridic acid, ammonium salt (1:1)'

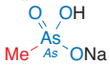
p. 249, name of **56**

Update to

56 'iron(2+) lithium phosphorotrithioite (1:1:1)'
CA index: 'phosphorotrithious acid, iron(2+) lithium salt (1:1:1)'

p. 249, name of **57**

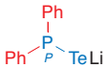
Update to



57 'sodium ~~hydrogen~~ *As*-methylarsonate (1:1)'
CA index: 'arsonic acid, *As*-methyl-, ~~mono~~sodium salt (1:1)'

p. 250, name of **58**

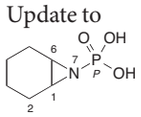
Update to



58 'lithium *P*,*P*-diphenylphosphinotelluroite (1:1)'
CA index: 'phosphinotellurous acid, *P*,*P*-diphenyl-, lithium salt (1:1)'

p. 250, name of **59**

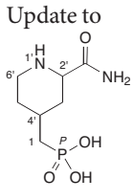
Update to



59 '*P*-7-azabicyclo[4.1.0]hept-7-ylphosphonic acid'

p. 250, name of **60**

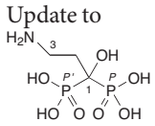
Update to



60 '*P*-{[2-(aminocarbonyl)piperidin-4-yl]methyl}phosphonic acid'

p. 250, name of **61**

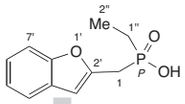
Update to



61 '*P*,*P*′-(3-amino-1-hydroxypropylidene)bis[phosphonic acid]'

p. 250, name of **62**

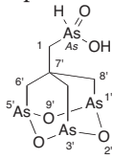
Update to



62 '*P*-(benzofuran-2-ylmethyl)-*P*-ethylphosphinic acid'

p. 250, name of **63**

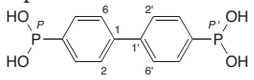
Update to



63 '*As*-(2,4,9-trioxa-1,3,5-triarsatricyclo[3.3.1.1^{3,7}]dec-7-ylmethyl)arsinic acid'

p. 250, name of **64**

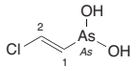
Update to



64 '*P*,*P*′-[1,1′-biphenyl]-4,4′-diylbis[phosphonous acid]'

p. 250, name of **65**

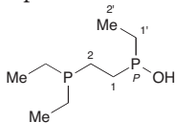
Update to



65 '*As*-(2-chloroethenyl)arsonous acid'

p. 250, name of **66**

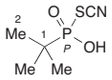
Update to



66 '*P*-[2-(diethylphosphino)ethyl]-*P*-ethylphosphinous acid'

p. 250, name of **71**

Update to



71 '*P*-(1,1-dimethylethyl)phosphono(thiocyanatidic) acid'

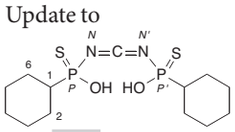
p. 250, name of **72**

Change to

72 '*N*,*N*-diethyl-*P*-(2-thienyl)phosphonamidodithioic acid'

p. 250, name of **73**

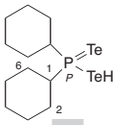
Update to



73 '*N*,*N*′-methanetetraylbis[*P*-cyclohexylphosphonamido~thioic acid]'

p. 250, name of **74**

Update to



74 '*P*,*P*-dicyclohexylphosphinoditelluroic acid'

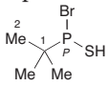
p. 250, name of **75**

Change to

75 '*N*-(diphenylphosphinothioyl)-*P*,*P*-diphenyl~phosphinimidothioic *S*-acid'

p. 251, name of **78**

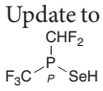
Update to



78 '*P*-(1,1-dimethylethyl)phosphonobromidothious acid'

p. 251, name of **81**

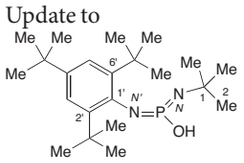
Update to



81 '*P*-(difluoromethyl)-*P*-(trifluoromethyl)phosphino~selenous acid'

p. 251, name of **82**

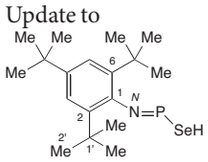
Update to



82 '*N*-(1,1-dimethylethyl)-*N*′-[2,4,6-tris(1,1-dimethylethyl)~phenyl]phosphenodiimidic acid'

p. 251, name of **83**

Update to



83 '*N*-[2,4,6-tris(1,1-dimethylethyl)phenyl]phosphenimido~selenous acid'

6.12 Sb-, Bi-, Si-, and B-Oxoacids (Classes 5h–k) **(Update)**

p. 253, name of **5**

Update to

5 '1,1-difluorosilanediol'

p. 253, name of **6**

Update to

6 '2,2,4,4,6,6-hexabromocyclotrisiloxane'

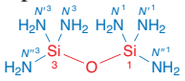
p. 253, name of **7**

Update to

7 '1-aminosilanetriol'

p. 253, name of **8**

Update to



8 'disiloxane-1,1,1,3,3,3-hexamine'

notice the type and the order of the letter locants of a hexamethyl derivative:
'*N*^{1},*N*^{1},*N*'^{1},*N*'^{1},*N*''^{1},*N*''^{1}-hexamethyldisiloxane-1,1,1,3,3,3-hexamine'

p. 254, name of **10**

Update to

10 '**disilane-1,1,1,2,2,2-hexol**'

p. 254, *Footnote 4*

Update to

Salts, unsymmetrical anhydrides, and esters of boric acids are designated as usual (see *§ 6.4.1*, *6.13*, and *6.14*). Acid halides and amides have substitutive names, i.e., they are considered as derivatives of the molecular-skeleton parent borane, in the absence of chalcogen substitution (*§ 4.3.3.1* or *6.28*). Hydrazides are named as substituted hydrazines, in the absence of chalcogen substitution, and anions as '**borate**', followed by a synonym line formula.

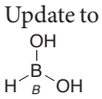
p. 254, name of **20**

Update to

20 '**1,1,2,2-tetrahydroxydiborane(4)**'

p. 254, name of **28**

Update to

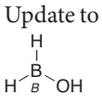


28 '**boronic acid**'/'boronate' (HBO_2^{2-})

substitutable at the B atom (use locant '*B*')

p. 255, name of **29**

Update to



29 '**borinic acid**'/'borinate' (H_2BO^{3-})

substitutable at the B atom (use locant '*B*')

p. 255, left-hand column, top

Update to

In the name of a chalcogen analog of **28** or **29**, the replacement *infix* ~~*affix*~~ (no longer affix ~~not infix~~) '**-thio-**', '**-seleno-**', '**-telluro-**', etc., precedes '-ic acid', analogously to (a) of § 6.7.3 ~~'boronic acid' or 'borinic acid'~~ (see **32** and **45**)[5]. § 6.7.3 (a)

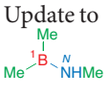
p. 255, *Footnote 5*

Update to

Salts, anhydrides ~~(except for symmetrical ones of borinic acids)~~, esters, and hydrazides of boronic and borinic acids are named as usual (see *§ 6.4.1*, *6.13*, *6.14*, and *6.17*). Acid halides and amides have substitutive names, i.e., they are considered as derivatives of the molecular-skeleton parent borane, in the absence of chalcogen substitution (*§ 4.3.3.1* or *6.28*).

p. 255, name of **27**

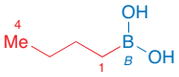
Update to



27 '*N*,1,1-trimethylboranamine'

p. 255, name of **30**

Update to

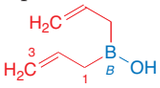


30 '*B*-butylboronic acid'

CA: 'boronic acid, *B*-butyl-'

p. 255, name of **31**

Update to

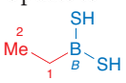


31 '*B*,*B*-diprop-2-en-1-ylborinic acid'

CA: 'borinic acid, *B*,*B*-di-2-propen-1-yl-'

p. 255, name of **32**

Update to

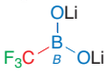


32 ~~'ethyldithioboronic acid'~~
'*B*-ethylboronodithioic acid'

CA: 'boronodithioic acid, *B*-ethyl-'
~~'boronic acid, ethyldithio-' (as an exception, the affix follows the prefix instead of being part of the functional-parent name)~~

p. 255, name of **33**

Update to

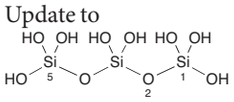


33 '*B*-(trifluoromethyl)boronic acid ~~di~~lithium salt (1:2)'

CA: 'boronic acid, *B*-(trifluoromethyl)-, dilithium salt (1:2)'

p. 255, name of **36**

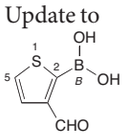
Update to



36 'trisiloxane-1,1,1,3,3,5,5,5-octol'

p. 255, name of **41**

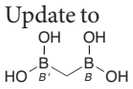
Update to



41 '*B*-(3-formyl-2-thienyl)boronic acid'

p. 255, name of **42**

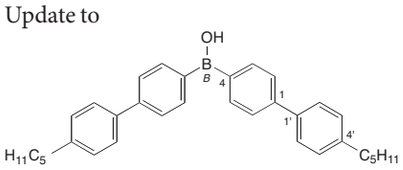
Update to



42 '*B,B'*-methylenebis[boronic acid]'

p. 255, name of **43**

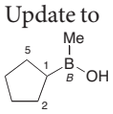
Update to



43 '*B,B*-bis(4′-pentyl[1,1′-biphenyl]-4-yl)borinic acid'

p. 255, name of **44**

Update to



44 '*B*-cyclopentyl-*B*-methylborinic acid'

p. 255, name of **45**

Update to

45 ~~'diphenylthioborinic acid'~~
'*B,B*-diphenylborinothioic acid'
CA: 'borinothioic acid, *B,B*-diphenyl-'
~~'borinic acid, diphenylthio-' (exception, see 32)~~

6.13 Anhydrides (Update)

p. 257, left-hand column

Update to

Notice

In the CA indexes, an acyclic anhydride is registered under the heading parent of the senior acid, supplemented by a modification '1,1′-anhydride', '1,3′-anhydrosulfide', 'anhydride with ...', 'monoanhydride with ... (2:1)', etc.

p. 257, left-hand column

Update to

(b_1) anhydride of a monobasic carboxylic acid as well as of a monobasic sulfonic or sulfinic, ~~or sulfenic~~ acid or of their selenium and tellurium analogs, of formic acid, of a phosphinic or arsinic acid, of a phosphinous or arsinous acid, as well as of replacement analogs...

(b_2) anhydride of a polybasic carboxylic acid as well as of a polybasic sulfonic or sulfinic, ~~or sulfenic~~ acid and of their selenium and tellurium analogs, as well as of replacement analogs;

p. 258, name of **5**

Change to

5 '~~3,4-~~dihydrothiophene-2,5-dione'

p. 258, (**b_1**)

Update to

The anhydride name of a symmetrical acyclic anhydride of a *monobasic acid*, i.e., of a carboxylic acid **RCOOH**, of a sulfonic or sulfinic ~~, or sulfenic~~ acid **RS(=O)$_2$OH** or **RS(=O)OH** ~~, or RSOH~~, or their selenium and tellurium analogs, of formic acid **HCOOH**, of a phosphinic or arsinic acid **X′H$_2$(=O)OH** (X′ = P or As), of a phosphinous or arsinous acid **X′H$_2$OH** (X′ = P or As), as well as of a corresponding monobasic replacement analog consists of:

§ 6.7
§ 6.8
§ 6.9, 6.11

name of the monobasic acid (incl. prefixes if required)
+
modification
'***x,x′*-anhydride**' (– 1 H_2O)
'***x,x′*-anhydrosulfide**' (– 1 H_2S)
'***x,x′*-anhydroselenide**' (– 1 H_2Se)
'***x,x′*-anhydrotelluride**' (– 1 H_2Te)
(*x, x′* = locants)

~~If a prefix must be used for a nonsenior monobasic acid group, locants are employed to avoid ambiguity (see 14).~~

Since 2007, **locants** have been employed for the positions of the anhydride connection, see, e.g., **11**–**15**, **17**, and **18**.

p. 258, **(i)**

Update to

The symmetrical formal anhydride **R–X–X–R** (X = O, S, Se, Te; **R = acyl**) of a monobasic acid with its peroxy acid is denoted as a '**peroxide**', '**disulfide**', '**diselenide**', or '**ditelluride**'.~~and~~ The symmetrical formal anhydride **R–X–X–X–R** (X = O, S, Se, Te; **R = acyl, alkyl, or aryl**) of a monobasic peroxy acid or of a replacement analog of a sulfenic, selenenic, or tellurenic acid is named as a '**trioxide**', '**trisulfide**', '**triselenide**', or '**tritelluride**' (see *§ 6.30* and *6.31* and also *Footnote 1*), see, e.g., **9**, ~~and~~ **10**, and **77**–**79**, except if another preferred molecular-skeleton pparent is present, see, e.g., **80**.

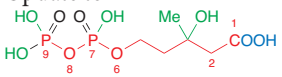
CA ¶ 196, 200
§ 6.30, 6.31

Since 2007, the formal anhydride **R–X–Y–X–R** (X = S, Se, Te; Y = O, S, Se, Te; **R = alkyl or aryl**) of a monobasic peroxy acid has been named as an ester of a peroxy acid (see (e) of *§ 6.8*), see, e.g., **16**, **84**, and **85**.

§ 6.38

p. 258, name of **8**

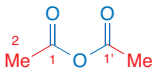
Update to



8 '~~1,1,3,7-tetrahydroxy-7-methyl-2,4-dioxa-1,3-diphospha-nonan-9-oic acid 1,3-dioxide~~'
'3,7,9,9-tetrahydroxy-3-methyl-6,8-dioxa-7,9-diphosphanonanoic acid 7,9-dioxide'
notice that since 2007, the principal group (–COOH) has been senior to the heteroatoms for lowest locants

p. 258, name of **11**

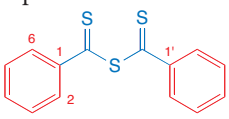
Update to



11 'acetic acid 1,1′-anhydride'

p. 258, name of **12**

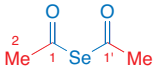
Update to



12 'benzenecarbodithioic acid 1,1′-anhydrosulfide'

p. 258, name of **13**

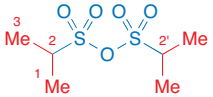
Update to



13 'ethaneselenoic acid 1,1′-anhydroselenide'

p. 259, name of **15**

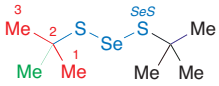
Update to



15 'propane-2-sulfonic acid 2,2′-anhydride'

p. 259, name of **16**

Update to

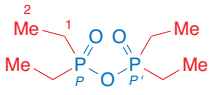


16 '~~2-~~methyl~~propane-2-sulfenoselenoic acid anhydroselenide~~'
'2-methylpropane-2-sulfeno(selenothioperoxoic) acid *SeS*-(1,1-dimethylethyl) ester/'*SeS*-(1,1-di~methylethyl) 2-methylpropane-2-sulfeno~(selenothioperoxoate)'

CA: ~~'2-propanesulfenoselenoic acid, 2-methyl-, anhydroselenide'~~ '2-propanesulfeno(selenothioperoxoic) acid, 2-methyl-, *SeS*-(1,1-dimethylethyl) ester'

p. 259, name of **17**

Update to

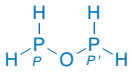


17 '*P,P*-diethylphosphinic acid *P,P′*-anhydride'

CA: 'phosphinic acid, *P,P*-diethyl-, *P,P′*-anhydride'

p. 259, name of **18**

Update to



18 'phosphinous acid *P,P′*-anhydride'

p. 259, **(b$_2$)**

Update to

The name of a symmetrical acyclic anhydride of a *polybasic acid*, i.e., of a carboxylic acid, e.g. **HOOC–R–COOH**, as well as of a sulfonic or sulfinic~~, or sulfenic~~ acid, e.g., **HOS(=O)$_2$–R–S(=O)$_2$OH** or **HOS(=O)–R–S(=O)OH**~~; or HOS–R–SOH~~, or selenium and tellurium analogs, as well as of a corresponding polybasic replacement analog consists of:

name of the polybasic acid (incl. prefixes if required)
+
modification

'~~**bimol. mono** ***x,y*-anhydride**~~' [2] (– 1 H_2O)
'~~**trimol.** ***x,y:u,v*-dianhydride**~~' [2] (– 2 H_2O)
'~~**bimol. mono(** ***x,y*-anhydrosulfide)**~~' [2] (– 1 H_2S)
'~~**trimol.** ***x,y:u,v*-bis(anhydrosulfide)**~~' [2] (– 2 H_2S)
etc.
(*x, y, u, v* = locants)

Since 2007, **locants** have been employed for the positions of the anhydride connection(s), see, e.g., **19**, **20**, and **88**.

~~In the case of unsymmetrical connections, locants must be employed (see 20).~~
See also the *Exceptions* (b$_1$), (c$_1$), and (c$_2$), i.e., (i)–(xi).

§ 6.7, 6.8

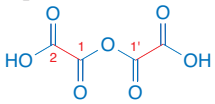
p. 259, *Footnote 2*

Update to

Formerly, the number of acid molecules ~~is~~ has been expressed by 'bimol.', 'trimol.', etc.

p. 259, name of **19**

Update to



19 'ethanedioic acid ~~bimol. mono~~ 1,1′-anhydride'

p. 259, name of **20**

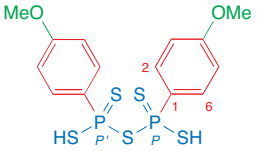
Update and change to

20 '4-methylbenzene-1,2-dicarboxylic acid ~~bimol.~~ 1,2′-~~mono~~anhydride'

CA: '1,2-benzene~~-1,2-~~dicarboxylic acid, 4-methyl-, ~~bimol.~~ 1,2′-~~mono~~anhydride'

p. 259, name of **23**

Update to



23 '*P,P′*-bis(4-methoxyphenyl)thiodiphosphonic acid ([(HS)HP(S)]$_2$S)'

p. 259, **(b$_4$)**

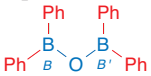
Update to

The symmetrical acyclic formal anhydride of an **Si-** ~~or~~ **B-oxoacid** is designated as a silicic acid, see **24**. ~~or as a borane (from borinic acids) or by (b$_2$) (from boric or boronic acids).~~ § 6.12

The symmetrical acyclic anhydride of a **B-oxoacid** is named according to (b$_1$) or (b$_2$), see **25–27**; an exception is 'boric acid ($H_4B_2O_5$)' (HO–B(OH)–O–B(OH)–OH). § 6.12

p. 259, name of **25**

Update to

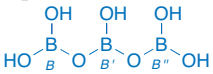


25 '~~oxybis[diphenylborane]~~'
'*B,B*-diphenylborinic acid *B,B′*-anhydride'

- by (b$_1$)
- see (c$_2$) of *§ 6.12*

p. 259, name of **26**

Update to

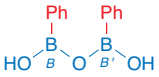


26 'boric acid (H_3BO_3) ~~trimol.~~ *B,B′:B′,B″*-di~anhydride'

- by (b$_2$)
- see (c$_1$) of *§ 6.12*

p. 260, name of **27**

Update to



27 '*B*-phenylboronic acid ~~bimol. mono~~ *B,B′*-anhydride'

- CA: 'boronic acid, *B*-phenyl-, ~~bimol. mono~~ *B,B′*-anhydride'
- by (b$_2$)
- see (c$_2$) of *§ 6.12*

p. 260, **(c$_1$)**

Update to

If the senior acid is monobasic, the anhydride name consists of:

name of the senior monobasic acid
(incl. prefixes if required)
+

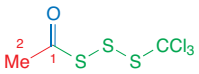
modification
'**anhydride with**' (– 1 H_2O)
~~'**monoanhydride with**'~~
~~'**dianhydride with**'~~
'**anhydrosulfide with**' (– 1 H_2S)
~~'**bis(anhydrosulfide) with**'~~
'**anhydrotelluride with**'(– 1 H_2Te)
+
name of the nonsenior mono- or polybasic acid (incl. prefixes if required) as a further modification

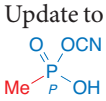
Since 2007, a **ratio** has been employed for an anhydride of the senior monobasic acid with a mononuclear polybasic acid, see, e.g., **47–49, 51, 102, 103**, and **106–108**.

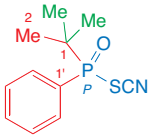
p. 260, **(iii)**
Update to
The unsymmetrical formal anhydride **R–X–X–X–R′** (X = O, S, Se, Te; **R and R′ = acyl or** ~~**alkyl, or aryl**~~ **acidic acyl** (e.g.COOH)) of a monobasic peroxy acid with a monobasic peroxy, sulfenic, selenenic, or tellurenic acid is denoted as a '**trioxide**', '**trisulfide**', '**triselenide**', or '**tritelluride**' (see *§ 6.30* and *6.31* and also the exception (i) in (b_1) as well as *Footnote 1*), see, e.g., ~~**28**~~ **90**, cf. with **28** (R′ = alkyl!).
§ 6.30, 6.31

p. 260, **(iv)**
Update to
The unsymmetrical formal anhydride **R–X–Y–R′** (X, Y = O, S, Se, Te (see also (v) if X = Y ~~*X not O, see* **93**~~)); **R = acyl, R′ = alkyl or aryl**) of a monobasic peroxy acid with a monobasic sulfenic, selenenic, or tellurenic acid is designated as an ester of the peroxy acid (see *§ 6.14* as well as *Footnote 1*), see, e.g., **29**, ~~and~~ **30**, **91**, and **93**.
CA ¶ 196, 200
§ 6.14

p. 260, **(v)**
Update to
The unsymmetrical formal anhydride **R–X–X–R′** (X = O, S, Se, Te; **R and R′ = acyl**) of a monobasic peroxy acid, except for a sulfenic, selenenic, or tellurenic acid (see (iv)), is denoted as a '**peroxide**', '**disulfide**', '**diselenide**', or '**ditelluride**' (see *§ 6.30* and *6.31* as well as *Footnote 1*), similarly to the symmetrical formal anhydride in (i) of (b_1), see, e.g., **31–34** and **92**.
§ 6.30, 6.31

p. 260, name of **28**
Update to

28 '1-[(trichloromethyl)trithio]ethanone'
- ~~by~~ see (iii), i.e., ketone, by (b) of *§ 6.20*
- ~~compound of *Class 22* (*§ 6.31*)~~

p. 261, name of **35**
Update to

35 '*P*-methylphosphonocyanatidic acid'

p. 261, name of **36**
Update to

36 '*P*-(1,1-dimethylethyl)-*P*-phenylphosphinic thiocyanate'

p. 261, name of **38**
Update to
38 'benzoic acid anhydride with 2-[(acetyloxy)~sulfonyl]acetic acid'

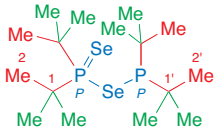
p. 261, name of **42**
Update to
42 '2-chloroacetic acid anhydride with acetic acid'
CA: 'acetic acid, 2-chloro-, anhydride with acetic acid'

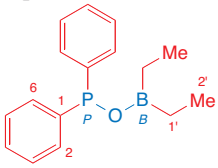
p. 261, name of **47**
Update to
47 'acetic acid ~~mono~~anhydride with sulfuric acid (1:1)'

p. 261, name of **48**
Update to
48 'acetic acid ~~tri~~anhydride with arsenous acid (3:1)'

p. 261, name of **49**
Update to
49 'formic acid ~~mono~~anhydride with phosphor~amidic acid (1:1)'

p. 261, name of **51**
Update to
51 'carbamic acid ~~di~~anhydride with phosphoric acid (2:1)'

p. 262, name of **52**
Update to

52 '*P,P*-bis(1,1-dimethylethyl)phosphino~diselenoic acid anhydroselenide with *P,P*-bis(1,1-dimethylethylphosphinoselenous acid'
CA: 'phosphinodiselenoic acid, *P,P*-bis(1,1-dimethyl~ethyl)-, anhydroselenide with *P,P*-bis(1,1-dimethyl~ethyl)phosphinoselenous acid'

p. 262, name of **53**
Update to

53 '*P,P*-diphenylphosphinous acid anhydride with *B,B*-diethylborinic acid'
CA: 'phosphinous acid, *P,P*-diphenyl-, anhydride with *B,B*-diethylborinic acid'

p. 262, **(c_2)**
Update to
If the senior acid is polybasic, the anhydride name consists of:

name of the senior polybasic acid
(incl. prefixes if required)
+
modification
'**anhydride with**' (– 1 H_2O)
'~~**mono** *x*-~~**anhydride with**' (– 1 H_2O)
'***x,y*-dianhydride with**' (– 2 H_2O)
'**anhydrosulfide with**' (– 1 H_2S)
'~~**mono**(~~ ***x*-anhydrosulfide~~)~~ **with**' (– 1 H_2S)
'***x,x′*-bis(anhydrosulfide~~)~~ with' (– 2 H_2S)
~~'anhydride with ... (2:1)'~~
~~'*x*-anhydride with' (*x* = locant)~~
etc.
(*x*, *x′*, *y* = locants)
+
name of the nonsenior mono- or polybasic acid
(incl. prefixes if required) as a further modification

Since 2007, **locants** for the positions of the anhydride connection(s) at the senior polybasic acid have been employed, see, e.g., **61–63**, **65**, and **114**; a **ratio** has been employed for an anhydride of two different polybasic mononuclear acids, see, e.g., **64**, **111**, **115**, and **117**, or for an anhydride of a senior polybasic mononuclear acid with a monobasic mononuclear acid, see, e.g., **66**, **112**, **113**, and **116**.

p. 262, Notice (c_2)
Update to

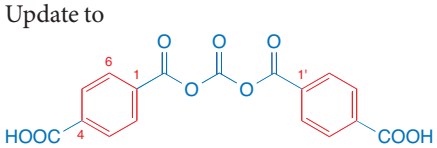
- ~~In the case of anhydrides of two polybasic acids, sometimes the indication of ratios is necessary (in parentheses), e.g., in the case of **63** and **64**.~~
- Nonsenior esterified polyacids with free acid functions have anion names, see, e.g., **66** and **116**.

p. 262, name of **59**
Update to
59 'thiodiphosphoric acid ~~($(HO)_2P(O)OP(O)(OH)(SH)$)~~ ($(H_2PO_3)O(H_2PO_2S)$)'

p. 263, name of **61**
Update to
61 'ethanedioic acid ~~mono~~ 1-anhydride with acetic acid'
name of the corresponding ethyl ester: 'ethanedioic acid 1-anhydride with acetic acid 2-ethyl ester'/'2-ethyl hydrogen ethanedioate 1-anhydride with acetic acid

p. 263, name of **62**
Update to
62 'benzene-1,4-dicarboxylic acid 1,4-dianhydride with 4-methylbenzenesulfonic acid'

p. 263, name of **63**
Update to



63 'benzene-1,4-dicarboxylic acid 1,1′-dianhydride with carbonic acid ~~(2:1)~~'

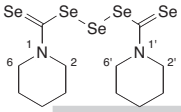
p. 263, name of **66**
Update to
66 'carbonic acid ~~mono~~anhydride with dimethyl hydrogen phosphate (1:1)'

p. 263, name of **67**
Update to
67 'propanoic acid ~~mono~~anhydride with sulfuric acid (1:1) anhydride with acetic acid'

p. 263, name of **68**
Update to
68 'phosphoric acid ~~mono~~anhydride with boric acid (HBO_2) ~~mono~~anhydride with boric acid (H_3BO_3) (1:1:1)'

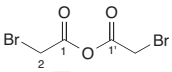
p. 264, name of **79**
Update to
79 'bis(2-methylprop-2-en-1-yl) trisulfide'

p. 264, name of **80**
Change and update to



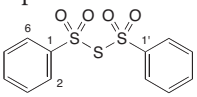
80 ~~'bis(pyridin-1-ylselenoxomethyl) triselenide~~'
'1,1′-(triselenodicarbonoselenoyl)bis[piperidine]'
by (b_1), see exception (i), i.e., N-containing ring > Se-containing chain (cf. **78**)

p. 264, name of **81**
Update to



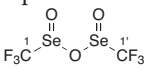
81 '2-bromoacetic acid 1,1′-anhydride'

p. 264, name of **82**
Update to



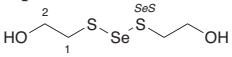
82 'benzenesulfonothioic acid 1,1′-anhydrosulfide'

p. 264, name of **83**
Update to



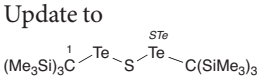
83 '1,1,1-trifluoromethaneseleninic acid 1,1′-anhydride'

p. 264, name of **84**
Update to



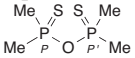
84 ~~'2-hydroxyethanesulfenoselenoic acid anhydroselenide~~'
'2-hydroxyethanesulfeno(selenothioperoxoic) acid *SeS*-(2-hydroxyethyl) ester'/'*SeS*-(2-hydroxyethyl) 2-hydroxyethanesulfeno(selenothioperoxoate)'
by (b_1), exception (i) (see update above)

p. 264, name of **85**
Update to



85 ~~'tris(trimethylsilyl)methanetellurenothioic acid anhydrosulfide~~'
'1,1,1-tris(trimethylsilyl)methanetellureno(tellurothioperoxoic) acid *STe*-[tris(trimethylsilyl)methyl] ester'/'*STe*-[tris(trimethylsilyl)methyl] 1,1,1-tris(trimethylsilyl)methanetellureno(tellurothioperoxoate)'
by (b_1), exception (i) (see update above)

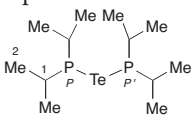
p. 264, name of **86**
Update to



86 '*P,P*-dimethylphosphinothioic acid *P,P′*-anhydride'

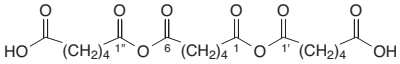
p. 264, name of **87**

Update to



87 '*P,P*-bis(1-methylethyl)phosphinotellurous acid *P,P′*-anhydrotelluride'

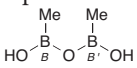
p. 264, name of **88**



88 'hexanedioic acid ~~trimol.~~ 1,1′:6,1″-dianhydride'

p. 264, name of **89**

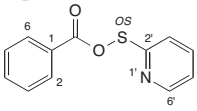
Update to



89 '*B*-methylboronic acid ~~bimol. mono~~ *B,B′*-anhydride'

p. 264, name of **93**

Update to



93 '~~benzoic acid anhydride with pyridine-2-sulfenic acid~~' 'benzenecarbo(thioperoxoic) acid *OS*-pyridin-2-yl ester'/ '*OS*-pyridin-2-yl benzenecarbo(thioperoxoate)'

by (c_1), (~~*not* exception by~~ (iv)~~!) as well as *§ 6.7.2 and 6.8*~~

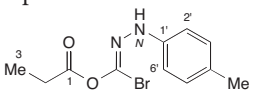
p. 264, name of **94**

Update to

94 '2,2,2-trifluoroacetic acid anhydride with benzenetellurinic acid'

p. 264, name of **97**

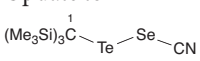
Update to



97 'propanoic acid anhydride with *N*-(4-methyl~ phenyl)carbonobromidohydrazonic acid'

p. 264, name of **98**

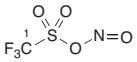
Update to



98 '1,1,1-tris(trimethylsilyl)methanetellurenoselenoic acid anhydroselenide with selenocyanic acid'

p. 265, name of **100**

Update to



100 '1,1,1-trifluoromethanesulfonic acid anhydride with nitrous acid'

p. 265, name of **101**

Change to

101 'methanesulfonic acid anhydride with ~~arsenenic~~ arsenenous acid'

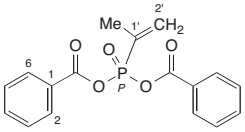
p. 265, name of **102**

Update to

102 'acetic acid ~~mono~~anhydride with methyl dihydrogen phosphate (1:1)'

p. 265, name of **103**

Update to



103 'benzoic acid ~~di~~anhydride with *P*-(1-methylethenyl)~ phosphonic acid (2:1)'

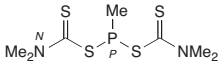
p. 265, name of **104**

Update to

104 '2,2,2-trichloroacetic acid anhydride with ethyl hydrogen phosphorocyanidite'

p. 265, name of **106**

Update to



106 '*N,N*-dimethylcarbamodithioic acid ~~bis~~(anhydrosulfide~~)~~ with *P*-methylphosphonodithious acid (2:1)'

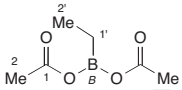
p. 265, name of **107**

Update to

107 'acetic acid ~~mono~~anhydride with silicic acid (H_4SiO_4) (1:1)'

p. 265, name of **108**

Update to



108 'acetic acid ~~di~~anhydride with *B*-ethylboronic acid (2:1)'

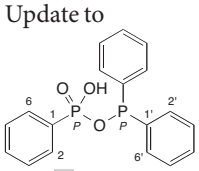
p. 265, name of **111**

Update to

111 'sulfuric acid ~~mono~~anhydride with selenic acid (1:1)'

p. 265, name of **112**

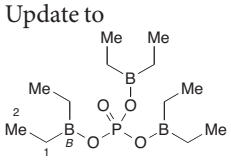
Update to



112 '*P*-phenylphosphonic acid ~~mono~~anhydride with *P,P*-diphenylphosphinous acid (1:1)'

p. 265, name of **113**

Update to



113 'phosphoric acid ~~tri~~anhydride with *B,B*-diethylborinic acid (1:3)'

p. 265, name of **114**

Update to

114 'propanedioic acid 1,3-dianhydride with sulfuric acid ~~(1:2)~~'

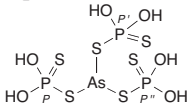
p. 265, name of **116**

Update to

116 'carbonimidodithioic acid ~~mono~~(anhydrosulfide~~)~~ with *O,O*-diethyl hydrogen phosphorodithioate (1:1)'

p. 265, name of **117**

Update to



117 'phosphorodithioic acid ~~tris~~(anhydrosulfide~~)~~ with arsenotrithious acid (3:1)'

notice the type and order of the letter locants in the name of the hexaethyl ester, i.e., letter-locant superscripts are used when the ester moiety could be at different chalcogen atoms: 'phosphorodithioic acid anhydrosulfide with arsenotrithious acid (3:1) O^{P},O^{P},$O^{P'}$,$O^{P''}$,$O^{P'''}$-hexaethyl ester'/ '*O,O*-diethyl hydrogen phosphorodithioate anhydrosulfide with arsenotrithious acid (3:1)'

p. 265, name of **118**

Update to

118 'acetic acid ~~mono~~anhydride with phosphoric acid ~~mono~~anhydride with carbamic acid (1:1:1)'

6.14 Esters and Lactones (Update)

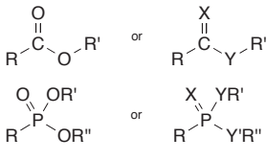
p. 267, **Definition**

Update to

An ester **1** is a compound that formally arises by loss of H_2O, H_2S, H_2Se, or H_2Te from an acid substituent of an acid of *§ 6.7–6.12* (*Class 5*) and from an alcohol substituent of an alcohol or chalcogen analog of *§ 6.21* (*Class10*), *including silanols*. Since 2007, CA has allowed to name similarly an ester of a nontraditional alcohol, different from alkanols and silanol. E.g.,

§6.7–6.12

§6.21



R = H, alkyl, aryl
R', R'' = alkyl, aryl (since 2007, free valence also at heteroatom,see just below)
X = O, S, Se, Te, NH, NNH_2
Y, Y' = O, S, Se, Te, OO, SS, SSe
(for OS, OSe, and OTe, see also anhydrides)

1 an ester of a carboxylic acid, phosphonic acid, etc.

A lactone is a cyclic ester arising similarly from a hydroxycarboxylic acid, i.e., in R–C(=O)–O–R′ of **1**, e.g., R and R′ are connected, see **3**–**6**.

Thus, a traditional ester ~~must~~ contains a single bond O–C, S–C, Se–C, or Te–C, or O–Si, S–Si, Se–Si, or Te–Si. ~~i.e., no other heteroatoms than Si are allowed, i.e., in all other cases the compound is a pseudoester.~~ Since 2007, also other heteroatoms than Si have been allowed leading to *nontraditional esters formed from OH, SH, SeH, or TeH derivatives of N, P, As, Sb, Bi, (B,) Ge, Sn, or Pb compounds* (see CA ¶ 185); e.g., Me–C(=O)–O–NH_2 with an O–N bond is now called 'acetic acid azanyl ester'/'azanyl acetate' (formerly '*O*-acetylhydroxylamine'). *This does not apply to oximes* RR′C=N–O–acyl of aldehydes (R = alkyl, aryl; R′ = H; *§ 6.19*) and ketones R, R′ = alkyl, aryl; *§ 6.20*); e.g., Me–C(=O)–O–N=CMe_2 is called 'propan-2-one *O*-acetyloxime'. ~~each with an O–N bond, are not an ester. Thus~~ Also, e.g., Cl–Et ('chloroethane') with a Cl–C bond is not an ester from HCl and EtOH, in contrast to $CF_3S(=O)_2$–O–$SiMe_3$ ('1,1,1-trifluoro~methanesulfonic acid trimethylsilyl ester'/'trimethyl~silyl 1,1,1-trifluoromethanesulfonate') with an O–Si bond and H_2N–O–SO_2–OH ('sulfuric acid mono~azanyl ester'/'azanyl hydrogen sulfate'; formerly 'hydroxylamine-*O*-sulfonic acid') with an O–N bond.

CA ¶ 185

§6.19
§6.20

p. 267, **Notice**, third bullet

Update to

Former pseudoesters **acyl–O–NRR′** and chalcogen analogs are oximes if RR′= =C< (see (b) of *§ 6.19* and (e) of *§ 6.20*), or nontraditional esters instead of hydroxylamines if R, R′= H, alkyl, aryl (see also *§ 6.25*), or nontraditional esters if the N atom is part of an N-heterocycle ~~are denoted by a prefix '(acyloxy)-',~~ ~~etc., and the name of the N-containing molecular-skeleton parent~~ (see (c) of *§ 6.21* and **2**). '(Acyloxy)-' prefixes are ~~also mostly~~ no longer used for structures acyl–O–X with X = P ~~(see above)~~, As, Sb, Bi, Ge, Sn, Pb, or B in molecular-skeleton parents (see above and (c) of *§ 6.21*) but treated as esters, cf. **2**; for this, cf. also the former pseudoesters of the N, P, As, Sb, Bi, B, Ge, Sn, and Pb compounds of the *Classes 14–20* (see *Tab. 3.2* and *§ 6.25–6.29*).

§6.19 (b), 6.20 (e)

§6.25

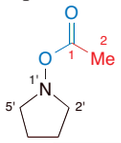
§6.21 (c)

§6.21 (c)

Tab. 3.2, §6.25–6.29

p. 267, name of **2**

Update to



2 '~~1-~~(acetyloxy)~~pyrrolidine~~'
'acetic acid pyrrolidin-1-yl ester'/'pyrrolidin-1-yl acetate'
no longer pseudoester but nontraditional ester of an acid and a nontraditional alcohol, i.e., by (b_0) and (c) below

p. 267, right-hand column

Update to

Instructions are given for:

(a) cyclic esters, i.e., derivatives of heterocycles, among others lactones, sultones, and lactides;

(b) classification of acyclic esters, i.e., groups –C(=O)–O–, etc., that are not involved in a ring:

(b_0) nontraditional ester of a common ('Class-I') or exotic ('Class-II') acid, e.g., 'acetic acid' (MeCOOH), and of an nontraditional alcohol, e.g., 'hydroxylamine' (H_2NOH);

(b_1) ester of a common ('Class-I') acid, e.g., 'acetic acid' (MeCOOH), and of a common ('Class-I') alcohol, e.g., 'ethanol' (EtOH);

...

(c) names for esters defined in (b_0)–(b_3),...

p. 268, name of **3**

Change to

3 '~~4,5-~~dihydrofuran-2(3*H*)-one'

p. 268, **(b)**

Update to

- 'Class-I' acids are *common acids* (see below);
- 'Class-II' acids are *exotic acids*, i.e., all acids different from those of 'Class I'...;
- 'Class-I' alcohols and thiols are *common alcohols and thiols* (see below);
- 'Class-II' alcohols and chalcogen analogs are *exotic alcohols*, i.e., all alcohols and chalgogen analogs different from those of 'Class-I' alcohols and thiols ...;
- nontraditional alcohols (see below).

p. 268, right-hand column
Update to
Common acids (*'Class-I' acids*)
.....
'***N*-methylcarbamic acid**' (MeNH–C(=O)–OH)
'***N*-phenylcarbamic acid**' (PhNH–C(=O)–OH)

p. 269, left-hand column
Update to
§ 6.21 *Common thiols* ('Class-I' thiols)
These are analog to the common ('Class-I') alcohols, i.e., '**-ol**' → '**-thiol**' .....

Nontraditional alcohols

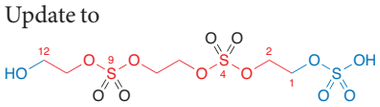
Nontraditional alcohols are OH, SH, SeH, or TeH derivatives of N, P, As, Sb, Bi, (B of some heterocycles,) Ge, Sn, or Pb compounds, e.g., 'hydroxyl~amine' (H_2NOH), 'hydroxyhydrazine' (H_2N–NHOH), 'thiohydroxylamine' (H_2NSH), 'hydroxydiphosphene' (HP=POH), 'hydroxytetramethylarsorane' (Me_4AsOH), 'hydroxystibine' (H_2SbOH), 'hydroxy~diphenylbismuthine' (Ph_2BiOH), '(germylmethyl)~hydroxygermane' ($(H_3GeCH_2)GeH_2OH$), 'hydroxy~trimethylplumbane' (Me_3PbOH), etc.

Caution: H_2POH is 'phosphinous acid', and H_2AsOH is 'arsinous acid' (see (a) of *§ 6.11*).

Before naming acyclic esters according to CA, they must be classified according to (b_0)–(b_4) as roughly summarized in the following table, taking into account *Footnotes 1* and *2*. Therein and in the following, *exotic alcohol means any alcohol RXH (X = O, S, Se, Te) different from a common alcohol or thiol and different from a nontraditional alcohol*.

p. 269, right-hand column
Update to
(b_0)
Since 2007, a nontraditional ester of any kind of acid and a nontraditional alcohol has been given one of the general names **9a,b** or **10a,b** of **(b_1)–(b_3),** wherein 'commonyl' or 'exoticyl' is replaced by the corresponding prefix derived from the nontraditional alcohol, i.e., R, R′, R″ can also have the free valence at an N, P, As, Sb, Bi, (B of some heterocycles,) Ge, Sn, or Pb atom instead of a C or Si atom, e.g., 'commonyl' or exoticyl' = 'azanyl' (H_2N–), 'diazanyl' (H_2N–NH–; *not* 'hydrazinyl'), 'diphosphenyl' (HP=P–), 'arsoranyl' (H_4As–), 'stibinyl' (H_2Sb–; *not* 'stibino'), 'bismuthinyl' (H_2Bi–; *not* 'bismuthino'), 'germyl-' (H_3Ge–), 'stannyl-' (H_3Sn–), 'plumbyl' (H_3Pb–), etc.

p. 269, name of **11**
Update to



11 '3,5,8,10-tetraoxa-4,9-dithiadodecane-1,12-diol mono1-(hydrogen sulfate) 4,4,9,9-tetraoxide'

p. 270, **(c)**
Update to
(c) *Names of acyclic esters of* (b_0)–(b_3)
The name of an acyclic ester with the structure **9a,b** or **10a,b** according to (b_0)–(b_3) (any kind of acid + nontraditional alcohol, common acid + common alcohol, or exotic acid + common or exotic alcohol), and taking into account *Footnotes 1* and *2*, consists of:

- **name of the acid**, by *§ 6.7–6.12* § 6.7–6.12
  +
  substituent prefix for **R–** and if required for **R′–** and **R″–**, by *§ 5*, in alphabetical order and if required with locants and multiplying affixes, as part of the modification § 5 § 3.5
  +
  '**ester**', as part of the modification
- **substituent prefix** for **R–** and if required for **R′–** and **R″–**, by *§ 5*, in alphabetical order and if required with locants and multiplying affixes § 5 § 3.5
  +
  if required
  '**hydrogen**'
  'di**hydrogen**'
  etc.
  +
  anion name of the acid[3)], by *§ 6.7–6.12* and *6.4.2.2,* if required with multiplying affixes (see **49** and **51**) (see also exceptions **12–24**)[4)] § 6.7–6.12, 6.4.2.2

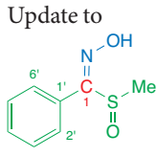
p. 270, *Notice* (c), second bullet
Update to
In the case of polybasic acids and acids with functional-parent names, multiplying affixes and/or ~~letter~~ locants ~~(if required)~~ are employed before the prefixes of R–, R′–, and/or R″– (see **36**, **38**, **39**, **41**, **42**, **44**, **46**, **48**, and **49** ~~**38 and 39 as well as 42 and 49**~~). *The numbering of the polybasic acid is retained* (see **44**). § A.2, 3.4
Multiplicative names are treated similarly, e.g., **51** and 2,2′-dithiobis[acetic acid] 1,1′-dimethyl ester'/ '1,1′-dimethyl 2,2′-dithiobis[acetate]' ($MeOC(=O)CH_2SSCH_2C(=O)OMe$).

p. 271, left-hand column, first line
Update to
Examples are **33–51** and **51a–h**.

p. 271, *Exceptions* (c)
Update to
(vii) Formal oxides of thioesters (=O at S) are not denoted as ester derivatives but as derivatives of a molecular-skeleton or other parent by means of the prefixes 'sulfinyl-' or 'sulfonyl-' (see **31** and **32**).

p. 272, name of **30**
Update to
30 '2,4,6-trimethoxyboroxin'

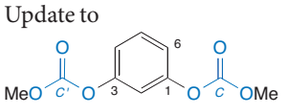
p. 272, name of **32**
Update to



32 '~~*N*-~~hydroxy-~~α-~~(methylsulfinyl)~~benzenemethan~~imine~~'
'(methylsulfinyl)phenylmethanone oxime'
- by (vii)
- compound of ~~*Class 13 (§ 6.24)*~~ *Class 9 (§ 6.20)*

p. 272, name of **41**

Update to

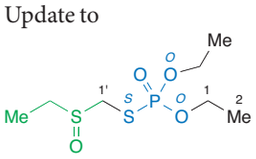


41 'carbonic acid *C,C′*-1,3-phenylene *C,C′*-dimethyl ester'/'*C,C′*-1,3-phenylene *C,C′*-dimethyl ~~di~~ bis[carbonate]'

~~not~~ '**bis**(carbonate)' to avoid ambiguity since '(dicarbonate)' is used for $^{-}$O–C(=O)–O–C(=O)–O^{-} ((e) of *§ 6.9*), see also **49** and **102**

p. 272, name of **42**

Update to



42 'phosphorothioic acid *O,O*-diethyl *S*-[(ethyl~sulfinyl)methyl] ester'/'*O,O*-diethyl *S*-[(ethyl~sulfinyl)methyl] phosphorothioate'

not '*O,O′*-diethyl'

p. 272, name of **44**

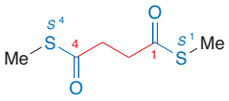
Update to

44 '2-hydroxybutanedioic acid 4-methyl ester'/'4-methyl hydrogen 2-hydroxybutanedioate'

notice: in the case of substitution, the numbering of the unesterified acid is retained (CA: since 2007, ~~no~~ a locant has been used for HO–)

p. 273, name of **46**

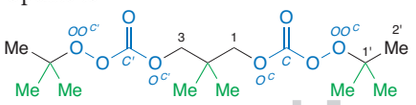
Update to



46 'butanebis(thioic) acid S^1,S^4-dimethyl ester'/'S^1,S^4-dimethyl butanebis(thioate)'

p. 273, name of **49**

Update to

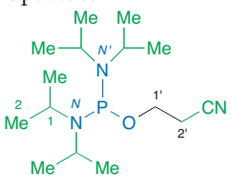


49 'carbonoperoxoic acid O^C,$O^{C'}$-(2,2-dimethyl~propane-1,3-diyl) OO^C,$OO^{C'}$-bis(1,1-dimethyl ethyl) ester'/'O^C,$O^{C'}$-(2,2-dimethylpropane-1,3-diyl) OO^C,$OO^{C'}$-bis(1,1-dimethyethyl) bis[~~(~~carbonoperoxoate] ~~)~~'

letter-locant superscripts only when the ester moieties derived from the alcohols could be at different chalcogen atoms of the two functional parents (here '*O*' at C and '*O*' at C' vs. '*OO*'), cf. **102** and **121** (see also **41** and **128**)

p. 273, name of **50**

Update to



50 '*N,N,N′,N′*-tetrakis(1-methylethyl)phosphoro~diamidous acid 2-cyanoethyl ester'/'2-cyanoethyl *N,N,N′,N′*-tetrakis(1-methyl~ethyl)phosphorodiamidite'

p. 273, name of **51**

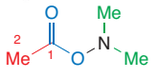
Update to

51 'octadecanoic acid 1,1′-{1-[(phosphonooxy)~methyl]ethane-1,2-diyl} ester'/'1,1′-{1-[(phosphonooxy)methyl]ethane-1,2-diyl} ~~di~~ bis[octadecanoate]'

p. 273, top of right-hand column, add names of **51a-h**

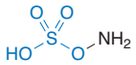
(see also **57**, **58**, **92**, and **100-103** in update of *§ 6.21*)

Update to



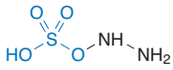
51a 'acetic acid dimethylazanyl ester'/'dimethyl~azanyl acetate'

- by $(b_0)(b_1)$
- formerly '*O*-acetyl-*N,N*-dimethylhydroxylamine'



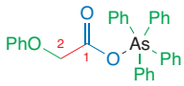
51b 'sulfuric acid monoazanyl ester'/'azanyl hydrogen sulfate'

- by $(b_0)(b_1)$
- formerly 'hydroxylamine-*O*-sulfonic acid'



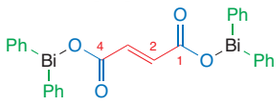
51c 'sulfuric acid monodiazanyl ester'/'diazanyl hydrogen sulfate'

by $(b_0)(b_1)$



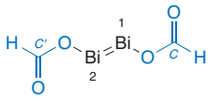
51d '2-phenoxyacetic acid tetraphenylarsoranyl ester'/'tetraphenylarsoranyl 2-phenoxyacetate'

by $(b_0)(b_3)$



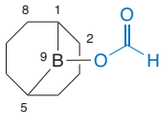
51e 'but-2-enedioic acid 1,4-bis(diphenylbismuth~inyl) ester'/'1,4-bis(diphenylbismuthinyl) but-2-enedioate'

by $(b_0)(b_3)$



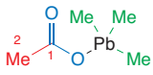
51f 'formic acid *C,C′*-(1*E*)-dibismuthine-1,2-diyl ester'/'*C,C′*-(1*E*)-dibismuthine-1,2-diyl bis[formate]'

by $(b_0)(b_1)$



51g 'formic acid 9-borabicyclo[3.3.1]non-9-yl ester'/'9-borabicyclo[3.3.1]non-9-yl formate'

by $(b_0)(b_1)$



51h 'acetic acid trimethylplumbyl ester'/'trimethyl~plumbyl acetate'

by $(b_0)(b_1)$

p. 273, **(d)**, first bullet

Update to

§6.21 **name of the exotic alcohol**, by *§ 6.21*

+

if required

'**hydrogen**'

'di**hydrogen**'

etc., as part of the modification

+

§6.7–6.12, 6.4.2.2 **anion name of the common acid(s)**[3], by *§ 6.7–6.12* and *6.4.2.2,* if required with locants and multiplying affixes (see **52–60** ~~**59 and 60**~~), as part of the modification (see also exceptions **12–24**)

p. 273, **(d)**, second bullet

Update to

§5 **substituent prefix** for **R–** of the exotic alcohol R–XH (X = O, S, Se, Te), by *§ 5,* if required with a locant and multiplying affix

+

if required

'**hydrogen**'

'di**hydrogen**'

etc.

+

§6.7–6.12, 6.4.2.2 **anion name of the common acid(s)**[3], by *§ 6.7–6.12* and *6.4.2.2,* if required with locants and multiplying affixes (see **52–60** ~~**59 and 60**~~) as part of the modification (see also exceptions **12–24**)[4]

p. 273, *Notice* (d), first bullet

Update to

For the first name variant with the name of the exotic alcohol, locants and the multiplying ~~prefixes~~ affixes 'di-', 'tri-', etc., are used for simple anion names ('bis-', 'tris-' for composite anion names). ~~and~~ Since 2007, 'mono-' has no longer been employed to avoid ambiguities, locants have been used instead, e.g.,

'propane-1,3-diol 1,3-**di**benzoate'
($PhC(=O)OCH_2CH_2CH_2OC(=O)Ph$),

'propane-1,3-diol 1,3-**di**methanesulfonate'
($MeS(=O)_2OCH_2CH_2CH_2OS(=O)_2Me$),

'propane-1,3-diol 1,3-**bis**(hydrogen sulfate)'
($(HO)S(=O)_2OCH_2CH_2CH_2OS(=O)_2(OH)$),

'propane-1,3-diol ~~**mono**~~ 1-(dihydrogen phosphonate)'
$((HO)_2P(=O)OCH_2CH_2CH_2OH)$.

p. 273, *Notice* (d), forth bullet

Update to

~~In the case of ambiguities, ratios are added in parentheses (see 55).~~ Since 2007, for esters of the common acid H_3BO_3, paraphrases with locants and multiplying affixes '~~mono~~ *x*-ester with boric acid (H_3BO_3)' or, e.g., '*x,y*-diester with boric acid (H_3BO_3) ~~(1:2)~~' (*x,y* = locants) have been ~~are~~ used (see **56** and **140**).

p. 274, *Notice* (d), fifth bullet

Update to

Since 2007, for esters of exotic alcohols that contain an N atom or a trivalent P or As atom, the parenthetical expression '(ester)' ~~is~~ has no longer been added to exclude confusion with a salt (see **57** and **59**) as locants have been introduced. ~~If a locant is required in the modification, '(ester)' is omitted~~ (see also **58**).

p. 274, name of **52**

Update to

52 'ethane-1,2-diol ~~mono~~ 1-acetate'/
'2-hydroxyethyl acetate'[4]

p. 274, name of **53**

Update to

53 'ethane-1,2-diol 1-acetate 2-benzoate'/
'ethane-1,2-diyl acetate benzoate'[4]

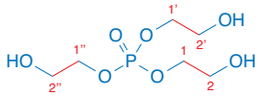
p. 274, name of **54**

Update to

54 'ethane-1,2-diol 1,2-diformate'/
'ethane-1,2-diyl diformate'[4]

p. 274, name of **55**

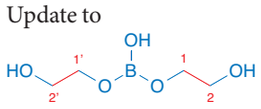
Update to



55 'ethane-1,2-diol 1,1′,1″-phosphate ~~(3:1)~~'/
'tris(2-hydroxyethyl) phosphate'[4]

p. 274, name of **56**

Update to



56 'ethane-1,2-diol 1,1′-diester with boric acid (H_3BO_3) ~~(2:1)~~'/'bis(2-hydroxyethyl) hydrogen borate (BO_3^{3-})'[4]

p. 274, name of **57**

Update to

57 '2-aminoethanol 1-(dihydrogen phosphate) ~~(ester)~~'/'2-aminoethyl dihydrogen phosphate'[4]

p. 274, name of **59**

Update to

59 '3-azidopropane-1,2-diol 1,2-diacetate ~~(ester)~~'/
'1-(azidomethyl)ethane-1,2-diyl diacetate'[4]

p. 275, left-hand column, top

Update to

prefix

'**oxo**-'	(O=[C][5])
'**thioxo**-'	(S=[C][5])
'**selenoxo**-'	(Se=[C][5])
'**telluroxo**-'	(Te=[C][5])
'**hydrazinylidene**-'	(H_2NN=[C][5])
'**imino**-'	(HN=[C][5])

p. 276, **(e_{13})**, left-hand column

Update to

prefix for **X–**, by *Tab. 3.1* and *3.2*[6] Tab. 3.1, 3.2

+

either parent-substituent name

'-**carbonyl**-'	(–C(=O)–)

or for X–C(=Y)– (Y ≠ O), prefix

'**thioxo**-'	(S=[C][5])
'**selenoxo**-'	(Se=[C][5])
'**telluroxo**-'	(Te=[C][5])
'**hydrazinylidene**-'	(H_2NN=[C][5])
'**imino**-'	(HN=[C][5])

p. 278, **(e_{21})**, left-hand column, line 15 from top

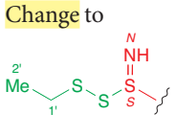
Update to

prefix

'**oxo**-'	(O=[C] [5)])
'**thioxo**-'	(S=[C] [5)])
'**selenoxo**-'	(Se=[C] [5)])
'**telluroxo**-'	(Te=[C] [5)])
'**hydrazinylidene**-'	(H_2NN=[C] [5)])
'**imino**-'	(HN=[C] [5)])

p. 278, name of **90**

Change to



90 '[*S*-(ethyldithio)sulfinimidoyl]-'

p. 278, right-hand column, **(f)**

Update to

name of the ester, by (c) or (d)

+

modification

'**lithium salt (1:1)**' (1 Li^+)

'**sodium salt (1:1)**' (1 Na^+)

'~~di~~**potassium salt (1:2)**' (2 K^+)

etc.

the ratio (in parentheses) of the ester and the cation(s) must always be cited in the order of citation, see, e.g., **163**, **163a**, and **163b**

As alternative, if the name is used as a modification (see (b) of *§ 6.4.2.2*), or similar to ~~as recommended by~~ IUPAC, the salt name of an ester of a polybasic acid consists of:

§6.4.2.2 (b)

§3.5 **cation name(s)**, in alphabetical order

+

substituent name(s) of **R–**, **R′–**, etc. (from the alcohol components R–OH, R′–OH, etc.), by *§ 5*, in alphabetical order

§5

§3.5

+

~~'**hydrogen**', 'di**hydrogen**', etc.~~

~~+~~

anion name of the corresponding acid[3)]

+

ratio '(***x*:*y***)', etc.

the ratio (in parentheses) of the cation(s) and the anion must always be cited in the order of citation, whereby the names of R–, R′–, etc., are not taken into account. The terms 'hydrogen', 'dihydrogen', etc., are omitted (cf. uninverted names in CA¶ 198).

CA ¶ 198

The numbering of the corresponding acid is retained.

Examples are given below (see **160**–**163**, and **163a-c**).

