Book Reviews

Chronicles of Drug Discovery. Volume 1. Edited by Jasjit S. Bindra and Daniel Lednicer. Wiley, New York. 1982. xiii + 283 pp. 16 × 23.5 cm. ISBN 0-471-06516-1. $32.50.

Descriptions of the processes by which new drugs are discovered continue to be of interest and potential value. *Chronicles of Drug Discovery*, Volume 1, makes these descriptions available for a selected group of 12 drugs, written by the individuals most closely connected with their discovery. Each description or chronicle begins with the objective and strategy of the research program and traces the subsequent decisions and events that led to the discovery of a particular drug. The authors (and drugs) are C. R. Ganellin (cimetidine), J. Schmutz and E. Eichenberger (clozapine), L. G. Humber (butaclamol), H. Stähle (clonidine), D. J. Le Count (atenolol), P. W. Feit (bumetanide), J. S. Nicholson (ibuprofen), E. H. Wiseman and J. G. Lombardino (piroxicam), P. Sensi (rifampicin), B. G. Christensen (cefoxitin), D. R. Hoff (cambendazole), and H. C. Richards (oxamniquine). Compounds selected for coverage by the editors were developed within the past 15 years and are either marketed drugs or are premarketing candidates that seem usually novel or have shown sufficient clinical promise so that their commercialization is but a matter of time. The drugs described span a broad range of therapeutic indications; some are the first of their kind, while others are new chemical entities whose properties are superior to those of preexisting drugs. The chronicles and processes they describe are equally diverse; some have a well-defined biological objective and tailor molecules to meet it, while others have a chemical rationale in which novel molecules are synthesized and tested for biological activities of interest. In only one case is the clinical utility of the drug significantly different from that being sought. Of particular interest are several instances where key observations dramatically affected the course and prospects of the discovery process. The chronicles are concise, easy to read, informative, and well documented; the volume is recommended for all who are interested in drug discovery.

Smith Kline & French Laboratories **William E. Bondinell**
Philadelphia, Pennsylvania 19101

Neurotransmitters and Their Receptors. Based on a Workshop Sponsored by the European Molecular Biology Organization and The Weizmann Institute of Science, Rehovot, February 1980. Edited by U. Z. Littauer, Y. Dudai, I. Silman, V. I. Teichberg, and Z. Vogel. Wiley, Chichester, New York, Brisbane, and Toronto. 1981. viii + 570 pp. 17 × 24.5 cm. ISBN 0-471-27893-9. $42.00.

Studies of neurotransmitters and neuromodulators, their metabolism and their interactions with receptors, comprise a cornerstone of modern neurobiological research. The immense amount of data accumulated in this fast-growing field during recent years has led to the formation of novel concepts and has shed new light on the complex and delicate mechanisms by which chemical signals mediate and modulate the flow of information in the nervous system. Some highlights of trends and developments in the study of neurotransmission are presented in this volume, based on lectures presented at an EMBO workshop that was held in Israel at Ein Bokek in February 1980.

The majority of the contributions to this book are grouped in chapters on catecholamines, acetylcholine, excitatory amino acids, GABA, benzodiazepines, neuropeptides, and ion channels. The function of cytoskeletal proteins and other elements in neurite outgrowth and the introduction of new research methods to probe neuronal development and activity are also presented. An author index but no subject index is included.

Staff

Amino Acids, Peptides and Proteins. Volume 12. Specialist Periodical Reports. By R. C. Sheppard, Senior Reporter. The Chemical Society, Burlington House, London. 1982. xxiii + 634 pp. 14.5 × 22.0 cm. ISBN 0-85186-104-0. $153.00.

