Book Reviews

Synthesis and Applications of Isotopically Labelled Compounds 1994. Proceedings of the Fifth International Symposium, Strasbourg France, 20−24 June, 1994. Edited by J. Allen and R. Voges. John Wiley & Sons, New York. 1995. xxix + 935 pp. 15.5 × 23.5 cm. ISBN 0-471-95143-9. $199.95.

This elegant volume chronicles the fifth meeting of its kind and the second at a European location. Attended by over 500 scientists from 25 countries covering an increasing range of topics in isotope research, the symposium was outstanding with regard to the caliber of participation. The book contains 101 papers starting with the three excellent plenary lectures by R. Voges, D. W. Young, and T. A. Baillie and the Banquet Address by M. Schwartz and continues through the many sessions that comprised the four day meeting in picturesque Strasbourg. Included in the varied topics are papers for the sessions: Stereoselective Procedures in the Synthesis of Enantiomerically Pure Isotopically Labelled Compounds; Synthesis, Analysis and Applications of Organic Compounds Labelled With Isotopes of Hydrogen; Present Status and New Developments in the Analysis of Labelled Compounds; Application of Isotopes in Pharmacology, Medicine and Clinical Research and Synthesis, Analysis and Applicaions of Organic Compounds Labelled With Isotopes of Carbon. Of useful historical note, too, is the inclusion of a Preface to the volume along with awards presented at the symposium and biographical information of the awardees. Like preceding volumes, this book also contains a helpful author and subject index.

As I have mentioned in past reviews of this series, with each succeeding volume both the technical presentations and quality of the published proceedings increases. This volume is no exception to that trend and is significantly larger than earlier ones. On a personal note, I had the pleasure of visiting with Dr. Allen in Paris and Dr. Vogel in his Basel laboratory earlier this year as they were just completing the last details of this extensive volume. Clearly their hard and careful work has paid off, and both of them are to be congratulated.

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Oxidative Stress, Lipoproteins and Cardiovascular Dysfunction. Portland Press Research Monograph VII. Edited by C. Rice-Evans and K. R. Bruckdorfer. Portland Press Ltd., London. 1995. xvi + 184 p. 15.5 × 23.5 cm. ISBN 1-85587-045-3. $96.00.

Awareness of the role of free radicals and antioxidants in disease and health by both the scientific community and the public, in general, has increased dramatically in recent years. This is most apparent in the area of cardiovascular research where great strides have been made in understanding the metabolism of cholesterol, lipoprotein oxidation, and the role of antioxidants in relation to cardiovascular disease. In this book, leading researchers in free radical biology as applied to cardiovascular disease review developments in this field. The part played by lipoprotein oxidation in atherosclerosis is examined from an experimental viewpoint with appropriate reference to clinical observations. Mechanisms of initiation of atherosclerosis and reperfusion injury are presented and areas for future development in this area of research are considered.

Current understanding of the role of oxidation processes in cardiovascular dysfunction is discussed in terms of their chemistry, biochemistry, and cell biology. The book will therefore be of particular interest to medicinal chemists involved in cardiovascular research. Other scientists and clinicians interested in this exciting area of research will also find this a stimulating and informative up-to-date summary.

Staff

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Biochemistry of Redox Reactions. By B. Testa. Academic Press, New York. 1995. xviii + 471 pp. 19.4 × 26.2 cm. ISBN 0-12-685391-6. $75.00.

This monograph on the biochemistry of redox reactions forms part of a larger series appearing under the title *The Metabolism of Drugs and Other Xenobiotics*, which is edited by Bernard Testa and John Caldwell. Nevertheless, this document stands fully alone in its scope of scientific coverage and represents a truly monumental accomplishment by an individual who already has made so many seminal contributions to the field of medicinal chemistry.

The book starts with a general introduction coauthored with Professor Caldwell and a first chapter (Xenobiotic Metabolism: The Biochemical View) which sets the theme of the pedagogic approach (to offer both *information* and *knowledge*) and reviews basic concepts of enzyme-catalyzed reactions with an emphasis on xenobiotics. This is followed by a series of chapters, each of which undertakes to provide detailed coverage of redox reactions in terms of molecular functionality and the principal known catalysts. A special feature of Chapter 2 (Dehydrogenation of Alcohols and Aldehydes, Carbonyl Reduction) is the detailed mechanistic information (kinetics, stereochemistry, and enzyme active site structure) available on oxidoreductases that catalyze the redox reaction of carbonyl compounds. Chapter 3 (The Nature and Functioning of Cytochromes P450 and Flavin-Containing Monooxygenases), Chapter 4 (Carbon Oxidations Catalyzed by Cytochromes P450), and Chapter 5 (Monooxygenase-Catalyzed Nitrogen Oxidations) provide excellent and timely reviews of the two most important xenobiotic redox catalysts, the cytochromes P450 and flavin-containing monooxygenases. Protein structures, enzyme multiplicities, substrate selectivities, and the catalytic pathways of the cytochromes P450 are considered in detail in Chapter 3.