

(Institute of Food Science, Cornell University, Ithaca, NY 14853) *Lipids* 16(10):759-760 (1981). The spray reagent 8-hydroxy-1,3,6-pyrenetrisulfonic acid trisodium salt (10 mg/100 ml methanol) is extremely sensitive for locating prostaglandins on thin layer chromatograms. This reagent does not alter the PG, nor interfere with liquid scintillation counting.

HIGH PRESSURE LIQUID CHROMATOGRAPHIC SEPARATION OF MOLECULAR SPECIES OF PHOSPHATIDIC ACID DIMETHYL ESTERS DERIVED FROM PHOSPHATIDYLCHOLINE. J.Y-K. Hsieh, D.K. Welch, and J.G. Trucotte (Dept. of Medicinal Chemistry, College of Pharmacy, Univ. of Rhode Island, Kingston, RI 02881) *Lipids* 16 (10):761-763 (1981). A majority of the individual molecular species of phosphatidic acid dimethyl esters derived from multispecies egg yolk and soybean phosphatidylcholines have been separated by reverse-phase high pressure liquid chromatography. Two Partisil-10 ODS columns connected in tandem and the eluents acetonitrile or methanol/water (95:5) were used for molecular species resolution, based on total fatty acyl carbon number and degree of unsaturation.

THERMODYNAMICS OF DIHEXANOYLPHOSPHATIDYLCHOLINE AGGREGATION. R.E. Johnson, M.A. Wells, and J.A. Rupley (University Department of Biochemistry, University of Arizona,

Tucson, Arizona 85721) *Biochemistry* 20(14):4239-4242 (1981). Heats of dilution of aqueous solutions of dihexanoylphosphatidylcholine were determined by use of a flow microcalorimeter to monitor an exponential dilution gradient. Three different models of micelle formation were tested: monomer in equilibrium with micelles of varied size, or with small aggregates and micelles. The heat of dilution data for low solute concentration could be fit only by assuming the existence of pre-micellar aggregates. The critical micelle concentration determined calorimetrically is 0.016 ± 0.002 M and is independent of the model. The enthalpy change for transfer of monomer into the micelle is 1.6 ± 0.2 kcal/mol; about one-third of this heat effect is produced in formation of the pre-micellar aggregation. Comparison of the calorimetric measurements with results obtained by using other methods indicates the complexity of the micellization process.

MINOR AND TRACE STEROLS IN MARINE INVERTEBRATES. 27. ISOLATION, STRUCTURE ELUCIDATION, AND PARTIAL SYNTHESIS OF 25-METHYLXESTOSTEROL, A NEW STEROL ARISING FROM QUADRUPLE BIOMETHYLATION IN THE SIDE CHAIN. L. Niang Li, U. Sjöstrand, and C. Djerassi (Department of Chemistry, Stanford University, Stanford, California 94305) *J. Org. Chem.* 46(10):3867-3870 (1981). A novel C₃₁ sterol, 25-methylxestosterol, resulting from quadruple biomethylation in the side chain has been isolated as a trace constituent of the sterol fraction from a Caribbean sponge (*Xestospongia* sp.). Its structure (1,24-methylene-25,26,27-trimethyl-cholesterol) has been elucidated by spectroscopic methods and confirmed by partial synthesis. A biosynthetic route leading to 1 is proposed that is consistent with the hypothesis of stepwise biomethylations and with earlier discoveries of "extended" side chains among marine sterols.

AQUEOUS LIPID PHASES OF RELEVANCE TO INTESTINAL FAT DIGESTION AND ABSORPTION. M. Linstrom, H. Ljusberg-Wahren, K. Larsson, and B. Borgström (Department of Physiological Chemistry, University of Lund, P.O. Box 750, S-220 07 Lund 7, Sweden) *#piλ* $\circ\circ$ (10):749-754 (1981). The phase behavior of monoglyceride/water systems, with oleic and linoleic acid as the dominating fatty acid residues, was investigated. Increased solubilization of triglycerides (oil) or oleic acid in the cubic liquid-crystalline phase formed by monoglyceride and water resulted in the formation of a reversed hexagonal liquid-crystalline phase followed by an L2-phase. The liquid-crystalline phases have different dispersion properties compared to each other in dilute micellar bile salt solutions. The cubic phase is found to be easily dispersed. The relevance of aqueous lipid phases other than micellar is discussed in relation to intestinal lipid digestion and absorption.

