Journal of Medicinal Chemistry

Book Review

Studies in Natural Products Chemistry. Volume 30. Bioactive Natural Products (Part K) Edited by Atta-Ur-Rahman. Elsevier, Amsterdam, The Netherlands. 2005. xiv + 963 pp. 17 × 24.45 cm. ISBN 0-3444-518-54-1. $506.00.

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J. Med. Chem., **2005**, 48 (15), 5056-5056• DOI: 10.1021/jm058230h • Publication Date (Web): 25 June 2005

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This addition to the series continues its tradition of providing a broad survey of recent advances in the field. The 20 chapters include coverage of discodermolide and pironetin, phenolic lipids, polyphenols, labiatae flavonoids, quinones, polysaccharides, 3-deoxyulosonic acids, constituents of *Hernandia*, *Hypericum*, *Baccharis,* and triterpenes from the *Celastraceae*, to mention a few. All list literature citations to 2001−2002, and one, notably Kozubek and Tynan's chapter on bioactive phenolic lipids, is referenced to 2003−2004. Well over 1000 structures appear clearly and accurately presented. Several chapters, such as Cossy and Bouzbouz's chapter on discondermolide and picronetin, Basenek and Mylnarski's chapter on the 3-deoxyulosonic acids, and Tachibana and Tsuji's contribution on selected vitamin D analogues, review synthetic routes to selected products. Additional noteworthy chapters are those by Liannen-Jensen and Lutnaes (Charged Carotenoid Species), Gu and Kinghorn (Bioactive Constituents of the Genus *Hernandia*), and Martinez and Benito (Biological Activity of Quinones).

On the whole, few errors were noted in the text, although this reviewer was dismayed at the amount of wasted space. This seemed to be due to the mixing of fonts and styles, leaving many pages with large blank areas. Two chapters seemed to be out of place in the text: one dealing with serotonin and the etiology of autism and the other on opioid receptor peptide analogue agonists and antagonists. This reviewer would have desired better coverage of advances in marine natural products. This book is a valuable treatise on many natural products, and it can serve as a source of ideas for generating new therapeutic agents. Unfortunately, the cost of the book will put it out of the reach of most individuals and even of many libraries.

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JM058230H

10.1021/jm058230h

Nitric Oxide Donors: For Pharmaceutical and Biological Applications. Edited by Peng George Wang, Tingwei Bill Cai, and Naoyuki Taniguchi. Wiley-VCH Verlag GmbH & Co. KgaA, Weinheim, Germany. 2005. xxi + 390 pp. 17.5 × 25 cm. ISBN 3-527-31015-0. $185.00.

Nitric oxide (NO) is probably best known for its effects on matters of the heart, both cardiovascular and carnal. The editors of this book address a gap in the existing NO literature by compiling information on the chemistry of NO donors and their applications in research and clinical settings, a significant update, elaboration, and broadening of the topics covered in the similarly titled 2002 *Chemical Reviews* article by P. G. Wang and coauthors. Possibly the most similar recent publication is that by D. L. H. Williams, "Nitrosation Reactions and the Chemistry of Nitric Oxide" (Elsevier, Amsterdam. 2004. xii + 268 pp. ISBN 0-444-51721-9.), which is narrower in scope, a bit deeper in coverage, and targeted to a smaller audience than the book reviewed here.

This book is divided into three major sections consisting of seven chapters that describe the chemistry of NO donors, three chapters that describe NO donors' applications in biological research, and four chapters that describe clinical applications of NO donors, with different authors contributing each chapter. Because of this format, certain NO donors are discussed multiple times. Rather than being redundant, revisiting each donor from the vantage of a different type of user is quite helpful and should allow readers to appreciate the strengths and limitations of particular NO donors in each context. However, this brings up one deficiency of this book: its sketchy index. NO donors such as SNAP and topics such as nitrate tolerance are discussed in many chapters, but not all of these occurrences are indexed. This is unfortunate because the multiperspective nature of this book is one of its strengths. It is hoped that readers will not rely solely on the index to find a topic of interest and thereby miss the excellent information presented within.

No doubt, different audiences will resonate better with one of the three sections, but this particular reader found the chemistry of NO donors, which comprises approximately half of the book's length, to be especially useful in its extensive coverage of organic nitrates and nitrites, *N*- and *C*-nitroso compounds, *S*-nitrosothiols, metal−NO complexes, NO-releasing heterocycles, and other less readily classifiable compounds. The authors also address current debates such as those involving nitrosylated hemoglobin, NO synthase mechanisms, and bioactivation of organic nitrates by presenting all sides of each issue and placing the discussion in its historical context. Having this information at the fingertips is a valuable resource, and this book would make an excellent addition to the personal library of anyone studying NO donors or using these compounds in their research.

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JM058231+

10.1021/jm058231+

Using Mass Spectrometry for Drug Metabolism Studies. Edited by Walter A. Korfmacher. CRC Press, Boca Raton, FL. 2005. xii + 370 pp. 24 × 16 cm. ISBN 0-8493-1963-3. $159.95.

The intended audience for this book, i.e., the pharmaceutical industry, will find this an invaluable reference. The use of high-throughput assays for drug discovery and development puts high demands on assays to determine pharmacokinetics (PK) and adsorption, distribution, metabolism, and excretion (ADME) data on a new drug. This book covers the currently used methods for obtaining such data and makes a critical comparison of the available methods. Topics of the 12 chapters are broad-ranging, from a description of bioanalytical assays in a drug discovery environment to a discussion of the importance of obtaining PK and ADME information as early as possible in the drug discovery/development process. The emphasis of the book is on the application of mass spectrometry to these problems with a discussion of newer types of mass spectrometers, ionization sources, and methods either currently used or being developed. Since atmospheric pressure chemical ionization (APCI) and electrospray ionization (ESI) are important tools in the obtaining of PK and ADME data, a discussion of matrix effects on sample ionization is presented, as are such topics as high-throughput strategies for in vitro ADME assays, the direct analysis of plasma, the use of higher mass resolution in quantitative assays, and a treatment of the special requirements for metabolite characterization in the high-throughput environment. The use of Q trap mass spectrometers, atmospheric pressure photoionization (APPI), and MS imaging methods is covered.

The book is very well-written, with the significance of PK information in the overall picture of drug discovery and development being clearly described. Methods used to obtain the desired PK and ADME information are discussed, and advantages and limitations of the methods are presented. Each of the contributors is an expert in his/her area, and the result of their contributions is an informative look at the problems and successes of the modern drug discovery and development process. While the focus of the book is mass spectrometry, other methods are also discussed. The book is thoroughly referenced, through about 2003, and it is recommended to anyone interested or involved in the area of drug discovery and development.

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JM0582322

10.1021/jm0482322