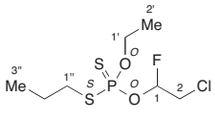
p. 279, name of **99**

Update to

99 'carbonic acid 4-(acetyloxy)but-2-en-1-yl methyl ester'/'4-(acetyloxy)but-2-en-1-yl methyl carbonate'

p. 279, name of **101**

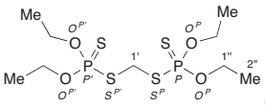
Update formula to



101 'phosphorodithioic acid *O*-(2-chloro-1-fluoroethyl) *O*-ethyl *S*-propyl ester'/'*O*-(2-chloro-1-fluoroethyl) *O*-ethyl *S*-propyl phosphorodithioate'

p. 279, name of **102**

Update to



102 'phosphorodithioic acid S^P,$S^{P'}$-methylene O^P,O^P,$O^{P'}$,$O^{P'}$-tetraethyl ester'/'S^P,$S^{P'}$-methylene O^P,O^P,$O^{P'}$,$O^{P'}$-tetraethyl bis[phosphorodithioate]'

letter-locant superscripts only when the ester moieties derived from the alcohols could be at different chalcogen atoms of the two functional parents (here 'O' at P and 'O' at P' vs. 'S'), cf. **49** and **121** (see also **41** and **128**)

p. 279, name of **104**

Update to

104 'diazene-1,2-dicarboxylic acid 1,2-diethyl ester'/'1,2-diethyl diazene-1,2-dicarboxylate'

p. 279, name of **105**

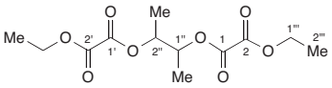
Update to

105 '3-sulfobenzoic acid 1-phenyl ester'/'1-phenyl 3-sulfobenzoate'

~~locant '1' to avoid confusion~~

p. 279, name of **106**

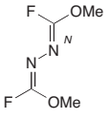
Update and change (numbering) to



106 'ethanedioic acid 1,1′-(1,2-dimethylethane-1,2-diyl) 2,2′-diethyl ester'/'1,1′-(1,2-dimethylethane-1,2-diyl) 2,2′-diethyl ~~di~~ bis[ethanedioate]'

p. 280, name of **113**

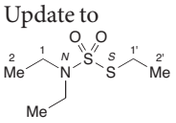
Update to



113 '*N*-(fluoromethoxymethylene)carbonofluorido~hydrazonic acid methyl ester'/'methyl *N*-(fluoromethoxymethylene)carbonofluorido~hydrazonate'

p. 280, name of **115**

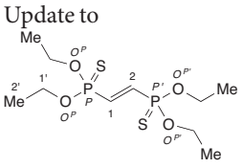
Update to



115 '*N*,*N*-diethylthiosulfamic acid ($HS_2(NH_2)O_2$) *S*-ethyl ester'/'*S*-ethyl *N*,*N*-diethylthiosulfamate ($S_2(NH_2)O_2^-$)'

p. 280, name of **121**

Update to

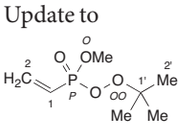


121 '*P*,*P′*-ethene-1,2-diylbis[phosphonothioic acid] ~~*O*,*O*,*O′*,*O′*~~ O^P,O^P,$O^{P'}$,$O^{P'}$-tetraethyl ester'/'~~*O*,*O*,*O′*,*O′*~~ O^P,O^P,$O^{P'}$,$O^{P'}$-tetraethyl *P*,*P′*-ethene-1,2-diylbis[phosphonothioate]'

letter-locant superscripts only when the ester moieties derived from the alcohols could be at different chalcogen atoms of the two functional parents (here 'O' at P and 'O' at P' vs. 'S'), cf. **49** and **102** (see also **41** and **128**)

p. 280, name of **122**

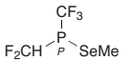
Update to



122 '*P*-ethenylphosphonoperoxoic acid *OO*-(1,1-dimethylethyl) *O*-methyl ester'/'*OO*-(1,1-dimethylethyl) *O*-methyl *P*-ethenylphosphonoperoxoate'

p. 280, name of **123**

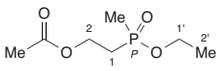
Update to



123 '*P*-(difluoromethyl)-*P*-(trifluoromethyl)phosphino~ selenous acid methyl ester'/'methyl *P*-(difluoro~ methyl)-*P*-(trifluoromethyl)phosphinoselenoite'

p. 280, name of **124**

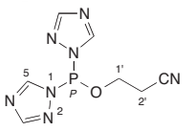
Update to



124 '*P*-[2-(acetyloxy)ethyl]-*P*-methylphosphinic acid ethyl ester'/'ethyl *P*-[2-(acetyloxy)ethyl]-*P*-methylphosphinate'

p. 281, name of **126**

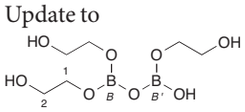
Update to



126 '*P*,*P*-bis(1*H*-1,2,4-triazol-1-yl)phosphinous acid 2-cyanoethyl ester'/'2-cyanoethyl *P*,*P*-bis(1*H*-1,2,4-triazol-1-yl)phosphinite'

p. 281, name of **128**

Update to



128 'boric acid ($H_4B_2O_5$) *B*,*B*,*B*′-tris(2-hydroxyethyl) ester'/'*B*,*B*,*B*′-tris(2-hydroxyethyl) hydrogen borate ($B_2O_5^{4-}$)'

no letter-locant superscripts are necessary since only one functional parent is present, cf. **49, 102**, and **121**

p. 281, name of **129**

Update to

129 '(9*E*)-octadec-9-enoic acid 1,1′-{2-[(1-oxohexadecyl)~ oxy]propane-1,3-diyl} ester'/'1,1′-{2-[(1-oxohexadec~ yl)oxy]propane-1,3-diyl} ~~di~~ bis[(9*E*)-octadec-9-enoate]'

p. 281, name of **130**

Update to

130 '(9*E*)-octadec-9-enoic acid 1,1′-{1-{{[(2-aminoethoxy)~ hydroxyphosphinyl]oxy}methyl}ethane-1,2-diyl} ester'/'1,1′-{1-{{[(2-aminoethoxy)hydroxyphosphinyl]oxy}~ methyl}ethane-1,2-diyl} ~~di~~ bis[(9*E*)-octadec-9-enoate]'

p. 281, name of **131**

Update to

131 'butanedioic acid ~~mono~~ 1-anhydride with ethyl hydrogen carbonate 4-methyl ester'

p. 281, name of **133**

Update to

133 '2-aminocyclohexanol 1-acetate ~~(ester)~~'/ '2-aminocyclohexyl acetate' [4)]

p. 281, name of **134**

Update to

134 'cyclopentane-1,3-diol 1-acetate 3-benzoate'/ 'cyclopentane-1,3-diyl 1-acetate 3-benzoate' [4)]

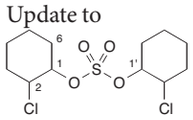
p. 282, name of **140**

Update to

140 'propane-1,2,3-triol 1,2-diester with boric acid (H_3BO_3)'/ '1-(hydroxymethyl)ethane-1,2-diyl tetrahydrogen di[borate (BO_3^{3-})] '

p. 282, name of **141**

Update to



141 '2-chlorocyclohexanol 1,1'-sulfate ~~(2:1)~~'/ 'bis(2-chlorocyclohexyl) sulfate' [4)]

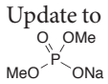
p. 282, name of **147**

Update to

147 '[(hydrazinylcarbonyl)oxy]-'

p. 282, name of **160**

Update to

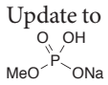


160 'phosphoric acid dimethyl ester sodium salt (1:1)'/ 'sodium dimethyl phosphate (1:1)'

- by (c)(f)
- IUPAC: e.g.,'sodium dimethyl phosphate'

p. 283, name of **161**

Update to

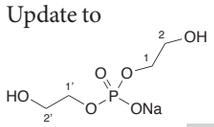


161 'phosphoric acid monomethyl ester ~~mono~~ sodium salt (1:1)'/'sodium methyl phosphate (1:1)'

- by (c)(f)
- not 'sodium methyl hydrogen phosphate (1:1)', see univerted names in CA ¶ 198
- IUPAC: e.g.,'sodium methyl hydrogen phosphate'

p. 283, name of **162**

Update to

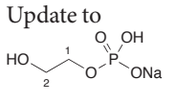


162 'ethane-1,2-diol 1,1'-(hydrogen phosphate) sodium salt (1:1)'/'sodium bis(2-hydroxyethyl) phosphate (1:1)'

- by (d)(f)
- IUPAC: e.g.,'sodium bis(2-hydroxyethyl) phosphate'

p. 283, name of **163**

Update to

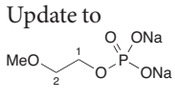


163 'ethane-1,2-diol ~~mono~~ 1-(dihydrogen phosphate) ~~mono~~ sodium salt (1:1)/'sodium 2-hydroxyethyl phosphate (1:1)'

- by (d)(f)
- not 'sodium 2-hydroxyethyl hydrogen phosphate (1:1)', see univerted names in CA ¶ 198
- IUPAC: e.g.,'sodium 2-hydroxyethyl hydrogen phosphate'

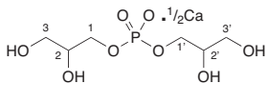
p. 283, left-hand column, add names of **163a-c**

Update to



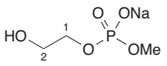
163a '2-methoxyethanol 1-(dihydrogen phosphate) sodium salt (1:2)'/'sodium 2-methoxyethyl phosphate (2:1)'

- by (d)(f)
- IUPAC: e.g.,'disodium 2-methoxyethyl phosphate



163b 'propane-1,2,3-triol 1,1′-(hydrogen phosphate) calcium salt (2:1)'/'calcium bis(2,3-dihydroxypropyl) phosphate (1:2)'

- by (d)(f)
- IUPAC: e.g.,'calcium bis[bis(2,3-dihydroxypropyl) phosphate]'



163c 'phosphoric acid mono(2-hydroxyethyl) monomethyl ester sodium salt (1:1)'/'sodium 2-hydroxyethyl methyl phosphate (1:1)'

- by (c)(f)
- notice (b_2), i.e., ester of a polybasic common acid and two different alcohols, i.e. by (c) and not (d)
- IUPAC: e.g.,'sodium 2-hydroxyethyl methyl phosphate'

6.15 Acid Halides (Class 6a) (Update)

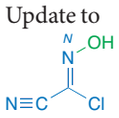
p. 287, name of **10**
Update to
10 '2-oxoacetonitrile'

p. 288, **(a_2)**, left-hand column
Update to

'**oxo**-'	(O=[C] [1)])
'**thioxo**-'	(S=[C] [1)])
'**selenoxo**-'	(Se=[C] [1)])
'**telluroxo**-'	(Te=[C] [1)])
'**hydrazinylidene**-'	(H_2NN=[C] [1)])
'**imino**-'	(HN=[C] [1)])

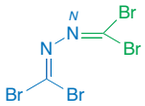
p. 289, name of **30**
Update to
30 '2-thioxopropanedinitrile'

p. 289, name of **36**
Update to



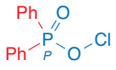
36 '*N*-hydroxycarbonocyanidimidic chloride'

p. 289, name of **37**
Update to



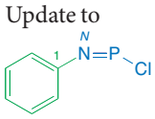
37 '*N*-(dibromomethylene)carbonohydrazonic dibromide'

p. 291, name of **49**
Update and change to



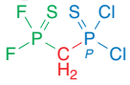
49 ~~'diphenylphosphinic acid anhydride with hypochlorous acid'~~
'hypochlorous acid anhydride with *P*,*P*-diphenylphosphinic acid'
Cl-oxoacid > P-oxoacid

p. 291, name of **58**
Update to



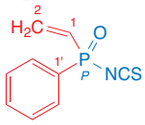
58 '*N*-phenylphosphenimidous chloride'

p. 291, name of **61**
Update to



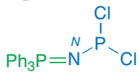
61 '*P*-[(difluorophosphinothioyl)methyl]~ phosphonothioic dichloride'

p. 292, name of **62**
Update to



62 '*P*-ethenyl-*P*-phenylphosphinic isothiocyanate'

p. 292, name of **64**
Update to



64 '*N*-(triphenylphosphoranylidene)phosphor~ amidous dichloride'

p. 292, name of **71**
Update to
71 '1,1,1,3,3,3-hexachlorodisiloxane'

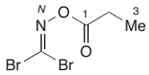
p. 293, name of **75**
Update to
75 '2,4,6-trichloroboroxin'

p. 293, name of **87**
Update to
87 '(~~C~~=azidoiminomethyl)-'
by (a_2)

p. 293, name of **88**
Update to
88 '(~~C~~=cyanohydrazinylidenemethyl)-

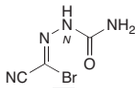
p. 293, name of **90**
Update to
90 '(3-azido-3-hydrazinylidenepropyl)-'

p. 293, name of **95**
Update to



95 '*N*-(1-oxopropoxy)carbonimidic dibromide'

p. 294, name of **96**
Update to

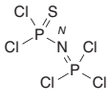


96 '*N*-(aminocarbonyl)carbonocyanidohydrazonic bromide'

p. 294, name of **97**
Update to
97 '*N*-(morpholin-4-ylpiperidin-1-ylmethylene)-*N*′-(2-oxo-2-phenylacetyl)carbamimidic chloride'

p. 294, name of **101**

Update to

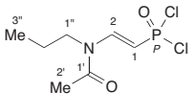


101 '*N*-(dichlorophosphinothioyl)phosphorimidic trichloride'

trichloride > dichloride

p. 294, name of **104**

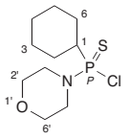
Update to



104 '*P*-[2-(acetylpropylamino)ethenyl]phosphonic dichloride'

p. 294, name of **107**

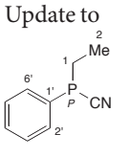
Update to



107 '*P*-cyclohexyl-*P*-morpholin-4-ylphosphinothioic chloride'

p. 294, name of **108**

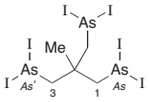
Update to



108 '*P*-ethyl-*P*-phenylphosphinous cyanide'

p. 294, name of **109**

Update to



109 '*As,As'*-{2-[(diiodoarsino)methyl]-2-methylpropane-1,3-diyl}bis[arsonous diiodide]'

6.16 **Amides** (Class 6b)**, Lactams, Cyclic Imides, and Amidines (Update)**

p. 295, left-hand column, line 10 from bottom

Update to

Instructions are given for:

(a) cyclic amides, i.e., derivatives of heterocycles:

(a_1) formal amide group entirely involved in the heterocycle (among others, lactams, lactims, sultams, imides);

(a_2) amide group participating in the heterocycle only with the N atom (former '*unexpressed amide*');

p. 297, **(a_2)**, left-hand column

Update to

(a_2) *Former 'Unexpressed amides'*

Since 2007, if the amide group is participating in the heterocycle only with the N atom, such a compound has no longer been treated as an 'unexpressed amide' but has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present (see **17**–**23**). ~~the amide is designated by an acyl *prefix* (see exceptions in (c) of *§ 6.20*) and *ranks in the seniority order as an 'unexpressed amide' immediately after an 'expressed amide'* of the same amide type if no other characteristic groups are present. Less senior characteristic groups at the acyl part are also expressed as prefixes (see **21**), but such groups at the N-containing heterocycle are denoted by a corresponding suffix, if possible (see **22**).~~

Tab. 3.2

§ 6.7–6.11

§ 6.20 (c)

Tab. 3.2

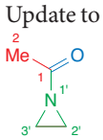
Former Exceptions (a_2)

Acyl groups of formic and carbonic acids at an N atom of a heterocycle are denoted by the corresponding suffix '-carboxaldehyde', '-carboxylic acid', '-carboxamide', etc. Such structures rank in the seniority order (*Tab. 3.2*) according to the required suffix (see **14** – **16** and update of (a_2)). E.g.,

Tab. 3.2

p. 297, name of **17**

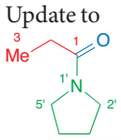
Update to



17 '~~1-~~acetylaziridine'
'1-(aziridin-1-yl)ethanone'
'~~unexpressed carboxamide~~' ketone of *Class 9* (*§ 6.20*)

p. 297, name of **18**

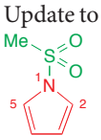
Update to



18 '~~1-~~(1-oxopropyl)~~pyrrolidine~~'
'1-(pyrrolidin-1-yl)propan-1-one'
'~~unexpressed carboxamide~~' ketone of *Class 9* (*§ 6.20*)

p. 297, name of **19**

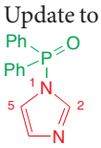
Update to



19 '1-(methylsulfonyl)-1*H*-pyrrole'
'~~unexpressed sulfonamide~~' N compound of *Class 14* (*§ 6.25*)

p. 297, name of **20**

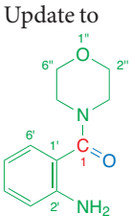
Update to



20 '1-(diphenylphosphinyl)-1*H*-imidazole'
'~~unexpressed phosphinic amide~~' N compound of *Class 14* (*§ 6.25*)

p. 297, name of **21**

Update to

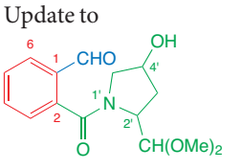


21 '~~4-~~(2-aminobenzoyl)~~morpholine~~'
'(2-aminophenyl)morpholin-4-ylmethanone'

- '~~unexpressed carboxamide~~' ketone of *Class 9* (*§ 6.20*)
- ~~the substituent –NH_2 at the acyl group is denoted as a prefix~~

p. 297, name of **22**

Update to



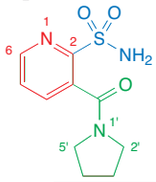
22 '~~5-~~(dimethoxymethyl)~~-1-~~(2-formylbenzoyl)~~-~~pyrrolidin~~-3-~~ol'
'2-{[2-(dimethoxymethyl)-4-hydroxypyrrolidin-1-yl]carbonyl}benzaldehyde'

- '~~unexpressed carboxamide~~' with the name of a ~~compound of *Class 10* (*§ 6.21*)~~ aldehyde of *Class 8* (*§ 6.19*)
- ~~the substituent –CHO at the acyl group is denoted as a prefix and the substituent –OH at the N heterocycle as a suffix~~

6

p. 297, name of **23**

Update to



23 '~~1-{[2-(aminosulfonyl)pyridin-3-yl]carbonyl}-~~pyrrolidine'
'3-(pyrrolidin-1-ylcarbonyl)pyridine-2-sulfonamide'
'~~unexpressed carboxamide' > sulfonamide~~ compound of *Class 6b* (see (b) below)

p. 299, **(b_1)**, left-hand column

Update to

The name of a secondary or tertiary amide, e.g., **R–C(=O)–NHR′** or **R–C(=O)–NR′R″** (R′, R″ = alkyl, aryl, *or acyl*) consists of:

prefix of the substituent **R′– and R″–**, as required, preceded by a corresponding **letter locant *N***, ~~***N′***~~, ***N*¹**, etc.

+

name of the primary amide

p. 299, *Notice* (b_1)

Update to

Since 2007, if the amide group participates with its N atom in a heterochain, such a compound has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present. ~~the amide group is designated by an acyl *prefix* according to (a_2) (see exceptions in (b) of *§ 6.20*).~~

Tab. 3.2

§ 6.20 (b)

p. 299, **(v)**

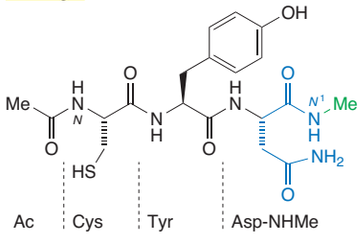
Update to

Since 2007, a formal amide of a peroxy acid ~~is~~ has been named as an ester derivative of the nontraditional alcohol '**hydroxylamine**' (NH_2OH), '**thiohydroxyl~amine**' (NH_2SH), etc., according to *§ 6.14* (b_0) and (c), see **38** and **39**.

§ 6.14 (b_0)(c)

p. 300, name of **36**

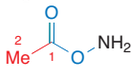
Change formula to



36 '*N*-acetyl-L-cysteinyl-L-tyrosyl-*N*¹-methyl-L-aspartamide'

p. 301, name of **38**

Update to

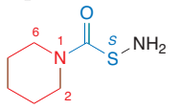


38 '~~*O*-~~acetyl~~hydroxylamine~~'
'acetic acid azanyl ester'/'azanyl acetate'

- by (v), i.e., ester of a common acid and a nontraditional alcohol, i.e., by (b_0) and (c) of *§ 6.14*
- not 'ethaneperoxoamide'
- ~~compound of *Class 14* (*§ 6.25*)~~

p. 301, name of **39**

Update to

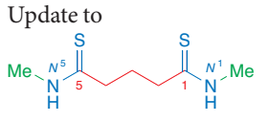


39 '~~*S*-(piperidin-1-ylcarbonyl)thiohydroxylamine~~'
'piperidine-1-carbothioic acid *S*-azanyl ester'/'*S*-azanyl piperidine-1-carbothioate'

- by (v), i.e., ester of an exotic acid and a nontraditional alcohol, i.e., by (b_0) and (c) of *§ 6.14*
- not 'piperidine-1-carbo(thioperoxo)amide'
- ~~compound of *Class 14* (*§ 6.25*)~~

p. 302, name of **47**

Update to



47 '*N*¹,*N*⁵-dimethylpentanedithioamide'

p. 303, left-hand column, second bullet

Update to

prefix

'**oxo**-'	(O=[C] ¹⁾)
'**thioxo**-'	(S=[C] ¹⁾)
'**selenoxo**-'	(Se=[C] ¹⁾)
'**telluroxo**-'	(Te=[C] ¹⁾)
'**hydrazinylidene**-'	(H_2NN=[C] ¹⁾)
'**imino**-'	(HN=[C] ¹⁾)

p. 304, *Notice* (c_1)

Update to

If Y– is a halide group, the seniority order of the class term must first be determined according to (b) of *§ 6.15* (acid halides; caution if Y– is a hydrazinyl group, see **45** in (b_1)).

§ 6.15 (b)

p. 304, **(ii)**

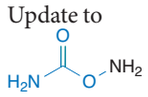
Update to

Since 2007, a formal amide of a carbonoperoxoic acid, e.g., **Y–C(=O)–O–NH_2**, ~~is~~ has been named as an ester derivative of the nontraditional alcohol '**hydroxyl~amine**' (NH_2OH), '**thiohydroxylamine**' (NH_2SH), etc., according to *§ 6.14* (b_0) and (c), see **73** and **74**.

§ 6.14 (b_0)(c)

p. 304, name of **73**

Update to

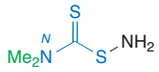


73 '~~*O*-~~(aminocarbonyl)~~hydroxylamine~~'
'carbamic acid azanyl ester'/'azanyl carbamate'

- by (ii), i.e., ester of a common acid and a nontraditional alcohol, i.e., by (b_0) and (c) of *§ 6.14*
- ~~compound of *Class 14* (*§ 6.25*)~~

p. 304, name of **74**

Update to

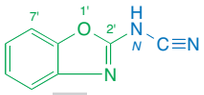


74 '~~*S*-[(dimethylamino)thioxomethyl]thio~~hydroxylamine'
'*N*,*N*-dimethylcarbamodithioic acid azanyl ester'/'azanyl *N*,*N*-dimethylcarbamodithioate'

- by (ii), i.e., ester of an exotic acid and a nontraditional alcohol, i.e., by (b_0) and (c) of *§ 6.14*
- ~~compound of *Class 14* (*§ 6.25*)~~

p. 304, name of **78**

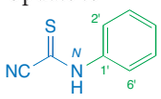
Update to



78 '*N*-(benzoxazol-2-yl)cyanamide'

p. 304, name of **80**

Update to



80 '*N*-phenylcarbonocyanidothioic amide'

p. 305, **(c$_2$)**

Update to

Tab. 3.1, 3.2 **prefix** for **X–**, by *Tab. 3.1* and *3.2* [4)]

\+

either parent-substituent name

'-**carbonyl**-' (–C(=O)–)

or for X–C(=Y)– (Y ≠ O), prefix

'**thioxo**-' (S=[C] [1)])

'**selenoxo**-' (Se=[C] [1)])

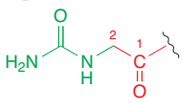
'**telluroxo**-' (Te=[C] [1)])

'**hydrazinylidene**-' (H_2NN=[C] [1)])

'**imino**-' (HN=[C] [1)])

p. 305, name of **86**

Update to



86 '{2-[(aminocarbonyl)amino]acetyl}-'

p. 305, name of **88**

Update to

88 '[3-(aminoiminomethyl)triaz-1-en-1-yl]-'

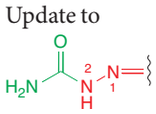
p. 305, name of **89**

Update to

89 '[2-(aminocarbonyl)hydrazinyl]-'

p. 305, name of **90**

Update to



90 '[2-(aminocarbonyl)hydrazinylidene]-'

p. 306, name of **95**

Update to

95 '[(hydrazinylcarbonyl)imino]-'

p. 306, name of **96**

Update to

96 '[2-(diazenylcarbonyl)hydrazinyl]-'

p. 306, **(ii)**

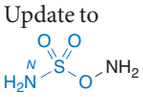
Update to

Since 2007, the formal amide of a peroxy acid ~~is~~ has been named as an ester derivative of the nontraditional alcohol '**hydroxylamine**' (NH_2OH), '**thiohydroxyl~amine**' (NH_2SH), etc., according to *§ 6.14* (b_0) and (c), see **100**.

§6.14 (b_0)(c)

p. 306, name of **100**

Update to



100 '~~hydroxylamine-O-sulfonamide~~'

'sulfamic acid azanyl ester'/'azanyl sulfamate'

by (ii), i.e., ester of an exotic acid and a nontraditional alcohol, i.e., by (b_0) and (c) of *§ 6.14*

p. 307, *Notice* (e_1)

Update to

If Y′– and/or Z′– is a halide group, the *seniority order* of the class term must first be determined according to (d) of *§ 6.15* (acid halides; caution if a hydrazinyl group is present). §6.15 (d)

p. 307, **(ii)**

Update to

Since 2007, the formal amide of a peroxy P- or As-oxoacid, e.g., **X′H$_2$(=O)–O–NH$_2$**, ~~is~~ has been named as an ester derivative of the nontraditional alcohol '**hydroxylamine**' (NH_2OH), '**thiohydroxylamine**' (NH_2SH), etc., according to *§ 6.14* (b_0) and (c), see **107**. §6.14 (b_0)(c)

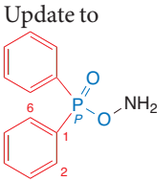
p. 307, name of **106**

Change to

106 'peroxydiphosphoramide ($[(H_2N)_2P(O)]_2O_2$)'

p. 307, name of **107**

Update to



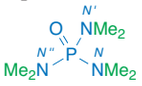
107 '~~O-(diphenylphosphinyl)hydroxylamine~~'

'*P,P*-diphenylphosphinic acid azanyl ester'/'azanyl *P,P*-diphenylphosphinate'

- by (ii), i.e., ester of an exotic acid and a nontraditional alcohol, i.e., by (b_0) and (c) of *§ 6.14*
- ~~compound of *Class14* (*§ 6.25*)~~

p. 307, name of **108**

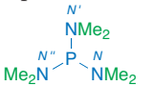
Update to



108 '*N,N,N′,N′,N″,N‴*-hexamethylphosphoric triamide'

p. 307, name of **109**

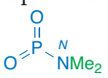
Update to



109 '*N,N,N′,N′,N″,N‴*-hexamethylphosphorous triamide'

p. 307, name of **114**

Update to



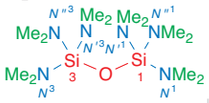
114 '*N,N*-dimethylphosphenic amide'

in CA registered under 'phosphenic amide, *N,N*-dimethyl-'

6

p. 308, name of **123**

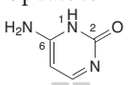
Update to



123 'N^1,N^1,N^3,N^3,N'^1,N'^1,N'^3,N'^3,N''^1,N''^1,N''^3,N''^3-dodecamethyldisiloxane-1,1,1,3,3,3-hexamine'

p. 309, name of **131**

Update to

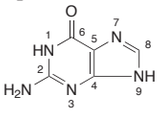


131 '~~4-~~ 6-aminopyrimidin-2(1*H*)-one'

- by (a_1)
- 'added' indicated H atom by (i_2) of *§ A.5*
- notice the updated numbering according to the tautomer CIP rule (CA ¶ 122, Subrule 6.1)
- trivially '**cytosine**' ('**Cyt**')

p. 309, name of **135**

Update to

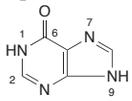


135 '2-amino-~~1,7-~~ 1,9-dihydro-6*H*-purin-6-one'

- by (a_1)
- exception of the systematic numbering
- indicated H atom by (h) of *§ A.5*
- notice the updated numbering according to the tautomer CIP rule (CA ¶ 122, Subrule 6.1)
- trivially '**guanine**' ('**Gua**')

p. 309, name of **136**

Update to

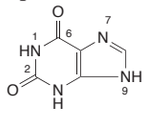


136 '~~1,7-~~ 1,9-dihydro-6*H*-purin-6-one'

- by (a_1)
- exception of the systematic numbering
- indicated H atom by (h) of *§ A.5*
- notice the updated numbering according to the tautomer CIP rule (CA ¶ 122, Subrule 6.1)
- trivially '**hypoxanthine**' ('**Hyp**')

p. 309, name of **137**

Update to



137 '~~3,7-~~ 3,9-dihydro-1*H*-purine-2,6-dione'

- by (a_1)
- exception of the systematic numbering
- indicated H atom by (a) and (d) of *§ A.5*, no indicated H atom by (i_1) of *§ A.5* ('1*H*-...-2,6-dione' > '2*H*-...2,6(1*H*)-dione')
- notice the updated numbering according to the tautomer CIP rule (CA ¶ 122, Subrule 6.1)
- trivially '**xanthine**' ('**Xan**')

p. 309, name of **139**

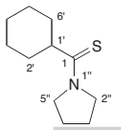
Change to

139 '1*H*-benz[*f*]isoindole-1,3(2*H*)-dione'

- by (a_1)
- indicated H atom by (h) and 'added' indicated H atom by (i_2) of *§ A.5*
- IUPAC: also 'naphthalene-~~1,2-~~ -2,3-dicarboximide'

p. 310, name of **144**

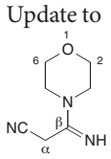
Update to



144 '~~1-(cyclohexylthioxomethyl)pyrrolidine~~'
'cyclohexylpyrrolidin-1-ylmethanethione'
~~'unexpressed amide'~~ ketone of *Class 9* (*§ 6.20*)

p. 310, name of **145**

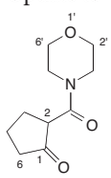
Update to



145 '~~4-(2-cyano-1-iminoethyl)morpholine~~'
'β-iminomorpholine-4-propanenitrile'
~~'unexpressed amide'~~ nitrile of *Class 7* (*§ 6.18*)

p. 310, name of **146**

Update to



146 '~~4-[(2-oxocyclopentyl)carbonyl]morpholine~~'
'2-(morpholin-4-ylcarbonyl)cyclopentanone'
~~'unexpressed amide'~~ ketone of *Class 9* (*§ 6.20*)

p. 310, name of **147**

Update to

147 '1-acetyl-1*H*-pyrrole-2-carboxaldehyde'
~~'unexpressed amide' with the name of a compound~~
aldehyde of *Class 8* (*§ 6.19*)

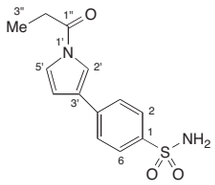
p. 310, name of **148**

Update to

148 '1-[(4-methylphenyl)sulfonyl]azetidine-2-carbonitrile'
~~'unexpressed amide' with the name of a compound~~
nitrile of *Class 7* (*§ 6.18*)

p. 310, name of **149**

Update to



149 '~~3-[4-(aminosulfonyl)phenyl]-1-(1-oxopropyl)-1*H*-pyrrole~~'
'4-[1-(1-oxopropyl)-1*H*-pyrrol-3-yl]benzenesulfonamide'
~~'unexpressed carboxamide' > sulfonamide; no characteristic group with suffix is present at the N-containing heterocycle~~
sulfonamide of *Class 6b* (by (b))

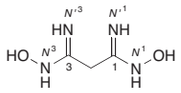
p. 310, name of **150**

Update to

150 '4-(diphenylphosphinothioyl)morpholine'
~~'unexpressed amide'~~ N compound of *Class 14* (*§ 6.25*)

p. 311, name of **156**

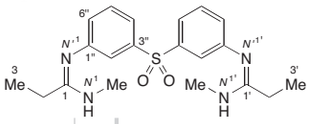
Update to



156 'N^1,N^3-dihydroxypropanediimidamide'

p. 311, name of **157**

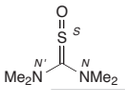
Update to



157 '*N*′¹,*N*′¹′-(sulfonyldi-3,1-phenylene)bis[*N*¹-methyl~propanimidamide]'

p. 311, name of **169**

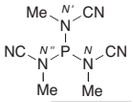
Update to



169 '*N,N,N′,N′*-tetramethylthiourea *S*-oxide'

p. 311, name of **170**

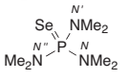
Update to



170 '*N,N′,N″*-phosphinidynetris[*N*-methylcyanamide]'

p. 311, name of **172**

Update to



172 '*N,N,N′,N′,N″,N″*-hexamethylphosphoroselenoic triamide'

p. 312, name of **174**

Update to

174 '*P,N*-diethyl-*N*-(prop-2-yn-1-yl)phosphonoselenoic diamide'

6.17 Hydrazides (Update)

p. 313, left-hand column, **Notice**

Update to

In the CA indexes, an acyclic hydrazide derived from an acid with suffix ~~or from a boronic or borinic acid~~ is registered under the heading parent of the (senior) acid, supplemented by a modification such as 'hydraz~ide', '1,2-dimethylhydrazide', etc.

p. 313, left-hand column, **Notice**

Update to

Instructions are given for:

(a) cyclic hydrazides, i.e., derivatives of heterocycles:

(a_1) formal hydrazide group entirely involved in the heterocycle;

(a_2) hydrazide group participating in the heterocycle only with the N atoms (former pseudohydrazide, i.e., former '*unexpressed amide*');

p. 313, right-hand column

Update to

(f) formal acyclic hydrazides of boronic and borinic acids and formal hydrazides of silicic and boric acids.

p. 313, **(a_2)**

Update to

Since 2007, if the hydrazide group is participating in the heterocycle only with its N atoms, such a compound has no longer been treated as an 'unexpressed amide' but has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present (see **5**–**7**), ~~the formal hydrazide is designated by an acyl *prefix* (see exceptions in (c) of *§ 6.20*) and *ranks in the seniority order as an 'unexpressed amide' immediately after an 'expressed amide'* of the same amide type if no other characteristic groups are present,~~ in accordance with the updated instructions given for corresponding cyclic 'unexpressed amides' (see (a_2) of *§ 6.16*). ~~Less senior characteristic groups at the acyl part are then expressed as prefixes, but such groups at the N-containing heterocycle are denoted by a corresponding suffix (see 7)~~.

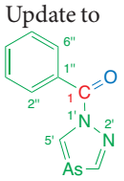
Tab. 3.2

~~§ 6.7–6.11, 6.20 (c) Tab. 3.2~~

§ 6.16 (a_2)

p. 314, name of **5**

Update to



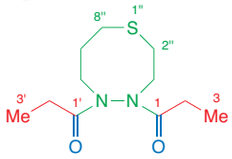
5 '~~1-~~benzoyl-~~1*H*-1,2,4-~~diazarsole'

'1*H*-1,2,4-diazarsol-1-ylphenylmethanone'

'~~unexpressed carboxamide~~' ketone of *Class 9* (*§ 6.20*)

p. 314, name of **6**

Update to



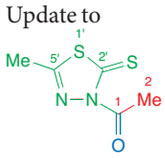
6 '~~hexa~~hydro-~~4,5-~~bis~~(~~1-oxopropyl)-~~2*H*-~~1,4,5-~~thiadiazocine'

'1,1′-(hexahydro-2*H*-1,4,5-thiadiazocine-4,5-diyl)bis[propan-1-one]'

'~~unexpressed carboxamide~~' ketone of *Class 9* (*§ 6.20*)

p. 314, name of **7**

Update to



7 '~~3-acetyl-5-methyl-1,3,4-thiadiazole-2(3*H*)-~~thione'

'1-(5-methyl-2-thioxo-1,3,4-thiadiazol-3(2*H*)-yl)ethanone'

'~~unexpressed carboxamide' with the name of a~~ ketone of *Class 9* (*§ 6.20*)

p. 314, **(b_1)**

Update to

The name of an acyclic hydrazide **acyl–NR′–NR″R‴** of a carboxylic, ~~formic,~~ sulfonic, or sulfinic, ~~or sulfenic~~ acid or of their selenium and tellurium analogs, or of a corresponding replacement analog consists of [1]:

name of the acid, by *§ 6.7*–*6.8* ~~*6.9*~~ § 6.7–6.8

+

prefix of the substituents **R′–, R″–**, and/or **R‴–**, by *§ 5*, in alphabetical order and if required with locants and multiplying affixes, as part of the modification § 5, 3.5

+

'-**hydrazide**' (–NH–NH_2), as part of the modification

Locants '1-' and '2-' are used for the hydrazide moiety, and multiplying affixes are also employed in the case of multiple occurrence of the latter (see **16**). If several acyl groups are present at NH_2–NH_2, the senior acid acyl–OH (see *Tab. 3.2*) is denoted as the acid name (see **13** and **18**). If several positions of the hydrazide moiety are possible, the locants of the parent acid are used (see **14**, **16**, **65**, **67**, **69**, and **71**). Tab. 3.2

Since 2007, if the hydrazide group participates with its N atoms in a heterochain, such a compound has been ranked according to the seniority order of *Tab. 3.2* and Tab. 3.2

6

named according to the (senior) principal group present. ~~the hydrazide group is designated by an acyl prefix according to (a_2) (see exceptions in (b) of *§ 6.20*).~~ §6.20 (b)

p. 315, name of **14**
Update to
14 'ethanedioic acid ~~mono~~ 1-(2-phenylhydrazide)'

p. 315, name of **16**
Update to
16 'ethanediimidic acid 1,2-bis(2-phenylhydrazide)'

p. 315, Footnote 2
Update to
A multivalent linking substituent in multiplicative nomenclature (see *§ 3.2.3*) is denoted according to (d) of *§ 4.3.3* (see also *§ 5.4* or *6.25*):'**hydrazin-1-yl-2-ylidene**-'(–NH–N=),'**hydrazine-1,2-diyl**-' (–NH–NH–), '**diazene-1,2-diyl**-' (–N=N–), and '**hydrazine-1,2-diylidene**-' (=N–N=).

p. 315, **(b_2)**, right-hand column, line 8 from top
Update to
... For this, 'amino-' (H_2N–) is replaced in each case by '**hydrazinyl**-' (H_2N–NH–) (notice the *Footnotes a* and *b* in *Tab. 6.2*). An *N*-substituted analog is named accordingly. Tab. 6.2, Fn. a, b

p. 315, name of **20**
Update to
20 '(hydrazinylcarbonyl)-'

p. 315, name of **21**
Update to
21 '[(1-methylhydrazinyl)carbonyl]-'

p. 315, name of **22**
Update to
22 '(2-hydrazinyl-2-thioxoethyl)-'

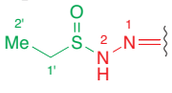
p. 315, name of **23**
Update to
23 '[(2-phenylhydrazinyl)sulfonyl]-'

p. 315, **(b_2)**, right-hand column, after name of **23**
Update to
The prefix for a hydrazide substituent (incl. replacement analogs) **R–C(=O)–NR′–NR″–**, **R′–S(=O)$_2$–NR′–NR″–**, etc., consists of an **acyl *prefix*** according to (a) or (b) of *§ 6.7.2.1*, (c) of *§ 6.7.3*, (d) of *§ 6.8*, or (d) of *§ 6.9* and '-**hydrazinyl**-' (H_2N–NH–) or '-**hydrazinylidene**-' (H_2N–N=), if required (R′, R″ ≠ H) supplemented by prefixes for R′– and R″–. The hydrazide prefix can be derived from the corresponding amide prefix described in (b_2) of *§ 6.16*. For this, '-amino-' (H_2N–)/'-imino-' (HN=) is replaced in each case by '-hydrazinyl-' (H_2N–NH–)/'-hydrazinylidene-' (H_2N–N=). §6.7.2.1 (a) (b), 6.7.3 (c), 6.8 (d), 6.9 (d); §6.16 (b_2)

p. 315, name of **24**
Update to
24 '(2-acetyl-2-methylhydrazinyl)-'

p. 315, name of **25**
Update to
25 '[1,2-bis(iminophenylmethyl)hydrazinyl]-'

p. 315, name of **26**
Update to



26 '[2-(ethylsulfinyl)hydrazinylidene]-'

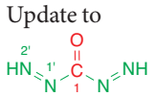
p. 316, **(c_1)**
Update to
A dihydrazide **H_2N–NH–C(=Y)–NH–NH_2** (Y = O, S, Se, Te, NH, NNH_2) has a functional-parent name which consists of [1]:

name of the carbonic acid or replacement analog, by *§ 6.9*, but *without* the class term *'acid'* §6.9
+
class term with multiplying affix 'di**hydrazide**'
(2 –$NHNH_2$)

Prefixes with locants for substituents at the –$NHNH_2$ moieties precede the functional-parent name (see **72**).

For hydrazides of formic acid and replacement analogs, see *Exceptions* (b_1).

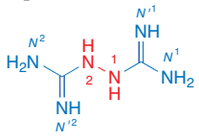
p. 316, name of **28**
Update to



28 '~~1,1′-~~carbonyl~~bis~~[~~diazene~~]'
'bis(diazenyl)methanone'
- special case~~, multiplicative name~~
- compound of *Class* ~~*14*~~ *9* (~~*§ 6.25*~~ *§ 6.20*)

p. 316, name of **30**
Update to
30 '1,2,2-trimethylhydrazinecarbothioyl chloride'

p. 316, atom labels of **33**
Update formula to



33 'hydrazine-1,2-dicarboximidamide'

p. 316, **(c_2)**
Update to
The prefix of a hydrazide substituent (incl. replacement analogs) **X–C(=O)–NR′–NR″–** (X– = RO–, F–, Cl–, Br–, I–, N_3–, H_2N–, H_2NNH–, OCN–, etc., NCO–, etc., CN–, and NC–; X– ≠ HO–) is a composite prefix and built according to *§ 5.8* and *5.9* [2] from an **acyl *prefix*** according to (c) of *§ 6.9* and '-**hydrazinyl**-' (H_2N–NH–) or '-**hydrazinylidene**-' (H_2N–N=), if required (R′, R″ ≠ H) supplemented by prefixes for R′– and R″–. The hydrazide prefix can be derived from the corresponding amide prefix described in (c_2) of *§ 6.16*. For this, '-amino-' (H_2N–)/'-imino-' (HN=) is replaced in each case by '-hydrazinyl-' (H_2N–NH–)/'-hydrazinylidene-' (H_2N–N=). §5.8, 5.9; §6.9 (c); §6.16 (c_2)

p. 316, name of **36**
Update to
36 '[2-(methoxycarbonyl)hydrazinyl]-'

p. 316, name of **37**
Update to
37 '[2-(aminocarbonyl)hydrazinyl]-'

p. 316, name of **38**
Update to
38 '[2-(aminocarbonyl)hydrazinylidene]-'

p. 316, name of **39**
Update to
39 '[2-(diazenylcarbonyl)hydrazinyl]-'

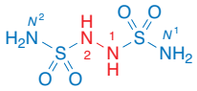
p. 317, name of **40**
Update to
40 '[2-(hydrazinylcarbonyl)hydrazinyl]-'

p. 317, name of **41**
Update to
41 '[2-(aminoiminomethyl)-1,2-diphenyl~hydrazinyl]-'

p. 317, **(d_1)**
Update to

The **dihydrazide** of 'sulfuric acid' is named like an acid halide according to (c) of *§ 6.15*, i.e., '**sulfuryl hydrazide**' ($S(=O)_2(NHNH_2)_2$). Derivatives thereof are denoted as ~~derivatives of **42** usual~~, e.g., ~~'2,2-dimethylhydrazinesulfonic acid 2,2-dimethylhydrazide'~~ '2,2,2′,2′-tetramethylsulfuryl hydrazide' ($S(=O)_2(NHNMe_2)_2$). §6.15 (c)

p. 317, name of **43**
Update formula to

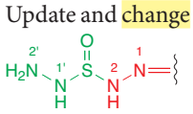


43 'hydrazine-1,2-disulfonamide'

p. 317, **(d_2)**
Update to
The prefix of a hydrazide substituent (incl. replacement analogs) **Y′–X′(=O)$_2$–NR′–NR″–** (X′= S, Se, Te; Y′– = RO–, F–, Cl–, Br–, I–, N_3–, H_2N–, H_2NNH–, OCN–, etc., NCO–, etc., CN–, and NC–), **N(=O)$_2$–NR′–NR″–**, or **N(=O)–NR′–NR″–** is a composite prefix and built according to *§ 5.8* and *5.9*[2] from an **acyl *prefix*** according to (d) of *§ 6.10* and '-**hydrazinyl**-' (H_2N–NH–) or '-**hydrazinylidene**-' (H_2N–N=), if required (R′, R″ ≠ H) supplemented by prefixes for R′– and R″–. The hydrazide prefix can be derived from the corresponding amide prefix described in (d_2) of *§ 6.16*. For this, '-amino-' (H_2N–)/'-imino-' (HN=) is replaced in each case by '-hydrazinyl-' (H_2N–NH–)/'-hydrazinylidene-' (H_2N–N=). §5.8, 5.9 §6.10 (d) §6.16 (d_2)

p. 317, name of **45**
Update to
45 '[2-(chlorosulfonyl)hydrazinyl]-'

p. 317, name of **46**
Update and change to



46 '[2-(hydrazinylsulfinyl)hydrazinylidene]-'

p. 317, name of **47**
Update to
47 '[1,2-dimethyl-2-nitrohydrazinyl]-'

p. 317, **(e_1)**
Update to
.....derived from a P- or As-oxoacid, is a functional-parent name and consists of:

name of the P- or As-oxoacid or replacement analog, by *§ 6.11*, but *without* the class term *'acid'* §6.11
+
class term '**hydrazide**' (–NH–NH_2)

If necessary, a multiplying affix 'di-', 'tri-' is used before the class term, see, e.g., **48** and **49**.

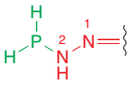
Prefixes with locants for substituents at the –$NHNH_2$ moieties precede the functional-parent name (see **51**, **52**, and **76–79**).

p. 317, name of **50**
Change to
50 'phosphorodibromidous hydrazide'

p. 318, **(e_2)**
Update to
The prefix of a hydrazide substituent (incl. replacement analogs)
X′H$_2$(=O)–NR′–NR″– **X′H$_2$–NR′–NR″–**,
X′(=O)$_2$–NR′–NR″– **X′(=O)–NR′–NR″–**
(X′ = P or As), with H at X′ substitutable by the substituents **Y′**– and/or **Z′**– = HO–, RO–, F–, Cl–, Br–, I–, N_3–, H_2N–, H_2NNH–, OCN–, etc., NCO–, etc., CN–, NC–, is a composite prefix and built according to *§ 5.8* and *5.9*[2] from an **acyl *prefix*** according to (c) or (e) of *§ 6.11* and '-**hydrazinyl**-' (H_2N–NH–) or '-**hydrazin~ylidene**-' (H_2N–N=), if required (R′, R″ ≠ H) supplemented by prefixes for R′– and R″–. The hydrazide prefix can be derived from the corresponding amide prefix described in (e_2) of *§ 6.16*. For this, '-amino-' (H_2N–)/'-imino-' (HN=) is replaced in each case by '-hydrazinyl-' (H_2N–NH–)/'-hydrazinylidene-' (H_2N–N=). §5.8, 5.9 §6.11 (c) (e) §6.16 (e_2)

p. 318, name of **53**
Update to
53 '[2-(aminomethylphosphinyl)hydrazinyl]-'

p. 318, name of **54**
Update to



54 '(2-phosphinohydrazinylidene)-'

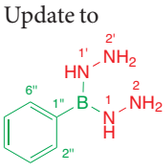
p. 318, **(f)**
Update to
Since 2007, an acyclic formal hydrazide of a boronic or borinic acid has been considered and named as a substituent derivative of the corresponding senior parent structure, see **55** and **56**. ~~consists of:~~

~~**name of the boronic or borinic acid** or replacement analog, by (c_2) of *§ 6.12*~~ §6.12 (c_2)
~~+~~
~~modification '**hydrazide**' (–NH–NH_2)~~

~~If necessary, a multiplying affix 'di-' is used before the modification, see, e.g., **55**.~~

An acyclic formal hydrazide derived from a silicic acid or boric acid is considered and named as a substitution derivative of the corresponding senior parent structure (in the case of boric acid, only in the absence of chalcogen substituents), see **57** and **58**. §6.12 (b) (c_1)

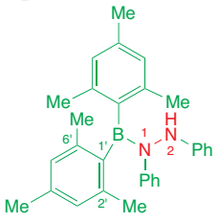
p. 318, name of **55**
Update to



55 '~~phenylboronic acid dihydrazide~~'
'1,1′-(phenylborylene)bis[hydrazine]'
CA: ~~boronic acid, phenyl-, dihydrazide~~ 'hydrazine, 1,1′-(phenylborylene)bis-'

p. 318, name of **56**

Update to



56 ~~'bis(2,4,6-trimethylphenyl)borinic acid 1,2-diphenylhydrazide'~~
'1-[bis(2,4,6-trimethylphenyl)boryl]-1,2-diphenylhydrazine'

CA: ~~'borinic acid, bis(2,4,6-trimethylphenyl)-, 1,2-diphenylhydrazide'~~ 'hydrazine, 1-bis[2,4,6-trimethyl~phenyl)boryl]-1,2-diphenyl-'

p. 318, name of **60**

Update to

60 '1-(diphenylphosphinyl)-1*H*-1,2-diazepine'
~~'unexpressed phosphinic amide'~~ N compound of *Class 14* (*§ 6.25*)

p. 318, name of **61**

Update to

61 '4-(1,1-dimethylethyl)-2,3-dihydro-5-(1-methylethyl)-2-(phenylsulfonyl)-1,2,3-thiadiazole 1-oxide'
~~'unexpressed sulfonamide'~~ N compound of *Class 14* (*§ 6.25*)

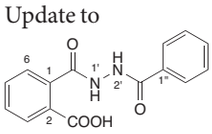
p. 318, name of **62**

Update to

62 '1-benzoyl-2,3-dihydro-2-methyl-1*H*-indazole-3-carbonitrile'
~~'unexpressed carboxamide' with the name of a compound~~ nitrile of *Class 7* (*§ 6.18*)

p. 319, name of **65**

Update to



65 'benzene-1,2-dicarboxylic acid ~~mono~~ 1-(2-benzoylhydrazide)'

p. 319, name of **67**

Update to

67 'ethanedioic acid 1-(2-acetylhydrazide) 2-(2-phenylhydrazide)'

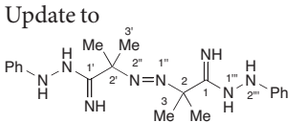
p. 319, name of **68**

Update to

68 '2-oxo-*N*-phenylpropanehydrazonic acid 1-methyl-2-(phenylmethylene)hydrazide'

p. 319, name of **69**

Update to



69 ~~'2,2′-azobis[2-methylpropanimidic acid] bis(2-phenylhydrazide)'~~
'2,2′-(diazene-1,2-diyl)bis[2-methylpropanimidic acid] 1,1′-bis(2-phenylhydrazide)'

p. 319, name of **71**

Update to

71 '4-chlorobenzene-1,3-disulfonic acid 1,3-bis[2-(phenylmethylene)hydrazide]'

p. 319, name of **75**

Change to

75 '*N*,*N*′-(1,4-phenylene)bis[hydrazinesulfonamide]'

p. 319, name of **79**

Update to

79 '*N*,1,2,2-tetrakis(trimethylsilyl)arsenenimidous hydrazide'

6.18 **Nitriles** (Class 7) **(Update)**

p. 321, *Footnote 1*

Update to

1) '**Fulminic acid**' is **H–C≡N⁺–O⁻**. Since 2007, in SciFinder, CA ~~still employs~~ has no longer employed 'fulminic acid' for HO–N⁺≡C⁻ (for this, see the German translation of IUPAC's old 'Red Book, 1990' (I-4.6.3) and G. Maier, J.H. Teles, B.A. Hess, Jr., L.J. Schaad, *Angew. Chem.* **1988**, *100*, 1014; *ibid.*, *Int. Ed. Engl.* **1988**, *27*, 938).

p. 322, name of **10**

Update to

10 '2-oxoacetonitrile'

p. 322, name of **12**

Update to

12 'ethene-1,1,2,2-tetracarbonitrile'

p. 323, name of **21**

Update to

21 '2,3-diiminobutanedinitrile'

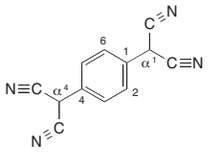
p. 323, name of **24**

Update to

24 '2-phenyldiazenecarbonitrile 2-oxide'

p. 323, name of **29**

Update to



29 'α¹,α⁴-dicyanobenzene-1,4-diacetonitrile'

p. 323, name of **33**

Update to

33 '~~2,2′-azobis[2-methylpropanenitrile]~~'
'2,2′-(diazene-1,2-diyl)bis[2-methylpropanenitrile]'

6.19 Aldehydes and Their Oxime and Hydrazone Derivatives (Class 8) **(Update)**

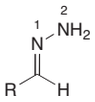
p. 325, *Footnote 2*

Update to

2) An **oxime** of a carboxylic acid, e.g., RC(=NOH)OH, of an acid halide, e.g., RC(=NOH)Cl, or of an amide, e.g., RC(=NOH)NH_2, is an *N*-hydroxy derivative of an imidic acid (*§ 6.7.3*), an imidoyl halide (*§ 6.15*), or an imidamide (*§ 6.16*). Since 2007, an oxime derived from the former '**hydroxylamine-*O*-sulfonic acid**' (NH_2–O–SO_3H; *§ 6.10*) has been named as an oxime. ~~is an *N*-alkylidene derivative of the latter,~~ Since 2007, NH_2–O–SO_3H has been named as '**sulfuric acid monoazanyl ester**'/'**azanyl hydrogen sulfate**', i.e., as an ester of a common acid and a nontraditional alcohol, i.e., by (b_0) and (c) of updated *§ 6.14;* however, oximes R=N–O–SO_3H have been considered as exceptions to the new ester definition which allows ester names involving nontraditional alcohols (see update of *§ 6.14,* there, Definition), e.g., '~~*N*-ethylidenehydroxylamine-*O*-sulfonic acid~~' 'acetaldehyde *O*-sulfooxime' (MeCH=N–O–SO_3H) (~~see~~ error in CA ¶ 195).

p. 325, name of **3**

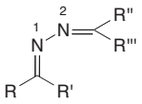
Update formula to



3 'aldehyde hydrazone' [1)3)]

p. 325, name of **4**

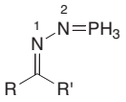
Update to



4 '2-alkylidenehydrazone' (R, R′, R″, R‴ = H, alkyl)

p. 325, name of **6**

Update to



6 '2-phosphoranylidenehydrazone' [1)] (R, R′ = H, alkyl)

p. 325, name of **10**

Update to

10 '2-alkylidenehydrazinecarboxamide' [1)]

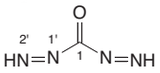
p. 326, name of **11**

Update to

11 '2-alkylidenehydrazinecarboximidic acid' [1)]

p. 326, name of **15**

Update to



15 '~~1,1′-carbonylbis[diazene]~~' [1)]
'bis(diazenyl)methanone' [1)]

- compound of *Class ~~14~~* 9 (*~~§ 6.25~~ § 6.20*)

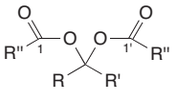
p. 326, name of **16**

Update to

16 '2-amino-2-oxoacetic acid 2-alkylidene~hydrazide' [1)]

p. 326, name of **21**

Update to



21 'alkanoic acid 1,1′-alkylidene ester'

p. 326, **Notice**, second bullet

Update to

In the CA indexes, an oxime (see **2**) or a hydrazone (see **3**) is registered under the heading parent of the senior aldehyde, supplemented by a modification 'oxime', '*O*-methyloxime', 'hydrazone', '2-phenylhydrazone', etc. *The oxime or hydrazone has the seniority of the corresponding aldehyde* (*Class 8*; see *Tab. 3.2*). Tab. 3.2

p. 327, *Footnote 5*

Update to

5) ~~*Exceptions*:~~ Since 2007, substitution of the H atom in –[C]HO, –CHO, etc., by **O_2N–** ('nitro-') or **ON–** ('nitroso-') is has no longer been permissible, e.g., not 'α-nitrobenzaldehyde' but 'nitro~phenylmethanone' (PhC(=O)NO_2). In the case of 'formaldehyde' (CH_2O) and its chalcogeno replacement analogs, ~~also~~ substitution of the 'non-aldehydic' H atom by an individual O_2N– ('nitro-'), ON– ('nitroso-'), sulfonyl, or sulfinyl group is permissible, e.g., '(ethenylsulfonyl)formaldehyde' (CH(=O)$SO_2CH=CH_2$). See also the special cases in (b).

p. 328, name of **30**

Update to

30 '2-hydroxyacetaldehyde'

p. 328, name of **36**

Update to

36 'phosphinecarboxaldehyde 1-oxide'

p. 329, name of **44**

Update to

44 '2-formylbutanedioic acid

6

p. 329, name of **48**

Update to

48 '[2-(selenoxomethyl)hydrazinyl]-'

p. 329, *Footnote 6*

Update to

6) In CA, a substituent **=N(=O)–OH** is ~~always~~ designated by the prefix '***aci*-nitro-**' (no suffix is used, see *Tab. 3.1*) which can be substituted, e.g., =N(=O)–O–CH_2CH_2Me is named '(propyl-*aci*-nitro)-'; however, since 2007, '*aci*-nitro-' has no longer been retained by overstepping a (senior) principal group, e.g., HO–N(=O)=CH–C(=O)–NHMe is named '*N*-methyl-2-*aci*-nitroacetamide'. IUPAC recommends for this a functional-parent name, '**azinic acid**' (NH_2(=O)(OH); H at N substitutable), and the prefix '**(hydroxynitroryl)**-' (N(=O)(OH)<) (IUPAC R-3.3 and R-5.3.2; cf. (a) of *§ 6.10*). For **R_2C=N(=O)–OH**, also the general trivial name '**nitronic acid**' is used.

p. 329, *Special cases* (b)

Update to

Formerly, a 1-nitro- or 1-nitroso-substituted aldehyde oxime such as **49** or **50** was denoted as **nitrolic** or **nitrosolic acid**, respectively (see CA ¶ 228 and *Footnote 5*). Since 2007, such substitutions have no longer been admitted, except for oximes derived from 'form~aldehyde' (CH_2=O) and its chalcogeno replacement analogs (see updated *Footnote 5*).

p. 329, name of **49**

Update to

49 '~~1-nitropropanal oxime~~' [5)]

'1-nitropropan-1-one oxime' [5)]

p. 329, name of **50**

Update to

50 '~~1-nitrosoacetaldehyde oxime~~' [5)]

'1-nitrosoethanone oxime' [5)]

p. 329, name of **51**

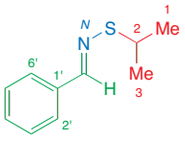
Update to

51 '[*C*(*E*)]-benzaldehyde oxime'

- '[*C*(*E*)]' by *§ A.6.3*~~; if additional stereodescriptors are required, '[*C*(*E*)]' would be used~~

p. 329, name of **53**

Update to



53 '~~benzaldehyde *S*-(1-methylethyl)thiooxime~~'

'*N*-(phenylmethylene)propane-2-sulfenamide'

- the name '*N*-(phenylmethylene)propane-2-sulfenamide' ~~would be~~ is more appropriate since an amide is senior to an aldehyde oxime (see *Tab. 3.2*); cf. **168** in *§ 6.20*

p. 330, **(c)**, line 20 and 28

Update to

The prefix for a hydrazone substituent **H_2N–N=[CH]** [4)] is '**hydrazinylidene**-'. A hydrazone prefix is employed only if the corresponding aldehyde substituent is designated by a substituent prefix (see **65** and also **62**). The hydrazone prefix for **R′R″N–N=[CH]** [4)] (R′, R″ = H, alkyl, aryl, acyl) is a composite prefix and formed according to *§ 5.8* and *5.9* [7)]:

§ 5.8, 5.9

§ 5

§ 3.5

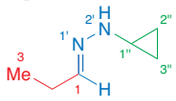
substituent prefixes for **R′**– and **R″**–, by *§ 5*, in alphabetical order, preceded by locant '2'

+

'-**hydrazinylidene**-' (H_2N–N=[CH] [4)])

p. 330, name of **59**

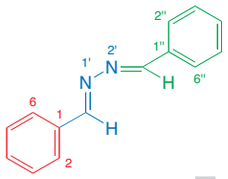
Update to



59 'propanal 2-cyclopropylhydrazone'

p. 330, name of **60**

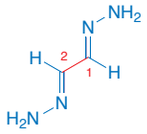
Update to



60 'benzaldehyde 2-(phenylmethylene)hydrazone'

p. 330, name of **61**

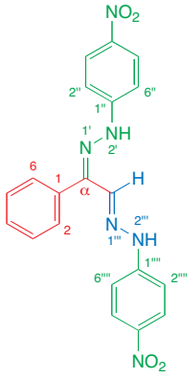
Update to



61 'ethanedial 1,2-dihydrazone'

p. 330, name of **62**

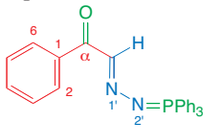
Update to



62 'α-[2-(4-nitrophenyl)hydrazinylidene]benzene~acetaldehyde 2-(4-nitrophenyl)hydrazone'

p. 330, name of **63**

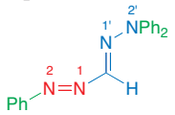
Update to



63 'α-oxobenzeneacetaldehyde *aldehydo*-[2-(triphenylphosphoranylidene)hydrazone]'

p. 330, name of **64**

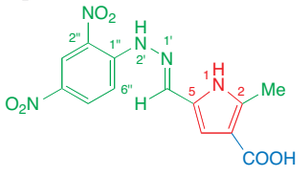
Update to



64 '2-phenyldiazenecarboxaldehyde 2,2-diphenyl~hydrazone'

p. 330, name of **65**

Update to



65 '5-{[2-(2,4-dinitrophenyl)hydrazinylidene]~methyl}-2-methyl-1*H*-pyrrole-3-carboxylic acid'

p. 330, Footnote 7

Update to

7) A compound **R–N=N(=O)–R** is a '**diazene oxide**' (*Class 14*, *§6.25*) and a compound **R–N=C=N–R** an '***N,N′*-methane~tetraylbis[alkanamine]**' (*Class 12*, *§6.23*). A multivalent linking substituent in multiplicative nomenclature (*§3.2.3*) is denoted according to (d) of *§4.3.3.1* (see also *§5.4*): '**hydrazin-1-yl-2-ylidene**-' (–NH–N=), '**hydrazine-1,2-diyl**-' (–NH–NH–), '**diazene-1,2-diyl**-' (–N=N–), and '**hydrazine-1,2-diylidene**-' (=N–N=).

p. 331, name of **80**

Update to

80 '2-methyl-2-(methylthio)propanal *O*-acetyloxime'
not ester (~~no O–C bond;~~ exception, see ester definition in update of *§6.14*)

p. 331, name of **81**

Update to

81 '2,2,3-trichlorobutanal *O*-(diethoxyphosphinothioyl)~oxime'
not ester (~~not all bonds are O–C;~~ exception, see ester definition in update of *§6.14*)

p. 331, name of **82**

Update to

82 '3-nitro-α-oxobenzeneacetaldehyde ~~ald~~ 1-oxime'
- by (b)
- ~~to avoid ambiguity, '**aldoxime**' is sometimes used in CA~~

p. 331, name of **83**

Update to

83 'α-hydrazinylidenebenzeneacetaldehyde oxime'

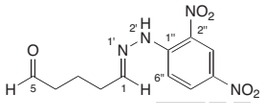
p. 331, name of **84**

Update to

84 '*N*-[2-(ethoxyimino)acetyl]thiophene-2-carboxamide'

p. 332, name of **85**

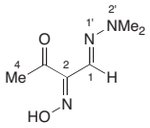
Update to



85 'pentanedial ~~mono~~ 1-[2-(2,4-dinitrophenyl)hydrazone]'

p. 332, name of **86**

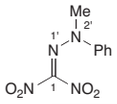
Update to



86 '2-(hydroxyimino)-3-oxobutanal 1-(2,2-dimethyl~hydrazone)'
~~locant '1' to avoid ambiguity~~

p. 332, name of **87**

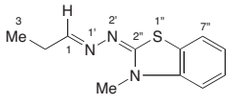
Update to



87 '~~dinitroformaldehyde 2-methyl-2-phenylhydrazone~~ [5]'
'dinitromethanone 2-methyl-2-phenylhydrazone' [5]
since 2007, only the 'non-aldehydic' H atom of 'formaldehyde' (CH_2O) has been allowed to be substituted (see updated *Footnote 5*)

p. 332, name of **88**

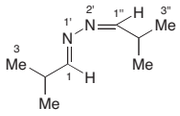
Update to



88 'propanal 2-(3-methylbenzothiazol-2(3*H*)-ylidene)~hydrazone'

p. 332, name of **89**

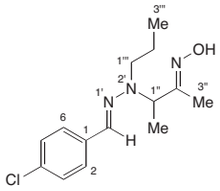
Update to



89 '2-methylpropanal 2-(2-methylpropylidene)hydrazone'

p. 332, name of **90**

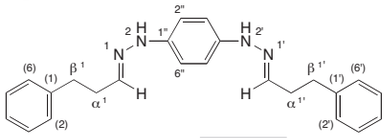
Update to



90 '4-chlorobenzaldehyde 2-[2-(hydroxyimino)-1-methyl~propyl]-2-propylhydrazone'

p. 332, name of **91**

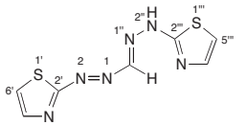
Update to



91 'benzenepropanal 1,1′-[2,2′-(1,4-phenylene)dihydrazone]'
for convenience, the atom numbering in the formula of the molecular skeleton parent ('benzene') is enclosed in parentheses; in the name, '1,1′-' refers to (1),(1′)

p. 332, name of **92**

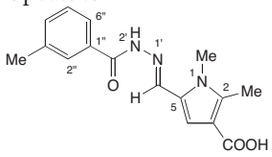
Update to



92 '2-(thiazol-2-yl)diazenecarboxaldehyde 2-(thiazol-2-yl)hydrazone'

p. 332, name of **93**

Update to



93 '1,2-dimethyl-5-{[2-(3-methylbenzoyl)hydrazinylidene]~methyl}-1*H*-pyrrole-3-carboxylic acid'

6

6.20 Ketones and Their Oxime and Hydrazone Derivatives (Class 9) **(Update)**

p. 333, **Definition**

Update to

Since 2007, a ketone **1** has contained ~~contains~~ a group >C=X (X = O, S, Se, Te) that ~~must be~~ is bound to two C atoms~~, except if the C atom of >C=X is incorporated in a ring~~ or to two other atoms, except for H atoms and those that could thus form an acid or acid derivative principal group (anhydride, ester, acid halide, amide, or hydrazide of *Classes 5* and *6* (see *Tab. 3.2*)). In the following, the term ketone is employed as a general expression for all chalcogen analogs **1**.

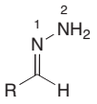
Tab. 3.2

R, R′ ≠ H; R, R′ = alkyl, aryl (since 2007, >C=X attached to C or heteroatom)

1 a ketone	(X = O)
a thioketone	(X = S)
a selenoketone	(X = Se)
a telluroketone	(X = Te)

p. 333, name of **3**

Update formula to



3 'ketone hydrazone' [2] (R, R′ ≠ H)

p. 333, **Notice**, third bullet

Update to

In the CA indexes, an oxime (see **2**) or a hydrazone (see **3**) is registered under the heading parent of the senior ketone, supplemented by a modification 'oxime', '*O*-acetyloxime', 'hydrazone', '2-(2,4-dinitro~phenyl)hydrazone', etc. *The oxime or the hydrazone has the seniority of the corresponding ketone* (*Class 9*, see *Tab. 3.2*).