IMMUNOSPECIFIC TARGETING OF LIPOSOMES TO CELLS: A NOVEL AND EFFICIENT METHOD FOR COVALENT ATTACHMENT OF FAB' FRAGMENTS VIA DISULFIDE BONDS. F.J. Martin, W.L. Hubbell, and D. Papahadjopoulos (Cancer Research Institute and Dept. of Pharmacology, Univ. of CA, San Francisco, CA 94143) *Biochemistry* 20(14):4229-4238 (1981). An efficient method for covalently cross-linking 50K Fab' antibody fragments to the surface of lipid vesicles is reported. Coupling up to 600 μ g of Fab'/ μ mol of phospholipid (about 6000 Fab' molecules per 0.2- μ m vesicle) is achieved via a disulfide interchange reaction between the thiol group exposed on each Fab' fragment and a pyridyldithio derivative of phosphatidylethanolamine present in low concentration in the membranes of preformed large unilamellar vesicles. The coupling reaction is efficient, proceeds rapidly

When you move—

Attach old mailing label in space below for fastest service. If mailing label is not available, print your old company name and address in this box. Please allow six weeks for change to take effect.

Print your new business and home address here.

Business

Name _____
 Title _____
 Company _____
 Address _____
 City _____
 State _____ Zip _____
 Telephone _____

Home

Address _____
 City _____
 State _____ Zip _____
 Telephone _____

Mail to: Joan Nelson, Circulation Manager,
 American Oil Chemists' Society, 508 South
 Sixth Street, Champaign, IL 61820.

— Index to Advertisers —

Alfa Laval	130A
Armstrong Engineering Assoc.	149A
Crown Iron Works Co.	Back cover
EMI Corporation	126A
French Oil Mill Machinery Co.	Inside back cover
Neumunz, Inc.	Inside front cover
Simon-Rosedowns, Ltd.	161A
Unichema International	125A
Votator/Chemtron	157A
Lucas Meyer	129A
Star Systems	152A

under mild conditions, and yields well-defined products. Each vesicle-linked Fab' fragment retains its original antigenic specificity and full capacity to bind antigen. We have used Fab' fragments, coupled to vesicles by this method, to achieve immunospecific targeting of liposomes to cells in vitro. Vesicles bearing anti-human erythrocyte Fab' fragments bind quantitatively to human erythrocytes (at multiplicities up to 5000 0.2- μ m vesicles per cell) while essentially no binding is observed to sheep or ox red blood cells. Vesicle-cell binding is stable over a pH range from 6 to 8 and is virtually unaffected by the presence of human serum (50%). Cell-bound vesicles retain their aqueous contents and can be eluted intact from cells by treatment with reducing agents (dithiothreitol or mercaptoethanol) at alkaline pH.

SOLID-STATE CARBON-13 NUCLEAR MAGNETIC RESONANCE OF THE LECITHIN GEL TO LIQUID-CRYSTALLINE PHASE TRANSITION. R.J. Wittebort, C.F. Schmidt, and R.G. Griffin (Francis Bitter National Magnet Laboratory, Massachusetts Institute of Technology, Cambridge, MA) *Biochemistry* 20 (14): 4223-4228 (1981). The temperature dependence of the ^{13}C NMR spectra of dipalmitoylphosphatidylcholine (DPPC) which has been ^{13}C labeled at the carbonyl position of the *sn*-2 chain, 2-(1- ^{13}C)-DPPC, is reported. In the L_{β}' phase an axially symmetric spectrum of 112-ppm breadth is observed, and this transforms to an isotropic-like line ($\langle\Delta\sigma\rangle \sim 7$ ppm) in the L_{α} phase. In the intermediate P_{β} phase a temperature-dependent superposition of these spectra is observed, which suggests that this phase exhibits microscopic structural and dynamical properties of both the L_{β}' and L_{α} phases. An analysis of the spectral line shapes leads to the conclusion that the appearance of the isotropic-like line in the P_{β}' phase is primarily due to a conformational change at the *sn*-2 carbonyl which is complete at the main transition. Increased rates of axial diffusion in the P_{β}' phase may contribute to the narrowing.

