Book Reviews

Progress and Perspective in Chemoprevention of Cancer. Volume 79. Serono Symposia Publications from Raven Press. Edited by G. DePalo, M. Sporn, and U. Veronesi. Raven Press, New York, 1992. xix + 296 pp. 15.5 × 24 cm. ISBN 0-88167-785. $110.00.

An excellent account of current approaches to cancer chemoprevention is offered by this well-produced proceedings of the Ares-Serono Symposium on Progress and Perspectives in Chemoprevention of Cancer, held at the Istituto Nazionale Tumori of Milano, Italy, in March 1991. A total of 24 papers are well-organized in this volume. Beginning with a clear and concise summary of the classification of chemopreventive agents based on mechanisms, the book includes six papers on agent-specific examples with regard to experimental cancers. The subsequent three papers address general issues of concern in chemopreventive clinical trials, for example, data management, statistical and ethical aspects, and cost–benefit evaluation. The remainder of the book covers 14 papers focusing on various types of human cancer trials conducted in different regions of the world.

For experimental cancer, animal models known to date are extensively discussed. Limitations of these models when compared with the human counterpart such as nature and origin of the tumor, experimental protocols and endpoints, and data interpretation are carefully analyzed and critically reviewed.

For clinical cancer, trials on not only major malignancies such as breast, lung, and colorectal, but also other neoplasia such as promyelocytic leukemia, basal cell carcinoma, aerodigestive epithelial cancers, and esophageal precancerous lesions are included in several papers. In these reports, insightful discussions on results often follow detailed presentations of rationale and protocol design.

This book provides a timely progress report on worldwide cancer chemoprevention research. Throughout the entire volume, while discussing the theoretical aspects of chemoprevention, the authors never lose their sight on clinical practicality of this important regimen in human cancer treatment. This book is recommended to cancer researchers, particularly those who have a strong interest but lack experience in chemoprevention.

Jack B. Jiang
Sphinx Pharmaceuticals Corporation
Two University Place
P.O. Box 52330
Durham, North Carolina 27717

Drug Stereochemistry. Analytical Methods and Pharmacology. Second Edition, Revised and Expanded. Edited by Irving W. Wainer. Marcel Dekker, Inc., New York. 1993. xviii + 425 pp. 15.5 × 23.5 cm. ISBN 0-8247-8819-2. $165.00.

In recent years the importance and advantages of administration of therapeutic agents as single isomers have become increasingly appreciated. The stereoisomeric composition of drug substances is now a key issue in the development, approval, and clinical use of pharmaceuticals. In light of this, the contributors to this second edition have extensively revised the first edition. New topics examined in the present compilation include (1) enzymic synthesis and resolution of enantiomerically pure compounds (chapter 8), (2) toxicological consequences and implications of stereoselective biotransformations (chapter 9), (3) stereoselective transport across epithelia (chapter 10), and (4) assessment of bioavailability and bioequivalence of stereoisomeric drugs (chapter 11). Chapter 12, on stereoselective protein binding, has been totally revised, and new contributions on the regulatory, industrial, and clinical aspects of stereoisomeric drugs are presented in chapters 13–16. Chapters 4–6, which focus on stereoselective chromatographic separations, have received major expansion and revision. The introductory chapters 1–3, as well as the one on synthesis of enantiomerically pure drugs (Chapter 7), review more mature subjects and will be of particular benefit to those relatively unfamiliar with drug stereochemistry. Each chapter is concluded with a list of significant references, and a comprehensive subject index for the book is included.

This is an excellent book, edited by a recognized leader in the field, that addresses a topic of major current interest. All concerned with the development of new drug products, and particularly medicinal chemists, will find this a valuable source of information. Library access, at least, is recommended.

Staff

Diuretics: Clinical Pharmacology and Uses in Cardiovascular Medicine, Nephrology, and Hepatology. Edited by A. J. Reyes. Progress in Pharmacology and Clinical Pharmacology, Vol. 9. Gustav Fischer Verlag, New York. 1992. xii + 671 pp. 17 × 24 cm. ISBN 1-56081-345-8. $135.00.

Born out of the proceedings from six symposia on the clinical pharmacology and therapeutic uses of diuretics discussed at the Fourth Interamerican Congress of Clinical Pharmacology and Therapeutics (Mexico City, September 18–22, 1990), this volume consists of six sections covering the history (one chapter), basic pharmacology (three chapters), clinical pharmacology (eight chapters), and therapies in congestive heart failure (six chapters), hypertension (five chapters), and renal and hepatic failures (five chapters). The 29 chapters range in length from 6 to 79 pages, are extensively illustrated (approximately three figures and 5 tables per chapter), and are heavily referenced (approximately 73 references per chapter) with most of the citations from the past 20 years. The chapters are uniformly type-set with bolded and enlarged headings. Overall, this volume is representative of the high quality end of the spectrum of published proceedings of scientific meetings, for which it is moderately priced. *Diuretics: Clinical Pharmacology and Uses in Cardiovascular Medicine, Nephrology, and Hepatology* is directed at clinicians, researchers, chemists, and students interested in the current state of diuretics research and diuretic therapies. Specific chapters address the chemistry and