Tab. 3.2

p. 333, right-hand column, line 8

Update to

Instructions are given for:

(a) cyclic ketones, i.e., the C atom of the group >C=O, etc., is incorporated in a ring, including quinones: suffixes and substituent prefixes;

(b) acyclic ketones without direct bonds to (terminal) cyclic substituents: suffixes and substituent prefixes (~~pseudoketones,~~ trivial names 'acetone', etc., ketenes, acyloins);

p. 335, **(b)**

Update to

Since 2007, if in an acyclic ketone **R–C(=X)–R′** or **R=C=X** (X = O, S, Se, Te) *R– and R′– or R=* ~~are~~ *have been bound directly to >C(=X) via* ~~*a C*~~ *any atom which belongs to an acyclic moiety,* ~~*and if >C(=X) is not bound to heteroatoms*~~ (~~for this, see exceptions below and also the~~ except for H atoms and those that could thus form an acid or acid derivative principal group (acids, anhydrides, esters, acid halides, amides, and hydrazides), the name consists of:

parent name of the acyclic molecular-skeleton parent **R–CH₂–R′** or **R=CH₂**, by *§ 4.2* and *4.3* [6] § 4.2, 4.3

+

suffix

'**-one**'	([C]=O [3])
'**-thione**'	([C]=S [3])
'**-selone**' [4]	([C]=Se [3])
'**-tellone**' [4]	([C]=Te [3])

Examples are **21**–**32**. If necessary, multiplying affixes are employed, e.g., 'butane-2,3-dione' (MeC(=O)C(=O)Me). Note that R– and R′– or R= can be substituted by remote cyclic substituents, see, e.g., **111**, **112**, and **114**.

p. 335, *Exceptions* (b)

Update to

Former Exceptions (b)

Since 2007, a group **R–C(=X)–** (R = alkyl, aryl; X = O, S, Se, Te) attached at a heteroatom of a heterochain **Y–H** ~~is~~ has no longer been treated as a **pseudoamide** or **pseudoketone**. Its name is built as described above ((b)). ~~consists of:~~

~~**acyl prefix** according to (a) and (b) of *§ 6.7.2.1* or (c) of *§ 6.7.3* (see above)~~ § 6.7.2.1 (a) (b), 6.7.3 (c)

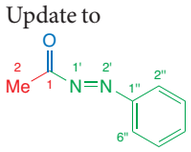
~~+~~

~~**parent name of the heterochain Y–H**, by *§ 4.3*~~ § 4.3

Examples are **21**–**24**. ~~The senior compound class (not ketone!) is then determined by possibly present other substituents (see **24**).~~ Note that this is not applied to acid derivatives of *Class 6*; e.g., R–C(=O)–NHNH₂ is an acid hydrazide. Former pseudoamides or pseudoketones are also given in *§ 6.25–6.29* and *§ 6.31* dealing with the N, P, As, Sb, Bi, B, Si, Ge, Sn, Pb, S, Se, and Te compounds of the *Classes 14–20*, *22*, and *23* (see *Tab. 3.2*). § 6.25–6.29, 6.31 Tab. 3.2

p. 336, name of **21**

Update to



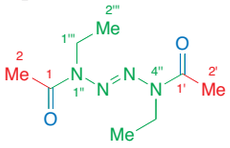
21 '~~acetylphenyldiazene~~'

'1-(2-phenyldiazenyl)ethanone'

- no longer exception; ketone of *Class 9* (*§ 6.20*)
- ~~not '1-(phenylazo)ethanone'; in addition,~~ notice that 'diazenyl-' (HN=N–) is ~~not~~ now substitutable (CA)

p. 336, name of **22**

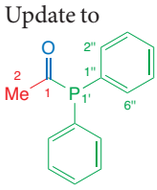
Update to



22 '~~1,4-~~di~~acetyl-1,4-diethyltetraz-2-ene~~'
'1,1′-(1,4-diethyltetraz-2-ene-1,4-diyl)bis~[ethanone]'
no longer exception; ketone of *Class 9* (*§ 6.20*)

p. 336, name of **23**

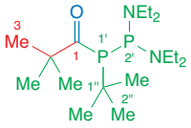
Update to



23 '~~acetyldiphenylphosphine~~'
'1-(diphenylphosphino)ethanone'
- no longer exception; ketone of *Class 9* (*§ 6.20*)
- ~~not~~ '1-(diphenylphosphino)ethanone'

p. 336, name of **24**

Update to



24 '~~2-(1,1-dimethylethyl)-2-(2,2-dimethyl-1-oxo~propyl)-N,N,N′,N′-tetraethyldiphosphine-1,1-diamine~~'
'1-[2,2-bis(diethylamino)-1-(1,1-dimethylethyl)~diphosphinyl]-2,2-dimethylpropan-1-one'
no longer exception; ketone of *Class 9* (*§ 6.20*)

p. 336–337, **(c)**

Update to

Since 2007, if in an acyclic ketone **R–C(=X)–R′** or **R=C=X** (X = O, S, Se, Te) *either R– or R′– or both, or R=, ~~is~~ has been bound directly to >C(=X) via ~~a C~~ any atom which belongs to a cyclic moiety, and even if >C(=X) is ~~not~~ bound to heteroatoms* (for this, see the former exceptions below and also the acids, anhydrides, esters, acid halides, amides, and hydrazides), the name consists of:

prefix for the cyclic substituent(s) **R–** and/or **R′–**, or **R=**, by *§ 5*, in alphabetical order — § 5, 3.5

+

parent name of the acyclic molecular-skeleton parent **CH_3–R′**, **R–CH_3**, or **CH_4**, by *§ 4.2* and *4.3* [6] — § 4.2, 4.3

+

suffix

'**-one**'	([C]=O [3])
'**-thione**'	([C]=S [3])
'**-selone**' [4]	([C]=Se [3])
'**-tellone**' [4]	([C]=Te [3])

Examples are **42**–**53**. If necessary, multiplying affixes are employed, e.g., '1,2-diphenylethane-1,2-dione' (PhC(=O)C(=O)Ph). Note that if R–, R′–, or R= in **R–C(=X)–R′** or **R=C(=X)** are all cyclic moieties, the ketone is a '**methanone**' (X = O), 'methanethione' (X = S), 'methaneselone' (X = Se), or 'methanetellone' (X = Te); see, e.g., **51**–**53** ~~and compare with **36** and **37** in which >C(=X) is bound to a heteroatom (see exceptions below)~~.

p. 337, left-hand column, line 16

Update to

A special prefix is used for a substituent **X=C=** if the free valences are leading to the same ring atom (see **54**) or for a substituent **X=C<** in multiplicative nomenclature, ~~e.g., if R– is identical to R′– and >C(=X) concomitantly bound to a heteroatom (see exceptions below, i.e., **36** and **37**)~~: — § 3.2.3

p. 337, *Exceptions* (c)

Update to

Former Exceptions (c)

Since 2007, a group **R–C(=X)–** (R = alkyl, aryl; X = O, S, Se, Te) attached at a heteroatom of a heterocycle **Y–H** ~~is~~ has no longer been treated as an '**unexpressed amide**' or **pseudoketone** but has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present ~~its name consists of:~~ — Tab. 3.2

~~**acyl prefix** according to (a) and (b) of *§ 6.7.2.1* or (c) of *§ 6.7.3* (see above, (b))~~ — ~~§ 6.7.2.1 (a), (b), 6.7.3 (c)~~

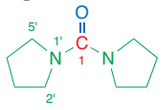
~~+~~

~~**parent name of the heterocycle Y–H**, by *§ 5.6* or *5.7*~~ — ~~§ 5.6, 5.7~~

Examples are **36**–**41**. For a multiplicative name, the special prefix 'carbonyl-' (O=C<), 'carbonothioyl-' (S=C<), etc. (see above), is used instead of the regular acyl prefix, in the presence of a senior principal group. ~~see **36** and **37**. The senior compound class (not ketone!) is then determined by possibly present other substituents, or the compound is an 'unexpressed amide' (acyl at N atom) according to (a_2) of *§ 6.16* (see **36**–**41**).~~ Former pseudoketones are also described in *§ 6.25–6.29* and *§ 6.31* dealing with the N, P, As, Sb, Bi, B, Si, Ge, Sn, Pb, S, Se, and Te compounds of the *Classes 14–20*, *22*, and *23* (see *Tab. 3.2*). — ~~§ 6.16 (a_2)~~ — § 6.25–6.29, 6.31 — Tab. 3.2

p. 337, name of **36**

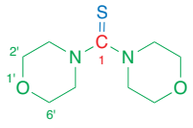
Update to



36 '~~1,1′-carbonylbis[pyrrolidine]~~'
'dipyrrolidin-1-ylmethanone'
- ~~multiplicative name~~
- no longer exception, i.e., no longer 'unexpressed amide'; ketone of *Class 9* (*§ 6.20*)

p. 337, name of **37**

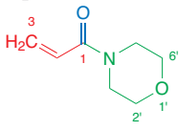
Update to



37 '~~4,4′-carbonothioylbis[morpholine]~~'
'dimorpholin-4-ylmethanethione'
- ~~multiplicative name~~
- no longer exception, i.e., no longer 'unexpressed amide'; ketone of *Class 9* (*§ 6.20*)

p. 337, name of **38**

Update to

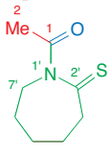


38 '~~4-(1-oxoprop-2-enyl)morpholine~~'
'1-(morpholin-4-yl)prop-2-en-1-one'

- no longer exception, i.e., no longer 'unexpressed amide'; ketone of *Class 9* (*§ 6.20*)
- ~~not~~ '1-(morpholin-4-yl)prop-2-en-1-one'

p. 337, name of **39**

Update to

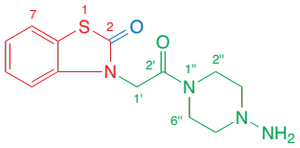


39 '~~1-acetylhexahydro-2*H*-azepine-2-thione~~'
'1-(hexahydro-2-thioxo-1*H*-azepin-1-yl)~ethanone'

- no longer exception, i.e., no longer 'unexpressed amide' ~~with the name of a compound~~ ; ketone of *Class 9* (*§ 6.20*) ~~, i.e., amide > thione~~
- the saturation of the three double bonds of the molecular-skeleton parent substituent ('1*H*-azepin-1-yl-') is expressed by the 'hydro-' prefix
- ~~not~~ '1-(hexahydro-2-thioxo-1*H*-azepin-1-yl)ethanone'

p. 337, name of **40**

Update to

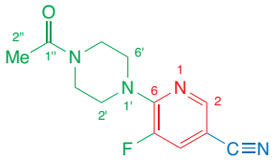


40 '~~4-[(2-oxobenzothiazol-3(2*H*)-yl)acetyl]~piperazin-1-amine~~'
'3-[2-(4-aminopiperazin-1-yl)-2-oxoethyl]~benzothiazol-2(3*H*)-one'

no longer exception, i.e., no longer 'unexpressed amide' ~~with the name of a compound~~ ; ketone of *Class 9* (*§ 6.20*) ~~, i.e., amide > benzothiazolone~~

p. 338, name of **41**

Update to



41 '~~1-acetyl-4-(5-cyano-3-fluoropyridin-2-yl)~piperazine~~'
'6-(4-acetylpiperazin-1-yl)-5-fluoropyridine-3-carbonitrile'

no longer exception, i.e., no longer 'unexpressed amide'; nitrile of *Class 7* (*§ 6.18*) ~~, i.e., amide > nitrile~~

p. 338, name of **45**

Update to

45 '1,2-diphenylethane-1,2-dione'

p. 338, name of **47**

Change

~~**47** '1,2-diphenyl-2-hydroxyethanone'~~ to

47 '2-hydroxy-1,2-diphenyl-ethanone'

p. 338, name of **49**

Update to

49 '1-phenyl-2-(2-thienyl)ethane-1,2-dione'

p. 338-339 **(d)**

Update to

~~Besides the pseudoketones described above in (b) (see exceptions (b)) and in (c) (see exceptions (c)),~~ A group **=X** (X = O, S, Se, Te) **at a heteroatom** of a heterocycle, a heterochain, or a charactereristic group is ~~also~~ named as a **pseudoketone**. Two cases must be distinguished:

- *If on addition of the group =X* (≠ substituent) *at a heteroatom* N^{III}, P^{III}, As^{III}, Sb^{III}, Bi^{III}, B^{III}, (Si^{IV}, Ge^{IV}, Sn^{IV} Pb^{IV},) S^{II}, Se^{II}, or Te^{II}, *the heteroatom loses its standard valence*, e.g., $N^{III} \rightarrow N^{V}$, $P^{III} \rightarrow P^{V}$, $As^{III} \rightarrow As^{V}$, $S^{II} \rightarrow S^{IV}$, etc., an **additive name** must be used (except if thus an acid, acid derivative, or amide is generated). The senior compound class is then determined by possibly present characteristic groups, and the group =X is expressed as a modification (see **56**–**58** and **60**–**64**): ..... § A.4 § 3.2.4
- *If on substitution of H atoms* at a heteroatom N^{III}, P^{III}, As^{III}, Sb^{III}, Bi^{III}, B^{III}, Si^{IV}, Ge^{IV}, Sn^{IV}, or Pb^{IV} *by the group =X the heteroatom retains its standard valence*, a **substitutive name** must be used (except if thus an acid, acid derivative, or amide is generated). The senior compound class is then determined by possibly present characteristic groups, and the group =X is exclusively expressed as a prefix, also if the heteroatom is Si^{IV}(see **65**–**69**): § A.4 § 3.2.1

p. 339, name of **62**

Update to

62 '(1*Z*)-1,2-diphenyldiazene 1-oxide'

- example of a corresponding substituent (see (d) of *§ 6.25*): '~~[4-(phenyl-*NNO*-azoxy)phenyl]-~~'
'[4-(**1-oxido**-2-phenyl**diazenyl**)phenyl]-'
(Ph–**N=N(=O)**–C_6H_4–)
- note that the name of a linking substituent in multiplicative nomenclature (*§ 3.2.3*) is, e.g.,
'~~[(dioxidoazo)di-4,1-phenylene]-~~'
'[**(1,2-dioxidodiazene-1,2-diyl)**di-4,1-phenylene]-'
(–C_6H_4–**N(=O)=N(=O)**–C_6H_4–)

p. 340, name of **65**

Update to

65 '1,2-dioxodiphosphine'

p. 340, name of **68**

Update to

68 '1-oxosilanol'

p. 340, name of **70**

Update to

70 'cyclopentane-1,2-dione 1,2-dioxime'

p. 340, **(e)**

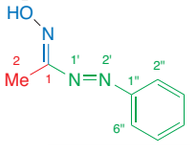
Update to

The prefix for an oxime substituent **R″X–N=[C]** [3] (R″ = H, alkyl, aryl, acyl; X = O, S) is a composite prefix and is formed according to *§ 5.8* and *5.9* [7]. An oxime prefix is employed only if the corresponding ketone substituent is designated by a substituent prefix (see **72**~~–74~~ and **73**): § 5.8, 5.9

6

p. 340, name of **74**

Update to



74 ~~'(1*E*)-[(1*E*)-1-(hydroxyimino)ethyl]phenyl~ diazene'~~
'(1*E*)-1-[(1*E*)-2-phenyldiazenyl]ethanone oxime'
see (b),~~former~~ exceptions: ~~acyl group at a heteroatom of a heterochain with regularly placed heteroatoms ;~~ since 2007, ketone oxime of *Class 9* (*§ 6.20*)

p. 340, name of **75**

Update to

75 '(2*E*)-butan-2-one *O*-acetyloxime'
not ester (~~no O–C bond,~~ see ester definition in updated *§ 6.14*)

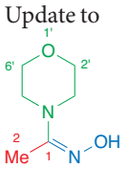
p. 340, Footnote 7

Update to

In CA, a substituent **=N(=O)–OH** is ~~always~~ designated by the prefix '***aci*-nitro**-' (no suffix is used, see *Tab. 3.1*), e.g., '*aci*-nitrocyclo~ hexane' (=CH_2–$(CH_2)_4$–C≡N(=O)–OH); however, since 2007, '*aci*-nitro-' has no longer been retained by overstepping a (senior) principal group. IUPAC recommends for this a functional-parent name, '**azinic acid**' (NH_2(=O)(OH); H at N substitutable), and the prefix '**(hydroxynitroryl)**-' (N(=O)(OH)<) (IUPAC R-3.3 and R-5.3.2; cf. (a) of *§ 6.10*). For **R_2C=N(=O)–OH**, the general name '**nitronic acid**' is also used. Since 2007, a compound RC(R′)=N–O–SO_3H ~~is~~ has no longer be treated as an '*N*-alkyl~ idenehydroxylamine-*O*-sulfonic acid' (see *§ 6.10*) but as an oxime, i.e., as 'alkanone *O*-sulfooxime' (see the exceptions of the new ester definition in updated *§ 6.14*).

p. 341, name of **78**

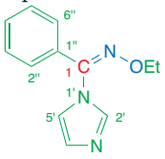
Update to



78 ~~'4-[1-(hydroxyimino)ethyl]morpholine'~~
'1-(morpholin-4-yl)ethanone oxime'
see (c), former exceptions: no longer 'unexpressed *N*-hydroxyimidamide' but ketone oxime of *Class 9* (*§ 6.20*)

p. 341, name of **79**

Update to



79 ~~'1-[(ethoxyimino)phenylmethyl]-1*H*-imidazole'~~
'1*H*-imidazol-1-ylphenylmethanone *O*-ethyl~ oxime'
see (c), former exceptions: no longer 'unexpressed *N*-ethoxyimidamide' but ketone oxime of *Class 9* (*§ 6.20*)

p. 341, **(f)**

Update to

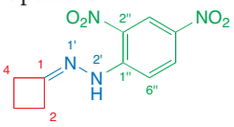
The prefix for a hydrazone substituent **H_2N–N=[C]** [3] is '**hydrazinylidene**-'. A hydrazone prefix is employed only if the corresponding ketone substituent is designated by a substituent prefix (see ~~**86, 87, 90, and** **91**~~). The hydrazone prefix for **R″R‴N–N=[C]** [3] (R″, R‴ = H, alkyl, aryl, acyl) is a composite prefix and formed according to *§ 5.8* and *5.9* [8]:

substituent prefixes for **R″–** and **R‴–**, by *§ 5*, in alphabetical order, predeced by locant '2' + '**-hydrazinylidene**-' (H_2N–N=[C] [3])

§ 5
§ 3.5

p. 341, name of **81**

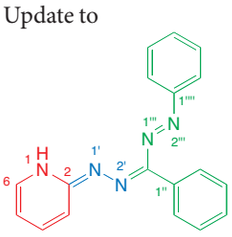
Update to



81 'cyclobutanone 2-(2,4-dinitrophenyl)hydrazone'

p. 341, name of **82**

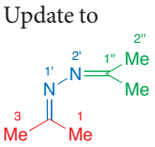
Update to



82 'pyridin-2(1*H*)-one 2-[phenyl(2-phenyl~ diazenyl)methylene]hydrazone'
- ~~ketone > N compound (see exceptions in (b))~~
- ~~not~~ '(2-phenyldiazenyl)-' instead of '(phenylazo)-' (CA)

p. 341, name of **83**

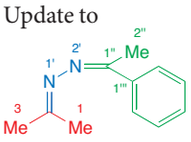
Update to



83 'propan-2-one 2-(1-methylethylidene)~ hydrazone'

p. 341, name of **84**

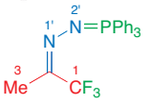
Update to



84 'propan-2-one 2-(1-phenylethylidene)~ hydrazone'

p. 341, name of **85**

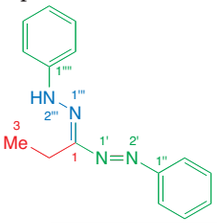
Update to



85 '1,1,1-trifluoropropan-2-one 2-(triphenyl~ phosphoranylidene)hydrazone'

p. 341, name of **86**

Update to



86 ~~'phenyl[1-(phenylhydrazono)propyl]diazene'~~
'1-(2-phenyldiazenyl)propane-1-one 2-phenyl~ hydrazone'
~~see (b), exceptions: acyl group at heteroatom of a heterochain with regularly placed heteroatoms;~~ since 2007, ketone hydrazone of *Class 9* (*§ 6.20*)

§ 5.8

p. 341, *Footnote 8*

Update to

8) A compound **R–N=N(=O)–R** is a '**diazene oxide**' (*Class 14*, *§6.25*) and a compound **R–N=C=N–R** an '***N,N′*-methane~tetraylbis[alkanamine]**' (*Class 12*, *§6.23*). A multivalent linking substituent in multiplicative nomenclature (*§3.2.3*) is denoted according to (d) of *§4.3.3.1* (see also *§5.4*): '**hydrazin-1-yl-2-ylidene**-' (–NH–N=), '**hydrazine-1,2-diyl**-' (–NH–NH–), '**diazene-1,2-diyl**-' (–N=N–), and '**hydrazine-1,2-diylidene**-' (=N–N=).

p. 342, name of **87**

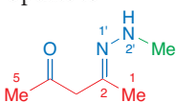
Update to

87 ~~'2-hydrazono-2-(methylazo)ethanol'~~
'2-hydroxy-1-(2-methyldiazenyl)ethanone hydrazone'

- ~~see (b), exceptions: acyl group at heteroatom of a hetero-chain with regularly placed heteroatoms;~~ since 2007, ketone hydrazone of *Class 9* (*§6.20*)
- ~~not~~ '(2-methyldiazenyl)-' instead of '(methylazo)-' (CA)

p. 342, name of **88**

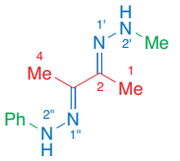
Update to



88 'pentane-2,4-dione ~~mono~~ 2-(2-methyl~hydrazone)'

p. 342, name of **89**

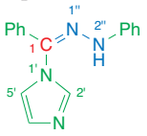
Update to



89 'butane-2,3-dione 2-(2-methylhydrazone) 3-(2-phenylhydrazone)'

p. 342, name of **90**

Update to

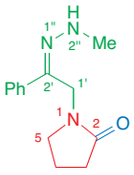


90 ~~'1-[phenyl(phenylhydrazono)methyl]-1*H*-imidazole~~
'1*H*-imidazol-1-ylphenylmethanone 2-phenyl~hydrazone'

see (c), former exceptions: no longer 'unexpressed hydrazonamide' but ketone hydrazone of *Class 9* (*§6.20*)

p. 342, name of **91**

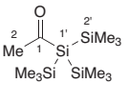
Update to



91 '1-[2-(2-methylhydrazinylidene)-2-phenyl~ethyl]pyrrolidin-2-one'

p. 343, name of **109**

Update to

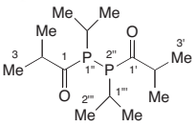


109 ~~'2-acetyl-1,1,1,3,3,3-hexamethyl-2-(trimethylsilyl)~trisilane~~
'1-[2,2,2-trimethyl-1,1-bis(trimethylsilyl)disilanyl]~ethanone'

- by (b), no longer exception but ketone of *Class 9* (*§6.20*)
- ~~compound of *Class 19* (*§6.29*)~~

p. 343, name of **110**

Update to

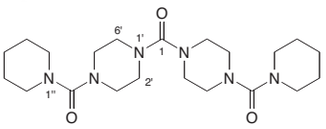


110 ~~'1,2-bis(1-methylethyl)-1,2-bis(2-methyl-1-oxopropyl)~diphosphine~~
'1,1′-[1,2-bis(1-methylethyl)diphosphine-1,2-diyl]bis~[2-methylpropan-1-one]'

- by (b), no longer exception but ketone of *Class 9* (*§6.20*)
- ~~compound of *Class 15* (*§6.26*)~~
- multiplicative name

p. 343, name of **119**

Update to

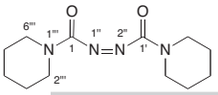


119 ~~'1,1′-carbonylbis[4-(piperidin-1-ylcarbonyl)piperazine]~~
'bis[4-(piperidin-1-ylcarbonyl)piperazin-1-yl]~methanone'

- by (c), former exception: no longer 'unexpressed amide' but ketone of *Class 9* (*§6.20*)
- ~~multiplicative name~~

p. 343, name of **120**

Update to



120 ~~'1,1′-(azodicarbonyl)bis[piperidine]~~
'1,1′-(diazene-1,2-diyl)bis[1-(piperidin-1-yl)methanone]'
by (c), former exception: no longer 'unexpressed amide' but ketone of *Class 9* (*§6.20*)

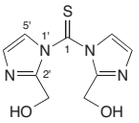
p. 343, name of **121**

Update to

121 ~~'1,1′-[selenobis(thiocarbonothioyl)]bis[piperidine]~~
'piperidin-1-carbo(selenothioperoxo)thioic acid 1,1′-anhydroselenide'
by (c), former exception: no longer 'unexpressed amide' but anhydroselenide (see *§6.13* (b_1)) of a carboperoxoic acid (see *§6.7.4*)

p. 344, name of **122**

Update to

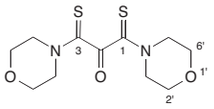


122 ~~'1,1′-carbonothioylbis[1*H*-imidazole-2-methanol]~~
'bis[2-(hydroxymethyl)-1*H*-imidazol-1-yl]methane~thione'

- by (c), former exception
- no longer 'unexpressed amide' ~~with the name of a compound of *Class 10* (*§6.21*)~~ but ketone of *Class 9* (*§6.20*)
- ~~multiplicative and conjunctive name~~

p. 344, name of **123**

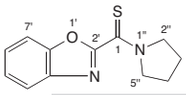
Update to



123 '~~4,4′-(2-oxo-1,3-dithioxopropane-1,3-diyl)bis~~[morpholine]'
'1,3-dimorpholin-4-yl-1,3-dithioxopropan-2-one'
- by (c), former exception: no longer 'unexpressed amide' but ketone of *Class 9* (*§ 6.20*)
- ~~multiplicative name~~

p. 344, name of **124**

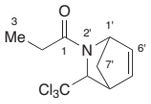
Update to



124 '~~1-(benzoxazol-2-ylthioxomethyl)pyrrolidine~~'
'benzoxazol-2-ylpyrrolidin-1-ylmethanethione'
- by (c), former exception
- no longer 'unexpressed amide' but ketone of *Class 9* (*§ 6.20*) ~~not~~ , i.e., '...methanethione'

p. 344, name of **125**

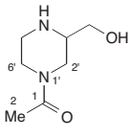
Update to



125 '~~2-(1-oxopropyl)-3-(trichloromethyl)-2-azabicyclo~~[~~2.2.1~~]~~hept-5-ene~~'
'1-[3-(trichloromethyl)-2-azabicyclo[2.2.1]hept-5-en-2-yl]propan-1-one'
- by (c), former exception
- no longer 'unexpressed amide' but ketone of *Class 9* (*§ 6.20*), ~~not~~ i.e., '...propan-1-one'

p. 344, name of **126**

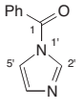
Update to



126 '~~4-acetylpiperazine-2-methanol~~'
'1-[3-(hydroxymethyl)piperazin -1-yl]ethanone'
- by (c), former exception
- no longer 'unexpressed amide' ~~with the name of a compound of *Class 10* (*§ 6.21*)~~ but ketone of *Class 9* (*§ 6.20*)

p. 344, name of **127**

Update to



127 '~~1-benzoyl-1*H*-imidazole~~'
'1*H*-imidazol-1-ylphenylmethanone'
- by (c), former exception
- no longer 'unexpressed amide' but ketone of *Class 9* (*§ 6.20*)~~; cf. 128~~

p. 344, name of **128**

Update to

128 '1-(1*H*-imidazol-4-yl)ethanone'
~~cf. 127~~

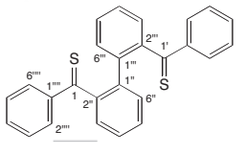
p. 344, name of **130**

Update to

130 '1,3-benzodioxol-5-yloxiran-2-ylmethanone'

p. 344, name of **131**

Update to



131 '1,1′-([1,1′-biphenyl]-2,2'-diyl)bis[1-phenylmethane~thione]'

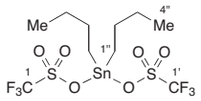
p. 345, name of **141**

Update to

141 '~~thiirane~~ tetrahydro-2*H*-thiopyran 1,1-dioxide'

p. 345, name of **142**

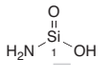
Update to



142 '~~4,4-dibutyl-1,1,1,7,7,7-hexafluoro-3,5-dioxa-2,6-dithia-4-stannaheptane-2,2,6,6-tetraoxide~~'
'1,1,1-trifluoromethanesulfonic acid 1,1′-(dibutyl~stannylene) ester'/'1,1′-(dibutylstannylene) bis(1,1,1-trifluoromethanesulfonate)'
- ~~by (d)~~
- ~~not~~ ester (~~no O–C bond,~~ see ester definition in updated *§ 6.14*)

p. 345, name of **145**

Update to



145 '1-amino-1-oxosilanol'

p. 345, name of **150**

Update to

150 '1*H*-indene-1,3(2*H*)-dione ~~mono~~ 1-oxime'

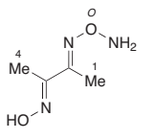
p. 345, name of **154**

Update to

154 '1-(2-thienyl)butan-1-one 1,1′-(*O*,*O*′-ethane-1,2-diyldioxime)'

p. 345, name of **155**

Update to



155 'butane-2,3-dione 2-(*O*-aminooxime) 3-oxime'

p. 345, name of **156**

Update to

156 'propan-2-one *O*-(aminocarbonyl)oxime'
not ester (~~no O–C bond,~~ see ester definition in updated *§ 6.14*)

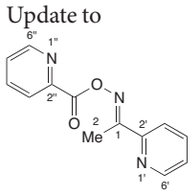
p. 345, name of **157**

Update to

157 'cyclohexa-2,5-diene-1,4-dione 1,1′-{*O*,*O*′-[(4-methyl-1,3-phenylene)bis(iminocarbonyl)]dioxime}'
not ester (~~no O–C bond,~~ see ester definition in updated *§ 6.14*)

p. 345, name of **158**

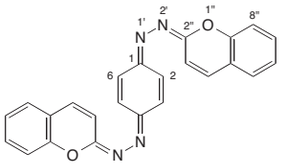
Update to



158 '(1*E*)-1-(pyridin-2-yl)ethanone *O*-(pyridin-2-ylcarbonyl)oxime'
not ester (~~no O–C bond,~~ see ester definition in updated *§ 6.14*))

p. 346, name of **159**

Update to



159 'cyclohexa-2,5-diene-1,4-dione 1,4-bis[2-(2*H*-1-benzopyran-2-ylidene)hydrazone]'

p. 346, name of **160**

Update to

160 '2,2,14,14-tetramethyl-3,13-dioxa-2,14-disilapenta~decan-8-one 2,2-dimethylhydrazone'

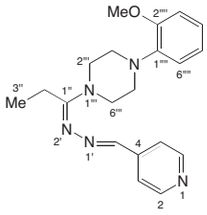
p. 346, name of **161**

Update to

161 '(2*E*,3*E*)-butane-2,3-dione 2,3-bis{2-[(1*E*,2*E*)-2-(hydroxyimino)-1-methylpropylidene]hydrazone}'

p. 346, name of **162**

Update to

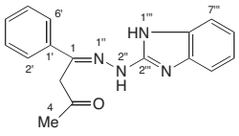


162 '~~1-(2-methoxyphenyl)-4-{1-[(pyridin-4-ylmethylene)~hydrazono]propyl}piperazine~~'
'pyridine-4-carboxaldehyde 2-{1-[4-(2-methoxyphenyl)~piperazin-1-yl]propylidene}hydrazone'

- cf. (c), former exceptions: no longer 'unexpressed hydrazonamide' but aldehyde hydrazone of *Class 8* (*§ 6.19*)
- ~~the numbering of 'piperazine' is determined by the alphabetical order of the substituents ('**m**ethoxy...' > '**p**yridinyl...')~~

p. 346, name of **164**

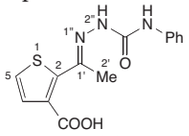
Update to



164 '1-phenylbutane-1,3-dione 1-[2-(1*H*-benzimidazol-2-yl)hydrazone]'

p. 346, name of **166**

Update to



166 '2-{1-{2-[(phenylamino)carbonyl]hydrazinylidene}~ethyl}thiophene-3-carboxylic acid'

p. 346, name of **167**

Update to

167 '1-{[bis(trimethylsilyl)hydrazinylidene]phosphino}-2,2,6,6-tetramethylpiperidine'
no longer 'unexpressed phosphenous amide' (O=P–OH is 'phosphenous acid') but N compound of *Class 14* (*§ 6.25*)

6.21 Alcohols and Phenols (Class 10) (Update)

p. 347, left-hand column

Update to

Instructions are given for:

(a) ....

(b) ...

(c) nontraditional esters (= pseudoesters) with the substituent acyl–X– (X = O, S, Se, Te) at a heteroatom (≠ Si): no longer substituent prefixes but ester names;

p. 349, name of **30**

Update to

30 'thiophene-2-ol'

CA: '2-thiophene-2-ol' (since 2007); no elision of 'e' to avoid confusion with the formerly used trivial name 'thiophenol' (PhSH; **26**)

p. 349, name of **31**

Update to

31 'selenophene-3-ol'

CA: '3-selenophene-3-ol' (since 2007); no elision of 'e' to avoid confusion with the formerly used trivial name 'selenophenol' (PhSeH); analogously for 'tellurophene-3-ol'

p. 350, **(b)**

Update to

...

The senior compound class (not necessarily an alcohol!) is then determined by possibly present other substituents, see **52** or **94**. Note that HX– groups which are part of an acid function are not concerned (see acids of the *Classes 5c*, *5e–g*, *5j,* and *5k* in *Tab. 3.2*, e.g., 'methanesulfonic acid' (Me–S(=O)$_2$–OH), 'sulfuric acid' (HO–S(=O)$_2$–OH), 'phosphonic acid' (HP(=O)(OH)$_2$), 'phosphinous acid' (H$_2$P–OH), 'borinic acid' (H$_2$B–OH)).

Tab. 3.2

p. 350, *Exceptions* (b)

Update to

$H_2N—OH$

45 '**hydroxylamine**'

compound of *Class 14* (*§ 6.25*); since 2007, ~~molecular-skeleton~~ **45** is a substitutive functional parent compound, i.e., a pseudoalcohol; ~~substituents at theO atom are denoted by prefixes;except for –SO$_3$H and analogs (see (a) of § 6.10)and corresponding derivatives~~; an *O*-alkyl or *O*-aryl derivative R–O–NH$_2$ is denoted by a prefix (with locant '*O*'); an *O*-acyl derivative Ac–O–NH$_2$ is an azanyl ester (see (b$_0$) and (c) of updated *§ 6.14*); an *N*-ylidene derivative R=N–OH is an oxime (see *§ 6.19* and *6.20*); an *N*-alkyl or *N*-aryl derivative R–NH–OH is an amine (see *§ 6.23*); an *N*-acyl derivative Ac–NH–OH is an amide (see *§ 6.16*); see *§ 6.25* for some derivatives of **45**

$H_2N—SH$

46 '**thiohydroxylamine**'

compound of *Class 14* (*§ 6.25*); ~~molecular-skeleton~~ since 2007, **46** is a substitutive functional parent compound; see **45** for derivatives; however, an *S*-alkyl or *S*-aryl derivative R–S–NH$_2$ is a sulfenamide (see *§ 6.16*)

p. 350, name of **50**

Update to

50 '1,1,2-trimercaptodiphosphine 1,2-disulfide'

p. 350, **(c)**

Update to

(c) *Nontraditional esters (= Pseudoesters)*

Since 2007, a substituent **acyl–X–** (X = O, S, Se, Te) attached at a heteroatom different from an Si atom of a heterochain or heterocycle **Y–H** has been treated as a nontraditional ester (= former **pseudoester**) **acyl–X–Y** according to updated *§ 6.14* (there (b$_0$) and (c)), i.e., it has no longer been treated similarly to a pseudoalcohol (see (b)). ~~Its name consists of:~~

~~**acyl prefix** by (c) of *§ 6.14*, followed by~~ ~~§ 6.14 (c)~~

~~'**-oxy-**' (–O–)~~

~~'**-thio-**' (–S–)~~

~~'**-seleno-**' (–Se–)~~

~~'**-telluro-**' (–Te–)~~

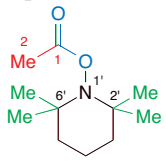
~~+~~

~~**parent name** of the heterochain or heterocycle **Y–H**, by *§ 4.3* or *4.5–4.10*~~ ~~§ 4.3, 4.5–4.10~~

Nontraditional esters (= former pseudoesters) are also described in *§ 6.25–6.29* dealing with the N, P, As, Sb, Bi, B, Ge, Sn, and Pb compounds of the *Classes 14–20* (see *Tab. 3.2*). § 6.25–6.29 Tab. 3.2

p. 350, name of **57**

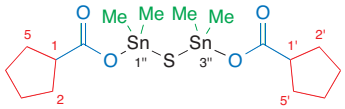
Update to



57 '~~1-(acetyloxy)-2,2,6,6-tetramethylpiperidine~~' 'acetic acid 2,2,6,6-tetramethylpiperidin-1-yl ester'/'2,2,6,6-tetramethylpiperidin-1-yl acetate' ~~*not* ester (no O–C bond~~; see ester definition in updated *§ 6.14* , there (b$_0$) and (c)

p. 351, name of **58**

Update to



58 '~~1,3-bis[(cyclopentylcarbonyl)oxy]-1,1,3,3-~~tetramethyl~~distannathiane~~'
'cyclopentanecarboxylic acid 1,1′-(1,1,3,3-tetramethyldistannathiane-1,3-diyl) ester'/'1,1′-(1,1,3,3-tetramethyldistannathiane-1,3-diyl) bis[cyclopentanecarboxylate]'

- ~~heterochain with regular heterogeneous pattern > heterochain with replacement name (see (b) of *§ 3.3*, i.e., *Tab. 3.2*)~~
- ~~*not* ester (no O–C bond~~; see ester definition in updated *§ 6.14*, there (b_0) and (c)

p. 351, name of **71**

Update to

71 'benzene-1,2,3,4,5,6-hexol'

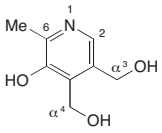
p. 352, name of **77**

Update to

77 '1-(3-hydroxyprop-1-yn-1-yl)cyclohexanol'

p. 352, name of **78**

Update formula to



78 '5-hydroxy-6-methylpyridine-3,4-dimethanol'

p. 352, name of **82**

Update to

82 'disilane-1,1,1,2,2,2-hexaselenol'

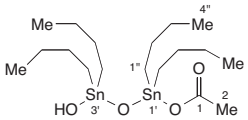
p. 352, name of **91**

Update to

91 '1,1,1,3,3-pentachloro-3-hydroxydigermoxane'

p. 352, name of **92**

Update to

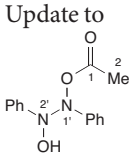


92 '~~1-(acetyloxy)-1,1,3,3-tetrabutyl-3-hydroxydistannoxane~~'
'acetic acid 1,1,3,3-tetrabutyl-3-hydroxydistannoxan-1-yl ester'/'1,1,3,3-tetrabutyl-3-hydroxydistannoxan-1-yl acetate'

- ~~heterochain with regular heterogeneous pattern > heterochain with replacement name (see (b) of *§ 3.3*, i.e., *Tab. 3.2*)~~
- ~~*not* ester (no O–C bond~~; see ester definition in updated *§ 6.14*, there (b_0) and (c)

p. 353, name of **100**

Update to

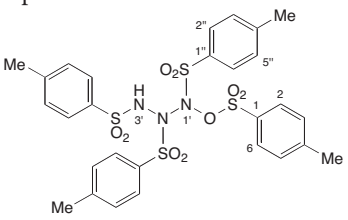


100 '~~1-(acetyloxy)-2-hydroxy-1,2-diphenylhydrazine~~'
'acetic acid 2-hydroxy-1,2-diphenylhydrazinyl ester'/'2-hydroxy-1,2-diphenylhydrazinyl acetate'

- by (b) and (c)
- ~~N skeleton > C skeleton (see (b) of *§ 3.3*)~~
- ~~*not* ester (no O–C bond~~; see ester definition in updated *§ 6.14*, there (b_0) and (c)
- ~~*not* replacement name (O atom as chain terminus, see *§ 4.3.2*)~~

p. 353, name of **101**

Update to

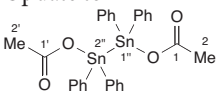


101 '~~1,2,3-tris[(4-methylphenyl)sulfonyl]-1-{[(4-methylphenyl)sulfonyl]oxy}triazane~~'
'4-methylbenzenesulfonic acid 1,2,3-tris[(4-methylphenyl)sulfonyl]triazanyl ester'/'1,2,3-tris[(4-methylphenyl)sulfonyl]triazanyl 4-methylbenzenesulfonate'

- by (c)
- ~~N skeleton > C skeleton (see (b) of *§ 3.3*)~~
- ~~*not* ester (no O–C bond~~; see ester definition in updated *§ 6.14*, there (b_0) and (c)
- ~~*not* replacement name (S atom as chain terminus, see *§ 4.3.2*)~~

p. 353, name of **102**

Update to

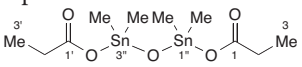


102 '~~1,2-bis(acetyloxy)-1,1,2,2-tetraphenyldistannane~~'
'acetic acid 1,1′-(1,1,2,2-tetraphenyldistannane-1,2-diyl ester'/'1,1′-(1,1,2,2-tetraphenyldistannane-1,2-diyl) bis[acetate]'

- by (c)
- ~~homogeneous heterochain > heterochain with replacement name (see (b) of *§ 3.3*, i.e., *Tab.3.2*)~~
- ~~*not* ester (no O–C bond~~; see ester definition in updated *§ 6.14*, there (b_0) and (c)

p. 353, name of **103**

Update to

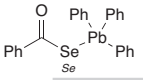


103 '~~1,1,3,3-tetramethyl-1,3-bis(1-oxopropoxy)distannoxane~~'
'propanoic acid 1,1′-(1,1,3,3-tetramethyldistannoxane-1,3-diyl) ester'/'1,1′-(1,1,3,3-tetramethyldistannoxane-1,3-diyl) bis[propanoate]'

- by (c)
- ~~heterochain with regular heterogeneous pattern > heterochain with replacement name (see (b) of *§ 3.3*, i.e., *Tab.3.2*)~~
- ~~*not* ester (no O–C bond~~; see ester definition in updated *§ 6.14*, there (b_0) and (c)

p. 353, name of **104**

Update to

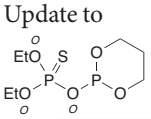


104 '~~(benzoylseleno)triphenylplumbane~~'
'benzenecarboselenoic acid *Se*-(triphenylplumbyl) ester'/'*Se*-(triphenylplumbyl) benzenecarboselenoate'

- ~~by (c)~~
- ~~Pb skeleton > C skeleton (see (b) of *§ 3.3*)~~
- ~~*not* ester (no O–C bond~~; see ester definition in updated *§ 6.14*, there (b_0) and (c)

p. 353, name of **105**

Update to



105 '~~2-[(diethoxyphosphinothioyl)oxy]-1,3,2-dioxaphosphorinane~~'
'phosphorothioic acid *O*-1,3,2-dioxaphosphorinan-2-yl *O*,*O*-diethyl ester'/'*O*-1,3,2-dioxaphosphorinan-2-yl *O*,*O*-diethyl phosphorothioate'

- ~~by (c)~~
- ~~ring > chain (see (b) of *§ 3.3*)~~
- ~~*not* ester (no O–C bond~~; see ester definition in updated *§ 6.14*, there (b_0) and (c)

6.22 Hydroperoxides (Class 11) (Update)

p. 355–357, all formulas

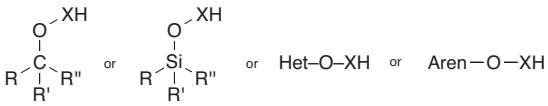
Update atom numberings

The substituted O atom of –O–OH has the locant '1', see, e.g., formulas **2, 4**, and **7–9**.

p. 355, **Definition**

Update to

A hydroperoxide or thiohydroperoxide **1** has a substituent **–O–XH** (X = O, S) *at a C, Si, Sb, Bi, Ge, Sn, Pb, or B atom* of a molecular-skeleton parent. In the following, the term hydroperoxide is employed as a general expression for both chalcogen analogs **1** (X = O, S).



R, R', R'' = H, alkyl, aryl; Het = Sb, Bi, Ge, Sn, Pb, B

1 a hydroperoxide (X = O)
a thiohydroperoxide (X = S)

p. 355, **Notice**, second bullet

Update to

§ 3.2.6 Hydroperoxides have functional-class names according to *§ 3.2.6*, and in the CA index they are registered under the heading parent 'hydroperoxide' or 'thio~ hydroperoxide', e.g., 'hydroperoxide, 3-buten-1-yl' (**2**); see also the multiplicative name **7**.

p. 355, left-hand column

Update to

Instructions are given for:

(a) hydroperoxides with the substituent –O–XH (X = O, S) at a C, Si, Sb, Bi, Ge, Sn, Pb, or B atom (analogously for hydrotrioxides, etc.): class names and substituent prefixes;

(b) pseudohydroperoxides with the substituent –O–XH (X = O, S) at ~~a heteroatom (≠ Si)~~ an N, P, or As atom: substituent prefixes.

p. 355, right-hand column

Update to

Analogously, class names are used for **R–X–X–XH** (X = O, S, Se, Te; R = *acyl*) and **R–X–X–X–XH**, etc. (X = O, S, Se, Te; R = acyl, alkyl, aryl, silyl)[1)], and prefixes for **HX–X–X–**, **HX–X–X–X–**, etc. (H atom not substitutable):

class name

'**hydrotrioxide**' (–O–O–OH)
'**hydrotetraoxide**' (–O–O–O–OH)
'**hydrotrisulfide**' (–S–S–SH)
'**hydrotritelluride**' (–Te–Te–TeH)
etc.[1)]

....

A structure with a **substituent –O–XH, –X–X–XH**, etc., (X = O, S, Se, Te) **at an Sb, Bi, Ge, Sn, Pb, or B atom** is named similarly (however, see *Exceptions* (a) below), e.g., 'trimethylgermyl hydrotrioxide' ($Me_3Ge–O–O–OH$), 'diethylhydroxystannyl hydro~ peroxide' ($Et_2Sn(OH)–O–OH$), and **34**.

Exceptions (a)

- A structure **R–X–X–XH** (X = S, Se, Te; R = *alkyl, aryl, silyl*) is named as **sulfeno(dithioperoxoic), seleneno(diselenoperoxoic), or tellureno(ditelluro~ peroxoic) acid**, e.g., 'ethanesulfeno(dithioperoxoic) acid' (Et–S–S–SH); see (e) of *§ 6.8* and also *Footnote 1*. § 6.8 (e)
- A structure containing **B–O–XH** (X = S, Se, Te) **as part of an acid function** is named as an acid, e.g., '*B*-(aminomethyl)boronoperoxoic acid' ($H_2NCH_2B–OOH$); see (e) of *§6.12*. § 6.12 (e)
- A structure having all H atoms at the Sb, Bi, Ge, Sn, Pb, or B atom replaced by –OH, –OOH, =O, etc., has a **salt-like name** followed by a synonyme line formula, e.g., 'tin hydroperoxide hydroxide ($Sn(OOH)(OH)_3$)' ($Sn(OH)_3–O–OH$).

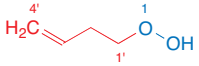
p. 355, *Footnote 2*

Update to

2) The isomeric group HO–S– is called '**sulfeno**-', according to (a) of *§ 6.8*, e.g., '3-sulfenoalanine' ($HO–S–CH_2CH(NH_2)COOH$). Similarly, HS–S– is called '**(thiosulfeno)**-', and HS–Se– '**(thio~ seleneno)**-'.

p. 355, name of **2**

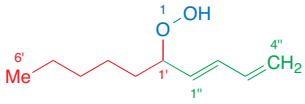
Update to



2 'but-3-en-1-yl hydroperoxide'

p. 356, name of **4**

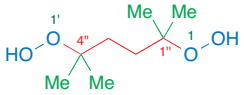
Update to



4 '1-(buta-1,3-dien-1-yl)hexyl hydroperoxide'

p. 356, name of **7**

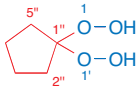
Update to



7 '1,1′-(1,1,4,4-tetramethylbutane-1,4-diyl)bis~ [hydroperoxide]'
CA: 'hydroperoxide, 1,1′-(1,1,4,4-tetramethyl-1,4-butanediyl)bis-', i.e., parentheses are used, and no space is inserted before 'bis-' which is followed exceptionally by a hyphen because of the multiplicative name; the uninverted name is also written without a space

p. 356, name of **8**

Update to

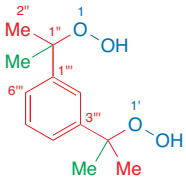


8 '1,1′-cyclopentylidenebis[hydroperoxide]'

CA: 'hydroperoxide, 1,1′-cyclopentylidenebis-; see **7**

p. 356, name of **9**

Update to



9 '1,1′-[1,3-phenylenebis(1-methylethylidene)]bis~[hydroperoxide]'

CA: 'hydroperoxide, 1,1′-[1,3-phenylenebis(1-methyl~ethylidene)]bis-'; see **7**

p. 356, **(b)**

Update to

A substituent **HX–O–** (X = O, S) attached ~~at a hetero-atom different from an Si atom~~ **at an N, P, or As atom** of a heterochain or heterocycle **Y–H** is treated as a **pseudohydroperoxide**. Its name consists of:

prefix

'**hydroperoxy**-'	(HO–O–)
'(**mercaptooxy**)-'[2)]	(HS–O–)[2)]

+

parent name of the heterochain or heterocycle **Y–H**, by *§ 4.3* or *4.5–4.10*

§ 4.3, 4.5–4.10

The senior compound class (not necessarily a hydro~peroxide!) is then determined by possibly present other substituents. Note that HX–O– groups which are part of an acid function are not concerned (see acids of the *Classes* ~~*5c, 5e–g, 5j,* and *5k*~~ *5e–5g* in *Tab. 3.2*, e.g., ~~'benzenesulfonoper~oxoic acid' (Ph–S(=O)$_2$–O–OH), 'peroxymonosulfuric acid' (HO–S(=O)$_2$–O–OH),~~ 'peroxy~nitric acid' (O_2N–O–OH), 'phosphonoperoxoic acid' (HP(=O)(OH)–O–OH)).

Tab. 3.2

Such pseudohydroperoxides are also described ~~in *§ 6.25–6.29* dealing with the N, P, As, Sb, Bi, B, Ge, Sn, and Pb compounds of the *Classes 14–20* (see *Tab. 3.2*)~~ in *§ 6.25* and *6.26* dealing with the N, P, and As compounds of the *Classes 14–16* (see *Tab. 3.2*).

~~§ 6.25–6.29~~ ~~Tab. 3.2~~ § 6.25, 6.26 Tab. 3.2

A prefix is also used for a substituent **HX–O–** (X = O, S) attached **at an N atom of a principal group** (see amides (*Class 6b*), amines (*Class 12*), etc., in *Tab. 3.2*), see, e.g., **35**.

Tab. 3.2

p. 356, name of **15**

Update to

15 '3-hydroperoxydioxaphosphorinane'

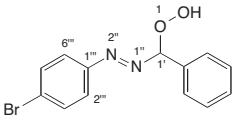
p. 356, name of **16**

Update to

16 '1-ethenylbut-2-en-1-yl hydroperoxide'

p. 357, name of **20**

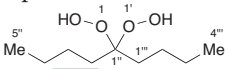
Update to



20 '[2-(4-bromophenyl)diazenyl]phenylmethyl hydroperoxide'

p. 357, name of **22**

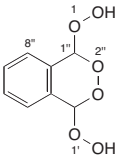
Update to



22 '1,1′-(1-butylpentylidene)bis[hydroperoxide]'

p. 357, name of **23**

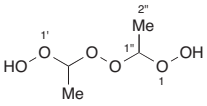
Update to



23 '1,1′-(1,4-dihydro-2,3-benzodioxin-1,4-diyl)bis[hydro~peroxide]'

p. 357, name of **24**

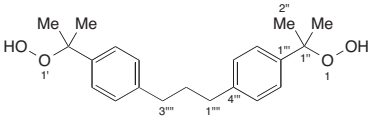
Update to



24 '1,1′-(dioxydiethylidene)bis[hydroperoxide]'

p. 357, name of **25**

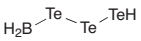
Update to



25 '1,1′-{propane-1,3-diylbis[4,1-phenylene(1-methyl~ethylidene)]}bis[hydroperoxide]'

p. 357, name of **34**

Update to

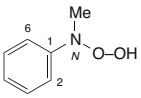


34 ~~'hydrotritelluroborane'~~ 'boryl hydrotritelluride'

~~by (b),~~ by (a) since 2007

p. 357, name of **35**

Update to



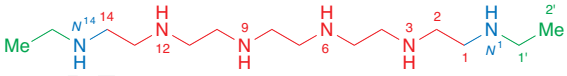
35 '*N*-hydroperoxy-*N*-methylbenzenamine'

by (b); see also (c) of *§ 6.23*

6.23 **Amines** (Class 12) **(Update)**

p. 359, name of **2**

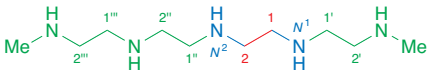
Update to



2 'N^{1},N^{14}-diethyl-3,6,9,12-tetraazatetradecane-1,14-diamine'

p. 359, name of **3**

Update to



3 'N^{1}-[2-(methylamino)ethyl]-N^{2}-{2-{[2-(methylamino)~ethyl]amino}ethyl}ethane-1,2-diamine'
not 'N^{1},N^{11}-dimethyl-3,6,9-triazaundecane-1,11-diamine'
which has only 3 hetero units

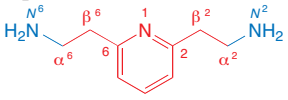
p. 360, **(a)**, line 21

Update to

Examples are **15**–**21**. ~~The locants of the N atoms of a terminal diamine are '*N*' and '*N′*', e.g., '*N*-ethyl-*N′*-methylethane-1,2-diamine' (MeN-HCH$_2$CH$_2$NHEt; see also **27** and **43**). In other acyclic diamines, in triamines, etc., and in case of ambiguity, the locant of the molecular-skeleton parent is superscribed at the locant '*N*', e.g., 'N^{2}-methylpropane-1,2-diamine' (MeCH(NHMe)CH$_2$NH$_2$; see also **58** and **66**).~~ Since 2007, the primes of the letter locants of the N atoms have been replaced by superscript Arabic numerals relating to the molecular-skeleton parent, except in cases where this is impossible (e.g., in **70**) or in some multiplicative names (see, e.g., **40** and **81**), e.g., 'N^{1}-ethyl-N^{2}-methylethane-1,2-diamine' (MeNHCH$_2$CH$_2$NHEt) or 'N^{2}-methylpropane-1,2-diamine' (MeCH(NHMe)CH$_2$NH$_2$); see also **2**, **3**, **14**, **27**, **43**, **58**, **66**, and **67**.

p. 361, name of **14**

Update to



14 'pyridine-2,6-diethanamine'
'α^{2},β^{2}', 'α^{6},β^{6}', and 'N^{2},N^{6}' are now used instead of 'α,β', 'α′,β′', and '*N*,*N′*', i.e., the ring locants are used as superscripts

p. 361, name of **23**

Update to

23 '1-bromo-1,1,1-triphenylphosphoranamine'

p. 361, name of **24**

Update to

24 '1,1,1-tributylstannanamine'

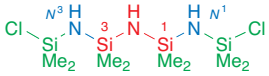
p. 361, name of **25**

Update to

25 '*N*-(cyclohex-1-en-1-yl)-*N*,1,1,1-tetramethyl~silanamine'
not '*N*-methyl-*N*-(trimethylsilyl)cyclohex-1-en~amine'
amine function at SiH$_4$ skeleton > amine funcction at C skeleton, by (b) of *§ 3.3*

p. 362, name of **27**

Update to



27 'N^{1},N^{3}-bis(chlorodimethylsilyl)-1,1,3,3-tetra~methyldisilazane-1,3-diamine'

p. 362, **(b)**

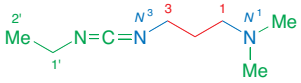
Update to

prefix of the substituent **R″(R′)C=** or **R′–N=C=** by *§ 5.8* and *5.9*, or '**methanetetrayl**-' for **=C=**, as required, preceded by a corresponding letter locant '***N*^{1}', '***N*^{2}', etc., '***N***', '***N′***'
+
name of the primary amine R–NH$_2$

§ 5.8, 5.9

p. 363, name of **43**

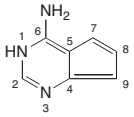
Update to



43 'N^{3}-(ethylcarbonimidoyl)-N^{1},N^{1}-dimethyl~propane-1,3-diamine'

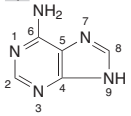
p. 364, name of **65**

Change and replace



65 '~~1*H*-purin-6-amine~~'

by

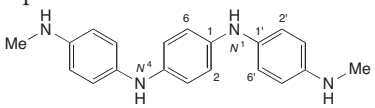


65 '9*H*-purin-6-amine'

- by (a)
- indicated H atom by (a) and (d) of *§ A.5*, i.e., according to the tautomer CIP rule, '9*H*-purin-6-amine' is the preferred tautomer
- trivially '**adenine**' ('**Ade**') or '**vitamin B$_4$**'

p. 365, name of **67**

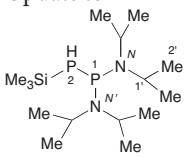
Update to



67 'N^1,N^4-bis[4-(methylamino)phenyl]benzene-1,4-diamine'

p. 365, name of **70**

Update to

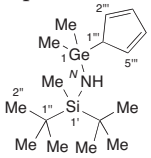


70 '*N*,*N*,*N*′,*N*′-tetrakis(1-methylethyl)-2-(trimethylsilyl)~diphosphine-1,1-diamine'

notice that '*N*' and '*N*′' must be used since the superscript Arabic numeral would be the same, i.e., '1'

p. 365, name of **72**

Update to



72 ~~'*N*-(cyclopenta-2,4-dien-1-yldimethylgermyl)-1,1-bis(1,1-dimethylethyl)-1-methylsilanamine'~~
'*N*-[bis(1,1-dimethylethyl)methylsilyl]-1-(cyclopenta-2,4-dien-1-yl)-1,1-dimethylgermanamine'

- by (a)
- SiH_4 skeleton > < Ge skeleton, by updated (b) of *§ 3.3*

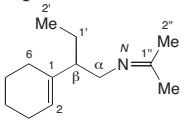
p. 365, name o f **78**

Update to

78 '*N*-prop-2-en-1-ylideneprop-2-en-1-amine'

p. 365, name of **80**

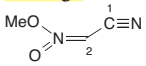
Update to



80 'β-ethyl-*N*-(1-methyl ~~oxy~~ethylidene)cyclohex-1-ene-1-ethanamine'

p. 366, name of **86**

Change to

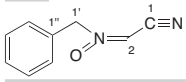


86 ~~'(2*E*)-(methoxyoxidoimino)acetonitrile'~~
'(2*E*)-2-(methyl-*aci*-nitro)acetonitrile'

- by (c)
- '(2*E*)' by *§ A.6.3*
- formerly '(*E*)-(methoxyimino)acetonitrile N^2-oxide'

p. 366, name of **87**

Add



87 '(2*E*)-2-[oxido(phenylmethyl)imino]acetonitrile'

- by (c)
- '(2*E*)' by *§ A.6.3*

6.24 **Imines** (Class 13) **(Update)**

p. 367, right-hand column, second bullet

Update to

A compound $H_3P(=NH)$, $H_3As(=NH)$, $H_3Sb(=NH)$, or $H_3Bi(=NH)$ is a 'phosphine imide', 'arsine imide', 'stibine imide', or 'bismuthine imide', respectively (see (d) of *§ 6.26* and (d) of *§ 6.27*). Since 2007, a group =NH at a P, As, Sb, or Bi atom (resulting valence: V) of a heterocycle ~~is~~ has been denoted by a ~~prefix~~ suffix and the λ convention as an ~~pseudo~~imine (see (b) of *§ 6.26* and (b) of *§ 6.27*~~, and λ convention~~).

§ 6.26 (d), 6.27 (d)

§ A.7

§ 6.26 (b), 6.27 (b)

p. 367, right-hand column, after second bullet

Update to

Instructions are given for:

imines ~~R–C(=NH)–R′~~ R–X(=NH)–R′ (X = C or heteroatom): suffix and ....

p. 367, right-hand column, **Instructions**

Update to

Since 2007, the name of an imine ~~**R–C(=NH)–R′**~~ **R–X(=NH)–R′** (X = C or heteroatom) has consisted ~~consists~~ of:

parent name of the molecular-skeleton parent **R–CH_2–R′ or R–X–R′** (X = heteroatom), by *§ 4.2–4.10*

§ 4.2–4.10

+

suffix '-**imine**' (=NH; H atom *not* substitutable by a C, N (except for ON– and O_2N–), O, or chalcogen atom)

If necessary, multiplying affixes are employed, e.g., 'ethane-1,2-diimine' (HN=CH–CH=NH).

p. 368, left-hand column, lines 5, 11, and 21 from top

Update to

prefix of the substituent **R″–** and **R‴–**, as required, by *§ 5,* in alphabetical order

§ 5, 3.5

+

'-**imino**-'	(HN=)
'-**hydrazinylidene**-'	(H_2N–N=)

The prefix for a substituent **R–C(=NH)–** or **R–C(=NNH_2)–** is also a composite prefix and formed according to *§ 5.8* and *5.9*, i.e., it is an **acyl prefix** according to (c) of *§ 6.7.3*:

§ 5.8, 5.9

§ 6.7.3 (c)

prefix

'**imino**-'	(HN=[C] [2)])
'**hydrazinylidene**-'	(H_2NN=[C] [2)])

+

either **parent-substituent name** of the chain substituent **R–CH_2–** (hydrocarbon or 'a' name), by *§ 5,*

§ 5

or

substituent name of the cyclic or heterochain substituent **R–**, the latter with regularly placed heteroatoms, followed by the parent-substituent name '-**methyl**-' (isolated –C(=[NH])– [2)] or–C(=[NNH_2])– [2)]), by *§ 5*

§ 5

The prefix for R– of the cyclic or heterochain substituent and that for HN= or H_2NN=, i.e., 'imino-' or 'hydrazinylidene-', are arranged in alphabetical order before '-methyl-'.

§ 3.5

p. 368, left-hand column, line 23 from bottom

Update to

Note that since 2007, a substituent **HN=C=** at a single ~~hetero~~atom ~~is always~~ has been denoted by the prefix 'carbonimidoyl-', but only in the presence of a senior principal group, see **11** and **16** vs., e.g., ~~'carbonimidoylphosphine'~~ '1-phospinidenemethan~imine' (HN=C=PH).

6.25 Nitrogen Compounds (Class 14) (Update)

p. 371, left-hand column, lines 7, 11, and 17 from bottom

Update to

Instructions are given for:

(a) N-containing heterocycles;

(b) N-containing heterocycles with special substitution at the N atom (nontraditional esters (= former pseudoesters), former 'unexpressed' amides, former formal hydrazides, and pseudoketones, -alcohols, and -hydroperoxides);

(c) N-containing homogeneous heterochains (incl. azo compounds);

(d) N-containing homogeneous heterochains with special substitution at the N atom (incl. azoxy compounds; nontraditional esters (= former pseudoesters), former pseudoamides, and pseudoketones, -alcohols, and -hydroperoxides);

(e) N-containing heterochains with replacement names;

(f) hydroxylamines (H_2N–OH, H_2N–SH);

(g) sulfoximines (HN=SH_2=O), sulfilimines (HN=SH_2), sulfur diimides (HN=S=NH), sulfur triimides (HN=S(=NH)=NH), sulfimides (HN=S(=O)$_2$), and thionyl imides (HN=S=O), and analogs;

(h) N-containing substituents that are designated only as prefixes (N_2=, N_3–, O=N–, (O=)$_2$N–, HO–N(=O)–, CN–, OCN–, SCN–, SeCN–, TeCN–).

p. 372, **(b)**

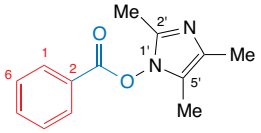
Update to

Since 2007, in the case of an N-containing heterocycle with special substitution at the N atom, a parent name according to (a) ~~is~~ has been used, but no longer without a suffix. *The special substituent ~~is~~ has been designated as a suffix* (see **7**, **9**, and **11**), *as a prefix* (see **8**, **10**, and **13**), *or by an additive name* (see **12**; *§ 3.2.4*). The following compounds are named in this manner: § 3.2.4

- since 2007, a nontraditional ester (= former pseudoester) C**N–X–acyl** (X = O, S, Se, Te), has been named as an ester according to updated (c) of *§ 6.21,* (see ~~also~~ ester definition in updated *§ 6.14*, there (b_0) and (c)), e.g., **7**; § 6.21 (c), 6.14 (b_0) (c)
- since 2007, a former amide C**N–acyl** with the former *seniority of an 'unexpressed amide'*, according to (a_2) of *§ 6.16,* ~~(exceptions: not in the case of an acyl group of formic or carbonic acid and analogs which are aldehydes or carboxylic acids, and not in the case of an acyl group that still contains an acid function or a derivative thereof, e.g., –P(=O)(OH)$_2$ or –C(=O)Cl),~~ has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present, e.g., **8** and **9**; § 6.16 (a_2) Tab. 3.2
- since 2007, a former formal hydrazide ⧙–C**N–N**–**acyl** with the former *seniority of an 'unexpressed amide'*, according to (a_2) of *§ 6.17,* ~~(exceptions: not in the case of an acyl group of formic or carbonic acid and analogs which are aldehydes or carboxylic acids, and not in the case of an acyl group that still contains an acid function or a derivative thereof, e.g., –P(=O)(OH)Cl or –C(=O)Cl),~~ has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present, e.g., **10**; § 6.17 (a_2) Tab. 3.2
- since 2007, a former amide C**N–C(=X)–N**C (X = O, S, Se, Te, NH, NNH_2) with the former *seniority of an 'unexpressed amide'*, according to (c) of *§ 6.20,* has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present, e.g., **11**; § 6.20 (c) Tab. 3.2
- a pseudoketone C**N(=X)–**⧙ (X = O, S, Se, Te) is still named according to (d) of *§ 6.20*, see **12**; § 6.20 (d)
- a pseudoalcohol C**N–XH** (X = O, S, Se, Te) or a pseudohydroperoxide C**N–O–XH** (X = O, S) is still named according to (b) of *§ 6.21* or (b) of *§ 6.22*, e.g., **13**. § 6.21 (b), 6.22 (b)

p. 372, name of **7**

Update to



7 '~~1-(benzoyloxy)-2,4,5-~~trimethyl-~~1*H*-imidazole~~'
'benzoic acid 2,4,5-trimethyl-1*H*-imidazol-1-yl ester'/'2,4,5-trimethyl-1*H*-imidazol-1-yl benzoate'
~~pseudoester, by (c) of *§ 6.21; not*~~ nontraditional ester, ~~(no O–C bond,~~ see ester definition in updated *§ 6.14*, there (b_0) and (c)

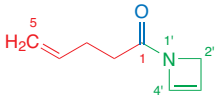
p. 372, name of **8**

Update to

8 '4-[(chloromethyl)sulfonyl]morpholine'
~~amide ('unexpressed amide'), by (a_2) of *§ 6.16*~~
N compound of *Class 14* (*§ 6.25*)

p. 372, name of **9**

Update to



9 '~~1,2-~~di~~hydro-1-~~(1-oxopent-4-enyl)~~azete~~'
'1-(azet-1(2*H*)-yl)pent-4-en-1-one'

- ~~amide ('unexpressed amide'), by (a_2) of *§ 6.16*~~
  ketone , see (c) of *§ 6.20*
- the saturation of one double bond of the molecular-skeleton parent substituent ('azet-1(2*H*)-yl-') is espressed by ~~the prefix 'hydro-'~~ added indicated H atom (see (i_2) of *§ A.5*)

p. 372, name of **10**

Update to

10 '3-(1,1-dimethylethyl)-1-(diphenylphosphinyl)-5-phenyl-1*H*-1,2,4-diazaphosphole'
~~formal hydrazide ('unexpressed amide'), by (a_2) of *§ 6.17*~~
N compound of *Class 14* (*§ 6.25*)

p. 372, name of **11**

Update to

11 '~~1,1′-~~carbonothioylbis[~~piperidine~~]'
'dipiperidin-1-ylmethanethione'
~~amide ('unexpressed amide'), by~~ ketone, see (c) of *§ 6.20*

p. 372, *Notice* (c), first bullet

Update to

An **azo compound** without principal group is considered as a homogeneous heterochain, see **24**–**26**. For azo compounds with principal groups, e.g., –SO_3H, one must proceed according to *§ 3.1* and *3.3*, e.g., § 3.1, 3.3

'4-(2-phenyldiazenyl)benzenesulfonic acid'
(Ph–N=N–C_6H_4–SO_3H),
'4,4′-(diazene-1,2-diyl)bis[benzoic acid]'
(HOOC–C_6H_4–N=N–C_6H_4–COOH).

p. 373, *Notice* (c), after last bullet

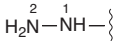
Update to

In the name of a nontraditional ester (see updated *§ 6.14*, there (b_0) and (c)), an N substituent derived from a pseudoalcohol (= nontraditional alcohol) **}>N–XH** (X = O, S, Se, Te) is called '**azanyl**' (e.g., –O–NH_2), '**diazanyl**' (e.g., –O–NH–NH_2), etc.; see **14**, (d), and **31**. § 6.14

~~Former~~ Exceptions (c)

p. 373, name of **14**

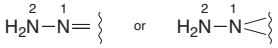
Update to



14 '**hydrazinyl**-'
use '**diazanyl**' in the name of a nontraditional ester (see updated *§6.14*, there (b_0) and (c)), e.g., 'acetic acid diazanyl ester'/'diazanyl acetate' (MeC(=O)–O–$NHNH_2$)

p. 373, name of **15**

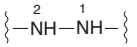
Update to



15 '**hydrazinylidene**-'

p. 373, name of **17**

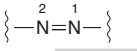
Update to



17 '**hydrazine-1,2-diyl**-'/'**diaziridine**'
free valences leading to different atoms / to the same C atom (e.g., ring component in a spiro structure)

p. 373, name of **18**

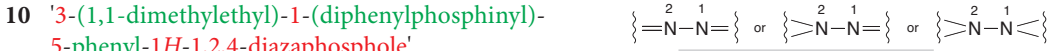
Update to



18 '**diazene-1,2-diyl**-'/'**3*H*-diazirine**'
free valences leading to different atoms / to the same C atom (e.g., ring component in a spiro structure)

p. 373, name of **19**

Update to



19 '**hydrazine-1,2-diylidene**-'

p. 373, name of **24**

Update to

24 '(1*E*)-1,2-diphenyldiazene'

p. 373, name of **25**

Update to

25 '(1*E*)-1-(naphthalen-1-yl)-2-(naphthalen-2-yl)~diazene'

p. 373, name of **26**

Update to

26 '(1*E*)-1-ethenyl-2-phenyldiazene'

p. 373, name of **27**

Update to

27 'diazenyl-'
H ~~not~~ now substitutable in CA, see **29**

p. 373, name of **28**

Update to

28 'triaz-1-en-1-yl-'

p. 373, name of **29**

Update to

29 '~~(~~phenylazo~~)-~~'
'(2-phenyldiazenyl)-'

p. 373–374, **(d)**

Update to

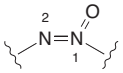
Since 2007, in the case of an N-containing homogeneous heterochain with special substitution at the N atom, a parent name according to (c) ~~is~~ has been used, but no longer without a suffix. *The special substituent ~~is~~ has been designated as a suffix* (see **31**–**35**), *as a prefix* (see **39**–**41**), *or by an additive name* (see **36**–**38**; *§ 3.2.4*).The following compounds are named in this manner: § 3.2.4

- since 2007, a nontraditional ester (= former pseudoester) **}>N–X–acyl** (X = O, S, Se, Te) has been named as an ester according to updated (c) of *§ 6.21* (see ~~also~~ ester definition in updated *§ 6.14*, there (b_0) and (c) ~~as well as the anhydrides of *§ 6.13*~~), e.g., **31**; § 6.21 (c), 6.14(b_0) (c), ~~6.13~~
- since 2007, a former pseudoamide **}>N–acyl** or **}>N–C(=X)–N<{** (X = O, S, Se, Te, NNH_2, ~~, not~~ NH‡), according to (b) of *§ 6.20*, ~~(exceptions: not in the case of an acyl group of formic or carbonic acid and analogs which are aldehydes or carboxylic acids, not in the case of an acyl group that still contains an acid function or a derivative thereof, e.g., –P(=O)(OH)Cl or –C(=O)Cl, and not in the case of H_2N–NH–acyl which is an acid hydrazide)~~, has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present, e.g., **33**–**35**; § 6.20 (b) Tab. 3.2
- a pseudoketone **}>N(=X)–{** (X = O, S, Se, Te) is still named according to (d) of *§ 6.20*, e.g., **36**–**38**; notice the pseudoketone **39**, named according to (h); § 6.20 (d)
- a pseudoalcohol **}>N–XH** (X = O, S, Se, Te) or a pseudohydroperoxide **}>N–O–XH** (X = O, S) is still named according to (b) of *§ 6.21* or (b) of *§ 6.22*, e.g., **40** and **41**. § 6.21 (b), 6.22 (b)

p. 374, *Exception* (d)

Update to

Former Exception (d)

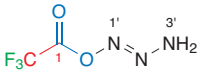


30 '~~**azoxy-**~~'
'**(1-oxidodiazene-1,2-diyl)-**'

- the position of the O atom is specified by the locants '~~*NNO-*~~' or '~~*ONN-*~~' '1' or '2', if known, see **42** and **43**
- ~~in contrast, however, systematically~~ notice: '(**1,2-dioxidodiazene-1,2-diyl**)-' for –**N(=O)=N(=O)**–

p. 374, name of **31**

Update to

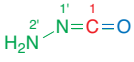


31 '~~1-[(trifluoroacetyl)oxy]triaz-1-ene~~'
'2,2,2-trifluoroacetic acid triaz-1-en-1-yl ester'/
'triaz-1-en-1-yl 2,2,2-trifluoroacetate'

- ~~pseudoester, see (c) of § 6.21; not~~ nontraditional ester ~~(no O–C bond,~~ see ester definition in updated *§ 6.14*, there (b_0) and (c)
- the preferred tautomer would be the 'triaz-2-en-1-yl' ester, according to the tautomer CIP rule 6.1 in CA ¶ 122, cf. **34**, **36**, and **123**

p. 374, name of **32**

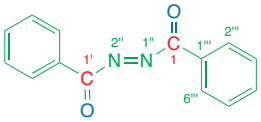
Update to



32 '~~carbonyl~~hydrazine'
'hydrazinylidenemethanone'
~~pseudoamide,~~ ketone, see (b) of *§ 6.20*

p. 374, name of **33**

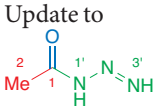
Update to



33 '~~di~~benzoyl~~diazene~~'
'1,1′-(diazene-1,2-diyl)bis[1-phenylmethanone]'
~~pseudoamide,~~ ketone, see (b) of *§ 6.20*

p. 374, name of **34**

Update to

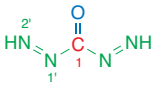


34 '~~1-acetyltriaz-1-ene~~'
'1-(triaz-2-en-1-yl)ethanone'

- ~~pseudoamide,~~ ketone, see (b) of *§ 6.20*
- preferred tautomer according to the tautomer CIP rule 6.1 in CA ¶ 122, cf. **31**, **36**, and **123**

p. 374, name of **35**

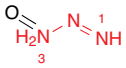
Update to



35 '~~1,1′-carbonylbis[diazene]~~'
'bis(diazenyl)methanone'
~~pseudoamide~~, ketone, see (b) of *§ 6.20*

p. 374, name of **36**

Update to



36 '~~triaz-1-ene 1-oxide~~'
'triaz-1-ene 3-oxide'

- preferred tautomer according to the tautomer CIP rule 6.1 in CA ¶ 122, cf. **31**, **34**, and **123**
- example of a corresponding substituent (preferred tautomer): '(1-oxidotriaz-2-en-1-yl)-' (HN=N–NH(=O)–)

p. 374, name of **37**

Update to

37 '(1*Z*)-1,2-diphenyldiazene 1-oxide'
example of a corresponding substituent: '[4-(1-oxido-2-phenyldiazenyl)phenyl]-' (Ph–N=N(=O)–C_6H_4–)

p. 374, name of **38**

Update to

38 '1-(naphthalen-2-yl)-2-phenyldiazene 2-oxide'

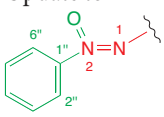
p. 375, name of **41**

Update to

41 '(1*E*)-1-hydroxy-2-phenyldiazene'
the corresponding salt **Ph–N=N–O⁻Na⁺** is named according to (c) of *§ 6.4.2.2*: '(1*E*)-1-hydroxy-2-phenyl diazene sodium salt (1:1)'; IUPAC: 'sodium phenyl~ diazenolate', traditionally '**sodium benzenediazoate**' (IUPAC R-5.3.3.4)

p. 375, name of **42**

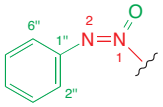
Update to



42 '~~[(1*Z*)-2-phenyl-*ONN*-azoxy]-~~'
'[(1*Z*)-2-phenyl-2-oxidodiazenyl]-'
see former exception **30**

p. 375, name of **43**

Update to



43 '~~(phenyl-*NNO*-azoxy)-~~'
'(2-phenyl-1-oxidodiazenyl)-'
see former exception **30**

p. 375, **(f)**

Update to

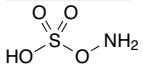
Only the H atom at the chalcogen atom X is substitutable. In the case of substitution at the N atom, an amine, amide, or oxime name is used (see **56**–**58** and *§ 6.23*, *6.16*, *6.19*, and *6.20*), except for substitution by O or halogen atoms (O, F, Cl, Br, I).~~Note that~~ Since 2007, the substituent at the atom X ~~is~~ has no longer always been designated by a prefix; such a structure has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present, see, **44**, **48**–**51**, **54**, and **55**. ~~see, however the exceptions below.~~ § 6.23, 6.16, 6.19, 6.20 Tab.3.2

p. 375, former *Exceptions* (f), first bullet

Update to

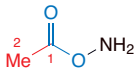
Since 2007, a hydroxylamine substituted at the O atom by –SO_3H or a derivative thereof ~~is~~ has been named as ~~an acid~~ a nontraditional ester according to updated *§ 6.14*, there (b_0) and (c), see **44**, **54**, and **55**. ~~or as an acid derivative of *Class 6*.~~ Since 2007, a nontraditional § 6.14 (b_0) (c)

ester name has also been attributed to other compounds RR'N–X–acyl (X = O, S, Se, Te), see **48**–**51**; notice that names for oximes of aldehydes and ketones are retained.



