

CONTENTS OF VOLUME 1

PART I: GENERAL OVERVIEWS

Structure and Dynamics of Micelles and Microemulsions B. Lindman and H. Wennerström . . . . .	3
Hydrophobic Interactions, An Overview A. Y. Ben-Naim. . . . .	27
Pressure Study on Surfactant Solutions M. Tanaka, S. Kaneshina, G. Sugihara, N. Nishikido and Y. Murata. . . . .	41
Fluorescence Probes of Micellar Systems - An Overview L. A. Singer. . . . .	73
Historical Aspects of Surfactant Adsorption at Liquid Surfaces C. H. Giles.. . . .	113
Forces Operating in Adsorption of Surfactants and Other Solutes at Solid Surfaces - A Survey C. H. Giles . . . . .	123
Surfactants and the Environment: Biodegradation Aspects R. D. Swisher . . . . .	149
Environmental and Human Health Aspects of Commercially Important Surfactants A. Sivak, M. Goyer, J. Perwak and P. Thayer . . . . .	161
Zeolite Matrices as Solid Solvents: Adsorption Processes and Transition Metal Complexes. Relationship to Surfactant M. Che and Y. Ben Taarit. . . . .	189

An Electrode Approach to Bioelectrochemistry	
J. O'M. Bockris . . . . .	215
Semiconducting Photoactive Bilayer Lipid Membranes	
H. Ti Tien . . . . .	229
Chemists and Carcinogens -- Exogenous and Endogenous	
E. K. Weisburger and T. V. Reddy . . . . .	241
Discussion . . . . .	275

PART II: THERMODYNAMICS AND KINETICS OF  
MICELLIZATION IN AQUEOUS MEDIA

Investigation of Micellar Behavior by Pulse Radiolysis	
L. K. Patterson . . . . .	285
Frequency Distribution Shifts in Micellar Kinetics	
G. Kegeles. . . . .	299
The Association of Ionic Surfactants to Micelles and Liquid Crystalline Phases. A Thermodynamic Model	
B. Jönsson, G. Gunnarsson and H. Wennerström. . . . .	317
Thermodynamics of Micellar Systems: Volumes and Heat Capacities of Alkyldimethylamine Oxides in Water	
J. E. Desnoyers, D. Roberts, R. DeLisi and G. Perron . . . . .	343
Thermodynamic Properties of Binary and Ternary Aqueous Surfactant Systems	
J. B. Rosenholm, R. B. Grigg and L. G. Hepler . . . . .	359
Thermodynamics of the Sphere-to-Rod Transition in Alkyl Sulfate Micelles	
P. J. Missel, N. A. Mazer, M. C. Carey and G. B. Benedek . . . . .	373
The Influence of Amphiphile Structure on the Micellar Behavior of Potassium Alkylcarboxylates: A Thermodynamic and Ultrasonic Relaxation Study	
C. Jolicoeur, J. Paquette, Y. Lavigne and R. Zana . . . . .	389

Formation of Micelles of Cetyltrimethylammonium Bromide in Water-Acetone Solutions L. G. Ionescu and V. T. DeFavere . . . . .	407
The Motional State of Hydrocarbon Chains in the Ternary System Sodium Octanoate - 1-Decanol - Water Studied by Deuterium NMR T. Klason and U. Henriksson . . . . .	417
Near-Infrared and Heat Capacity Investigations of the State of Water in Surfactant and Alcohol Solutions Y. DeGrandpre, J. B. Rosenholm, L. L. Lemelin and C. Jolicoeur . . . . .	431
Effects of Changes in the Hydrophilic Portion of a Heteropolar Surfactant on Micellization I. J. Lin and Y. Zimmels . . . . .	455
EPR of Spin Probes in Aqueous Solutions of Surfactants M. Schara and D. D. Lasic . . . . .	475
Dielectric Relaxation Spectroscopy of Zwitterionic Surfactants in Aqueous Micellar Solutions S. C. Müller and R. Pottel . . . . .	485
Micelle-Micelle Interaction in Aqueous Media from the Second Virial Coefficient D. K. Chatteraj, K. S. Birdi and S. U. Dalsager . . . . .	505
Interaction of Cetyltrimethylammoniumbromide with Sodiumdodecylsulfate in Electrolyte and Nonelectrolyte Environments A. B. Mandal and S. P. Moulik . . . . .	521
Casein Micelles and Micelles of $\kappa$ - and $\beta$ -Casein T. A. J. Payens and H. J. Vreeman . . . . .	543
Micellar Properties of Gangliosides M. Corti, V. Degiorgio, R. Ghidoni and S. Sonnino . . . . .	573
Micellization, Solubilization and Microemulsions in Aqueous Biliary Lipid Systems N. A. Mazer, M. C. Carey and G. B. Benedek . . . . .	595

