

## Computer Software Reviews

**CITE-V. Version 3.6.** HESS: P.O. Box 408, Bartlesville, OK 74005-0408. List price \$350.00 single station, \$900.00 network; upgrade to V. 3.6, \$75.00; trial pack, \$25.00.

This database management package is aimed at the professional who wants to maintain a bibliographic reference library. Although the demo version database was developed with a nod toward the chemical engineering literature, CITE-V could be used equally effectively in research and academic environments. CITE-V contains three basic routines: reference input and correction, database searching, and printing of generated lists. Maintenance utilities and useful supplemental information options, including abstracts, subject/area organization, mailing addresses, and room for all coauthors, are provided. (Data are manually input; direct transfer of previously downloaded online searches is not an option.) I had the opportunity to use the program on both XT and 286 PCs. While the XT was only nominally slower in the data input and searching functions, it took much longer to assemble and print large reference lists, whereas the 286 was quite adequate for all tasks. A color monitor, although not essential, is a definite plus.

CITE-V attempts to make the various source templates (book vs journal vs patent...) as identical as possible to make data input easier; this may account for some minor flaws when prompting for data. For example, whereas a Journal source requires only the journal title and author(s), a Book source could demand both chapter/book titles and author(s)/editor(s); only one field is provided for each. Some data fields are too short (author's surname 12 characters; last page 5 characters, but first page only 4), and abbreviations would have to be employed—not suitable for authors.

Constructing Boolean searches is simple; there are truncation and wildcard options and many ways to access the data, although if multiple constraints are desired, CITE-V performs a search after each constraint is specified. This could become time-consuming on a slow machine, if the database is large.

Although a few pre-set formats are available for generating printed citation reports, there is little description of their physical layout in the user's manual (What data fields are used? Are authors' names separated by commas, semicolons, surnames first? etc.); a sample report must be

produced to find out, and there are no options to fine-tune the output; this must be done with another word processing package. One selling point—the production of photocopy requisitions for libraries (and document retrieval services)—seems questionable. In my experience, inter-library loan offices tend to frown on receiving user-generated requests in widely varying format and information content from different database management systems. CITE-V may not, then, obviate the need to fill out standard library forms, although it would make that task easier.

While installation and overall operation is relatively straightforward, CITE-V documentation is simply not, as stated in the Overview, “user friendly”. Much of the manual explains the overall philosophy or “grand scheme” of CITE-V instead of giving practical examples on how to use it. I frequently re-read whole paragraphs several times, trying to decide if they were relevant to understanding how the program works. An example: “SUBJECT acts as the anchoring point while AREAS defines each classification element. Many times you might uses [sic] them in the same light as typical bibliographical entities of your profession or the industry. The catalog provides an effective method for dealing with the plethora of issues that affect your career...” One obtains “an inkling of the product jargon”... performs “transactions of interactive communication” within two “poles” of a dialog... captures “daily volatile sources and systematic surveys”. More time is spent describing internal data field names and heirarchical relationships than explaining the routine entry-search-print options to someone not intimately familiar with computers. If the field tables, etc. were included in an Appendix, and if step-by-step examples of data input, editing, searching, and printing options were included—with closely wedded text and screen illustrations—the manual would be much more readable. In addition to a few typographical errors, there are numerous annoying sentence frag-

ments. In short, although I believe CITE-V is a useful tool for organizing bibliographic reference data, the user should not have to plunge headfirst into the program to find this out. I would like to see additional flexibility in generating printed reports and a somewhat less obtuse user manual.

Mark Volmer, Emory University

## Book Reviews\*

**Topics in Current Chemistry. Volume 156: Photoinduced Electron Transfer I.** Edited by J. Mattay. Springer-Verlag: New York, 1990. iii + 229 pp. \$89.00. ISBN 0-387-52379-0.

