IUPAC meeting report

The International Union of Pure and Applied Chemistry (IUPAC) Commission on Fats, Oil and Derivatives met in Vienna, Austria, Sept. 2-4, 1986, with representatives from 21 countries attending. Reports were given by the various working groups and plans were made for collaborative studies during 1986-87. These studies include:

- color in lecithins.
- total fatty acid analysis, including n-3 and n-6. A separate ad hoc committee is to determine what gas chromatography (GC) column(s) should be used.
- tocopherol esters by high performance liquid chromatography (HPLC). Suggestions are needed for the method and a source of margarine with tocopherol acetate added for use as a control. Dennis Pocklington, Laboratory of the Government Chemist, London, is the coordinator.
- triglycerides by HPLC, based on the determination of equivalent carbon number (ECN).
- polymerized triglycerides.

In addition, an ad hoc committee will investigate methods for the determination of phospholipids by HPLC.

The IUPAC Commission is trying to formalize guidelines for adopting methods from other organizations. Proposed for adoption were two Association of Official Analytical Chemists (AOAC) methods—antioxidants by HPLC and *trans* unsaturation in margarine. It was proposed that no method be adopted unless it also has been studied collaboratively within the commission.

No proposals for new studies were received.

Osten Levin's term as chairman of the commission will expire after next year. Joyce Beare-Rogers was proposed to succeed him as chairman at that time.

Future meetings include the Working Groups only, July 7-9, 1987, in Münster, West Germany; IUPAC Commission on Fats and Oils, Aug. 24—25, 1987, Boston, Massachusetts; and IUPAC General Assembly, Aug. 21-29, 1987, also in Boston.

Anyone with information to offer or with questions can contact Dennis Pocklington, Laboratory of the Government Chemist, Cornwall House, Waterloo Road, London, 8E1 8XY, United Kingdom.

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AOCS Technical Director

Book reviews

Phospholipids in Nervous Tissues, edited by J. Eichberg (John Wiley & Sons Inc., 605 Third Ave., New York, NY 10158, 1985, 286 pp., $79.50).

This book contains nine chapters. These include Recent Developments in Techniques for Phospholipid Analyses, by F.B. Jungalwala; Enzymic Pathways of Phospholipid Metabolism in the Nervous System, by R.M.C. Dawson; Phospholipid Composition and Metabolism in the Developing and Aging Nervous System, by G.Y. San and L.F. Foudin; Transport, Exchange and Transfer of Phospholipids in the Nervous System, by R.W. Ledeen; Metabolism and Functions of Fatty Acids in Brain, by L.A. Horrocks; Phospholipids in Cultured Cells of Neural Origin, by E. Yavin; The Biochemical Basis and Functional Significance of Enhanced Phosphatidale and Phosphoinositide Turnover, by S.K. Fisher and B.W. Agranoff; Phospholipids in Disorders of the Nervous System, by J. Callahan; and Animal Models of Neurological Disorders: Insight Through Studies of Phospholipid Metabolism, by R.M. Gould.

This is a rather ambitious book that starts with HPLC and mass spectrometry and proceeds through to animal models for Wallerian degeneration, demyelination, hypomyelination and experimental diabetic neuropathy. The authors are experts in their fields and coverage appears accurate, comprehensive and timely. This book can be heartily recommended to professional neurochemists and advanced graduate level students with interests in lipids and the nervous system.

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Fat Science 1983: Proceedings of the 16th ISF Congress, Budapest, Hungary, Oct. 4-5, 1983, two volumes, edited by J. Holló (Elsevier Publishing Co., PO Box 1663, Grand Central Station, New York, NY 10163, 1985, 1117 pp., $238). These two volumes represent the papers presented at the 16th ISF Congress held in Budapest in 1983; 102 papers are included. The majority of these represent research carried out by non-American scientists, thus affording an opportunity to gain insight into the more international aspects of lipid research.

The papers are divided into the following general topical areas: chemistry and analysis; raw materials and oilseed proteins; nutrition, biological effects, metabolism; processing; shortenings, margarines and edible fats; soaps, detergents, cosmetics and other products; autoxidation; rapeseed oil and protein and the effect of heating on fats. In addition, two special symposia—the role of HDL in the pathogenesis of arteriosclerosis, and control of hyperlipoproteinemia, prevention, diet and drug therapy—are presented.

These are well-composed books.

However, their value is lessened in that there is only one index, located at the end of the second book. An independent index in each book would be useful. Despite this limitation, these books should be part of the personal or "company" library of anyone involved in lipid research.

