

Book reviews

Organic Chemical Nomenclature; by P. Fresenius, Ellis Horwood, Chichester, 1989, 294 pages, £55.00. ISBN 0-7458-0157-9.

This book is in the main an English translation of the second edition (1983) of a highly regarded German text, supplemented by a little additional material. The account is not intended simply to serve as a reference work but also “to promote appreciation of nomenclature problems, the correct recognition of a scientific name, and the ability to establish the name from the formula and vice versa”. The book’s subtitle, ‘Introduction to the Basic Principles’, emphasises this aspect.

The IUPAC recommendations form the essential basis for the account, but trivial and international non-proprietary short names for individual pharmaceutical products are mentioned where appropriate. In line with IUPAC conventions, the spelling sulfur is preferred to sulphur in terms such as sulfido, sulfane, and sulfate, but, probably by error, sulphur itself appears at some points (e.g. page 144) and sulphate rather than sulfate in the index.

The main chapters deal with: (i) hydrocarbons; (ii) heterocyclics; (iii) nomenclature procedures; (iv) compounds with characteristic (functional groups); (v) polyols, carbohydrates, cyclitols; (vi) polymers. There is also a brief but useful final chapter dealing with etymological and other guidance on the derivation and explanation of scientific terms (e.g. butane, from the Greek *butyron*, butter; stereo, from the Greek *stereos*, solid, fixed).

The only organometallic compounds considered are those of silicon, for which IUPAC suggested conventions are briefly indicated. (I am puzzled though by the representation of disiloxane as $\text{H}_3\text{Si} \leftarrow \text{O} - \text{SiH}_3$, though presumably I would find the explanation if I read all of the book.) The volume will nevertheless be of value to organometallic chemists in working out the names of organic substituents and ligands, and, of course, of organic compounds produced in organometallic reactions.

The account is clearly presented, and the English translation (by A.J. Dunsdon) unusually well done. The book should be available in all chemical libraries, even those in which other books on organic nomenclature are provided, and many authors will want personal copies.

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Naming Organic Compounds; by E.W. Godly, Ellis Horwood, Chichester, 1989, 267 pages, £39.95, US\$78.10. ISBN 0-7458-0359-8.

In the words of the Introduction, “This work was undertaken in the context of the application of Council Directive 79/831/EEC, of 18th September 1979, amend-

ing for the sixth time Directive 67/548/EEC on the application of the laws, regulations, and administrative provisions relating to the classification, packaging and labelling of dangerous substances". In spite of that unpromising beginning, a very useful book has emerged.

The nature of the book is indicated by its sub-title, viz: 'A Systematic Instruction Manual'. It is not meant to offer a complete account, or even a detailed outline, of the IUPAC Rules of Organic Chemical Nomenclature, but rather to provide a step-by-step programme to enable the reader to set about naming a new compound or interpreting the name of a known one.

Readers coming fresh to the book are likely to be put off by being told right at the start to read an Appendix ("Guide to Name Construction") and then unfold a rather frightening flow-chart consisting of a maze of about 65 linked boxes, and may be even more dismayed if they glance ahead through the book and see sentences such as: "If you reached box 24 of the flow diagram at the back of the book without going via box (xxx) (whether or not redirected here from section 23) turn to the Table of contents and refer to the sub-section in section 24 appropriate to PG (e.g. amides, ketones, phenols)". If they persist, however, they will find a clear guide to naming organic compounds without having to remember all or even most of the IUPAC rules.

The book will be especially helpful to undergraduates, who are so often dismayed by the subject, and to organometallic chemists who have lost their undergraduate knowledge of organic nomenclature and will welcome this relatively painless way of devising or interpreting the name of an organic ligand, starting material, or product when this cannot be avoided. Furthermore, if they fail, the book gives them an address from which they can obtain help (that of the Chemical Nomenclature Advisory Service at the Laboratory of the Government Chemist, a U.K. governmental organization at which the author is Head of Chemical and Tariff Nomenclature).

The treatment complements that in the volume entitled *Organic Chemical Nomenclature*, by P. Fresenius, described in an adjacent review. I expect to make good use of it myself, and I wish a similar book were available on organometallic nomenclature. Along with the book by Fresenius it should be in all chemical libraries, and many teachers and authors will want it on their shelves.

The volume is well produced, and the clear type and diagrams are pleasant to look at. Unfortunately about 75 errors are listed in a leaflet accompanying the book, and corrections should be made on the relevant pages before the book is put on the shelf. I fear that the pull-out flow diagram will not survive the intensity of use it is likely to find in a library, and librarians would be wise to keep a few photocopies of it in hand.

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Instrumental Methods of Analysis, seventh edition; by H.H. Willard, L.L. Merritt, Jr., J.A. Dean and F.A. Settle, Jr., Wadsworth Publishing Co., Belmont, U.S.A., 1988, xxi + 895 pages, £19.95. ISBN 0-534-08142-8.

This is the seventh edition of a well-established textbook of instrumental methods of analysis aimed at senior undergraduate and graduate level students. The first