

**Advances in Chromatography, Vol. 22.** Edited by J. CALVIN GIDDINGS, ELI GRUSHKA, JACK CAZES, and PHYLLIS R. BROWN. Marcel Dekker, 270 Madison Avenue, New York, NY 10016. 1983. 344 pp. 15.5 × 23.4 cm. Price \$49.75.

The latest volume maintains the high quality that chromatographers have come to expect from this invaluable series. Eleven authors present reviews of seven contemporary topical areas in liquid chromatography.

This volume is comprised of chapters dealing with HPLC and mass spectrometry of neuropeptides, HPLC of amino acids, chromatographic resolution of racemates, HPLC of metal complexes, chromatography of carotenoids and retinoids, HPLC of porphyrins, and small bore columns in liquid chromatography. Without exception, these reviews are authored by individuals actively working and publishing in their respective fields and all are authoritative and well written. There is also reasonable uniformity of organization of the first six chapters, indicative of active editorial involvement in the final publication. The final chapter focuses on the theoretical and practical application of a technology (small bore columns) rather than on a specific class of compounds, and is also well written, albeit organized along different lines.

Following a brief introduction, each chapter presents a critical review of the specific analytical problem using detailed examples. The summary sections, in which the authors' views toward the direction that important developments will likely take, separates this treatment from a bland, noncritical review of a multitude of published articles. The chapters are well referenced and generally encompass the literature well into 1982, making this a reasonably up-to-date volume in this rapidly changing field.

Like previous volumes in this series, this book is more useful as a reference for scientists from many disciplines involved with separation problems than as a textbook in a specific graduate course. Because of its obvious emphasis on biologically important molecules (neuropeptides, amino acids, retinoids, and porphyrins), it is particularly recommended to biochemists and clinical/analytical chemists involved with these separation problems. Its treatment, however, is sufficiently broad so that many other researchers who utilize HPLC should consider adding this to their personal libraries.

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#### **Information Theoretic Indices for Characterization of Chemical Structures.**

By DANAIL BONCHEV. Research Studies Press. John Wiley & Sons, Inc. One Wiley Dr., Somerset, NJ 08873. 1983. 249 pp. 15.5 × 23.5 cm. Price \$54.95

This book is a presentation of information theory as it is applied to chemical structures. Regretably, the author devotes only eight pages to the basic Shannon equation—its meaning and broad implications in science. Much of the work presented in this book is based on Bonchev's studies. Chapters 3 and 4 deal with atomic and molecular information, respectively. Under the discussion of molecules, the author briefly reviews graph theory and some of the topological indices such as molecular connectivity. These are not based upon probabilities, as is the Shannon equation, and so should not be classed with indices based upon information theory. A large number of indices are reviewed in Chapter 4 based upon various attributes of molecular structure or their graphic representations. It is apparent that there is a rich potential here for structure quantitation; however, practically no examples are presented where correlations with real physical properties are achieved. Only 30 pages at the end of the book are devoted to applications of any of the indices to chemical or biological problems.

Much of the work presented in this book has yet to bear real fruit in terms of structure quantitation influencing physical or biological properties. Perhaps within a decade much will have been published using this approach in QSAR studies and then this book may be regarded as a classic work. On that basis it is valuable to the scientist with a creative and pioneering spirit. I'm glad I've got a copy.

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**The Clinical Research Process in the Pharmaceutical Industry.** (Drugs and the Pharmaceutical Sciences, Vol. 19). Edited by GARY M. MATOREN. Marcel Dekker, Inc., 270 Madison Ave., New York NY 10016. 1984. 549 pp. 16 × 23.5 cm. Price \$59.75.

The first edition of this comprehensive reference covers all of the pertinent aspects of industrial pharmaceutical research and development. It represents a major step forward in the identification and description of the critical aspects of new drug development, which the book terms "pharmogenology."

The 27 chapters in this book have been written by a truly distinguished group of academicians, industrial scientists, and regulatory experts. Each chapter represents a step in the critical path through which each new drug must pass on its way towards an N.D.A. submission. In addition, there are a number of specialized chapters in this book dealing with critical aspects that form the background for the drug development process. In these chapters, the following topics are covered: Legal and Ethical Problems in Clinical Research; The Monitoring Process; Research Quality Assurance; The Role of Contract Research Organizations; The Impact of the Pharmaceutical Industry on Health Care; and Career Opportunities in Industrial Clinical Research.

*The Clinical Research Process in the Pharmaceutical Industry* is an indispensable reference for R&D managers in the pharmaceutical industry, for clinical pharmacists in medical center hospitals, and for academicians and students in clinical research and drug regulatory affairs.

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**Drug Dosage and Administration—Modern Theory and Practice.** By JOSEPH WARTAK. University Park Press, 300 North Charles Street, Baltimore, MD 21201. 1983. 173 pp. 18 × 26 cm. Price \$32.50.

This volume is authored by a research cardiologist from Canada who claims it is "intended for medical students and physicians." The book is divided into five parts dealing with "Dosage of Drugs," "Drug Concentrations in Blood," "Presentation of Drugs," "Administration of Drugs," and "Rational Use of Drugs." Each part is further divided into five or more chapters. In addition, a slide rule is provided for dosage adjustment and calculations. The current volume appears to be closely related to another book, by the same author, entitled "Clinical Pharmacokinetics: A Modern Approach to Individualized Drug Therapy," published by Praeger Scientific.

Part I presents very basic information on drug dosage scales; concepts of minimal, maximal, and average doses; and individualization of drug dosage and dosage adjustment in children and in patients with renal impairment. Use of the slide rule is included in the illustrations.

Part II deals with elementary pharmacokinetic principles presented in a manner that assumes that the reader is completely unfamiliar with any of these concepts. A few comments on the dose-response relationship are also included. Drug dosage forms including basic information on solid, semi-solid, liquid, long-acting, and sustained release dosage forms are presented in Part III.

Part IV contains information on different modes of drug administration including enteral administration, intravenous injection and infusion, pulmonary and local administration, and a few sentences on transdermal drug delivery systems. Planning a treatment program, choice of drugs and the outcome of drug treatment are discussed in Part V. A bibliography of 52 references is presented at the end of the book.

This book is a very superficial presentation of the many concepts embodied in the disciplines of pharmacokinetics and biopharmacokinetics and their application to drug therapy. These concepts are presented in such a simplistic fashion that the text can easily be read by a lay person. The book cannot be recommended for anyone other than the junior medical student, nursing staff, or other paramedical personnel. It is of very limited value for the pharmacist, pharmacy student, academic physician, or pharmaceutical scientist. Its purchase, therefore, cannot be recommended.

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