The Specialist Periodical Report series on amino acids, peptides, and proteins has issued its 12th volume, covering papers published during 1979. The Senior Reporter, Professor R. C. Sheppard of the MRC Laboratory of Molecular Biology, Cambridge, continues to coordinate the effort of a team of over 30 experts from 8 countries, who devotedly chronicle the voluminous literature in this field. The organization of chapters generally follows that of earlier volumes. Topics included in chapter 1 are the chemical synthesis and optical resolution of amino acids, new reactions, and advances in analytical methods of purification and identification. Techniques of isolation, characterization, primary structure determination (including X-ray analysis), and chemical modification of polypeptides and proteins form the subject of chapter 2. Theoretical aspects of peptide and protein conformation interactions in solution and experimental studies of these phenomena by physical methods, such as NMR, infrared, and Raman spectroscopy, optical and magnetic circular dichroism, Mössbauer spectroscopy, and fluorescence spectroscopy, are reviewed in chapter 3. Unusual peptides, including the homodetic and heterodetic cyclic peptides, the cyclopeptide alkaloids, and the glycopeptide antibiotics, are described in chapter 4, and work on peptide hormones (pituitary, pancreatic, gastrointestinal, vasoactive, and opioid) is covered in chapter 5. As in previous volumes in the series, the discussion is compact and very adequately supported by chemical structures and figures, and there is generous use of comprehensive tables that are by themselves worth the high purchase price of the book. An author index and a glossary of abbreviations are also provided, but, regrettably, a subject index is still lacking. Despite this, no one who is seriously interested in peptide chemistry should be without a set of these cheerful yellow- and orange-jacketed companions on his bookshelf for daily perusal.

Sidney Farber Cancer Institute **Andre Rosowsky**
Boston, Massachusetts 02115

Methods in Enzymology. Volume 76. Hemoglobins. Volume 78. Interferons. Part A. Volume 79. Interferons. Part B. Academic Press, New York, London, Toronto, Sydney, and San Francisco. 1981. Vol. 76: Edited by Eraldo Antonini, Luigi Rossi-Bernardi, and Emilia Chiancone. xxii + 874 pp. 16 × 23.5 cm. ISBN 0-12-181976-0. $69.00. Vol. 78: Edited by Sidney Pestka. xxx + 632 pp. 16 × 23.5 cm. ISBN 0-12-181978-7. $59.00. Vol. 79: Edited by Sidney Pestka. xxxiv + 677 pp. 16 × 23.5 cm. ISBN 0-12-181979-5. $59.00.

These three volumes represent two new topics to this extensive and popular series. They also represent a dichotomy in the subjects examined by the series—hemoglobins being the prototypical functional protein, available in large quantities; interferons being proteins for which the natural physiological role is unknown and which, until recently, were available only in minute quantities. As a result of these differences in availability, the methodologies described in these volumes differ markedly.

Volume 76 is divided into eight sections, the first four of which deal with the purification, preparation, and characterization of hemoglobins, hemoglobin derivatives, hemoglobin chains, and modified hemoglobins. The remaining sections examine methods for the study of spectroscopic properties, ligand binding and subunit dissociation, kinetics of ligand–hemoglobin reactions, and clinically interesting properties. The individual subjects addressed

stress recent advances in methods for the study of hemoglobins and myoglobins, reflected in the timely nature of the references cited. This volume should prove of value to workers in many fields concerned with hemoglobins as well as those interested in the study of the more general category of metalloproteins and/or porphyrins.

Volumes 78 and 79, dealing with interferons, are indicative of the rapid development of new technologies available to workers in this area of research. Volume 78 is composed of five divisions, entitled "Definition of the Interferons", "Induction and Production of Interferons", "Viral and Nonviral Inducers of Interferons: Preparation and Characterization", "Assay of Interferons", and "Purification and Characterization of Interferons". This last division should prove to be of the greatest general interest to medicinal chemists, offering a variety of chromatographic techniques which may prove valuable to those working in other areas.

"Interferons", Part B (Volume 79), is divided into nine sections, entitled "Techniques for Chromatography and Analysis of Interferons", "Isolation and Translation of Interferon Messenger RNA", "Methods to Study Mode of Interferon Action", "Methods to Study Interferon Activity at the Cellular Level", "Effects of Interferon on the Cell Membrane, Cell Surface, and Cytoskeleton", "Relationships of Interferon to the Immune System", "Somatic Cell Genetics of Interferons", "Preparation and Assay of Antibodies Against Interferons", and "Cloning of the Interferon Genes and Complementary DNAs". Of particular note are the chapters contained in the first section dealing with the chromatography and analysis of interferons, often at the nanomole to picomole level. One can only wonder what the limits of detection will be 5 years from now! Those chapters describing the study of the mode of action of interferons should also draw the interest of workers in a number of areas, due in part to the diverse biological phenomena these compounds affect.

The references cited in these two volumes are quite current, for the most part, reflective of the speed with which developments occur in this field. Excellent author and subject indexes are included, though regretably not cross-referenced between the two volumes. The editor has also included what this reviewer feels is a much needed suggestion—a standardized nomenclature that would allow comparison of native and recombinant interferons. The confusion that arises from multiple nomenclatures can only slow the progress of research. Unfortunately, this recommendation by the editor was not employed in these two volumes, extending the confusion. Still, the value of the methods presented to a wide range of research areas should more than compensate for these minor shortcomings.

