

## Book Reviews

**Comprehensive Heterocyclic Chemistry. The Structure, Reactions, Synthesis, and Uses of Heterocyclic Compounds. Eight Volumes.** Chairman of the Editorial Board: Alan R. Katritzky. Co-chairman of the Editorial Board: Charles W. Rees. Pergamon Press: Oxford and Elmsford, NY. 1984. xvi + 731, xvi + 689, xvi + 1210, xiv + 1195, xiv + 994, xiv + 1171, xiv + 866, xiv + 1111 pp. \$2200.00. ISBN 0-08-026199-X.

Although this 8-volume series is entitled "Comprehensive Heterocyclic Chemistry", in this case the term comprehensive should not be misinterpreted as complete (lacking nothing), for although this series is comprehensive (broad in scope), it is not intended to provide a complete or exhaustive coverage of the entire field of Heterocyclic Chemistry. In fact, certain areas are covered in a very superficial manner if at all. However, it is very difficult to be selective and still provide a uniform and thorough coverage of a subject, and in general the authors of most chapters have been successful in accomplishing this difficult task. The editors obviously spent a considerable amount of time in developing the overall organization of this series as well as in the selection of volume editors and individual authors. This was time well spent and is reflected in the compilation of an excellent series of volumes on Heterocyclic Chemistry, which are as follows: Volume 1 (Introduction, Nomenclature, Review Literature, Biological Aspects, Industrial Uses, Less-common Heteroatoms), Otto Meth-Cohn, Editor; Volume 2 (Six-membered Rings with One Nitrogen Atom), A. John Boulton and Alexander McKillop, Editors; Volume 3 (Six-membered Rings with Oxygen, Sulfur or Two or More Nitrogen Atoms), A. John Boulton and Alexander McKillop, Editors; Volume 4 (Five-membered Rings and One Oxygen, Sulfur or Nitrogen Atom), Clive W. Bird and Gordon W. H. Cheesman, Editors; Volume 5 (Five-membered Rings with Two or More Nitrogen Atoms), Kevin T. Potts, Editor; Volume 6 (Five-membered Rings with Two or More Oxygen, Sulfur or Nitrogen Atoms), Kevin T. Potts, Editor; Volume 7 (Small and Large Rings), Walter Lwowski, Editor; Volume 8 (Subject, Author, Ring, and Data Indexes), Colin J. Drayton, Editor.

The introduction in Volume 1 should be read very carefully, since it describes in a very lucid manner the plan and organization on which the concept behind the arrangement of this series on Heterocyclic Chemistry was based, including several rather new and novel concepts or features, e.g., the complementary use of general chapters on structure, reactivity, and synthesis to introduce each family of ring systems immediately prior to the presentation of the monograph chapters for the same family of ring systems; explanation of the reference system, etc. The chapter on Nomenclature must be considered the best in Volume 1 and will most likely become the source of resolving questions on the nomenclature of heterocyclic compounds not only for the novice but also for the more experienced heterocyclic chemist. The other chapters in Volume 1, on the uses of heterocycles as pharmaceuticals, agrochemicals, veterinary products, polymers, dyes and pigments, etc., are only representative and very brief due to the ubiquitous use of heterocycles in these areas, which of necessity precludes a detailed or in-depth description. This is also a problem with some of the other volumes included in this series. It is difficult to adequately review each individual chapter in each volume and therefore this reviewer has not tried to do it but feels that in most cases the titles of the specific chapters are descriptive and do not warrant further comment.

In several volumes, e.g., 2, 4, 5, and 7, there are three chapters on the structure, reactivity, and synthesis related to a specific class of compounds which is presented in that volume. These first three chapters are by design very general in nature; they are then followed by chapters on specific subjects in more detail and presented in a more specialized manner.

The editors have emphasized that at the introductory level there are several good text books on heterocyclic chemistry, while on the other end of the spectrum there are some well established ongoing series, e.g., series edited by Weissberger-Taylor and Katritzky, devoted to a very detailed consideration of all aspects of heterocyclic compounds for the heterocyclic specialist. They further state that the current series is designed to fill the space between these two levels. This difference in coverage is illus-

trated very clearly by a comparison between the coverage given pyridine and related derivatives in an undergraduate text book (a few pages), in an introductory heterocyclic chemistry text book (e.g. "An Introduction to the Chemistry of Heterocyclic Chemistry", Edited by R. M. Acheson, Wiley-Interscience, 3rd ed., 50-60 pages), in this series (ca. 500 pages), and in the Wiley-Interscience series edited by E. Klingsberg (4 volumes published in 1960-1964 followed by a 4-volume supplement edited by R. A. Abramovitch, approximately 2000 pages, published in 1975). It is obvious from the above that this series does provide a welcome addition to the field of heterocyclic chemistry and indeed provides an alternative to the previous options and fills a void between the two extremes.

When you consider the large number of authors involved in this series, it is a tribute to the series and volume editors that there seems to be some uniformity throughout. The major exception would have to be in the area of references, where in some chapters there are adequate references (in the majority of cases the references are back to the original source), while in other chapters the references are to a more general secondary source (e.g., diazo coupling of an imidazole derivative with the reference being to a chapter in a book but without a page number in the chapter being given) and in some chapters an obviously inadequate number of references to any source. The reference citation system was alluded to in the first part of the review and is quite novel and will allow the reader to obtain the desired reference very easily after a minimal amount of practice using the system.

The entire last volume (8) is devoted to the subject and ring index. The subject index can be considered a very strong part of this series, since in direct contrast to the subject index in some books, this index has been compiled entirely by a separate editor (C. J. Drayton) and is the result of considerable time, effort, and planning. The style of the ring index is patterned after the Ring Index by Paterson and will be very useful in locating specific ring systems in this series. It can also be used in a complementary fashion with the nomenclature section in Volume 1.

This series is definitely recommended as an addition to all libraries.

Leroy B. Townsend, *University of Michigan*

**Molecular Luminescence Spectroscopy. Methods and Applications: Part 1.** Edited by Stephen G. Schulman (University of Florida). John Wiley and Sons: New York. 1985. xiv + 826 pp. \$85.00. ISBN 0471-86848-5.

This book contains eight chapters written by different people on a variety of topics in luminescence. It begins with an introductory chapter followed by chapters on luminescence analysis methods for pharmaceuticals, the fluorescence of the organic materials that have importance in biology or biochemistry, luminescence analytical methods for inorganic materials, luminescence of transition metal and lanthanide ions that are used as probes in biomolecular systems, the measurement of excited state optical activity, fluorescence detection in chromatography, and fluorescence immunoassay procedures. The coverage in each chapter is encyclopedic. The chapters on pharmaceuticals, organic materials, and inorganic materials have an average of 1200 references. These chapters aim for completeness of coverage and sacrifice depth on individual topics. This book is an excellent reference to find information about the luminescence characteristics of particular materials. The references are complete through 1982 or 1983 depending on the chapter.

John C. Wright, *University of Wisconsin*

**Advances in Chemical Physics. Volume LIX.** Edited by I. Prigogine and S. A. Rice. John Wiley and Sons: New York. 1985. viii + 376 pp. \$80.00. ISBN 0471-80427-4.

There is not much to say about this volume in way of review since it is a comprehensive index to Volumes I-LV in the "Advances in Chemical Physics" series, spanning the years 1958-1984. The volume contains three separate indices, according to article title, author, and subject. This comprehensive index, and particularly the subject section, will aid the readers of this highly regarded monograph series in locating useful articles. It is a worthwhile and overdue addition to the series.

Michael F. Herman, *Tulane University*