

Book Reviews

Chirality in Drug Research. Edited by Eric Francotte and Wolfgang Linder. Wiley/VCH, Weinheim, Germany. 2006. xix + 351 pp. 17 × 24 cm. ISBN 978-3-527-31076-0. \$175.00.

This is Volume 33 in the series *Methods and Principles in Medicinal Chemistry*. The editors have done an admirable job of bringing together 10 chapters that give a broad perspective of the issues of chirality in drug development. The individual chapters are well written, informative, and enjoyable to read.

An entertaining historical account of the gradual recognition of the importance of chirality in biological systems and the more recent implications of chirality in drug design are presented in the first chapter. This also provides a brief history of medicinal chemistry from ancient remedies to modern times. The first of three chapters on synthesis that follow provides an excellent review of chiral synthesis and special requirements for scale-up in industrial production. The subject again is developed from a historical perspective. Chirality issues in natural products research are covered in the next chapter, including strategies for assignment of configuration, biosynthesis and origins of chirality, and the relationship between biological activity and stereochemistry. This is followed by a chapter devoted to the use of biotransformations to produce chiral molecules. The authors of these three chapters have done a commendable job of providing focused and enjoyable reviews of these important topics.

The next five chapters deal with resolution of enantiomers, analysis, and assignments of absolute configuration. Chapter 5,

dealing with resolution of chiral drugs by recrystallization techniques, reveals the rigor with which the theory of physical separations can be treated. The following two chapters cover chiral chromatography, the first on preparative scale and the second for drug analysis, and there is a bit of an overlap in the material covered. Both provide comprehensive information on techniques and resources for chiral chromatography. Capillary electrophoresis, chiral techniques, and mass spectrometry for drug analysis are reviewed in Chapter 8. In Chapter 9, the author first gives a limited overall review of the applications of chiral derivatizing agents for resolution and for determination of absolute configurations and then focuses on the substantial contributions from his own research. A concise review of computer technology applied to chirality issues is provided in the final chapter. Certain of the discussions of molecular modeling would have benefited from greater use of illustrations.

As appropriately stressed throughout the book, the several issues associated with chirality have emerged as major factors in drug design and development. This book is a timely and well written resource.

Kenneth L. Kirk

*Laboratory of Bioorganic Chemistry
National Institute of Diabetes and Digestive and Kidney Diseases
National Institutes of Health, DHHS
Bethesda, Maryland 20892*

JM0780088

10.1021/jm078007f

Books of Interest

Fundamental Toxicology. Edited by John H. Duffus and Howard G. J. Worth. Royal Society of Chemistry, Cambridge, U.K. 2006. xxvi + 490 pp. 16 × 24 cm. ISBN 0 85404 6143. £39.95.

Metal Ions in Life Sciences. Volume 1. Neurodegenerative Diseases and Metal Ions. Edited by Astrid Sigel, Helmut Sigel, and Roland K. O. Sigel. Wiley, Hoboken, NJ. 2006. xxiii + 463 pp. 16 × 23.5 cm. ISBN 047001488. \$200.00.

Medicinal Plant Biotechnology. From Basic Research to Industrial Applications. Volumes 1 and 2. Edited by Oliver Kayser and Wim Quax. Wiley/VCH, Weinheim, Germany. 2006. xlii + 566 pp. 18 × 25 cm. ISBN 978-3-527-31443-0. 229 euro.

HPLC for Pharmaceutical Scientists. Edited by Yuri Kazakevich and Rosario Lobrutto. Wiley-Interscience, Hoboken, NJ. 2007. xxvi + 1104 pp. 16 × 24.5 pp. ISBN 0471681628. \$175.00.

Pharmacometrics. The Science of Quantitative Pharmacology. Edited by Ene I. Ette and Paul J. Williams. Wiley-Interscience, Hoboken, NJ. 2007. xvii + 1205 pp. 18.5 × 26 cm. ISBN 0471677833. \$165.00.

Enzyme Kinetics and Mechanism. By Paul F. Cook and W. W. Cleland. Garland Science, New York. 2007. xxii + 404 pp. 19 × 24 cm. ISBN 978-0-8153-4140-6. \$70.00.

JM0780090

10.1021/jm0780090