Graduate Department of Biochemistry
Brandeis University
Waltham, Massachusetts 02154
Allan R. Moorman

Advances in Natural Products Chemistry. Extraction and Isolation of Biologically Active Compounds. Edited by Sinsaku Natori, Nobuo Ikekawa, and Maketo Suzuki. Halsted Press, New York. 1981. xii + 599 pp. 16 × 23 cm. ISBN 0-470-27245-7. $89.95.

This book is a translation and revision of a book originally published in Japan in 1977. It consists of 39 chapters, each written by a different group of authors and providing some details of their approach to the title subject. The emphasis of each chapter varies. Some stress the biology, others the isolation or the structure proof, and still others the biosynthesis. There is very little synthetic chemistry discussed. Each chapter is a minireview or historical account of a small area of the authors' work, presenting the rationale for the work, the results, and the experimental details.

A wide range of sources of biologically active compounds are discussed. These include fermentation broths, marine algae, fungi, higher plants, plant tissue cultures, insects, toads, fish, mammals, and crude drugs. Some chapters are concerned with antibiotics, mycotoxins, insecticides, plant growth regulators, bioluminescence, or insect pheromones. Some discuss the use of various bioassays to survey extracts and to follow isolations. Many describe techniques that may be useful for difficult isolations, such as the methods for extraction of oxygen-sensitive materials in the study of bioluminescence. Others describe equipment, such as a droplet countercurrent chromatograph or a dual-wavelength TLC chromatoscanner, which the authors have found to be particularly useful.

The pleasing consistency of the writing style of so many authors may be a result of the translation process. The book is typeset. Its utility is increased by the inclusion of four indexes: Bioassay, Experimental Procedures, Plant and Animal, and Subject. There are very few references after 1977, but there are also few which are more than 15 years old.

This book has such a wealth of information that one is constantly referring back to it for this or that technique or subject. It is a "must" for those entering the field of natural products chemistry or for those experienced practitioners who are ever faced with a problem that is, for them, new. All teachers in this field should have a copy available for their students' reference and guidance. It is well worth its price (15¢ per page).

Lexington, Massachusetts 02173 **James Quick**

Mass Spectrometry. Volume 6. Specialist Periodical Reports. R. A. W. Johnston, Senior Reporter. The Royal Society of Chemistry. Burlington House, London. 1981. xiii + 354 pp. 14 × 22.5 cm. ISBN 0-85186-308-6. $88.00.

The sixth volume of the biennial reviews on mass spectrometry summarizes the literature of the period between July 1978 and June 1980. The information is classified according to the following primary topics: "Theory and Energetics of Mass Spectrometry" (T. Baer), "Structures and Reactions of Gas-Phase Organic Ions" (I. Howe), "Gas-Phase Ion Mobilities, Ion-Molecule Reactions, and Interaction Potentials" (L. A. Viehland), "Interaction of Electromagnetic Radiation with Gas-Phase Ions" (R. C. Dunbar), "Aspects of Secondary Ion Emission" (A. R. Kraus and V. E. Krohn), "Development and Trends in Instrumentation in Mass Spectrometry" (A. McCormick), "Applications of Computers and Microprocessors in Mass Spectrometry" (R. D. Sedgwich), "Gas Chromatography–Mass Spectrometry and High Performance Liquid Chromatography–Mass Spectrometry" (F. A. Mellon), "Reactions of Negative Ions in the Gas Phase" (J. H. Bowie, V. C. Trennery, and G. Klass), "Natural Products" (D. E. Games), "The Use of Mass Spectrometry in Pharmacokinetic and Drug Metabolism Studies" (L. E. Martin), and "Organometallic, Coordination, and Inorganic Compounds Investigated by Mass Spectrometry" (R. H. Cragg).

Following a trend established with the previous issue, the reviews of a few selected topics are more critical and comprehensive in nature, instead of a dry itemization of facts and numbers. Such is the case in this issue with the chapters on ion mobilities, secondary ion emission mass spectrometry, and the interaction of electromagnetic radiation with gas-phase ions. Despite the space limitations and the requirement for conciseness, the authors have succeeded in presenting the topics in a form that is easy to read and, in some instances, entertaining by providing interesting historical notes on previous disputed theories and views. Over the past several years, mass spectroscopists have come to depend on the specialist periodical reports, which, along with the reviews in *Analytical Chemistry*, are perhaps the most authoritative in the field. The current volume will not disappoint them.

