
Publications

Book reviews

Fats and Oils: Chemistry and Technology, edited by R.J. Hamilton and A. Bhati (Applied Science Publishers Ltd., Ripple Road, Barking, Essex, England, 1980, 255 pp., \$48).

This book is based on a symposium—Recent Advances in the Chemistry and Technology of Fats and Oils—held in December 1979. According to the preface, the intention was to provide coverage of lipids in an industrial setting, and more than half the chapters have been written by English or Dutch industrial chemists. The eleven chapters deal with: chromatography and analysis of lipids; wide-line NMR; oxygenated fatty acids; glyceride synthesis; prostaglandins—potentially useful clinical drugs for the 1980's; extraction of vegetable fats and oils; processing; use of fats in confectionery; naturally modified ruminant foods; problems of fats in the food industry; and palm oils in the 1970s. The alternation from the largely academic chapters to the industrially oriented chapters is at times disconcerting. Fat extraction is considered largely in terms of energy input and pollution problems associated with alternative waste streams. In discussing deodorization of oils and fats, Vernon Young makes the following statement on page 149: "When heated, the fatty acid chains of triglycerides will condense, polymerize and form ring structures producing carcinogenic compounds to a degree dependent on the degree of unsaturation in the starting oil." Most chemists in the oils and fats industry would take strong exception to such a flat statement. To some extent, both the chapter on chromatography and that on cocoa butter suffer somewhat from having been written prior to the massive outpouring of relevant HPLC methods in the last couple of years. Protected polyunsaturated fats have been incorporated into ruminant diets to increase the linoleate content of milk, cheese, beef and lamb. Health-related claims for such "polyunsaturated" food products are apparently acceptable in some areas. Discussions of coronary heart disease and questionable health claims also appear in the chapter on palm oil. It is interesting to note that vegetable fat "ice creams" have 75%, 60%, and 4% of the market share in England, Italy, and the United States, respectively. The "problems" chapter touches on detection of adulterations, oxidative and hydrolytic rancidity, and crystal structure in reference to bakery products.

It is, of course, encouraging to have a symposium even partially directed toward the technological aspects of fats and oils. The "Progress in the Chemistry of Fats and Other Lipids" series, for instance, last seriously addressed this area in volume 5 published in 1958, and the last even par-

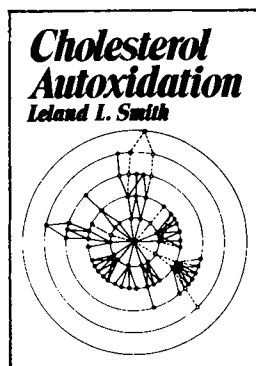
tially relevant chapters in "Advances in Lipid Research" date to 1969 and 1971. The results, however, are received with certain reservations—uneven and at times somewhat shallow coverage which are related in part to parochial orientation, and general paucity of documentation via references. This book can be recommended for interesting, relatively light reading to essentially anyone in the oils and fats industries.

Quality Control in Analytical Chemistry, by G. Kateman and F.W. Pijpers (John Wiley and Sons, New York, NY, 1981, 276 pp., \$40).

This is, of course, a book on statics. It is also a theoretical discourse without a single practical example. Coverage is organized under four chapter headings: sampling, analysis, data processing, and organization. The targeted reader is presumably comfortable with eigenvectors, has direct access to a large computer system and likes to set up network diagrams. In many sections there are more equations than sentences on a page. One is tempted to say the book is written in calculus.

Perhaps there are enough large corporations that have raised quality control to the level of sophistication that characterizes this text to generate some sales. This book is clearly for those who have forsaken chemistry for mathematics and information theory.

Lloyd A. Witting
Supelco, Inc.
Bellefonte, PA 16823



Cholesterol Autoxidation, by Leland L. Smith (Plenum Press, New York and London, 674 pp., 1981, \$75).

