Book Reviews

Burger's Medicinal Chemistry and Drug Discovery. Manfred E. Wolff, Ed. John Wiley & Sons, Inc., One Wiley Drive, Somerset, NJ 08875.

Volume 1. Principles and Practice, 1995. xi, 1064 pp., illustrations. $195.00.

Volume 2. Therapeutic Agents, 1996. viii, 670 pp., illustrations. $195.00.

Volume 3. Therapeutic Agents, 1996. vii, 664 pp., illustrations. $195.00.

Volume 4. Therapeutic Agents, 1997. viii, 656 pp., illustrations. $195.00.

Volume 5. Therapeutic Agents, 1997. viii, 879 pp., illustrations. $195.00.

Burger's Medicinal Chemistry and Drug Discovery (Volumes 1–5) covers in a systematic way the principles and practices of drug discovery and development, and several important classes of therapeutic agents. This edition is significantly larger than the previous one, and has been updated to include recent trends and changes, including an impressive section on computational chemistry and drug design. The J. Wiley and Sons web page describes accurately, albeit briefly, the contents: "Whereas Volume 1 focuses on principles and practice, Volumes 2 through 5 focus on drugs that target a particular organ or system. Volume 4 features authoritative and comprehensive surveys of cardiovascular drugs and chemotherapeutic agents, as well as information on radiological agents and endocrine drugs. Volume 5 highlights the link between chemical structure and biological activity, and explores chemotherapeutic agents, CNS and endocrine drugs, and radiological agents."

For those readers who are unfamiliar with this classic text, but may be with others in the area, these books are akin to Goodman and Gilman's "The Pharmacological Basis of Therapeutics," although Burger's is significantly longer and comprehensive. This style is both its strength and its weakness—it is designed as a reference text, to be consulted when incisive information is needed about a particular topic, rather than as a general text for familiarization of an area. Think of it as a modern day encyclopedia with focus on therapeutics and molecular structure; excellent for the scientist or clinician who needs rapid information on a particular drug entity or drug class.

There are several features that make this series well above average: readability and author name recognition, the extensive use of tables, figures, and chemical structures, and the thorough indexes. Volume 1 alone (and the other volumes as well) reads like a who's who in drug discovery; imagine a single volume with authors such as Leslie Benet (Drug Absorption, Distribution and Elimination), Peter Kollman (Drug Target Binding Forces), Michael Venuti (Recombinant DNA Technology and Drug Discovery), George Kenyon (Rational Design of Enzyme Inhibitors), Murray Goodman (Peptidomimetics), Stanley Crooke (Oligonucleotide Therapeutics) and several other well-recognized authors who are distinguished in their fields. As with all books that have chapters authored by different individuals, each chapter has its own style, although the chapter-to-chapter flow does not suffer from this as much as many other texts that are written in this collaborative manner.

As this is a compendium, it is appropriate that tables be used quite extensively for comparison of data sets. Most chapters take advantage of this style, both for 'hard' data (such as the anticonvulsant activity of substituted acylureas, Table 39.13, showing the effect of R group substitution on ED50 and TD50), and for 'soft' data (such as Table 13.8 showing some chemically intelligent computing software systems, or Table 16.1 showing biotechnologically derived therapeutics in clinical development). Some of the tables are outstanding, such as the multipage Table 37.13, the Classification and Structures of Drugs Tested for Anti-Parkinsonism Effect. Many of the data in the tables are not directly referenced within the table, and such referencing would help the reader enormously if further follow up is desired. This should not be inferred that the tables are weak; on the contrary, many of the tables have 4–5 columns and are rife with data (for example, the Radioligand Binding Assays of Table 17.3 within the chapter on Mass Ligand Screening showing i) Receptor/Selectivity, ii) Reference Radioligand, iii) Compound, iv) K_i (nM) and, v) Percent Specific Binding). Each chapter relies heavily on figures and chemical structures. Most of the figures are reproduced from other texts and journals (with permission), and are reproduced legibly and at a scale that makes sense (not too small, nor too large either, wasting valuable space).