Department of Chemistry
Northeastern University
Boston, Massachusetts 02115
Paul Vouros

Chromatographic Science Series. Volume 18. Biological/Biomedical Applications of Liquid Chromatography III. Edited by Gerald L. Hawk. Associate Editors: Paul B. Champlin, Robert F. Hutton, and Chris Mol. Marcel Dekker, New York. 1981. xiv + 420 pp. 16 × 23.5 cm. ISBN 0-8247-1297-8. $49.75.

This volume consists of 22 chapters contributed by the participants at the Third International Symposium on the Biological/Biomedical Applications of HPLC, held in Boston, MA, Oct 11 and 12, 1979. The indexes are complete, although the literature

references within each chapter are sometimes short and not up-to-date. A small glossary of chromatographic terms is included, which is too simple and short to be any real utility.

While the overall tone of the book is directed toward the applications of HPLC in biological, clinical, and biomedical research, there are many topics and techniques covered that would be of interest to the medicinal chemist.

The volume begins with a brief introductory chapter by Roger Giese concerning the role of HPLC in clinical analyses and the need for future research. This is followed by two very timely chapters on the monitoring of Norpace (a new antiarrhythmic drug) in serum and the analysis of five common anticonvulsants using radial compression columns. These are followed by two chapters on the analysis of urinary HVA and VMA for the detection of neuroblastoma and pheochromocytoma. The proteins and short peptides are well covered, with nine chapters being devoted to some aspect of the amino acids, short peptides, and proteins. These sections include peptide separations by size exclusion, peptide mapping, peptide hormones, free amino acid analyses, and isoenzyme separations. These papers should help to bring one up-to-date on the latest developments in the application of HPLC to these classes of compounds. Of the remaining chapters, one is devoted to the analysis of urinary pyrimidines and abnormalities of pyrimidine metabolism, one to the analysis of RNA polymerase, one to prostaglandins in seminal fluids, one on lipids, and two on neutral sugars and oligosaccharides.

A broad range of HPLC-related research areas is represented in this volume, which is both its strength and its weakness. The papers appear to be of uniformly high quality and timeliness, which is a tribute to the editors as well as to the contributors. This volume represents an excellent opportunity to keep abreast of the activities in a wide range of disciplines and to be made aware of the latest instrumental developments in HPLC and how they are being used in biomedical research. This book will probably find a well-deserved place in the libraries of many chromatographers working in biomedical research as well as those who have a need to keep astride of the latest developments in biological separations using HPLC.

R. Hartwick

Chromatographic Science Series. Volume 17. Thin-Layer Chromatography. Techniques and Applications. By Bernard Fried and Joseph Sherma. Marcel Dekker, New York. 1982. v + 308 pp. 16 × 23.5 cm. ISBN 0-8247-1288-9. $49.50.

This is a book devoted to a very thorough discussion of the fundamental principles, methods, instrumentation, techniques, and applications of thin-layer chromatography (TLC). The book is written by a biologist with extensive experience in the applications of TLC to biological problems and their analysis, as well as by one of the most experienced and knowledgeable analytical chemists involved in TLC. At the same time, as the authors admit, this is not a book specifically devoted to analytical chemists involved or wishing to become involved in TLC, but rather it is aimed at those without extensive prior training and/or knowledge in analytical chemistry or TLC. Thus, the book is really aimed at those biology students and graduate biologists who wish to become familiar and involved with various aspects and applications of TLC. The current TLC text is somewhat simplistic in its approach to the discussion of the fundamental theory and principles of chromatographic separations via TLC, but it is very heavy on the practical aspects of applying TLC to specific analytical problems. This is not really an advanced text in chromatographic separation theory, but more of a practical manual on what TLC is all about, how TLC is practiced and utilized today, and what are some of the more popular and widely used applications of TLC as related to various biological classes of compounds.

The text is divided into two discrete halves, with the first half covering more of the analytical chemistry and general practices of TLC, and this makes up the major portion of the entire book. The second section discusses and describes fully some of the more important applications of TLC to different classes of biologically active compounds. Thus, this latter part discusses compound classes such as lipids, amino acids, carbohydrates, natural pigments, drugs, agricultural chemicals, and others, with specific directions for undertaking individual TLC analyses of representatives from each class of biologically active compounds. There are described a very large number of experiments involving TLC, including all of the specific experimental details necessary to actually carry out individual analyses on biological sample matrices. These separate experiments could easily be used in an undergraduate or graduate biology or analytical chemistry laboratory, in order to demonstrate the practical usefulness and direct application of TLC.