E.G. Perkins

Advances in Chromatography, Vol. 25, edited by J.C. Giddings, E. Grushka, J. Cazes and Phyllis R. Brown (Marcel Dekker, 270 Madison Ave., New York, NY 10016, 1986, 391 pp., $69.75 U.S. and Canada, $83.50 elsewhere).

This continuing series is well respected and accepted by the chromatography community. The present volume should be of special interest to persons actively involved in chromatography of fats, oils, their derivatives and other lipids. It contains several directly pertinent chapters. Of special interest is that concerning mobile phase optimization in reversed phase HPLC.

The current volume contains discussions of the following: estimation of physicochemical properties of organic solutes with HPLC; mobile phase optimization; solvent elimination techniques for HPLC/FT-IR; selectivity in the RPLC of aromatic hydrocarbons; LC analysis of phosphorus oxo-acids; HPLC analysis of oxypurines and related compounds; LC of carbohydrates and HPLC of glycosphingolipids and phospholipids. Both author and subject indexes are included in the book. Each chapter has a short table of contents as does each chapter listing in the general table of contents. The index appears complete as to the more general listings and less so for more specific component listings. This valuable reference series should be available to all those actively practicing chromatography in the field of lipids.

E.G. Perkins

Modern Analysis of Antibiotics, Drugs and the Pharmaceutical Sciences Series, Vol. 27, edited by A. Aszalos (Marcel Dekker, 270 Madison Ave., New York, NY 10016, 1986, 568 pp., $89.75 U.S. and Canada, $107.50 elsewhere).

The analysis of antibiotics as well as certain lipids is a challenge to modern instrumentation. The chapters in this volume review the application of selected techniques such as gas chromatography, UV and light absorption spectroscopy, infrared spectroscopy, mass spectrometric analysis, ESR spectrometry, TLC, HPLC and thermal analysis to the determination (structure) of antibiotics. In addition, the analysis of antibiotics in body fluids and tissues by microbiological methods, immunological methods, their assay in mammalian cell culture and the determination of antiviral activity represent nonphysical methods of treating antibiotics. The last two chapters describe the use of sea urchin eggs as a model for detection cell division inhibitors and an appraisal of animal models for determination of antibiotic toxicity.

Each chapter is preceded by its own table of contents and ends with a comprehensive bibliography. The index is very detailed and easy to use. Antibiotics, whether available as prescription drugs, over-the-counter medications or indirect contaminants of the food supply are part of our daily lives. A comprehensive discussion of their analysis should be of interest to many readers of this journal. Their complex structure, analytical difficulties and other unique properties can serve as examples from which the lipid analyst can learn and which can be applied to the often unique separation and identification problems that occur in the lipid field.

E.G. Perkins

Handbook of Polycyclic Aromatic Hydrocarbons, Vol. 2: Emission Sources and Recent Process in Analytical Chemistry, edited by A.B. Jorseth and T. Randahl (Marcel Dekker, 270 Madison Ave., New York, NY 10016, 1985, 432 pp., $95 U.S. and Canada, $114 elsewhere).

Volume 1 of this handbook was published in 1982. Volume 2 is intended to update and supplement the first. It deals with analytical aspects as well as exposure to the polycyclic aromatic hydrocarbon (PAH) series of compounds.

The contents of the volume are sources and emissions of PAH; PAH emissions from coal-fired plants; PAH emissions from combustion of biomass; PAH emission from automobiles; recent progress in the determination of PAH by HPLC and GLC; determination of exposure to PAH by analysis of body fluids; analysis of 6-nitrobenzopyrene in mammalian cells and microsomes by HPLC; nitrogen-containing PAH in coal-derived materials; atmospheric reactions of PAH and reference materials for the analysis of PAC compounds.

The index is very detailed and entries are easy to locate. In view of recent interest both in the U.S. and abroad in the amounts of PAH in edible fats and oils, this book should be of considerable interest to persons involved in the problems of indirect contamination of such materials.

E.G. Perkins

Forty-fifth Annual Edition 1986, IP Standards for Petroleum and Its Products, Part I, Methods for Analysis, two volumes, Institute of Petroleum, London (John Wiley & Sons Inc., 605 Third Ave., New York, NY 10158, 1986, 1900 pp., $160).

These two rather thick volumes list methods for testing petroleum and its products, similar to methods published by the ASTM. While emphasis is on petroleum, many of the methods are applicable and of interest to persons working in the fats and oils and allied products fields. These volumes should be available in reference libraries. As part of a yearly effort, this series is well accepted. The indexes are clear and easily used.

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New books

Advances in Cereal Science and Technology, Vol. VIII, edited by Yeshajahu Pomeranz, American Association of Cereal Chemists

Publications

(AACC), 3340 Pilot Knob Rd., St. Paul, MN 55121, 1986, 350 pp., $60 list price, $49 for AACC members.