The indexes appear to be fairly complete, and indeed the random reverse searching of several chemical or drug names (i.e., finding the entry in the text, and then determining if the index reported that same entry) resulted in 100% success. A complete index is essential for the utilization of a resource book such as this, and is a failing of a few other pharmacy reference texts. Often drugs are known by their trade-name, or parent drug company, only, and this series does not emphasize information of this type—it was insufficient to know the drug company or the trade-name to find a particular drug entry. Although this can be found out in other texts such as the Physician's Desk Reference, it would have made the index stronger and increased the usefulness of this series. The cumulative index at the end of volume 5 is extensive, and several cross checks with the individual volume references failed to show any discrepancies, thus making accessible this behemoth contribution to medicinal chemistry and drug discovery.

Many references are, in large part, updated. For example, Harrington's chapter (Ch. 49) on hematopoietic agents has a page on Thrombopoietin (TPO), a growth and development factor discovered and identified in the last few years. Bastow and Akanitapichat's chapter on antiviral drugs (DNA) has a reasonable summary of cidofovir, another agent of recent high profile. In contradistinction, there is not an index entry for nelfinavir mesylate (VIRACEPT), one of the hottest HIV protease inhibitors developed in the last few years, showing that the inclusion of all drugs was not achieved by this text. In that this compendium is actually a logical concatenation of several well-written and focused chapters, it should not be expected a priori that all drug entities should be included.

This excellent series may have an unintended shortcoming, and that is its high cost. At a list price of $1000 for the 5 volume set, only the most serious of institutions and individuals

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are likely to purchase. Nevertheless, on a cost per page basis, this series is competitive, and provides excellent value, and is strongly recommended for those requiring such a compendium.

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Mucosal Vaccines. Hiroshi Kiyono, Pearay L. Ogra, and Jerry R. McGhee, Eds. Academic Press Inc., 525 B Street, Suite 1900, San Diego, CA 92101-4495, 1996. xix, 479 pp., illustrations. $89.00.

Assembling a relevant book on such a rapid changing topic as mucosal immunology is a challenging task. The editors have done an excellent job bringing this book to press in a timely manner to render it very current to the topic. This book begins with an overview and brief description of the key structural elements of the lymphoid tissues and cells involved in the induction and expression of the mucosal and common mucosal immune systems. Although brief, the role of intestinal epithelial cells in the induction of mucosal immune response is described with current references to allow a more thorough examination by the reader if desired. An excellent description of how mucosal immunity can be modulated using the heat labile *E. coli* toxin and cholera toxin is included. This section concisely describes how such mucosal adjuvants exert their influence on the mucosal immune cells.

A large section of the book discusses different antigen types and delivery systems including bacterial and viral vectors, naked DNA and applicability to mucosal vaccines, microsphere encapsulation, and other delivery systems to stimulate inductive mucosal sites. Important issues for each topic are mentioned, and for most technologies, advantages and disadvantages as well as key challenges remaining to be addressed are discussed. The use of passive immunity against mucosal infections is a very important topic especially considering many of the important specific infectious diseases addressed in this book affect infants and children. The discussion is intriguing and novel approaches to addressing this issue are described. It would have been nice to see this issue given broader coverage with regard to the use of many of the technologies preceding this discussion: how these technologies could be used to address the issue of induction of an immune response in the presence of passively acquired maternal immunity.