The first half of the book covers most, if not all, of the major areas necessary for a full understanding and appreciation of TLC. Thus, there are sections covering history, mechanism and theory, sorbents and precoated plates, sample preparation requirements, application of samples, basic TLC design, solvent systems, development techniques, detection and visualization, qualitative evaluation, quantitation, reproducibility of results, preparative TLC, and radiochemical techniques. Each of these sections has an apparent emphasis on practicality and direct application to real-world analytical problems that can be solved by TLC approaches. There is a heavy emphasis on methods, techniques, equipment, instrumentation, development, interpretation, quantitation, confirmation of qualitative results, and other such areas that are needed for the immediate application to actual sample analyses.

For those of us with extensive background, understanding, experience, and application of TLC, this is not a book to pick up and read for relaxation or appreciation. For those involved in analytical chemistry, especially those of us who have already grown up with TLC over the past 20 years or more, there will not be a great deal to be learned from studying this new text. The emphasis is so much on fundamentals and principles that there is little room for discussion of any advanced topics in sufficient detail to be of any interest to experienced TLC users and/or researchers. It is therefore difficult, if not unfair, to recommend this particular TLC text to experienced analytical chemists who are already familiar and/or experienced in this separation field. The book could be useful for new chemistry graduate students, biology graduate students, and/or practicing graduate biologists/toxicologists, who are just learning about chromatographic separation methods and techniques. Finally, the asking price of $49.50 seems a bit steep for this type of a book, especially when about a third of text contains specific experimental details for various TLC analytical methods. Surely, a book aimed at the student market, at least in part, could/should have carried a somewhat lower sticker price.

Institute of Chemical Analysis, Applications and Forensic Science
Northeastern University
Boston, Massachusetts 02115

Ira S. Krull

Photochemistry. Volume 11. Specialist Periodical Reports. By D. Bryce-Smith, Senior Reporter. The Chemical Society, Burlington House, London. 1981. xxiv + 680 pp. 14.5 × 22 cm. ISBN 0-85186-095-8. $143.00.

This latest volume in a series that has become indispensable to all photochemists surveys the literature in photochemistry between July 1978 and June 1979. As noted by the senior reporter, this volume is somewhat tardy in its appearance, but we are assured that the next volume will appear promptly. Two new reporters, Drs. J. D. Coyle and G. Hancock, make their debuts with this volume, and their contributions continue the high order of quality and thoroughness set by their predecessors and the continuing members of the team. This volume includes a 2-year review on "Spectroscopic and Theoretical Aspects" (R. Devonshire), which alternates with reviews on instrumentation and techniques, while "Chemical Aspects of Photobiology" is also scheduled to reappear in the next volume. Although this volume is slightly slimmer that its predecessor (by 37 pages), it, nonetheless, is packed full of information and data gleaned from hundreds of papers in the photochemistry literature, including occasional tables, graphs, and figures and an abundance of clearly drawn (and only rarely incorrect) structural formulas. No one

with an interest in photochemistry can fail to profit by consulting this volume, at the very least in those sections concerning his/her subdiscipline. As in the past, medicinal chemists will not find too much of direct value to them here, except perhaps for some new photochemical transformations that may prove of utility in synthesis of organic compounds of medicinal interest or which pertain to photodegradation of such compounds. I noticed more references to earlier work of direct relevance to studies included in this survey, particularly in the reviews of the photochemistry of carbonyl compounds and olefins and related materials written by W. M. Horspool, who is the only survivor of the original team of reporters, with the exception of the senior reporter.

By far the most distressing aspect of this volume is its price, which is nearly double that of Volume 8 which appeared only 5 years ago. At this rate, future volumes will be so expensive that even many current library subscribers will have to reconsider inclusion of such volumes in their collections. As it is, private subscribers have been virtually excluded from the potential market, which is a serious setback. I personally have found these volumes indispensable when engaged in a literature review in this field and have enjoyed the convenience of their location on a shelf in my office. Such a luxury will be limited to precious few in the future. While I would not recommend a reduction in the scope and content of these reviews nor in the quality of the overall production, something must be done to keep the cost in line or else this series (and others like it) will be priced out of existence, which seems to be an increasing event in our time with respect to quality goods and services.

