

Book Reviews *

Artificial Self-Assembling Systems for Gene Delivery. Edited by Philip L. Felgner (Vicar, Inc.), Michael J. Heller (Nanotronics, Inc.), Pierre Lehn (University of Paris), Jean Paul Behr (Universite Louis Pasteur de Strasbourg), and Francis C. Szoka, Jr. (University of California—San Diego). American Chemical Society: Washington, DC, 1996. vi + 200 pp. \$94.95. ISBN 0-8412-3415-9.

This book discusses recent advances in artificial self-assembling systems, including retrotransposon vectors, hairpin ribozymes, triple-helix-forming oligonucleotides, liposome-mediated transfection, and photonic nanostructures. Developing efficient synthetic vectors such as modular self-assembling systems mimicking important features of viral vectors is addressed. New developments in synthetic self-assembling gene delivery systems, including innovations in nonviral systems, targeting nucleic acids, ligand–polylysine mediated transfer, dendrimer-mediated transfection, cationic liposomes, and polylysine DNA complexes, are presented. Indexes include author, affiliation, and subject.

JA965809J

S0002-7863(96)05809-X

Flavor-Food Interactions. ACS Symposium Series #633. Edited by Robert J. McGorin and Jane V. Leland (Kraft Foods). American Chemical Society: Washington, DC, 1996. xii + 235 pp. \$89.95. ISBN 0-8412-3409-4.

This book discusses flavor–nonflavor component interactions, including work on interactions between volatile flavoring substances and food constituents. An overview of flavor–food interactions and their effect on flavor perception is provided. It focuses on interactions between flavors and major food components, gelling agents and emulsion, and replacer ingredients such as sugar or fat substitutes. Applications of several measurement tools, including GC-olfactometry and principle component analysis, are presented. Approaches for studying interactions in complex food systems are discussed. Indexes include author, affiliation, and subject.

JA965808R

S0002-7863(96)05808-8

International Encyclopedia of Abbreviations and Acronyms in Science and Technology (in Eight Volumes). Volume 1, A–Da. Compiled by Michael Peschke. K. G. Saur Verlag: Munchen, Germany, 1996. viii + 359 pp. DM248.00. ISBN 3-598-22971-2.

This encyclopedia has approximately 680 000 entries in eight volumes and attempts to encompass the most important acronyms from the most diverse general and scientific fields. It does limit itself to languages which use the Roman alphabet. This encyclopedia also lists common vernacular abbreviations in general use. Historical abbreviations have also been included.

JA965794P

S0002-7863(96)05794-0

Annual Review of Physical Chemistry, Volume 47. Edited by Herbert L. Strauss (University of California—Berkeley), Gerald T. Babcock (Michigan State University), and Stephen R. Leone (University of Colorado at Boulder). Annual Reviews, Inc.: Palo Alto, CA, 1996. x + 649 pp. \$56.00. ISBN 0-8243-1047-0.

Some of the chapter headings in this volume include Computation Studies of Clusters: Methods and Results, Chromophore-Solvent Dynamics, The Spectroscopy of Solvation in Hydrogen-Bonded Aromatic Clusters, Some Chemical and Structural Effects on the Properties of High- T_c Superconductors, Insights into Protein Folding from NMR, Video Microscopy of Monodisperse Colloidal Systems,

Experimental Studies of Resonances in Unimolecular Decomposition, and Quantitative Optical Spectroscopy for Tissue Diagnosis. Indexes include author, subject, cumulative index of contributing authors (Volumes 43–47), and cumulative index of chapter titles (Volumes 43–47).

JA965793X

S0002-7863(96)05793-9

Antibody Engineering, Second Edition. Edited by Carl A. K. Borrebaeck (University of Lund, Sweden). Oxford University Press: New York, 1995. xv + 390 pp. \$45.00. ISBN 0-19-5091507.

