Publications

Book Reviews

Leukotriene Syntheses: A New Class of Biologically Active Compounds Including SRS-A, edited by Feodor Scheinman and John Ackroyd (Raven Press, 1140 Avenue of the Americas, New York, NY 10036, 1984, 100 pp., $24).

This is the first volume on the synthesis of the leukotrienes and their antagonists. It brings together all the important syntheses reported since 1979.

The first chapter reviews the discovery, structure, biogenesis, nomenclature and pharmacological properties of leukotrienes and discusses approaches to their synthesis. The following three chapters deal with the synthesis of leukotriene A_4 precursors and their analogues; syntheses of LTA_4, its diastereoisomers and subsequent conversions to LTC_4, LTD_4, LTE_4 and LTF_4; and the synthesis of LTB_4 and some diastereoisomeric derivatives of 5,12-dihydroxy-eicosatetraenoic acid. The next chapter reviews the synthesis of inhibitors of SRS-A activity and the final chapter the synthesis of leukotrienes with modified functional groups for structure-activity studies.

This is a nicely produced little book with clear illustrations of synthetic pathways. It is mainly of interest to academic and industrial chemists who wish to synthesize these powerful, biologically active compounds and their antagonists for use in biomedical research.

Patricia V. Johnston

Icosanoids and Cancer, edited by Hélène Thaler-Dao, André Crastes de Paulet and Rodolfo Paoletti (Raven Press, 1140 Avenue of the Americas, New York, NY 10036, 1984, 289 pp., $48).

This volume is based on the proceedings of the Icosanoids and Cancer Symposium, a satellite of the 2nd International Congress on Hormones and Cancer held in Ile de Bendor, September 1983. These proceedings bring together two highly complex subjects. Knowledge of the relationship between icosanoids and cancer is just emerging. The editors therefore confined themselves to addressing the following questions: What is the state of the research at present? What are we certain of? What are the false hypotheses? What are the most recent results? They organized the contributions from specialists in the chemistry of active oxygen species and in eicosanoid biology in a sequence defined in part by the up-to-date concepts in carcinogenesis. The various sections include several papers under the following headings: Free Radicals, Lipid Peroxidation and Cancer; Polyunsaturated Fatty Acids as Substrates for Active Oxygen (oxygenases and proximate carcinogen formation); Icosanoids and Carcinogenesis Promotion; Icosanoids and the Control of Cell Proliferation and Cell Differentiation; Icosanoids and Tumor Metastasis, and Icosanoids and Host-Tumor Interactions.

The overall quality of the chapters is very good. The editors and Raven Press are to be congratulated for having this volume appear in 1984 when the symposium was held in September 1983. This is very important in this rapidly moving field. Just one thing—next time many specialists in cyclooxygenase and lipoxygenase products get together I wish they would agree on a universal spelling, namely, icosanoids or eicosanoids.

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Oilseeds: Oils and Fats, Volume 1—Raw Materials, 642 pp., and **Volume 2—Oils and Fats Processing**, (B.E. Oil Publishing House via G. Failla, 6300128 Rome, 1984, 616 pp., $130 set).

These two volumes represent a monumental effort in publication of material concerning fat and oil processing. However, it falls short of its promise by a severe lack of documentation of the bulk of material presented and as such is a great disappointment to this reviewer. The author on page 579 in volume 1 and page 503 in volume 2 does indicate, "a bibliography is very limited in that this treatise is only a technological exposition of experiences and results of a pure industrial nature." There follows a list of general reference books listed only by author and title, with no other citation. Furthermore, the AOCS is indicated as a general citation with no other specifics, although many of the official AOCS methods apparently are reprinted in their entirety with no further credit given for their source and no indication of permission to reproduce them. Tables of data are presented, as are diagrams and photographs, with no indication as to source. If all of these points are overlooked the volumes cover an enormous amount of material in the areas of processing and other unit operations leading to the production of both edible oils and other fats, as well as oleochemicals. Although these volumes present extensive details concerning unit operations and processes difficult to find elsewhere, lack of documentation detracts from their value. The series of proceedings resulting from AOCS world conferences on fat and oil processing are better documented sources of information. This reviewer can only recommend these volumes to a reader with the caveat that the contents are indeed a "technological exposition of experiences and results of a pure industrial nature."

E.G. Perkins

Food Constituents and Food Residues: Their chromatographic determination, edited by James F. Lawrence (Marcel Dekker, Inc., New York, 1984, 617 pp, $99.50).