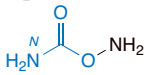
44 '~~**hydroxylamine-*O*-sulfonic acid**~~'
'**sulfuric acid monoazanyl ester**'/
'**azanyl hydrogen sulfate**'
~~compound of *Class 5c* (see *Tab. 3.2* and *§ 6.8*)~~
nontraditional ester, i.e., by updated *§ 6.14*, there (b_0) and (c)

p. 375, name of **48**
Update to



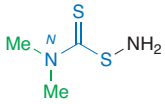
48 '~~*O*-acetyl~~hydroxylamine'
'acetic acid azanyl ester'/'azanyl acetate'
nontraditional ester, i.e., by updated *§ 6.14*, there (b_0) and (c)

p. 375, name of **49**
Update to



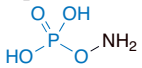
49 '~~*O*-(aminocarbonyl)~~hydroxylamine'
'carbamic acid azanyl ester'/'azanyl carbamate'
nontraditional ester, i.e., by updated *§ 6.14*, there (b_0) and (c)

p. 375, name of **50**
Update to



50 '~~*S*-[(dimethylamino)thioxomethyl]thio~~hydroxylamine'
'*N*,*N*-dimethylcarbamodithioic acid azanyl ester'/'azanyl *N*,*N*-dimethylcarbamodithioate'
nontraditional ester, i.e., by updated *§ 6.14*, there (b_0) and (c)

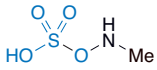
p. 376, name of **51**
Update to



51 '~~*O*-phosphono~~hydroxylamine'
'phosphoric acid monoazanyl ester'/
'azanyl dihydrogen phosphate'
nontraditional ester, i.e., by updated *§ 6.14*, there (b_0) and (c)

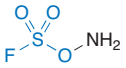
p. 376, name of **53**
Update to
53 '*N*,*N*-dihydroxy-*O*-prop-2-yn-1-ylhydroxyl~amine'

p. 376, name of **54**
Update to



54 '~~*N*-methyl~~hydroxylamine-~~*O*-sulfonic acid~~'
'sulfuric acid mono(methylazanyl) ester'/
'methylazanyl hydrogen sulfate'
- see former exception **44**
- nontraditional ester, i.e., by updated *§ 6.14*, there (b_0) and (c)

p. 376, name of **55**
Update to



55 '~~hydroxylamine-*O*-sulfonyl fluoride~~'
'fluorosulfuric acid azanyl ester'/
'azanyl fluorosulfate'
- see former exception **44**
- nontraditional ester, i.e., by updated *§ 6.14*, there (b_0) and (c)

p. 376, name of **56**
Change to
56 '*N*-hydroxybutan-1-amine'

p. 376, (**g₁**)
Update to
An N-containing structure **HN=SH₂(=O)** or **HN=SH₂** or an Se or Te analog is a ~~molecular-skeleton~~ parent structure of *Class 14* with the parent name '**sulfoximine**'/'**selenoximine**'/'**telluroximine**' or '**sulfilimine**'/'**selenilimine**'/'**tellurilimine**', ranking just below an imine of *Class 13* (with a suffix). Therein all H atoms are substitutable, see **63** and **64**.

Since 2007, if the *N atom* of **63** or **64** or an Se or Te analog carries a substituent with a *senior characteristic group*, implying or not implying the N atom, the following newly introduced prefixes based on the lambda (λ) convention (*§A.7*) have been employed to name the structure moiety derived from **63** or **64**, see **67**–**70**: ~~the parent name **63** or **64** and a prefix must be employed in spite of this since **H₂S=**, $H_2Se=$, or $H_2Te=$ *cannot be have been designated by a prefix*, see **68**–**70.**~~ §A.7

'**(oxido-λ⁴-sulfanylidene)-**'	($H_2S(=O)=$)
'**(oxido-λ⁴-selanylidene)-**'	($H_2Se(=O)=$)
'**(oxido-λ⁴-tellanylidene)-**'	($H_2Te(=O)=$)
'**(oxido-λ⁴-sulfanetetrayl)-**'	(=S(=O)=)
'**(oxido-λ⁴-selanetetrayl)-**'	(=Se(=O)=)
'**(oxido-λ⁴-tellanetetrayl)-**'	(=Te(=O)=)
'**λ⁴-sulfanylidene-**'	($H_2S=$)
'**λ⁴-selanylidene-**'	($H_2Se=$)
'**λ⁴-tellanylidene-**'	($H_2Te=$)
'**λ⁴-sulfanetetrayl-**'	(=S=)
'**λ⁴-selanetetrayl-**'	(=Se=)
'**λ⁴-tellanetetrayl-**'	(=Te=)

Notice: 'oxido' is considered as an additive term (i.e., λ^4 and not λ^6), and all H atoms are substitutable.

p. 376, name of **63**
Update to

63 '~~sulfoximine~~'
'sulfoximine'
- analogously 'selenoximine' and 'telluroximine'
- all H substitutable, e.g., '*S*-ethyl-*S*-methylsulfoximine' (EtS(Me)(=O)=NH), but see **67** and **68**

p. 376, name of **64**

Update to

64 '~~sulfilimine~~'
'sulfilimine'

- analogously 'selenilimine' and 'tellurilimine'
- all H substitutable, e.g., '*S*,*S*-diphenylsulfilimine' (Ph_2S=NH), but see **69** and **70**

p. 376, name of **65**

Update to

65 'sulfonimidoyl-'

- both H substitutable
- analogously 'selenonimidoyl-' and 'telluronimidoyl-'
- 'sulfonimidoyl-' and analogs also for HN=S(O)= and analogs

p. 376, name of **66**

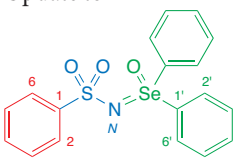
Update to

66 'sulfinimidoyl-'

- both H substitutable
- analogously 'seleninimidoyl-' and 'tellurinimidoyl-~~Tab. 3.2~~
- 'sulfinimidoyl-' and analogs also for HN=S= and analogs

p. 377, name of **67** §6.31

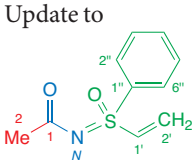
Update to



67 '~~*Se*,*Se*-diphenyl-*N*-(phenylsulfonyl)selen~~oximine'
'*N*-(oxidodiphenyl-λ⁴-selanylidene)benzene~sulfonamide'
amide of *Class 6b* (*§ 6.16*)

p. 377, name of **68**

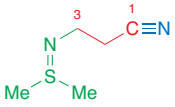
Update to



68 '~~*N*-acetyl-*S*-ethenyl-*S*-phenylsulfoximine~~'
'*N*-(ethenyloxidophenyl-λ⁴-sulfanylidene)acet~amide'
amide of *Class 6b* (*§ 6.16*)

p. 377, name of **69**

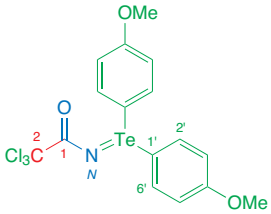
Update to



69 '~~*N*-(2-cyanoethyl)-*S*,*S*-dimethylsulfilimine~~'
'3-[(dimethyl-λ⁴-sulfanylidene)amino]propane~nitrile'
nitrile of *Class 7* (*§ 6.18*)

p. 377, name of **70**

Update to



70 '~~*Te*,*Te*-bis(4-methoxyphenyl)-*N*-(trichloro~acetyl)tellurilimine~~'
'*N*-[bis(4-methoxyphenyl)-λ⁴-tellanylidene]-2,2,2-trichloroacetamide'
amide of *Class 6b* (*§ 6.16*)

p. 377, **(g₂)**

Update to

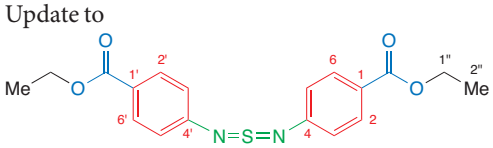
(g₂) *Sulfur diimides, sulfur triimides, and analogs*

An N-containing structure **HN=S=NH** or **S(=NH)₃** (or an Se or Te analog) is a ~~kind of molecular-skeleton~~ parent structure with the parent name '**sulfur diimide**' (**76**) or '**sulfur triimide**' (**77**). ~~Such compounds belong to *Class 1 of highest seniority* (see *Tab. 3.2*~~) Since 2007, these parent structures have been ranked in *Classes 22* (or *23*) (*§ 6.31*) but are described here. All H atoms of **76** and **77** are substitutable. ~~The substituents are always expressed as prefixes.~~ Since 2007, if one (or two or all) *N atom(s)* of **76** or **77** carries a substituent with a *senior characteristic group*, implying or not implying the N atom(s), the following newly introduced prefixes based on the lambda (λ) convention (*§A.7*) have §A.7 been employed to name the structure moiety derived from **76** or **77**, see **78**–**80**:

'**λ⁴-sulfanylidene-**'	(H_2S=)
'**λ⁴-selanylidene-**'	(H_2Se=)
'**λ⁴-tellanylidene-**'	(H_2Te=)
'**λ⁴-sulfanetetrayl-**'	(=S=)
'**λ⁴-selanetetrayl-**'	(=Se=)
'**λ⁴-tellanetetrayl-**'	(=Te=)
'**λ⁶-sulfanylidene-**'	(H_4S=)
'**λ⁶-selanylidene-**'	(H_4Se=)
'**λ⁶-tellanylidene-**'	(H_4Te=)
'**λ⁶-sulfanetetrayl-**'	(=SH_2=)
'**λ⁶-selanetetrayl-**'	(=SeH_2=)
'**λ⁶-tellanetetrayl-**'	(=TeH_2=)
'**λ⁶-sulfanehexayl-**'	(=S(=)=)
'**λ⁶-selanehexayl-**'	(=Se(=)=)
'**λ⁶-tellanehexayl-**'	(=T(=)=)

p. 377, name of **78**

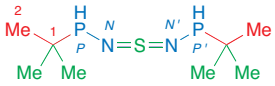
Update to



78 '~~bis[4-(ethoxycarbonyl)phenyl]sulfur diimide~~'
'4,4′-(λ⁴-sulfantetrayldinitrilo)bis[benzoic acid] 1,1′-diethyl ester'/'1,1′-diethyl 4,4′-(λ⁴-sulfan~ylidenedinitrilo)bis[benzoate]'
ester of an exotic acid and a common alcohol, i.e., by (c) of *§ 6.14*

p. 377, name of **79**

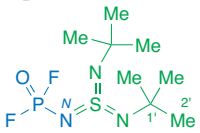
Update to



79 '~~bis~~[(1,1-~~dimethylethyl~~)phosphino]~~sulfur diimide~~'
'*N,N′*-λ⁴-sulfanetetraylbis[*P*-(1,1-dimethylethyl)phosphinous amide]'
amide of *Class 6b* (*§ 6.16*)

p. 378, name of **80**

Update to



80 '~~(difluorophosphinyl)bis(1,1-dimethylethyl)sulfur triimide~~'
'*N*-{bis[(1,1-dimethylethyl)imino]-λ⁶-sulfanylidene}phosphoramidic difluoride'
acid halide of *Class 6a* (*§ 6.15*)

p. 378, (**g₃**)

Update to

(g₃) *Sulfimides, thionyl imides, and analogs*

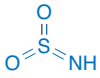
An N-containing structure **HN=S(=O)₂** or **HN=S=O** (or presumably an Se or Te analog) is a ~~molecular skeleton~~ parent structure of *Class 14* with the parent name '**sulfimide**' (**81**) or '**thionyl imide**' (**82**), ranking just below an imine of *Class 13* (with suffix). Therein the H atom is substitutable. ~~The substituent is expressed as prefix.~~

If the *N atom* of **81** or **82** (or an Se or Te analog) is substituted such that, implying or not implying the N atom, the *resulting compound is senior* to one of type **81** or **82** (or an analog), the acyl prefixes '**sulfonyl**-' (S(=O)₂=) or '**sulfinyl**-' (S(=O)=) (or an analog) or a composite prefix such as **83** or **84** must be employed (see (d) of *§ 6.8* or (d₂) of *§ 6.16* and **86**–**88**), or other names must be given.

§ 6.8 (d), 6.16 (d₂)

p. 378, name of **81**

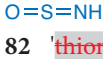
Update to



81 '~~sulfimide~~'
'sulfimide'

p. 378, name of **82**

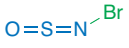
Update to



82 '~~thionyl imide~~'
'thionyl imide'

p. 378, name of **85**

Update to



85 '~~bromothionyl imide~~'
'bromothionyl imide'

p. 378, name of **86**

Change to

86 '*N*-sulfinylpropan-1-amine'
compound of *Class 12* (*§ 6.23*)

p. 378, name of **91**

Update to

91 '**nitroso**-'
S=N– is called '(thionitroso)-'

p. 378, name of **93**

Update to

93 '***aci*-nitro**-'
H substitutable, e.g., '(methyl-*aci*-nitro)-' (MeO–N(=O)=)

p. 379, name of **100**

Update to

100 '2-diazoacetic acid'

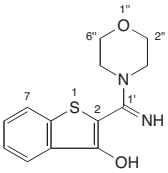
p. 379, name of **110**

Update to

110 'decahydro-1-[(4-methylphenyl)sulfonyl]azecine'
by (b), ~~'unexpressed amide'~~ N compound of *Class 14* (*§ 6.25*)

p. 379, name of **111**

Update to



111 '~~4-[(3-hydroxybenzo[*b*]thien-2-yl)iminomethyl]morpholine~~'
'2-(iminomorpholin-4-ylmethyl)benzo[*b*]thiophen-3-ol'
by (b), ~~'unexpressed amide~~ alcohol of *Class 10* (*§ 6.21*)

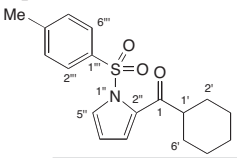
p. 379, name of **112**

Update to

112 '4,4′,4″-phosphinothioylidynetris[morpholine]'
by (b), ~~'unexpressed amide~~ N compound of *Class 14* (*§ 6.25*)

p. 379, name of **113**

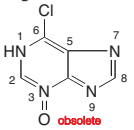
Update to



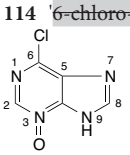
113 '~~2-(cyclohexylcarbonyl)-1-[(4-methylphenyl)sulfonyl]-1*H*-pyrrole~~'
'cyclohexyl{1-[(4-methylphenyl)sulfonyl]-1*H*-pyrrol-2-yl}methanone'
by (b), ~~'unexpressed amide' (no characteristic group with suffix at the N-containing heterocycle)~~ ketone of *Class 9* (*§ 6.20*)

p. 379, name of **114**

Update to



114 '~~6-chloro-1*H*-purine 3-oxide~~'



114 '6-chloro-9*H*-purine 3-oxide'

- by (b), pseudoketone
- additive name (=O at N^{III})
- example of a corresponding substituent: '(6-chloro-3-oxido-9*H*-purin-9-yl)-'
- indicated H atom by (a) and (d) of *§A.5*, i.e., the '9*H*-purine' derivative is the preferred tautomer

p. 380, name of **119**

Update to

119 '1-(naphthalen-2-ylthio)-2-phenyldiazene'

p. 380, name of **120**

Update to

120 '(1*E*)-1-{4-[(1*E*)-2-(naphthalen-1-yl)diazenyl]phenyl}-2-phenyldiazene'
'[(naphthalenyl**d**iazenyl)phenyl]phenyl' > 'naphthalenyl[(**p**henyl~diazenyl)phenyl]' by (m) of *§ 3.3*

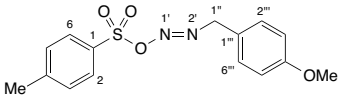
p. 380, name of **121**

Update to

121 '1-[4-(2-hydroxydiazenyl)phenyl]-2-(4-nitrophenyl)~diazene'
'[(hydroxy**d**iazenyl)phenyl](nitrophenyl)' > 'hydroxy{[(**n**itrophenyl)~diazenyl]phenyl}' by (m) of *§ 3.3*

p. 380, name of **122**

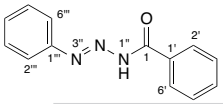
Update to



122 ~~'[(4-methoxyphenyl)methyl]{[(4-methylphenyl)~sulfonyl]oxy}diazene'~~
'4-methylbenzenesulfonic acid 2-[(4-methoxyphenyl)~methyl]diazenyl ester'/'2-[(4-methoxyphenyl)~methyl]diazenyl 4-methylbenzenesulfonate'
by (d), ~~pseudoester~~ nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*

p. 380, name of **123**

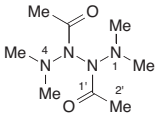
Update to



123 ~~'1-benzoyl-3-phenyltriaz-1-ene'~~
'phenyl(3-phenyltriaz-2-en-1-yl)methanone'
by (d), ~~pseudoamide~~ ketone of *Class 9* (*§ 6.20*)

p. 380, name of **124**

Update to



124 '2,3-diacetyl-1,1,4,4-tetramethyltetrazane'
- not '1,1′-[1,2-bis(dimethylamino)hydrazine-1,2-diyl]bis[ethanone]' or 'acetic acid 2-acetyl-1,2-bis(dimehtylaminno)hydrazide' since *generally, homogenous N heterochains are not broken* (CA)
- by (d), ~~pseudoamide~~ N compound of *Class 14* (*§ 6.25*)

p. 380, name of **125**

Update to

125 'diazene 1-oxide'
substituent, e.g., '~~*NNO*-azoxy-~~ '(1-oxidodiazene-1,2-diyl)-' (–N=N(=O)–)

p. 380, name of **126**

Update to

126 '(1*Z*)-1,2-diphenyldiazene 1,2-dioxide'
example of a corresponding substituent: '[(1,2-dioxidodiazene-1,2-diyl)~di-4,1-phenylene]-' (–C_6H_4–N(=O)=N(=O)–C_6H_4–),
linking substituent for multiplicative names, see *§ 3.2.3*

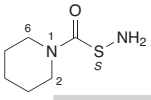
p. 380, name of **127**

Update to

127 '(1*Z*)-1-methoxy-2-methyldiazene 2-oxide'

p. 380, name of **129**

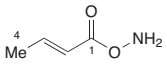
Update to



129 ~~*S*-(piperidin-1-ylcarbonyl)thiohydroxylamine~~
'piperidine-1-carbothioic acid *S*-azanyl ester'/'*S*-azanyl piperidine-1-carbothioate'
by (f), nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*

p. 380, name of **130**

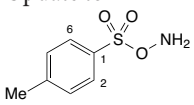
Update to



130 ~~*O*-(1-oxobut-2-enyl)hydroxylamine~~
'but-2-enoic acid azanyl ester'/'azanyl but-2-enoate'
by (f), nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*

p. 380, name of **131**

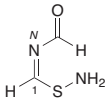
Update to



131 ~~*O*-[(4-methylphenyl)sulfonyl]hydroxylamine~~
'4-methylbenzenesulfonic acid azanyl ester)'/'azanyl 4-methylbenzenesulfonate'
by (f), nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*

p. 380, name of **132**

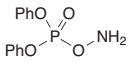
Update to



132 ~~*S*-[(formylimino)methyl]thiohydroxylamine~~
'*N*-formylmethanimidothioic acid azanyl ester'/'azanyl *N*-formylmethanimidothioate'
- by (f), nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*)
- ~~presumably, the name of **132** should be '1-(formylimino)methanesulfenamide' since amide > thiohydroxylamine, see **59** and **145** (exceptions (f))~~

p. 380, name of **133**

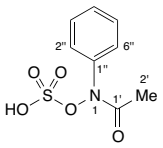
Update to



133 ~~*O*-(diphenoxyphosphinyl)hydroxylamine~~
'phosphoric acid azanyl diphenyl ester'/'azanyl diphenyl phosphate'
by (f), nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*

p. 381, name of **137**

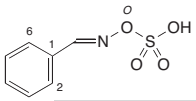
Update to



137 ~~*N*-acetyl-*N*-phenylhydroxylamine-*O*-sulfonic acid~~
'sulfuric acid mono(acetylphenylazanyl) ester'/'acetylphenylazanyl hydrogen sulfate'
- by (f), nontraditional ester, i.e., by (b_0) and(c) of updated *§ 6.14*
- see former exception **44**

p. 381, name of **138**

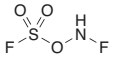
Update to



138 ~~*N*-(phenylmethylene)hydroxylamine-*O*-sulfonic acid~~
'benzaldehyde *O*-sulfooxime'
- by (f); the name of an oxime is retained, see updated *§ 6.14*
- see former exception ~~**44**; sulfonic acid > oxime~~

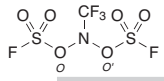
p. 381, name of **139**

Update to



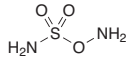
139 ~~*N*-fluorohydroxylamine-*O*-sulfonyl fluoride~~
'fluorosulfuric acid fluoroazanyl ester'/'fluoroazanyl fluorosulfate'
- by (f), nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*
- see former exception **44**

p. 381, name of **140**
Update to



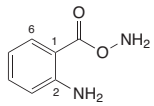
140 '~~*N*-[(fluorosulfonyl)oxy]-*N*-(trifluoromethyl)~~ ~~hydroxylamine-*O*-sulfonyl fluoride~~'
'fluorosulfuric acid *O,O′*-[(trifluoromethyl)azanylidene] ester'/'*O,O′*-[(trifluoromethyl)azanylidene] bis[fluorosulfate]'
- by (f), nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*
- see former exception **44**

p. 381, name of **141**
Update to



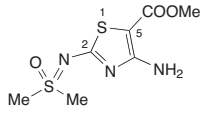
141 '~~hydroxylamine-*O*-sulfonamide~~'
'sulfamic acid azanyl ester'/'azanyl sulfamate'
- by (f), nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*
- see former exception **44**

p. 381, name of **147**
Update to



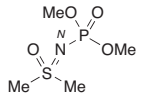
147 '~~2-[(aminooxy)carbonyl]benzenamine~~'
'2-aminobenzoic acid azanyl ester'/'azanyl 2-aminobenzoate'
- by (f), nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*
- ~~amine > hydroxylamine, i.e., compound of *Class12* (§ 6.23)~~

p. 381, name of **148**
Update to



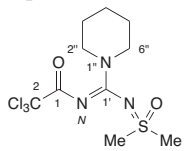
148 '~~*N*-[4-amino-5-(methoxycarbonyl)thiazol-2-yl]-~~ ~~*S,S*-dimethylsulfoximine~~'
'4-amino-2-[(dimethyloxido-λ^4-sulfanylidene)amino]~ thiazol-5-carboxylic acid methyl ester'/'methyl 4-amino-2-[(dimethyloxido-λ^4-sulfanylidene)amino]thiazol-2-carboxylate'

p. 381, name of **149**
Update to



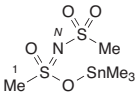
149 '~~*N*-(dimethoxyphosphinyl)-*S,S*-dimethylsulfoximine~~'
'*N*-(dimethyloxido-λ^4-sulfanylidene)phosphoramidic acid dimethyl ester'/'dimethyl *N*-(dimethyloxido-λ^4-sulfanylidene)phosphoramidate'

p. 381, name of **150**
Update to



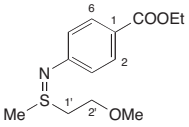
150 '~~*S,S*-dimethyl-*N*-{piperidin-1-yl[(trichloroacetyl)imino]~ methyl}sulfoximine~~'
'2,2,2-trichloro-*N*-{[(dimethyloxido-λ^4-sulfanylidene)~ amino]piperidin-1-ylmethylene}acetamide'

p. 381, name of **151**
Update to



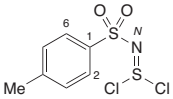
151 '~~*S*-methyl-*N*-(methylsulfonyl)-*S*-[(trimethylstannyl)oxy]~ sulfoximine~~'
'*N*-(methylsulfonyl)methanesulfonimidic acid trimethylstannyl ester'/'trimethylstannyl *N*-(methyl~ sulfonyl)methanesulfonimidate'
by (g_i), nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*

p. 381, name of **152**
Update to



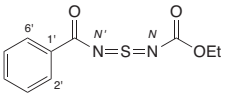
152 '~~*N*-[4-(ethoxycarbonyl)phenyl]-*S*-(2-methoxyethyl)-~~ ~~*S*-methylsulfilimine~~'
'4-{[(2-methoxyethyl)methyl-λ^4-sulfanylidene]amino}~ benzoic acid ethyl ester'/'ethyl 4-{[(2-methoxyethyl)~ methyl-λ^4-sulfanylidene]amino}benzoate'

p. 382, name of **155**
Update to



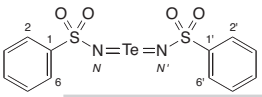
155 '~~[(4-methylphenyl)sulfonyl]imidosulfurous dichloride~~'
'*N*-(dichloro-λ^4-sulfanylidene)-4-methylbenzenesulfon~ amide'

p. 382, name of **156**
Update to



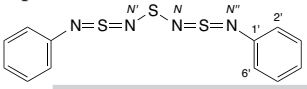
156 '~~benzoyl(ethoxycarbonyl)sulfur diimide~~'
'*N*-(*N*-benzoylsulfinimidoyl)carbamic acid ethyl ester'/'ethyl *N*-(*N*-benzoylsulfinimidoyl)carbamate'
- by ~~(g_s)~~ (g_i)
- ~~compound~~ ester of *Class 6* (*§ 6.14*, see *Tab. 3.2*)

p. 382, name of **157**
Update to



157 '~~bis(phenylsulfonyl)tellurium diimide~~'
'*N*,*N′*-λ^4-tellanetetraylbis[benzenesulfonamide]'
~~compound~~ amide of *Class 6b* (*§ 6.16*, see *Tab. 3.2*)

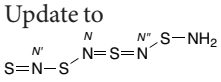
p. 382, name of **158**
Update to



158 '~~*N*,*N″*-thiobis[*N′*-phenylsulfur diimide]~~'
'*N*,*N′*-bis(*N*-phenylsulfinimidoyl)sulfoxylic diamide'
- by ~~(g_s)~~ (g_i)
- ~~compound~~ amide of *Class 6b* (*cf. Class 5e*, see *Tab. 3.2*)

p. 382, name of **159**

Update to



159 '~~(aminothio)[(thionitroso)thio]sulfur diimide~~'
'*N*-[*N*-(aminothio)sulfinimidoyl)-*N′*-thioxosulfoxylic diamide'

- by ~~(g_2)~~ (g_1)
- ~~compound~~ amide of *Class 6b* (*cf. Class 5e*, see *Tab. 3.2*)
- not '*N*-{*N*-[(thionitroso)thio]sulfinimidoyl}sulfoxylic diamide', by *§3.3(j)*

p. 382, name of **168**

Update to

168 '1-[(1-isocyanobut-3-en-1-yl)sulfonyl]-4-methylbenzene'

6.26 Phosphorus and Arsenic Compounds (Classes 15 and 16) (Update)

p. 383, left-hand column, 6th bullet from top

Update to

nitriles (e.g., NC–PHPHPH–CN; cf. 2nd bullet above), see *Class 7* (*§ 6.18*); §6.18

p. 383, left-hand column, 9th bullet from top

Update to

amines (e.g., H_2N–PHPHPH–NH_2; cf. 2nd bullet above; *caution*: mono- and dinuclear representatives are amides of oxoacids, see above), see *Class 12* (*§ 6.23*); §6.23

p. 383, left-hand column, lines 5, 6, and 10 from bottom

Update to

Instructions are given for:

(a) P- or As-containing heterocycles;

(b) P- or As-containing heterocycles with special substitution at the P or As atom (nontraditional esters (= former pseudoesters), pseudoacids, -ketones, ~~-imines,~~ -alcohols, and -hydroperoxides);

(c) P- or As-containing homogeneous heterochains;

(d) P- or As-containing homogeneous heterochains with special substitution at the P or As atom (nontraditional esters (= former pseudoesters), pseudoacids, -ketones, -alcohols, and -hydroperoxides; 'phosphine oxide', 'phosphine sulfide', 'phosphine imide', etc.);

(e) P- or As-containing heterochains with replacement names.

p. 384, **(b)**

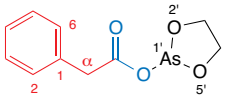
Update to

Since 2007, in the case of a P- or As-containing heterocycle with special substitution at the P or As atom, a parent name according to (a) ~~is~~ has been used, but no longer without a suffix. *The special substituent ~~is~~ has been designated as a suffix* (see **7**–**9** and **13**), *as a prefix* (see **12**), *or by an additive name* (see **10**–**12**; *§ 3.2.4*). The following compounds are named in this manner: §3.2.4

- since 2007, a nontraditional esters (= former pseudoester) **CP–X–acyl** or **CAs–X–acyl** (X = O, S, Se, Te), has been named as an ester according to updated (c) of *§ 6.21* (see ~~also~~ ester definition in updated *§ 6.14*, there (b_0) and (c)), e.g., **7**; §6.21 (c), 6.14 (b_0)(c)
- a pseudoacid, a pseudoester, or a pseudoacid halide **CP(=X)(Y)** or **CAs(=X)(Y)** (X = O, S, Se, Te; Y = OH, OR, Hal) is treated like a pseudoketone or a pseudoalcohol, according to (d) of *§ 6.20* or (b) of *§ 6.21*, e.g., **11** and **12**; §6.20 (d), 6.21 (b)
- since 2007, a *P*- or *As*-acyl-substituted heterocycle **CP–acyl** or **CAs–acyl**, according to (c) of *§ 6.20*, ~~(exceptions: not in the case of an acyl group of formic or carbonic acid and analogs which are aldehydes or carboxylic acids, and not in the case of an acyl group that still contains an acid function or a derivative thereof, e.g., –S(=O)$_2$OH or –C(=O)Cl),~~ has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present, e.g., **8**; §6.20 (c) Tab. 3.2
- since 2007, a former pseudoketone **CP–C(=X)–P**C or **CAs–C(=X)–As**C (X = O, S, Se, Te), according to (c) of *§ 6.20*, has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present, e.g., **9**; §6.20 (c) Tab. 3.2
- a pseudoketone ~~(or a pseudoimine)~~ **CP(=X)–**{ or **CAs(=X)–**{ (X = O, S, Se, Te~~, (NH)~~) is still named according to (d) of *§ 6.20* (*notice*: since 2007, in the case of ~~a pseudoimine~~ an imine (X = NH), a ~~prefix~~ suffix and the λ convention has been ~~is~~ used and not an additive name, see **13**), see **10**–**12**; §6.20 (d) §A.7
- a pseudoalcohol **CP–XH** or **CAs–XH** (X = O, S, Se, Te) or a pseudohydroperoxide **CP–O–XH** or **CAs–O–XH** (X = O, S) is still named according to (b) of *§ 6.21* or (b) of *§ 6.22*, e.g., **12**. §6.21 (b), 6.22 (b)

p. 384, name of **7**

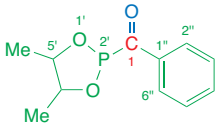
Update to



7 '~~2-[(phenylacetyl)oxy]-1,3,2-dioxarsolane~~'
'benzeneacetic acid 1,3,2-dioxarsolan-2-yl ester'/'1,3,2-dioxarsolan-2-yl benzeneacetate'
~~pseudoester, see (c) of *§ 6.21*; *not*~~ nontraditional ester, ~~(no O–C bond;~~ see ester definition in updated *§ 6.14*, there (b_0) and (c)

p. 384, name of **8**

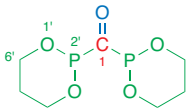
Update to



8 '~~2-benzoyl-4,5-~~dimethyl~~-1,3,2-dioxaphos~~pholane'
'(4,5-dimethyl-1,3,2-dioxaphospholan-2-yl)phenylmethanone'
P-acyl substituent ~~(pseudoketone)~~, ketone, see (c) of *§ 6.20*

p. 384, name of **9**

Update to



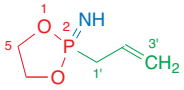
9 '~~2,2'-~~carbonyl~~bis[1,3,2-dioxaphosphorinane]~~' 'bis(1,3,2-dioxaphosphorinan-2-yl)methanone'

~~pseudoketone,~~ ketone, see (c) of *§ 6.20*

p. 384, name of **13**

Update to

§ 6.20 (d)
§ 3.2.4



13 '~~2,2-dihydro-2-imino-2-(prop-2-enyl)-1,3,2-dioxaphospholane~~'

'2-(prop-2-en-1-yl)-2λ^5-1,3,2-dioxaphospholan-2-imine'

- ~~pseudo~~imine; *not* 'imide'
- for '~~dihydro~~' '2λ^5', see λ convention, *§ A.7*

p. 385–386, **(d)**

Update to

§ 3.2.4

Since 2007, in the case of a P- or As-containing homogeneous heterochain with special substitution at the P or As atom, a parent name according to (c) ~~is~~ has been used, but no longer without a suffix. *The special substituent has been ~~is~~ designated as a suffix* (see **35**–**38** and **49**), *as a prefix* (see **39**–**42**, **45**–**48**, and **50**), *or by an additive name* (see **39**, **43**, **44**, **48**, and **50**; *§ 3.2.4*). The following compounds are named in this manner (notice the exceptions (see below): oxoacids and **32**–**34**):

- since 2007, a nontraditional ester (= former pseudoester) ⧘>**P–X–acyl** or ⧘>**As–X–acyl**, or ⧘**P^V–X–acyl** or ⧘**As^V–X–acyl** (X = O, S, Se, Te) has been named as an ester according to updated (c) of *§ 6.21* (see ~~also~~ ester definition in updated *§ 6.14*, there (b$_0$) and (c), as well as the anhydrides of *§ 6.13*), e.g., **35** and **36**;

§ 6.21 (c), 6.14, 6.13

- a pseudoacid, pseudoester, or pseudoacid halide ⧘>**P(=X)(Y)** or ⧘>**As(=X)(Y)** (X = O, S, Se, Te; Y = OH, OR, Hal) is treated like a pseudoketone or a pseudoalcohol, according to (d) of *§ 6.20* or (b) of *§ 6.21*, e.g., **48**;

§ 6.20 (d), 6.21 (b)

- since 2007, a *P*- or *As*-acyl-substituted homogeneous heterochain ⧘>**P–acyl** or ⧘>**As–acyl**, or ⧘**P^V–acyl** or ⧘**As^V–acyl**, according to (b) of *§ 6.20*, ~~(exceptions: not in the case of an acyl group of formic or carbonic acid and analogs which are aldehydes or carboxylic acids, and not in the case of an acyl group that still contains an acid function or a derivative thereof, e.g., –S(=O)$_2$OH or –C(=O)Cl;~~ has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present; *caution* in the case of P- or As-containing acyl groups, see, e.g., **84**, **85**, **88**, and **89**), e.g., **37**–**39** and **49**;

§ 6.20 (b)

Tab. 3.2

- a pseudoketone ⧘–**P(=X)** or ⧘–**As(=X)**, or ⧘>**P(=X)**–⧘ or ⧘>**As(=X)**–⧘ (X = O, S, Se, Te) is still named according to (d) of *§ 6.20* (*caution*: for ⧘–P=NH or ⧘–As=NH, the imine suffix is used, see *§ 6.24*), e.g., **40**–**44** and **48** as well as the exceptions **32**–**34** and **49**–**52**;

§ 6.20 (d)
§ 6.24

- a pseudoalcohol ⧘>**P–XH** or ⧘>**As–XH** or ⧘**P^V–XH** or ⧘**As^V–XH** (X = O, S, Se, Te) or a pseudohydroperoxide is still named according to (b) of *§ 6.21* or (b) of *6.22*, e.g., **45**–**48**.

§ 6.21 (b), 6.22 (b)

p. 386, *Exceptions* (d), second bullet

Update to

- A pseudoketone or pseudoimine of a *mononuclear* formal phosphorane or arsorane, i.e., **PH$_3$(=X)** or **AsH$_3$(=X)** (X = O, S, Se, Te, NH), is not named substitutively by means of a prefix according to (d) of *§ 6.20* but by means of additive nomenclature (*§ 3.2.4*) as '**oxide**', '**sulfide**', etc., or '**imide**', see **32**–**34**. These parent names are index heading parents (CA), and the H atoms at the P or As atom as well as at the N atom of **32**–**34** are substitutable (*caution*: oxoacids and derivatives are senior, see just above; also hydroxylamines are senior, see **92**):

p. 386, name of **32**

Update to

^{1}PH$_3$(=O) / ^{1}AsH$_3$(=O)

32 '**phosphine oxide**'/'**arsine oxide**'

non-functional molecular-skeleton parent, i.e., the position of substituents is specified by the locant '1' (not '*P*' or '*As*', cf. **34**)

p. 386, name of **33**

Update to

^{1}PH$_3$(=S) / ^{1}AsH$_3$(=S)

33 '**phosphine sulfide**'/'**arsine sulfide**'

non-functional molecular-skeleton parent, i.e., the position of substituents is specified by the locant '1' (not '*P*' or '*As*', cf. **34**)

p. 386, name of **34**

Update to

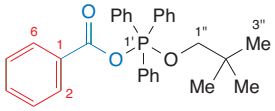
^{P}PH$_3$(=^{N}NH) / ^{As}AsH$_3$(=^{N}NH)

34 '**phosphine imide**'/'**arsine imide**'

since **34** is considered as a functional parent, the position of substituents is specified by the locants '*P*', '*As*', or '*N*', see **52** ~~and **92**~~ (cf. **32** and **33**)

p. 387, name of **35**

Update to

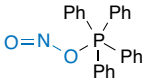


35 '~~(benzoyloxy)(2,2-dimethylpropoxy)triphenyl~~phosphorane'

'benzoic acid (2,2-dimethylpropoxy)triphenyl~phosphoranyl ester'/'(2,2-dimethylpropoxy)~triphenylphosphoranyl benzoate'

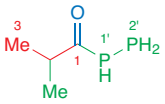
- ~~pseudoester, see (c) of *§ 6.21*; *not*~~ nontraditional ester, ~~(no O–C bond;~~ see ester definition in updated *§ 6.14*, there (b$_0$) and (c)
- IUPAC: preferably '~~(benzoyloxy)(2,2-dimethylpropoxy)triphenyl-λ^5-phosphane~~' '(2,2-dimethylpropoxy)triphenyl-λ^5-phosphanyl benzoate'

p. 387, name of **36**
Update to



36 '~~(nitrosooxy)~~tetra~~phenylphosphorane~~'
'nitrous acid tetraphenylphosphoranyl ester'/
'tetraphenylphosphoranyl nitrite'
- ~~pseudoester, see (c) of *§ 6.21; not*~~ nontraditional ester, ~~(no O–C bond;~~ see ester definition in updated *§ 6.14*, there (b_0) and (c)
- IUPAC: preferably '~~(nitrosooxy)tetraphenyl-λ⁵-phosphane~~' 'tetraphenyl-λ⁵-phosphanyl nitrite'

p. 387, name of **37**
Update to



37 '~~1-(2-methyl-1-oxopropyl)diphosphine~~'
'1-diphosphinyl-2-methylpropan-1-one'
- *P*-acyl substituent ~~(pseudoketone)~~, ketone, see (b) of *§ 6.20*
- IUPAC: preferably '~~1-(2-methylpropanoyl)diphosphane~~' '1-diphosphanyl-2-methylpropan-1-one'

p. 387, name of **38**
Update to

38 '~~carbonylphosphine~~'
'phosphinidenemethanone'
- *P*-acyl substituent ~~(pseudoketone)~~, ketone, see (b) of *§ 6.20*
- IUPAC: preferably '~~carbonylphosphane~~' 'phosphan~ylidenemethanone'

p. 387, name of **40**
Update to
40 '1,2-dioxodiphosphine'
- IUPAC: preferably '~~dioxodiphosphane~~' 'diphosphane-1,2-dione'

p. 387, name of **41**
Update to
41 '1,3-dithioxotriphosphine'
- IUPAC: preferably '~~dithioxotriphosphane~~' 'triphos~phane-1,3-dithione'

p. 387, name of **42**
Update to
42 'methyloxoarsine'
- IUPAC: preferably '~~methyloxoarsane~~' 'methylarsanone'

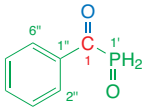
p. 387, name of **45**
Update to
45 'hydroxytetramethylarsorane'
- IUPAC: preferably '~~hydroxytetramethyl-λ⁵-arsane~~' 'tetramethyl-λ⁵-arsanol'

p. 387, name of **46**
Update to
46 'mercaptophosphorane'
- IUPAC: preferably '~~sulfanyl-λ⁵-phosphane~~' 'λ⁵-phosphanethiol'

p. 387, name of **47**
Update to
47 '(1*E*)-hydroxydiphosphene'
- IUPAC: '(1*E*)-diphosphenol'

p. 387, name of **48**
Update to
48 '1,1,2,3,3-pentamercaptotriphosphine 2-oxide 1,3-disulfide'
- IUPAC: preferably '~~1,1,2,3,3-pentasulfanyltriphosphane 2-oxide 1,3-disulfide~~' 'triphosphane-1,1,2,3,3-pentathiol 2-oxide 1,3-disulfide'

p. 387, name of **49**
Update to

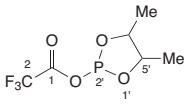


49 '~~benzoylphosphine oxide~~'
'phenylphosphinylmethanone'
- ~~exception **32** and~~ *P*-acyl substituent, ~~(pseudoketone),~~ ketone, see (b) of *§ 6.20*
- IUPAC: ~~preferably~~ '~~benzoylphosphane oxide~~' 'phenylphosphin**o**ylmethanone'

p. 387, name of **50**
Update to

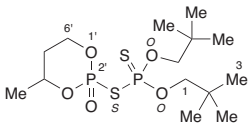
50 'methylthioxophosphine sulfide'
- IUPAC: preferably '~~methylthioxophosphane sulfide~~' 'methylphosphanethione sulfide'

p. 388, name of **53**
Update to



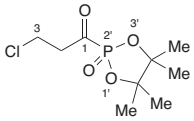
53 '~~4,5-dimethyl-2-[(trifluoroacetyl)oxy]-1,3,2-dioxa~phospholane~~'
'2,2,2-trifluoroacetic acid 4,5-dimethyl-1,3,2-dioxaphos~pholan-2-yl ester'/'1,3,2-dioxaphospholan-2-yl 2,2,2-trifluoroacetate'
by (b), ~~pseudoester;~~ nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*

p. 388, name of **54**
Update to



54 '~~2-{[bis(2,2-dimethylpropoxy)phosphinothioyl]thio}-4-methyl-1,3,2-dioxaphosphorinane 2-oxide~~'
'phosphorodithioic acid *O*,*O*-bis(2,2-dimethylpropyl) *S*-(4-methyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl) ester'/'*O*,*O*-bis(2,2-dimethylpropyl) *S*-(4-methyl-2-oxido-1,3,2-dioxaphosphorinan-2-yl) phosphoro~dithioate'
by (b), ~~pseudoester and pseudoketone, see also (d);~~ nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*

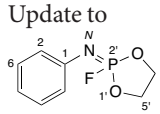
p. 388, name of **55**
Update to



55 '~~2-(3-chloro-1-oxopropyl)-4,4,5,5-tetramethyl-1,3,2-dioxaphospholane 2-oxide~~'
'3-chloro-1-(4,4,5,5-tetramethyl-2-oxido-1,3,2-dioxa~phospholan-2-yl)propan-1-one'
by (b), *P*-acyl substituent and pseudoketone, i.e., ketone, see (b) of *§ 6.20*

p. 388, name of **57**

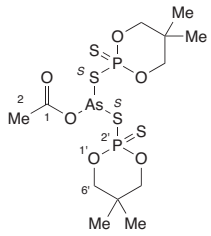
Update to



57 '~~2-fluoro-2,2-dihydro-2-(phenylimino)-1,3,2-dioxa~~phospholane'
'*N*-(2-fluoro-2λ^5-1,3,2-dioxaphospholan-2-ylidene)~benzenamine'
- by (b), ~~pseudoimine or pseudoacid halide,~~ amine, see (b) of *§ 6.23* (amine > imine)
- for '~~dihydro-~~' '2λ^5', see λ convention, *§ A.7*

p. 388, name of **61**

Update to



61 '~~2,2′-{[(acetyloxy)arsinidene]bis(thio)}bis[5,5-dimethyl-1,3,2-dioxaphosphorinane] 2,2′-disulfide~~'
'acetic acid anhydride with *S*,*S*-bis(5,5-dimethyl-2-sulfido-1,3,2-dioxaphosphorinan-2-yl) hydrogen arsenodithioite]'
- ~~by (b), pseudoketone,~~ anhydride with a nontraditional ester, by *§ 6.13* and (b_0) and (c) of updated *§ 6.14*
- ~~multiplicative name~~

p. 388, name of **62**

Update to

62 'buta-1,3-dien-1-ylphosphine'

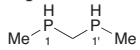
p. 388, name of **64**

Update to

64 '1,2-bis(methylene)diphosphine'

p. 388, name of **66**

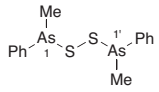
Update to



66 '1,1′-methylenebis[1-methylphosphine]'

p. 389, name of **69**

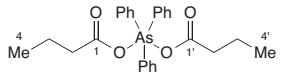
Update to



69 '1,1′-dithiobis[1-methyl-1-phenylarsine]'

p. 389, name of **73**

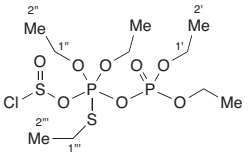
Update to



73 '~~bis(1-oxobutoxy)triphenylarsorane~~'
'butanoic acid 1,1′-(triphenylarsoranylidene) ester'/'1,1′-(triphenylarsoranylidene) bis[butanoate]'
by (d), ~~pseudoester,~~ nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*

p. 389, name of **74**

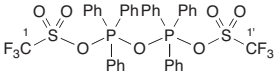
Update to



74 '~~[(chlorosulfinyl)oxy][(diethoxyphosphinyl)oxy]diethoxy~~(~~ethylthio)phosphorane~~'
'chlorosulfurous acid [(diethoxyphosphinyl)oxy]~diethoxy(ethylthio)phosphoranyl ester'/'[(diethoxyphosphinyl)oxy]diethoxy(ethylthio)~phosphoranyl chlorosulfite'
- by (d), ~~pseudoester,~~ nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*
- S-oxoacid > P-oxoacid ~~5 substituents expressed as prefixes > 4 substituents expressed as prefixes, by (j) of § 3.3~~

p. 389, name of **75**

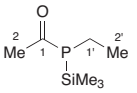
Update to



75 '~~oxybis[triphenyl{[(trifluoromethyl)sulfonyl]oxy}~~phosphorane]'
'1,1,1-trifluoromethanesulfonic acid 1,1′-[oxybis(tri~phenylphosphoranylidene] ester'/'1,1′-[oxybis~(triphenylphosphoranylidene] bis[1,1,1-trifluoro~methanesulfonate]'
by (d), ~~pseudoester,~~ nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*

p. 389, name of **76**

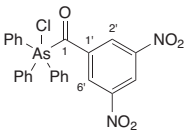
Update to



76 '~~acetylethyl(trimethylsilyl)phosphine~~'
'1-[ethyl(trimethylsilyl)phosphino]ethanone'
by (d), *P*-acyl substituent, ~~(pseudoketone),~~ ketone, see (b) of *§ 6.20*

p. 389, name of **77**

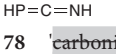
Update to



77 '~~chloro(3,5-dinitrobenzoyl)triphenylarsorane~~'
'(chlorotriphenylarsoranyl)(3,5-dinitrophenyl)~methanone'
by (d), *As*-acyl substituent, ~~(pseudoketone),~~ ketone, see (b) of *§ 6.20*

p. 389, name of **78**

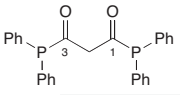
Update to



78 '~~carbonimidoylphosphine~~'
'1-phosphinidenemethanimine'
- by (d), *P*-acyl substituent, imine, see *§ 6.24*
- *not* ~~'phosphinidenemethanimine', see § 6.24,~~ the locant '1' of 'methane' is necessary if the pricipal group carries substitutable H atoms

p. 389, name of **79**

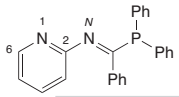
Update to



79 '~~(1,3-dioxopropane-1,3-diyl)bis[diphenylphosphine]~~'
'1,3-bis(diphenylphosphino)propane-1,3-dione'
- by (d), *P*-acyl substituent, ~~(pseudoketone),~~ ketone, see (b) of *§ 6.20*)
- ~~multiplicative name~~

p. 389, name of **80**

Update to



80 '~~diphenyl[phenyl(pyridin-2-ylimino)methyl]phosphine~~'
'*N*-[(diphenylphosphino)phenylmethylene]pyridin-2-amine'
by (d), *P*-acyl substituent, amine, see (b) of *§ 6.23*

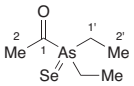
p. 389, name of **85**

Update to

85 '1,1,2,2-tetramethyldiphosphine 1-sulfide'

p. 390, name of **91**

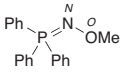
Update to



91 '~~acetyldiethylarsine selenide~~'
'1-(diethylarsinoselenoyl)ethanone'
by (d), ~~exception 33 and pseudoketone;~~ ketone, see (b) of *§ 6.20*

p. 390, name of **92**

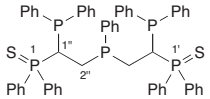
Update to



92 '~~*N*-methoxy-*P*,*P*,*P*-triphenylphosphine imide~~'
'*O*-methyl-*N*-(triphenylphosphoranylidene)hydroxylamine'
by (d), ~~exception 34~~ 'hydroxylamine' (see (f) of *§ 6.25*) > 'phosphine imide', see *Tab. 3.2*

p. 390, name of **94**

Update to



94 '1,1′-{(phenylphosphinidene)bis[1-(diphenylphosphino)ethane-2,1-diyl]}bis[1,1-diphenylphosphine sulfide]'

p. 390, name of **96**

Update to

96 '2-(diethoxyphosphinyl)acetic acid ethyl ester'/
'ethyl 2-(diethoxyphosphinyl)acetate'

6.27 Antimony and Bismuth Compounds (Class 17) (Update)

p. 391, left-hand column, lines 14, 18, and 19 from bottom

Update to

Instructions are given for:

(a) Sb- or Bi-containing heterocycles;

(b) Sb- or Bi-containing heterocycles with special substitution at the Sb or Bi atom (nontraditional ester (= former pseudoesters), pseudoketones, ~~-imines,~~ pseudoalcohols, and ~~-~~ hydroperoxides);

(c) Sb- or Bi-containing homogeneous heterochains;

(d) Sb- or Bi-containing homogeneous heterochains with special substitution at the Sb or Bi atom (nontraditional ester (= former pseudoesters), pseudoketones, pseudoalcohols, and ~~-~~ hydroperoxides; 'stibine oxide', 'stibine sulfide', 'stibine imide', etc.);

(e) Sb- or Bi-containing heterochains with replacement names.

p. 392, **(b)**

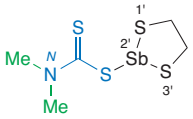
Update to

Sinc 2007, in the case of an Sb- or Bi-containing heterocycle with special substitution at the Sb or Bi atom, a parent name according to (a) has been ~~is~~ used, but no longer without a suffix. *The special substituent has been ~~is~~ designated as a suffix* (see 7), *as a prefix* (see **8**), *by an additive name* (*§ 3.2.4*), *or as a functional-class name* (see hydroperoxides). The following compounds are named in this manner: § 3.2.4

- since 2007, a nontraditional ester (= former pseudoester) C**Sb–X–acyl** or C**Bi–X–acyl** (X = O, S, Se, Te) has been named as an ester according to updated (c) of *§ 6.21* (see ~~also~~ ester definition in updated *§ 6.14*, there (b_0) and (c)), e.g., **7**; § 6.21 (c), 6.14
- since 2007, an *Sb-* or *Bi*-acyl-substituted heterocycle C**Sb–acyl** or C**Bi–acyl**, according to (c) of *§ 6.20*, ~~(exceptions: not in the case of an acyl group of formic or carbonic acid and analogs which are aldehydes or carboxylic acids, and not in the case of an acyl group that still contains an acid function or a derivative thereof, e.g., –S(=O)$_2$OH or –C(=O)Cl),~~ has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present, see analogous examples in (b) of *§ 6.26*; § 6.20 (c) Tab. 3.2 § 6.26 (b)
- a pseudoketone ~~(or a pseudoimine)~~ C**Sb(=X)**–§ or C**Bi(=X)**–§ (X = O, S, Se, Te, ~~(NH)~~) is still named according to (d) of *§ 6.20* (*notice*: since 2007, in the case of ~~a pseudoimine~~ an imine(X = NH), a ~~prefix~~ suffix and the λ convention has been ~~is~~ used and not an additive name), see analogous examples in (b) of *§ 6.26*; § 6.20 (d) § A.7 § 6.26 (b)
- a pseudoalcohol C**Sb–XH** or C**Bi–XH** (X = O, S, Se, Te) or a ~~pseudo~~hydroperoxide C**Sb–O–XH** or C**Bi–O–XH** (X = O, S) is still named according to (b) of *§ 6.21* or ~~(b)~~ (a) of *§ 6.22*, e.g., **8**. § 6.21 (b), 6.22 ~~(b)~~ (a)

p. 392, name of **7**

Update to



7 '~~2-{[(dimethylamino)thioxomethyl]thio}-1,3,2-dithiastibolane~~'

'*N,N*-dimethylcarbamodithioic acid 1,3,2-dithiastibolan-2-yl ester'/'1,3,2-dithiastibolan-2-yl *N,N*-dimethylcarbamodithioate'

~~pseudoester, see (c) of *§ 6.21*, *not*~~ nontraditional ester, ~~(no S–C bond,~~ see ester definition in updated *§ 6.14*, there (b_0) and (c)

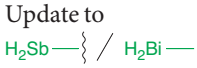
p. 392, name of **14**

Update to

14 '1,1,2,2-tetramethyldistibine'

p. 392, name of **15**

Update to



15 'stibino-'/'bismuthino-'

- H substitutable
- use '**stibinyl**'/'**bismuthinyl**' in the name of a nontraditional ester (see (b_0) and (c) of updated § 6.14), e.g., 'acetic acid dimethylstibinyl ester'/' dimethylstibinyl acetate' (MeC(=O)–O–SbMe$_2$)
- IUPAC: preferably 'stibanyl-'/'bismuthanyl-'

p. 393, **(d)**

Update to

Since 20007, in the case of an Sb- or Bi-containing homogeneous heterochain with special substitution at the Sb or Bi atom, a parent name according to (c) has been ~~is~~ used, but no longer without a suffix. *The special substituent has been ~~is~~ designated as a suffix* (see **22**–**24**), *as a prefix* (see **25** and **27**–**29**), *by an additive name* (see **30** and **31**; *§ 3.2.4*), *or as a functional-class name* (see hydroperoxides). The following compounds are named in this manner (notice the exceptions (see below): inorganic compounds and **19**–**21**): § 3.2.4

- since 2007, a nontraditional ester (= former pseudoester) §>**Sb–X–acyl** or §>**Bi–X–acyl** (X = O, S, Se, Te), has been named as an ester according to updated (c) of *§ 6.21* (see ~~also~~ ester definition in updated *§ 6.14*, there (b_0) and (c)), e.g., **22** and **23**; § 6.21 (c), 6.14
- since 2007, an *Sb-* or *Bi*-acyl-substituted homogeneous heterochain §>**Sb–acyl** or §>**Bi–acyl**, according to (b) of *§ 6.20*, ~~(exceptions: not in the case of an acyl group of formic or carbonic acid and analogs which are aldehydes or carboxylic acids, and not in the case of an acyl group that still contains an acid function or a derivative thereof, e.g., –S(=O)$_2$OH or –C(=O)Cl),~~ has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present, e.g., **24**; § 6.20 (b) Tab. 3.2

- a pseudoketone }–**Sb(=X)** or }–**Bi(=X)**, or }>**Sb(=X)**–{ or }>**Bi(=X)**–{ (X = O, S, Se, Te) is still named according to (d) of *§ 6.20* (*caution*: for }–Sb=NH or }–Bi=NH, the imine suffix is used, see *§ 6.24*), e.g., **25**, ~~**26, and 48**~~ as well as the exceptions **19**–**21** and **29**–**31**;

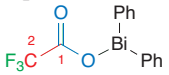
§ 6.20 (d)
§ 6.24

- a pseudoalcohol }>**Sb–XH** or }>**Bi–XH** (X = O, S, Se, Te) or a ~~pseudo~~hydroperoxide is still named according to (b) of *§ 6.21* or ~~(b)~~ (a) of *§ 6.22*, e.g., **27** and **28**.