This single, hard-covered volume is divided into nine chap-

ters with numerous subheadings in all the chapters. A unique and effective method of presentation of 428 chemical formulae is employed. Each chemical formula is schematically drawn and given an identification number in a subheading. Throughout the monograph, when a compound is discussed, each formula is cited by its identifying (subheading) number. This ready reference to all chemical formulae markedly enhances understanding of the text. In addition to the 428 formulae there are 30 figures and 35 tables. An extensive index is presented in 36 pages. The book cites 2773 references.

The author, Dr. Leland L. Smith, is probably the world's outstanding authority on cholesterol autoxidation products. During the past three decades, he has written many important scientific papers concerning oxidation of cholesterol. This elegantly designed and written monograph thoroughly covers the entire field of cholesterol autoxidation. The preparation of this clearly presented, yet exhaustive report on cholesterol autoxidation is a fitting climax to Dr. Smith's numerous important contributions on this subject. This reader marvels at the clarity of presentation of this extensive, yet easily read, treatise on autoxidation of cholesterol.

Readers who could profit from this book would include all those individuals working in the preparation and preservation of animal sources of food which contain cholesterol. Prevention of oxidation of the cholesterol materials during preparation and storage of those foods containing cholesterol could minimize the development of atherosclerosis in humans consuming cholesterol-containing foods.

C. Bruce Taylor
Veterans Administration Medical Center
Albany, New York

Personal Computers in Chemistry, by Peter Lygos (John Wiley and Sons, 605 Third Avenue, New York, NY 10016, 1980, 262 pp., \$27.50).

A kaleidoscopic view of the developing role that personal computers can and are playing in chemical research, education, and laboratory practice is given in this book. It is based on an assemblage of papers originally presented at an ACS symposium, "Chemists and Computers: Now One on One," held in Washington, DC, August 1979. The papers included here were chosen to speak to several common themes including:

1. The application of a single small computer to collect data and/or control a single instrument.
2. The use of microprocessors, one to each experiment, as an "intelligent" interface to conventional time-sharing systems.
3. Case histories of the introduction of minicomputers into chemical laboratories with a variety of chemical instruments to be served.
4. A look to future development and use of microcomputers in the field of chemistry.

The widespread availability of a variety of microcomputers at costs affordable by the individual user makes the subject matter of the book a must for today's and tomorrow's chemist.

Introduction to Pascal for Scientists, by James W. Cooper (John Wiley and Sons, 605 Third Avenue, New York, NY

Handbook of Soy Oil Processing and Utilization

AOCS Monograph 8

Edited by

David R. Erickson, Everett H. Pryde,
Ordean L. Brekke, Timothy L. Mounts
and Richard A. Falb

Published jointly with the
American Soybean Association

598 p. Hardbound—\$7

Soy oil technology and market prospects are now at the fingertips in this timely handbook. Equally appropriate on lab bench or library shelf, the book is a reference manual for those interested in soy oil processing, the myriad uses of soy oil and its products, and marketing the commodity at present and in the future. Authorities contributing to the volume have included chapter-by-chapter references, and an additional bibliography comprises the glossary. A comprehensive subject index with cross-references allows fast access to information. The handbook is basic and complete. Limited copies available!

Mail this coupon to:

American Oil Chemists' Society
508 S. Sixth St.
Champaign, IL 61820

Please send me _____ copy/copies of **Handbook of Soy Oil Processing and Utilization (1980)**.

Name _____

Association/Firm _____

Address _____

City _____ State _____ Zip _____



10016, 1981, 260 pp., \$19.95).

As the title of this book indicates, this guide to Pascal is directed to the scientists (the author is himself a chemist) who view programming largely as a "means to an end." After a three-page introductory chapter, one is immediately introduced to a simple readable Pascal Program for adding numbers. As with other programs throughout the book, "Program Summer" is revised and grows as new concepts, statements, and operations are learned. The reader progresses through these illustrative programs to sophisticated examples of matrix diagonalization and inverse or simplex optimization and Fourier transform—all new and usable programs. Those trained in Fortran will find many similarities, particularly in beginning chapters, but the power of Pascal becomes apparent as programs proceed from "number crunching," which Fortran was admirably designed to perform, to handling of character strings and Boolean algebra. For the busy scientist needing a practical introduction to this fast-growing Pascal language, this recently published book is recommended.