The aim of this series of antibody engineering is to provide the most recent technologies to laboratories in the area or to laboratories just entering into the field of antibody engineering. This second volume presents an overview by authorities in the field of some of the most recent areas of interest, thus bringing designer antibodies closer to pharmaceutical applications. In presenting a practical overview of the engineering of recombinant human or mouse monoclonal antibodies, the book addresses essential topics such as antibody structure relevant to engineering, recombinatorial cDNA libraries, phage display, synthetic and humanized antibodies, engineering of affinity and biological effector functions, and plant, mammalian, and bacterial expression vectors and hosts.

JA955288K

S0002-7863(95)05288-7

The Handbook of Infrared and Raman Spectra of Inorganic Compounds and Organic Salts, Four Volume Set. By Richard A. Nyquist Curtis L. Putzig and M. Anne Leugers (The Dow Chemical Company). Academic Press: San Diego, CA, 1997. 1151 pp. \$1000.00. ISBN 0-12-523444-9.

This four-volume handbook presents data of infrared and comparative Raman spectra that are useful for the analysis of inorganic compounds and organic salts. The spectra charts as presented in the volumes may be used to facilitate spectra-structure identification of most compounds, while cross-indexing of data allows for comparison of infrared and Raman spectra of the same compound. Volume 1 contains text and explanations. Volume 2 contains Raman spectra charts. Volume 3 contains infrared spectra charts. Volume 4 contains (3800–45 cm^{-1}).

JA965745C

S0002-7863(96)05745-9

HPLC Methods for Pharmaceutical Analysis. By George Lunn and Norman Schmuff. Wiley/VCH: New York, 1997. xxii + 1609 pp. \$150.00. ISBN 0-471-18176-5.

This database is available in print and electronic form. It gives access to the literature available on HPLC for the analysis of over 150 of the most frequently prescribed pharmaceutical compounds. Techniques for each compound are described in detail, enabling replication of a procedure without reference to the original publication. Detailed procedures for each drug are listed together, making it easy to combine features of different methods into a customized approach. Drug assay methods are provided for drugs in biological fluids such as blood or urine, as well as for bulk and formulated drugs. Other information includes chemical structures, molecular weights and formulas, CAS Registry Numbers, and cross-references to *The Merck Index* and *Chemistry of Drug Syntheses*. The electronic version, available on CD-

*Unsigned book reviews are by the Book Review Editor.

ROM, allows the ability to search the entire database by compound, matrix, HPLC variables, and author.

JA975646E

S0002-7863(97)05646-1

Volumetric Properties of Electrolyte Solutions: Estimation Methods and Experimental Data. By G. G. Aseyev and I. D. Zaytsev (Khar'kov Research Institute of Basic Chemistry). Begell House: New York, 1996. 1572 pp. \$175.00. ISBN 1-56700-072-X.

This book presents the investigation and the physical and chemical properties of binary and multicomponent electrolyte solutions and the pertinent estimation methods. This volume offers extensive coverage of the volumetric properties of electrolyte solutions and includes new data on apparent molar volumes. The experimental density data for the most extensively used electrolytes cover a high-temperature region and a range of pressures. The available estimation methods for densities, apparent molar values, apparent molar expansivities, and adiabatic apparent molar compressibility factors are described. The constants appearing in the property correlations for the multicomponent solutions are also given.

JA9756580

S0002-7863(97)05658-8

Spices: Flavor Chemistry and Antioxidant Properties. Edited by Sara J. Risch (Science by Design) and Chi-Tang Ho (Rutgers, The State University of New Jersey). ACS: Washington, DC, 1996. x + 253 pp. \$99.95. ISBN 0-8412-3495-7.

ACS Symposium Series 660. Developed from a symposium sponsored by the Division of Agricultural and Food Chemistry. This volume provides a general overview of spice chemistry from both practical and historical perspectives. It discusses the characterization, extraction, and intensity of flavors. It identifies the flavor components and antioxidant properties of specific spices and includes methods for identifying specific spices in blends. It also discusses the antioxidant properties of spices with an emphasis on potential health benefits, and examines new analytical techniques for isolating and identifying specific components of spices. Chapter headings include Flavor Chemistry, Analytical Techniques, and Antioxidant Properties. Indexes include author, affiliation, and subject.