§ 6.21 (b), 6.22 ~~(b)~~ (a)

p. 393, name of **22**

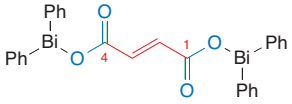
Update to



22 '~~di~~phenyl[(trifluoroacetyl)oxy]~~bismuthine~~'
'2,2,2-trifluoroacetic acid diphenylbismuthinyl ester'/'diphenylbismuthinyl 2,2,2-trifluoroacetate'
~~pseudoester, see (c) of *§ 6.21*; *not*~~ nontraditional ester, ~~(no O–C bond;~~ see ester definition in updated *§ 6.14*, there (b_0) and (c)

p. 393, name of **23**

Update to

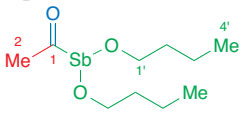


23 '~~[(1,4-dioxobut-2-ene-1,4-diyl)bis(oxy)]~~bis[di~~phenylbismuthine~~]'
'but-2-enedioic acid 1,4-bis(diphenylbismuthinyl) ester'/'bis(diphenylbismuthinyl) but-2-enedioate'

- ~~pseudoester, see (c) of *§ 6.21*; *not*~~ nontraditional ester, ~~(no O–C bond;~~ see ester definition in updated *§ 6.14*, there (b_0) and (c)
- ~~multiplicative name~~

p. 393, name of **24**

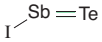
Update to



24 '~~acetyldi~~butoxystibine'
'1-(dibutoxystibino)ethanone'
Sb-acyl substituent ~~(pseudoketone),~~ ketone, see (b) of *§ 6.20*

p. 393, name of **26**

Update to

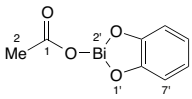


26 '~~iodotelluroxostibine~~'
'antimony iodide telluride (SbITe)'

- inorganic compound, see exceptions and **45**
- ~~pseudoketone, see (d) of *§ 6.20*~~
- ~~IUPAC: preferably 'iodotelluroxostibane'~~

p. 394, name of **32**

Update to



32 '~~2-(acetyloxy)-1,3,2-benzodioxabismole~~'
'acetic acid 1,3,2-benzodioxabismol-2-yl ester'/'1,3,2-benzodioxabismol-2-yl acetate'
by (b), ~~pseudoester;~~ nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*

p. 394, name of **35**

Update to

35 '(1*E*)-1,2-dimethyldistibene'

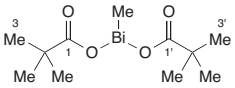
p. 394, name of **36**

Update to

36 '1,1,2,2-tetrakis(trimethylsilyl)distibine'

p. 394, name of **40**

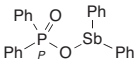
Update to



40 '~~bis(2,2-dimethyl-1-oxopropoxy)methylbismuthine~~'
'2,2-dimethylpropanoic acid 1,1′-(methylbismuthylene) ester'/'1,1′-(methylbismuthylene) bis[2,2-dimethyl~propanoate]'
by (d), ~~pseudoester;~~ nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*

p. 394, name of **41**

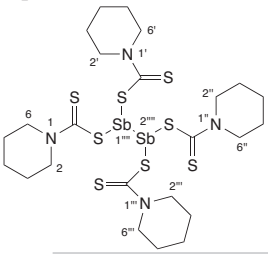
Update to



41 '~~[(diphenylphosphinyl)oxy]diphenylstibine~~'
'*P*,*P*-diphenylphosphinic acid diphenylstibinyl ester'/'diphenylstibinyl *P*,*P*-diphenylphosphinate'
by (d), ~~pseudoester;~~ nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*

p. 394, name of **42**

Update to



42 '~~tetrakis[(piperidin-1-ylthioxomethyl)thio]distibine~~'
'piperidine-1-carbodithioic acid 1,1′,1″,1‴-(distibine-1,2-diylidene) ester'/'1,1′,1″,1‴-(distibine-1,2-diylidene) tetrakis[piperidine-1-carbodithioate]'
by (d), ~~pseudoester;~~ nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*

p. 394, name of **43**

Update to

43 'tris[(4-chlorophenyl)sulfonyl]bismuthine'
by (d), *Bi*-acyl substituent; Bi compound of *Class 17* (*§ 6.27*)

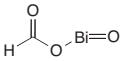
p. 394, name of **45**

Update to

45 '~~iodoselenoxostibine~~'
'antimony iodide selenide (SbISe)'
by (d), ~~pseudoketone~~ inorganic compound, see exceptions and **26**

p. 395, name of **47**

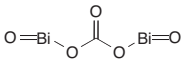
Update to



47 '~~(formyloxy)oxobismuthine~~'
'formic acid oxobismuthinyl ester'/'oxobismuthinyl formate'
by (d), ~~pseudoester;~~ nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*

p. 395, name of **48**

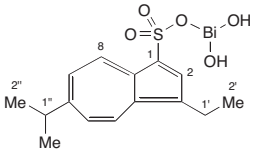
Update to



48 '~~[~~carbonylbis(oxy)~~]~~bis[oxobismuthine]'
'carbonic acid bis(oxobismuthinyl) ester'/
'bis(oxobismuthinyl) carbonate'
by (d), ~~pseudoester;~~ nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*

p. 395, name of **50**

Update to



50 '~~{{[~~3-ethyl-6-(1-methylethyl)azulen-1-yl~~]~~sulfonyl~~}~~oxy~~}~~~dihydroxybismuthine'
'3-ethyl-6-(1-methylethyl)azulene-1-sulfonic acid dihydroxybismuthinyl ester'/'dihydroxybismuthinyl 3-ethyl-6-(1-methylethyl)azulene-1-sulfonate'
by (d), ~~pseudoester;~~ nontraditional ester, i.e., by (b_0) and (c) of updated *§ 6.14*

p. 395, name of **51**

Update to

51 '1,1-dihydroxystibinamine 1-oxide'

- by (d), pseudoketone and pseudoalcohol with the name of an amine; the locant '1' of 'stibine' is necessary if the principal group carries substitutable H atoms, cf. **49** and **52**
- additive name (=O at Sb^{III})

6.28 Boron Compounds (Class 18) (Update)

p. 397, left-hand column, line 11 from bottom

Update to

Instructions are given for:

(a) polyboranes and their replacement analogs, so-called 'hetero'-polyboranes (carbapolyboranes > other 'hetero'-polyboranes > polyboranes);

(b) B-containing heterocycles;

(c) polyboranes, 'hetero'-polyboranes, and B-containing heterocycles with special substitution at the B atom (nontraditional esters (= former pseudoesters), pseudoketones, pseudoalcohols, and -hydroperoxides);

(d) 'borane' (BH_3) and some derivatives;

(e) 'borane' with special substitution (pseudoketones, pseudoalcohols, and -hydroperoxides);

(f) B-containing chains with replacement names.

p. 399, **(c)**

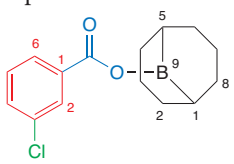
Update to

Since 2007, in the case of a polyborane, 'hetero'-polyborane, or B-containing heterocycle with special substitution at the B atom, a parent name according to (a) ~~is~~ has been used, but no longer without a suffix. *The special substituent ~~is~~ has been designated as a suffix* (see **27** and **29**), *as a prefix* (see **28**, **30**, and **31**), *or as a functional-class name* (see hydroperoxides). The following compounds are named in this manner:

- since 2007, a nontraditional ester (= former pseudoester) **⦚B–X–acyl** (X = O, S, Se, Te) has been named as an ester according to updated (c) of *§ 6.21*, (see ~~also~~ ester definition in updated *§ 6.14*, there (b_0) and (c)), e.g., **27**; (§ 6.21 (c), 6.14)
- since 2007, a *B*-acyl-substituted polyborane or 'hetero'-polyborane **⦚B–acyl** or a heterocycle **⊂B–acyl**, according to (c) of *§ 6.20*, ~~(exceptions: not in the case of an acyl group of formic or carbonic acid and analogs which are aldehydes or carboxylic acids, and not in the case of an acyl group that still contains an acid function or a derivative thereof, e.g., –S(=O)$_2$OH or –C(=O)Cl),~~ has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present, e.g., **28** and **29**; (§ 6.20 (c); Tab. 3.2)
- a pseudoketone **⦚B(=X)** (X = O, S, Se, Te) is still named according to (d) of *§ 6.20* (*caution*: for ⦚B=NH, the imine suffix is used, see *§ 6.24* and **60**), see **30**; (§ 6.20 (d); § 6.24)
- a pseudoalcohol **⦚B–XH** (X = O, S, Se, Te) or a ~~pseudo~~hydroperoxide **⦚B–O–XH** (X = O, S) is still named according to (b) of *§ 6.21* or ~~(b)~~ (a) of *§ 6.22* (exceptions: B-oxoacids, see below, *Exceptions (e)*), e.g., **31**. (§ 6.21 (b), 6.22 (~~b~~) (a))

p. 399, name of **27**

Update to



27 '~~9-[(3-chlorobenzoyl)oxy]-9-borabicyclo[3.3.1]~~nonane'

'3-chlorobenzoic acid 9-borabicyclo[3.3.1]non-9-yl ester'/'9-borabicyclo[3.3.1]non-9-yl 3-chlorobenzoate'

~~pseudoester, see (c) of *§ 6.21*; *not*~~ nontraditional ester, ~~(no O–C bond;~~ see ester definition in updated *§ 6.14*, there (b_0) and (c)

p. 399, name of **28**

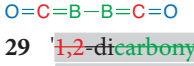
Update to

28 '9-[(trifluoromethyl)sulfonyl]-9-borabicyclo~[4.2.1]nonane'

B-acyl substituent, ~~see (c) of *§ 6.20*~~ B compound of *Class 18* (*§ 6.28*)

p. 399, name of **29**

Update to



29 '~~1,2-di~~carbonyl~~diborane(4)~~'

'1,1′-(diborane(4)-1,2-diylidene)bis[methan~one]'

B-acyl substituent ~~(pseudoketone)~~, ketone, see (b) ~~and (c)~~ of *§ 6.20*

p. 400, line 6 from top

Update to

As an exception, the stoichiometric composition must not be indicated in the name 'borane' (**32**) but must be given according to (a) in the case of the boranes radicals **33** and **34**.

p. 400, *Notice* (d), second bullet

Update to

A substituent at a borane **33** or **34** is *always* denoted by a prefix since these are radicals, see **39** and **40**.

p. 400, name of **33**

Update to

33 'borane(2)'

radical, see *§ 6.2.2*

p. 400, name of **34**

Update to

34 'borane(1)'

divalent radical, see *§ 6.2.2*

p. 400, name of **39**

Update to

39 'iminoborane(2)'
radical, see *§ 6.2.2*

p. 400, name of **40**

Update to

40 'aminoborane(1)'
divalent radical, see *§ 6.2.2*

p. 400, **(e)**

Update to

Since 2007, in the case of a borane BH_3 with special substitution at the B atom, a parent name 'borane' according to (d) ~~is~~ has been used, but no longer without a suffix. *The special substituent is designated as a suffix* (see **44**–**46** and **49**), *as a prefix* (see **47** and **48**), or as a functional-class name (see hydroperoxides). The following compounds are named in this manner (notice the exceptions (see below): B-oxoacids and their anhydrides and esters):

- since 2007, a *B*-acyl-substituted borane **›B–acyl**, according to (b) of *§ 6.20*, ~~(exceptions: not in the case of an acyl group of formic or carbonic acid and analogs which are aldehydes or carboxylic acids, and not in the case of an acyl group that still contains an acid function or a derivative thereof, e.g., –S(=O)$_2$OH or –C(=O)Cl),~~ has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present, e.g., **44** and **45**;

§ 6.20 (b)

Tab. 3.2

- a pseudoketone **–B(=X)** (X = O, S, Se, Te) is still named according to (d) of *§ 6.20* (*caution*: for –B=NH, the imine suffix is used, see *§ 6.24* and **38**), e.g., ~~**46**~~ **47**–**48**;

§ 6.20 (d)

§ 6.24

- a pseudoalcohol **›B–XH** (X = O, S, Se, Te) or a hydroperoxide is still named according to (b) of *§ 6.21* or ~~(b)~~ (a) of *6.22*, unless the compound can be designated as a B-oxoacid (see exceptions below), e.g., **49** and **50**.

§ 6.21 (b), 6.22 ~~(b)~~ (a)

p. 400, *Exceptions* (e)

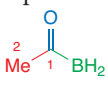
Update to

Since 2007, corresponding substituent prefixes are: '**borono**-' ((HO)$_2$B–) but, e.g., '**(hydroxyborylene)**-' (HO)B<), see **41** and **42**. Anhydrides and esters ~~and hydrazides~~ derived from these acids ~~are~~ have been named correspondingly (see **46**); ~~but not~~ 'halides' ~~which are denoted by prefixes~~ (see **49**, **77**, and **79)** and ~~not~~ 'amides' (see **78)** ~~which are~~ have been denoted as ~~amines~~ B-oxoacids in the presence of chalcogen substitution at the B atom (cf. *Footnote 4* in *§ 6.13*); for hydrazides, see (f) of *§ 6.17* (see *§ 6.13–6.17*).

§ 6.13–6.17

p. 400, name of **44**

Update to



44 '~~acetyl~~borane'
'1-borylethanone'
B-acyl substituent, ~~(pseudoketone)~~ ketone, see (b) of *§ 6.20*

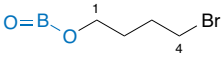
p. 400, name of **45**

Update to

45 '~~carbonyl~~borane'
'borylenemethanone'
B-acyl substituent, ~~(pseudoketone)~~ ketone, see (b) of *§ 6.20*

p. 400, name of **46**

Update to



46 '~~(4-bromobutoxy)oxo~~borane'
'boric acid (HBO_2) 4-bromobutyl ester'/
'4-bromobutyl borate (BO_2^{1-})'
~~pseudoketone, see (d) of *§ 6.20*~~ ester of a B-oxoacid, see *§ 6.12* and *§ 6.14*

p. 401, name of **49**

Update to

49 '~~bromodimercapto~~borane'
'*B*-bromoboronodithioic acid'
~~pseudoalcohol, see exceptions (e), and (b) of *§ 6.21*~~ B-oxoacid, see *§ 6.12*

p. 401, name of **50**

Update to

50 '~~(hydrotritelluro)~~borane'
'boryl hydrotritelluride'
analogously to a ~~pseudo~~hydroperoxide, see ~~(b)~~ (a) of *§ 6.22*

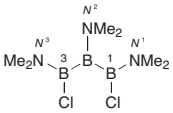
p. 401, name of **53**

Update to

53 'diborane(4)-1,2-diimine'

p. 401, name of **54**

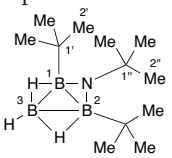
Update to



54 '1,3-dichloro-*N*^{1},*N*^{1},*N*^{2},*N*^{2},*N*^{3},*N*^{3}-hexamethyltri~borane(5)-1,2,3-triamine'

p. 401, name of **57**

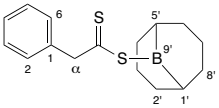
Update to



57 '1,2-bis(1,1-dimethylethyl)-1,2-{μ-[(1,1-dimethylethyl)imino]}triborane(7)'[3)]

p. 401, name of **58**

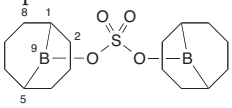
Update to



58 '~~9-[(2-phenyl-1-thioxoethyl)thio]-9-borabicyclo[3.3.1]~nonane~~'
'benzeneethane(dithioic) acid 9-borabicyclo[3.3.1]non-9-yl ester'/'9-borabicyclo[3.3.1]non-9-yl benzeneethane~(dithioate)'
by (c), ~~pseudoester;~~ nontraditional ester, i.e. by (b_0) and (c) of *§ 6.14*

p. 401, name of **59**

Update to



59 '~~9,9′-~~[sulfonylbis(oxy)]bis[9-borabicyclo[3.3.1]nonane]'
'sulfuric acid bis(9-borabicyclo[3.3.1]non-9-yl) ester'/
'bis(9-borabicyclo[3.3.1]non-9-yl) sulfate'
- by (c), ~~pseudoester;~~ nontraditional ester, i.e. by (b_0) and (c) of *§ 6.14*
- ~~multiplicative name~~

p. 401, name of **60**

Update to

60 '2-oxodiboran(4)imine'

p. 401, name of **63**

Change to

63 '1-hydroxy-1*H*-borepin~~e~~'

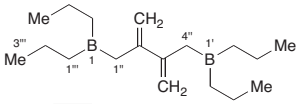
p. 401, name of **65**

Update to

65 '(3-boryleneprop-1-en-1-yl)fluoroborane'

p. 402, name of **66**

Update to



66 '1,1′-[2,3-bis(methylene)butane-1,4-diyl]bis[1,1-di~propylborane]'

p. 402, name of **71**

Update to

71 'cyanoborane(1)'
by (d), divalent radical

p. 402, name of **72**

Update to

72 'thioxoborane(2)'
by (d), radical

p. 402, name of **73**

Update to

73 'hydroxyborane(1)'
by (d), divalent radical

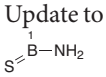
p. 402, name of **74**

Update to

74 '~~(~~1-thioxoethyl)borane'
'1-borylethanethione'
by (e), *B*-acyl substituent, ~~(pseudoketone);~~ ketone. see (b) of *§ 6.20*)

p. 402, name of **76**

Update to



76 '1-thioxoboranamine'
by (e), pseudoketone with the name of an amine (see *§ 6.23*); the locant '1' of 'borane' is necessary if the principal group carries substitutable H atoms

p. 402, name of **77**

Update to

77 '~~difluorohydroxy~~borane'
'*B*,*B*-difluoroborinic acid'
by (e), ~~pseudoalcohol~~ exceptions, B-oxoacid, see *§ 612*

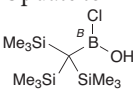
p. 402, name of **78**

Update to

78 '~~1-~~hydroxyboranamine'
'*B*-aminoborinic acid'
by (e), ~~pseudoalcohol~~ exceptions, B-oxoacid, see *§ 612*

p. 402, name of **79**

Update to



79 '~~chlorohydroxy~~[tris(trimethylsilyl)~~methyl~~]borane'
'*B*-chloro-*B*-[tris(trimethylsilyl)methyl]borinic acid'
by (e), ~~pseudoalcohol~~ exceptions, B-oxoacid, see *§ 612*

6.29 Silicon, Germanium, Tin, and Lead Compounds (Classes 19 and 20) **(Update)**

p. 403, left- and right-hand column, line 7 from bottom and line 2 from top, resp.

Update to

Instructions are given for:

(a) Si-, Ge-, Sn-, or Pb-containing heterocycles;

(b) Si-, Ge-, Sn-, or Pb-containing heterocycles with special substitution at the Si, Ge, Sn, or Pb atom (nontraditional esters (= former pseudoesters, pseudoketones, pseudoalcohols, and = hydroperoxides);

(c) Si-, Ge-, Sn-, or Pb-containing homogeneous heterochains and heterogeneous heterochains with regular patterns;

(d) Si-, Ge-, Sn-, or Pb-containing homogeneous heterochains and heterogeneous heterochains with regular patterns, all with special substitution at the Si, Ge, Sn, or Pb atom (nontraditional esters (= former pseudoesters, pseudoketones, pseudoalcohols, and= hydroperoxides); § 6.21 (c), (b)

(e) Si-, Ge-, Sn-, or Pb-containing heterochains with replacement names.

p. 403, name of **2**

Change to

2 '1,4,2,5-dioxadigermanin'

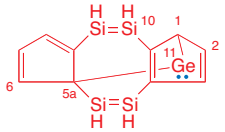
p. 403, name of **4**

Update to

4 '~~2λ²-1,3,2-dioxastannolane~~'
'1,3,2-dioxastannolan-2-ylidene'
'~~2λ²-~~ ~~by § A.7~~ divalent radical

p. 403, name of **11**

Update to



11 '~~1*H*-11λ²-1,5a-germanodicyclopenta[*c*,*g*]~~
~~[1,2,5,6]tetrasilocin~~'
'1*H*-1,5a-germanodicyclopenta[*c*,*g*]~
[1,2,5,6]tetrasilocin-11-ylidene'

- without final 'e'
- indicated H atom by (f_{11}) of § *A.5*
- '~~11λ²-~~ ~~by § A.7~~ divalent radical

p. 404, **(b)**

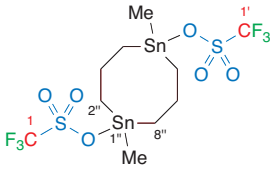
Update to

Since 2007, in the case of an Si-, Ge-, Sn-, or Pb-containing heterocycle with special substitution at the Si, Ge, Sn, or Pb atom, a parent name according to (a) ~~is~~ has been used, but no longer without a suffix. *The special substituent has been ~~is~~ designated as a suffix* (see **14** and **15**) or *as a prefix* (see **16**). The following compounds are named in this manner:

- since 2007, a nontraditional ester (= former pseudoester) C**GeH–X–acyl**, C**SnH–X–acyl**, or C**PbH–X–acyl** (X = O, S, Se, Te) has been named as an ester according to updated (c) of § *6.21*, ~~; *not* as in the case of C**SiH–X–acyl** (X = O, S, Se, Te) which is named as an ester)~~ (see ~~also~~ ester definition in updated § *6.14*, there (b_0) and (c)), e.g., **14** and **15**;
- since 2007, an *Si-*, *Ge-*, *Sn-*, or *Pb*-acyl-substituted heterocycle C**SiH–acyl**, C**GeH–acyl**, C**SnH–acyl**, or C**PbH–acyl**, according to (c) of § *6.20*, ~~(exceptions: not in the case of an acyl group of formic or carbonic acid and analogs which are aldehydes or carboxylic acids, and not in the case of an acyl group that still contains an acid function or a derivative thereof, e.g., –S(=O)₂OH or –C(=O)Cl)~~, has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present, see analogous examples in (d); § 6.20 (c) Tab. 3.2
- a pseudoketone C**Si(=X)**, C**Ge(=X)**, C**Sn(=X)**, or C**Pb(=X)** (X = O, S, Se, Te) is still named according to (d) of § *6.20* (*caution*: in the case of X = NH, the imine suffix is used, see § *6.24*), see analogous examples in (d); § 6.20 (d)
- a pseudoalcohol C**GeH–XH**, C**SnH–XH**, or C**PbH–XH** (X = O, S, Se, Te; *not* in the case of C**SiH–XH** which is named as an alcohol) or a ~~pseudo~~hydroperoxide C**GeH–O–XH**, C**SnH–O–XH**, C**PbH–O–XH**, or C**SiH–O–XH** (X = O, S, ~~; *not* in the case of which is named as a hydroperoxide~~) is still named according to (b) of § *6.21* or ~~(b)~~ (a) of § *6.22*, e.g., **16** and **17**. § 6.21 (b), 6.22 ~~(b)~~ (a)

p. 404, name of **14**

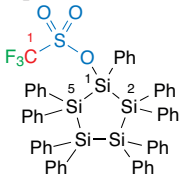
Update to



14 '~~1,5-~~dimethyl-~~1,5-bis{[~~(trifluoromethyl)~~-~~sulfonyl]oxy}-1,5-distannocane'
'1,1,1-trifluoromethanesulfonic acid 1,1′-(1,5-dimethyl-1,5-distannocane-1,5-diyl) ester'/'1,1′-(1,5-dimethyl-1,5-distannocane-1,5-diyl) bis[1,1,1-trifluoromethanesulfonate]'
~~pseudoester, see (c) of *§ 6.21*; *not*~~ nontraditional ester, ~~(no O–Si bond;~~ see ester definition in updated *§ 6.14*, there (b_0) and (c); compare with **15**

p. 404, name of **15**

Update to



15 '1,1,1-trifluoromethanesulfonic acid ~ 1,2,2,3,3,4,4,5,5-nonaphenylcyclopentasilanyl ester'/'1,2,2,3,3,4,4,5,5-nonaphenylcyclopenta~silanyl 1,1,1-trifluoromethanesulfonate'
traditional ester, O–Si bond, see ester definition in *§ 6.14*; compare with **14**

p. 406, name of **38**

Update to

38 'digermoxan-1-ylidyne-'

p. 406, name of **40**

Update to

40 '(disiloxan-1-yloxy)-'

p. 406, **(d)**

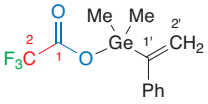
Update to

Since 2007, in the case of an Si-, Ge-, Sn-, or Pb-containing homogeneous heterochain or heterogeneous chain with a regular pattern X–Y–X, X–Y–X–Y–X, etc. (X = Si, Ge, Sn, or Pb; Y = O, S, Se, or Te), all with special substitution at the Si, Ge, Sn, or Pb atom, a parent name according to (c) ~~is~~ has been used, but no longer without a suffix. *The special substituent is designated as a suffix* (see **41**–**46**) or *as a prefix* (see **47**–**55**). The following compounds are named in this manner (notice the exceptions (see below): oxoacids and their anhydrides and esters as well as inorganic compounds):

- since 2007, a nontraditional ester (= former pseudoester) **}>GeH–X–acyl**, **}>SnH–X–acyl**, or **}>PbH–X–acyl** (X = O, S, Se, Te) has been named as an ester according to updated (c) of *§ 6.21*, ~~*not*~~ as in the case of **}>SiH–X–acyl** (X = O, S, Se, Te) ~~which is named as an ester)~~ (see ~~also~~ ester definition in updated *§ 6.14*, there (b_0) and (c)), e.g., **41**–**43**; — § 6.21 (c), 6.14
- since 2007, an *Si-*, *Ge-*, *Sn-*, or *Pb*-acyl-substituted homogeneous or heterogeneous heterochain **}>SiH–acyl**, **}>GeH–acyl**, **}>SnH–acyl**, or **}>PbH–acyl**, according to (b) of *§ 6.20*, ~~(exceptions: not in the case of an acyl group of formic or carbonic acid and analogs which are aldehydes or carboxylic acids, and not in the case of an acyl group that still contains an acid function or a derivative thereof, e.g., –S(=O)$_2$OH or –C(=O)Cl),~~ has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present, e.g., **44**–**46**; — § 6.20 (b), Tab. 3.2
- a pseudoketone **}>Si(=X)**, **}>Ge(=X)**, **}>Sn(=X)**, or **}>Pb(=X)** (X = O, S, Se, Te) is still named according to (d) of *§ 6.20* (*caution*: in the case of X = NH, the imine suffix is used, see *§ 6.24*), e.g., **47**–**50**; — § 6.20 (d)
- a pseudoalcohol **}>GeH–XH**, **}>SnH–XH**, or **}>PbH–XH** (X = O, S, Se, Te; *not* in the case of **}>SiH–XH** which is named as an alcohol) or a ~~pseudo~~hydroperoxide **}>GeH–O–XH**, **}>SnH–O–XH**, **}>PbH–O–XH**, or **}>SiH–O–XH** (X = O, S~~, *not* in the case of which is named as a hydroperoxide~~) is still named according to (b) of *§ 6.21* or ~~(b)~~ (a) of *§ 6.22*, e.g., **51**–**58**. — § 6.21 (b), 6.22 ~~(b)~~ (a)

p. 406, name of **41**

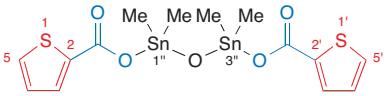
Update to



41 '~~dimethyl(1-phenylethenyl)[(trifluoroacetyl)~oxy]germane~~'
'2,2,2-trifluoroacetic acid dimethyl(1-phenylethenyl)germyl ester'/'dimethyl(1-phenylethenyl)germyl 2,2,2-trifluoroacetate'
~~pseudoester, see (c) of *§ 6.21*; *not*~~ nontraditional ester, ~~(no O–Si bond;~~ see ester definition in updated *§ 6.14*, there (b_0) and (c); compare with **43**

p. 406, name of **42**

Update to

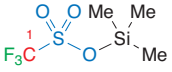


42 '~~1,1,3,3-tetramethyl-1,3-bis[(2-thienylcarbonyl)oxy]distannoxane~~'
'thiophene-2-carboxylic acid 2,2′-(1,1,3,3-tetramethyldisiloxane-1,3-diyl) ester'/'2,2′-(1,1,3,3-tetramethyldisiloxane-1,3-diyl) bis[thiophene-2-carboxylate]'

- ~~pseudoester, see (c) of *§ 6.21*; *not*~~ nontraditional ester ~~(no O–Si bond;~~ see ester definition in updated *§ 6.14*, there (b_0) and (c); compare with **43**
- ~~heterogeneous heterochain with regular pattern > heterochain with replacement name (see *Tab. 3.2*)~~

p. 406, name of **43**

Update to

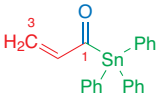


43 '1,1,1-trifluoromethanesulfonic acid trimethylsilyl ester'/'trimethylsilyl 1,1,1-trifluoromethanesulfonate'

- traditional ester, O–Si bond (see ester definition in *§ 6.14*); compare with **41** and **42**

p. 406, name of **44**

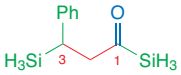
Update to



44 '~~(1-oxoprop-2-enyl)~~~~tri~~phenyl~~stannane~~'
'1-(triphenylstannyl)prop-2-en-1-one'
Sn-acyl substituent, ~~(pseudoketone)~~ ketone, see (b) of *§ 6.20*

p. 406, name of **45**

Update to

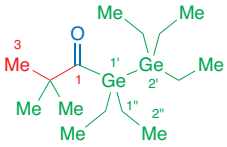


45 '~~(1-oxo-3-phenylpropane-1,3-diyl)~~bis[~~silane~~]'
'3-phenyl-1,3-disilylpropan-1-one'

- *Si*-acyl substituent, ~~(pseudoketone),~~ ketone, see (b) of *§ 6.20*
- ~~multiplicative name~~

p. 406, name of **46**

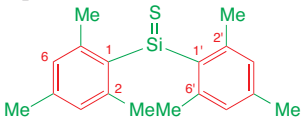
Update to



46 '~~(2,2-dimethyl-1-oxopropyl)penta~~ethyl~~digermane~~'
'2,2-dimethyl-1-(1,1,2,2,2-pentaethyldigerman~yl)propan-1-one'
Ge-acyl substituent, ~~(pseudoketone)~~ ketone, see (b) of *§ 6.20*

p. 406, name of **49**

Update to



49 '~~thioxobis(2,4,6-trimethylphenyl)silane~~'
'1,1′-(thioxosilylene)bis[2,4,6-trimethyl~benzene]'
~~pseudoketone, see (d) of *§ 6.20*~~ since 2007, 'silane' < 'benzene' (cyclic C compound)

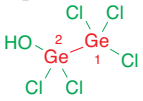
p. 407, name of **50**

Update to

50 '1,3-dibutyl-1,3-dioxodistannoxane'

p. 407, name of **54**

Update to



54 '1,1,1,2,2-pentachloro-2-hydroxydigermane'
pseudoalcohol, see (b) of *§ 6.21*; compare with **56**–**58**

p. 407, name of **56**

Update to

56 '1,1,1-trichlorosilanol'
alcohol, Si–OH bond, see (a) of *§ 6.21*; the locant '1' of 'silane' is necessary if the principal group is an alcohol function; compare with **51**–**53**

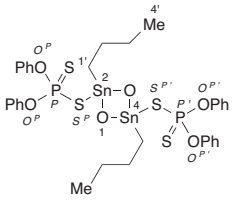
p. 407, right-hand column, line 11 from top

Update to

For an Si-, Ge-, Sn-, or Pb-containing heterochain with replacement name and special substitution at the Si, Ge, Sn, or Pb atom, the instructions of (d) are applied ~~(*caution in the case of esters and alcohols involving Si atoms*)~~. In the case of other substituents, the instructions of (c) are used.

p. 407, name of **59**

Update to



59 '~~2,4-dibutyl-2,4-bis[(diphenoxyphosphinothioyl)thio]-1,3,2,4-dioxadistannetane~~'
'phosphorodithioic acid S^{P},$S^{P'}$-(2,4-dibutyl-1,3,2,4-dioxa~distannetane-2,4-diyl) O^{P},O^{P},$O^{P'}$,$O^{P'}$-tetraphenyl ester'/'S^{P},$S^{P'}$-(2,4-dibutyl-1,3,2,4-dioxadistannetane-2,4-diyl) O^{P},O^{P},$O^{P'}$,$O^{P'}$-tetraphenyl bis[phosphorodithioate]'

- ~~by (b), pseudoester~~ nontraditional ester, i.e., by (b_0) and (c) of *§ 6.14*
- ~~presumably, the name of **59** should be '[(2,4-dibutyl-1,3,2,4-dioxadistannetane-2,4-diyl)bis(thio)]bis[diphenoxyphosphine sulfide]' (P > Sn)~~

p. 407, name of **61**

Update to

61 '1,1,1,2,2,2-hexamethyldistannane'

p. 407, name of **66**

Update to

66 'but-2-en-1-ylstannane'

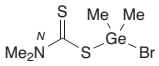
p. 407, name of **68**

Update to

68 '1,1,1,3,3,3-hexamethyldigermaselenane'
by (c)

p. 408, name of **69**

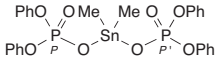
Update to



69 '~~bromo[[(dimethylamino)thioxomethyl]thio]dimethyl~germane~~'
'*N*,*N*-dimethylcarbamodithioic acid bromodimethyl~germyl) ester'/'bromodimethylgermyl *N*,*N*-dimethyl~carbamodithioate'
~~by (d), pseudoester~~ nontraditional ester, i.e., by (b_0) and (c) of *§ 6.14*

p. 408, name of **70**

Update to

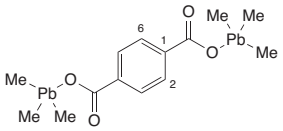


70 '~~bis[(diphenoxyphosphinyl)oxy]dimethylstannane~~'
'phosphoric acid *P*,*P*′-(dimethylstannylene) *P*,*P*,*P*′,*P*′-tetraphenyl ester'/'*P*,*P*′-(dimethyl~stannylene) *P*,*P*,*P*′,*P*′-tetraphenyl bis[phosphate]'

- ~~by (b), pseudoester~~ nontraditional ester, i.e., by (b_0) and (c) of *§ 6.14*
- ~~presumably, the name of **70** should be '[(dimethylstannylene)~bis(oxy)]bis[diphenoxyphosphine oxide]' (P > Sn)~~

p. 408, name of **71**

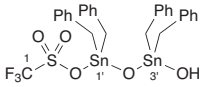
Update to



71 '~~[1,4-phenylenebis(carbonyloxy)bis[trimethylplumbane]~~'
'benzene-1,4-dicarboxylic acid 1,4-bis(trimethylplumbyl) ester'/'1,4-bis(trimethylplumbyl) benzene-1,4-dicarboxylate'
~~by (d), pseudoester~~ nontraditional ester, i.e., by (b_0) and (c) of *§ 6.14*

p. 408, name of **72**

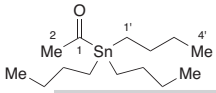
Update to



72 '~~1-hydroxy-1,1,3,3-tetrakis(phenylmethyl)-3-{[(trifluoro~ methyl)sulfonyl]oxy}distannoxane~~'
'1,1,1-trifluoromethanesulfonic acid 3-hydroxy-1,1,3,3-tetrakis(phenylmethyl)distannoxan-1-yl ester'/
'3-hydroxy-1,1,3,3-tetrakis(phenylmethyl)distannoxan-1-yl 1,1,1-trifluoromethanesulfonate'
~~by (d), pseudoester~~ nontraditional ester, i.e., by (b_0) and (c) of *§ 6.14*

p. 408, name of **73**

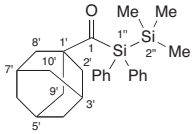
Update to



73 '~~acetyltributylstannane~~'
'1-(tributylstannyl)ethanone'
by (d), *Sn*-acyl substituent, ~~(pseudoketone)~~ ketone, see (b) of *§ 6.20*

p. 408, name of **74**

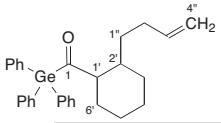
Update to



74 '~~1,1,1-trimethyl-2,2-diphenyl-2-(tricyclo[3.3.1.1^{3,7}]dec-1-ylcarbonyl)disilane~~'
'tricyclo[3.3.1.1^{3,7}]dec-1-yl(2,2,2-trimethyl-1,1-diphenyldisilanyl)methanone'
by (d), *Si*-acyl substituent, ~~(pseudoketone)~~ ketone, see (b) of *§ 6.20*

p. 408, name of **75**

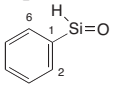
Update to



75 '~~{[2-(but-3-enyl)cyclohexyl]carbonyl}triphenylgermane~~'
'[2-(but-3-en-1-yl)cyclohexyl](triphenylgermyl)~ methanone'
by (d), *Ge*-acyl substituent, ~~(pseudoketone)~~ ketone, see (b) of *§ 6.20*

p. 408, name of **76**

Update to



76 'oxophenylsilane'
'(oxopsilyl)benzene'
by (d), pseudoketone; since 2007, 'silane' < 'benzene' (cyclic C compound)

p. 408, name of **77**

Update to

77 '1,3-dipropyl-1,3-dithioxodigermathiane'

p. 408, name of **81**

Change to

81 'germanium sulfide ($Ge(SH)_4$)~~)~~'

6.30 Oxygen Compounds (Class 21) (Update)

p. 409, name of **2**

Update to

2 '2-ethyloxirane'

p. 410, **(b)**

Update to

An acyclic polyoxide (n = 1,2,3, etc.) or peroxide (n = 0) **R–O–(O)$_n$–O–R′** (R, R′= alkyl, aryl, or aryl; *but notice the exceptions,* see **10**–**12**) has a functional-class name according to *§ 3.2.6* although it is considered as a molecular-skeleton parent[1]; a thioperoxide **acyl–S–O–acyl′** is named analogously:

§ 3.2.6

p. 410, *Notice* (b)

Update to

- ...
- ...
- The seniority order of *Tab. 3.2* must be considered if RH or R′H is senior to an O parent (e.g., an N parent).

Tab. 3.2

p. 410, *Exceptions* (b)

Update to

(i) A formal peroxide **acyl–O–O–R** (R = alkyl, aryl, silyl, azanyl, etc.) is an ester of a peroxy acid according to *§ 6.14*, see **10**.

§ 6.14

(ii) A formal thioperoxide **R–S–O–R′** or a chalcogen analog R–X–O–R′ (X = Se, Te) (R = alkyl, aryl, R′ = alkyl, aryl, silyl, azanyl, etc.) is an ester of a sulfenic acid, etc., according to *§ 6.14*, see **11**.

§ 6.14

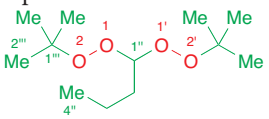
(iii) A symmetrical formal peroxide **acyl–O–O–acyl** with oxoacid acyl groups is considered as a polynuclear oxoacid according to *§ 6.9–6.12* or oxoacid derivative according to *§ 6.13–6.17*, see **12** and **13**.

§ 6.9–6.12

§ 6.13–6.17

p. 411, name of **17**

Update to

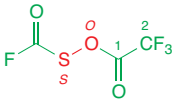


17 '1,1′-butylidenebis[2-(1,1-dimethylethyl) peroxide]'

CA: 'peroxide, 1,1′-butylidenebis[2-(1,1-dimethylethyl)', i.e., the brackets are not closed, parentheses are used, and no space is inserted before 'bis'

p. 411, name of **22**

Update to



22 '*S*-(fluorocarbonyl) *O*-(2,2,2-trifluoroacetyl) thioperoxide'

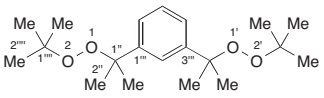
p. 411, name of **27**

Update to

27 '1,23-bis[(naphthalen-2-yl)oxy])-3,6,9,12,15,18,21-heptaoxatricosane'

p. 413, name of **45**

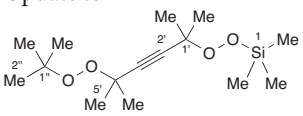
Update to



45 '1,1′-[1,3-phenylenebis(1-methylethylidene)]bis[2-(1,1-dimethylethyl) peroxide]'

p. 413, name of **46**

Update to



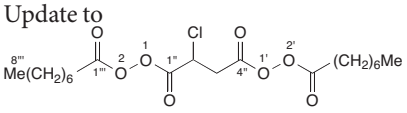
46 ~~'4-[(1,1-dimethylethyl)dioxy]-1,1,4-trimethylpent-2-ynyltrimethylsilyl peroxide'~~

'{{4-[(1,1-dimethylethyl)dioxy]-1,1,4-trimethylpent-2-yn-1-yl}dioxy}trimethylsilane'

- by (b)
- not replacement name, 'silane' > O parent
- ~~'[(dimethylethyl)dioxy]trimethylpentynyl trimethylsilyl' > ' dimethylethyl trimethyl[(trimethylsilyl)dioxy]pentynyl', by (m) of § 3.3~~

p. 413, name of **51**

Update to



51 '1,1′-(2-chloro-1,4-dioxobutane-1,4-diyl)bis[2-(1-oxooctyl) peroxide]'

multiplicative name, not replacement name; cf. **17**

p. 413, name of **54**

Update to

54 '2,2′-{oxybis{ethane-2,1-diyloxy[1-(but-3-en-1-yl)ethane-2,1-diyl]oxy}}bis[tetrahydro-2*H*-pyran]'

p. 413, name of **55**

Update to

55 '2-(oxiran-2-ylmethoxy)furan'

p. 414, name of **65**

Update to

65 '2-methoxy-4-(prop-2-en-1-yl)phenol'

6.31 Sulfur, Selenium, and Tellurium Compounds (Classes 22 and 23) (Update)

p. 416, **(b)**

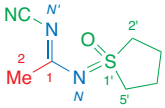
Update to

In the case of an S-, Se-, or Te-containing heterocycle with a special substitutent =X (X = O, S, Se, Te, NH) at the S, Se, or Te atom, a parent name according to (a) is used, but without a suffix, i.e., in the case of a cyclic formal sulfone or sulfoxide or a chalcogen analog (X = O, S, Se, Te), *the special substituent is designated by means of additive nomenclature* (*§ 3.2.4*) according to (d) of *§ 6.20*, see **11** and **12**. Since 2007, ~~in the case of~~ a former pseudoimine (X = NH), ~~a *prefix* is used instead~~ has been ranked according to the seniority order of *Tab. 3.2* and named according to the (senior) principal group present, if necessary, by means of the λ convention (see *§ A.7*), see **13**.

§ 3.2.4 § 6.20 (d) Tab. 3.2 § A.7

p. 416, name of **13**

Update to

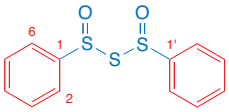


13 '~~1-{[1-(cyanoimino)ethyl]imino}-1,1,2,3,4,5-hexahydrothiophene 1-oxide~~'
'*N′*-cyano-*N*-(2,3,4,5-tetrahydro-1-oxido-1λ⁴-1-thienylidene)ethanimidamide'

- for '~~1,1,...hydro~~' '1λ⁴', see λ convention (*§ A.7*)
- the saturation of two double bonds of the molecular-skeleton parent substituent ('thienylidene-') is expressed by the 'hydro-' prefix; notice that 'oxido' is an additive term, i.e., '1λ⁴' and not '1λ⁶' must be used

p. 417, name of **14**

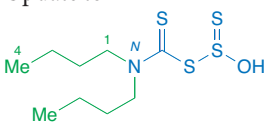
Update to



14 'benzenesulfinothioic acid 1,1′-anhydrosulfide'

p. 417, name of **16**

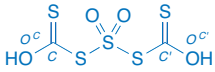
Update to



16 '*N,N*-dibutylcarbamodithioic acid anhydro~sulfide with thiosulfurous acid (H_2S_3O) (1:1)'

p. 417, name of **17**

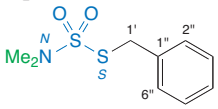
Update to



17 'carbonodithioic acid ~~bis(~~anhydrosulfide~~)~~ with thiosulfuric acid ($H_2S_3O_2$) (2:1)'
notice the locants for a corresponding ester: 'carbonodi~thioic acid anhydrosulfide with thiosulfuric acid ($H_2S_3O_2$) (2:1) O^C,$O^{C'}$-dimethyl ester'

p. 417, name of **20**

Update to



20 '*N,N*-dimethylthiosulfamic acid ($HS_2(NH_2)O_2$) *S*-(phenylmethyl) ester'/'*S*-(phenylmethyl) *N,N*-dimethylthiosulfamate ($S_2(NH_2)O_2^-$)'

p. 417, name of **23**

Update to

23 '~~(~~naphthalen-2-yl~~)~~ propyl disulfone'

p. 417, **(d)**

Update to

An acyclic polysulfide **R–(S)$_n$–R′** (***n* > 1**; R, R′ = both alkyl or aryl, or both acyl; *but see exceptions*, see **25**–**35** and **42**) or an Se or Te analog has a functional-class name according to *§ 3.2.6* although it is considered as a molecular-skeleton parent[1)]. § 3.2.6

p. 418, *Notice* (d)

Update to

In case of doubt, the compound classes of the anhydrides (*§ 6.13*) and esters (*§ 6.14*) must also be consulted. § 6.13 § 6.14

The seniority order of *Tab. 3.2* must be considered if RH or R′H is senior to an S, Se, or Te parent, e.g., an O or N parent, see, e.g., **41** and **50**. Tab. 3.2

p. 418, Exceptions (d)

Update to

(i) A formal dichalcogenide **acyl–X–X–R** (X = S, Se, Te; R = alkyl, aryl, silyl, azanyl, etc.) is an ester (*§ 6.14*) of a chalcogenoperoxy acid of *§ 6.7–6.13*, see **25**–**28**. § 6.14 § 6.7–6.13

(ii) A symmetric formal dichalcogenide **acyl–X–X–acyl** (X = S, Se, Te) with oxoacid acyl groups is considered as a polynuclear oxoacid (*§ 6.9–6.12*) or oxoacid derivative (*§ 6.13–6.17*), except for sulfuric acid or sulfurous acid derivatives that are designated as polythionic acids (HO–S(=O)$_2$–(S)$_n$–S(=O)$_2$–OH) or polythionous acids (HO–S(=O)–(S)$_n$–S(=O)–OH) or chal- § 6.9–6.12 § 6.13–6.17

6

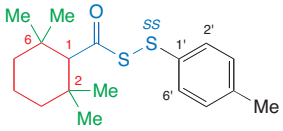
§6.10 cogeno replacement analogs (*§6.10*), see **29**–**33** and **42**.

(iii) A heterogeneous formal dichalcogenide **R–X–Y–R′** (X ≠ Y; X, Y = S, Se, Te; R, R′ = alkyl, aryl) is an ester (*§6.14*) of a sulfenic, selenenic, or tellurenic acid (*§6.8*), see **34**. This is in contrast to a regular homogeneous dichalcogenide **R–X–X–R′** (X = S, Se, Te; R, R′= alkyl, aryl), except if RH or R′H contains a senior molecular-skeleton parent (cf. *Notice* (d)), see, e.g., **36** vs. **50**.

(iv) A heterogeneous formal trichalcogenide **R–X–Y–X–R′** (X ≠ Y; X, Y = S, Se, Te; R, R′ = alkyl, aryl) is an ester(*§6.14)* of a chalcogenoperoxy acid of a sulfenic, selenenic, or tellurenic acid (*§6.8*), see **35**. This is in contrast to a regular homogeneous trichalcogenide **R–X–X–X–R′** (X = S, Se, Te; R, R′ = alkyl, aryl), except if RH or R′H contains a senior molecular-skeleton parent or (senior) principal group (cf. *Notice* (d) and (iii)), see **37** vs. **89**.

p. 418, name of **25**

Update to



25 '2,2,6,6-tetramethylcyclohexanecarbo(dithio~peroxoic) acid *S,S*-(4-methylphenyl) ester'/'*S,S*-(4-methylphenyl) 2,2,6,6-tetramethyl~cyclohexanecarbo(dithioperoxoate)'

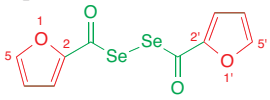
p. 419, name of **38**

Update to

38 'but-2-en-1-yl methyl disulfide'

p. 419, name of **41**

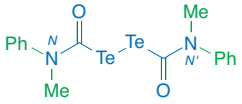
Update to



41 'bis~~(furan-2-ylcarbonyl) diselenide~~'
'2,2′-(diselenodicarbonyl)bis[furan]'
- O-containing ring >Te-containing chain
- multiplicative name

p. 419, name of **42**

Update to



42 'bis~~[(methylphenylamino)carbonyl] ditelluride~~'
'*N,N′*-dimethyl-*N,N′*-diphenyltelluroperoxy~dicarbonic diamide ($[H_2NC(O)]_2Te_2$]'
by (ii), oxoacid derivative, i.e., amide by (c) of *§6.16*

p. 421, name of **64**

Update to

64 '1-(methylsulfonyl)-2-phenyldiazene'

p. 421, **(f)**

Update to

The N- and S-containing compounds **74**–**79** (or Se and Te analogs) are substitutive parent structures that are reviewed with the nitrogen compounds; since 2007, if the N atom(s) of **74**–**77** carries a substituent with a senior characteristic group, the structure moiety derived from **74**–**77** has been expressed as a prefix and by means of the λ convention (see *§A.7* and (g) of *§6.25*). Other S, Se, or Te compounds with nonstandard valences can be named as coordination compounds (see (a) of *§6.34)*. §A.7 §6.25 (g) §6.34 (a)

p. 421, names of **74** and **75**

Update to

74 '~~sulfoximine~~'
'sulfoximine'

75 '~~sulfilimine~~'
'sulfilimine'

p. 422, names of **78** and **79**

Update to

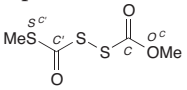
78 '~~sulfimide~~'
'sulfimide'

O=S=NH

79 '~~thionyl imide~~'
'thionyl imide'

p. 422, name of **86**

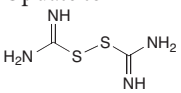
Update to



86 '~~methoxycarbonyl (methylthio)carbonyl disulfide~~'
'thioperoxydicarbonic acid ((HO)C(O)S_2C(O)(SH)) $O^C,S^{C'}$-dimethyl ester'
by (d), exception (ii), oxoacid derivative, i.e., ester by (c) of *§6.14*

p. 422, name of **87**

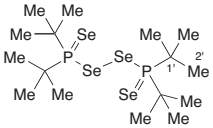
Update to



87 '~~bis(aminoiminomethyl) disulfide~~'
'thioperoxydicarbonimidic diamide ($[(H_2N)C(NH)]_2S_2$)'
by (d), exception (ii), oxoacid derivative, i.e., amide by (c) of *§6.16*

p. 422, name of **88**

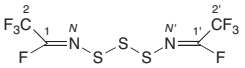
Update to



88 'bis[bis(1,1-dimethylethyl)phosphinoselenoyl] diselenide'
- by (d), cf. (ii), i.e., no oxoacid function left, cf. **86** and **87**
- the name of **88** is not 'diselenobis[bis(1,1-dimethylethyl)phosphine selenide]' (P > Se) because of (b_1) of *§6.13*, there exception (i)

p. 422, name of **89**

Update to



89 '~~bis[(tetrafluoroethylidene)amino] trisulfide~~'
'*N,N′*-trithiobis[2,2,2-trifluoroethanimidoyl fluoride]'
- by (d), exception (iv), i.e., acid halide by (a) of *§6.15*
- multiplicative name

p. 422, name of **90**

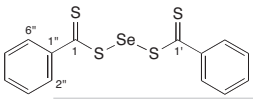
Update to

90 'bis{[bis(2-methylpropyl)amino]selenoxomethyl} triselenide'

by (d), not (ii), i.e., not oxoacid derivative, cf. **87** and **88**

p. 423, name of **101**

Update to



101 '~~1,1′-[selenobis(thiocarbonothioyl)]bis[benzene]~~' '1,1′-[selenobis(thio)bis[1-phenylmethanone]'

- by (e_2), not (iv), i.e., ketone by (c) of § 6.20
- ~~carbocycle > C_1 chain, by (b) of § 3.3~~
- multiplicative name

p. 423, name

Update to

102 '3,3′-[dithiobis(4,1-phenylenesulfonyl)]bis[2-methyl~ propanoic acid]'

- by (d) and (e_2)
- multiplicative name

6.32 Carbon Compounds (Class 24) (Update)

p. 426, name of **20**

Update to

20 '(3*E*)-4-[(1*E*)-prop-1-en-1-yl]oct-3-ene'

p. 427, name of **31**

Update to

31 '1-(oct-1-yn-1-yl)cyclopentene'

p. 428, name of **47**

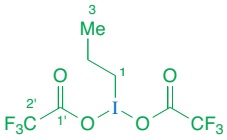
Update to

47 '(but-3-en-1-yn-1-yl)cyclopropane'

6.33 Halogen Compounds (Update)

p. 429, name of **9**

Update to



9 'propylbis(2,2,2-trifluoroacetato-κ*O*)iodine'

p. 430, **(c)**

Update to

A cyclic ionic halogen compound whose halogen atom is incorporated in the ring has a **heterocycle name** according to *§ 4.5–4.10*.

§ 4.5–4.10

The *standard valence 1* of the halogen atom leads to a cation which is named according to (b) or (c) of *§ 6.3.2.1* or (b) of *§ 6.3.4* and has the seniority of a cation (*Class 2*, see *Tab. 3.2*), see **23**–**27** (see also the examples **122**–**129** in *§ 4.5.3*).

§ 6.3.2.1 (b) (c) § 6.3.4 (b) Tab. 3.2, § 4.5.3

In CA, the ~~*nonstandard* valence~~ *3* of the halogen atom in a ring is considered as a standard valence, i.e., it ~~can~~ leads to an uncharged compound, ~~This nonstandard valence is not indicated in CA (see λ convention (*§ A.7*),~~ see **28** and **29** (see also the examples **130**–**134** in *§ 4.5.3*).

§ A.7 § 4.5.3

p. 431, name of **31**

Update to

31 '1,2,3,4,5,6-hexachlorocyclohexane'

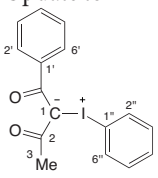
p. 431, name of **32**

Update to

32 '2-[(1*E*,3*Z*)-6,6-dibromo-3-methylhexa-1,3,5-trien-1-yl]-1,3,3-trimethylcyclohexene'

p. 431, name of **37**

Update to

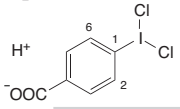


37 '~~(1-benzoyl-2-oxopropylidene)phenyliodine~~'
'(1-benzoyl-2-oxopropyl)phenyliodonium inner salt'

- by (a): exception
- ~~coordination name~~ zwitterion, see *§ 6.5*

p. 431, name of **38**

Update to

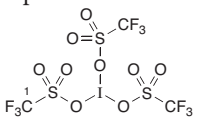


38 '~~(4-carboxyphenyl)dichloroiodine~~'
'hydrogen (4-carboxylatophenyl)dichloroiodate(1–)'

- by (a): exception
- coordination name; for 'hydrogen', see (b_{23}) of *§ 6.34*
- removal of the COOH group of **38** generates the name of a neutral coordination compound, i.e., 'dichlorophenyliodine'

p. 431, name of **39**

Update to



39 'tris(1,1,1-trifluoromethanesulfonato-κ*O*)iodine'

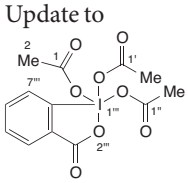
p. 431, name of **41**

Update to

41 '(1*H*-indol-3-yl)phenyliodonium'

p. 432, name of **50**

Update to



50 '~~1~~,1,1-tris(acetyloxy)-~~1,1-dihydro-~~1,2-benziodoxol-3(1*H*)-one'
'acetic acid 1,1′,1″-(3-oxo-1λ^5-1,2-benziodoxol-1(3*H*)-ylidyne) ester'/ 1,1′,1″-(3-oxo-1λ^5-1,2-benziodoxol-1(3*H*)-ylidyne) tris[acetate]'

- by (c)
- 'added' indicated H atom by (i_2) of *§ A.5*
- for '~~1,1-dihydro-~~' 'λ^5', see λ convention (*§ A.7*)
- ~~the common acid MeCOOH is esterified with an exotic alcohol, see (d) of~~ nontraditional ester, i.e., analogous to (b_0) and (c) of updated *§ 6.14*
- IUPAC: e.g., '1,1,1-tris(acetyloxy)-1λ^5,2-benziodoxol-3(1*H*)-one'
- trivially a '**periodinane**'

6.34 Organometallic and Coordination Compounds (Classes 2–4) (Update)

p. 434, right-hand column, line 19 from bottom
Update to
In ~~simple~~ all cases, the **stoichiometric proportions** of coordination cations and anions in a salt are indicated by ratios ~~multiplying affixes~~ (see **8** and **10**~~)~~ and ~~in more complicated cases by ratios (see~~ (c) and (g) below).

p. 434, name of **8**
Update to
8 'hexaamminecobalt(3+) ~~tri~~chloride (1:3)'
- CA: 'cobalt(3+), hexaammine-, ~~tri~~chloride (1:3), (*OC*-6-11)-'

p. 435, name of **10**
Update to
10 '~~di~~lithium tetrachlorocobaltate(2–) (2:1)'
- CA: 'cobaltate(2–), tetrachloro-, dilithium (1:2), (*T*-4)-'

p. 436, name of **14**
Update to
14 'carbonyl(1-oxopropyl)bis(trimethylphosphine)~palladium(1+) tetrafluoroborate(1–) (1:1)'
- CA: 'palladium(1+), carbonyl(1-oxopropyl)bis~(trimethylphosphine)-, (*SP*-4-1)-, tetrafluoro~borate(1–) (1:1)'

p. 437, name of **16**
Update to
16 'lithium tetrahydroaluminate(1–) (1:1)'
- CA: 'aluminate(1–), tetrahydro-, lithium (1:1), (*T*-4)-'

p. 437, name of **17**
Update to
17 'pentafluoroprop-2-yn-1-ylsulfur'
- CA: 'sulfur, pentafluoro-2-propyn-1-yl-, (*OC*-6-21)-'

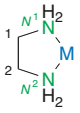
p. 437, name of **19**
Update to
19 'bis(*N*,*N*-dimethylmethanamine)dihydro~boron(1+) chloride (1:1)'
- CA: 'boron(1+), bis(*N*,*N*-dimethylmethanamine)~dihydro-, chloride (1:1), (*T*-4)-'

p. 437, name of **21**
Update to
21 'cesium (cyano-κ*C*)triphenylborate(1–) (1:1)'
- CA: 'borate(1–), (cyano-κ*C*)triphenyl-, cesium (1:1), (*T*-4)-'

p. 437, name of **27**
Update to
27 '2-gallioprop-2-en-1-yl'
CA: '2-propen-1-yl, 2-gallio-

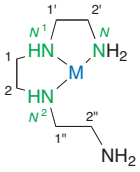
p. 437, name of **29**
Update to
29 '[3-(bromomercurio)prop-1-en-1-yl]trimethyl~phosphonium bromide (1:1)'
CA: 'phosphonium, [3-(bromomercurio)-1-propen-1-yl]trimethyl-, bromide (1:1)'

p. 439, name of **32**
Update to



32 '(ethane-1,2-diamine-κN^1,κN^2)'

p. 439, name of **38**
Update to



38 '{N^1-[2-(amino-κ*N*)ethyl]-N^2-(2-aminoethyl)~ethane-1,2-diamine-κN^1,κN^2}'

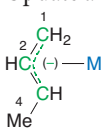
p. 440, left-hand column, line 18 from bottom
Update to
Examples for '(*x*,*y*,*z*...-η)' are **50**–**55,** and examples for '(*u*,*v*,*w*,*x*,*y*,*z*...-η)-' are **56**, **58**, ~~**61**,~~ **66**, and **69**.

p. 440, left-hand column, after last bullet
Update to
- Since 2007, a zwitterion ligand has been named as an anionic ligand according to (b_{31}), see **59**–**61**.

p. 440, left-hand column, line 6 from bottom
Update to
'bis(η^3-prop-2-en-1-yl)' (2 η^3-(CH_2=CH–CH_2^-), cf. **48**).

p. 440, name of **48**
Update to
48 '(η^3-prop-2-en-1-yl)'

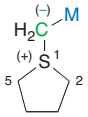
p. 440, name of **53**
Update and change (formula) to

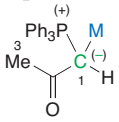


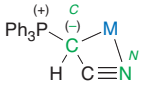
53 '[(1,2,3-η)-but-2-en-1-yl]'

p. 441, name of **56**
Update to
56 '[(1,2,3-η)-2-methylprop-2-en-1-yl]'

p. 441, name of **57**
Update to
57 '(η³-2-chloroprop-2-en-1-yl)'

p. 441, name of **59**
Update to

59 '~~(tetrahydrothiophenium η-methylide)~~'
'[(tetrahydrothiophenio)methyl]
zwitterion ligand, see (b_{31}) ~~(b) of § 6.5~~; cf. (c) of *§ 6.3.6*
the charges are considered in the ligand name

p. 441, name of **60**
Update to

60 '~~[triphenylphosphonium (1-η)-2-oxopropylide]~~'
'[2-oxo-1-(triphenylphosphonio)propyl]'
zwitterion ligand, see (b_{31}) ~~(b) of § 6.5~~; cf. (b) of *§ 6.3.6*
the charges are considered in the ligand name

p. 441, name of **61**
Update to

61 '~~[triphenylphosphonium (1-η)-(cyano-κ*N*)-methylide]~~'
'[(cyano-κ*N*)(triphenylphosphonio)methyl-κ*C*]'
- zwitterion ligand, see (b_{31}) ~~(b) of § 6.5~~; cf. (b) of *§ 6.3.6*
the charges are considered in the ligand name
- ~~attached C atom, i.e., locant in the η descriptor;~~ 'κ*N*' by (b_1)
- the coordination of the secondary *neutral* cyano substituent implies that 'κ*C*' must be indicated in the ligand name (not 'ato' name), cf. **59** and **60**

p. 441, name of **62**
Change to
62 '[(4a,5a,9a,10a-η)-5,10-dihydro-5,10-dimethyl~diboranthrene-κ*B*⁵,κ*B*¹⁰]'

p. 441, name of **65**
Update to
65 '{1,1′-(η⁴-1-ethynylprop-2-yn-1-ylidene)bis~[benzene]}'

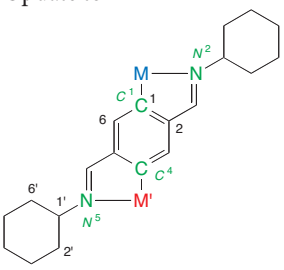
p. 443, name of **69**
Update to
69 '{μ-[(~~1-η~~:1,2-η)-2-phenylethynyl-κ*C*]}'

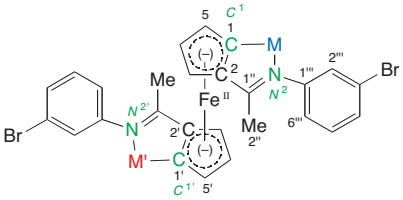
p. 442, right-hand column, line 22 from the bottom
Update to
§ 6.30 (c_3) **Me(CH₂)$_n$O⁻** '**alkoxy**', '(**alkyloxy**)' only for ***n* = 0–12** (unsubstituted); for other RO⁻, RS⁻, etc., see (b_{32}))...

p. 443, left-hand column, lines 5 and 6 from the top
Update to
§ 6.25 **HN=N⁻** '**diazenyl**' H ~~not~~ substitutable
§ 6.25 **PhN=N⁻** '~~(phenylazo)~~' '(**2-phenyldiazenyl**)'

p. 443, name of **70**
Update to
70 '(1-acetyl-2-oxopropyl)'
- trivially '(**acetylacetonato**)'; abbreviation: '(**acac**)'; abbreviation of the corresponding charge-neutral compound: '**Hacac**'
- for this, cf. 'pentane-2,4-dionato-κ*O*²,κ*O*⁴' (**161**)

p. 443, name of **74**
Update to
74 '{5-methyl-2-[2-(4-methylphenyl)~~azo~~diazenyl]~phenyl}'

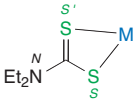
p. 443, name of **77**
Update to

77 '{μ-{2,5-bis[(cyclohexylimino-κ*N*)methyl]-1,4-phenylene-κ*C*¹:κ*C*⁴}}'

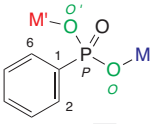
p. 443, name of **79**
Update to

79 '{μ-{2,2′-bis{1-[(3-bromophenyl)imino-κ*N*]~ethyl}ferrocene-1,1′-diyl-κ*C*¹:κ*C*¹}}'

p. 444, name of **81**
Update to
81 '[(1,2,3-η)-1,3-diphenylprop-2-en-1-yl]'

p. 444, name of **82**
Update to
82 '[(1,2,3-η)-2-acetyl-3-methylbut-2-en-1-yl]'

p. 445, name of **83**
Update to
83a '**hydrogen [(ligandato(2–)]**(ligandyl′)~bis(ligand″)metallate(1–) (1:1)'
83b '**sodium ~~di~~hydrogen [ligandato(2–)]**~(ligandyl′)bis(ligandyl″)metallate(3–) (1:2:1)'

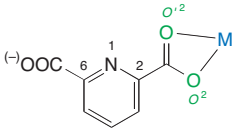
p. 445, name of **92**
Update to

92 '(*N*,*N*-diethylcarbamodithioato-κ*S*,κ*S*′)'

p. 445, name of **94**
Update to

94 '{μ-[*P*-phenylphosphonato(2–)-κ*O*:κ*O*′]}'

p. 446, name of **96**
Update to
96 '[2-(hydroxy-κ*O*)acetato(2–)-κ*O*]'

p. 446, name of **100**

Update to

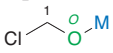


100 '[pyridine-2,6-dicarboxylato(2–)-κO^2,κO'^2]'

~~*not*~~ 'κO^2,κO'^2'

p. 447, name of **113**

Update to

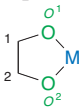


113 '(1-chloromethanolato-κO)

- *not* '(chloromethoxy)', see (b_{31})
- the presence of a second heteroatom (Cl–) requires the 'κO' (cf. **114**)

p. 447, name of **118**

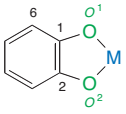
Update to



118 '[ethane-1,2-diolato(2–)-κO^1,κO^2]'

p. 447, name of **119**

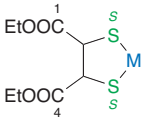
Update to



119 '[benzene-1,2-diolato(2–)-κO^1,κO^2]'

p. 448, name of **131**

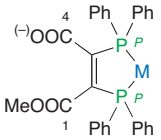
Update to



131 '[1,4-diethyl 2,3-di(mercapto-κS)butane~dioato(2–)]'

p. 448, name of **132**

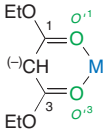
Update to



132 '[~~mono~~ 1-methyl 2,3-bis(diphenyl~phosphino-κP)but-2-enedioato]'

p. 449, name of **135**

Update to

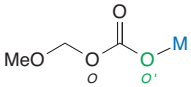


135 '(1,3-diethyl propanedioato-κO'^1,κO'^3)'

~~*not*~~ 'κO'^1,κO'^3'

p. 449, name of **136**

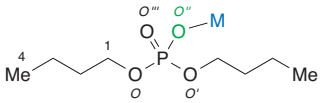
Update formula to



136 '[mono(methoxymethyl) carbonato-κO']'

p. 449, name of **139**

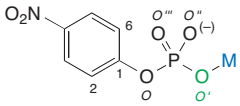
Update formula to



139 '(dibutyl phosphato-κO'')'

p. 449, name of **140**

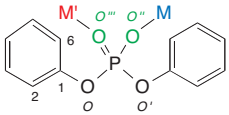
Update formula to



140 '[mono(4-nitrophenyl) phosphato(2–)-κO']'

p. 449, name of **141**

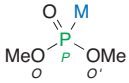
Update formula to



141 '[μ-(diphenyl phosphato-κO'':κO''')]'

p. 449, name of **142**

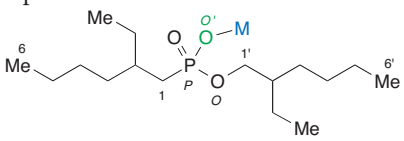
Update formula to



142 '(dimethyl phosphonato-κP)'

p. 449, name of **143**

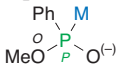
Update to



143 '[~~O-~~ mono(2-ethylhexyl) *P*-(2-ethylhexyl)phos~phonato-κO']'

p. 449, name of **144**

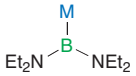
Update to



144 '(monomethyl *P*-phenylphosphonito-κP)'

p. 449, name of **148**

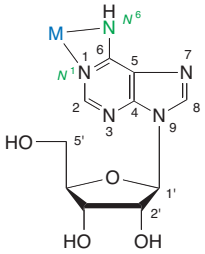
Update to



148 '~~(*N*,*N*,*N'*,*N'*-tetraethylboranediaminato-κ*B*)~~ '[bis(diethylamino)boryl]

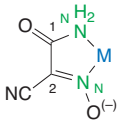
p. 449, name of **150**

Update to



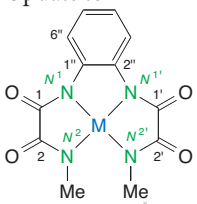
150 '(adenosinato-κN^1,κN^6)'

p. 449, name of **152**
Update formula to



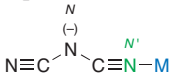
152 '[2-cyano-2-(hydroxyimino-κ*N*)acet~ amidato-κ*N*]'

p. 450, name of **155**
Update to



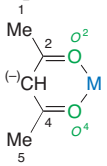
155 '{[*N*^{1},*N*$^{1'}$-1,2-phenylenebis[*N*^{2}-methylethane~ diamidato-κ*N*^{1},κ*N*^{2}]](4–)}'

p. 450, name of **159**
Update to



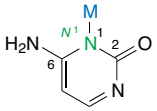
159 '(*N*-cyanocyanamidato-κ*N*′)'

p. 450, name of **161**
Update to



161 '(pentane-2,4-dionato-κ*O*^{2},κ*O*^{4})'

p. 450, name of **162**
Update to

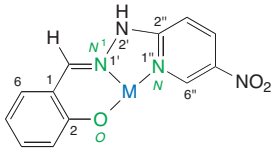


162 '[4 6-aminopyrimidin-2(1*H*)-onato-κ*N*^{1}]'
since 2007, the numbering has been revised according to the the tautomer CIP rule of ¶ 122, subrule 6.1 (see A.5)

p. 451, name of **166**
Update to
166 '{[butane-2,3-dione 2,3-**di**(oximato-κ*N*)](1–)}'

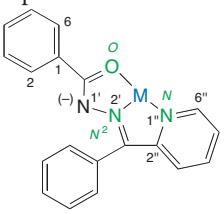
p. 451, name of **167**
Update to
167 '{[cyclohexa-3,5-diene-1,2-dione 1,2-**di**(oximato-κ*N*)](1–)}'

p. 451, name of **168**
Update to



168 '[2-(hydroxy-κ*O*)benzaldehyde 2-(5-nitro~ pyridin-2-yl-κ*N*)hydrazonato-κ*N*^{1}]'

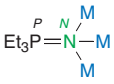
p. 451, name of **169**
Update to



169 '{(benzoic acid-κ*O*) 2-[phenyl(pyridin-2-yl-κ*N*)methylene]hydrazidato-κ*N*^{2}}'

p. 451, name of **171**
Update to
171 '[*N*-(mercapto-κ*S*)sulfur diimidato(2–)-κ*N*′]'

p. 451, name of **175**
Update to

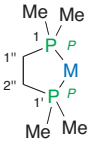


175 '[μ$_3$-(*P*,*P*,*P*-triethylphosphine imidato-κ*N*:κ*N*:κ*N*)]'

p. 452, *Examples* (b$_4$) Table
Update to

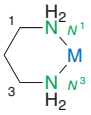
O$_2$	'**(dioxygen)**', e.g., ~~'(dioxygen-κ*O*,κ*O*′)'~~ '(dioxygen-κ*O*^{1},κ*O*^{2})'
N$_2$	'**(dinitrogen)**', e.g., ~~'(dinitrogen-κ*N*,κ*N*′)'~~ '(dinitrogen-κ*N*^{1},κ*N*^{2})'
H$_2$	'**(dihydrogen)**', e.g., ~~'(dihydrogen-κ*H*,κ*H*′)'~~ '(dihydrogen-κ*H*^{1},κ*H*^{2})'

p. 452, name of **181**
Update to



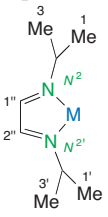
181 '[1,1′-(ethane-1,2-diyl)bis[1,1-dimethyl~ phosphine-κ*P*]]'

p. 453, name of **195**
Update to



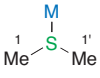
195 '(propane-1,3-diamine-κ*N*^{1},κ*N*^{3})'

p. 453, name of **196**
Update to



196 '(*N*^{2},*N*$^{2'}$-ethane-1,2-diylidenebis[propan-2-amine-κ*N*^{2}])'

p. 453, name of **200**
Update to



200 '[1,1′-thiobis[methane]]'

p. 454, left-hand column, line 28

Update to

Except for a ligand name not requiring enclosing marks like 'bromo' or 'ethane-1,2-diyl', a bridge-ligand name is always enclosed in **brackets or braces**, e.g.,

'[μ-(cyano-κ*C*:κ*C*)]' ((NC^-)<), '[μ-(peroxy-κO^1:κO^2)]' ((O_2^{2-})<)

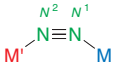
p. 454, left-hand column, line 18 from below

Update to

'tris[μ-(dioxygen-κO^1:κO^2)]' (3 O_2<).

p. 454, name of **209**

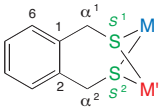
Update to



209 '[μ-(dinitrogen-κN^1:κN^2)]'

p. 455, name of **215**

Update to



215 '{μ-[benzene-1,2-dimethanethiolato(2–)-κS^1,κS^2:κS^1,κS^2]}'

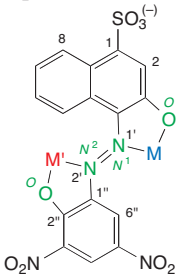
p. 455, name of **220**

Update to

220 '[μ_3-(1,2-phenylene-κC^1:κC^1:κC^2)]'

p. 455, name of **225**

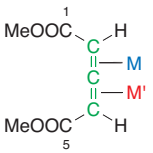
Update to



225 '{μ-{3-(hydroxy-κ*O*)-4-{2-[2-(hydroxy-κ*O*)-3,5-dinitrophenyl]diazenyl-κN^1:κN^2}naphthalene-1-sulfonato(3–)}}'

p. 455, name of **226**

Update to



226 ~~'{μ-[(2,3-η:3,4-η)-dimethyl penta-2,3-dienedioate]}'~~

'{μ-[1,5-dimethyl (2,3-η:3,4-η)-penta-2,3-dienedioate]}'

p. 456, **(c)** *Monocuclear cationic coordination compounds*

Update to

The name of a cationic coordination compound **[ML]**$^{x+}$, **[MLL′]**$^{x+}$, **[MLL′L″]**$^{x+}$, etc., with the central atom M, the neutral or charged ligands L, L′, L″, etc., and $x = 1, 2, ...$, consists of:

ligand names for the ligands **L**, **L′**, **L″**, etc., by (b), in alphabetical order and where appropriate preceded by a multiplying affix § 3.5

+

central-atom name for **M** by *§ A.4* § A.4

+

charge number '(*x*+)'[8)]

When more than one coordination cation is present, the senior central atom M (see (a)) is preferred (e.g., 'platinum(2+)' > 'palladium(3+)'), and in case of alike central atoms, the one with the higher charge number '(*x*+)' is preferred (see, Definiton III; e.g., 'copper(2+)' > 'copper(1+)').

p. 456, Notice (c)

Update to

In an uninverted **salt name**, the name of the coordination cation is always followed by the name of the anion and a ratio[8)], anion which can also be a coordination compound, see (g). In the case of multiple occurrence of an anion, the following holds:

- Since 2007, and if the anion is a monoanion, its name ~~is~~ has **no longer** been preceded by a **multiplying affix**, i.e., 'di-', 'tri-', etc., in the case of a simple anion, e.g.,

  'chloride' (Cl^-), 'perchlorate' (ClO_4^-), 'acetate' ($MeCOO^-$), 'dimethanesulfonate' ($MeSO_3^-$), 'methoxide' (MeO^-), 'hydroxide' (OH^-),

  or 'bis-', 'tris-', etc., in the case of a composite anion, e.g.,

  'tetrafluoroborate(1–)' ($[BF_4]^-$), 'hexafluorophosphate(1–)' ($[PF_6]^-$), 'tetraphenylborate(1–)' ($[BPh_4]^-$).