Department of Chemistry **David I. Schuster**
New York University
New York, New York 10003

Kirk-Othmer Encyclopedia of Chemical Technology. Third Edition. Volume 17. Peroxides and Peroxy Compounds. Edited by M. Grayson and D. Eckroth. Wiley, New York. 1982. xxvi + 957 pp. 18.5 × 26 cm. ISBN 0-471-02070-2. $165.00.

This volume of the third edition includes topics ranging from peroxides and peroxy compounds to piping systems. Of particular interest to medicinal chemists will be the sections on pharmaceuticals (controlled release, optically active, pharmacodynamics) for which 174 pages have been allocated. The scholarly and timely discussion on optically active pharmaceuticals (Witiak and Inbasekaran) and on pharmacodynamics (Triggle) is worthy of note. Such presentations serve as a continuing reminder that *Kirk-Othmer Encyclopedia of Chemical Technology* is a source of current and reliable information that should be constantly consulted.

Staff

Halogenated Hydrocarbons: Solubility–Miscibility with Water. By Ari L. Horvath. Marcel Dekker, New York. 1982. xxvi + 889 pp. 18 × 26 cm. ISBN 0-8247-1166-1. $125.00

This book provides information for improving techniques and advancing research in various fields where halogenated hydrocarbons have come to play a vital role. The first up-to-date compilation of solubility data and reviews of the latest theoretical and practical developments for solubility estimation in halogenated hydrocarbon–water systems are also presented.

Halogenated Hydrocarbons: Solubility–Miscibility with Water will serve as a useful reference for environmental and agricultural chemists, pesticide chemists, biologists, and medical workers, as well as many other scientists who are interested in solubility. It will be particularly useful to researchers who need a one-source reference for measuring halogenated hydrocarbon concentrations in groundwater, rivers, and oceans, as well as in the blood and tissues of animals and humans. Students will find this book helpful in gaining a better knowledge of the solubility of substances and the interrelationships between the various properties of solute and solvent.

Staff

Books of Interest

Advances in Enzymology and Related Areas of Molecular Biology. Edited by Alton Meister. Wiley, New York. 1982. v + 460 pp. 15.5 × 23.5 cm. $40.00.

The Neurobiology of Dopamine. Edited by A. S. Horn, J. Korf, and B. H. C. Westerink. Academic Press, New York. 1979. xvii + 723 pp. 15.5 × 23.5 cm. $105.00.

Reagent Chemicals. 6th Edition. American Chemical Society Specifications from January 1, 1981. American Chemical Society, Washington, DC. 1981. 612 pp. 16 × 24 cm. $60.00 U.S. and Canada. Export $72.95.

The Biochemistry of Disease. Volume 9. Vascular Injury and Atherosclerosis. Edited by Sean Moore. Marcel Dekker, New York. 1981. ix + 239 pp. 16 × 23.5 cm. $35.00 (price 20% higher outside the U.S. and Canada).

Clinical Hypertension and Hypotension. Edited by H. R. Brunner and H. Gavras. Marcel Dekker, New York. 1982. xiii + 503 pp. 16 × 23.5 cm. $67.50.

Techniques and Instrumentation in Analytical Chemistry. Volume 2. Handbook of Laboratory Distillation. By Erich Krell. Elsevier Scientific, Amsterdam and New York. 1982. 524 pp. 17.5 × 24.5 cm. $95.75.

Carbon-13 NMR Spectral Problems. Edited by R. B. Bates and W. A. Beavers. The Humana Press, Clifton, NJ. 1981. xxi + 259 pp. 20 × 20 cm. $29.00 (hardcover); $12.00 (paperback).

Advances in Experimental Medicine and Biology. Volume 139. Taurine in Nutrition and Neurology. Edited by R. J. Huxtable and H. Pasantes-Morales. Plenum Press, New York. 1982. xiii + 551 pp. 17.5 × 26.5 cm. $59.50.

Structure and Function of Antibodies. Edited by L. E. Glynn and M. W. Steward. Wiley, New York. 1981. ix + 306 pp. 15 × 23 cm. $13.25 (paperback).

American Drug Index 1982. Edited by N. F. Billups. J. B. Lippincott and Harper & Row, Philadelphia. 1982. x + 705 pp. 14.5 × 21 cm. $22.50.

Undergraduate Instrumental Analysis. 3rd Edition. By J. W. Robinson. Marcel Dekker, New York. 1982. xvii + 550 pp. 16 × 23.5 cm. $28.75.