
Publications

Book reviews

Glandless Cotton: Its Significance, Status and Prospects (ARS, USDA, February 1978, National Program Staff, BARC West, Building 005, Room 225, Beltsville, MD 20705, available free of charge).

This volume, proceedings of a conference on glandless cotton, represents probably the most up-to-date available collection of articles concerning glandless cotton. The volume is divided into four major sections: Economics and Processing, Utilization and Marketing, Breeding, and Pest and Production Management. Each section is further subdivided into several pertinent chapters appropriate to the area. This book should be of interest to those persons who wish to keep abreast of developments in this area.

Computers and Instrumentation, by A. Carrick (Heyden & Son Inc., Philadelphia, PA, 1980, 256 pps., \$19.50).

This is a handbook on computers and interfacing. It gives practical advice on the measurement of variables and their control after conversion to electrical signals as well as on interfacing to computers. Early chapters cover computer architecture thoroughly and discuss the purpose of each component. The book then progresses through a discussion of computer languages used in communicating, from assembly machine language to standard software languages such as FORTRAN, PL/1, and RTL/2. This is followed by an introduction into the circuitry and operation of analog and digital devices. The next section covers, in fair detail, a discussion on various interface designs and their operation. The book appears to have an adequate index for the spectra of terms used in the volume.

Encyclopedia of Common Natural Ingredients Used in Food, Drugs and Cosmetics, by Albert Y. Leung (John Wiley and Sons, Inc., New York, 1980, 409 pp., \$47).

This book brings to the reader an awareness of the hundreds of natural ingredients used in our food, drug and cosmetic products, not including vitamins, antibiotics and other drugs and chemicals. An awareness of the chemical composition of these materials is of importance from the food safety aspect when compounding products for commercial use. This book appears to furnish complete, and up-to-date information on more than 300 natural ingredients, including many no longer included in the U.S.P. Each natural product is presented in alphabetical order according to its most common name, with each botanical name in the index. The entries are standardized, including a general description, chemical composition, pharmacology or biological activities, uses (subdivided into cosmetic, food, folk medicine), commercial preparations, regulatory status, and selected references. This is a fascinating volume which should be of interest to many AOCS members. At the end of the book is a list of general references, a comprehensive general index, which includes botanical

names, chemical names and terms, biological terms, and medical terms. This is followed by a chemical index in which the chemical compositional terms are entered. This book should find use among that segment of the society which is involved in, e.g., cosmetic and ointment formulation. It is especially interesting to browse through if you are a label reader and want to know more about the chemicals in the natural extracts you consume.

Introduction to Modern Liquid Chromatography, 2nd Edition, by L. Snyder and J.J. Kirkland (J. Wiley and Sons Inc., New York, 1979, 863 pp. \$29.50).

The second edition of this well-known book is greatly expanded, updated and, essentially, completely redone. The tremendous growth in the quality of instrumentation and column packings have resulted in the development of innumerable applications of liquid chromatography, to the extent that high performance liquid chromatography (HPLC) is now routine in many laboratories and as commonplace as gas chromatography. Unfortunately, however, misunderstanding concerning the use and misuse of this technique also is commonplace. The contents of this book go a long way toward the goal of transforming what was an "art" into a science. The book is divided into 19 chapters: a discussion of basic concepts and control of separations leads into the next chapter on equipment, followed by a chapter on detectors. A long chapter on columns and one on solvents and their properties is followed by chapters covering individual types of liquid chromatography: bonded phase chromatography, liquid-liquid phase chromatography, liquid-solid chromatography, ion exchange chromatography, ion pair chromatography, and size exclusion chromatography. The remaining chapters are concerned with quantitative and trace analysis, qualitative analysis, preparative liquid chromatography, gradient elution and related procedures, sample pretreatment and reaction detectors, selecting and developing one of the liquid chromatography (LC) methods, and a final important chapter concerned with troubleshooting the separation. Two appendices list suppliers of equipment, accessories and columns, and provide miscellaneous tables used in LC. A list of symbols, abbreviations and a detailed index complete the volume. The use of many illustrative separations taken from the literature is very useful since a potential user probably can find a separation similar to the one for which he is trying to develop a method. This book should be in the personal library of anyone involved with the use of HPLC; it is invaluable. This reviewer feels that if one can only afford to own two books on the subject, this should be one of them.

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Hydrocarbons and Halogenated Hydrocarbons in the Aquatic Environment, edited by B.K. Afghan and D. Mackay (Plenum Press, 227 W. 17th St., New York, NY, 1980, 588 pp., \$59.50).