Herbert J. Dutton
The Hormel Institute
Austin, MN

New publications

Environmental Risk Analysis for Chemicals, edited by Richard A. Conway, Van Nostrand Reinhold Co., 135 W. 50th St., New York, NY 10020, 1982, 558 pp., \$37.50.

NNI Compendium of Chemical and Physico-Chemical Test Methods Compiled from the International Standards of the International Organization for Standardization (ISO), compiled by Nederlands Normalisatie-instituut, 1980. Available from American National Standards Institute, 1430 Broadway, New York, NY 10018, \$27.

Vegetable Oils for Energy Purposes: Selective Bibliography, compiled by Núcleo de Comunicação Social/S71, SAS-Quadra 2-Lotes 01/03, 70.070—Brasília/DF, 1981, 402 pp.

Physical Properties of Food and Agricultural Materials: A Teaching Manual, by Nuri N. Mohsenin, Gordon and Breach Science Publishers Inc., One Park Ave., New York, NY 10016, 1981, 147 pp., \$25.

Biological Aspects on Long Chain Fatty Acids in Fish Oil and Other Fats, edited by Reinhard Marcuse, published by Scandinavian Forum for Lipid Research and Technology, c/o SIK, Box 27022, S-400 23 Göteborg, Sweden. Proceedings of a Lipidforum Seminar in Oslo, October 20-21, 1980.

Poly (N-Vinylcarbazole), Polymer Monographs, Volume 6, by J.M. Pearson and M. Stolka, Gordon and Breach Science Publishers Inc., One Park Ave., New York, NY 10016, 1981, 170 pp., \$52.

Catalysis and Chemical Processes, edited by Ronald Pearce and William R. Patterson, Halsted Press, a division of John Wiley & Sons Inc., 605 Third Ave., New York, NY 10158, 1981, 348 pp., \$69.95.

Tall Oil, compiled and edited by John Drew and Marshall Propst, Pulp Chemicals Assn., 60 E. 42nd St., New York, NY 10165, 1981, 199 pp., \$25.

Electron Capture: Theory and Practice in Chromatography, edited by A. Zlatkis and C.F. Poole, Elsevier Scientific Publishing Co., 52 Vanderbilt Ave., New York, NY 10017, 1981, 428 pp., \$76.50.

Proceedings, International Association of Seed Crushers 1981 Meeting, 128 pp. Order L17 from International Association of Seed Crushers, 8 Salisbury Square, London EC4P 4AN, England.

Oilseeds, Oils and Fats, Third edition of the International Association of Seed Crushers' booklet on sampling and analysis. Order L15 from The Secretary, IASC, PO Box 31, Salisbury Square, London EC4P 4AN, England. Includes listing of associations and institutions involved in quality methodology, sampling methods, analytical methods and illustrations of typical sampling instruments. □

Latest in *Lipids*

SCHEDULED FOR FEBRUARY

Hydroperoxides Formed by Ferrous Ion-Catalyzed Oxidation of Methyl Linolenate

Essential and Nonessential Fatty Acid Oxidation in Mice Bearing Ehrlich Ascites Carcinoma

Gas Chromatographic Assay of the Diastereomeric Composition of *all-rac*- α -Tocopheryl Acetate

Different Pools of Esterified Arachidonic Acid in Rabbit Kidney Medulla: Relationship to Ca²⁺-Stimulated Prostaglandin Biosynthesis

Ether Lipid Content and Fatty Acid Distribution in Rabbit Polymorphonuclear Neutrophil Phospholipids

On the Specificity of a Phospholipase A₂ Purified from the 106,000 × g Pellet of Bovine Brain

Methods

A Convenient Method for the Preparation of Asialo-G_{M1}

Communications

Absorption and Distribution of Orally Administered Jojoba Wax in Mice

Tissue Fatty Acid Changes and Tumor Incidence in C3H Mice Ingesting Cottonseed Oil

Occurrence of 3-Oxo Triterpenes in the Unsaponifiable Matter of Some Vegetable Fats

Oral Contraceptive and Platelet Lipid Biosynthesis in Female Rats: Dose-Response Relationship