Study on the Micelle Formation of Sodium Deoxycholate	
Y. Murata, G. Sugihara, N. Nishikido and M. Tanaka . . . . .	611
Thermodynamics of Bile Salt Interactions with Lipidic Substances	
C. H. Spink and S. Colgan . . . . .	629
The Conformation of the Glycerylphosphorylcholine Group in Phospholipid Forming Small Micelles	
H. Hauser and I. Pascher . . . . .	647
Condensation of Surfactant Micelles on a Polymer Molecule in Aqueous Solution	
B. Cabane and R. Duplessix . . . . .	661
Polymer-Surfactant Interactions by Surfactant Selective Electrodes	
K. Kale, G. C. Kresheck and J. Erman . . . . .	665
Thermometric and Surfactant Selective Potentiometric Titration Studies of Surfactant Binding to Phospholipid Vesicles	
G. C. Kresheck, K. Kale and J. Erman . . . . .	677
Hydrophobic Interactions of Aromatic Hydrocarbons Induced by Surfactants and Polyelectrolytes	
P. A. Martic, S. E. Hartman, J. L. R. Williams and S. Farid . . . . .	693
Structure and Hydrophobic Bonding: Concepts and Applications to Anesthesia	
M. Abu-Hamdiyyah . . . . .	697
Discussion . . . . .	713
About the Contributors . . . . .	729
Subject Index . . . . .	xix

CONTENTS OF VOLUME 2

PART III: MICELLES IN NON-AQUEOUS MEDIA

Structure, Solubilizing Properties and Catalysis by Reversed Micelles	
J. B. Nagy . . . . .	743
Control of Reactions in Extremely Restricted Environment Provided by Reversed Micelles	
J. Sunamoto . . . . .	767
The Surface Chemistry and Solution Behavior of Dinonylnaphthalene Sulfonic Acid - Recent Advances	
L. V. Gallacher . . . . .	791
Kinetic Concepts in Reversed Micellar Systems	
C. J. O'Connor, T. D. Lomax and R. E. Ramage . . . . .	803
Photon Correlation Spectroscopy of Inverted Micellar Aggregates of AOT in Heptane	
B. Bedwell and E. Gulari . . . . .	833
Observation of Amphiphilic Association in Nonaqueous Solvents by Exclusion Chromatography	
P. L. Dubin . . . . .	847
The Effect of Inverse Micelles on the Inter- and Intramolecular Esterification Reactions of an $\omega$ -Hydroxyalkanoic Acid	
D. A. Jaeger and J. T. Ippoliti . . . . .	859
Transition State Structure for the Reversible Hydration of 1,3-Dichloroacetone in the Presence of Aerosol-OT Reversed Micelles in Hexane	
O. A. El Seoud, R. C. Vieira and J. P. S. Farah . . . . .	867
Discussion . . . . .	883

## PART IV: SOLUBILIZATION PHENOMENON

Micellar Solubilization of Enzymes in Hydrocarbon Solvents	
P. L. Luisi and R. Wolf . . . . .	887
Solubilization in Aqueous Micellar Solutions Studied by NMR-Methods	
J. C. Eriksson, U. Henriksson, T. Klason and L. Ödberg . . . . .	907
Solubilization of Petroleum Oils by Micelle Forming Surfactants	
G. A. Infante, J. Caraballo, R. Irizarry and M. de los Angeles Rodriguez . . . . .	921
Non-Solubilization of Corn Oil in Aqueous Surfactant Solutions	
L. S. C. Wan . . . . .	933
Discussion . . . . .	945

## PART V: REACTIONS IN MICELLES AND MICELLAR CATALYSIS

The Quantitative Analysis of Micellar Effects on Chemical Reactivity and Equilibria: An Evolutionary Overview	
H. Chaimovich, R. M. V. Aleixo, I. M. Cuccovia, D. Zanette and F. H. Quina . . . . .	949
Reactive Counterion Surfactants	
C. A. Bunton and L. S. Romsted . . . . .	975
Stereoselectivity in Micellar Esterolysis	
R. A. Moss, Y.-S. Lee and K. W. Alwis . . . . .	993
Selective Mercuration of Dienes in Micellar Medium: Mechanism and Potential Synthetic Application	
C. N. Sukenik and C. M. Link . . . . .	1007
Micellar Effects on the Reaction of Ethyl Violet Carbocation with Hydroxide Ion	
I. A. K. Reddy and S. S. Katiyar . . . . .	1017
The Action of a Surfactant upon Phosphorylase Kinase	
R. F. Steiner and L. Marshall . . . . .	1033