JA975606A

S0002-7863(97)05606-0

Kirk-Othmer Encyclopedia of Chemical Technology, Volume 21, Recycling, Oil to Silicon. Edited by Jacqueline I. Kroschwitz and Mary Howe-Grant. Wiley: New York, 1996. xxviii + 1122 pp. \$325.00. ISBN 0-471-52690-8.

This is the 21st volume of a 25-volume encyclopedia set, four volumes being published each year. The fourth edition is similar in format to the earlier editions with updates to the entries as necessary and the addition of several new subjects. This volume contains 32 entries ranging from Recycling, Oil to Silicon. This volume does not contain an index; however, paperback indexes are published every four volumes, and the supplement and index volumes are scheduled for publication in 1998.

JA965810I

S0002-7863(96)05810-6

Kirk-Othmer Encyclopedia of Chemical Technology, Volume 22, Silicon Compounds to Succinic Acid and Succinic Anhydride. Edited by Jacqueline I. Kroschwitz and Mary Howe-Grant. Wiley: New York, 1997. xxviii + 1102 pp. \$325.00. ISBN 0-471-52691-6.

This is the 22nd volume of a 25-volume encyclopedia set, four volumes being published each year. The fourth edition is similar in format to the earlier editions with updates to the entries as necessary and the addition of several new subjects. This volume contains 35 entries ranging from Silicon Compounds to Succinic Acid and Succinic

Anhydride. This volume does not contain an index; however, paperback indexes are published every four volumes, and the supplement and index volumes are scheduled for publication in 1998.

JA975645M

S0002-7863(97)05645-X

Handbook of Capillary Electrophoresis Applications. Edited by H. Shintani (National Institute of Health, Japan) and J. Polonsky (Slovak Technical University, Slovakia). Blackie Academic: New York, 1997. xxiv + 737 pp. \$229.95. ISBN 0-7514-0359-8.

This book contains a number of tables, divided into specific application areas. These tables give details of published separations of a wide range of archetypal analytes, the successful separation conditions, and the matrix in which they were presented. These tables are based on separations reported since 1992 and are fully referenced to the original literature. The tables are supported by discussions of the problems that a particular area presents and the strategies and solutions adopted to overcome them. The general areas covered are biochemistry, pharmaceutical science, bioscience, ion analysis, food analysis, and environmental science.

JA975576B

S0002-7863(97)05576-5

Biological NMR Spectroscopy. Edited by John L. Markley (University of Wisconsin) and Stanley J. Opella (University of Pennsylvania). Oxford University Press: New York, 1997. x + 360 pp. \$65.00. ISBN 0-19-509468-9.

This book is the result of a symposium that was held at Stanford University in March 1994 to celebrate the 65th birthday of Professor Oleg Jardetzky, one of the pioneers of biological nuclear magnetic resonance. The book is divided into four sections. The section headings are History of Biological NMR Spectroscopy, Protein Structural Studies, Nucleic Acids, and *In vivo* Spectroscopy.

JA975544O

S0002-7863(97)05544-3

Water Disinfection and Natural Organic Matter: Characterization and Control. Edited by Roger A. Minear (University of Illinois) and Gary L. Amy (University of Colorado). ACS: Washington, DC, 1996. xi + 394 pp. \$109.95. ISBN 0-8412-3464-7.

This book was developed from a symposium sponsored by the Division of Environmental Chemistry, Inc., of the American Chemical Society. Highlights and the occurrence of disinfection byproducts are presented. The role of natural organic matter in forming disinfection byproducts is showcased. New information on chlorine versus alternative disinfections is presented. The role of bromine in forming disinfection byproducts is described. The characterization of disinfection byproducts and natural organic matter precursors is featured. Chapter headings include Chlorination-Chloramination Products and Reactions, Natural Organic Matter Relationships and Characterization, and Ozone and Other Processes. Indexes include author, affiliation, and subject.