  Instead, a ratio has been used in all cases.

  Examples are **230**, **231**, **232**, and **234**.

- If the anion is a dianion or polyanion, e.g.,

  'sulfate' (SO_4^{2-}), 'tetrabromocobaltate(2–)' ($[CoBr_4]^{2-}$), 'hexakis(cyano-κ*C*)ferrate(4–)' ($[Fe(CN)_6]^{4-}$),

  or if different kinds of anions, all cited in alphabetical order, are present, the **ratio** of the coordination cation and the anion(s), in the order of citation and enclosed in parentheses, follows the last anion name, i.e., no multiplying affixes are needed. Examples are **233**, **235**, and **236**. § 3.5

  Since 2007, the ~~An~~ *exception* requiring no ratio ~~is~~ has no longer been used in the presence of exclusively monoanions compensating the charge of the coordination cation; **instead, a ratio has been used**, e.g.,

  '[coordination-cation name(2+)] chloride perchlorate (1:1:1)'

  ($[coordination\ cation]^{2+}\cdot Cl^-\cdot ClO_4^-$),

  '[coordination-cation name(3+)] ~~di~~nitrate perchlorate (1:2:1)'

  ($[coordination\ cation]^{3+}\cdot 2\ NO_3^-\cdot ClO_4^-$),

  '[coordination-cation name(4+)] ~~bis~~[hexachloro~antimonate(1–)] ~~bis~~[hexafluorophosphate(1–)] (1:2:2)'

  ($[coordination\ cation]^{4+}\cdot 2\ [SbCl_6]^-\cdot 2\ [PF_6]^-$).

- ....

  Since 2007, the ~~An~~ *exception* requiring no ratio ~~is~~ has no longer been used for simple monocations in the presence of a coordination anion according to (g) (see below) compensating the charge of the coordination anion; **instead, a ratio has been used**, e.g.,

  'potassium hydrogen [coordination-anion name(2–)] (1:1:1)'

  ($K^+\cdot H^+\cdot [coordination\ anion]^{2-}$)).

p. 456, *Footnote 8*

Update to

8) In CA's 'Chemical Substance Index', the name of a mononuclear cationic coordination compound is registered under the central-atom name with the charge number as **heading parent**, followed, after the comma of inversion, by the **ligand names** in alphabetical order, ~~then by the stereodescriptor (see (i))~~, then by a **modification** consisting of the names of possibly present other ~~anions~~ cations including nonsenior coordination cations (see **237**) in alphabetical order ('hydrogen' (H^+) being cited last among other cation names, see **235**) and followed by anion names in alphabetical order, then names of neutral compounds such as 'hydrogen chloride' (HCl), then 'hydrate' (solvate with H_2O) or 'ammoniate' (solvate with NH_3), then expressions such as 'compd. with ...' ~~(see **230–232 and 234**)~~, and in the end ~~if required,~~ by the ratio of the cation(s), anion(s), neutral compound(s), 'hydrate' etc., in which the first number refers to the heading parent (i.e., to the name of the coordination cation of the inverted name), (see ~~**233**~~ **230–237**). ~~If other but nonsenior cations are present, their names are also given in the **modification** in alphabetical order, except for 'hydrogen' which is cited last among the cation names (see **235**), all nonsenior-cation names as a set preceding the set of anion names (see **235–237**).~~

In the modification, a comma separates the set of all ion names, from the set of neutral-compound names, from 'hydrate', and finally from 'compd. with ...'.

In the inverted name, the **stereodescriptor** of the heading parent (see (i)) is placed after the ligand names (see **231–233** and **235–237**) or after the ratio if the modification contains so-called single-atom fragments which do not need a stereodescriptor, such as 'sodium', 'hydrogen', 'chloride', 'hydrochloride', hydrate', etc. (see **230**).

p. 457, name of **230**

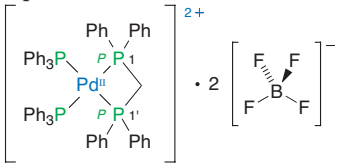
Update to

230 'pentaammine(nitrito-κ*O*)cobalt(2+) ~~di~~chloride (1:2)'[8)]

CA: 'cobalt (2+), pentaammine(nitrito-κ*O*)-, ~~di~~chloride (1:2), (*OC*-6-22)-'[8)]

p. 457, name of **231**

Update to



231 '[1,1′-methylenebis[1,1-diphenylphosphine-κ*P*]]bis(triphenylphosphine)palladium(2+) ~~bis[(~~tetrafluoroborate(1–)~~]~~ (1:2)'[8)]

CA: 'palladium(2+), [1,1′-methylenebis[1,1-diphenylphosphine-κ*P*]]bis(triphenylphosphine)-, (*SP*-4-2)-, ~~bis[(~~tetrafluoroborate(1–)~~]~~ (1:2)'[8)]

p. 457, name of **232**

Update to

232 '{2-[1-(dimethylamino-κ*N*)ethyl]phenyl-κ*C*}(tetrahydrofuran)[2-(triphenylphosphoranylidene)acetonitrile-κ*N*]palladium(1+) perchlorate (1:1)'[8)]

CA: 'palladium(1+), [2-[1-(dimethylamino-κ*N*)ethyl]phenyl-κ*C*](tetrahydrofuran)[2-(triphenylphosphoranylidene)acetonitrile-κ*N*]-, (*SP*-4-3)-, perchlorate (1:1)'[8)]

p. 457, name of **234**

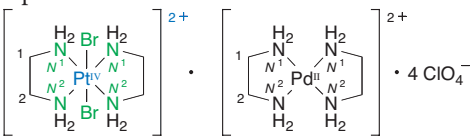
Update to

234 'bis{2,2′,2″-(nitrilo-κ*N*)tris[ethanol-κ*O*]}magnesium(2+) ~~di~~chloride (1:2)'[8)]

CA: 'magnesium(2+), bis[...[ethanol-κ*O*]]-, ~~di~~chloride (1:2)'[8)]

p. 457, name of **237**

Update to

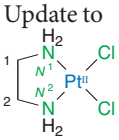


237 'bis(ethane-1,2-diamine-κN^1,κN^2)palladium(2+) [dibromobis(ethane-1,2-diamine-κN^1,κN^2)platinum(2+) perchlorate (1:1:4)'[8)]

CA: 'platinum(2+), dibromobis(1,2-ethanediamine-κN^1,κN^2)-, (*OC*-6-12)-, (*SP*-4-1)-bis(1,2-ethanediamine-κN^1,κN^2)palladium(2+) perchlorate (1:1:4)'[8)]

p. 459, name of **249**

Update to



249 'dichloro(ethane-1,2-diamine-κN^1,κN^2)platinum'

CA: 'platinum, dichloro(1,2-ethanediamine-κN^1,κN^2)-, (*SP*-4-2)-'

p. 459, name of **250**

Update to

250 'bis[2-(mercapto-κ*S*)acetato-κ*O*]mercury'

CA: 'mercury, bis[2-(mercapto-κ*S*)acetato-κ*O*]-, (*T*-4)-'

p. 459, name of **251**

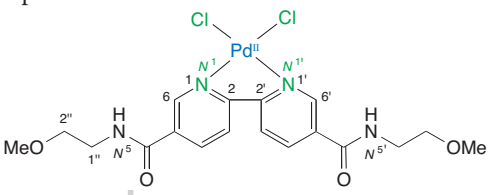
Update to

251 '(1-acetyl-2-oxopropyl)dimethyl(piperidine)gold'

CA: 'gold, (1-acetyl-2-oxopropyl)dimethyl(piperidine)-, (*SP*-4-3)-'

p. 459, name of **254**

Update to

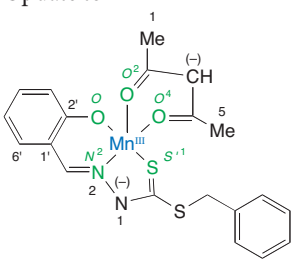


254 '{N^5,$N^{5'}$-bis(2-methoxyethyl)[2,2′-bipyridine]-5,5′-dicarboxamide-κN^1,κ$N^{1'}$}dichloropalladium'

CA: 'palladium, [N^5,$N^{5'}$-bis[2-methoxyethyl)[2,2′-bipyridine]-5,5′-dicarboxamide-κN^1,κ$N^{1'}$]-, (*SP*-4-3)-' ?? for N^5,$N^{5'}$

p. 459, name of **255**

Update to



255 '(pentane-2,4-dionato-κO^2,κO^4){phenylmethyl 2-{[2-(hydroxy-κ*O*)phenyl]methylene}hydrazinecarbodithioato(2–)-κN^2,κ$S^{'1}$}manganese'

CA: 'manganese, (2,4-pentanedionato-κO^2,κO^4)[phenylmethyl 2-[[2-(hydroxy-κ*O*)phenyl]methylene]hydrazinecarbodithioato(2–)-κN^2,κ$S^{'1}$]-, (*SP*-5-23)-'

p. 459, **(f)** *Metallocenes*

Update to

A metallocene is a ~~bis(~~ di-cyclopentadienyl~~)~~metal coordination compound **M(C$_5$H$_5$)$_2$**, in which all C atoms of the two ligands $C_5H_5^-$ are involved in the ligand–metal bonds and in which M = transition metal, Al, Ga, In, Tl, Ge, Sn, Pb, Be, and Mg.

p. 459, *Footnote 11*

Update to

11) In CA's 'Chemical Substance Index', a metallocene name is a **heading parent**, e.g., 'osmocene, ~~1-~~(2-hydroxyethyl)-' (**261**).

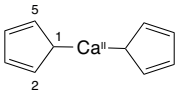
p. 460, *Notice* (f), last bullet

Update to

Cation names can be formed by adding the ending '**-ium**' to the metallocene names, see **268**–**271**; since 2007, a ratio has been used if the cation name is followed by an anion name, see **268**, **269**, and **271**.

p. 460, name of **256**

Update to



256 '~~calciocene~~'
'**di-cyclopenta-2,4-dien-1-ylcalcium**'

- ~~*not* 'calcocene' since the CA heteroatom syllable is 'calcia-'~~
- ~~the charges (–) are considered in the name~~
- Ca^{II} does not form a metallocene, i.e., not 'calciocene', see definition above; similarly, the former 'strontocene' (M^{II} = Sr^{II}) and 'barocene' (M^{II} = Ba^{II}) have now the names 'di-cyclopenta-2,4-dien-1-ylstrontium' and 'di-cyclopenta-2,4-dien-1-ylbarium'; however, 'magneso~cene' (M^{II} = Mg^{II}) is retained

p. 460, name of **261**

Update to

261 '~~1-~~(2-hydroxyethyl)osmocene'

p. 461, name of **268**

Update to

268 '1,1′-dichloronickelocenium hexafluoro~phosphate(1–) (1:1)'

p. 460, name of **269**

Update to

269 '1-cobaltocenyl-1′-rhodocenylferrocenium(2+) ~~bis~~[hexafluorophosphate(1–)] (1:2)'

p. 460, name of **271**

Update to

271 'cobaltocenium tricarbonyl(η^5-cyclopenta-2,4-dien-1-yl)chromate(1–) (1:1)'

p. 461, **(g)** *Mononuclear anionic coordination compounds*

Update to

The name of an anionic coordination compound **[ML]**$^{x-}$, **[MLL′]**$^{x-}$, **[MLL′L″]**$^{x-}$, etc., with the central atom M, the neutral or charged ligands L, L′, L″, etc., and x = 1, 2, ..., consists of:

§ 3.5 **ligand names** for the ligands **L**, **L′**, **L″**, etc., by (b), in alphabetical order and where appropriate preceded by a multiplying affix

+

§ A.4 **central-atom 'ate' name** for **M**, consisting of the heteroatom syllable ('a' syllable) by *§ A.4* and an appended syllable '-te'

+

charge number '(*x*–)' [12]

When more than one coordination anion is present, the senior central atom M (see (a)) is preferred (e.g., 'chromate(1-)' > 'ferrate(2-)'), and in the case of alike central atoms, the one with the higher charge number '(*x*–)' is preferred (see, Definiton III; e.g., 'anti~monate(3–)' > 'antimonate(1–)').

p. 461, *Footnote 12*

Update to

12) In CAs 'Chemical Substance Index', the name of a mononuclear anionic coordination compound is registered under the central-atom 'ate' name with the charge number as **heading parent**, followed, after the comma of inversion, by the **ligand names** in alphabetical order, then by a **modification** consisting of the names of possibly present *simple* cations in alphabetical order ~~except for~~ ('hydrogen' ~~which is~~ being cited last among the other cation names, see **272** and **273**) and followed by anion names in alphabetical order, then names of neutral compounds such as 'hydrogen chloride' (HCl), then 'hydrate' (solvate with H_2O) or 'ammoniate' (solvate with NH_3), then expressions such as 'compd. with ...' ~~(see **230**–**232** and **234**)~~, and in the end ~~if required,~~ by the ratio of the coordination anion, cation(s), anion(s), neutral compound(s), 'hydrate' etc., in which the first number refers to the heading parent (i.e., to the name of the coordination anion of the inverted name, see **274**– **279** ~~**276**~~~~), and finally by the stereodescriptor of the anionic coordination compound (see (i)), i.e., for the heading parent (see **273** and **276**–**278**)~~.

In the modification, a comma separates the set of all ion names from the set of neutral-compound names , then from 'hydrate', and finally from 'compd. with ...'.

~~A mononuclear anionic coordination compound which forms a salt with simple cations and with other simple and/or complex (nonsenior) anions is registered similarly under the central-atom 'ate' name with the charge number; in this case, the **modification** consists of the set of the cation names in alphabetical order, except for 'hydrogen' which is cited last, followed by the set of the anion names, also arranged in alphabetical order and including nonsenior coordination anions (see **279**); if the modification contains complex cations or anions, the stereodescriptor of the heading parent is first cited in the modification (see **279**).~~
from the set of neutral-compound names , then from 'hydrate', and finally from 'compd. with ...'.

In the inverted name, the **stereodescriptor** of the heading parent (see (i)) is placed after the ligand names (see **279**) or after the ratio if the modification contains so-called single-atom fragments which do not need a stereodescriptor such as 'sodium', 'hydrogen', 'chloride', 'hydrochloride', hydrate', etc. (see **273** and **276**–**278**).

If a coordination or organic cation is present, the compound is ~~preferably~~ registered under the cation name; ~~although an additional entry under the coordination-anion name appears; similarly,~~ since 2007, an additional entry under the name of a nonsenior coordination anion has no longer been made ~~appears; except~~ similarly, no index entry is made for simple coordination anions such as 'tetrafluoroborate(1–)' ([BF$_4$]$^-$), 'tetraphenylborate(–)' ([BPh$_4$]$^-$), and 'hexafluorophosphate(1–)' ([PF$_6$]$^-$) (CA ¶ 215 and 281A).

p. 461–462, *Notice* (g)

Update to

In an uninverted **salt name**, the name of the coordination anion is always preceded by the name of the cation[12]. For cations with variable valence and in the case of multiple occurrence of a cation, the following holds:

- For a cation of variable valence, the corresponding charge number must always be cited after its name, e.g.,
  'iron(2+)' (Fe^{II}), 'iron(3+)' (Fe^{III}),
  'mercury(1+)' (Hg^{I}), 'mercury(2+)' (Hg^{II}).
  Examples are **275** and **279**.
- Since 2007, and if the cation is a simple monocation, its name ~~is~~ has no longer been preceded by a **multiplying affix** 'di-', 'tri-', etc.; **instead a ratio has been used**, e.g.,

'sodium' (Na^+), 'lithium' (Li^+),
'ammonium' (NH_4^+), 'hydrogen' (H^+).

Examples are **273**, **276**, and **278**.

- If the cation is a simple dication or a polycation, e.g.,

'calcium' (Ca^{2+}), 'europium(3+)' (Eu^{3+}), 'iron(3+)' (Fe^{3+}),

§3.5 or if different kinds of simple cations are present, all cited in alphabetical order, *except for 'hydrogen'* (H^+) *which is cited last among the cation names*, the **ratio** of the cations and the anion, in the order of citation and enclosed in parentheses, follows the anion name, e.g.,

'strontium [coordination-anion name(2–)] (1:1)'
(Sr^{2+}·[coordination anion]$^{2-}$)

'cesium lead(2+) [coordination-anion name(4–)] (2:1:1)'
(2 Cs^+·Pb^{2+}·[coordination anion]$^{4-}$)

Examples are **272**, **274**, **275**, and **279**

Since 2007, the ~~An~~ *exception* requiring no ratio ~~is~~ has no longer been used in the presence of exclusively simple monocations compensating the charge of the coordination anion; **instead, a ratio has been used**,, e.g.,

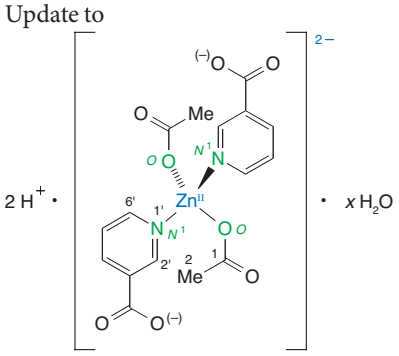
'~~di~~sodium hydrogen [coordination-anion name(3–)] (2:1:1)'
(2 Na^+·H^+·[coordination anion]$^{3-}$)

'potassium ~~di~~thallium(1+) [coordination-anion name(3–)] (1:2:1)'
(K^+·2 Tl^+·[coordination anion]$^{3-}$)

An example is **272**.

p. 462, name of **272**
Update to
272 'sodium hydrogen {*N*,*N*-bis{2-{bis[(carboxy-κ*O*)~methyl]amino-κ*N*}ethyl}glycinato(5–)-κ*N*,κ*O*}~antimonate(2–) (1:1:1)' [12)]
CA: 'antimonate(2–), [*N*,*N*-bis[2-bis[(carboxy-κ*O*)~methyl]amino-κ*N*]ethyl]glycinato(5–)-κ*N*,κ*O*]-, sodium hydrogen (1:1:1)' [12)]

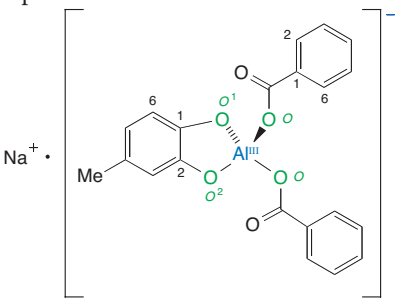
p. 462, name of **273**
Update to



273 'dihydrogen bis(acetato-κ*O*)bis(pyridine-3-carboxylato-κ*N*^{1})zincate(2–)] hydrate (2:1:?)' [12)]
CA: 'zincate(2–), bis(acetato-κ*O*)bis(3-pyridine~carboxylato-κ*N*^{1})-, dihydrogen hydrate (1:2:?), (*T*-4)-' [12)]

p. 463, name of **276**
Update to
276 'hydrogen bis[~~mono~~ 1-methyl 2,3-bis(diphenyl~phosphino-κ*P*)but-2-enedioato]cuprate(1–) chloride (2:1:1)' [12)]
CA: 'cuprate(1–), bis[~~mono~~ 1-methyl 2,3-bis(diphenyl~phosphino-κ*P*)-2-butenedioato]-, hydrogen chloride (1:2:1), (*T*-4)-' [12)]

p. 463, name of **277**
Update to



277 'sodium bis(benzoato-κ*O*)[4-methylbenzene-1,2-diolato(2–)-κ*O*^{1},κ*O*^{2}]}aluminate(1–) (1:1)' [12)]
CA: 'aluminate(1–), bis(benzoato-κ*O*)[4-methyl-1,2-benzenediolato(2–)-κ*O*^{1},κ*O*^{2}]-, sodium (1:1), (*T*-4)-' [12)]

p. 463, name of **278**
Update to
278 'trihydrogen [29*H*,31*H*-phthalocyanine-2,9,16,23-tetrasulfonato(6–)-κ*N*^{29},κ*N*^{30},κ*N*^{31},κ*N*^{32}]~gallate(3–) (3:1)' [12)]
CA: 'gallate(3–), [29*H*,31*H*-phthalocyanine-2,9,16,23-tetrasulfonato(6–)-κ*N*^{29},κ*N*^{30},κ*N*^{31},κ*N*^{32}]-, trihydrogen (1:3), (*SP*-4-1)-' [12)]

p. 464, name of **283**
Update to
283 'tetrakis[μ-(*N*,*N*′-diphenylbenzenecarboximid~amidato-κ*N*:κ*N*′)]dicobalt(1+)(*Co-Co*) hexafluorophosphate(1–) (1:1)' [13)]
CA: 'cobalt(1+), tetrakis[μ-(*N*,*N*′-diphenylbenzene~carboximidamidato-κ*N*:κ*N*′)]di-, (*Co-Co*), hexafluoro~phosphate(1–) (1:1)' [13)]

p. 465, name of **285**
Update to
285 'hexacarbonyl{μ-[η^4:η^5-6-(2-thienyl-κ*S*)cyclo~hexa-2,4-dien-1-yl]}dimanganese(1+) tetrafluoroborate(1–) (1:1)' [13)]
CA: 'manganese(1+), hexacarbonyl[μ-[η^4:η^5-6-(2-thien~yl-κ*S*)-2,4-cyclohexadien-1-yl]]di-, tetrafluoroborate(1–) (1:1)' [13)]

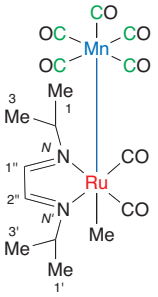
p. 465, name of **286**
Update to
286 '{μ-[methylenebis[diphenylphosphine-κ*P*]]}~[μ-(2,3,4,5,6-pentafluorobenzenethiolato-κ*S*:κ*S*)]bis(triphenylstibine)dipalladium(1+)~(*Pd-Pd*)' [13)]
CA: 'palladium(1+), [μ-[methylenebis[diphenyl~phosphine-κ*P*]]][μ-(2,3,4,5,6-pentafluorobenzene~thiolato-κ*S*:κ*S*)]bis(triphenylstibine)di-, (*Pd-Pd*)' [13)]

p. 465, name of **287**
Update to
287 'sodium μ-carbonylhexacarbonyl[μ-(diphenyl~phosphino)]diferrate(1–)(*Fe-Fe*) (1:1)' [13)]
CA: 'ferrate(1–), μ-carbonylhexacarbonyl[μ-(diphenyl~phosphino)]di-, (*Fe-Fe*), sodium (1:1)' [13)]

p. 466, name of **289**
Update to
289 'tricarbonyl{μ-[η^5:~~η^6~~ η^7-1-(cyclohepta-2,4,6-trien-1-ylium-1-yl)cyclopenta-2,4-dien-1-yl]}~(tricarbonylmanganese)chromium(1+)'
CA: 'chromium(1+), tricarbonyl[μ-[η^5:~~η^6~~ η^7-1-cyclo~heptatrienylium-1-yl-2,4-cyclopentadien-1-yl]]~(tricarbonylmanganese)-'; presumably, the cation substituent should read '(2,4,6-cycloheptatrien-1-ylium-1-yl)' as is the case with the same ligand moiety in similar coordination compounds

p. 466, name of **291**

Update formula to

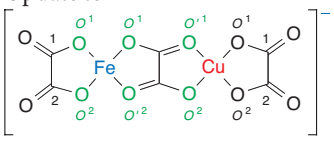


291 'pentacarbonyl{dicarbonyl[*N*,*N*′-ethane-1,2-diylidenebis[propan-2-amine-κ*N*]]methyl~ruthenium}manganese(*Mn-Ru*)'

CA: 'manganese, pentacarbonyl[dicarbonyl[*N*,*N*′-1,2-ethanediylidenebis[2-propanamine-κ*N*]]methyl~ruthenium]-, (*Mn-Ru*)'

p. 466, name of **292**

Update to

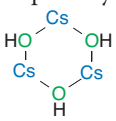


292 '{μ-[ethanedioato(2–)-κO^1,κO'^2:κO^2,κO'^1]}~[ethanedioato(2–)-κO^1,κO^2]{[ethanedioato(2–)-κO^1,κO^2]cuprate}ferrate(1–)'

CA: 'ferrate(1–), [μ-[ethanedioato(2–)-κO^1,κO'^2:κO^2,κO'^1]][ethanedioato(2–)-κO^1,κO^2]~[[ethanedioato(2–)-κO^1,κO^2]cuprate]-'

p. 467, name of **294**

Replace by



294 '*cyclo*-tri-μ-hydroxytricesium'

- CA: 'cesium, tri-μ-hydroxy-, *cyclo*'
- neutral coordination compound, see (e)
- anionic ligands, see (b_{31})

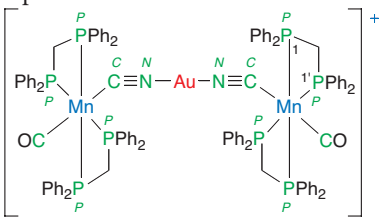
p. 467, name of **299**

Change to

CA: 'cobalt(1+), tris[(1,2,3,4,5-η)-1-ethyl-2,3,4,5-tetramethyl-2,4-cyclopentadien-1-yl]tri-μ-hydro-μ$_3$-hydro-[(triethylphosphine)silver]tri-, *tetrahedro*'

p. 468, name of **302**

Update to



302 'dicarbonylbis[μ-(cyano-κ*C*:κ*N*)](gold)~tetrakis[1,1′-methylenebis[1,1-diphenyl~phosphine-κ*P*]]dimanganese(1+)'

CA: 'manganese(1+), dicarbonylbis[μ-(cyano-κ*C*:κ*N*)]~(gold)[tetrakis[1,1′-methylenebis[1,1-diphenyl~phosphine-κ*P*]]di-'

p. 468, name of **304**

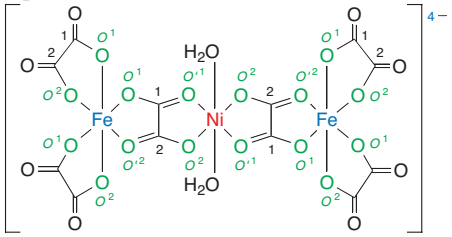
Update to

304 tris(copper)tris{μ-[1,4,8,11-tetraazacyclotetra~decane-2,3-dionato(2–)-κN^1,κN^4,κN^8,κN^{11}:~κO^2,κO^3]}manganese(2+) ~~di~~azide compd. with ethanol (1:2:1)'

CA: manganese(2+), tris(copper)tris[μ-[1,4,8,11-tetraazacyclotetradecane-2,3-dionato(2–)-κN^1,κN^4,κN^8,κN^{11}:κO^2,κO^3]]-, ~~di~~azide, compd. with ethanol (1:2:1)'

p. 469, name of **310**

Update to

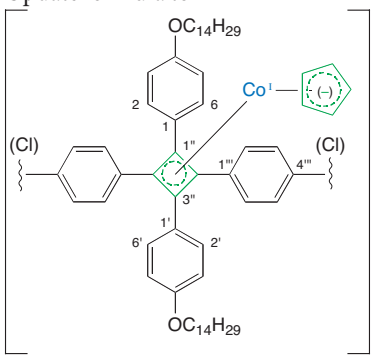


310 '(diaquanickelate)bis{μ-[ethanedioato(2–)-κO^1,κO'^2:κO^2,κO'^1]}tetrakis[ethanedioato(2–)-κO^1,κO^2]diferrate(4–)'

CA: 'ferrate(4–), (diaquanickelate)bis[μ-[ethane~dioato(2–)-κO^1,κO'^2:κO^2,κO'^1]]tetrakis[ethane~dioato(2–)-κO^1,κO^2]di-'

p. 469, name of **312**

Update formula to



312 '{1,1′-[(1,2,3,4-η)-2,4-bis(4-chlorophenyl)cyclo~buta-1,3-diene-1,3-diyl]bis[4-(tetradecyloxy)~benzene]}(η^5-cyclopenta-2,4-dien-1-yl)cobalt homopolymer'

p. 472, entry '(ade)' of Tab. 6.4

Update to

'(ade)' **325** '(~~1*H*~~ 9*H*-purin-6-amine)' (cf. **193** and also **162**)

p. 472, entry '(ama)' of Tab. 6.4

Update to

'(ama)' $^-$OOCCH(NH$_2$)COO$^-$ '[2-aminopropanedi~oato(2–)]' (cf. **99** and **31**)'

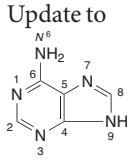
p. 472, entry '(atmp)' of Tab. 6.4

Update to

'(atmp)' **338** '{{*P*,*P*′,*P*″-[nitrilotris(methylene)]tris~[phosphonato]}(6–)}' (cf. **94**)

p. 473, name of **325**

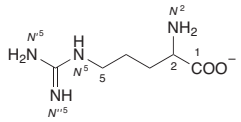
Update to



325 '(~~1*H*~~ 9*H*-purin-6-amine)'

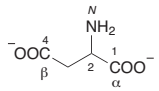
since 2007, the locant of the indicated H atom has been revised according to the tautomer CIP rule of ¶ 122, subrule 6.1 (see A.5)

p. 473, name of **335**
Update formula to



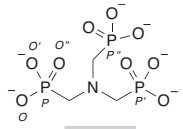
335 '(argininato)'

p. 473, name of **337**
Update formula to



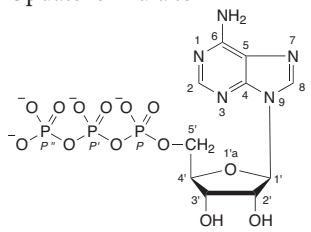
337 '[aspartato(2–)]'

p. 473, name of **338**
Update formula to



338 '{{*P,P′,P″*-[nitrilotris(methylene)]tris[phos~phonato]}(6–)}

p. 473, name of **339**
Update formula to

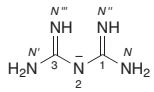


339 '[adenosine 5'-triphosphato(4–)]'

p. 473, name of **341**
Update to
341 '(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxa~cyclopentadecin~~(e)~~)'

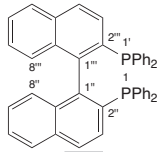
p. 474, entry '(binap)' of Tab. 6.4
Update to
'(binap)' **344** '[1,1′-[1,1′-binaphthalene]-2,2′-diylbis[1,1-diphenylphosphine]]' (cf. *§ A.6.4*, there **72**)

p. 475, name of **342**
Update formula to



342 '(imidodicarbonimidic diamidato)'

p. 475, name of **344**
Update to



344 '[1,1′-[1,1′-binaphthalene]-2,2′-diylbis[1,1-diphenyl~phosphine]]'

p. 476, entry '(depe)' of Tab. 6.4
Update to
'(depe)' $Et_2PCH_2CH_2PEt_2$ '[1,1′-(ethane-1,2-diyl)bis[1,1-diethylphosphine]]' (cf. **181**)

p. 476, entry '(diars)' of Tab. 6.4
Update to
'(diars)' **357** '[1,1′-(1,2-phenylene)bis[1,1-dimethyl~arsine]]' (cf. **181**)

p. 476, entry '(dien)' of Tab. 6.4
Update to
'(dien)' $HN(CH_2CH_2NH_2)_2$ '[N^1-(2-aminoethyl)ethane-1,2-diamine]' (cf. **38**)

p. 476, entry '(diop)' of Tab. 6.4
Update to
'(diop)' **359** '{1,1′-[(2,2-dimethyl-1,3-dioxolane-4,5-diyl)bis(methylene)]bis[1,1-diphenyl~phosphine]}' (cf. **181**)

p. 476, entry '(dipamp)' of Tab. 6.4
Update to
'(dipamp)' **361** '[1,1′-(ethane-1,2-diyl)bis[1-(2-methoxy~phenyl)-1-phenylphosphine]]' (cf. **181**)

p. 476, entry '(dmg)' of Tab. 6.4
Update to
'(dmg)' **362** '[(butane-2,3-dione 2,3-dioximato)(2–)]' (cf. **166**)

p. 476, entry '(dmpe)' of Tab. 6.4
Update to
'(dmpe)' $Me_2PCH_2CH_2PMe_2$ '[1,1′-(ethane-1,2-diyl)bis~[1,1-dimethylphosphine]]' (see **181**)

p. 476, entry '(dmpm)' of Tab. 6.4
Update to
'(dmpm)' $Me_2PCH_2PMe_2$ '[1,1′-methylenebis[1,1-di~methylphosphine]]' (cf. **181**)

p. 476, entry '(dmso)' of Tab. 6.4
Update to
'(dmso)' MeS(=O)Me '[1,1′-sulfinylbis[methane]]'

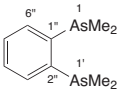
p. 476, entry '(dppe)' of Tab. 6.4
Update to
'(dppe)' $Ph_2PCH_2CH_2PPh_2$ '[1,1′-(ethane-1,2-diyl)bis[1,1-diphenylphoshine]]' (cf. **181**)

p. 476, entry '(dppm)' of Tab. 6.4
Update to
'(dppm)' $Ph_2PCH_2PPh_2$ '[1,1′-methylenebis[1,1-di~phenylphosphine]]' (cf. **181**)

p. 476, entry '(dppp)' of Tab. 6.4
Update to
'(dppp)' $Ph_2PCH_2CH_2CH_2PPh_2$ '[1,1′-(propane-1,3-diyl)~bis[1,1-diphenyl~phospine]]' (cf. **181**)

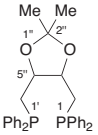
p. 476, entry '(dtmpa)' of Tab. 6.4
Update to
'(dtmpa)' **365** '{{*P,P′,P″,P‴*-{[(phosphonomethyl)imino]~bis[ethane-2,1-diylnitrilobis(methylene)]}~tetrakis[phosphonato]}(10–)}' (cf. **94**)

p. 477, name of **357**
Update to



357 '[1,1′-(1,2-phenylene)bis[1,1-dimethylarsine]]'

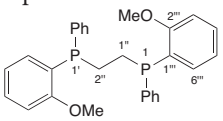
p. 477, name of **359**
Update to



359 '{1,1′-[(2,2-dimethyl-1,3-dioxolane-4,5-diyl)bis~(methylene)]bis[1,1-diphenylphosphine]}'

p. 477, name of **361**

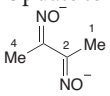
Update to



361 '[1,1′-(ethane-1,2-diyl)bis[1-(2-methoxyphenyl)-1-phenylphosphine]]'

p. 477, name of **362**

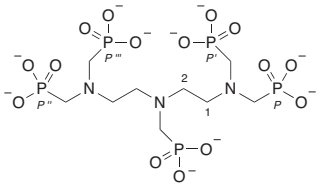
Update to



362 '[(butane-2,3-dione 2,3-dioximato)(2–)]

p. 477, name of **365**

Update to



365 '{{*P*,*P*′,*P*″,*P*‴-{[(phosphonomethyl)imino]bis[ethane-2,1-diylnitrilobis(methylene)]}tetrakis[phosphonato]}(10–)}'

p. 478, entry '(edtmpa)' of Tab. 6.4

Update to

'(edtmpa)'	**369**	'{{*P*,*P*′,*P*″,*P*‴-{ethane-1,2-diylbis[nitrilobis(methylene)]}tetrakis[phosphonato]}(8–)}' (cf. **94**)

p. 478, entry '(Et_2dtc)' of Tab. 6.4

Update to

'(Et_2dtc)'	$Et_2NC(=S)S^-$	'(*N*,*N*-diethylcarbamodithioato)' (see **92**)

p. 478, entry '(glu)' of Tab. 6.4

Update to

'(glu)'	**373**	'{[glutamato(2–)]' (cf. **103**–**105**)

p. 478, entry '(gua)' of Tab. 6.4

Update to

'(gua)'	**374**	'(2-amino-~~1,7~~1,9-dihydro-6*H*-purin-6-one)' (cf. **193**, **199**, and also **162**)'

p. 478, entry '(hdtmpa)' of Tab. 6.4

Update to

'(hdtmpa) '	**376**	'{{*P*,*P*′,*P*″,*P*‴-{hexane-1,6-diylbis[nitrilobis(methylene)]} tetrakis[phosphonato]}(8–)}' (cf. **94**)

p. 478, entry '(hedp)' of Tab. 6.4

Update to

'(hedp)'	**377**	'{[*P*,*P*′-(1-hydroxyethylidene)bis[phosphonato]](4–)}' (cf. **94**)

p. 478, entry '(hmpa)' of Tab. 6.4

Update to

'(hmpa)'	$P(=O)(NMe_2)_3$	'(*N*,*N*,*N*′,*N*′,*N*″,*N*″-hexamethylphosphoric triamide)'

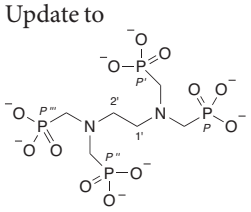
p. 478, entry '(mal)' of Tab. 6.4

Update to

'(mal)'	$^-OOCCH_2CH(OH)COO^-$	'[2-hydroxybutanedioato(2-)]' (cf. **98** and **99**)

p. 479, name of **369**

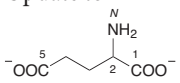
Update to



369 '{{*P*,*P*′,*P*″,*P*‴-{ethane-1,2-diylbis[nitrilobis(methylene)]}tetrakis[phosphonato]}(8–)}'

p. 479, name of **373**

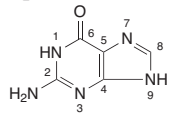
Update to



373 '{[glutamato(2–)]'

p. 479, name of **374**

Update to

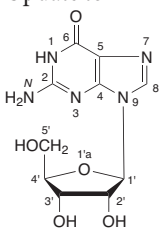


374 '(2-amino-~~1,7~~1,9-dihydro-6*H*-purin-6-one)'

since 2007, the locant of the mobile H atom has been revised according to the tautomer CIP rule of ¶ 122, subrule 6.1 (see A.5)

p. 479, name of **375**

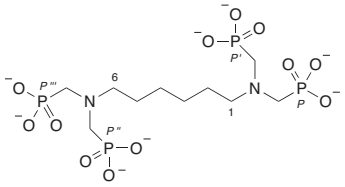
Update to



375 '(guanosine)

p. 479, name of **376**

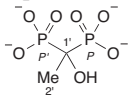
Update to



376 '{{*P*,*P*′,*P*″,*P*‴-{hexane-1,6-diylbis[nitrilobis(methylene)]}tetrakis[phosphonato]}(8–)}'

p. 479, name of **377**

Update to



377 '{[*P*,*P*′-(1-hydroxyethylidene)bis[phosphonato]](4–)}'

p. 480, entry '(pmdien)' of Tab. 6.4

Update to

'(pmdien)'	$MeN(CH_2CH_2NMe_2)_2$	'{*N*^{1}-[2-(dimethylamino)ethyl]-*N*^{1},*N*^{2},*N*^{2}-trimethylethane-1,2-diamine}' (cf. **38**)

p. 482, entry '(tcne)' of Tab. 6.4

Update to

'(tcne)'	$(NC)_2C=C(CN)_2$	'(ethene-1,1,2,2-tetracarbonitrile)'

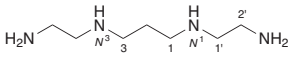
p. 482, entry '(2,3,2-tet)' of Tab. 6.4
Update to
'(2,3,2-tet)' **416** '[N^1,N^3-bis(2-aminoethyl)propane-1,3-diamine]' (cf. **38**)

p. 482, entry '(3,3,3-tet)' of Tab. 6.4
Update to
'(3,3,3-tet)' **417** '[N^1,N^3-bis(3-aminopropyl)propane-1,3-diamine]' (cf. **38**)

p. 482, entry '(tetren) of Tab. 6.4
Update to
'(tetren)' **418** '{N^1-(2-aminoethyl)-N^2-{2-[(2-amino~ethyl)amino]ethyl}ethane-1,2-diamine}' (cf. **38**)

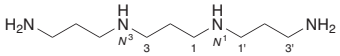
p. 482, entry '(tfa)' of Tab. 6.4
Update to
'(tfa)' CF_3COO^- '(2,2,2-trifluoroacetato)' (cf. **85**–**87**)

p. 483, name of **416**
Update to



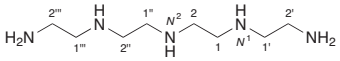
416 '[N^1,N^3-bis(2-aminoethyl)propane-1,3-diamine]'

p. 483, name of **417**
Update to



417 '[N^1,N^3-bis(3-aminopropyl)propane-1,3-diamine]'

p. 483, name of **418**
Update to



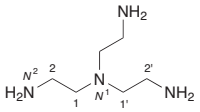
418 '{N^1-(2-aminoethyl)-N^2-{2-[(2-aminoethyl)amino]~ethyl}ethane-1,2-diamine}'

p. 484, entry '(tmen)' of Tab. 6.4
Update to
'(tmen)' $Me_2NCH_2CH_2NMe_2$ '(N^1,N^1,N^2,N^2-tetramethyl~ethane-1,2-diamine)' (cf. **195**)

p. 484, entry '(tren)' of Tab. 6.4
Update to
'(tren)' **425** '[N^1,N^1-bis(2-aminoethyl)ethane-1,2-diamine]' (cf. **38**)

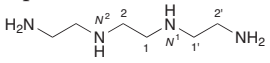
p. 484, entry '(trien)' of Tab. 6.4
Update to
'(trien)' **426** '[N^1,N^2-bis(2-aminoethyl)ethane-1,2-diamine]' (see **38**)

p. 485, name of **425**
Update to



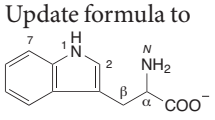
425 '[N^1,N^1-bis(2-aminoethyl)ethane-1,2-diamine]'

p. 485, name of **426**
Update to



426 '[N^1,N^2-bis(2-aminoethyl)ethane-1,2-diamine]'

p. 485, name of **429**
Update formula to



229 '(tryptophanato)'

APPENDIXES

A.1 Specialist Nomenclatures (Update)

CA ¶ 204, 231, 285

A.1.2 Alkaloids[1)]

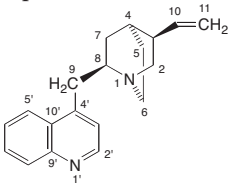
p. 487, top of right-hand column

Update to

Instructions are given for:
(a) 'Class-A' alkaloids;
(b) 'Class-B' alkaloids;
(c) 'Class-C' alkaloids;
~~(d) 'Class-D' alkaloids~~.

p. 488, name of **6**

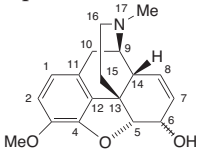
Update to



6 '**cinchonan**'
without final 'e'
notice: '(8α,9*R*)-6'-methoxycinchonan-9-ol' has the trivial name '**quinine**'

p. 489, name of **23**

Update formula to



23 '(5α,6α)-7,8-didehydro-4,5-epoxy-3-methoxy-17-methylmorphinan-6-ol'
trivially '**codeine**'

p. 489, **(d)**

Update to

(d) ~~*'Class-D' alkaloids*~~

~~A 'Class-D' alkaloid has a partially unknown structure. It has a systematic name without stereodescriptors, the initial author name, or a 'Class-B' stereoparent name with partial stereodescriptors~~.

CA ¶ 205, 206, 236, 274

A.1.3 Amino Acids and Peptides[1)]

p. 490, **(a)**

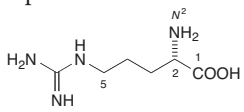
Update to

A special case is '**histidin**' (**11**): the COOH-containing side chain is always attached at C(4), also in the case of a tautomer with formal indicated H atom at N(3).

Since 2007, a new seniority order of standard amino acids has been introduced: 'glutamic acid' **9** > 'aspartic acid' **5** > 'tryptophan' **26** > 'hystidine' **11** > 'proline' **23** > 'tyrosine' **27** > 'phenylalanine' **22** > 'lysine' **17** > 'norleucine' **19** > 'glutamine' **8** > 'arginine' **3** > 'ornithine' **21** > 'isoleucine' **14** > 'alloisoleucine', see **14** > 'leucine' **16** > 'norvaline' **20** > 'asparagine' **4** > 'threonine' **25** > 'allothreonine', see **25** > 'homoserine' **13** > 'methionine' **18** > 'homocysteine' **12** > 'valine' **28** > 'isovaline' **15** > 'serine' **24** > 'cystine' **7** > 'cysteine' **6** > 'alanine' **1** > 'β-alanine' (**2**) > 'glycine' (**10**).
Notice that an amino acid ranks just above the unsubstituted parent acid, e.g., 'alanine' > 'propanoic acid', but 'butanoic acid' > 'alanine'.

p. 490, name of **3**

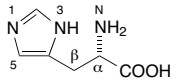
Update to



3 '**L-arginine**' (Arg, R)/'L-arginyl-'
a derivative substituted at the guanidino moiety is named as a derivative of 'L-ornithine' (**21**), e.g., N^5-[imino(prop-2-en-1-ylamino)methyl]-L-ornithine' (L-CH_2=$CHCH_2NHC$(=NH)$NHCH_2CH_2CH_2CH(NH_2)COOH$)

p. 490, name of **11**

Update formula to



11 '**L-histidine**' (His, H)/'L-histidyl-'
- the side chain is arbitrarily assigned to C(4) of the ring
- two tautomeric forms exist ; thus, on substitution at the N atom of the ring, two isomers result, e.g., '1-ethyl-L-histidine', and '3-ethyl-L-histidine'

p. 491, name of **22**

Update to

22 '**L-phenylalanine**' (Phe, F)/'L-phenylalanyl-'
notice: *not* '(L-phenylalanyl)-'

p. 491, right-hand column, first bullet

Update to

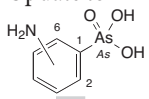
An amino acid **anhydride**, **ester**, ~~or~~ **hydrazide**, or ***S*-oxide** is denoted according to *§ 6.13*, (c) of *§ 6.14*, ~~or~~ (b) of *§ 6.17*, or (b) of *§ 3.2.4*, respectively, with the amino acid stereoparent name followed by the corresponding modification, e.g.,

§ 6.13, 6.14 (c), 6.17 (b), 3.2.4 (b)

'L-glutamic acid 5-ethyl 1-methyl ester'
(L-$EtOOCCH_2CH_2CH(NH_2)COOMe$)
'D-methionine *S*-oxide'
(D-$MeS(=O)CH_2CH_2CH(NH_2)COOH$; formerly '(2*R*)-2-amino-4-(methylsulfinyl)butanoic acid')

p. 491, name of **31**

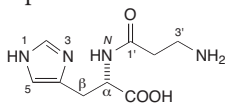
Update to



31 '*As*-(aminophenyl)arsonic acid'

p. 491, name of **32**

Update to



32 '~~*N*-~~β-alanyl-L-hystidine'
cf. **11** for the preferred tautomeric form of 'L-histidine', according to (j) of A.5

p. 492, **(c)**, first bullet

Update to

....
An **ester** of the side-chain carboxy group of an 'aspartyl-' or 'glutamyl-' residue or of the heading parent (C terminus) is denoted in the modification (cf. (a)), with locants for the positions of the side-chain ester residues in the sequence, '1' denoting the position of the residue at the N terminus and superscripts for the atom numbering within an individual residue, e.g.,

'*N*-[(phenylmethoxy)carbonyl]-L-α-glutamyl-L-α-glutamyl-L-α-glutamyl-L-α-glutamic acid 1,2,3,4^{1},4^{5}-pentamethylester'
(all-L-PhCH$_2$OC(=O)NHCH(...COOMe)C(=O)~NHCH(...COOMe)C(=O)NHCH(...COOMe)C(=O)~NHCH(...COOMe)COOMe)

A senior functional group at a peptide skeleton is always treated as a secondary substituent of an acyl substituent and thus designated by a prefix.

p. 492, **(c)**, second bullet

Update to

A **nonstandard amino acid** with a systematic acid or acyl name is accepted in a peptide name if the peptide contains at least two standard amino acid units according to (a), including 'α-asparagine' (see **4**) and 'α-glutamine' (see **8**). But a nonstandard amino acid with the H$_2$N– group at another position than at C(α) must not be terminal.

§ 3.2.4 (b)

Since 2007, the *S*-oxide of an S-containing amino acid residue has been named by additive nomenclature ((b) of *§ 3.2.4*), e.g.,

'...*S*-ethyl-*S*-oxido-L-cysteinyl-...'
(...-L-MeCH$_2$S(=O)CH$_2$CH(NH$_2$)C(=O)–...; formerly '...3-(ethylsulfinyl)-L-alanyl...')

p. 492, **(c)**, third bullet

Update to

A **branched peptide** resulting from a peptide bond in a side chain or a substitution at an HO– or HS– group is denoted as a linear peptide with regular peptide bonds, i.e., with *N*^{2}-linkages to C(1) of the adjacent amino acid residue, and the branch is expressed in enclosing marks as a secondary peptide substituent of the concerned acyl substituent, regardless of the position of the HO- or HS-substituted residue in the sequence, e.g.,

'...*N*^{5}-(L-alanyl-L-alanyl)-L-ornithyl...',
'...*N*^{6}-(L-prolyl-D-phenylalanyl)-L-lysyl...',
'...*O*-(L-seryl-L-alanyl)-L-seryl...'.

p. 492, **(c)**, forth bullet

Update to

A cyclic di- or tripeptide is named systematically as a heterocycle derivative. A cyclic tetratripeptide or a longer **cyclic peptide** which is cyclized because of a regular peptide bond, i.e., an *N*^{2}-linkage to C(1) of the adjacent amino acid residue, has an amino acid sequence name consisting of the standard acyl prefixes in enclosing marks which is preceded by '**cyclo-**'. This is also the index name (no inverted names). The standard acyl prefixes are cited in alphabetical order; if present, secondary-substituent prefixes are ignored in this alphabetical order. E.g.,

§ 3.5

'cyclo[L-**a**lanyl-*N*^{5}-acetyl-D-**o**rnithyl**g**lycyl-L-**a**lanyl-D-**p**rolyl-*O*-(1,1-dimethylethyl)-L-**s**eryl]',
i.e., Ala-1 is linked by H$_2$N– to –COOH, i.e., C(1), of Ser-6, and
'a...**o**...g...a...p...s...' > 'a...**p**...s...a...o...g...'.

p. 492, **(c)**, fifth bullet

Update to

If the C terminus is not an aminocarboxylic acid or aminocarboxamide residue but a corresponding **alcohol**, **aldehyde**, or **nitrile**, the aminocarboxamide to which such a group is bound, i.e., the penultimate unit at the C terminus, is the heading parent, and the alcohol, aldehyde, or nitrile unit is treated as a secondary substituent and expressed as a prefix to the name of this penultimate unit. In a corresponding uninverted name, this gives, e.g.,

'...*N*-(cyanomethyl)-L-alaninamide'
(...–NH–CH(Me)–C(=O)–NH–CH$_2$CN),
'...*N*-(2-oxoethyl)glycinamide'
(...–NH–CH$_2$–C(=O)–NH–CH$_2$CHO).

Since 2007, a C-terminal 'unexpressed amide' residue has no longer been named by a prefix as a secondary substituent at the penultimate unit; instead the amino acid sequence has now been treated as a peptidyl substituent at the N-heterocycle (see update of (a$_2$) of *§ 6.16*), e.g.,

'1-(L-methionyl-L-serylglycyl)piperidine'
(Met–Ser–Gly–NC$_5$H$_{10}$ or ...–NHCH(CH$_2$OH)C(=O)NHCH$_2$C(=O)–NC$_5$H$_{10}$; formerly 'L-methionyl-*N*-[2-oxo-2-(piperidin-1-yl)~ethyl]-L-serinamide')

p. 493, **(c)**, last bullet

Update to

Naturally occurring biologically active peptides with 6–50 amino acid residues have trivial names, e.g., '**bradykinin**', '**oxytocin**', '**vasopressin**'. Corresponding formulas are given in CA's 'Index Guide' or 'Chemical Substance Index'. Since 2007, the number of such peptide stereoparents has been reduced from about 3000 to fewer than 100. The discarded stereoparent names have been replaced by sequence names, 'cyclo' names, or derivatives of retained stereoparent names. For derivatives of such peptides, see CA ¶ 206 and 274.

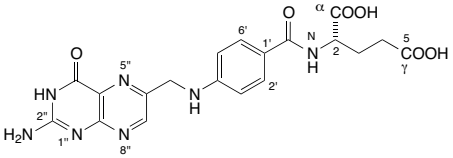
CA ¶ 206, 274

Proteins are arbitrarily defined as peptides containing more than 50 amino acid residues. If the complete amino acid sequence is known, the protein is registered as chemical substance at the trivial name, e.g., 'somatropin (human)'. A protein sequence is entered into the CAS sequence database.

CA ¶ 207, 274

p. 493, name of **46**

Update (including formula) to

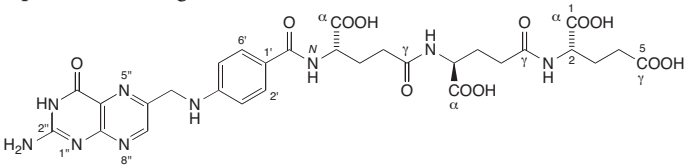


46 '*N*-{4-{[(2-amino-~~1,~~4,~~3~~4-dihydro-4-oxopteridin-6-yl)~methyl]amino}benzoyl}-L-glutamic acid'

- trivially '**folic acid**','**pteroylglutamic acid**', '**vitamin B$_9$**', or '**vitamin B$_c$**'
- IUPAC recommends the systematic name '4-{[(2-amino-**3**,4-dihydro-4-oxopteridin-6-yl)methyl]amino}benzoic acid' for '**pteroic acid**'
- preferred tautomer (cf. CA ¶ 122, rule 5 and subrule 6.1; according to (j) of A.5)

p. 493, name of **47**

Update (including formula) to



47 '*N*-{4-{[(2-amino-~~1,~~4,~~3~~4-dihydro-4-oxopteridin-6-yl)~methyl]amino}benzoyl}-L-γ-glutamyl-L-γ-glutamyl-L-glutamic acid'

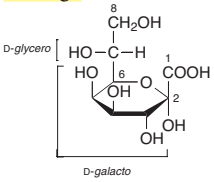
- trivially '**pteroyltriglutamic acid**'
- prior to 1997, a nonsequence name was used (see (c)): '*N*-{*N*-{4-{[(2-amino-1,4-dihydro-4-oxopteridin-6-yl)methyl]amino}benzoyl}-L-γ-glutamyl}-L-γ-glutamyl}-L-glutamic acid'
- preferred tautomer (cf. CA ¶ 122, rule 5 and subrule 6.1; according to (j) of A.5)

A.1.4 Carbohydrates

CA ¶ 208, 240

p. 499, name of **55**

Change to



55 'D-*glycero*-α-D-*galacto*-2-octulopyranosonic acid'

p. 503, **(h)**, second bullet

Update to

Substitution of an OH group by an H atom or by a substituent, *except* for a monovalent S, Se, or Te group (see below), is expressed by the *prefix* '**deoxy**-' and, if necessary, the substituent prefix, all in alphabetical order, see **56, 58–60**, and **63**.

§ 3.2.5
§ 3.5

For the following deoxy monosaccharides, sometimes trivial names are used: '**rhamnose**' (CA: '~~6-deoxy~~mannose, 6-deoxy-'), '**quinovose**' (CA: '~~6-deoxy~~glucose, 6-deoxy-', '**fucose**' (CA: '~~6-deoxy~~galactose, 6-deoxy-')

p. 504, name of **71**

Change to

71 '6-(β-D-glucopyranosyl)-5,7-dihydroxy-2-(4-hydroxyphenyl)-4*H*-1-benzopyran-4-one'

p. 504, name of **72**

Change to

72 '(1*R*)-1,4-anhydro-1-*C*-(pyridin-2-yl)-D-ribitol'

- the 2-deoxy analog is called '(1*S*)-1,4-anhydro-2-deoxy-1-*C*-(pyridin-2-yl)-**D-*erythro*-pentitol**', by (a)

p. 505, right-hand column, second paragraph

Update to

In the case of a **branched oligosaccharide** (or a branched oligosaccaride substituent), ~~the complete name appearing earliest alphabetically is~~ the preferred name is determined by the **longest unbranched chain of residues**, see **85–87**, ~~*independently* of the number or kind of monosaccharide residues in the unbranched alignment of residues~~. The glycosyl names of branches are enclosed in brackets, see **81–90**. If a choice remains, the following criteria are applied sequentially on choosing the unbranched alignment: **alphabetical order** of the residues (see **81–84** and **87**), **D > L** residues, **α > β** residues (see **88**), **lowest linkage locants** (see **89** and **90**).

p. 506, name of **80**

Update to

80 'ethyl *O*-6-deoxy-α-L-galactopyranosyl-(1→2)-*O*-β-D-galactopyranosyl-(1→3)-2-amino-2-deoxy-1-thio-β-D-glucopyranoside'

- CA: 'β-D-glucopyranoside, ethyl *O*-6-deoxy-α-L-galactopyranosyl-(1→2)-*O*-β-D-galactopyranosyl-(1→3)-2-amino-2-deoxy-1-thio-'
- β-D-Glc is the senior residue

p. 506, name of **81**

Update to

81 'methyl *O*-6-deoxy-β-L-galactopyranosyl-(1→3)-*O*-[β-D-glucopyranosyl-(1→4)]-α-D-galactopyranoside'

- CA: 'α-D-galactopyranoside, methyl *O*-6-deoxy-β-L-galactopyranosyl-(1→3)-*O*-[β-D-glucopyranosyl-(1→4)]-'
- α-D-Gal is the senior residue; the β-L-Gal-(1→3)-α-D-Gal moiety is the unbranched alignmen since '**d**eoxygalactopyranosyl-' > '**g**lucopyranosyl-'

p. 506, name of **82**

Update to

82 'phenylmethyl *O*-2-(acetylamino)-2-deoxy-β-D-gluco~pyranosyl-(1→6)-*O*-[6-*O*-sulfo-β-D-galactopyranosyl-(1→3)]-2-(acetylamino)-2-deoxy-α-D-galacto~pyranoside'

- CA: 'α-D-galactopyranoside, phenylmethyl *O*-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→6)-*O*-[6-*O*-sulfo-β-D-galactopyranosyl-(1→3)]-2-(acetylamino)-2-deoxy-'
- α-D-Gal is the senior residue; the β-D-Glc-(1→6)-α-D-Gal moiety is the unbranched alignment since '**a**cetylaminodeoxyglucopyranosyl-' > '**s**ulfogalactopyranosyl-'
- ~~note that~~ *Notice*: *within a monosaccharide residue, the name of a branch* attached to it *precedes other substituent prefixes*, the latter being arranged as usual in alphabetical order, i.e., 'sulfogalactopyranosyl-' > '**a**cetylamino-' > **d**eoxy-'

p. 506, name of **83**

Update to

83 'prop-2-en-1-yl *O*-6-methyl-2,3,4-tris-*O*-(phenyl~methyl)-β-D-glucopyranuronosyl-(1→4)-*O*-[2,3,4,6-tetra-*O*-acetyl-β-D-glucopyranosyl-(1→3)]-2,6-bis-*O*-(phenylmethyl)-α-D-galactopyranoside'

- CA: 'α-D-galactopyranoside, 2-prop-2-en-1-yl *O*-6-methyl-2,3,4-tris-*O*-(phenylmethyl)-β-D-glucopyranuronosyl-(1→4)-*O*-[2,3,4,6-tetra-*O*-acetyl-β-D-glucopyranosyl-(1→3)]-2,6-bis-*O*-(phenylmethyl)-'
- α-D-Gal is the senior residue; the β-D-Glc-(1→4)-α-D-Gal moiety is the unbranched alignment since '**m**ethyltrisphenylmethyl...' > '**t**etraacetyl-gluco...'

p. 506, name of **84**

Update to

84 'prop-2-en-1-yl *O*-α-L-arabinofuranosyl-(1→4)-*O*-[β-D-glucopyranosyl-(1→3)]-*O*-6-deoxy-α-L-manno~pyranosyl-(1→2)-α-D-glucopyranoside'

- CA: 'α-D-glucopyranoside, 2-prop-2-en-1-yl *O*-α-L-arabinofuranosyl-(1→4)-*O*-[β-D-glucopyranosyl-(1→3)]-*O*-6-deoxy-α-L-manno~pyranosyl-(1→2)-'
- α-D-Glc is the senior residue; the α-L-Ara-(1→4)-α-L-Man-(1→2)-α-D-Glc moiety is the unbranched alignment since '**a**rabinofuranosyl-' > '**g**lucopyranosyl-'

p. 506, name of **85**

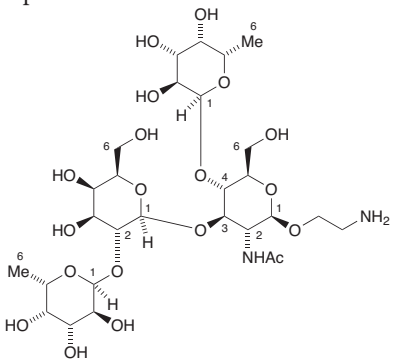
Update to

85 '*O*-(*N*-acetyl-4,7,8,9-tetra-*O*-acetyl-1-methyl-α-neuraminosyl)-(2→3)-*O*-2,4-di-*O*-acetyl-6-*O*-benzoyl-β-D-galactopyranosyl-(1→4)-*O*-[2,3,4-tri-*O*-acetyl-6-deoxy-α-L-galactopyranosyl-(1→3)]-α-D-glucopyranose 2,6-dibenzoate 1-(2,2,2-trichloroethanimidate)'

- CA: 'α-D-glucopyranose, *O*-(*N*-acetyl-4,7,8,9-tetra-*O*-acetyl-1-methyl-α-neuraminosyl)-(2→3)-*O*-2,4-di-*O*-acetyl-6-*O*-benzoyl-β-D-galacto~pyranosyl-(1→4)-*O*-[2,3,4-tri-*O*-acetyl-6-deoxy-α-L-galactopyranosyl-(1→3)]-, 2,6-dibenzoate 1-(2,2,2-trichloroethanimidate)'
- α-D-Glc is the senior residue; the α-Neu-(2→3)-β-D-Gal-(1→4)-α-D-Glc moiety is the unbranched alignment (longest unbranched chain of residues) ~~since 'acetyltetraacetylmethyl-neuraminosyl-' > 'triacetyldeoxygalactopyranosyl-'~~

p. 507, name of **86**

Update to



86 ~~'2-aminoethyl *O*-6-deoxy-α-L-galactopyranosyl-(1→4)-*O*-[*O*-6-deoxy-α-L-galactopyranosyl-(1→2)-β-D-galactopyranosyl-(1→3)]-2-(acetylamino)-2-deoxy-β-D-glucopyranoside'~~

'2-aminoethyl *O*-6-deoxy-α-L-galactopyranosyl-(1→2)-*O*-β-D-galactopyranosyl-(1→3)-*O*-[6-deoxy-α-L-galactopyranosyl-(1→4)]-2-(acetylamino)-2-deoxy-β-D-glucopyranoside'

- CA: ~~'β-D-glucopyranoside, 2-aminoethyl *O*-6-deoxy-α-L-galacto~pyranosyl-(1→4)-*O*-[*O*-6-deoxy-α-L-galactopyranosyl-(1→2)-β-D-galactopyranosyl-(1→3)]-2-(acetylamino)-2-deoxy-'~~ 'β-D-glucopyranoside, 2-aminoethyl *O*-6-deoxy-α-L-galacto~pyranosyl-(1→2)-*O*-β-D-galactopyranosyl-(1→3)-*O*-[6-deoxy-α-L-galactopyranosyl-(1→4)]-2-(acetylamino)-2-deoxy-'
- β-D-Glc is the senior residue; the ~~α-L-Gal-(1→4)-β-D-Glc~~ α-L-Gal-(1→2)-β-D-Gal-(1→3)-β-D-Glc moiety ~~(only 2 residues!)~~ is the unbranched alignment t (longest unbranched chain of residues) ~~since 'deoxygalactopyranosyl**d**eoxygalactopyranosyl-' > 'deoxygalactopyrano-sylgalactopyranosyl-'~~
- for the order of substitent prefixes and the name of a branch, see *Notice* for **82**

p. 507, name of **87**

Update to

87 'methyl *O*-6-deoxy-α-L-galactopyranosyl-(1→3)-*O*-[β-D-galactopyranosyl-(1→4)]-*O*-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→6)-*O*-[β-D-galacto~pyranosyl-(1→3)]-2-(acetylamino)-2-deoxy-α-D-galactopyranoside'

- CA: 'α-D-galactopyranoside, methyl *O*-6-deoxy-α-L-galactopyranosyl-(1→3)-*O*-[β-D-galactopyranosyl-(1→4)]-*O*-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→6)-*O*-[β-D-galactopyranosyl-(1→3)]-2-(acetylamino)-2-deoxy-'
- α-D-Gal is the senior residue; the α-L-Gal-(1→3)-β-D-Glc-(1→6)-α-D-Gal moiety is the unbranched alignment since '**d**eoxygalactopyranosyl-' > '**g**alactopyranosyl-'
- for the order of substitent prefixes and the name of a branch, see *Notice* for **82**

p. 507, name of **88**

Update to

88 'methyl *O*-6-deoxy-α-L-galactopyranosyl-(1→3)-*O*-[6-deoxy-β-L-galactopyranosyl-(1→4)]-α-D-galactopyranoside'

- CA: 'α-D-galactopyranoside, methyl *O*-6-deoxy-α-L-galactopyranosyl-(1→3)-*O*-[6-deoxy-β-L-galactopyranosyl-(1→4)]-'
- α-D-Gal is the senior residue; the α-L-Gal-(1→3)-α-D-Gal moiety is the unbranched alignment since '**α**-L' > '**β**-L', cf. (c)

p. 507, name of **89**

Update to

89 'ethyl *O*-β-D-glucopyranosyl-(1→2)-*O*-[β-D-gluco~ pyranosyl-(1→3)]-*O*-[β-D-glucopyranosyl-(1→4)]-*O*-[β-D-glucopyranosyl-(1→6)]-α-D-glucopyranoside'

- CA: 'α-D-glucopyranoside, ethyl *O*-β-D-glucopyranosyl-(1→2)-*O*-[β-D-glucopyranosyl-(1→3)]-*O*-[β-D-glucopyranosyl-(1→4)]-*O*-[β-D-glucopyranosyl-(1→6)]-'
- α-D-Glc is the senior residue; the β-D-Glc-(1→2)-α-D-Glc moiety is the unbranched alignment since '**(1→2)**' > '**(1→3)**' > '**(1→4)**' > '**(1→6)**'

p. 508, first paragraph

Update to

In the name of a **heteroglycan**, the senior monosaccharide residue according to (c) is cited first in the name, as '**glyco**-'. E.g.,

'(1→4)-β-D-galacto-β-D-mannan' (CA: 'β-D-galacto-β-D-mannan, (1→4)-');

'(1→4),(1→6)-α-D-galacto-β-D-mannan' (CA: 'α-D-galacto-β-D-mannan', (1→4),(1→6)-');

'D-galact**o**-L-**a**rabinan';

'D-galacturono-6-deoxy-L-mann**oa**rabinan';

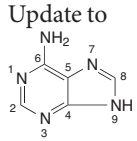
'(1→3),(1→4),(1→6)-β-D-galacto-α-L-galacto-β-D-xylan' (CA: 'β-D-galacto-α-L-galacto-β-D-xylan, (1→3),(1→4),(1→6)-').