The book includes two sections describing mucosal vaccines for specific bacterial and viral diseases. The bacterial section deals primarily with enteric diseases with fairly extensive description of the major approaches of current vaccines. The viral disease section provides coverage of a broader range of diseases and mucosal sites affected. Although unstated, oral vaccines seem to be emphasized in these sections. Both these sections describe state of the art molecular approaches for mucosal vaccines. Social and scientific issues of these methods are described as well. The incorporation of cytokines in molecular vector vaccines to modulate the immune response to more specifically address host-microbe interactions is addressed. This is an area of considerable interest that is discussed several times in the book. The final section of the book deals with the use of mucosal vaccines at specific anatomic sites including the eye, ear, urogenital tract, mouth, and nares and specific clinically important diseases. The authors describe the unique challenges for successful induction of protective immunity at each of these sites and the diseases (composed of heterogeneous pathogens) discussed.

Overall, the book gives an excellent overview of the current status and understanding of mucosal vaccines, including the common mucosal immune system. The editors have done a good job on providing a brief, up to date, relevant description of the technologies and diseases described. The extensive citations allow the reader to pursue a more detailed examination of these issues if desired. The authors of these sections are recognized experts in the topics who write with considerable authority on their topic. One shortcoming of the book was the quality of the photomicrographs. The photographs did not fully provide the impact they could have with better quality, larger prints, or in some instances, the use of color for photomicrographs. In one figure, arrows were not provided as stated to point out the specific area under discussion. A final summary chapter would have been nice to tie everything together and discuss future directions or visions. These shortcomings, however, do not distract from the total utility of the book. Overall, this was a highly readable, informative, up to date, economically priced book. This book provides an excellent overview of mucosal vaccines that is of interest to scientists in the field as well as a wider audience of readers interested in the topic.

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Toxicology: Principles and Applications. Raymond J. M. Niesink, John de Vries, and Mannfred A. Hollinger, Eds. CRC Press, LLC, P. O. Box 31225, Tampa, FL 33631-3225, 1996. xiii, 1284 pp., illustrations. $129.

Pharmacology is the science of drugs and toxicology the science of poisons. This dichotomic classification is neat, correct, and appealing to Western reductionism. But like all correct statements, it is incomplete and hence incorrect in part. As well known to pharmaceutical scientists, the borderline between drugs and poisons is a fuzzy zone, and in fact the word PHARMAKON meant both. Misused drugs can become poisons, whereas some natural toxins have become useful drugs, e.g., taxol. Of course the overwhelming majority of toxic compounds will never achieve drug status, not to mention that a number of these are failed drug candidates. But however you look at it, the study of drugs and the study of poisons are so intimately intertwined that ignorance of toxicology is a pharmaceutical scientist's nightmare.

The present book is thus of a priori interest to drug researchers, and immediately appears as much more than a mere introduction to toxicology, if only from the number and size of its pages. In it, the reader will find a comprehensive and coherent treatise on all modern aspects of toxicology. The work is also a didactically inviting book designed for self-study—a characteristic that is far from fortuitous given that it began as course books issued by the Netherlands Open University. Eurotox (the organization of European toxicologists and

national societies of toxicology) was instrumental in transforming these courses into an elaborate textbook of the highest scientific and graphical quality which has its place in the personal library of many pharmaceutical scientists.

The book is divided in 40 chapters (called Study Units) grouped into several parts. In bird's eye view, it is a voyage from fundamental and molecular aspects (first part) to organs (second part) to application areas (third part). The first chapter is a very nice survey of the history and scope of toxicology. It is followed by a chapter dealing with various aspects of exposure, and then by two clear but somewhat unbalanced texts on biotransformation. The next chapters are remarkably informative and cover the absorption, distribution and elimination of xenobiotics, toxicokinetics (an excellent treatment), and dose-time-effect relations (an essential chapter).

The first part continues with molecular aspects of toxicity. Here, we first encounter a chapter that manages to condense in 30 pages many aspects of qualitative and quantitative structure-activity relationships. The next chapter on the toxicity of mixtures is a real eye-opener. The other chapters in this part cover cytotoxicity, genetic toxicology, carcinogenesis and cancer risk evaluation, and do so with great authority. The second part of the book is globally devoted to organ toxicology and begins with three introductory chapters of an heterogeneous nature but of intrinsic significance. Hazard identification, risk assessment, regulation and legislation are surveyed in a readable manner in chapter 14. The next chapter introduces cytopathology and morphological aspects of toxicity. It is followed by a remarkable and well illustrated text on necrosis and apoptosis which leads the reader from cells to organelles and then to biochemistry.