JA975543W

S0002-7863(97)05543-1

Agricultural Materials as Renewable Resources: Nonfood and Industrial Applications. Edited by Glenn Fuller, Thomas A. McKeon, and Donald D. Bills (U.S. Department of Agriculture). ACS: Washington, DC, 1996. ix + 268 pp. \$94.95. ISBN 0-8412-3455-8.

This book was developed from a symposium sponsored by the Division of Agricultural and Food Chemistry of the American Chemical Society at the 209th national meeting of the American Chemical Society in Anaheim, California, in April 1995. The conversion of agricultural materials for industrial use in materials, polymers, biotechnology, fuel technology, and other applications is surveyed. The conversion of

biomass to energy, biodegradable and edible films, coatings, drugs, and bioreactive compounds are discussed. The conversion of vegetable oils, proteins, cellulose, starch, and sugars into usable products is also discussed. The conversion of agricultural materials that will lead to new markets by creating low-cost agricultural commodities for consumers and increased profits for farmers is examined. Chapter headings include Applications in Materials Science, Applications in Polymers, Applications in Biotechnology, and Specialty Applications. The indexes include author, affiliation, and subject.

JA9755424

S0002-7863(97)05542-X

Concise Encyclopedia: Biochemistry and Molecular Biology, 3rd Edition. Revised and Expanded by Thomas A. Scott and E. Ian Mercer. Walter de Gruyter, Inc.: Hawthorne, NY. 1997. vii + 737 pp. \$99.95. ISBN 3-11-014535-9.

This book is an up-to-date, comprehensive yet compact source of biochemical and molecular biological data containing more than 4500 entries and over 1000 figures, formulas, and tables. The existing entries have been revised and, where necessary, entirely rewritten. Many new entries on molecular and cell biology have been included. There are also new entries on methods for the determination of macromolecular structure and conformation. Modern standard terminology and abbreviations are used.

JA975535F

S0002-7863(97)05535-2

Saponins Used in Traditional and Modern Medicine: Advances in Experimental Medicine and Biology, Volume 404. Edited by George R. Waller (Oklahoma State University) and Kazuo Yamasaki (Hiroshima University). Plenum Press: New York. 1996. xiii + 606 pp. \$145.00 ISBN 0-306-45393-2.

This book is the result of a symposium organized by the American Chemical Society, Division of Agricultural and Food Chemistry, at the 210th meeting in Chicago in August 1996. Chapter headings include Commercial Utilization and Biosynthesis, Inhibition of Diseases of Mankind, and Antifungal and Hemolytic Activities. The indexes include Latin name and subject.

JA975521+

S0002-7863(97)05521-2

Organic Reactions, Volume 49. Edited by Leo A. Paquette. Wiley: New York. 1997. vii + 700 pp. \$89.95. ISBN 0-471-15655-8.

The volumes of *Organic Reactions* compile critical discussions of the more important reactions. Each chapter is devoted to a single reaction, or a definite phase of a reaction, of wide applicability. Subjects are presented from the preparative viewpoint. Particular attention is given to limitations, interfering influences, effects of structure, and the selection of experimental techniques. Chapter headings in this volume include (1) The Vilsmeier Reaction of Fully Conjugated Carbocycles and Heterocycles, (2) [6 + 4] Cycloaddition Reactions, and (3) Carbon-Carbon Bond-Forming Reactions Promoted by Trivalent Manganese. The indexes include Cumulative Chapter Titles by Volume; Author Index, Volumes 1-49; and Chapter and Topic Index, Volumes 1-49.

JA975510G

S0002-7863(97)05510-8

Drug Prototypes and Their Exploitation. By Walter Snedder (University of Strathclyde). Wiley: New York. 1997. vii + 788 pp. \$129.95. ISBN 0-471-94847-0.

