

Computer Software Reviews

PAPYRUS. Version 7.0. Research Software Design: 2718 SW Kelly St., Suite 181, Portland, OR 97201. Voice: (503) 796-1368. FAX: (503) 241-4260. E-mail: RSD@applelink.apple.com. List Price \$99.00; Demo system \$25.00.

Papyrus Version 7.0 remains the versatile bibliography database and formatter it was when we reviewed Version 6.0 about 4 years ago. Its main feature is the ability to input a list of references from database searches and reformat selected ones to meet the requirements of the particular publication for which you are writing. References may be typed in, imported from various on-line databases, or copied from word processor files. While importing, the program distinguishes among journal articles, books, reports, patents, and other types of references, as long as you have accurately described the formats for each of these and the formats are scrupulously followed in the list being imported. Papyrus comes with an extensive group of import formats already prepared for this purpose, as well as formats for exporting references in the preferred style of many journals. A new feature of the program is the ability it gives of adding one or more "index cards" to any reference, so that extensive quotes and comments can be stored with it. Several additional data fields describing a reference, including three user definable fields, are included in Version 7.0. The program can also "winnow" the database, that is, search it to clear out duplicates.

This version works with Windows, although it runs under DOS. As you work on a document in your word processor, you can pop into Papyrus and select a reference, and it will then place a code into the document. Lists of keywords and abstracts help in the selection of the correct reference. When the document is finished, Papyrus will process it into a new document with the codes converted into reference numbers, in your specified format, placed at the appropriate places in the

document. Then it will produce a file listing the references, to be appended to the document as the bibliography. With Windows based word processors (Word, WordPerfect, and WordStar), the code for each reference is put into the clipboard for pasting into the document.

Unfortunately, the new version still has the look and feel of five-year-old software. If you routinely use Windows software, you may feel that there are just too many times when you have to refer to the manuals and type cryptic codes. On the other hand, the manuals are literate and helpful. If you have already developed an extensive Papyrus database, the additional information which you can store with each reference in this version may make the upgrade useful. However, a database or even a word processor program may suffice to keep your lists of references, although transferring large numbers of references into a database program may require a lot more hand labor than Papyrus would.

The licensing terms are very reasonable. You may copy and give away the Demo program, included in the package, but not the full program. As a registered user, you are entitled to develop and use up to four separate databases for each registered copy and, sensibly enough, may copy the program to another computer for your own use. There is a student version available free to registered users, which will work for 120 days and handle up to 200 references. This can be distributed to students in classes such as technical writing. In addition, a "Retriever" version may be freely copied and given away or even sold with your own database. This allows users to search for and print references, although they can make no changes or additions.

Barbara B. Kebbekus, New Jersey Institute of Technology

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Book Reviews

Flame Chemiluminescence Analysis by Molecular Emission Cavity Detection. Edited by David Stiles (Acadia University), A. C. Calokerinos (University of Athens), and Alan Towshend (The University, Hull). John Wiley and Sons: New York. 1994. xiv + 206 pp. \$90.00. ISBN 0-471-94340-1.

Perhaps all of us have been introduced to the qualitative abilities of the "flame test" and possibly have wondered of its quantitative abilities. This volume describes those abilities in earnest. The editors have compiled a comprehensive and current review of the molecular emission cavity analysis (MECA) method concisely in book form. The first two chapters give a brief history of the MECA approach from the early astute observations of Mulder and Salet to the final realization of its quantitative potential in the 1970s. The basic principles, including discussion on the hydrogen/air flame, function of the cavity, and flame spectroscopy, are concisely addressed in Chapter 2. The charming simplicity of the method is evidenced by the use of a steel, socket-head cap machine screw as one variety of sample cavity. But the power and utility of the method is also well demonstrated by this volume. The reader can obtain a basic insight into the approach in a short sitting with this book.

Chapter 3 describes the instrumentation and automation. Cavity design and commercial instruments are well described. A discussion of the application of MECA as a detector for GC, LC, and HPLC is included. Automation is discussed with regard to sample introduction but not multielement analysis.

Chapters 4-7 give a résumé of the application of MECA to the analysis of elemental groups: Chapter 4, the calcogens; Chapter 5, arsenic, antimony, boron, silicon, germanium, and tin; Chapter 6, nitrogen, phosphorus, and carbon compounds; Chapter 7, halogens and metals. The use of indium doping and indium-lined cavities is discussed with regard to the determination of halogens. Interferences by foreign ions are tabulated for many analyses. Indirect methods are also addressed. The reader will welcome the inclusion of the emission spectra for most of the elemental analytes.

The editors are quite pragmatic in their presentation of the method; the volume has many attributes of a handbook for the technique. With this approach, a few academic issues are not covered well. The book

lacks discussion of the decision philosophy involved in the choice of detectors and wavelengths of observation. Given the inherently broad molecular emission features, some consideration of overlap and wavelength selection would be useful; indeed, diode array spectrometers are not mentioned at all. Several pages of discourse on the eternal trade off between sensitivity and selectivity would be useful for a emission photometry method such as this.

In spite of these quibbles, I can recommend the monograph to all practically inclined workers in emission spectrometry. The book is Volume 129 in the publisher's series of monographs in Chemical Analysis.

Robert J. Glinski, Tennessee Technological University

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The Chemistry of Alkanes and Cycloalkanes. By Saul Patai and Zvi Rappoport (Hebrew University of Jerusalem) J. Wiley Interscience: New York. 1992. xiv + 1078 pp. \$610.00. ISBN 0-471-92498-9.

The Chemistry of Alkanes and Cycloalkanes sets forth the tradition established in Prof. Patai's series *The Chemistry of Functional Groups*. It is, however, a little unusual for this series in that the alkanes and cycloalkanes cannot be treated as a typical functional group, so that the contents of individual chapters are sometimes not as focused as in earlier volumes.

Richard Bader's opening chapter, for instance, deals with his atom-in-molecules approach to the analysis of molecular wave functions. It is an excellent introduction to his technique and uses alkanes as examples. It is, however, perhaps a little out of place in this volume. Eiji Osawa's Structural Chemistry of Alkanes is a very personal view (as the author himself points out), where I would have preferred a comprehensive literature survey.

Edgar Anderson's chapter on conformational analysis in saturated hydrocarbons is, in contrast, extremely comprehensive and presents a mine of information on both experimental and molecular mechanics studies in this area. Similarly, Brewster's chapter on chiroptical properties and Cohen and Benson's contribution on the thermochemistry