The main body of the book, covering about 500 pages, is on toxicity to various organs classified into two categories. First, there are eight chapters examining the organs involved in absorption and elimination. We are thus offered a rich succession of chapters on dermatotoxicology, respiratory toxicology, gastrointestinal toxicology, hepatotoxicology and nephrotoxicology, followed by a lucid and most helpful text on organ perfusion techniques. Next, ten chapters present the toxicology of organs involved in maintaining homeostasis: cardiovascular toxicology, toxicology of the blood, immunotoxicology, endocrinotoxicology, reproductive toxicology, neurotoxicology and behavioral toxicology. All these chapters, while reflecting the style and approaches of their respective authors, are consistently clear, comprehensive and highly readable. The last part of the book examines a number of timely and aptly selected application areas, namely nutritional toxicology, medical and clinical toxicology, ecotoxicology, and occupational toxicology. Here and throughout the book, the texts present principles and critically evaluate case studies, and do so in an informative and formative manner.

The didactic layout of the book is particularly worthy of praise. Each chapter is clearly divided into sections and subsections. In addition, the ample left margins contain short expressions or sentences which offer considerable help to the reader by summarizing flanking paragraph(s), bringing definitions or cross-referencing with other chapters. The illustrations are generous, clear and of good quality. Tabular data are minimal as expected for a work that is not an encyclopedia but an educational textbook having as its objective to be a source of knowledge as much as information. The pedagogical nature of the book is heightened by the inclusion in each chapter of a large number of assignments and self-assessment questions (the answers are provided!). The reader thus becomes an active student whose attention is constantly kept receptive. The book ends with a detailed achievement test (20 pages), a list of abbreviations and symbols, a long and useful glossary (38 pages), a fragmentary bibliography, and a good index (32 pages).

Given its comparatively modest price, its exceptional scientific richness and its outstanding educational value, this textbook is warmly recommended to all pharmaceutical scientists.

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Biomedical Applications of Synthetic Biodegradable Polymers. Jeffrey O. Hollinger, Ed. CRC Press, LLC, P. O. Box 31225, Tampa, Fl 33631-3225, 1995. vii, 247 pp., illustrations. $199.00.

This is a multi-authored volume, but with each chapter being solicited by the editor specifically as a review of applied approaches using biodegradable polymers in biomedical and clinical applications. This is not merely a compilation of extended abstracts from a session on biodegradable polymers at a national meeting. The authors that the editor has convinced to contribute to this volume are all leaders in the field and their chapters, as well as the many references that they cite, contain some of the best information available on biodegradable polymers.

This particular book could be of relevance to the readers of *Pharmaceutical Research* because the information in the first two chapters is presented by the type of therapy or drug that is being used as opposed to the type of polymer or the type of degradation mechanism. The chapter on clinical applications and update on poly(α-hydroxy acids) by Richard Dunn is an excellent summary of what has been done and what can be done with lactide/glycolide polymer. The chapter on poly(phosphoesters) presents a balance between polymer characterization and biological compatibility. The chapter on poly(anhydrides), however, is almost exclusively a polymer fabrication summary, with release profiles of a number of drugs being presented in the second half of the chapter.

Four of the ten chapters focus on cartilage and bone repair, making this an appropriate reference for those working in orthopedic research. The topics range from the engineering principles for bone fracture fixation and repair to biodegradable bone fixation devices to biocompatible polymers and articular cartilage repair. One chapter also presents the poly (α-esters) (also referred to as poly(α-hydroxy acids)) as materials for bone repair. Three of the chapters, spread throughout the volume, provide an overview of biodegradable polymers in general, biodegradable sutures in particular, and the in vivo response to biodegradable polymers overall.