This is a collection of seven contributed reviews. It begins with an overview of the subject, A Brief History of Photoinduced Electron Transfer and Related Reactions, by H. D. Roth. Although there is no index to this volume, a cumulative author index for Volumes 151–156 is included.

**Topics in Current Chemistry. Volume 157: Chemical Applications of Nuclear Probes.** Edited by K. Yoshihara. Springer-Verlag: New York, 1990. 183 pp. \$74.00. ISBN 0-387-52423-1.

Five contributed reviews make up this volume. Most of them are concerned with analytical applications, but one is more mechanistic, Chemical Reactions Induced and Probed by Positive Muons, by Y. Ito. There is no subject index.

**Heterocyclic Compounds. Pyrroles. Part 1: The Synthesis and the Physical and Chemical Aspects of the Pyrrole Ring.** Edited by R. Alan Jones (University of East Anglia). John Wiley & Sons: New York, 1990. xvii + 742 pp. \$295.00. ISBN 0-471-62753-4.

Pyrrole, first identified by Runge in 1834, is certainly one of the most important heterocyclic systems, with pervading significance in both animals and plants. Its long chemical history makes it a particularly challenging subject for a modern comprehensive review. The Editor does not reveal how many volumes are projected for the complete coverage

of the subject, but this first volume provides the basic chemistry and can stand alone.

Physical and theoretical aspects of 1*H*-pyrroles are reviewed by Chadwick, who includes large quantities of data in tables to supplement the discussions of spectroscopy and of conformation. Synthesis of 1*H*-pyrroles is reviewed by Bean, and reactivity of the 1*H*-pyrrole system is reviewed by the team of Jackson, Artico, Anderson, Loader, Gossauer, Nesvadra, and Dennis. In the last chapter, Sammes combines the same several topics for 2*H*- and 3*H*-pyrroles.

The production is excellent, with abundant structural formulas, and the only criticism that comes to mind is the omission of bonds attaching substitutes to rings in most instances, which detracts from easy structural recognition. The quantity of literature citations is understandably large. The subject index, 14 pages, is short but adequate; the entries are mostly classes of compounds. The Preface is dated July 1989, and although the literature cut-off date is not given, references at least as late as 1987 can be found.

**Topics in Current Chemistry 155. Small Ring Compounds in Organic Synthesis IV.** Edited by A. de Meijere (Institut f. Org. Chemie u. Biochemie). Springer-Verlag: New York, 1990. vi + 160 pp. \$69.50. ISBN 0-387-52422-3.

The three reviews in this volume are “Metal Homo-enolates from Siloxycyclopropanes”, “*Gem*-Dihalocyclopropanes in Organic Synthesis”, and “Trough-bond Modulation of Reaction Centers by Remote Substituents”. The last is only incidentally concerned with small rings and is largely devoted to an exposition of the polarity alternation concept for correlating reactivity. Not indexed.

\* Unsigned book reviews are by the Book Review Editor.

**Vogel's Textbook of Practical Organic Chemistry. Fifth Edition.** Revised by B. S. Furniss, A. J. Hannaford, P. W. G. Smith, and A. R. Tatchell (Thames Polytechnic, London). Longman Scientific and Technical, distributed in U.S.A. by John Wiley & Sons: New York. 1989. xvii + 1514 pp. \$89.95. ISBN 0470-21414-7.

In this second revision by a team of S. I. Vogel's now classic work, the original aims have been retained: to provide a comprehensive reference work on experimental procedures, intended for undergraduates, graduates, and practicing career chemists. This is a big order, especially in view of the enormous growth in the subject over the last 50 years. Scores of new reagents and a large variety of spectroscopic techniques are some of the examples of new material. Including such without losing other essential information has made the book itself grow considerably.