CA ¶ 210, 269

A.1.6 Nucleosides, Nucleotides, and Nucleic Acids

p. 510, name of **1**

Update to

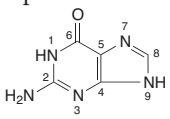


1 '~~1*H*~~9*H*-purin-6-amine'

- indicated H atom by (a) and (d) of *§ A.5*; preferred tautomer by (j) of *§ A.5* (Rule 5 and Subrule 6.1)
- trivially '**adenine**' or '**vitamin B_4**'
- abbreviation by IUPAC: '**Ade**'

p. 510, name of **2**

Update to

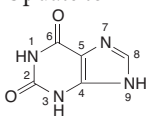


2 '2-amino-~~1,7~~1,9-dihydro-6*H*-purin-6-one'

- indicated H atom by (h) of *§ A.5*; preferred tautomer by (j) of *§ A.5* (Subrule 6.1)
- trivially '**guanine**'
- abbreviation by IUPAC: '**Gua**'

p. 510, name of **3**

Update to

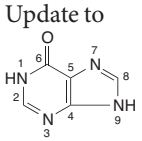


3 '~~3,7~~3,9-dihydro-1*H*-purine-2,6-dione'

- indicated H atom by (a), (d), and (i_1) of *§ A.5*; preferred tautomer by (j) of *§ A.5* (Subrule 6.1)
- trivially '**xanthine**'
- abbreviation by IUPAC: '**Xan**'

p. 510, name of **4**

Update to

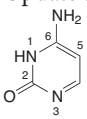


4 '~~1,7~~1,9-dihydro-6*H*-purin-6-one'

- indicated H atom by (h) of *§ A.5*; preferred tautomer by (j) of *§ A.5* (Subrule 6.1)
- trivially '**hypoxanthine**'
- abbreviation by IUPAC: '**Hyp**'

p. 510, name of **5**

Update to

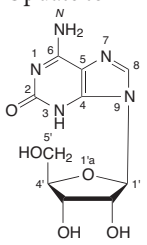


5 '~~4~~6-aminopyrimidin-2(1*H*)-one'

- 'added' indicated H atom by (i_2) of *§ A.5*; preferred tautomer by (j) of *§ A.5* (Subrule 6.1)
- trivially '**cytosine**'
- abbreviation by IUPAC: '**Cyt**'

p. 511, name of **16**

Update to



16 '~~1,2~~2,3-dihydro-2-oxoadenosine'

- preferred tautomer by (j) of *§ A.5* (Subrule 6.1)
- trivially '**isoguanosine**'

p. 511, name of **17**

Update to

17 '5-(β-D-ribofuranosyl)pyrimidine-2,4(1*H*,3*H*)-dione'

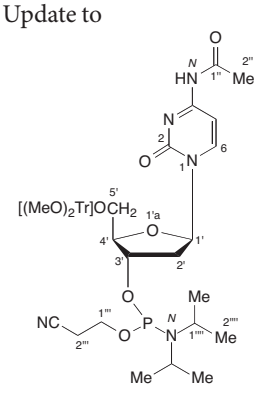
p. 511, name of **18**

Update to

18 '1,2,3,6-tetrahydro-2,6-dioxo-3-(β-D-ribofuranosyl)~ pyrimidiene-4-carboxylic acid'

p. 512, name of **25**

Update to



$(MeO)_2Tr$ = $(4\text{-}MeO\text{–}C_6H_4)_2C(Ph)$

25 '*N*-acetyl-5′-*O*-[bis(4-methoxyphenyl)phenylmethyl]-2′-deoxycytidine 3′-[2-cyanoethyl *N*,*N*-bis(1-methyl~ ethyl)phosphoramidite]'

p. 512, name of **26**

Update to

26 '**coenzyme A**'

a semisystematic name would be (by CA): 'adenosine 5′-(trihydrogen diphosphate), ~~esters~~; 3′-(dihydrogen phosphate), *P*′-[(3*R*)-3-hydroxy-4-[[3-[(2-mercaptoethyl)amino]-3-oxopropyl]amino]-2,2-dimethyl-4-oxobutyl] ester'

A.1.7 Steroids

p. 516, **(a)**

Update to

If C(4) is substituted by two Me groups, C(14) also by an Me group, and C(17) by a $(Me)_2CHCH_2CH_2CH_2CH(Me)$– substituent, a terpene stereoparent name according to *§ A.1.8* must be used. § A.1.8

Since 2007, several obscure stereoparent names have been discarded (see below, update of (d)).

p. 517, **(d)**

Update to

A cyclosteroid or norsteroid ~~, or secosteroid~~ is named as a modified stereoparent by means of a modifying syllable '**cyclo-**' or '**nor-**' ~~, or '**seco-**~~ according to § *A.3*, preceded by the corresponding locants, e.g., **14**–**17** and **19**~~, and **20**~~:

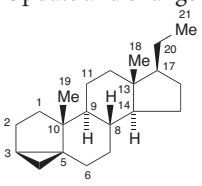
§ A.3

- In a **cyclosteroid**, an additional ring is formed by a bond between two already present ring atoms or between a ring atom and an angular Me group or side-chain atom, see **14** and **15**.
- In a **norsteroid**, an *acyclic* C atom is removed, i.e., angular Me groups or C atoms from the side chain, but without creating a smaller stereoparent by this removal, see **16**–**19**.
- In a **secosteroid**, the bond between C(9) and C(10) is opened, see **20**. Note that since 2007, the denotation of this bond scission by '**seco-**' ~~is now the only type~~ has no longer been accepted, systematic names have been used instead; ~~in CA for secosteroids,~~ see also the vitamins D in § *A.1.9*.

§ A.1.9

p. 517, name of **14**

Update and change formula to

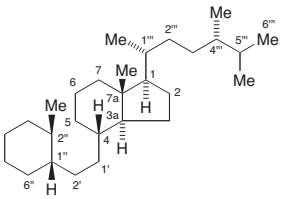


14 ~~'(3β,5α)-**3,5-cyclopregnane**'~~
'(3α,5*S*)-**3,5-cyclopregnane**'

- C(3) is an *angular* center substituted with an H atom and has the absolute configuration'(3α)'; by convention, C(5) is an internal spiro atom and its configuration described by the CIP system (see § *A.6.2*), i.e., '(5*S*)'
- see **5**

p. 517, name of **20**

Update to



20 ~~'(5β)-**9,10-secoergostane**'~~
'(1*R*,3a*S*,4*S*,7a*R*)-octahydro-7a-methyl-4-{2-[(1*S*,2*R*)-2-methylcyclohexyl]ethyl}-1-[(1*R*,4*S*)-1,4,5-trimethyl~hexyl]-1*H*-indene'
~~see **8**~~

p. 518, left-hand column, first bullet

Update to

..... A **cyclic acetal** derived from two nongeminal –OH groups at the stereoparent is similarly expressed by an '[alkanediylbis(oxy)]-' or '[alkylidenebis(oxy)]-' prefix, the prefix '[methylenebis(oxy)]-' (–OCH$_2$O–) being an exception according to (c$_3$) of § *4.2*, see **25**. However, if the principal group =O of a steroid is transformed to a cyclic acetal, the latter is indicated by a modification 'cyclic ...diyl acetal', e.g., '(5α)-androstan-3,17-dione cyclic 3-(~~cyclic~~ethane-1,2-diyl acetal)', '(5α)-androstan-3,17-dione cyclic bis(~~cyclic~~ethane-1,2-diyl acetal)', see **26**.

§ 4.2 (c$_3$)

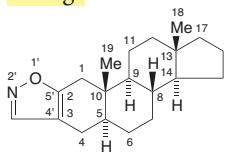
p. 518, left-hand column, second bullet

Update to

A 'bridge' –O–, –OO–, –S–, or –NHNH– is denoted by the *prefix* '**epoxy-**', '**epidioxy-**', or '**epithio-**'~~, or '**hydrazo-**' ('hydrazi-' if the free valences are leading to the same atom)~~, see **26** and **27**.

p. 518, formula of **29**

Change formula to



29 '(5α)-androst-2-eno[3,2-*d*]isoxazole'

A.1.8 Terpenes, Carotenoids, and Retinoids

p. 522, name of **25**

Change '**cardinane**' to '**cadinane**'

A.1.9 Vitamins

p. 526, name of **3**

Update to

3 '3-[(4-amino-2-methylpyrimidin-5-yl)methyl]-5-(2-hydroxyethyl)-4-methylthiazolium chloride (1:1)'

p. 526, name of **5**

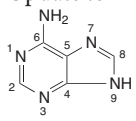
Update to

5 'pyridine-3-carboxamide'

- systematic name
- trivially '**vitamin B$_3$**' or '**nicotinamide**'
- 'pyridine-3-carboxylic acid' (C$_5$H$_4$N–COOH; see **25**) is sometimes also called 'vitamin B$_3$' (= trivially 'nicotinic acid' or '**niacin**')

p. 526, name of **6**

Update to



6 '~~1*H*-9~~*H*-purin-6-amine'

- systematic name
- indicated H atom by (a) and (d) of § *A.5*; preferred tautomer by (j) of § *A.5* (Rule 5 and Subrule 6.1)
- trivially '**vitamin B$_4$**' or '**adenine**'

p. 526, name of **7**

Update to

7 '*N*-[(2*R*)-2,4-dihydroxy-3,3-dimethyl-1-oxobutyl]-β-alanine'

- semisystematic name, by (a) of § *A.1.3*
- trivially '**vitamin B$_5$**', '**vitamin B$_3$**', or '**pantothenic acid**'

p. 526, name of **11**

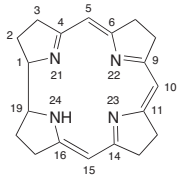
Update to

11 '(3a*S*,4*S*,6a*R*)-hexahydro-2-oxo-1*H*-thieno~[3,4-*d*]imidazole-4-pentanoic acid'

- systematic name
- indicated H atom by (a) and (d) of § *A.5*
- trivially '**vitamin B$_7$**', '**vitamin H**', '**vitamin I**', or '**biotin**'

p. 527, formula of **13**

Change to



13 '**corrin**'

the formula in the Book is that of 'corrole' (trivial name) which has the name 'corrin, 1,2,3,7,8,12,13,17,18,19-decadehydro-21,22-dihydro-' in CA

A.1

p. 527, **(d)**

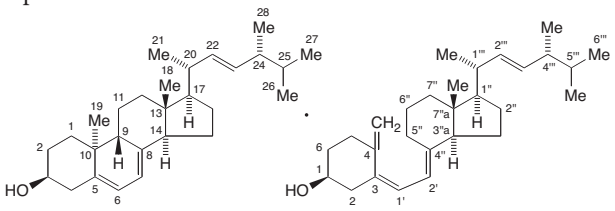
Update to

Since 2007, all vitamins D ~~are~~ have no longer been named as derivatives of **secosteroid** stereoparents according to (d) and (e) of *§ A.1.7*; systematic names have been introduced, see updated names of **16**–**20**:

§ A.1.7 (d) (e)

p. 527, name of **16**

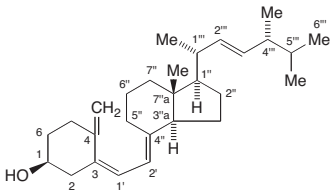
Update to



16 ~~'(3β,9β,10α,22*E*)-ergosta-5,7,22-trien-3-ol compd. with (3β,5*Z*,7*E*,22*E*)-9,10-secoergosta-5,7,10(19),22-tetraen-3-ol (1:1)'~~
'(3β,9β,10α,22*E*)-ergosta-5,7,22-trien-3-ol compd. with (1*S*,3*Z*)-4-methylene-3-{(2*E*)-2-{(1*R*,3a*S*,7a*R*)-octahydro-7a-methyl-1-[(1*R*,2*E*,4*R*)-1,4,5-trimethyl~hex-2-en-1-yl]-4*H*-inden-4-ylidene}ethylidene}~cyclohexanol (1:1)'

p. 527, name of **17**

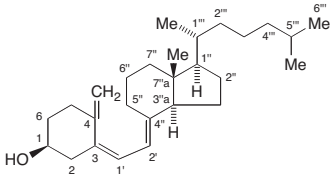
Update to



17 ~~'(3β,5*Z*,7*E*,22*E*)-9,10-secoergosta-5,7,10(19),22-tetraen-3-ol~~'
'(1*S*,3*Z*)-4-methylene-3-{(2*E*)-2-{(1*R*,3a*S*,7a*R*)-octahydro-7a-methyl-1-[(1*R*,2*E*,4*R*)-1,4,5-trimethyl~hex-2-en-1-yl]-4*H*-inden-4-ylidene}ethylidene}~cyclohexanol'
- ~~the absolute configurations '(13β,14α,17β,20*R*,24*R*)' are implied in the name; cf. '(5β)-ergostane' (**8**) in (b) of *§ A.1.7*~~
- trivially '**vitamin D$_2$**', '**ergocalciferol**', '**ergorone**', '**calciferol**', or '**ercalciol**'

p. 527, name of **18**

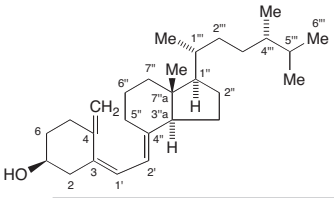
Update to



18 ~~'(3β,5*Z*,7*E*)-9,10-secocholesta-5,7,10(19)-trien-3-ol~~'
'(1*S*,3*Z*)-3-{(2*E*)-2-{(1*R*,3a*S*,7a*R*)-1-[(1*R*)-1,5-dimethyl~hexyl]octahydro-7a-methyl-4*H*-inden-4-ylidene}~ethylidene}-4-methylenecyclohexanol'
- ~~the absolute configurations '(13β,14α,17β,20*R*)' are implied in the name; cf. '(5β)-cholestane' (**7**) in (b) of *§ A.1.7*~~
- trivially '**vitamin D$_3$**', '~~ch~~**olecalciferol**', or '**calciol**'

p. 527, name of **19**

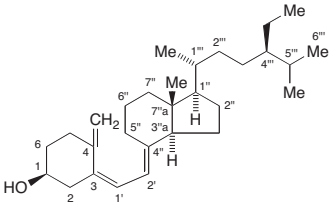
Update to



19 ~~'(3β,5*Z*,7*E*)-9,10-secoergosta-5,7,10(19)-trien-3-ol~~'
'(1*S*,3*Z*)-4-methylene-3-{(2*E*)-2-{(1*R*,3a*S*,7a*R*)-octahydro-7a-methyl-1-[(1*R*,4*S*)-1,4,5-trimethyl~hexyl]-4*H*-inden-4-ylidene}ethylidene}~cyclohexanol'
- ~~the absolute configurations '(13β,14α,17β,20*R*,24*S*)' are implied in the name; cf. '(5β)-ergostane' (**8**) in (b) of *§ A.1.7*~~
- trivially '**vitamin D$_4$**', '**22,23-dihydroercalciol**', or '**(24*S*)-24-methylcalciol**'

p. 528, name of **20**

Update to



20 ~~'(3β,5*Z*,7*E*)-9,10-secostigmasta-5,7,10(19)-trien-3-ol~~'
'(1*S*,3*Z*)-3-{(2*E*)-2-{(1*R*,3a*S*,7a*R*)-1-[(1*R*,4*R*)-4-ethyl-1,5-dimethylhexyl]octahydro-7a-methyl-4*H*-inden-4-ylidene}ethylidene}-4-methylenecyclohexanol'
- ~~the absolute configurations '(13β,14α,17β,20*R*,24*R*)' are implied in the name; cf. '(5β)-stigmastane' (**9**) in (b) of *§ A.1.7*~~
- trivially '**vitamin D$_5$**', '**sitocalciferol**', or '**(24*R*)-ethylcalciol**'; IUPAC–IUB[1]: presumably erroneously '(24*S*)-ethylcalciol'

p. 528, name of **22**

Update to

22 '2-methyl-3-[(2*E*,7*R*,11*R*)-3,7,11,15-tetramethylhexadec-2-en-1-yl]naphthalene-1,4-dione'

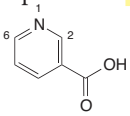
p. 528, name of **23**

Update to

23 '2-[(2*E*,6*E*,10*E*,14*E*,18*E*)-3,7,11,15,19,23-hexamethyltetracosa-2,6,10,14,18,22-hexaen-1-yl]-3-methylnaphthalene-1,4-dione'

p. 528, name of **25**

Update and change formula to



25 'pyridine-3-carboxylic acid'
- systematic name
- trivially '**vitamin PP**', a '**vitamin B**', '**vitamin B$_3$**' (= '**niacin**'), or '**vitamin B$_3$**'

A.1.11 Polymers

p. 531, 3rd paragraph of **(a)**

Update to

For the registration of polymers in the CA indexes, see CA ¶ 222 and 277 or <http://www.cas.org> (site search 'naming polymers') ~~<http://www.cas.org/EO/polymers.pdf>~~. For changes in indexing policy for **siloxanes**, see <http://www.cas.org> (site search 'naming siloxanes') ~~<http://www.cas.org/EO/silox.html>~~.

CA ¶ 222, 277

p. 532, name of **9**

Update to

9 'poly[(dimethyliminio)propane-1,3-diyl bromide (1:1)]'

p. 532, name of **10**

Update to

10 'poly([[4,4′-bipyridinium]-1,1′-diylbut-2-ene-1,4-diyl dibromide (1:2)]'

p. 532, name of **11**

Update to

11 'poly[(3,3′-disulfo[2,2′-binaphthalene]-7,7′-diyl)methylene disodium salt (1:2)]'

p. 533, name of **20**

Update to

20 'poly(hydrazo hydrazine-1,2-diylcarbonyl-1,3-phenylenecarbonyl)'

A.2 Multiplying Affixes (Update)

p. 539, left-hand column, fifth bullet

Change and update to

§ 4.3, 4.5

For the multiple occurrence of a heteroatom, i.e., before the heteroatom syllable, see, e.g., *§ 4.3* and *4.5*. E.g.,

'1,4,7,10-**tetra**azacyclotridecane~~undecane~~' (no elision of the final 'a'[2)]),
'**tetr**azane' (elision of the final 'a'[2)]),
'**tetr**azole' (elision of the final 'a'[2)]).

p. 539, left-hand column, last bullet

Change to

§ 4.2–4.4, 4.5.4, 4.5.5, 4.7, 4.9.2, 4.10

As numerical syllable in a hydrocarbon or 'a' name of a hydrocarbon or heteroatom-containing molecular-skeleton parent according to *§ 4.2–4.4*, *4.5.4*, *4.5.5*, *4.7*, *4.9.2*, and *4.10*. E.g.,

'**pent**ane' (elision of the final 'a'[2)]),
'cyclo**octa**tetraene',
'tetraazacyclo**tridec**ane~~**undec**~~ane' (elision of the final 'a'[2)]).

p. 539, right-hand column, third bullet

Update to

§ 3.2.3

For the multiple occurrence of an identical structure component denoted by a multiplicative name according to *§ 3.2.3*, i.e., before a parent name (+ suffix if appropriate), before a functional parent name, or before a class name. E.g.,

'2,2′,2″-nitrilo**tris**[ethanol]' ($N(CH_2CH_2OH)_3$),
'*P*,*P*′-1,4-phenylene**bis**[phosphonic acid]'
($(HO)_2(O{=})P–C_6H_4–P{=}O)(OH)_2$),
'1,1′-cyclopentylidene**bis**[hydroperoxide]'
($C_5H_8(OOH)_2$).

p. 539, right-hand column, forth bullet

Update to

§ 6.34

For the multiple occurrence of a composite, 'ato', 'ito', or neutral ligand, i.e., before the corresponding ligand name according to *§ 6.34* (see, however, the exceptions in (b) of *§ 6.34*). E.g.,

'**bis**(diphenylphosphino)-' (2 Ph_2P^-),
'**tris**(acetato-κ*O*)' (3 $MeCOO^-$),
'**tetrakis**(dinitrogen-κN^1,κN^2 ~~κ*N*,κ*N*′~~)' (4 N_2).

p. 540, Footnote c

Update to

c) If the number 1 or 2 occurs alone, 'mono-'or 'di-' is employed, but in combination with other numbers, 'hen-' or 'do-' is used, e.g., '**mono**protonated benzene', 'sulfuric acid **mono**methyl ester' (but 'butanedioic acid ~~**mono**~~ 1-methyl ester'), '**di**chlorobenzene', vs. '**hen**eicosane' (IUPAC: 'hen**i**cosane'), '**do**decane'.

A.3 Modifying Syllables (Update)

p. 541, name of **1**

Change to

1 '1-methylcyclohex~~-1-~~ene'

p. 541, *Footnote 1*

Update to

In CA, subtractive prefixes (see *§ 3.2.5*), e.g., '**anhydro**-', '**deoxy**-', etc., and the '**hydro**-' prefix (see *§ 3.2.4*) are always considered as prefixes and included in the alphabetical order of prefixes according to *§ 3.5*. IUPAC now (since 2013) recommends treating 'hydro-' and 'dehydro-' as ~~non~~detachable prefixes that are *not* alphabetized but considered as modifying syllables expressing a modification of the degree of hydrogenation of a molecular-skeleton parent structure with the maximum number of noncumulative double bonds (IUPAC P-15-1-5-2 vs. R-4.1 vs. C-16.1).

~~However, IUPAC treats 'hydro-' like other prefixes in the case of the determination of the (senior) molecular-skeleton parent (IUPAC C-14.11) and of the numbering of the latter (IUPAC C-15.11) (see also IUPAC R-3.1.2 and R-3.1.3).~~

A.4 Heteroatom Syllables and Element Names (Update)

Tab. A.2 Heteroatom Syllables or 'a' Syllables [1)a)], Listed in Decreasing Seniority Order (highest seniority, *1*)**, as well as Element Names and 'ate' Names for Organometallic and Coordination Compounds, Listed in Increasing Seniority Order** (highest seniority, *110*)

Besides the heteroatom syllables for uncharged heteroatoms, so-called 'onia' syllables are employed for cation centers at a molecular-skeleton parent with a replacement name. An '**onia**' syllable is formed from the corresponding 'a' syllable by replacing the final '-a-' by '-onia-', e.g., 'aza-' (>N–) → 'azonia-' (>N^+<).

In a name, an 'onia' syllable always follows directly the 'a' syllable of the same atom, e.g., '1,3-diaza-5-azoniaspiro[4.5] decane' (⌐$CH_2(CH_2)_3CH_2$–N^+–$NHCH_2NHCH_2$¬).

However, in case of choice, a cationic 'onia' heteroatom is senior to a neutral 'a' heteroatom of the same element for lowest locant, see *§ 6.3.2.1*. § 6.3.2.1

For newly discovered elements with atomic numbers 111–118, see *§ A.1.12*, there Inorganic Compounds (see also https://iupac.org ('Periodic table of elements')). § A.1.12

A.5 Indicated H Atom '*H*' (Indicated Hydrogen) and Tautomers (Update)

p. 547, bottom of left-hand column

Update to

(j) Tautomers

In the presence of tautomerism, the following tautomer rules must be applied:

(j_1) requirements for normalization of tautomeric structures;

(j_2) selection rules for the choice of the senior normalized tautomer.

p. 547, *Footnote 4*

Update to

For tautomers, i.e., for readily interconvertible isomers, see (j).For bridged fused polycycles, spiropolycycles, and ring assemblies of identical structure components, see (e)–(g). For ring structures carrying principal groups or free valences, see also (h) and (i).

p. 548, **(d)**

Update to

Locants of indicated H atoms: General guidelines

~~In case of choice~~ In case of tautomerism (ready interconvertibility of isomers), the tautomer rules (j) must be considered for the choice of the locants of indicated H atoms (e.g., now '9*H*-purine', formerly '1*H*-purine', cf. Rule 5 and **226** in (j)). Often, an indicated H atom has the lowest, *nonangular* locant compatible with the compulsory numbering of the ring-skeleton parent[4]. If principal groups or free valences are present, (h) and (i) below and then the numbering rules of *§ 3.4* must be considered. E.g.,

§ 3.4

p. 548, **(e)**, first bullet

Update to

In the case of a **bridged fused polycycle** of this kind, indicated H atom is first assigned to the unbridged polycycle according to (a). The *lowest numbered atom* carries the indicated H atom according to (d), unless an atom requires an indicated H atom according to (j) (tautomerism), or according to (h) to accommodate a principal group or a free valence, which then takes this indicated H atom, see **12**–**14** and **15**–**18**.

In the name, the *indicated H atom descriptor follows the bridge term.*

p. 549, **(f_{11})**

Update to

The indicated H atom needed because of the bridge, which should in fact be attributed to the saturated angular atom (of the bridged structure), is assigned to a lowest numbered atom, angular or nonangular, unless an atom requires an indicated H atom according to (j) (tautomerism), or according to (h) to accommodate a principal group or a free valence, which then takes this indicated H atom

p. 549, **(f_{12})**

Update to

No indicated H atom is required, or two indicated H atoms are assigned to the lowest numbered atoms, unless atoms require indicated H atoms according to (j) (tautomerism), or according to (h) to accommodate principal groups or free valences, which then take these indicated H atoms.

p. 550, names of **58–60**

Change to

58 'octahydro-2,6-metheno-6*H*-furo[2,3-*g*][-1,3-]oxazocine'

59 '6*H*-furo[2,3-*g*][-1,3-]oxazocine'

60 '2,6-metheno-6*H*-furo[2,3-*g*][-1,3-]oxazocine'

p. 550, **(f_{22})**

Update to

The already available indicated H atom required for the unbridged fused polycycle is assigned to a lowest numbered atom, unless an atom requires an indicated H atom according to (j) (tautomerism), or according to (h) to accommodate a principal group or a free valence, which then takes this indicated H atom.

p. 550, **(f_3)**

Update to

An additional indicated H atom is assigned to another, lowest numbered atom, unless an atom requires an indicated H atom according to (j) (tautomerism), or according to (h) to accommodate a principal group or a free valence, which then takes this indicated H atom. Then one has to proceed according to (f_1).

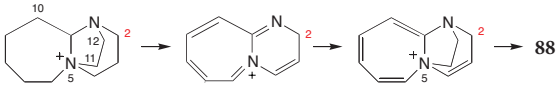
p. 550, name of **70**

Change to

70 '~~5,6,7,7a-~~tetrahydro-4*H*-3a,6-methano-3*H*-1,2-benz~oxathiazole'

p. 551, names of **88–90**

Change to



88 → **89**: remove bridge, name by (a) ~~and (d)~~

89 → **90**: introduce bridge, name by ~~(f_{11})~~ (f_{22})

90 → **88**: consider saturation

88 'octahydro-~~2*H*-~~1,5-ethano-~~1*H*2*H*~~-pyrimido[1,2-*a*]azepin-5-ium'

89 '~~1*H*-~~2*H*-pyrimido[1,2-*a*]azepin-5-ium'

90 '~~2*H*-~~1,5-ethano-~~1*H*2*H*~~-pyrimido[1,2-*a*]azepin-5-ium'

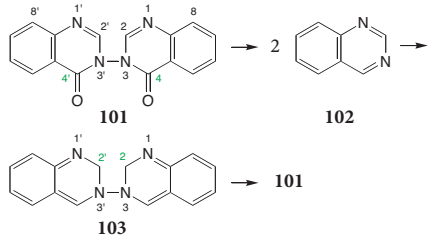
p. 551, **(g)**

Update to

Either the unlinked individual ring components of a spiropolycycle or a ring assembly do not need an indicated H atom, or it is impossible to place an already available indicated H atom at the connection site without violating the principal of the maximum number of noncumulative double bonds[2]. In both cases, an additional extra H atom, i.e., an 'added' indicated H atom, that should in fact be attributed to the connection site, is added to another, lowest numbered atom, unless an atom requires an indicated H atom according to (j) (tautomerism), or according to (h) to accommodate a principal group or a free valence, which then takes this 'added' indicated H atom[6].

p. 552, formula of **102**

Change to

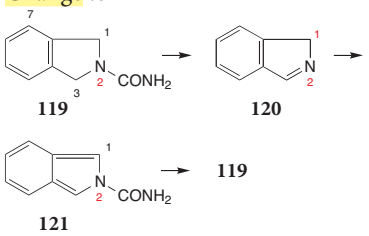


101 → **102**: undo connection and remove principal groups, name by (a)
102 → **103**: consider connection, name by (g)
103 → **101**: introduce principal groups and shift 'added' indicated H atom correspondingly, name by (h)

101 '[3,3′(4*H*,4′*H*)-biquinazoline]-4,4′-dione'
102 'quinazoline', no indicated H atom
103 '...-3,3′(2*H*,2′*H*)-...'

p. 552, names of **119–121**

Change to

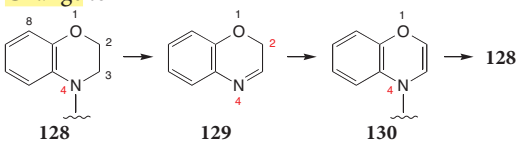


119 → **120**: remove ~~protonation~~ principal groupß, name by (a)
120 → **121**: name by (a), then introduce ~~protonation~~ principal group, name by (h)
121 → **119**: consider saturation

119 '1,3-dihydro-2*H*-isoindoli~~tume~~-2-carboxamide'
120 '1*H*-isoindole', isomeric to '2*H*-isoindole'
121 '2*H*-isoindoli~~tume~~-2-carboxamide'

p. 552, name of **128** and **130**

Change to



128 → **129**: remove free valence, name by (a)
129 → **130**: name by (a), then introduce free valence, name by (h)
130 → **128**: consider saturation

128 '2,3-dihydro-4*H*-1,4-benzoxazin-4-yl-'
129 '2*H*-1,4-benzoxazine', isomeric to '4*H*-1,4-benzoxazine'
130 '4*H*-1,4-benzoxazin-4-yl-'

p. 554, **(i$_1$)**

Update and change to

If no double bond can be removed on introduction of a pair of principal groups or free valences according to (i$_1$), or if no position can be found for indicated or 'added' indicated H atom which accommodates also the principal group or free valence[7)], the following applies:

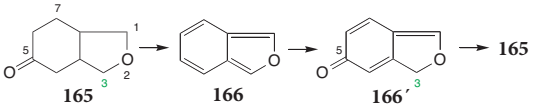
....

A pair of principal groups or a pair of free valences is treated correspondingly, when (i$_1$) cannot be applied, see **173** and **177**~~, **180**, and **183**~~.

If the number of principal groups or free valences exceeds the number of available indicated H atoms, the indicated H atom has the lowest available nonangular locant, and the principal groups are accommodated by (i$_2$), see **180**, **183**, and **188**.

p. 554, **165–166**

Update and change to

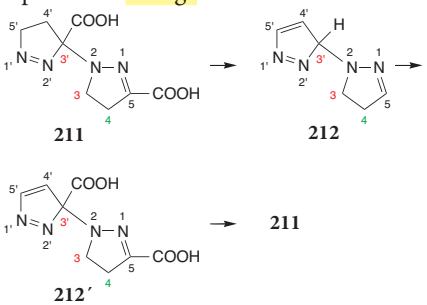


165 → **166**: remove principal group, name by (a)
166 → **166′**: introduce principal group, name by (i$_2$)
166′ → **165**: consider saturation

165 'hexahydroisobenzofuran-5(3*H*)-one'
166 'isobenzofuran', without final 'e', and no indicated H atom
166′ 'isobenzofuran-5(3*H*)-one', *not* 'isobenzofuran-6(1*H*)-one'

p. 556, names of **211** and **212**

Update and change to



211 → **212**: remove principal groups, name by (a) and (g)
212 → **212′**: introduce principal groups, name by (i$_2$) not necessary
212′ → **211**: consider saturation

211 '4′,5′-dihydro-[~~1~~(~~5*H*~~)2(4*H*),3′-bi-~~4*H*3*H*~~-pyrazole]-~~3,3′(5′*H*)~~3′,5-dicarboxylic acid'
212 '~~1~~(~~5*H*~~)2(4*H*),3′-bi-~~4*H*3*H*~~-pyrazole', see (g)
212′ '[2(4*H*),3′-bi-3*H*-pyrazole]-3′,5-dicarboxylic acid'

p. 556

Update to

(j) ***Tautomers***

In the case of tautomerism which is also frequently encountered in the presence of an extra H atom in a molecular-skeleton parent, CA's tautomer rule ¶ 122 must be considered. By a normalization procedure, this rule allows the choice of the preferred (= senior) structure diagram and thus of a unique index name for a tautomer system, rather than scattering the information at different names, i.e., the structural requirements **I** and the selection rules **II** must be applied. CA ¶ 122

I. *Requirements for normalization of tautomeric structures*

The tautomeric structures **A** and **B** are normalized, i.e., are recognized as equivalent:

A **B**

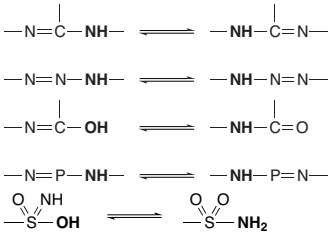
tautomeric structures **A** and **B**

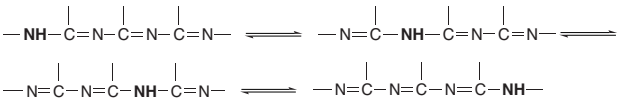
- Q = C, N, S, P, Sb, As, Se, Te, Br, Cl, or I
- M and Z = any combination of N (trivalent) and/or O, S, Se, or Te (all bivalent)
- **A** or **B** may be in a chain or ring or partly in both, but an N atom at an angular position of a fused polycycle cannot be implied in tautomerization
- two or more **A** or **B** may be linked through a common atom (see *Examples*)

Exceptions

Tautomeric **pyrazole** derivatives and **tropolones** are not normalized; lowest locants are employed instead, e.g, '5-methyl-1*H*-pyrazole-**3**-methanol' and *not* '3-methyl-1*H*-pyrazole-**5**-methanol' (lowest locant for principal group), '**3**-bromo-**2**-hydroxycyclohepta-2,4,6-trien-1-one' and not '**2**-bromo-**7**-hydroxycyclohepta-2,4,6-trien-1-one' (lowest locant for prefixes, '2,3' > '2,7').

Examples

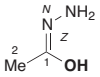




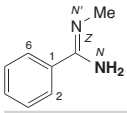
II. *Selection rules for the choice of the senior normalized tautomer*

Rule 1: The stereo retention rule

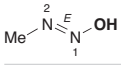
In **A** and **B**, a tautomer with **known configuration *E* or *Z* of** its stereogenic double bond **N=Q** is senior, e.g.,



213 '(1*Z*)-ethanehydrazonic acid'
because of '(1*Z*)', not 'acetic acid hydrazide' ($MeC(=O)–NHNH_2$), cf. Rule 2



214 '[*C*(*Z*)]-*N'*-methylbenzenecarboximidamide'
because of '[*C*(*Z*)]', not '*N*-methylbenzenecarboximidamide' ($PhC(=NH)–NHMe$), cf. Rule 3, there **220**

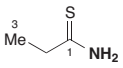


215 '(1*E*)-1-hydroxy-2-methyldiazene'
because of '(1*E*)', not '*N*-nitrosomethanamine' (MeNH–NO), cf. Rule 2

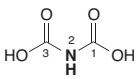
Rule 1: The oxo rule

In **A** and **B**, a tautomer O=Q–NH– is senior to a tautomer HO–Q=N– (similarly X=Q–NH– > HX–Q=N–, X = S, Se, Te), and a tautomer O=Q–SH is senior to a tautomer HO–Q=S (similarly S=Q–SeH > HS–Q=Se, etc.), i.e., the double bond leads from Q with decreasing seniority to an O > S > Se > Te > N atom, or the **mobile H atom is** with decreasing seniority **at an N > Te > Se > S > O atom**, e.g.,

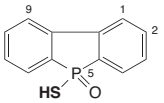
216 'piperidin-2-one'
not '3,4,5,6-tetrahydropyridin-2-ol' ($C_5H_4N–OH$), i.e., NH > OH



217 'propanethioamide'
not 'propanimidothioic acid' ($MeCH_2C(=NH)–SH$), i.e., NH > SH



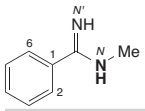
218 'imidodicarbonic acid'
not '*N*-(dihydroxymethylene)carbamic acid' ($HO–C(=O)–N=C(OH)_2$), i.e., NH > OH



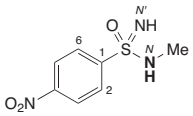
219 '5-mercapto-5*H*-benzo[*b*]phosphindole 5-oxide'
- '5*H*' by (a)
- not '5-hydroxy-5*H*-benzo[b]phosphindole 5-sulfide', i.e., SH > OH

Rule 3: The unsubstituted imino rule

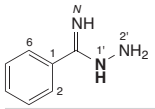
In **A** and **B**, an *acyclic* tautomer HN=Q–NHR is senior to a tautomer $H_2N–Q=NR$ (R = any covalently attached atom or group, but not H, D, or T), i.e., an unsubstituted HN= group is senior to a substituted one, or the **mobile H atom is** with decreasing seniority **at RN > TN > DN > HN**, e.g.,



220 '*N*-methylbenzenecarboximidamide'
not '*N'*-methylbenzenecarboximidamide'
($PhC(=NMe)–NH_2$), i.e., $MeNH– > NH_2–$, cf. Rule 1, there **214**



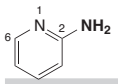
221 '*N*-methyl-4-nitrobenzenesulfonimidamide'
not '*N'*-methyl-4-nitrobenzenesulfonimidamide'
($O_2N–C_6H_4–S(=O)(=NMe)–NH_2$), i.e., $MeNH– > NH_2–$



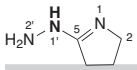
222 'benzenecarboximidic acid hydrazide'
not 'benzenecarbohydrazonamide'
($PhC(=NNH_2)–NH_2$), i.e., $H_2NNH– > NH_2–$

Rule 4: The amino/hydrazinyl rule

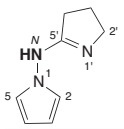
In **A**and **B**, a tautomer –HN–⟨Q=N⟩ (one N atom is in a ring) is senior to a tautomer –N=⟨Q–NH⟩, i.e., the **mobile H atom is at the acyclic N atom**, e.g.,



223 'pyridin-2-amine'
not 'pyridin-2(1*H*)-imine' ($C_5H_5N=NH$), i.e., cyc–NH_2 > cyc'=NH; '2(1*H*)' by (i_2)



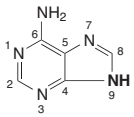
224 '5-hydrazinyl-3,4-dihydro-2*H*-pyrrole'
- '2*H*' by (a) and (d)
- not 'pyrrolidin-2-one hydrazone' ($C_4H_7N=NNH_2$)', i.e., cyc–$NHNH_2$ > cyc'=NNH_2



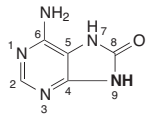
225 '*N*-(3,4-dihydro-2*H*-pyrrol-5-yl)-1*H*-pyrrol-1-amine'
- '2*H*' and '1*H*' by (a) and (d)
- not '*N*-pyrrolidin-2-ylidene-1*H*-pyrrol-1-amine' ($C_4H_4N–N=C_4H_7N$)', i.e., cyc–NH–cyc' > cyc–N=cyc''

Rule 5: The alternating-bond rule

In **A** and **B**, the senior tautomer HN=Q–NHR, with **Q being an angular atom of a fused polycycle**, has one N atom in a ring component with alternating single and double bonds and the mobile atom at the other N atom, e.g.,

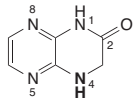


226 '9*H*-purin-6-amine'
- '9*H*' by (a)
- not '3*H*-purin-6-amine', not '1*H*-purin-6-amine';
by Subrule 6.1, not '7*H*-purin-6-amine', i.e., NH(9)→ C(4) → **N(3)** > NH(7) → C(5) → **C(6)**



227 '6-amino-7,9-dihydro-8*H*-purin-8-one'

- '8*H*' by (h)
- not '6-amino-3,7-dihydro-8*H*-purin-8-one', not '6-amino-1,7-dihydro-8*H*-purin-8-one'



228 '3,4-dihydropyrazino[2,3-*b*]pyrazin-2(1*H*)-one'

- '2(1*H*)' by (i_2)
- not '3,5-dihydropyrazino[2,3-*b*]pyrazin-2(1*H*)-one'

§ A.6.2 **Rule 6: The tautomer Cahn-Ingold-Prelog (CIP) rule**

In **A** and **B**, this rule applies to the tautomer

R–HN–(Q=N)$_n$–R′

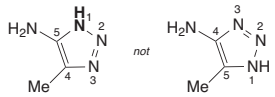
- isolated tautomer if n=1, extended tautomer if n > 1
- R, R′ = covalently attached atoms or groups
- both terminal N atoms are acyclic or both terminal N atoms are in a ring

The senior tautomer has the mobile H atom at the senior terminal N atom as determined by the CIP system for the specification of the configuration of a stereogenic center, see *§ A.6.2.* § A.6.2

For this, a hierarchical graph is constructed for each terminal N atom bearing potentially the mobile H atom, similarly to **9** in (d) of *§ A.6.2.* The way outwards in the two hierachical graphs, starting from each potentially H-bearing N atom, along the bonds towards R or R′ on the path of highest seniority allows a ranking of the two N atoms. After each step the properties of the encountered features are compared by applying the CIP sequence rules 1-6 according to (d) of *§ A.6.2.* At the first point of difference, the seniority can be determined. § A.6.2 (d)

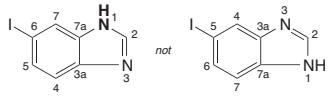
Subrule 6.1: The element subrule (CIP sequence rule 1)

On the path outwards, an atom of higher atomic number is senior to an atom of lower atomic number, e.g.,



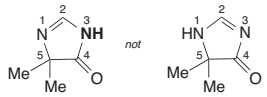
229 '4-methyl-1*H*-1,2,3-triazol-5-amine'

- '1*H*' by (a)
- NH(1)→ C(5)→**N**H$_2$
- not '5-methyl-1*H*-1,2,3-triazol-4-amine' since NH(1)→ C(5) → **C**H$_3$



230 '6-iodo-1*H*-benzimidazole'

- '1*H*' by (a)
- NH(1)→... C(6) → **I**
- not '5-iodo-1*H*-benzimidazole' since NH(1)→... C(6) → **H**

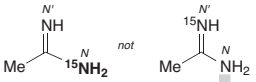


231 '3,5-dihydro-5,5-dimethyl-4*H*-imidazol-4-one'

- '4*H*' by (h)
- NH(3)→ C(4) → **O**
- not '1,5-dihydro-5,5-dimethyl-4*H*-imidazol-4-one' since NH(1)→ C(5) → **C**

Subrule 6.2: The isotope subrule (CIP sequence rule 2)

On the path outwards, an atom of higher mass number is senior to an atom of lower mass number, e.g.,



232 'ethanimidamide-*N*-^{15}*N*'

- '*N*-^{15}*N*' by (e) of *§ A.8.3*
- not 'ethanimidamide-*N*′-^{15}*N*' since ^{15}N > ^{14}N

Subrules 6.3–6.5: The stereo subrules (CIP sequence rules 3-5)

Most often, the subrules 6.1 and 6.2 allow the ranking of the H-bearing N-atoms. For subrules 6.3–6.5, see CA ¶ 122 and (d) of *§ A.6.2.* CA ¶ 122 § A.6.2 (d)

A.6 Configuration Descriptors in Names (Update)

A.6.1

p. 558, last paragraph

Update to

The configuration of a stereoisomer is denoted by adding a stereodescriptor to the systematic name. Most of the stereodescriptors determined according to the CA guidelines[5] or IUPAC recommendations are based on the Cahn-Ingold-Prelog (CIP) system for the specification of the configuration[2)3)4)]. The CIP system in its nonrevised version of 1966 is briefly described in IUPAC's 'Blue Book'of 1979 (E recommendations); IUPAC's revised 'Nomenclature of Organic Chemistry' of 2014 dealing with preferred IUPAC names (PINs) contains an exhaustive revision of the specification of configuration and conformation.

CA ¶ 203

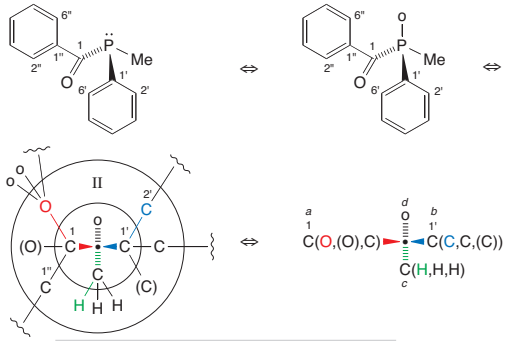
§ 1, Fn. 6a

§ 1, Fn. 7

A.6.2

p. 565, name of **33**

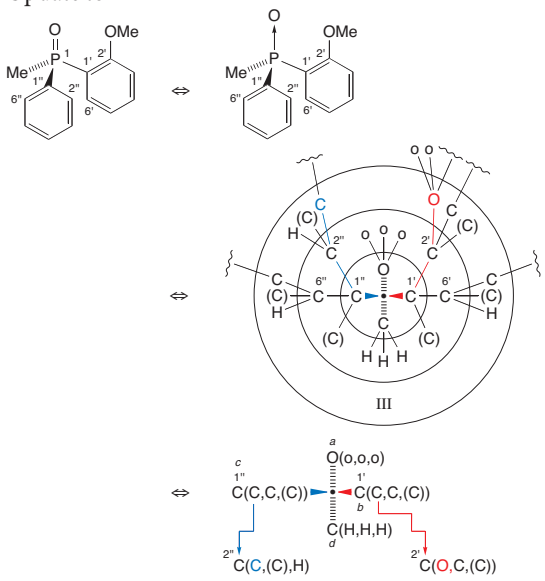
Update to



33 '[*P*(*R*)]-benzoylmethylphenylphosphine'[5)6)]
'[(*R*)-methylphenylphosphino]phenylmethanone'

p. 565, name of **35**

Update to



35 '[*P*(*R*)]-(2-methoxyphenyl)methylphenylphosphine oxide'[4)5)6)]
'(1*R*)-(2-methoxyphenyl)methylphenylphosphine oxide'

- assignment of *a*–*d* by (d_1): decision for *b* and *c* is reached in sphere III
- chirality sense *R* by (b_1)

p. 568, name of **48**

Change to

48 '(1*Z*)-1-iodopenta-1,4-diene'

p. 568, name of **52**

Update to

52 '2-[(4*S*)-4-methylcyclohexylidene]acetic acid'[5)6)]

A.6.3

p. 571, left-hand column, first paragraph

Update to

In the following, the guidelines for the indication of stereodescriptors employed by CA since 1999 (since vol. 129) are reviewed, and these agree better with the IUPAC recommendations (IUPAC R-7, and E, and P-9, see *Footnotes 6* and *7* in §1) and with stereodescriptors commonly used in the primary literature.

CA ¶ 203

§ 1, Fn. 6, 7

p. 572, left-hand column, first paragraph

Update to

The stereodescriptors with corresponding **locants** of all stereogenic units are arranged as a set in parentheses in the order of increasing locants (letter locants > numeral locants, see § *3.4*) and positioned *before the complete name of the stereoisomer and/or before the name part of the thus concerned structure component*, e.g., in a composite-substituent prefix or in a modification. As an exception, no locants are assigned to '*cis*'/'*trans*', and for '*E*'/'*Z*', only the lower locant of the double bond is indicated.

In case of choice, lowest locants are assigned to the stereodescriptors (e.g., for the spiro atom of some spiropolycyles, cf. § 4.9.3).

§ 3.4

§ 4.9.3

p. 572, right-hand column, third paragraph

Update to

IUPAC also accepts the relative stereodescriptors '*R**'/'*S**', i.e., '(*xR**,*yS**...)-' corresponds to '*rel*-(*xR*,*yS*...)-' (IUPAC R-7.2.2, and E-4.10, and P-93.1.2). For '*cis*'/'*trans*', see (h).

p. 572, right-hand column, last paragraph

Update to

Names of racemic chiral stereoisomers for the primary literature are best can be provided with the stereodescriptors '***RS***'/'***SR***' or '***PM***'/'***MP***' from the CIP system, see (b). Similarly, '***E***'/'***Z***' descriptors can be used for mixtures of double-bond isomers, see (b). The configuration *RS* is assigned arbitrarily to the center with lowest locant *x*. The center *y* is then designated with '*RS*' or '*SR*' depending on whether it has the configuration *R* or *S* if the the center *x* has the configuration *R*, by analogy with the procedure described in (c). Alternatively, a stereodescriptor derived according to (c) can be modified by replacing '*rel*-' by '***rac***-', i.e., '***rac*-(*xR*,*yS*,*zR*...)-', '***rac*-(*xS*,*yS*...)-...-[(*uR*)...]-', etc., (for this, cf. IUPAC E(Appendix 2) and P-93.1.3, see *Footnotes 6a* and *7* in §1), see 7.

~~IUPAC E,~~ § 1, Fn. 6a, 7

p. 573, left-hand column, first paragraph

Update to

IUPAC also recommends the symbol of the optical rotation '(±)-' for the denotation of a racemate in the case of specialist nomenclatures, e.g., '(±)-glucose' (or 'DL-glucose'; cf. **2**). ~~Sometimes also~~ In preferred IUPAC names (PINs), the term '***rac***-' is placed before the complete name (P-93.1.3), cf. 7.

p. 573, left-hand column, second paragraph

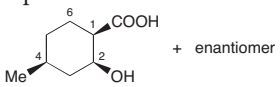
Update to

Some stereodescriptors are (not used in CA):
'(***RS***)-',
'(***PM***)-',
'(***E***)/(***Z***)-',

'(***xRS,ySR,zRS...***)-',
'***rac***-(***xR,yS,zR...***)-',
'(***xE,yRS,zSR,uZ...***)-',
'***rac***-(***xE,yR,zS,uZ...***)-'.
The individual terms are arranged by increasing locants *x*, *y*, *z*, *u*, etc.

p. 573, name of **7**

Update to



7 '(1*RS*,2*SR*,4*SR*)-2-hydroxy-4-methylcyclohexane~ carboxylic acid' or '*rac*-(1*R*,2*S*,4*S*)-2-hydroxy-4-methyl~ cyclohexanecarboxylic acid'

- the formula represents the '(1*R*,2*S*,4*S*)' enantiomer
- CA since 1999: '*rel*-(1*R*,2*S*,4*S*)-'; the same stereodescriptor is used for the enaniomer of unknown absolute configuration
- CA until 1999**:** 'cyclohexanecarboxylic acid, 2-hydroxy-4-methyl-, (1α,2α,4α)-'; prior to 1998: '..., (1α,2α,4α)-(±)-'; for 'α', see below (*c'*)

p. 573, right-hand column, second paragraph

Update to

IUPAC also still accepts the relative stereodescriptors '***cis***'/'***trans***' instead of '*Z*'/'*E*' for some double-bond isomers (P-93.4.2) as well as for some chiral or achiral monocycles with two stereogenic centers (P-93.5.1.2).

Also the relative stereodescriptors '***r***'/'***c***'/'***t***' for some monocycles with two or more stereogenic centers are still recommended (IUPAC R-7.1.1, E-2.3.1, ~~E-2.3.3~~, and ~~E-2.3.4~~ P-93.5.1.3). The reference substituent, i.e., the principal group, or the CIP-senior ligand at the atom with lowest locant, has the descriptor '*r*' (reference), and the (CIP-senior) ligand at every further stereogenic center has the descriptor '*c*' (*cis*) or '*t*' (*trans*), depending on whether it lies in *cis* or *trans* position to the reference substituent (cf. definition (h)). In the names, the descriptors '*r*'/'*c*'/'*t*', preceded by a hyphen, are ~~now~~ placed directly after the corresponding locant, ~~i.e., hyphens are no longer used;~~ see **26**, **27**, and **29**

p. 574, name of **8**

Change to

8 '(2*R*)-2-aminopropan-1-ol'

- CA: '1-propanol, 2-amino-, (2*R*)-'
- CA until 1999: '(*R*)-' by (j)

p. 574, name of **9**

Update to

9 '(*M*)-6-hydroxytricyclo[8.2.2.2^{4,7}]hexadeca-4,6,10,12,13,15-hexaene-5-carboxaldehyde'

- CA: '...carboxaldehyde, 6-hydroxy-, (1*S*)-'
- by (b)

p. 576, name of **24**

Update to

24 '*rel*-(4*R*,5*R*)-4,5-dimethyl-2-(2-phenylethynyl)-1,3-dioxolane'

p. 576, name of **25**

Update to

25 '(2α,4α,5α)-4,5-dimethyl-2-(2-phenylethynyl)-1,3-dioxolane'

p. 576, name of **26**

Update to

26 '(1*R*,2*R*,3*S*,4*R*)-cyclohexane-1,2,3,4-tetrol'

- by (b)
- relative descriptor: '*rel*-(1*R*,2*R*,3*S*,4*R*)-' by (c)
- CA until 1999: '[1*R*-(1α,2α,3α,4β)]-' or '(1α,2α,3α,4β)-', resp., by (*c'*)
- IUPAC: relative configuration also by (h), i.e., 'cyclohexane-1-*r*,2-*c*,3-*c*,4-*t*-tetrol'

p. 576, name of **27**

Update to

27 '(1*S*,2*R*,3*S*)-2,3-bis(hydroxymethyl)cyclobutane~ carboxylic acid'

- by (b)
- relative descriptor: '*rel*-(1*R*,2*S*,3*R*)-' by (c)
- CA until 1999: '[1*S*-(1α,2α,3β)]-' or '(1α,2α,3β)-', resp., by (*c'*)
- IUPAC: relative configuration also by (h), i.e., '2-*c*,3-*t*-bis(hydroxymethyl)cyclobutane-1-*r*-carboxylic acid'

p. 576, name of **29**

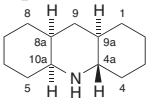
Update to

29 '*rel*-(1*R*,4*R*,5*S*)-5-(trimethylsilyl)cyclooctane-1,4-diol'

- by (c)
- CA until 1999: '(1α,4α,5α)-' by (*c'*)
- IUPAC: relative configuration also by (h), i.e., '5-*c*-(trimethylsilyl)cyclooctane-1-*r*,4-*c*-diol'

p. 576, name and formula of **32**

Update to



32 '~~*rel*-(4a*R*,8a*S*,9a*R*,10a*R*)-tetradecahydroacridine~~'
'*rel*-(4a*R*,8a*R*,9a*S*,10a*R*)-tetradecahydroacridine'

- by (c); notice: '(4a*R*,8a***R***,9a*S*,10a*R*)' > '(4a*R*,8a***S***,9a*R*,10a*R*)'
- CA until 1999: '(4aα,8aα,9aα,10aβ)-', with different numbering; the reference ligands at the angular centers C(4a), C(8a), C(9a), and C(10a) are the H atoms; by (*c'*)
- IUPAC formerly: '*cis*-4a-*transoid*-4a,10a-*trans*-10a-tetradecahydro~ acridine', see (h)

p. 577, name of **41**

Update to

41 '(1*S*,4*S*,5*S*,11a*R*)-decahydro-4-(prop-2-en-1-yl)-1,5-methano-2*H*-pyrido[1,2-*a*][1,5]diazocine'

p. 579, name of **60**

Update to

60 '(1*Z*)-1,2-diphenyldiazene'

p. 579, name of **62**

Update and change to

62 '(2*E*,3*E*)-butane-~~1,~~2,3-dione 2,3-dihydrazone'

p. 579, name of **68**

Update to

68 '(1*S*,5*E*,8*R*)-9,9-dimethyl-5-(prop-2-en-1-ylidene)~ bicyclo[6.2.0]decan-2-one'

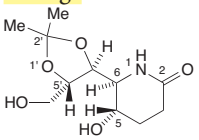
p. 580, name of **73**

Update to

73 '(1*R*,2*R*,3*S*,4*S*)-3-[(1*E*,3*R*)-3-(ethylthio)oct-1-en-1-yl]~ bicyclo[2.2.1]heptane-2-ethanol'

p. 581, name and formula of **79**

Change to



79 '(5*S*,6*S*)-5-hydroxy-6-[~~(4*R*,5*R*)~~(4*S*,5*S*)-5-(hydroxy~ methyl)-2,2-dimethyl-1,3-dioxolan-4-yl]piperidin-2-one'

- CA: '2-piperidinone, 5-hydroxy-6-[~~(4*R*,5*R*)~~(4*S*,5*S*)-5-(hydroxymethyl)-2,2-dimethyl-1,3-dioxolan-4-yl]-, (5*S*,6*S*)-'
- by (b)
- relative descriptor: '*rel*-~~(5*S*,6*S*)~~(5*R*,6*R*)-5-hydroxy-6-[(***4R***,5*R*)-5-(hydroxymethyl)-...' by (c); in CA: '..., 5-hydroxy-6-[(***4R***,5*R*)-5-..., ~~(5*S*,6*S*)~~(5*R*,6*R*)-*rel*-; '(***4R***)' of the prefix is determining
- CA until 1999: '[5*S*-[5α,6β(*4R**,5*R**)]]-' or '[5α,6β(*4R**,5*R**)]-' , resp., by (*c'*)(h'); N-containing heterocycle > O-containing heterocycle (see *§ 3.3*), the reference center is C(5)

p. 581, name of **84**

Update to

84 '(1*S*,2*S*,3*S*,4*S*)-4-[(1*E*)-3-hydroxybut-1-en-1-yl]-3,5,5-trimethylcyclohexane-1,2-diol'

p. 581, name of **85**

Change to

85 '1,2,3,4-tetrahydro-1,4-methanonaphthalen-9-amine stereoisomer'

- CA: '1,4-methanonaphthalene-9-amine, 1,2,3,4-tetrahydro-, stereoisomer'

A.6.4

p. 584, name of **14a**

Update to

14a '(pentane-2,4-dionato-κ*O*^{2},κ*O*^{4})' [3)]

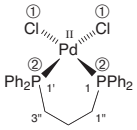
p. 585, name of **14b**

Update to

14b '(pentane-2,4-dionato-κ*O*^{2},κ*O*^{4})' [3)]

p. 586, name of **31**

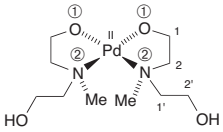
Update to



31 '(*SP*-4-2)-dichloro{1,1′-(propane-1,3-diyl)bis[1,1-diphenylphosphine-κ*P*]}palladium'

p. 586, name and formula of **34**

Update and change to



34 ~~'(*SP*-4-1)-{2-{[*N*(*R*)]-(2-hydroxyethyl)methylamino-κ*N*}ethanolato-κ*O*}{2-{[*N*(*S*)]-(2-hydroxyethyl)methylamino-κ*N*}ethanolato-κ*O*}palladium'~~
'(*SP*-4-2)-{2-[(*R*)-(2-hydroxyethyl)methylamino-κ*N*]ethanolato-κ*O*}{2-[(*S*)-(2-hydroxyethyl)methylamino-κ*N*]ethanolato-κ*O*}palladium'

- $_8$O > $_7$N
- the ligands became chiral by coordination: '~~[*N*(*R*)]~~-' or '~~[*N*(*S*)]~~-' by (b) of *§ A.6.3*
- relative descriptor by (c) of *§ A.6.3*: '*rel-*' is ~~probably~~ positioned before the entirety of the ligand names, i.e., '~~(*SP*-4-1)~~(*SP*-4-2)-*rel*-{2-~~[~~[(*R*)]~~]~~-...]~~}~~...}{2-~~[~~[(*S*)]~~]~~-...]~~}~~...}palladium'
- CA until 1999: 'palladium, bis[2-[(2-hydroxyethyl)methylamino-κ*N*]ethanolato-κ*O*]-, ~~[*SP*-4-1-(*R*),(*S*)]-~~[*SP*-4-2-(*R*),(*S*)]-'; since the two bidentate ligands have the same ligand name, no 'locants' are required, see (a$_4$); ligand-segment descriptor '(*R*),(*S*)' by (j) of *§ A.6.3*

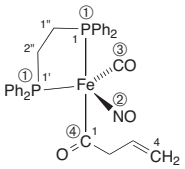
p. 587, name of **38**

Update to

38 '(*TB*-5-12)-tetracarbonyl(2-phenoxyacetyl)cobalt'

p. 587, name of **39**

Update to



39 '(*TB*-5-14)-carbonyl{1,1′-(ethane-1,2-diyl)bis[1,1-diphenylphosphine-κ*P*]}nitrosyl(1-oxobut-3-en-1-yl)iron'

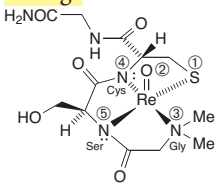
p. 587, name of **40**

Update to

40 '(*TB*-5-22)-carbonylchloro[(1*E*,3*E*)-4-(trimethylsilyl)buta-1,3-dien-1-yl]bis(triphenylphosphine)ruthenium'

p. 587, formula of **40**

Change to



45 '(*SP*-5-25-*C*)-[*N*,*N*-dimethylglycyl-κ*N*-L-seryl-κ*N*-L-cysteinyl-κ*N*,κ*S*-glycinamidato(3−)]oxorhenium'

- $_8$O must be considered as O(o,o,o) in ~~Rh=O~~ Re=O, i.e., ~~Rh→O~~ Re→O (see *Footnote 4* in *§ A.6.2*), which is irrelevant in this case (cf. **62**)
- $_{16}$S > $_8$O > $_7$N$_{Gly}$ = $_7$N$_{Ser}$ = $_7$N$_{Cys}$ allows the assignment of ① and ②; N$_{Gly}$(C,C,**C**) > N$_{Cys}$(C,C,**o**) = N$_{Ser}$(C,C,**o**) allows the assignment of ③; N$_{Cys}$[C(O,(O),C) > C(C,C,H)] = N$_{Ser}$[C(O,(O),C) > C(C,C,H)] does not allow any assignment; on the path of highest seniority, i.e., in each case via C(O,(O),C), finally N$_{Cys}$[...C(N$_{Ser}$,**C**,H)] > N$_{Ser}$[...C(N$_{Gly}$,**H**,H)] results
- CA until 1999: the ligand-segment descriptor is not required in the global stereodescriptor, see (a$_4$)

p. 588, under the name of **52**

Update to

analogously '(*OC*-6-1′2′)-[M(*b*⌒*a*⌒*b*)$_2$]' if in **52** *a*⌒*b*⌒*a* is replaced by *b*⌒*a*⌒*b*; e.g.,
b⌒*a*⌒*b* = H$_2$**N**–CH$_2$CH$_2$–**N**H–CH$_2$CH$_2$–**N**H$_2$, i.e., '{*N*^{1}-[2-(amino-κ*N*)ethyl]ethane-1,2-diamine-κ*N*^{1},κ*N*^{2}}', trivially '**(diethylenetriamine)**' (abbreviation '**(dien)**')

p. 588, under the name of **54**

Update to

analogously '(OC-6-33)-[M(*b*⌒*a*⌒*a*⌒*b*)*c*$_2$]' if in **54** *a*⌒*b*⌒*b*⌒*a* is replaced by *b*⌒*a*⌒*a*⌒*b*; e.g.,
b⌒*a*⌒*a*⌒*b* = H$_2$**N**–CH$_2$CH$_2$–**N**H–CH$_2$CH$_2$–**N**H–CH$_2$CH$_2$–**N**H$_2$, i.e., '{*N*^{1},*N*^{2}-bis[2-(amino-κ*N*)ethyl]ethane-1,2-diamine-κ*N*^{1},κ*N*^{2}}', trivially '**(triethylenetetramine)**' (abbreviation '**(trien)**')

p. 589, name of **63**

Update to

63 '(*OC*-6-1′2′)-bis(propane-1,2,3-triamine-κ*N*^{1},κ*N*^{2},κ*N*^{3})cobalt(3+)'

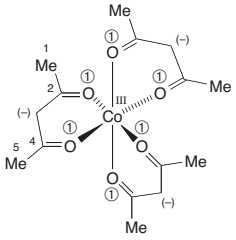
p. 589, name of **67**

Update to

67 '(*OC*-6-33′)-bis{3-{[(pyridin-2-yl-κ*N*)methyl]imino-κ*N*}butan-2-one (oximato-κ*N*)}cobalt(1+)'

p. 590, name of **68**

Update to



68 '(*OC*-6-11-Δ)-tris(pentane-2,4-dionato-κ*O*^{2},κ*O*^{4})cobalt'

p. 590, name of **70**

Update to

70 '(*OC*-6-23-Λ)-amminebromobis(ethane-1,2-diamine-κ*N*^{1},κ*N*^{2})cobalt(2+)'

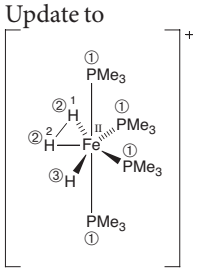
p. 590, name of **72**

Update to

72 '(*OC*-6-32-Δ)-{1,1′-[(*P*)-[1,1′-binaphthalene]-2,2′-diyl]bis[1,1-diphenylphosphine-κ*P*]}(methanol)(6-methoxy-α-methylenenaphthalene-2-acetato-κ*O*)(pentane-2,4-dionato-κ*O*^{2},κ*O*^{4})ruthenium'
'(*P*)' by (b) of *§ A.6.3*: the ligand ①⌒① (abbreviation '**[(*S*)-binap]**') can be specified as a stereogenic axis of the helicity *P*;
CA denotes the ligand ①⌒① by (b) of *§ A.6.3* as '[1,1′-[(**1*S***)-[1,1′-binaphthalene]-2,2′-diyl]bis[1,1-diphenylphosphine-κ*P*]]'

p. 590, name of **79**

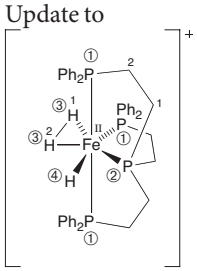
Update to



79 '(*PB*-7-11-11223)-(dihydrogen-~~κ*H*,κ*H*′~~κ*H*^{1},κ*H*^{2})hydrotetrakis(trimethylphosphine)iron(1+)'

p. 590, name of **80**

Update to



80 '(*PB*-7-11-12433)-(dihydrogen-~~κ*H*,κ*H*′~~κ*H*^{1},κ*H*^{2})hydro{tris[2-(diphenylphosphino-κ*P*)ethyl]phosphine-κ*P*}iron(1+)'

p. 592, name of **83**

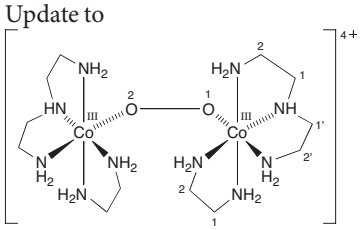
Update to

83 '[(1,2,3-η)-but-2-en-1-yl](2,5-dichlorophenyl)~ (triphenylphosphine)palladium stereoisomer'

- according to the literature, the coordination polyhedron of **83** is square-planar (*SP*-4), the convention of the pseudoatoms cannot be applied
- recommendation: '(*SP*-4)-[(1,2,3-η)-but-2-en-1-yl](2,5-dichloro~ phenyl)(triphenylphosphine)palladium'

p. 592, name of **87**

Update to



87 'bis{*N*^{1}-[2-(amino-κ*N*)ethyl]ethane-1,2-diamine-κ*N*^{1},κ*N*^{2}}bis(ethane-1,2-diamine-κ*N*^{1},κ*N*^{2})[μ-(peroxy-κ*O*^{1}:κ*O*^{2})]dicobalt(4+) stereoisomer'

p. 592, name of **88**

Update to

88 'bis[(2*E*)-(1,2,3-η)-but-2-en-1-yl]di-μ-chlorodi~ palladium'

A.7 Lambda (λ) and Delta (δ) Convention (Update)

p. 593, left-hand column, first paragraph

Update to

The λ convention introduced by IUPAC[1] is a method to designate in a simple way formally charge-neutral structures that contain heteroatoms with nonstandard valences. The δ convention, also introduced by IUPAC[2], is a method to expreess cumulative double bonds terminating at such heteroatoms in heterocycles. Since 2007, CA has employed the λ and δ convention to name heteroatoms with nonstandard valences *in heterocycles*. ~~besides other conventions (see below) since the '12th Coll. Index' (since 1987)~~.