In summary, this is a very good volume for researchers working in orthopedic research or those working with, or considering working with, poly(α-hydroxy acids), poly(phosphoesters), or poly(anhydrides). This book provides an excellent summary of work being done with those materials as well as

some more biological analyses of in vivo responses to biodegradable polymers.

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Protein Delivery Physical Systems. Lynda M. Sanders and R. Wayne Hendren, Eds. Plenum Publishing Corporation, 233 Spring St., New York, NY 10013, 1997. xx, 433 pp., illustrations. $95.00.

The ultimate success of the protein and peptide therapeutics depend on the development of more convenient and noninvasive routes of administration. Currently, the delivery of most protein drugs is limited to parenteral administration. Repeated injection of protein drugs over extended periods (e.g., months or years) for chronic applications may make otherwise highly effective drugs less useful. One of the approaches to overcome this particular problem is to develop controlled release systems. The goal of this book is to provide an overview of the developed as well as emerging technologies which are applicable to protein delivery.

There are four chapters dealing with degradable drug delivery systems (mainly polylactides, polyglycolides, and their copolymers). They provide all the important information from the basics of degradable polymers to the large scale manufacturing of microsphere formulations and human applications. The first chapter by Jeffrey Cleland is probably the best summary on biodegradable microsphere formulations available in the literature. There are also chapters dealing with drug release by diffusion-controlled mechanisms. The chapter by Wyatt and Saltzman provides a concise but highly informative review on the drug release through nondegradable polymer matrices.

As an alternative to the solid microcapsules, multiple emulsions and solid-state emulsions can be used for the delivery of protein drugs. Preparation and stability issues of those systems are discussed by Merrick L. Shively. Other interesting topics in this book includes transdermal delivery using electroporation by Potts et al., and oral delivery of microencapsulated proteins by DiBiase and Morrel. These chapters, written without any hype, present the most realistic views on the technologies. The last three chapters present case studies on the delivery of somatotropins by Cady and Steber, insulin iontophoresis by Sage, Jr., and insulin formulation and delivery by Brange and Langkjær. They were written as if the readers are prepared on the topics by reading the previous chapters of the book.

Overall, this book provides the most updated and thorough reviews on protein delivery using new technologies. The main strength of the book is in the description on biodegradable microsphere. Since injectable, biodegradable microspheres appear to be the choice of protein delivery for now and times to come, those involved in the protein delivery should benefit significantly from this book. In addition, this book should be highly beneficial to all those in the drug delivery area, since the information on biodegradable polymers provided in the book is also applicable to many other disciplines. For example, understanding the properties of polylactides, polyglycolides, and their copolymers is highly useful in dealing with the polymers for tissue engineering. This book is highly recommended as a reference book on delivery of protein drugs.

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Books Received

Analysis

In Vitro Methods in Pharmaceutical Research. Jose V. Castell and María José Gómez-Lechón, Eds. Academic Press Inc., 525 B Street, Suite 1900, San Diego, CA 92101-4495, 1997. ix, 467 pp., illustrations. $80.00.

Selected Contents

1. General aspects of *in vitro* testing
2. Target organ toxicity
3. Irritancy testing
4. Genotoxicity and tetratogenicity testing
5. Drug metabolism and mechanisms of toxicity

Attenuated Total Reflectance Spectroscopy of Polymers Marek W. Urban. American Chemical Society, 1155 Sixteenth Street, N.W., Washington, DC 20036, 1996. xvi, 215 pp., illustrations. $99.95.

Antisense nucleic acids

Antisense Oligodeoxynucleotides and Antisense RNA: Novel Pharmacological and Therapeutic Agents. Benjamin Weiss, Ed. CRC Press, 2000 Corporate Blvd. NW, Boca Raton, FL 33431-9868, 1997. xi, 252 pp., illustrations. $150.00.

