

Book reviews

***Lipid Synthesis and Manufacture*; Frank D. Gunstone (Ed.); Sheffield Academic Press, Sheffield, 1999, 472 pages, ISBN 1-85075-931-6, £95.00**

Lipids are an important class of compounds relevant to the food, oleochemical and pharmaceutical industries, as well as to scientific research across the biological and chemical sciences. Developments in the synthesis and isolation of lipids have been widely scattered across the scientific literature, and this book provides a useful function by bringing together much useful information.

The book is written in 15 chapters. These cover synthesis of polyene acids, isotopically labelled fatty acids, conjugated lipids, eicosanoids, triacylglycerols, glycerophospholipids, sphingolipids, and vitamin E; production of natural antioxidants; enzymic processes; derivatisation of lipids for analysis; alkyl and acyl sugars; surfactants; $\Delta 5$ fatty acids; and lipid biosynthesis.

Professor Gunstone has an international reputation as the world authority in lipid synthesis, and his book includes contributions from leading lipid scientists. Many lipid chemists will find some chapters of interest. In most chapters, each reaction and procedure described is presented with minimal detail, and scientists interested in applying the procedures will need to get the necessary detail by consulting the references supplied at the end of the chapter. The chapter covering the preparation of derivatives for lipid analysis includes sufficient detail for most procedures to be applied without consulting the original source.

Inevitably, a book of this length cannot be comprehensive. Topics I would like to have seen covered in more detail include isolation of rosemary extracts, and synthesis of spin-labelled lipids. However, most of the important topics in lipid synthesis and isolation are well covered.

This book will be an essential reference text for scientists interested in the synthesis or isolation of lipids.

Michael H. Gordon
Department of Food Science and Technology
PO Box 226, The University of Reading
Whiteknights
Reading RG6 6AP, UK
E-mail address: m.h.gordon@reading.ac.uk

0308-8146/99/\$ - see front matter © 1999 Elsevier Science Ltd. All rights reserved.
PII: S0308-8146(99)00162-4

***ANTIOXIDANTS in Science Technology, Medicine and Nutrition*; Gerald Scott; Albion Publishing, Chichester, UK 1997, 334 pages, ISBN 1-898563-31-4, £70.00**

The study of antioxidants has developed due to their importance in preventing the deterioration of rubber, polymers and lipid-containing foods. More recently, attention has focused on the importance of antioxidants as nutrients that help to reduce the incidence of free-radical-mediated processes that lead to the onset of a wide variety of diseases in humans including coronary heart disease, cancer and inflammatory diseases. Professor Scott has written a very wide-ranging text that

provides a useful discussion of the properties of antioxidants relevant to many of these processes. He has drawn on his long experience of the subject to integrate the discussion of the effects of antioxidants in chemical processes with those in biological systems.

This book comprises six chapters which cover peroxidation in chemistry and chemical technology; the biological effects of peroxidation; chain breaking antioxidants; preventive antioxidants, synergism and technological performance; antioxidants in biology; antioxidants in disease and oxidative stress.

The strength of this book lies in its discussion of the mechanisms of antioxidant action, and their relevance

to many chemical and biological processes. Despite the wide coverage, the author provides much useful detailed information. The book contains a significant number of errors, such as the structure of anthocyanidins, the listing of β -carotene as the carotenoid in tomatoes, and the wrong structure for lycopene. Also, references after 1995 are not included.

Despite its limitations, this book will be a useful purchase for scientists interested in the field of antioxidants. There is extensive specialist literature concerning the

detailed action of antioxidants in biological or chemical systems, and this book provides a firm foundation for scientists entering the field.

Michael H. Gordon

Department of Food Science and Technology

PO Box 226, University of Reading

Whiteknights

Reading RG6 6AP, UK

E-mail address: m.h.gordon@reading.ac.uk