This volume is the proceedings of a May 1978 symposium held at McMaster University in Canada on analysis of hydrocarbons and halogenated hydrocarbons in the aquatic environment. The papers are generally concerned with the survey techniques used in determining present distribution of materials such as pesticides, PCB and polynuclear aromatic hydrocarbons in the environment. Emphasis is on analytical methods (12 papers), quantitative analytical data (11 papers), monitoring and occurrence (9 papers), and there is also a group of papers (13) on drinking water and public-health-related factors. Much of the data are drawn from Canada and the USA but there is also significant input from England, Japan, Switzerland and The Netherlands. Surprisingly, one of the major polluters along the Mackenzie river in Canada is the Athabasca tar sands rather than industry. Many American industries are becoming familiar with the terms effluent guidelines and priority pollutants. The analytical techniques and procedures described in this volume are particularly related to these topics. Generally, the methods are basically chromatographic with analyses at the parts per billion level with a precision of perhaps $\pm 30\%$. The book is prepared from camera-ready copy. Typos abound but do not detract seriously from a clear text with good illustrations.

The fat and oil industry does not, by-and-large, have the severe problems that beset certain industries. In view of regulatory trends, however, it would seem advisable for anyone involved in industrial water and effluent management to maintain an awareness of available information and methodology. Since the relevant protocol is relatively sophisticated and includes GC-MS and use of special detectors, such as the Hall and N-P, a reasonable lead time is needed to put these procedures in operation.

Carotenoids-5, edited by T.W. Goodwin (Pergamon Press, Elmsford, NY, 1979, 271 pp., \$36).

This is a collection of contributed papers from the Fifth International Symposium on Carotenoids, held in Madison, Wisconsin, during July 1978. All the papers previously were published in *Pure and Applied Chemistry*, vol. 51, nos. 3 and 4, 1979. Fewer than one-third of the papers are by U.S. authors. In general the papers are of high quality with emphasis on organic synthesis or characterization and biosynthesis. Three articles touch on vitamin A and one on prenyl transferase. Use of camera-ready copy presumably originally prepared for journal use results in an awkward-size volume, discontinuous pagination and lack of an index. Clarity of the text is reduced by use of thin paper which permits the printing on the opposite side of the page to show through.

This type of double publication results in a book with a rather narrow market: the carotenoid specialist or the advanced graduate student.

Enzymes: The Interface Between Technology and Economics, edited by J.B. Danehy and B. Wolnak (Marcel Dekker Inc., 270 Madison Ave. New York, NY, 1980, 204 pp., \$25).

This book represents the proceedings of a conference on enzymes economics (Chicago, 1978) and is a sequel to a

Workshop on Enzyme Economics held in 1975. One obtains the impression from the first few chapters that enzymes are great but have a bleak economic future in the food industry. From the later chapters, one receives the further impression that all the ills of the world are attributable to the regulatory agencies. The few scientifically oriented chapters appear to have arisen through the authors' misinterpretation of the tenor of the conference. Perhaps the clinically oriented industries do not generate high enzyme volume, but they certainly have aggressively demonstrated constructive, economically feasible enzyme technology. After reading such an overwhelmingly negative book it is difficult to generate any positive comments.

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New publications

Advances in Chromatography. Vol. 18, edited by J. Calvin Giddings, E. Grushka, J. Cazes and P.R. Brown, 1980, 312 pp., \$38.50, Marcel Dekker, Inc., 270 Madison Ave., New York, NY 10016.

Biochemical Applications of Mass Spectrometry, edited by G.R. Waller and O.C. Dermer, 1980, 1279 pp., \$150, John Wiley & Sons, One Wiley Dr., Somerset, NJ 08873.

Luckert: Pigment + Fullstoff Tabellen, 2nd Edition, 1980, 384 pp., 73 Deutsch marks (includes translation index), from O. Luckert, Kiebitzweg 4, D-3014 Laatzen 1, Germany. Information on 4,658 pigments, pigment preparations, dye, extenders and fillers from 200 producers in 18 nations.

Paper and Thin-Layer Chromatographic Analysis of Environmental Toxicants, by M.E. Getz, 1980, 200 pp., \$16.50. Heyden & Son Inc., 247 S. 41st St., Philadelphia, PA 19104.

Applied Headspace Gas Chromatography, edited by B. Kolb, 1980, 224 pp., \$29.30. Heyden & Son Inc., 247 S. 41st St., Philadelphia, PA 19104.

The first issue of a new bi-monthly technical journal, **Applied Catalysis: An International Journal Devoted to Catalytic Science and Its Applications**, is scheduled for publication in January 1981. The journal will address topics such as catalytic phenomena occurring in industrial processes, scientific aspects of the preparation, activation, aging, poisoning, rejuvenation, regeneration and start-up, transient effects, and chemical engineering technology relevant to catalysis. A news section will contain information gathered from patents and technical journals. Price for the 1981 volume of six issues is \$88.75 in the U.S. or 173 Dutch guilders. More information and sample copies are available from the publisher, Elsevier Scientific Publishing Co., PO Box 330, 100 AH Amsterdam, The Netherlands.

1980 Revisions to the American Association of Cereal Chemists Approved Methods, \$10/set from AACC, 3340 Pilot Knob Road, St. Paul, MN 55121; full set of methods including 1980 revisions, \$110.