PUBLICATIONS ABSTRACTED

American Journal of Clinical Nutrition, 9650 Rockville Pike, Bethesda, MD 20014.
 The Analyst—Analytical Journal of The Chemical Society, Burlington House, London W1V 0BN, England.
 Analytical Chemistry, American Chemical Society, 1155 16th St. N.W., Washington, DC 20036.
 Artery, 15644 S. 40th St., Fulton, MI 49052.
 Atherosclerosis, Elsevier/North Holland Scientific Publishers, Ltd., P.O. Box 85, Limerick, Ireland.
 Bakers Digest, 4049 W. Peterson Ave., Chicago, IL 60646.
 Biochemistry, American Chemical Society, P.O. Box 3330, Columbus, OH 43210.
 Biochemical Journal, 7 Warwick Court, London WC1R 5DP.
 Biochemica et Biophysica Acta, P.O. Box 1345, 1000 B.H. Amsterdam, The Netherlands.
 Chemistry and Physics of Lipids, Elsevier/North Holland Scientific Publishers, Ltd., P.O. Box 85, Limerick, Ireland.
 Circulation, American Heart Association, 7320 Greenville Avenue, Dallas, TX 75231.
 Circulation Research, American Heart Association, 7320 Greenville Avenue, Dallas, TX 75231.
 Colloid and Polymer Science, Dr. Dietrich Steinkopff, Publisher, Postfach 11 10 08, 6100 Darmstadt 11, West Germany.
 Farbe+lack, Curt R. Vincentz, Publisher, Schiffgraben 41-43, Postfach 6347, 3000 Hanover 1, West Germany.
 FEBS Letters, Federation of European Biochemical Societies, Elsevier/North Holland Biomedical Press, P.O. Box 211, Amsterdam, The Netherlands.
 Fette Seifen Anstrichmittel, Industrieverlag von Hermhaussen KG, Postfach 1380, 7022 Leinfelden-Echterdingen 1, West Germany.
 Journal of the American Chemical Society, American Chemical Society, 1155 16th St. N.W., Washington, DC 20036.
 Journal of the American Dietetic Association, The American Dietetic Association, 430 N. Michigan Ave., Chicago, IL 60611.
 Journal of Biological Chemistry, 9650 Rockville Pike, Bethesda, MD 20014.
 Journal of Chromatographic Science, P.O. Box 48312, Niles, IL 60648.
 Journal of Coatings Technology, Federation of Societies for Coatings Technology, 1315 Walnut St., Philadelphia PA 19107.
 Journal of Dairy Science, 309 W. Clark St., Champaign, IL 61820.
 Journal of Food Science & Technology (India), Association of Food Scientists and Technologists, India: Central Food Technology Research Institute, Mysore-13, India.
 Journal of the Indian Chemical Society; 92, Achanya Pratulla

Chandra Road; Calcutta, India 700 009.
 Journal of Lipid Research, F.A.S.E.B. (Federation of American Societies for Experimental Biology), 9650 Rockville Pike, Bethesda, MD 20014.
 Journal of Nutrition, 9650 Rockville Pike, Bethesda, MD 20014.
 Journal of Oil & Colour Chemists' Association, Priory House, 967 Harrow Road, Wembley HA0 2SF Middlesex, England.
 Journal of Organic Chemistry, American Chemical Society, 1155 16th St. N.W., Washington, DC 20036.
 Journal of Food Science, Institute of Food Technology, Suite 2120, 220 N. LaSalle St., Chicago, IL 60601.
 Journal of the Society of Cosmetic Chemists, 1905 Broadway, Suite 1701, New York, NY 10023.
 Lipids, American Oil Chemists' Society, 508 S. Sixth St., Champaign, IL 61820.
 Paint Research Association, Waldegrave Road, Teddington, Middlesex TW11-8LD, Great Britain.
 Paintindia, Color Publications Pvt. Ltd., 126-A Dhuruwadi, Prabhadevi, Bombay 400 025, India.
 Poultry Science, 309 W. Clark St., Champaign, IL 61820.
 Proceedings of the Society of Experimental Biology and Medicine, 630 W. 168th St., New York, NY 10032.
 Science, American Association for the Advancement of Science, 1515 Massachusetts Avenue, Washington, DC 20005.
 Seifen-Ole-Fette Wachse, Postfach 10 25 65, 8900 Augsburg 1, West Germany.
 Tenside Detergents, Kolbergerstrasse 22, D-8000 München 80, West Germany.

Classified Advertising

MACHINERY FROM STOCK, NEW SCREW PRESSES

- 1 Unit SP 50 Dual-Hydr.-50 T/day single pressing-5/7% residual oil, complete with electrical accessories;
- 1 Unit PP. 150 Mono-150 T/day, pre-pression 18-21% residual oil—complete with electrical accessories.

DAMMAN-CROES

Spanjestraat 55
 8800 Roeselare

BELGIUM

HVT supplies the engineering for local manufacture of edible oil, glycerine, and fatty acid plants. HVT also supplies complete plants or plant components made by renowned German manufacturing companies. Write to: HVT, POB 620363, D-5000 Cologne 60, Germany.

JOURNALS AVAILABLE

Approximately 25 years of JAOCS available to a school, university or an individual. Only cost is shipping.

Contact:
 Richard A. Reck
 901 S. Garfield
 Hinsdale, IL 60521