IUPAC recommends the λ and δ convention[1)2)] in a more extensive structure domain than CA (see (c) and (d) below). ~~and, moreover, proposes the δ convention[2)] for cyclic molecular-skeleton parents with cumulative double bonds, see (d). The latter is not employed by CA.~~

p. 593, left-hand column, fifth paragraph

Update to

A **nonstandard valence** of a heteroatom is~~, under certain conditions (CA),~~ indicated in names by the descriptor '**λ*n***' (*n* = bonding number), see (c_1) below.

Instructions are given for:

(a) unexpressed nonstandard valences;

(b) nonstandard valence of an N, P, As, Sb, Bi, S, Se, or Te atom in a heterocycle or functional group, caused by the addition of O^{II}, S^{II}, Se^{II}, or Te^{II}: addition names (*§ 3.2.4*) 'oxide'/'oxido-', 'sulfide'/'sulfido-', etc.; § 3.2.4

(c) nonstandard valence of a heteroatom in a heterocycle or in an acyclic mononuclear S, Se, or Te substituent at an N atom:

(c_1) the λ convention;

~~(c_2) the use of the 'hydro' prefix;~~

(c_2) iodine-containing heterocycles;

(d) nonstandard valence of a heteroatom in a heterocycle with cumulative double bonds; ~~(δ convention[2)])~~.

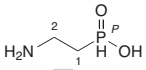
p. 593, name of **4**

Update to

4 'tetraphenylphosphonium bromophenyliodate(1–) (1:1)'

p. 593, name of **6**

Update to



6 '*P*-(2-aminoethyl)phosphinic acid'

phosphinic acid (*§ 6.11*)

p. 594, name of **13**

Update to

13 '2-[(3,3-diethyl-2-oxidotriaz-1-en-1-yl)oxy]-5-nitro~ pyridine'

p. 594, **(c)**

Update to

(c) *Nonstandard valence of a heteroatom in a heterocycle or in an acyclic mononuclear S, Se, or Te substituent at an N atom*

A nonstandard valence of a heteroatom in a heterocycle or in a acyclic mononuclear S, Se, or Te substituent at an N atom which cannot be designated according to (a) or (b) and which contains noncumulative double bonds[3] (see (d) for cumulative double bonds), are denoted by:

(c_1) the λ convention[1];

~~(c_2) the use of the 'hydro' prefix if the molecular-skeleton parent cannot be designated as usual by substitutive nomenclature;~~

(c_2) a name devoid of 'λ' ~~and the 'hydro-' prefix~~ in the case of an iodine-containing heterocycle.

(c_1) *The λ convention*

The name of a heterocycle having a *charge-neutral* heteroatom with a nonstandard valence of the **bonding number** *n* and the maximum number of noncumulative double bonds[3] consists of:

descriptor '***x***λ*n*', *x* being the locant of the heteroatom

+

parent name of the heterocycle with standard valence

Notice that since 2007, a heteroatom with a *nonstandard valence* ~~is~~ *has been senior for lowest locant* to the same heteroatom with a ~~non~~standard valence if there is a choice, see **27**.

For a corresponding substituent, see ~~(c_2)~~ **38** ~~and~~ vs. **39**.

Up to the '12th Coll. Index' (up to 1987), CA designated the nonstandard valence in a heterocycle by means of an **italic element symbol** for the affected heteroatom and a **Roman-numeral superscript** corresponding to the bonding number *n*. Since 2007, this convention ~~is now~~ has no longer been employed by CA ~~only~~ in the case of cumulative double bonds, see (d).

Unlike CA, IUPAC recommends the λ convention also for ~~substituents (see (c_2)) and~~ heterochains (*§ 4.3*): 'λ*n*' is then placed immediately after the locant of the corresponding molecular-skeleton atom already present in the name, or if no locant is cited explicitly, with the corresponding locant before the name, see **16** and **17** ~~and (c_{13})~~. ~~Moreover, a heteroatom with a higher bonding number is senior to the same heteroatom with a lower bonding number for lowest locant if there is a choice, see **27**.~~

Exceptions (c_1)

Since 2007, CA has introduced the λ convention also to name a prefix for an **acyclic mononuclear S, Se, or Te substituent with a nonstandard valence** (bonding number *n* = 4 or 6, instead of *n* = 2), which is **attached by a double bond to an N atom** (see update of (g_1) of § 6.25):

'**λ⁴-sulfanylidene-**' (tetravalent S, e.g., $H_2S=$ or =S=)
'**λ⁴-selanylidene-**' (tetravalent Se, e.g., $H_2Se=$ or =Se=)
'**λ⁴-tellanylidene-**' (tetravalent Te, e.g., $H_2Te=$ or =Te=)
'**λ⁶-sulfanylidene-**' (hexavalent S, e.g., $H_4S=$ or $=S(=)_2$)
'**λ⁶-selanylidene-**' (hexavalent Se, e.g., $H_4Se=$ or $=Se(=)_2$)
'**λ⁶-tellanylidene-**' (hexavalent Te e.g., $H_4Te=$ or $=Te(=)_2$)

e.g., '*N*-{[bis(trimethylsilyl)imino]-λ⁶-sulfanylidene}-2,2,2-trifluoroacetamide'
$(CF_3C(=O)–N=S(=N–SiMe_3)_2)$

p. 594,right-hand column, last paragraph

Update to

~~(c_{11})~~

Examples (c_1)

In the name of a **heteromonocycle with a trivial or Hantzsch–Widman name**, of a **fused heteropolycycle** with a trivial or fusion name, including bridged ones, or of a corresponding **heterospiropolycycle** (~~but see (c_{13})~~) or a corresponding **heteroring assembly**, the following holds: § 4.5.2, 4.5.3, 4.6.2, 4.6.3, 4.8, § 4.9.3, 4.10

The descriptor 'λ*n*' with the corresponding locant is placed before the parent name *in addition* to possibly already present locants but *after* a possibly required indicated H atom; indicated H atom is also used for a heteroatom with nonstandard valence connected to other skeletal atoms only by single bonds and carrying one or more H atoms[4]; see **18**–**27** and **37**–**45**.

p. 594, *Footnote 4*

Update to

4) After the assignment of the maximum number of noncumulative double bonds (see *Footnote 3*) to the structure with nonstandard valences, indicated H atom is attributed according to *§ A.5* to each ring atom with $n \geq 3$ that is linked to (at least two) neighboring ring atoms *only by single bonds* and that carries one or several H atoms, see **19**, **22**, **28**, **38**, **40**, and **41**.Saturated angular ring atoms or spiro atoms that are unavoidable for the formulation of a structure with the maximum number of noncumulative double bonds are exceptions (see (b) of *§ A.5*) as well as saturated centers between two bivalent heteroatoms (see (c) of *§ A.5*), see **26** and **34**–**36**.

p. 595, name of **19**

Update to

19 '2*H*1*H*-1λ⁴-isothiazole'

- heteromonocycle with trivial name (*§ 4.5.2*)
- indicated H atom by (a) and (d) of *§ A.5* [4)]

p. 595, name of **22a**

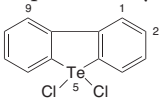
Update (by removing **22a**, i.e., former **22**) to

22a '~~2λ²-1,3,2-dioxagermolane~~'
'1,3,2-dioxagermolan-2-ylidene'

- CA treats **22a** as a diradical (*§ 6.2.2*)
- heteromonocycle with Hantzsch–Widman name (*§ 4.5.3*)
- IUPAC: formerly '1,3,2λ²-dioxagermolane'

p. 595, name of **22**

Replace **22a** by **22**

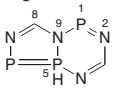


22 '5,5-dichloro-5*H*-5λ⁴-dibenzotellurophene'

- heteropolycycle with fusion name (*§ 4.6.3*)
- indicated H atom by (a) and (d) of *§ A.5* [4)]

p. 595, name of **25**

Update to

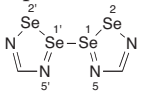


25 '~~5*H*-~~5λ⁵-[1,4,2,3]diazadiphospholo[2,1-*b*]~[1,3,5,2,4]triazadiphosphorine'

- heteropolycycle with fusion name (*§ 4.6.3*)
- no indicated H atom ~~by (a) of § A.5~~ [4)]

p. 595, name of **27**

Update to

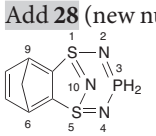


27 '~~2,2′-bi-2λ⁴~~1,1′-bi-1λ⁴-1,2,3,5-diselenadiazole'

- heteroring assembly (*§ 4.10*)
- lowest locant for the Se atom with the highest bond number *n* (4 > 2)
- IUPAC: '1,1′-bi-1λ⁴,2,3,5-diselenadiazole~~', i.e., lowest locant for highest bond number (4 > 2)~~

p. 595, name of **28**

Add **28** (new numbering)



28 '6,9-methano-5,1-nitrilo-1*H*-1λ⁴,3λ⁵,5λ⁴-1,5,2,4,3-benzodithiadiazaphosphepine'

- bridged fused heteropolycycle (*§ 4.8*)
- indicated H atom by (a) and (d) of *§ A.5* [4)]
- IUPAC: '5,1-(azeno)-6,9-methano-1*H*-1λ⁴,5λ⁴,2,4,3λ⁵-benzodithia~diazaphosphepine' (for '(azeno)', see P-25.4.2.2.1)

p. 595, right-hand column, first paragraph

Update to

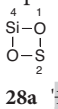
~~(c₁₂)~~

In the name of a **heteromonocycle**, of a **fused heteropolycycle**, including bridged ones, of a **von Baeyer bridged heteropolycycle**, of a **heterospiropolycycle**, or of a **heteroring assembly**, all denoted by **replacement nomenclature**, the following holds: *§ 4.5.4, 4.5.5, 4.6.4, 4.7, § 4.9.2, 4.10*

The descriptor 'λ*ⁿ*' with the corresponding locant is placed ~~immediately after the locant already present in~~ before the parent name; see **29**–**32**.

p. 595, name of **28a**

Update (by removing **28a**, i.e. former **28**) to

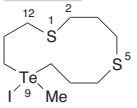


28a '~~1,3-dioxa-2-thia-4λ²-silacyclobutane~~'
'1,3-dioxa-2-thia-4-silacyclobut-4-ylidene'

- CA treats **22a** as a diradical (*§ 6.2.2*)
- heteromonocycle with replacement name (*§ 4.5.5*)
- IUPAC: formerly '1,3-dioxa-2-thia-4λ²-silacyclobutane'

p. 595, name of **29**

Add **29** (new numbering)



29 '9-iodo-9-methyl-9λ⁴-1,5-dithia-9-telluracyclododecane'

- heteromonocycle with replacement name (*§ 4.5.5*)
- IUPAC: '9-iodo-9-methyl-1,5-dithia-9λ⁴-telluracyclododecane'

p. 595, name of ~~**2930**~~

Update to

~~**2930**~~ '2*H*,5*H*-6aλ⁴-1,6,6a~~λ⁴~~-trithia-2a,4a-diazacyclo~penta[*cd*]pentalene'

p. 595, name of ~~**3031**~~

Update to

~~**3031**~~ '1λ⁴-2,8,9-trioxa-1~~λ⁴~~-selena-5-azabicyclo[3.3.3]undecane'

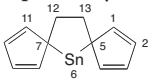
p. 595, name of ~~**3132**~~

Update to

~~**3132**~~ '5λ⁵-1,6-dioxa-4,9-diaza-5~~λ⁵~~-arsaspiro[4.4]nonane'

p. 595, name of **32a**

Update (by removing **32a**, i.e., former **32**) to



32a '~~6λ²-stannadispiro[4.1.4.2]trideca-1,3,8,10-tetraene~~'
'6-stannadispiro[4.1.4.2]trideca-1,3,8,10-tetraen-6-ylidene'

- CA treats **32a** as a diradical (*§ 6.2.2*)
- heterospiropolycycle (*§ 4.9.2*)
- IUPAC: formerly '6λ²-stannadispiro[4.1.4.2]trideca-1,3,8,10-tetraene'

p. 595, right-hand column, second paragraph

Update to

~~(c₁₃)~~

In the name of a **heterospiropolycycle with unchanged names of the ring components**, the following holds: *§ 4.9.3*

The descriptor 'λ*ⁿ*' for a spiro atom is placed, with the corresponding locants, before each concerned ring-component name ~~immediately after *both* locants of the spiro union~~, or in the case of identical components, immediately before the ~~entire~~ name of the identical component; ~~with the corresponding locanti.e., not in the names of the individual components.~~ see **33**–**36**.

Nonspiro atoms with nonstandard valences are denoted similarly, if required~~, according to (c₁₁) or (c₁₂)~~.

p. 595, name of **33**

Update

33 'spiro[3*H*-1λ⁴-2,1-benzoxathiole-1,2′~~λ⁴~~-[3*H*-2λ⁴-1,2]~oxathiole]'

p. 595, name of **34**

Update

34 'spiro[2λ^5-1,3,2-benzodiazaphosphorine-2(1*H*),2′λ^5-[2λ^5-1,3,2]dioxaphospholane]'

p. 596, name of **35**

Update

35 'spiro[2λ^5-1,3,2-benzodioxaphosphole-2,1′λ^5(2′*H*)-[1λ^5-1,2]diphosphete]'

p. 596, name of **36**

Update

36 'λ^5-1,1′(3*H*,3′*H*)-spirobi[1λ^5-2,1-benzoxabismole]'

p. 596, left-hand column, first paragraph

Update to

CA ¶ 158

(c$_2$) *The use of the 'hydro' prefix*

Since 2007, the nonstandard valence of a heteroatom of a heterocycle is has no longer been denoted by adding the 'hydro-' prefix if the heterocycle-containing structure cannot be named by the usual rules of substitutive nomenclature. Also this holds, according to CA, in particular for **heterocycle substituents** with nonstandard valences at the molecular-skeleton atom that would carry the free valence(s) according to the usual substitutive nomenclature, see **38** and **39**. However; such structures could also be have been designated by means of the λ convention according to (c$_1$) ; the CA guidelines are not very explicit concerning this case, see examples.

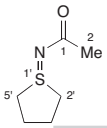
p. 596, name of **37**

Update to

37 '2,2-dihydro-2,2,2-trihydroxy-1,3,2-dioxaphosphorinane'
'2,2,2-trihydroxy-2λ^5-1,3,2-dioxaphosphorinane'
- alternative by (c$_{11}$): '2,2,2-trihydroxy-2λ^5-1,3,2-dioxaphosphorinane' (not CA name)
- IUPAC: '2,2,2-trihydroxy-1,3,2λ^5-dioxaphosphinane'

p. 596, name of **38**

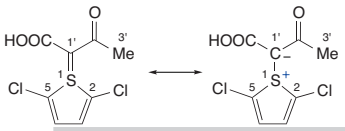
Update to



38 '1-(acetylimino)-1,1,2,3,4,5-hexahydrothiophene'
'*N*-(tetrahydro-1*H*-1λ^4-1-thienylidene)acetamide'
- alternative by (c$_{11}$): '*N*-(2,3,4,5-tetrahydro-1*H*-1λ^4-1-thienylidene)~acetamide' [4] (is a not CA name), i.e., a structure with a tetravalent S atom in a monocycle, connected to an external N atom by a double bond, is named by the λ convention, cf. **39**
- indicated H atom by (a) and (d) of *§ A.5* [4]
- IUPAC: '*N*-(2,3,4,5-tetrahydro-1*H*-1λ^4-thienylidenethiophen-1-ylidene)acetamide' [4] (P-29-6-2)

p. 596, name of **39**

Update to



39 '1-(1-carboxy-2-oxopropylidene)-2,5-dichloro-1,1-dihydrothiophene'
'1-(1-carboxy-2-oxopropyl)-2,5-dichlorothiophenium inner salt'
- alternative by (c$_{11}$): '2-(2,5-dichloro-1*H*-1λ^4-1-thienylidene)-3-oxo~butanoic acid' [4] (is not a CA name), i.e., a structure with a tetravalent S atom in a monocycle, connected to an external C atom by a double bond, is preferably named as a zwitterion according to (b) of *§ 6.5*, cf. **38**
- IUPAC: '2-(2,5-dichloro-1*H*-1λ^4-thienylidenethiophen-1-ylidene)-3-oxobutanoic acid' [4] (P-29-6-2)

p. 596, name of **40**

Update to

40 '1,1-dibromo-1,1,2,3,4,5-hexahydroselenophene'
'1,1-dibromotetrahydro-1*H*-1λ^4-selenophene'
- alternative by (c$_{11}$) and IUPAC: '1,1-dibromo-2,3,4,5-tetrahydro-1*H*-1λ^4-selenophene' [4] (not CA name)
- indicated H atom by (a) and (d) of *§ A.5* [4]

p. 596, name of **41**

Update to

41 '1,1-dichloro-1,1,2,5-tetrahydrotellurophene'
'1,1-dichloro-2,5-dihydro-1*H*-1λ^4-tellurophene'
- alternative by (c$_{11}$) and IUPAC: '1,1-dichloro-2,5-dihydro-1*H*-1λ^4-tellurophene' [4] (not CA name)
- indicated H atom by (a) and (d) of *§ A.5* [4]

p. 596, name of **42**

Update to

42 '1,1-dibromo-1,1-dihydroselenane'
'1,1-dibromo-1λ^4-selenane'
alternative by (c$_{11}$) and IUPAC: '1,1-dibromo-1λ^4-selenane' (not CA name)

p. 596, name of **43**

Update to

43 '2,2-dihydro-2,2,2-trimethoxy-4,5-diphenyl-1,3,2-dioxaphosphole'
'2,2,2-trimethoxy-4,5-diphenyl-2λ^5-1,3,2-dioxaphosphole'
- alternative by (c$_{11}$): '2,2,2-trimethoxy-4,5-diphenyl-2λ^5-1,3,2-dioxaphosphole' (not CA name)
- IUPAC: '2,2,2-trimethoxy-4,5-diphenyl-1,3,2λ^5-dioxaphosphole'

p. 596, name of **44**

Update to

44 '2,2-dihydro-4,5-dimethyl-2,2,2-triphenyl-1,3,2-dioxaphospholane'
'4,5-dimethyl-2,2,2-triphenyl-2λ^5-1,3,2-dioxaphospholane'
- alternative by (c$_{11}$): '4,5-dimethyl-2,2,2-triphenyl-2λ^5-1,3,2-dioxaphospholane' (not CA name)
- IUPAC: '4,5-dimethyl-2,2,2-triphenyl-1,3,2λ^5-dioxaphospholane'

p. 596, name of **45**

Update to

45 '3,3-dihydro-2*H*-1,2,4,3-selenadiazaphosphete'
'2*H*-3λ^5-1,2,4,3-selenadiazaphosphete'
- indicated H atom by (a) and (d) of *§ A.5*
- alternative by (c$_{11}$): '2*H*-3λ^5-1,2,4,3-selenadiazaphosphete' [4] (not CA name)
- IUPAC: '2*H*-1,2,4,3λ^5-selenadiazaphosphete' [4]

p. 596, right-hand column, first paragraph

Update to

(c$_2$) *Iodine-containing heterocycles*

Iodine-containing heteromono- and heteropolycycles have names in which the nonstandard valence of the I atoms is considered to be n = 3 implied, see also *§ 4.5.3*. However; Hence, such heterocycles could also be are not designated by means of the λ convention according to (c$_1$). § 4.5.3

p. 596–597, **(d)**

Update to

(d) *Nonstandard valence of a heteroatom in a heterocycle with cumulative double bonds; (δ convention [2])*

Since 2007, and if the nonstandard valence of a *charge-neutral* heteroatom in a heterocycle is due to **cumulative double bonds** [3] in the molecular-skeleton parent, which terminate **at the heteroatom with nonstandard valence**, the λ convention combined with IUPAC's δ convention [2] has been introduced. the name of the heterocycle contains, after the concerned name part, an italic element symbol for the heteroatom affected, complemented by a Roman-numeral subscript corresponding to the **bonding number** *n*, see **50**–**55**. If necessary, this descriptor is preceded by an italic locant, see **52**, **54**, and **55**.

The descriptor 'δ' designates the molecular-skeleton heteroatom at which more than one double bond terminates. In the name, 'δ' is combined in a single expression with the descriptor 'λ', i.e.,

descriptor '$x\lambda^n\delta^c$'

x = locant of the concerned heteroatom,

n = bonding number,

c = number of double bonds terminating at position x

+

parent name of the heterocycle with standard valence

In the name, the descriptor '$x\lambda^n\delta^c$' is placed as described in (c$_1$), and if required, indicated H atom is only assigned after insertion

of all double bonds including the cumulated ones (cf. *Footnotes 4* and *5*), see **52**–**55**. Notice that since 2007, a heteroatom with a *nonstandard valence is has been senior for lowest locant* to the same heteroatom with a ~~non~~standard valence if there is a choice, see **55**.

Contrarily, **cumulative double bonds**[3)] in a carbo- or heterocycle, which terminate **at an atom with standard valence** and cannot be denoted by the final syllables '-diene', '-triene', etc., according to *Footnote 5*, are expressed by the '**dehydro-**' prefix, mostly in combination with the '**hydro-**' prefix, according to subtractive and additive nomenclature (see *§ 3.2.5* and *3.2.4*), see **56**–**5960**. ~~If this method fails, indicated H atom is employed, see **60**[5)]~~.

§ 3.2.5, 3.2.4

p. 597, left-hand column, 3rd paragraph

Update to

IUPAC recommends for all cyclic structures with cumulative double bonds, except for the ones cited in *Footnote 5*, the δ convention[2)] (IUPAC P-25.7.2 and R-1.1.4), see above. ~~often in combination with the λ convention (see (c_1)). The descriptor 'δ^c' designates in this case a molecular-skeleton atom at which more than one double bond terminates (*c* = number of these double bonds). In the name, 'δ^c' is placed after the locant of the affected molecular-skeleton atom, and where appropriate, after the descriptor 'λ^n' (cf. (c_1)). Indicated H atom according to *§ A.5* is only assigned after the insertion of all double bonds (cf. *Footnote 4*).~~

p. 597, name of **50**

Update to

~~*Examples* (d)~~

Exceptions (d)

50 '~~3,4-dihydrothiophene(S^{IV})~~'
'3,4-dihydro-2*H*-thiolium inner salt'

- not '3,4-dihydro-1λ^{4}δ^2-thiophene', i.e., a tetravalent S atom in a nonaromatic monocycle, connected to an internal C atom by a double bond, is preferably named as a zwitterion according to (a) of *§ 6.5*, cf. **5**
- indicated H atom by (a) and (d) of *§ A.5*
- IUPAC: presumably '3,4-dihydro-1λ^{4}δ^2-thiophene', or '3,4-dihydro-2*H*-thienylium-2-ide' (cf. P-73.3.2 and P-74.1.1)

p. 597, name of **51**

Update to

51 '~~3*H*-thio(S^{IV})~~pyran'
'2,3-dihydrothiopyrylium inner salt'

- ~~without final 'e'~~ not '3*H*-1λ^{4}δ^2-thiopyran', i.e., a tetravalent S atom in a nonaromatic monocycle, connected to an internal C atom by a double bond, is preferably named as a zwitterion according to (a) of *§ 6.5*, cf. **53**
- ~~indicated H atom by (a) of *§ A.5*~~
- IUPAC: presumably '3*H*-1λ^{4}δ^2-thiopyran', or '2,3-dihydrothiopyrylium-2-ide' (cf. P-73.3.2 and P-74.1.1)

p. 597, name of **52**

Update to

Examples (d)

52 '~~1,2,4,3,5-triselena(*4-Se*^{IV})diazole~~'
'4λ^{4}δ^2-1,2,3,4,5-triselenadiazole'

p. 597, name of **53**

Update to

53 '~~5*H*-1,3,2-oxathi(S^{IV})azole~~'
'5*H*-3λ^{4}δ^2-1,3,2-oxathiazole'

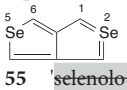
p. 597, name of **54**

Update to

54 '~~1,3,5,2,4-trithia(*3-S*^{IV})diazepine~~'
'3λ^{4}δ^2-1,3,5,2,4-trithiadiazepine'

p. 597, name of **55**

Update to



55 '~~selenolo[3,4-*c*]selenophene-*5*-Se^{IV}~~'
'2λ^{4}δ^2-selenolo[3,4-*c*]selenophene'

- notice the attached-component name 'selenolo-' (not 'selenopheno-'; see (d_1) of *§ 4.6.3*)
- IUPAC: '2λ^{4}δ^2-selenolo[3,4-*c*]selenophene'~~, according to IUPAC, *nonstandard valences are senior* for lowest locants, in the order of decreasing bonding numbers, see (c_1)~~

p. 597, name of **60**

Update to

60 '~~2*H*-~~thiophene'
'3,4-didehydro-2,3-dihydrothiophene'

- ~~indicated H atom by (a) and (d) of *§ A.5*~~
- IUPAC: '5*H*-3δ^2-thiophene'; according to IUPAC, a molecular-skeleton atom with a high number *c* is senior for lowest locant, prior to indicated H atom

A.8 Isotopically Modified Compounds (Update)

p. 600, *Footnote 1*

Update to

1) See IUPAC's 'Blue Book 2013' (P-80–P-84; errata in <https://www.qmul.ac.uk/sbcs/iupac/bibliog/BBerrors.html>) ('Blue Book 1979' (H recommendations) or IUPAC, *Pure Appl. Chem.* **1979**, *51*, 353;~~<http://www.chem.qmul.ac.uk/iupac>~~<https://www.qmul.ac.uk/sbcs/iupac/>).

p. 600, **(a)**

Update to

(a) *Isotopically substituted compounds*

IUPAC P-82 (R-8.2, H-1.23, H-2.1) Tab. A.4 § 3.5

....

The nuclide symbol (see *Tab. A.4* above), if necessary with a subscript '2,3,...' and preceding locants for the modified atoms, is enclosed in *parentheses* and inserted in the name *before* the name part that is modified. If several different nuclide symbols are required, they are ordered alphabetically (e.g., $^{13}C > {}^{2}H$) and then by their increasing mass number (e.g., $^{2}H > {}^{3}H$).

p. 600, name of **1**

Update to

1 '(2,2,2-$^{2}H_3$)ethan-1-(^{18}O)ol'

- the locant '1' for the suffix is necessary since the isotope descriptor contains locants (P-82.6.1.1)
- CA: 'ethan-*2,2,2-d*$_3$-ol-^{18}*O*' by (e) of *§ A.8.3*

p. 600, **(b_1)**

Update to

(b_1) *Specifically isotope-labeled compounds*

IUPAC P-83.1 (R-8.3, H-1.24–H-1.29, H-2.2) Tab. A.4 § 3.5

...

The nuclide symbol (see *Tab. A.4* above), if necessary with a subscript '2,3,...' and preceding locants for the modified atoms, is enclosed in *brackets* and inserted in the name *before* the name part that is modified. If several different nuclide symbols are required, they are ordered alphabetically (e.g., $^{13}C > {}^{2}H$) and then by their increasing mass number (e.g., $^{2}H > {}^{3}H$).

p. 600, name of **2**

Update to

2 '[2-^{13}C,1,1-$^{2}H_2$]ethan-1-[^{2}H]ol'

- the locant '1' for the suffix is necessary since the isotope descriptor contains locants (P-82.6.1.1)
- CA: 'ethan-*1,1-d*$_2$-ol-*2*-^{13}C-*d*', by (e) of *§ A.8.3*

p. 600, **(b_2)**

Update to

(b_2) *Selectively isotope-labeled compounds*

IUPAC P-83.2 (H-2.3) Tab. A.4 § 3.5

...

The nuclide symbol (see *Tab. A.4* above), without subscript but if necessary with preceding locants for the modified atoms, is enclosed in *brackets* and inserted in the name *before* the name part that is modified. If several different nuclide symbols are required, they are ordered alphabetically (e.g., $^{13}C > {}^{2}H$) and then by their increasing mass number (e.g., $^{2}H > {}^{3}H$).

p. 600, name of **3**

Update to

3 '[1-^{2}H]ethan-1-ol'

- the locant '1' for the suffix is necessary since the isotope descriptor contains locants (P-82.6.1.1)
- CA: 'ethanol, labeled with deuterium', by (f_4) of *§ A.8.3*

p. 600, name of **4**

Update to

4 '[2-$^{2}H_{1,2}$]ethan-1-ol'

- the locant '1' for the suffix is necessary since the isotope descriptor contains locants (P-82.6.1.1)
- CA: 'ethanol, labeled with deuterium', by (f_4) of *§ A.8.3*

p. 600, name of **5**

Update to

5 '[2-$^{2}H_{2,2}$,$^{18}O_{0,1}$]ethan-1-ol

- the locant '1' for the suffix is necessary since the isotope descriptor contains locants (P-82.6.1.1)
- CA: presumably 'ethanol-^{18}~~*O*~~, labeled with deuterium and oxygen-18', by (f_4) of *§ A.8.3*

p. 600, **(b_3)**

Update to

(b_3) *Nonselectively isotope-labeled compounds*

IUPAC P-83.3 (H-2.4) Tab. A.4 § 3.5

...

The nuclide symbol (see *Tab. A.4* above), without subscript and without preceding locants for the modified atoms, is enclosed in *brackets* and inserted in the name *before* the name part that is modified. If several different nuclide symbols are required, they are ordered alphabetically (e.g., $^{13}C > {}^{2}H$) and then by their increasing mass number (e.g., $^{2}H > {}^{3}H$).

p. 600, name of **6**

Update to

6 '[^{2}H]ethanol'

- no locant '1' for the suffix is necessary since the isotope descriptor does not contain locants (P-82.6.1.1)
- CA: 'ethanol, labeled with deuterium', by (f_4) of *§ A.8.3*

p. 600, **(b_4)**

Update to

(b_4) *Isotopically deficient compounds*

IUPAC P-83.4 (H-2.5) Tab. A.4 § 3.5

The nuclide symbol (see *Tab. A.4* above) preceded by '*def* ' and preceding locants for the modified atoms is enclosed in *brackets* and inserted in the name *before* the name part that is modified. If several different nuclide symbols are required, they are ordered alphabetically (e.g., $^{13}C > {}^{2}H$) and then by their increasing mass number (e.g., $^{2}H > {}^{3}H$).

p. 600, name of **7**

Update to

7 '[1-*def*-^{13}C]ethan-1-ol' or '[1-^{12}C]ethan-1-ol'

- the locant '1' for the suffix is necessary since the isotope descriptor contains locants (P-82.6.1.1)
- CA: 'ethanol-*1*-^{12}*C*', by (e) of *§ A.8.3*

p. 601, right-hand column, third bullet

Update to

- **isotopically modified atoms** of the molecular-skeleton parent *before* other criteria are applied, e.g., such as those described in the numbering rules according to *§ 3.4*. Deviating from the numbering rules, this sometimes generates higher locants for substituents expressed as prefixes, see **4**, **5**, **8**, ~~and~~ **9**, **46**, **48**, **54**, and **106**. § 3.4

p. 601, right-hand column, second paragraph

Update to

IUPAC retains the numbering of isotopically unmodified compounds according to *§ 3.4* for isotopically modified compounds (IUPAC P-82.5.1 (H-3)).

p. 601, **(a_{31})** to **(a_{33})**

Update to

In **(a_{31})**

The isotope descriptor follows the entire name, see **1**–~~**12**~~**11**, **16**~~**15**~~–**19**, **32**–**38**, **46**, **47**, **54**, **58**, **59**, **61**–**73**, etc.

Exceptions are the names of **alcohols**, **amines**, and **imines** with an H-containing principal group. In these cases, an isotope descriptor '*d*' or '*t*' for the principal group follows the suffix of the alcohol, amine, or imine name (cf. (a_{32})), whereas the remaining isotope descriptor '*d*' or '*t*' for the parent immedi-

ately follows the parent name, see, e.g., ~~13,~~ **12**–**15**, **24**–**31**, **77**, and **84**. Notice that other nuclide symbols are handled regularly, i.e., they follow the entire name, see **77** and **84**.

In **(a_{32})**
The isotope descriptor follows each concerned name part, see **20**–**23**, **28**, **39**–~~45~~**44**, ~~49~~, **53**, **57**, **80**–**83**, **85**–**98**, and **101**.
In **(a_{33})**
The isotope descriptor follows the substituent name, and the entire expression is put in enclosing marks, if this is required according to (d), see the examples in (d) and **79**, ~~84~~, and **98**–**106**.

p. 601, **(a_4)**
Update to
(a_4) *Citation of ~~the italic~~ locants*
Besides **italic numeral and letter locants**, sometimes an italic word part is also necessary to localize a modified atom without locant, e.g., '***carboxy***', '***carbonyl***', '***formyl***', '***methyl***', see **37**, **38**, **69**, **73**, **75**, **87**, **91**, and **93**.
Moreover, the following are distinguished:

p. 601, **(a_{41})**
Update to
(a_{41})
If the unmodified name, i.e., the parent name, parent name + suffix, functional-parent name, or functional-class name, or the unmodified name part, e.g., a prefix, contains **no locant**, the nuclide symbol(s) does not have any locant either *only* in the case of: ~~if the name remains unambiguous, see **1**, **2**, **8**, **12**, **20**–**25**, etc. In case of ambiguity (in the index name), however, locants must be employed, see **4**, **9**, **26**, **28**, **32**–**38**, etc.~~.
- a **labeled mononuclear molecular-skeleton parent**, e.g., 'methane', 'phosphine', see **1**, **15**, **16**, **24**, **29**, **31**, and **84** (cf. also **83,** notice);
- a **singly or multiply labeled single functional group**, e.g., '-ol', '-amine', '-carbonitrile', 'phosphonic acid', see **12**, **15**, **23**, **25**, **26**, **30**, **31**, **41**, **53**, **66**, **79**, **82**, **84**, **96**–**98**, **100**, and **101**;
- a **single label in a two-membered hydrocarbon chain or homogeneous heterochain, or in a homogeneous monocycle**, all *without* principal group, e.g., 'ethane', 'diazene', 'cyclohexane', 'cyclotetrasilane', 'benzene', see **8** and **46** (cf. also **2**, notice);
- a **heterocycle with a single labeled heteroatom** and no other heteroatoms of the same kind, e.g., 'pyridine', 'furan', see **61**;
- a labeled atom whose locant duplicates the element symbol, e.g., presumably, '*x,y*-di(methyl-^{13}C)' (*x*, *y* = locants).

In all unmodified names without locants not mentioned just above, the nuclide(s) symbol(s) is (are) always preceded by italic locants, see **2**–**4**, **9**, **12**, **17**, **18**, **20**–**22**, **26**–**28**, **32**–**39**, **42**–**45**, **47**, **48**, **54**, **58**, **59**, etc.

p. 602, **(a_{43})**
Update to
(a_{43})
In the case of the name parts 'acid' or following the suffix of a single alcohol, amine, or imine functional group, **no locant** is required for '*d*' or '*t*', see ~~13~~**12**, **14**, **15**, **21**–~~26~~**23**, **25**, **26**, **30**, **31**, **40**, **41**, and **49**~~,etc~~.

p. 602, name of **2**
Update to
2 'ethane-*1,1,1,2,2,2-t*$_6$'
- notice the absence of a locant for 'ethane-*t*' (CH_3CH_2T), see (a_{41})
- IUPAC: '($^3H_6$)ethane' (P-82.6.1)

p. 602, name of **3**
Update to
3 'ethane-*1-d-2-t*'
- alphabetical order '*d*' > '*t*'
- numbering by (a_2)
- IUPAC: '~~(1-$^2H_1$,2-$^3H_1$)~~ (2-$^2H_1$,1-$^3H_1$)ethane' (P-82.3.2 and P-82.5.2)

p. 602, name of **4**
Update to
4 '2,2,2-trichloroethane-*1,1,1-d*$_3$'
- CA: 'ethane-*1,1,1-d*$_3$, 2,2,2-trichloro-', *not* 'ethane-*2,2,2-d*$_3$, 1,1,1-trichloro-'
- numbering by (a_2)
- notice the absence of a locant for 'ethane-*d*, 2,2,2-trichloro-' (CCl_3CH_2D), see (a_{41})
- IUPAC: '1,1,1-trichloro(2,2,2-$^2H_3$)ethane' (P-82.5.1)

p. 602, name of **5**
Update to
5 '3-methylbuta-1,3-diene-*1,1-d*$_2$'
- CA: '1,3-butadiene-*1,1-d*$_2$, 3-methyl-', *not* '1,3-butadiene-*4,4-d*$_2$, 2-methyl-'
- numbering by (a_2)
- IUPAC: '2-methyl(4,4-$^2H_2$)buta-1,3-diene' (P-82.5.1)

p. 602, name of **8**
Update to
8 '2,4-dimethyl-6-nitrobenzene-*d*'
- CA: 'benzene-*d*, 2,4-dimethyl-6-nitro-', *not* 'benzene-*4-d*, 1,3-dimethyl-5-nitro-'
- numbering by (a_2)
- IUPAC: '1,3-dimethyl-5-nitro(4-^2H)benzene' (P-82.5.1)

p. 602, name of **9**
Update to
9 '6-methylpyridine-*2-d*'
- CA: 'pyridine-*2-d*, 6-methyl-', *not* 'pyridine-*6-d*, 2-methyl-'
- numbering by (a_2)
- IUPAC: '2-methyl(6-^2H)pyridine' (P-82.5.1)

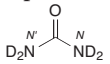
p. 602, name of **10**
Update to
10 '2,5-dimethyl-1*H*-pyrrole-*1-d*'
- CA: '1*H*-pyrrole-*1-d*, 2,5-dimethyl-'
- citation of locant by (a_{42})
- IUPAC: '2,5-dimethyl(1-^2H)-1*H*-pyrrole'~~, the citation of indicated H atom is not recommended~~

p. 602, name of **12**
Update to
12 ~~'ethanol-*d*$_6$'~~
'ethan-*1,1,2,2,2-d*$_5$-ol-*d*'
IUPAC: '($^2H_5$)ethan(^2H)ol' (P-82.6.1)

p. 602, name of **13**
Update to
13 'ethane-*1,1,2,2-d*$_4$-1,2-diol-*1,2-d*$_2$'
- CA: '1,2-ethane-*1,1,2,2-d*$_4$-diol-*1,2-d*$_2$'
- descriptor position by (a_{31}) (exception)
- citation of locants by (a_{42}) and (a_{43})
- IUPAC: '(1,1,2,2-$^2H_4$)ethane-1,2-~~($^2H_2$)didi~~[(^2H)ol]'

p. 602, name of **14**
Update to
14 'benzene-*2,3,5,6-d*$_4$-1,4-di(amine-*d*$_2$)'
- CA: '1,4-benzene-*2,3,5,6-d*$_4$-di(amine-*d*$_2$)'
- descriptor position by (a_{31}) (exception)
- citation of locants by (a_{42}) and (a_{43})
- *not* '-bis(amine-*d*$_2$)', see (a_1)
- IUPAC: '(2,3,5,6-$^2H_4$)benzene-1,4-~~($^2H_4$)didi~~[($^2H_2$)amine]'

p. 602, name of **15**
Update to
15 ~~'methanamine-*d*$_5$'~~
'methan-*d*$_3$-amine-*d*$_2$'
IUPAC: '($^2H_3$)methan($^2H_2$)amine' (P-82.6.1)

p. 602, name of **17**
Update to


17 'urea-*N,N,N′,N′-d*$_4$'
IUPAC: '($^2H_4$)urea' (P-82.6.1)

p. 603, name of **18**
Update to
18 'acetamide-*N,N,2,2,2-d*$_5$'
IUPAC: ($^2H_3$)acet($^2H_2$)amide' (P-82.6.1), or (*N,N*,2,2,2-$^2H_3$)acetamide (P-82.2.5)

p. 603, name of **19**
Update to
19 'propan-2-one-*1,1,1,3,3,3-d*$_6$'
- CA: '2-propanone-*1,1,1,3,3,3-d*$_6$'
- citation of locants by (a_{42})
- IUPAC: '($^2H_6$)acetone', or (1,1,1,3,3,3-$^2H_6$)propan-2-one'

p. 603, name of **20**

Update to

20 'acetyl-*2,2,2-d*$_3$ bromide'

- descriptor position by (a_{32})
- IUPAC: '($^2H_3$)acetyl bromide'

p. 603, name of **21**

Update to

21 'acetic-*2,2,2-d*$_3$ acid-*d*'

- descriptor position by (a_{32})
- IUPAC: '($^2H_3$)acetic (^2H)acid', or '(*O*,2,2,2-$^2H_4$)acetic acid' (P-82.2.4)

p. 603, name of **22**

Update to

22 'propanoic-*2,2,3,3,3-d*$_5$ acid-*d*'

- descriptor position by (a_{32})
- IUPAC: '($^2H_5$)propanoic (^2H)acid', or '(*O*,2,2,3,3,3-$^2H_6$)propanoic acid' (P-82.2.4)

p. 603, name of **23**

Update to

23 'phosphonic-*d* acid-*d*$_2$'

- descriptor position by (a_{32})
- IUPAC: '(^2H)phosphonic ($^2H_2$)acid', or '(*O,O,P*-$^2H_3$)phosphonic acid' (P-82.2.4)

p. 603, name of **24**

Update to

24 'methan-*d*-ol'

- descriptor position by (a_{31}) (exception)
- IUPAC: '($^2H_1$)methanol', or (1-$^2H_1$)methanol' (P-82.2.5)

p. 603, name of **26**

Update to

26 'ethan-*2,2-d*$_2$-ol-*d*'

- descriptor position by (a_{31}) (exception)
- IUPAC: '(2,2-$^2H_2$)ethan-1-(^2H)ol' (P-82.6.1.1)

p. 603, name of **27**

Update to

27 'phen-*2,3,4,5,6-d*$_5$-ol'

- descriptor position by (a_{31}) (exception)
- IUPAC: '(2,3,4,5,6-$^2H_5$)phenol'

p. 603, name of **29**

Update to

29 'methan-*d*$_2$-amine'

- descriptor position by (a_{31}) (exception)
- IUPAC: '($^2H_2$)methanamine', or '(1,1-$^2H_2$)methanamine' (P-82.2.5)

p. 603, name of **30**

Update to

30 'silanamine-*d*$_2$'

IUPAC: 'silan($^2H_2$)amine', or '(*N*-$^2H_2$)silanamine' (P-82.2.5)

p. 603, name of **31**

Update to

31 'methan-*d*-imine-*d*'

- descriptor position by (a_{31}) (exception)
- IUPAC: '($^2H_1$)methan(^2H)imine', or '(*N*,1-$^2H_2$)methanimine' (P-82.2.5)

p. 603, name of **34**

Update to

34 'propanamide-*N,3,3,3-d*$_4$'

IUPAC: '(3,3,3-$^2H_3$)propan($^2H_1$)amide', or '(*N*,3,3,3-$^2H_4$)propanamide' (P-82.2.5)

p. 603, name of **35**

Update to

35 'acetaldehyde-*1-d*'

IUPAC: 'acet(^2H)aldehyde', or '(1-^2H) acetaldehyde' (P-82.2.5)

p. 603, name of **37**

Update to

37 'benzaldehyde-*formyl-d*'

- citation of 'locant' by (a_4)
- IUPAC: 'benz(^2H)aldehyde', or '(*formyl*-^2H)benzaldehyde' (P-82.6.3.1)

p. 603, name of **38**

Update to

38 'benzaldehyde-*formyl,2,3,5,6-d*$_5$'

- citation of 'locant' by (a_4)
- IUPAC: '(2,3,5,6-$^2H_4$)benz(^2H)aldehyde', or '(*formyl*,2,3,5,6-$^2H_5$)benzaldehyde' (P-82.6.3.1)

p. 603, name of **39**

Update to

39 'acetic-2-*d* acid'

- descriptor position by (a_{32})
- IUPAC: '(2-$^2H_1$)acetic acid'

p. 603, name of **40**

Update to

40 'acetic acid-*d*'

- descriptor position by (a_{32})
- IUPAC: 'acetic (^2H)acid', or '(*O*-^2H) acetic acid' (P-82.2.4)

p. 603, name of **41**

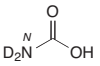
Update to

41 'phosphonic-*d* acid-*d*'

- descriptor position by (a_{32})
- IUPAC: '(^2H)phosphonic ($^2H_1$)acid', or '(*O,P*-$^2H_2$)phosphonic acid' (P-82.2.4)

p. 604, name of **42**

Update to



42 'carbamic-*N,N-d*$_2$ acid'

p. 604, name of **45**

Update to

45 'ethan-*1,1-d*$_2$-ol~~-*1,1-d*$_2$~~ 1-formate'

p. 604, **(d)**, second paragraph

Update to

The substituent name, i.e., a prefix or a parent-substituent name (possibly with prefixes), with the following isotope descriptor (see (a)) is ~~only~~ put in enclosing marks if the substituent name is preceded by a locant which does not belong to the substituent name, see **46**–~~**48 vs. 49**~~–**52** vs. **103** (no preceding locant). Also a composite substituent name is provided with enclosing marks, as usual.

p. 604, left-hand column, *Exception* (d)

Update to

Differently modified 'hydro-' prefixes are not cited separately, see **59** and **60** (see also **114**).

Since 2013, IUPAC has preferred the name of an isotopically modified substituent to that of the analogous unmodified substituent in the alphabetical order (P-82.2.2.1), see **55–57** and also **104–106**. In case of choice, lowest locants have been given to modified atoms or groups as a set[2], and in case of further choice, to the nuclide of higher atomic number (e.g., $^{13}C > ^2H$), and then to that of higher mass number ($^3H > ^2H$) (P-82.5.2), see **55–57** and **104–106**. The IUPAC Recommendations H of the 'BlueBook1979' have been abolished. ~~does not explicitly indicate the order of unmodified- and modified-substituent names for initially identical substituents (IUPAC H-2.71), for this, cf. **104–106** as well as **55–57**. Unlike CA, IUPAC recommends, in case of choice, to give seniority to the modified substituent for lowest locants (IUPAC H-3.22), see **55** and **56** and also **104–106**.~~

p. 604, name of **46**

Update to

46 '2-(methyl-*d*)benzene-*d*'

- numbering by (a_2), *not* 1-(methyl-*d*)benzene-2-*d*
- IUPAC: '[($^2H_1$)methyl]-(2-^2H)benzene' (P-82.5.1)

p. 604, name of **47**

Update to

47 '*N*-(methyl-*d*$_3$)acetamide-*N*-*d*'

IUPAC: '*N*-[($^2H_3$)methyl]-acet(^2H)amide', or '*N*-($^2H_3$)methyl(*N*-^2H)acetamide' (P-82.2.5)

p. 604, name of **48**

Update to

48 '2-(chloromethyl-*d*$_2$)-2-hydroxypropanoic-*3,3,3-d*$_3$ acid'

- 'propanoic-*3,3,3-d*$_3$ acid' > 'propanoic-*3,3-d*$_2$ acid', see (a_1) and (a_2), i.e., *not* '3-chloro-2-hydroxy-2-(methyl-*d*$_3$)propanoic-*3,3-d*$_2$ acid'
- descriptor position by (a_{32})
- IUPAC: '3-chloro-2-hydroxy-2-[($^2H_3$)methyl]-(3,3-$^2H_2$)propanoic acid' (P-82.5.1), see (a_2)

p. 604, name of **49**

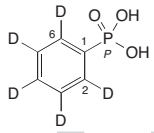
Update to

49 '2-(amino-*d*$_2$)-2-oxoacetic acid-*d*'

- descriptor position by (a_{32})
- IUPAC: '[($^2H_2$)amino]-oxoacetic (^2H)acid', or '($^2H_2$)aminooxo(*O*-^2H) acetic acid' (P-82.2.4)

p. 604, name of **50**

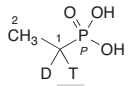
Update to



50 '*P*-(phenyl-*2,3,4,5,6*-d_5)phosphonic acid'

p. 604, name of **51**

Update to

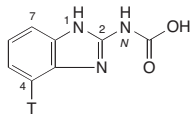


51 '*P*-(ethyl-*1-d-1-t*)phosphonic acid'

IUPAC: '(1-$^2H_1$,1-$^3H_1$)ethylphosphonic acid' (P-82.3.2)

p. 604, name of **52**

Update to

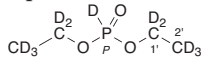


52 '*N*-(1*H*-benzimidazol-2-yl-*4-t*)carbamic acid'

IUPAC: '(4-^3H)-1*H*-benzimidazol-2-ylcarbamic acid'~~; the citation of indicated H atom is not recommended~~

p. 604, name of **53**

Update to



53 'phosphonic-*d* acid di(ethyl-*1,1,2,2,2-*d_5) ester'/'di(ethyl-*1,1,2,2,2-*d_5) phosphonate-*d*'

- descriptor position by (a_{32})
- *not* 'bis(ethyl-*1,1,2,2,2-*d_5)', see (a_1)
- IUPAC: '(*P*-^2H)phosphonic acid
- di[($^2H_5$)ethyl] ester'/ 'di[($^2H_5$)ethyl] (*P*-^2H)phosphonate'

p. 604, name of **54**

Update to

54 '4,6-di(methyl-d_3)benzene-*1,2,3-*d_3'

- numbering by (a_2)
- CA: 'benzene-*1,2,3-*d_3, 4,6-di(methyl-d_3)-', *not* 'benzene-*4,5,6-*d_3, 1,3-di(methyl-d_3)-'
- *not* '4,6-bis(methyl-d_3)-', see (a_1)
- IUPAC: '1,3-di[($^2H_3$)methyl](4,5,6-$^2H_3$)benzene' (P-82.5.1)

p. 604, name of **55**

Update to

55 '1-methyl-3-(methyl-*d*)benzene'

IUPAC: '1-~~[~~($^2H_1$)methyl~~]~~-3-methylbenzene' ~~(?)~~ (P-82.2.2.1 and P-82.5.2)

p. 604, name of **56**

Update to

56 '1-(methyl-*d*)-3-(methyl-d_3)benzene'

IUPAC: '1-~~[~~($^2H_3$)methyl~~]~~-3-~~[~~($^2H_1$)methyl~~]~~benzene' ~~(?)~~ (P-82.2.2.1 and P-82.5.2)

p. 605, name of **57**

Update to

57 'methyl methyl-d_3 disulfide'

- notice: locants are needed in case of labeling of the S atoms, e.g., '1,2-dimethyl disulfide-*1,2-*^{34}S' (Me–^{34}S–^{34}S–Me) or **74**
- IUPAC: '~~[~~($^2H_3$)methyl~~]~~ methyl disulfide' ~~(?)~~ (P-82.2.2.1)

p. 605, name of **58**

Update to

58 '1,2,3,4-tetrahydronaphthalene-*1,2-*d_2'

- the parent name contains as many isotopes as possible, see (a_1); cf. **59**
- IUPAC: '~~(1,2-$^2H_2$)~~-1,2,3,4-tetrahydro(1,2-$^2H_2$)naphthalene' (P-82.2.3); the 'hydro-' prefix is now treated as ~~non~~detachable but not included in the alphabetical order of prefixes ~~, i.e., considered as a modifying syllable, see § A.3~~

p. 605, name of **59**

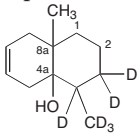
Update to

59 '1,2,3,4-tetrahydro-*1,2-*d_2-naphthalene-*1,2-*d_2'

- modified 'hydro-' prefixes are not cited separately (exception); cf. **58**
- IUPAC: '~~(1,1,2,2-$^2H_4$)~~-1,2,3,4-tetra 1,2-di[(^2H)hydro]-3,4-dihydro(1,2-$^2H_2$)naphthalene' (P-82.2.3); cf. **58**

p. 605, name of **60**

Update to



60 '1,3,4,5,8,8a-hexahydro-*3-d*-8a-methyl-4-(methyl-d_3)~ naphthalen-*3,4-*d_2-4a(2*H*)-ol'

- modified 'hydro-' prefixes are not cited separately (exception); cf. **58**
- 'added' indicated H atom by (i_2) of *§ A.5*
- IUPAC: '4-~~[~~($^2H_3$)methyl~~]~~-8a-methyl~~(3,3,4-$^2H_3$)~~-1,3,4,5,8,8a-hexahydro 3,4-(3-^2H)dihydro-1,5,8,8a-tetrahydro(3,4-$^2H_2$)naphthalen-4a(2*H*)-ol' (P-82.2.3) (?); cf. **58** and **59**

p. 605, name of **62**

Update to

62 '1*H*-pyrrole-*1-*^{15}N'

- citation of locant by (a_{42})
- IUPAC: '(^{15}N)-1*H*-pyrrole'~~; the citation of indicated H atom is not recommended~~

p. 605, name of **67**

Update to

67 '*N*-methylacetamide-*1-*^{13}C-*N-d-*^{15}N'

IUPAC: '*N*-methyl(1-^{13}C)acet($^2H_1$,^{15}N)amide', or '*N*-methyl(1-^{13}C,*N*-$^2H_1$,^{15}N))acetamide' (P-82.2.5)

p. 605, name of **68**

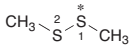
Update to

68 'propan-2-one-*1,3-*$^{14}C_2$'

IUPAC: presumably '(α,α′-$^{14}C_2$)acetone', or '(1,3-$^{14}C_2$)propan-2-one'

p. 605, name of **74**

Update to



74 '1,2-dimethyl disulfide-^{33}S'

- locants are needed in case of labeling of the S atoms; but 'dimethyl sulfide' (Me–S–S–Me); see also above, **57**
- IUPAC: 'dimethyl (^{33}S)disulfide

p. 605, name of **75**

Update to

75 'benzaldehyde-*formyl-*^{13}C-*formyl-d*'

- citation of 'locants' by (a_4)
- IUPAC: 'benz(^{13}C,^{2}H)aldehyde', or '(*formyl-*^{13}C,*formyl-*^2H)benz~ aldehyde' (P-82.6.3.1)

p. 605, name of **76**

Update to

76 'ethanol-*1-*^{13}C'

IUPAC: '(1-^{13}C)ethan-1-ol' (P-82.6.1.1)

p. 606, name of **83**

Update to

83 'benzene-*1,2,3,4,5,6-*$^{13}C_6$-methanol'

- conjunctive name
- descriptor position by (a_{32})
- notice that the **locant α is omitted** for labels of '...methane...' if 'benzene...' does not need locants for labels, e.g., '**benzenemethan-d_2-ol**' ($C_6H_5CD_2OH$) or '**benzenemethanol-^{14}C**' ($C_6H_5{}^{14}CH_2OH$), i.e., '...methane...' is considered as a mononuclear molecular skeleton (see (a_{41}); but '**benzene-2,3,4,5,6-d_5-methan-α,α-d_2-ol**' ($C_6D_5CD_2OH$)
- IUPAC: '(1,2,3,4,5,6-$^{13}C_6$)benzenemethanol'

p. 606, name of **84**

Update to

84 '*N,N*-di(methyl-d_3)methan-d_3-amine-^{15}N'

- descriptor position by (a_{31}) (exception)
- *not* '*N,N*-bis(methyl-d_3)-', see (a_1)
- IUPAC: e.g., 'tri[($^2H_3$)methyl](^{15}N)amine', or '*N,N*-di[($^2H_3$)methyl](^{15}N)methanamine' (P-82.2.5)

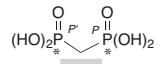
p. 606, name of **94**

Update to

94 'benzeneacetic-*carboxy*,α-$^{13}C_2$ acid'

p. 607, name of **97**

Update to



97 '*P,P′*-methylenebis[phosphonic-^{32}*P* acid]'

p. 607, name of **98**

Update to

98 '2-(oxo-^{17}*O*)cyclohexanecarboxylic-^{14}*C* acid'

- descriptor position by (a_{32})
- IUPAC: '2-[(^{17}O)oxo]cyclohexane(^{14}C)carboxylic acid'

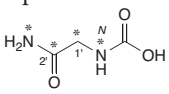
p. 607, name of **99**

Update to

99 '4-(3-aminobutyl-*1*-^{14}*C*)phenol-*1,2,3,4,5,6*-$^{14}C_6$'

p. 607, name of **101**

Update to



101 '*N*-[2-(amino-^{15}*N*)-2-oxoethyl-*1,2*-$^{13}C_2$]carbamic-^{15}*N* acid'

- descriptor position by (a_{32})
- IUPAC: '[[2-[(^{15}N)amino]-2-oxo($^{13}C_2$)ethyl]((^{15}N)carbamic acid'

p. 607, name of **102**

Update to

102 '2-(methyl-^{13}*C*)cyclohexa-1,3-diene-*2*-^{13}*C*'

IUPAC: '2-[(^{13}C)methyl](2-^{13}C)cyclohexa-1,3-diene'

p. 607, name of **103**

Update to

103 'azido-*1*-^{15}*N*-benzene'

- no parentheses are necessary since no locant precedes 'azido', see (d)
- IUPAC: '[(1-^{15}N)azido]benzene'

p. 607, name of **104**

Update to

104 '1-chloro-2-(chloro-^{38}*Cl*)benzene'

- order of prefixes and numbering by (d)
- IUPAC: ~~'1,2-(1-^{38}Cl)dichloro~~ 1-(^{38}Cl)chloro-2-chlorobenzene' (IUPAC ~~H-3.22~~ P-82.2.2.1 and P-82.5.2)

p. 607, name of **105**

Update to

105 '1-(chloro-^{35}*Cl*)-3-(chloro-^{37}*Cl*)benzene'

- order of prefixes and numbering by (d)
- IUPAC: ~~'1,3-(3-^{35}Cl,1-^{37}Cl)dichloro~~ 1-(^{37}Cl)chloro-3-(^{35}Cl)chloro~benzene' (IUPAC ~~H-3.22~~ P-82.2.2.1 and P-82.5.2)

p. 607, name of **106**

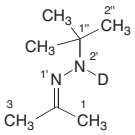
Update to

106 '2-(chloro-^{35}*Cl*)-4-(chloro-^{37}*Cl*)benzene-*d*'

- order of prefixes by (d) and numbering by (a_2), i.e., in CA *not* 'benzene-*6-d*, 1-(chloro-^{35}*Cl*)-3-(chloro-^{37}Cl)-'
- IUPAC: ~~'1,3-(3-^{35}Cl,1-^{37}Cl)dichloro~~ 1-(^{37}Cl)chloro-3-(^{35}Cl)chloro~(4-^{2}H)benzene' (IUPAC ~~H-3.22~~ P-82.2.2.1 and P-82.5.2)

p. 607, name of **107**

Update to



107 'propan-2-one 2-(1,1-dimethylethyl)hydrazone-*2*-*d*'

- see (f) of *§ 6.20*
- IUPAC: 'propan-2-one (*tert*-butyl)($^{2}H_1$)hydrazone'

p. 607, name of **108**

Update to

108 'acetic acid copper(2+)-^{64}*Cu* salt (2:1)'/
'copper(2+)-^{64}*Cu* acetate (1:2)'

p. 607, name of **109**

Update to

109 '~~mono~~(protonated-*d*) ethane (1:1)'

- see *§ 6.3.2*
- IUPAC: '($^{2}H_1$)ethanium'

p. 607, name of **110**

Update to

110 '~~*N,N*-dimethylmethanamine hydrochloride-^{35}*Cl*~~'
'hydrochloric-^{35}*Cl* acid, compd. with *N,N*-dimethylmethanamine (1:1)'

- notice that 'hydrochloric-^{35}*Cl* acid' is not considered to give rise to a common modification, in contrast to the unlabeled 'hydrochloric acid'; thus, Me_3N–HCl has the name '*N,N*-dimethylmethanamine hydro~chloride (1:1)', see *§ 6.3.2*
- IUPAC: 'trimethylammonium (^{35}Cl)chloride'

p. 607, name of **113**

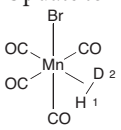
Update to

113 '~~di-μ-hydroxy-*d*-~~di(μ-hydroxy-*d*)diphenylbis~(triphenylphosphine)dipalladium'

- ~~presumably~~, the modified-ligand name ~~should~~ must be in parentheses because of the multiplying affix 'di', i.e., 'di(μ-hydroxy-*d*)diphenyl...' cf. CA ¶ 220
- see (b_3), (b_4), (b_6), and (h) of *§ 6.34*

p. 608, name of **115**

Update to



115 'bromotetracarbonyl(dihydrogen-*d*-~~κ*D*,κ*H*~~ κ*H*^{1},κ*D*^{2})~manganese'

see (b_3), (b_4), (b_1), and (e) of *§ 6.34*

p. 608, name of **120**

Update to

120 '1,3-diphenyltriaz-1-ene-^{15}*N*'

p. 608, name of **122**

Update to

122 '~~benzenamine hydrochloride labeled with carbon-14~~'
'benzenamine labeled with carbon-14 hydrochloride (1:1)'

- an indefinite number of C atoms is modified (x = ?)
- IUPAC: '[^{14}C]aniline' ~~(?)~~ (P-83.3.3)