The topics now include about 150 pages on spectroscopy (IR, NMR, including  $^{13}\text{C}$ , MS, and UV-vis). The original topic of qualitative organic analysis is retained, but it is modernized and renamed "Investigation and Characterization of Organic Compounds". Most of the classical reactions are described, and there is even a substantial treatment of the more heterocyclic systems. A rewarding feature of the book is the inclusion of numerous explicit experimental procedures. Even tables of melting and boiling points of compounds and their derivatives are to be found. Chemical hazards and safety are not neglected. Attention is paid to the modern philosophy of synthesis, and there is even an Appendix titled "Common Synthons and Their Reagent Equivalents".

While it is obviously not possible for any book to be all things for all chemists, this one does a remarkable job. Its great strength is its ability to bridge the gap between the abstract, theoretical chemistry of generalizations and the practical world of practical chemistry of individual compounds, with their many idiosyncracies. A very thorough index is another positive feature.

**Quinolines. Part III (The Chemistry of Heterocyclic Compounds).** By J. V. Greenhill (University of Florida). Edited by Gurnos Jones (University of Keele). John Wiley & Sons: New York. 1990. ix + 565 pp. \$250.00. ISBN 0-471-92644-2.

This volume differs from the previous ones dealing with quinoline chemistry in that the treatment is sharply focused on synthesis alone. It consists of but two chapters: Quinoline Aldehydes, and Quinoline Ketones. The latter is much the longer chapter.

The aldehyde chapter covers all types of aldehydes, whether the aldehyde function is directly attached to the quinoline ring or resides on a side chain. The ketone chapter has a similar scope, and even includes cycloalkanones that have a quinoline structure in the molecule. Quinolones per se are not treated, however. Extensive tables are a feature of both chapters; they give information on reagents, yields, melting points, and references for, apparently, all known examples. The compilation of all these data was evidently a formidable task, about which the author comments in the introduction to Chapter 2. Interestingly, the change in indexing style between Collective Volumes 8 and 9 of Chemical Abstracts makes the task more rather than less laborious.

The presentation, production, and indexing of this volume maintain the high standards characteristic of the series.

**Calixarenes.** By C. David Gutsche (Washington University). Royal Society of Chemistry: Cambridge, U.K. 1989. xii + 223 pp. \$81.00. ISBN 0-85186-916-5.

This first volume in a series of projected *Monographs in Supramolecular Chemistry* under the editorship of J. Fraser Stoddart aims "to provide a complete and timely survey of the chemistry of the molecular baskets called 'calixarenes'". The author has succeeded admirably in this endeavor and has set an enviable standard for the volumes to follow on cyclodextrins, crown ethers and cryptands, and cyclophanes. Moreover, owing to his well-known flair for felicitous literary allusions, and because the writing is so engaging, readers are bound to enjoy his intimate accounts of the discoveries and investigations of these fascinating aldehyde-phenol- and resorcinol-derived cyclic oligomers for which, in 1975, he happily coined the name "calixarenes" (Latin *calix* for chalice or cup).

The opening chapter begins with a review of the humble origins of calixarene chemistry in the pioneer research of Adolph von Baeyer in the 1870s and that of Leo H. Baekeland in the early 1900s on formaldehyde-phenol condensation reactions and their polymeric products. Subsequent investigations by Alois Zinke and others beginning in the 1940s and extending to the present that led to the isolation and characterization of crystalline calixarene oligomers by modifications of these reactions are then recounted. In the second chapter experimental details are given for the efficient preparation of various pure calixarenes, especially those containing four, six, or eight para-substituted phenyl residues,

along with mechanisms for their formation. The next two chapters delineate the physical properties and spectral-crystallographic results proving the structures and demonstrating the shapes and conformations of calixarenes. A chapter entitled "embroidering the baskets" follows; it deals with reactions of calixarenes and the introduction of functional groups on their lower and upper rims. The penultimate chapter is devoted to "filling the baskets" by formation of inclusion complexes with either charged or uncharged species. Finally, the closing chapter discusses interesting ways in which calixarenes and their derivatives can or might be put to use, for example, as catalysts, selective ionophores, polymer attachments, biomimics, and other physiologic compounds.