This book presents practical reviews covering recent developments in many areas of methodology for food component/contaminant analyses. They are nominally up to date and reasonably comprehensive. The diversity of topics covered makes the book a valuable reference. Chapters cover the following topics: lipid analysis, HPLC of proteins and peptides, vitamins in foods and feeds, analysis of volatile flavors, analysis of phenolic and flavonoid compounds, analysis of synthetic food colors, mycotoxins, polycyclic aromatic hydrocarbons, nitrosamines in food, and pesticide residues and contaminants in fish and shellfish.

The chapter covering lipid analysis is quite useful in that it gives brief covering to most areas of lipid analysis. However, a discussion of the use of very polar phases for gas chromatographic assay of fatty acids is lacking. A compilation of 253 references serves as an excellent entry to

the literature for those carrying out research in the area of lipids, fats, oils and oleochemicals.

The current emphasis on high performance liquid chromatography of proteins has resulted in a proliferation of publications. This chapter, with 320 references, places the reader in the fortunate position of having many of them available in one place, from where one may foray into the literature of one's specific interest.

This reviewer also found the chapter concerned with the analysis of food flavors outstanding as a review of the current situation regarding this complex area. In general the book is a valuable addition to the review literature. It contains much information which will be of interest to chemists and others interested in lipids, proteins, food flavors and other components.

E.G. Perkins

Practical Absorption Spectroscopy, Ultraviolet Spectrometry Group, edited by A. Knowles and C. Burgess (Chapman and Hall, New York, 1984, 234 pp., $39.95).

Today's ultraviolet spectrophotometers are often equipped with microprocessors and other modern conveniences which make them very simple to operate. However, to the unaware this can lead to misleading results and sometimes incorrect data. Today's users are often unfamiliar with the inner workings of spectrophotometers and the interrelationships of components and unaware of such pitfalls. It is the purpose of this book to present information which can improve technique and lead to more accurate and reliable data. To this end, chapters discuss spectrometer design, light sources and optical components, monochrometers, detectors, signal processing and interfacing (computer) techniques, cells and their design, spectrum measurement, automated sample handling and instrument maintenance. Of special importance to many users are the discussions of numerical methods of data analysis and special techniques such as derivative spectroscopy. It would have been useful to include a more detailed discussion of Fourier transform methodology and applications in the present volume, since it is assuming increasing importance in spectrometry. The book appears to be adequately indexed and contains sufficient references to proceed further into the literature for more detailed information. The book will be of use to those who need to know what happens inside the "black box" that they use called a UV spectrophotometer. It is especially useful in answering questions concerning spectrometer operation and as a resource for graduate students as well as professors preparing lecture material in these areas.

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New Publications

Directory of Food and Nutrition Information Services and Resources, The Oryx Press, 2214 North Central at Encanto, Phoenix, AZ 85004-1483, 1984, 298 pp., $74.50.

Rice Bran Industry, An insight into technology and commercial aspects, by Abhay Sah and U.K. Srivastava, Concept Publishing Company, H-13, Bali Nagar, PO Box 6274, New Delhi, India 110015, 1985, 240 pp., $30.

Yearbook and Trading Rules, 1984-1985, National Soybean Processors' Association, 1800 M St., N.W., Washington, D.C. 20036, 1984, approx. 135 pp., $10 members, $20 non-members.

Role of Fats in Food and Nutrition, by M.I. Gurr, Elsevier Applied Science Publishers, 52 Vanderbilt Ave., New York, NY 10017, 1984, 176 pp., $44.50.

Liver and Lipid Metabolism, Proceedings of the Symposium on Liver and Lipid Metabolism, Modena, Italy, November 17-18, 1983, edited by S. Calandra, N. Carulli and G. Salvioli, Elsevier Science Publishing Co., Inc., P.O. Box 1663, Grand Central Station, New York, NY 10163, 217 pp., $61.50.

A Guide to the HPLC Literature, Volume 1: 1966-1979, by Henri Colin, Ante M. Krstulovic, Jean-Louis Excoffier and Georges Guiochon, John Wiley and Sons, Inc., 605 Third Ave., New York, NY 10158, 1984, 947 pp., $125.

^{13}C NMR Spectroscopy: A Working Manual with Exercises, by Eberhard Bretmaier and Gerhard Bauer, Volume 3, Harwood Academic Publishers, PO Box 786, Cooper Station, New York, NY 10276, 1984, 356 pp., $108.