

Book Reviews *

The Physics and Chemistry of SiO₂ and the Si-SiO₂ Interface. 2. Edited by C. Robert Helms and Bruce E. Deal (Stanford University). Plenum Press: New York. 1993. xvi + 504 pp. \$125.00. ISBN 0-306-44419-4.

This book is developed from the first international symposium on The Physics and Chemistry of SiO₂ and the Si-SiO₂ Interface organized in association with the Electrochemical Society held in Atlanta, GA, on 15-20 May 1988. After a preface by the editors, there are 60 papers (in typescript form) arranged under the following headings: Thermal Oxidation Mechanisms and Modeling; Novel Oxidation Methods and Characterization; Deposition and Properties of SiO₂; Chemical Properties of Si Surfaces Related to Oxidation and Oxide Deposition; Chemical, Structural, and Microroughness Effects at the Si-SiO₂ Interface; Novel Structures, Processes, and Phenomena; Defects and Hot-Carrier Induced Damage in Si-SiO₂ Systems; and Radiation and Hydrogen Induced Effects in Silicon-Silicon Dioxide Systems. There are author and subject indexes.

Chemistry Imagined. Reflections on Science. By Roald Hoffman (Cornell University) and Vivian Torrence (Cornell University). Smithsonian Institution Press: Washington, D.C. 1993. 168 pp. \$19.95. ISBN 1-56098-214-4.

This book is a combined effort by the Nobel laureate Roald Hoffmann and renowned artist Vivian Torrence in which the collages, essays, commentary, and poems are combined to describe chemistry for the layman. After a forward by Carl Sagan and acknowledgments by Hoffman, the book covers a variety of topics such as the periodic table, blood counts, and the Chinese elements.

Handbook of Enantioselective Catalysis with Transition Metal Compounds. Volumes I and II. By Henri Brunner and Wolfgang Zettlmeier (Institut für Anorganische Chemie). VCH: New York. 1993. xviii + 918 pp. DM 498.00. ISBN 3-527-29068-0.

This is a two-volume handbook that compiles synthetic chiral compounds and chiral molecular catalysts and ligands. The data are organized in three sections: the Product Table, which summarizes the optically active products and the respective enantioselective catalysts; The Ligand Table, which lists the optically active auxiliaries; and the References. Volume I contains the forward, preface, scope of the data collection, and the product table; Volume II contains the ligand table and references.

Houben-Weyl Methoden der Organischen Chemie E15 (Three-Volume Set). Edited by H. Kropf (Hamburg) and E. Schaumann (Clausthal-Zellerfeld). Georg Thieme Verlag: Stuttgart, Germany. 1993. xxvi + 3946 pp. \$588.78. DM 2200.00 for each volume. ISBN: Volume 1, 3-13-218504-3; Volume 2, 3-13-797504-2; Volume 3, 3-13-797604-9.

These volumes are part of the E-series, in which preparative methods for organicsynthesis are critically reviewed. These volumes are in German; however, most of the remaining E-series will be available in English. The German volumes currently use formulas and schemes as a visual aid for non-German readers. After a forward by the publisher and a preface by the editors, Kropf and Schaumann, there are 14 chapters with the following headings: Teilband 1, En-ol-Derivate; Teilband 2, En-1,2-diol-Derivate;

Keten-acetale; Ketene; Teilband 3, Ketene (continued); Hetero-keten-acetale; Hetero-ketene; Tetrahetero-ethene; Dihetero-ketene; 2-Oxo(Thiono-, Imino)-1-phosphoranyliden-ethene; 1-Hetero-, Dihetero-, Trihetero-, Tetrahetero-propadiene; 1-Hetero- usw.-butatriene; 1-Oxoallene usw.; Kohlensuboxid usw.; 1-Hetero-1-alkine, -polyine, Dihetero-ethine. There are also reference, author, and subject indexes.

The Biochemistry of Nucleic Acids. Eleventh Edition. By Roger L. P. Adams (University of Glasgow), John T. Knowler (Glasgow Polytechnic), and David P. Leader (University of Glasgow). Chapman and Hall: London. 1992. xxii + 676 pp. \$95.00 (cloth) and \$45.00 (paper). ISBN 0-412-39940-7.

This book is designed for advanced undergraduates and graduates covering DNA structure, replication, and repair and gene expression and its control to protein synthesis. After a preface by the author and a list of abbreviations and nomenclature, there are 12 chapters with the following headings: Introduction; The Structure of the Nucleic Acids; Genomes of Eukaryotes, Bacteria and Viruses: Chromosome Organization; Degradation and Modification of Nucleic Acids; The Metabolism of Nucleotides; Replication of DNA; Repair, Recombination and Rearrangement of DNA; The Arrangement of Genes; RNA Biosynthesis; Control of Transcription; Processing of RNA Transcripts and Its Control; and The Translation of mRNA: Protein Synthesis. There is an appendix on the methods of studying nucleic acids and an extensive index.

Organic Electronic Spectral Data. Volume XXIX. 1987. Edited by John P. Phillips, Dallas Bates, Henry Feuer, and B. S. Thyagarajan. J. Wiley and Sons: New York. 1993. xvi + 918 pp. \$165.00. ISBN 0-471-311219.

This book is a reference volume published annually for all the ultraviolet-visible spectra of organic compounds published in literature, this volume for 1987. Each entry is ordered by formula and includes the solvent used, the maximum wavelength adsorption, and the literature reference. The book is in typescript form and contains an index of references.

Advances in Chromatography. Volume 33. Edited by Phyllis R. Brown (University of Rhode Island) and Eli Grushka (The Hebrew University of Jerusalem). Marcel Dekker: New York. 1993. xviii + 296 pp. \$135.00. ISBN 0-8247-9064-2.

This book is Volume 33 of a continuing series which reviews current developments in chromatographic science. After a list of contributors and a list of the contents of other volumes, there are six chapters with the following headings: Planar Chips Technology of Separation Systems: A Developing Perspective in Chemical Monitoring by Andreas Manz, D. Jed Harrison, Elisabeth Verpoorte, and H. Michael Widmer; Molecular Biochromatography: An Approach to the Liquid Chromatographic Determination of Ligand-Biopolymer Interactions by Irving W. Wainer and Terence A. G. Noctor; Expert Systems in Chromatography by Thierry Hamoir and D. Luc Massart; Information Potential of Chromatographic Data for Pharmacological Classification and Drug Design by Roman Kaliszan; Fusion Reaction Chromatography: A Powerful Analytical Technique for Condensation Polymers by John K. Haken; and The Role of Enantioselective Liquid Chromatographic Separations Using Chiral Stationary Phases in Pharmaceutical Analysis by Shulamit Levin and Saleh Abu-Lafi. There is a subject index.

*Unsigned book reviews are by the Book Review Editor.