The text is profusely illustrated by skillfully executed line drawings and X-ray crystallographic structural formulas, often in several colors. It also contains numerous full-color photographs of space-filling models of various calixarenes and related cyclic oligomers. For these reasons as well as the intriguing nature of the topics it covers, this is a book many chemists will thoroughly enjoy reading and will find valuable to own and consult.

Albert W. Burgstahler, *The University of Kansas*

**Advances in Photochemistry. Volume 15.** By D. H. Volman (The University of California, Davis), G. S. Hammond (Georgetown University), and K. Gollnick (Universität München). John Wiley and Sons: New York. 1990. ix + 390 pp. \$95.00. ISBN 0-471-63289-9.

This is the fifteenth volume of *Advances in Photochemistry*, the first volume of which appeared in 1963. This volume is certainly consistent with the stated purpose of the series "to explore the frontiers of photochemistry through the medium of chapters written by pioneers who are experts". This volume contains the following 5 essays: Ultrafast Photochemical Intramolecular Charge Transfer and Excited State Solvation, by Paul F. Barbara and Włodzimierz Jarzeba; Atmospheric Reactions Involving Hydrocarbons: FTIR Studies, by Hiromi Niki and Paul D. Maker; Excited State Reactivity and Molecular Topology Relationships in Chromophorically Substituted Anthracenes, by Hans-Dieter Becker; Photochemistry and Photochemistry of Phytochrome, by Kurt Schaffner, Silvia E. Braslavsky, and Alfred R. Holzworth; and Photochemical Mechanism in Single Crystals: FTIR Studies of Diacyl Peroxides, by Mark D. Hollingsworth and J. Michael McBride.

This volume also contains a cumulative index of Volumes 1-15, which is organized by the title of the essay.

A quick scan of the contents reveals the enormous breath of this volume. The authors are quite well known in their fields and work in five different countries. If there is a common theme of this volume (other than the high quality of the essays) it is the use of modern technology to make invaluable measurements of extraordinary sensitivity, or of exquisite spectroscopic or time resolution. The individual contributions will be of great benefit to specialists in the particular field, and the entire volume serves as a reminder of the health, vigor, and intellectual excitement of modern photochemistry.

Matthew S. Platz, *The Ohio State University*

**Fourier Transform Infrared Spectroscopy in Colloid and Interface Science. ACS Symposium Series 447.** Edited by David R. Scheuing (Clorox Technical Center). American Chemical Society: Washington, DC. 1990. viii + 294 pp. \$69.95. ISBN 0-8412-1895-1.

This book was developed from a symposium sponsored by the Division of Colloid and Surface Chemistry of the ACS at the 199th National Meeting in Boston, April 22-27, 1990. It consists of a Preface (1 p) and fifteen chapters in typescript form; the first chapter by the editor is an overview with the same title as that of the book. The other chapters are grouped under two headings: Colloidal Aggregates (six chapters), and Interfacial Phenomena (eight chapters). There are indexes of Authors, their Affiliations, and Subjects.

**Reviews of Environmental Contamination and Toxicology. Volume 117.** Edited by George W. Ware (University of Arizona, Tucson). Springer-Verlag: New York, Berlin, Heidelberg. 1991. ix + 160 pp. \$49.00. ISBN 0-387-97403-2.

This Volume is in a series that continues one originally published as "Residue Reviews", Volumes 1-97, 1962-1986. The present volume contains four chapters: Environmental Lead in Mexico, by Lilia A. Albert and Francisco Badillo; Foodborne Toxins of Marine Origin, by Lillian R. Juranovic and Douglas L. Park; Toxicological-Hygienic Requirements for Study, Registration, and Regulations of Pesticides in the USSR, by Yu. S. Kagan; Methods of Restoring Degraded Areas in the Great Lakes, by John H. Hartig and Michael A. Zarull. The index is of subjects only.