Selected Contents

1. History of the early development of antisense oligodeoxynucleotides
2. Pharmacological and pharmacokinetic properties of antisense oligonucleotides
3. Non-antisense effects of antisense oligonucleotides
4. Use of antisense oligodeoxynucleotides to study reproductive behavior, pain perception, hypertension, and cancer
5. Regulation of genes with antisense RNA

Combinatorial Chemistry and Chemical Engineering

Combinatorial Chemistry Synthesis and Application. Stephen R. Wilson and Anthony W. Czarnik, Eds. John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10158, 1997. ix, 269 pp., illustratinns. $69.95.

Selected Contents

1. Macro beads as microreactors: New solid-phase synthesis methodology

2. Radiofrequency encoding for structure elucidation
3. Combinatorial synthesis exploiting multiple-component condensations, microchip encoding, and resin capture.
4. Nonoligomeric chemical diversity for the discovery of novel enzyme inhibitors.
5. Soluble combinatorial libraries of peptides, peptidomimetics, and organics: Fundamental tools for basic research and drug discovery

Molecular Diversity and Combinatorial Chemistry. Libraries and Drug Discovery. Irwin M. Chaiken and Kim D. Janda, Eds. American Chemical Society, 1155 Sixteenth Street, N.W., Washington, DC 20036, 1996. ix, 328 pp., illustrations. $109.95.

Phase-Transfer Catalysis Mechanisms and Syntheses. Marc E. Halpern, Ed. American Chemical Society, 1155 Sixteenth Street, N.W., Washington, DC 20036, 1997. xii, 314 pp., illustrations. $99.95.

Which Compound? Which Route? Frank Ellis. The Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge CB4 4WF, United Kingdom, 1995. i, 32 pp.. +diskette. Paper. $35.00.

Chemical Engineering for Chemists. Richard G. Griskey. American Chemical Society, 1155 Sixteenth Street, N.W., Washington, DC 20036, 1997. xvii, 333 pp., illustrations. $124.95.

Drugs and Drug Delivery Systems

Obesity Management & Redux. Stylianos Nicolaïdis, Ed. Academic Press Inc., 525 B Street, Suite 1900, San Diego, CA 92101-4495, 1997. xv, 126 pp., illustrations. Paper. $36.00.

Erythrocytes as Drug Carriers in Medicine. Ulrich Sprandel and James L. Way, Eds. Plenum Publishing Corporation, 233 Spring St., New York, NY 10013, 1997. vii, 150 pp., illustrations. $75.00.

Selected Contents

1. Human recombinant interleukin 2 coated erythrocytes
2. Erythrocytes as a new route of administration of fibrinolytic agents
3. Erythrocyte-based targeted release to macrophages
4. Circulation-stable immunoerythrocytes by biotinylation
5. Chemical modification and in vivo erythrocyte survival

Desk Reference of Functional Polymers Syntheses and Applications. Reza Arshady, Ed. American Chemical Society, 1155 Sixteenth Street, N.W., Washington, DC 20036, 1997. xviii, 820 pp., illustrations. $194.95.

Selected Contents

1. Polymers containing specific functional groups and modification of natural polymers
2. Functional polymers for chemical sensors
3. Biocompatible polymer surfaces
4. Polymer-drug conjugates and drug targeting by functional polymers

Environmental Chemistry

Environmental Biomonitoring Exposure Assessment and Specimen Banking. K. S. Subramanian and G. V. Iyengar, Eds. American Chemical Society, 1155 Sixteenth Street, N.W., Washington, DC 20036, 1997. x, 288 pp., illustrations. $99.95.

Immunochemical Technology for Environmental Applications. Diana S. Aga and E. M. Thurman, Eds. American Chemical Society, 1155 Sixteenth Street, N.W., Washington, DC 20036, 1997. xii, 396 pp., illustrations. $119.95.