0022-2623/93/1836-2709$04.00/0

chemical classification of diuretics, the action of diuretics at a cellular level, and the sites and mechanisms of the renal actions of diuretics in man. Additional clinical discussions include diuretic therapy in the elderly, interactions of diuretics and other drugs; actions of diuretics on the renal handling of phosphate, magnesium and calcium; and extensive treatments of the uses of diuretic therapies in congestive heart failure, hypertension, renal insufficiency, and hepatic failure. In the past 10 years there have been at least 20 books and monographs published on diuretics; many of these books have had relatively short useful lives as much of the work described was quickly eclipsed by progress in the field. *Diuretics: Clinical Pharmacology and Uses in Cardiovascular Medicine, Nephrology, and Hepatology* is *not* one of the latter. In spite of the fact that the Congress was held 3 years ago, the selection and treatment of topics and editing by Dr. Reyes insure that this volume will serve as a benchmark text on diuretics for well into the 1990's and perhaps beyond. Those who have valued J. H. Dirks and R. A. L. Sutton's *Diuretics; Physiology, Pharmacology, and Clinical Use* (W.B. Saunders, Philadelphia, 1986) will be particularly interested in *Diuretics: Clinical Pharmacology and Uses in Cardiovascular Medicine, Nephrology, and Hepatology* to update their reference libraries; this book is an important addition to public, academic, medical, and industrial libraries with up-to-date collections on the pharmacology of major drug classes.

Lewis B. Kinter and Keith Dowling

SmithKline Beecham Pharmaceuticals
Department of Toxicology-U.S.
King of Prussia, Pennsylvania 19406-0939

Medicinal Chemistry. The Role of Organic Chemistry in Drug Research. Second Edition. Edited by C. R. Ganellin and S. M. Roberts. Academic Press, Harcourt Brace Jovanovich, London. 1993. xv + 302 pp. 17 × 24.5 cm. ISBN 0-12-274120-X. $64.50.

This well-written edition updates and expands topics developed in the first edition and includes a Preface, Glossary of Terms, References, Index, and 14 chapters written by 17 authors.

Chapters are (1) Introduction to Receptors and the Action of Drugs (S. M. Roberts); (2) Structure and Catalytic Properties of Enzymes (M. G. Davis); (3) Receptor Pharmacology (A. J. Gibb); (4) Drug Access and Prodrugs (A. J. Collis); (5) QSAR and the Role of Computers in Drug Design (E. G. Maliski and J. Bradshaw); (6) The Current Status and Future Impact of Molecular Biology in Drug Discovery (T. J. R. Harris); (7) General Approaches to Discovering New Drugs: An Historical Perspective (C. R. Ganellin); (8) Discovery and Development of Cromakalim and Related Potassium Channel Activators (G. Stemp and J. M. Evans); (9) Angiotensin-Converting Enzyme (ACE) Inhibitors and the Design of Cilazapril (S. Redshaw); (10) Beta Blockers (B. G. Main and H. Tucker); (11) Salbutamol: A Selective β_2-Stimulant Bronchodilator (L. H. C. Lunts); (12) Discovery of Cimetidine, Ranitidine and other H_2-Receptor Histamine Antagonists (C. R. Ganellin); (13) Fluconazole, An Orally Active Antifungal Agent (K. Richardson); (14) Clavulanic Acid and Related Compounds: Inhibitors of β-Lactamase Enzymes (A. G. Brown and I. Francois).

The first Academic Press edition (1985) with the same title, but edited by S. M. Roberts and B. J. Price, has a similar format. The first edition also possesses chapters of both general and specialized interest, the latter emphasizing analogues and related organic molecules, such as salbutamol, cimetidine buprenorphine, atrocurium, topical anti-inflammatory agents, steroid contraceptives, cephalosporins, clavulanic acid, ketoconazole, and oxammiquine. Taken together, the two editions represent a relatively comprehensive work of interest to both academic and industrial medicinal chemists.

As more medicinal chemical books are produced which are potentially useful as graduate and/or undergraduate texts, some comparative evaluation is of interest. Another monograph, *The Organic Chemistry of Drug Design and Drug Action*, by R. B. Silverman, is also published (1992) by Academic Press. Both the Ganellin–Roberts and the Silverman works could be useful as texts and are sources of information for course development. Both overlap in their discussions of fundamental concepts, but differ in approach. The multiauthored Ganellin–Roberts treatise maintains a relatively more traditional Burger-like pharmacological discussion of drugs, albeit numerous physicochemical/medicinal chemical principles and selected synthetic sequences are discussed, whereas the single-authored Silverman dissertation provides an analysis of subject matter based upon physicochemical data and organic–biochemical reaction mechanisms. Possibly, organic chemists will more readily identify with the Silverman approach, whereas pharmacologists will identify with the Ganellin–Roberts approach, but both groups will benefit by reading and comparing the two works. As new medicinal chemical books are produced, it shall be interesting to observe whether their presentations will be more like the Ganellin–Roberts or Silverman styles or whether there will be significantly different third, fourth, and *n*th styles of interest to medicinal chemical education.

Donald T. Witiak

Division of Medicinal Chemistry
College of Pharmacy
The Ohio State University
Columbus, Ohio 43210

Books of Interest

Protein Engineering. A Practical Approach. Edited by A. R. Rees, M. J. E. Sternberg, and R. Wetzel. Oxford University Press, New York. 1993. xxv + 397 pp. 15.5 × 23 cm. ISBN 0-19-963138-7. $44.00 (Pbk).

Heterocyclic Compounds. Volume 51. AZA-Crown Macrocycles. By Jerald S. Bradshaw, Krzysztof E. Krakowiak, and Reed M. Izatt. John Wiley & Sons, Inc., New York. 1993. ix + 885 pp. 16 × 24 cm. ISBN 0-471-52485-9. $225.00.

0022-2623/93/1836-2710$04.00/0