This book provides an analysis of 1200 pharmaceuticals, identifying the key prototype drugs from which all the medicinal compounds currently in general use are derived. It charts the history and development of major therapeutic ring classes, showing how fundamental scientific discoveries have been clinically exploited. Attention is focused on how the inadequacies of many drug prototypes as therapeutic agents have been overcome by the development of chemically-related analogues. The 240 drug prototypes described in

this book are assigned to six major groups on the basis of their origins: mineral and inorganic sources, plants, animals or the human body, microorganisms, screening of synthetic chemicals, and serendipitous discoveries.

JA975513T

S0002-7863(97)05513-3

Progress in Fourier-Transform Spectroscopy Mikrochimica Acta Supplement 14. Edited by J. Mink and G. Keresztury (Hungarian Academy of Sciences) and R. Kellner (Technische Universität Wien). Springer: Wein. 1997. xxii + 835 pp. DM330.00. ISBN 3-211-82931-8.

This book is the result of the 10th International Conference on Fourier-Transform Spectroscopy that was held in Budapest, Hungary, August 27 through September 1, 1995. The scientific content of the conference demonstrated that Fourier-transform spectroscopy is already a well-established method used in a great variety of scientific fields. Progress has been reported in new and quickly developing fields like FT-Raman, 2D-FTS, step-scan, photoacoustic, time-resolved, and emission spectroscopy, FT-IR and FT-Raman microscopy, vibrational circular dichroism, and a broad variety of applications in analytical chemistry, biology, catalysis, semiconductors, polymers, coupled techniques, chemometrics, and high-pressure, low-temperature, matrix-isolation, high-resolution environmental and atmospheric studies, etc.

JA975666G

S0002-7863(97)05666-7

Proceedings of the Eighth International Symposium on Cyclodextrins, Budapest, Hungary, March 31-April 2, 1996. Edited by J. Szejtli and L. Sente (Cyclolab, Budapest). Kluwer Academic: Dordrecht. 1996. xxiii + 685 pp. \$320.00. ISBN 0-7923-4029-9.

This volume contains the proceedings of the Eighth International Symposium on Cyclodextrins, held in Budapest, Hungary, March 31-April 2, 1996. The 147 papers presented represent a summary of the last two years' achievements in this field, with applications in such diverse disciplines as pharmaceuticals, food, cosmetics, textiles, plastics, and chromatography. The chapter headings and subheadings are as follows: (1) Cyclodextrins and Derivatives—Structures, Physical-Chemical Properties: Production of CDs; Chemical Modification of CDs; Biological Properties; (2) Cyclodextrin Inclusion Complexes—Interaction with Specific Guests; Structural Studies; Enzyme-Modeling; (3) Cyclodextrins in Pharmaceuticals—Drug/CD-Complexes; Ocular, Nasal and Transdermal Delivery; Specific Formulations; Bioavailability and Biomedical Effects; (4) Industrial Applications of Cyclodextrins—Biotechnology; Textile Industry; Food and Cosmetics; Environment Protection and Chemical Technologies; (5) Analytical Separations by Cyclodextrins. This book contains a subject index.

JA975598Y

S0002-7863(97)05598-4

Annual Review of Biophysics and Biomolecular Structure, Volume 26. Edited by Robert M. Stroud (University of California—San Francisco), Wayen L. Hubbell (University of California at Los Angeles), Wilma K. Olson (Rutgers, The State University of New Jersey), and Michael P. Sheetz (Duke University). Annual Reviews, Inc.: Palo Alto. 1997. xi + 704 pp. \$70.00. ISBN 0-8243-1826-0.

This is a volume of the continuing series published by Annual Reviews Inc., a nonprofit scientific publisher established to promote the advancement of sciences. The volumes are organized by editors and editorial committees who invite qualified authors to contribute critical articles. After a preface by the editorial board, there are 22 chapters organized under the following headings: Preparatory; Structural Principles; Structure and Function; Dynamics; Emerging Techniques; and Biotechnology. There is a subject index; a cumulative index of contributing authors; and a cumulative index of chapter titles.

JA975595L

S0002-7863(97)05595-9