Fats & Oils in Canada: Annual Review 1985, Grain Marketing Bureau, Department of External Affairs, Ottawa, Canada K1A OG2. This English-French report covers Canadian and world production of oilseeds, oils and meals, and export and market development. Data is drawn from Statistics Canada, the Canadian Grain Commission and the U.S. Department of Agriculture.

Phytic Acid: Chemistry and Applications, edited by Ernst Graf, Pilatus Press, 703 109th Ave. NW, Minneapolis, MN 55433, 1986, $54.95 domestic orders, $64.95 foreign orders.

1986-1987 Trading Rules Book, National Institute of Oilseed Products, 111 Sutter St., San Francisco, CA 94104. Price is $6; postage in U.S., Canada, Central America, The Caribbean, Colombia and Venezuela is $2.50. For South America, Europe and North Africa, postage is $4. All others, add $5 for mailing. Pay in U.S. funds drawn on U.S. banks.

New Products

SOFTWARE

Whatman Inc. has available "Filtration Tutorial and Filter Selection Guide," a software package designed to help users choose the correct filtration technique for particular applications. It includes graphics and runs on IBM PCs and compatible computers. Contact: Marketing Manager, Whatman Inc., 9 Bridewell Pl., Clifton, NJ 07014.

STORAGE TANKS

ModuTank Inc. makes ChemStor tanks for indoor/outdoor liquid chemical storage. Tanks are available in eight sizes with capacities up to 10,000 gallons and feature polypropylene inlet and outlet fittings, a neoprene-gasketed, epoxy-coated steel cover and polyethylene membrane liners. Contact: Modutank Inc., 29-24 40th Ave., Long Island City, NY 11101.

CHROMATOGRAPHY SYSTEM

Dynamic Solutions Corp. has updated software and hardware for the Maxima chromatography work station to handle up to 1,600 samples at a time. Maxima Version 2.0 is designed to calibrate 100 components, store 300,000 data points and eliminate errors caused by drifting peaks. Contact: Dynamic Solutions Corp., 2355 Portola Rd., Suite B, Ventura, CA 93003.

VISCOMETER

Nametre Co.'s new viscometer measures viscosity from 10 to 10^6 centipoise under high pressure and temperature. Inline viscosities of slurries, foods, polymers and cosmetics can be continuously displayed. Contact: Nametre Co., 101 Forrest St., Metuchen, NJ 08840.

INJECTOR

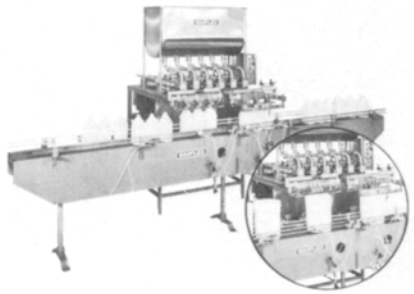
The Siemens PTV (programmable temperature vaporizer) injector combines on-column and normal split/splitless type injector properties for capillary work with the SiChromat series of gas chromatographs. The injector is designed to allow higher column loadings, less discrimination of high molecular weight components and no thermalization of thermally sensitive compounds. Contact: ES Industries, 8 S. Maple Ave., Marlton, NJ 08053.

ACID DISSOLUTION

The MDS-81D microwave digestion system by CEM Corp. has been designed to cut acid dissolution time for atomic absorption spectroscopy and ICP trace elemental analysis. It has a closed vessel option, variable-speed exhaust and is protected against corrosion. Contact: CEM Corp., PO Box 9, Indian Trail, NC 28079.

BUNG MIXER

Indco's BC series of bung entering mixers has horsepower ranges from .33-1.5 HP, can handle a range of viscosities, and features electric-open, totally enclosed and explosion-proof motors. The stainless steel four-inch propellers fold up for insertion and can be moved on the mixing shaft. Contact: Indco Inc., PO Box 589, New Albany, IN 47150.



FILLER

Simplex Filler Co. introduces the F-600 six-spout piston filler with dual lane conveyer. The machine handles light and viscous liquids and can fill at speeds up to 60 gal/min. Contact: Simplex Filler Co., 3364 Arden Rd., Hayward, CA 94545.

SPECTROCOLORIMETER

The Ultrascan spectrocolorimeter can be used to measure the color, opacity, transmission haze and yellowness or whiteness of opaque solids, transparent films, pellets, liquids, fabric and tablets. The laser-aligned holographic grating polychromator makes 76 readings across the spectrum from 375-730 nm. It has applications in the paint, pharmaceuticals, cosmetics and