Food Chemistry

Macromolecular Interactions in Food Technology. Nicholas Parris, Akio Kato, Lawrence K. Creamer, and John Pearce, Eds. American Chemical Society, 1155 Sixteenth Street, N.W., Washington, DC 20036, 1996. x, 304 pp., illustrations. $99.95.

Selected Contents

1. Macromolecular interactions of food proteins
2. Gel and film formation of natural polymers
3. Biopolymer interactions in emulsion systems
4. Chemical, enzymatic, and genetic modification

Wine Nutritional and Therapeutic Benefits. Tom R. Watkins, Ed. American Chemical Society, 1155 Sixteenth Street, N.W., Washington, DC 20036, 1997. xi, 284 pp., illustrations. $89.95.

Interfaces

Solid-Liquid Electrochemical Interfaces. Gregory Jerkiewicz, Manuel P. Soriaga, Kohei Uosaki, and Andrzej Wieckowski, Eds. American Chemical Society, 1155 Sixteenth Street, N.W., Washington, DC 20036, 1997. xii, 354 pp., illustrations. $110.95.

Materials

Morphological Control in Multiphase Polymer Mixtures. Robert M. Briber, Charles C. Han, Dennis G. Peiffer, Eds. Materials Research Society, 9800 McKnight Road, Pittsburgh, PA 15237, 1997. ix, 241 pp., illustrations. $75.00.

Materials for Smart Systems II. Easo P. George, Rolf Gotthardt, Kazuhiro Otsuka, Susan Trolier-McKinstry, and Marilyn Wun-Fogle, Eds. Materials Research Society, 9800 McKnight Road, Pittsburgh, PA 15237, 1997. xv, 588 pp., illustrations. $68.00.

Nanophase and Nanocomposite Materials II. Sridhar Komarneni, John C. Parker, Heinrich J. Wollenberger, Eds. Materials Research Society, 9800 McKnight Road, Pittsburgh, PA 15237, 1997. xiii, 557 pp., illustrations. $72.00.

Introduction to Glass Science and Technology. James E. Shelby. The Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge CB4 4WF, United Kingdom, 1997. xiii, 244 pp., illustrations. Paper. $40.00.

Designing with Reinforced Composites Technology—Performance Economics. Dominick V. Rosato. Hanser Gardner Publications, 6915 Valley Ave., Cincinnati, OH 45244-3029, 1997. xiv, 401 pp., illustrations. $148.00.

Dielectric and Mechanical Relaxation in Materials Analysis, Interpretation, and Application to Polymers. Stephen Havriliak, Jr., and Stephen James Havriliak. Hanser Gardner Publications, 6915 Valley Ave., Cincinnati, OH 45244-3029, 1997. xx, 484 pp., illustrations. $148.00.

Toughened Plastics II Novel Approaches in Science and Engineering. C. Keith Riew and Anthony J. Kinloch, Eds. American Chemical Society, 1155 Sixteenth Street, N.W., Washington, DC 20036, 1996. xi, 384 pp., illustrations. $149.95.

Statistics

Clinical Trials: A Methodologic Perspective. Steven Piantadosi. John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10158, 1997. xxi, 590 pp., illustrations. +diskette. $79.95.

Pharmaceutical Statistics: Practical and Clinical Applications. Sanford Bolton. Marcel Dekker, Inc., 270 Madison Avenue, Monticello, NY 12701, 1997. xiv, 737 pp., illustrations. $150.00.

Waterborne Coatings

Film Formation in Waterborne Coatings. Theodore Provder, Mitchell A. Winnik, and Marek W. Urban, Eds. American Chemical Society, 1155 Sixteenth Street, N.W., Washington, DC 20036, 1996. xii, 549 pp., illustrations. $139.95.

Technology for Waterborne Coatings. J. Edward Glass, Ed. American Chemical Society, 1155 Sixteenth Street, N.W., Washington, DC 20036, 1997. viii, 304 pp., illustrations. $109.95.

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