Spectral Study of Aromatic Carboxylic Acids in Micellar Environments G. A. Clarke, J. Burton and R. S. Dordick . . . . .	1047
Micelle Stabilized Room Temperature Phosphorescence L. J. Cline Love and M. Skrilec . . . . .	1065
Micellar Effects on the Radiation Chemistry of Biologically Important Compounds G. A. Infante and J. A. Myers . . . . .	1083
Influence of Micellar Microenvironments on Redox and Kinetic Properties of Radical Ions G. L. McIntire and H. N. Blount . . . . .	1101
Alkaline Hydrolysis in Micellar Sodium Dodecyl Sulfate: The "Binding" of OH to Anionic Micelles F. H. Quina, M. J. Politi, I. M. Cuccovia, S. M. Martins-Franchetti and H. Chaimovich . . . . .	1125
A Quantitative Treatment of the Deprotonation Equilibria of Benzimidazole in Basic Solutions of Cetyltrimethylammonium Ion (CTAX) Surfactants C. A. Bunton, Y. S. Hong and L. S. Romsted . . . . .	1137
Specific Role of Functional Micelles in the Catalysis of an Elimination Reaction F. Nome, A. Neves and L. G. Ionescu . . . . .	1157
Cyclodextrins as Enzyme Models M. L. Bender . . . . .	1171
Discussion . . . . .	1187

PART VI: MICROEMULSIONS AND REACTIONS  
IN MICROEMULSION MEDIA

Dynamics of Microemulsions R. Zana and J. Lang . . . . .	1195
Water-in-Oil Microemulsions: Structural Features and Application as Biological Models D. Balasubramanian and C. Kumar . . . . .	1207
Chemistry of Detergentless Microemulsions G. D. Smith and R. E. Barden . . . . .	1225

Vectorially Photoinduced Electron-Transfer Processes across Water-in-Oil Interfaces of Microemulsions I. Willner, J. W. Otvos and M. Calvin . . . . .	1237
Discussion . . . . .	1257

PART VII: USE OF SURFACTANTS IN  
ANALYTICAL CHEMISTRY

Chelating Behavior of Pyrocatechol Violet with Micelle Forming Cationic Surfactant C. R. Vekhande and K. N. Munshi . . . . .	1261
Use of Micellar and Cyclodextrin Solutions in Liquid Chromatographic Separations D. W. Armstrong . . . . .	1273
Probing the Mechanism of Micellar Sensitization of Photometric Analysis J. Baxter-Hammond and K. D. Cook . . . . .	1283
Nonionic Surfactants in Photometric Determination of Trace Metals H. Watanabe . . . . .	1305
Discussion . . . . .	1315

PART VIII: MISCELLANEOUS APPLICATIONS  
OF SURFACTANTS

Surfactants in Particle Migration Imaging M. L. Hair and M. D. Croucher . . . . .	1319
Polymeric Flocculants and Selective Flocculation - An Overview B. Yarar . . . . .	1333
Pesticide Surfactant Systems: A Multiplicity of Surfactant Physical Properties Employed to Improve the Biological Effect D. Seaman . . . . .	1365
Deinking of Wastepaper -- An Overview L. L. Turai . . . . .	1381



Surfactant-Polymer Interactions in Tertiary Oil Recovery R. Nagarajan and M. P. Harold . . . . .	1391
Relationship of Oil Recovery Activity to Surfactant Aggregate Size in Petroleum Sulfonate Solutions Y-C. Chiu . . . . .	1415
PART IX: GENERAL PAPERS	
A Phosphorus-31 NMR Study of Monovalent Cation Interactions with the Negatively Charged Surface of Phosphatidylserine Vesicles R. Kurland, S. Ohki and S. Nir . . . . .	1443
Lysosomotropic Agents II. Synthesis and Cytotoxic Action of Lysosomotropic Detergents R. A. Firestone, J. M. Pisano and R. J. Bonney . . . . .	1455
Osmotic Coupling: The Key to Faster Mass Transport Experiments F. Galembeck, I. Joekes, M. Jafelicci, Jr., E. A. Pinheiro and P. R. Robilotta . . . . .	1465
Kinetics and Equilibria of Na:Ca:Mg Exchange in Zeolite A S. A. I. Barri and L. V. C. Rees . . . . .	1477
Protection of <u>Trichoderma Reesei</u> Cellulase from Inactivation Due to Shaking E. T. Reese . . . . .	1487
Effect of Decylmethyl Sulfoxide on Skin Penetration E. R. Cooper . . . . .	1505
Discussion . . . . .	1517
About the Contributors . . . . .	1519
Subject Index . . . . .	1533