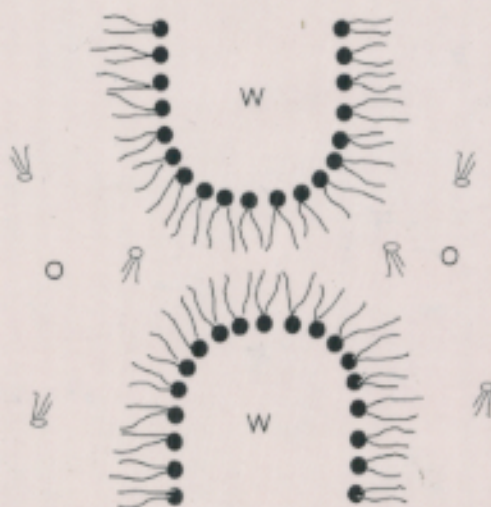
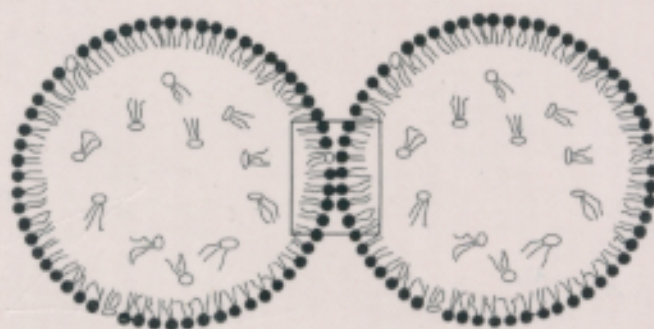


# *Encyclopedia of Surface and Colloid Science*

*Volume 1*



*edited by*  
**Arthur T. Hubbard**

# Contents

Aims and Scope .....	xxi
Preface.....	xxiii
Topical Contents .....	xxxvii
<b>Volume 1</b>	
Absorption of Ions into Droplets / <i>Victor A. Kuz</i> .....	1
Acid-Base Behavior of (Polymer) Surfaces: Theory / <i>Claudio Della Volpe and Stefano Siboni</i> .....	17
Acid-Base Behavior of Clay Surfaces in Aqueous Media / <i>Marcelo J. Avena</i> .....	37
Acid-Base Behavior of Oxide and Related Surfaces / <i>James A. Schwarz</i> .....	64
Acid-Base Behavior of Polymer Surfaces / <i>Marco Morra</i> .....	74
Adhesion of Air Bubbles to Mineral Surfaces in the Presence of Liquids / <i>Bronisław Jańczuk</i> .....	91
Adhesion Properties of Polymers / <i>S. Bistac and M. Brogly</i> .....	108
Adsolubilization of Organic Pollutants / <i>Kunio Esumi</i> .....	119
Adsorbate Structure at Clay Surfaces: Surfactants at Clay–Water Interface / <i>Jean-Yves Bottero and Armand Masion</i> .....	128
Adsorbents for Water Treatment: Low-Cost Alternatives to Carbon / <i>V.K. Gupta and Imran Ali</i> .....	136
Adsorption and Fouling at Stainless Steel Surfaces / <i>Osamu Suzuki</i> .....	167
Adsorption and Interfacial Film Formation from Emulsion Systems / <i>Martin Malmsten and Peter Weissenborn</i> .....	175
Adsorption at Gas–Liquid Interfaces / <i>R.K. Thomas</i> .....	181
Adsorption at Surface-Modified Silica Gels / <i>Newton Luiz Dias Filho</i> .....	191
Adsorption in Disordered Microporous Materials: Theoretical Analysis / <i>Paul R. Van Tassel</i> .....	204
Adsorption Isotherms / <i>József Tóth</i> .....	212
Adsorption Kinetics / <i>Gianfranco Cerofolini</i> .....	225
Adsorption Kinetics of Proteins / <i>Jeremy J. Ramsden</i> .....	240
Adsorption Mechanisms of Ions in Colloidal Systems / <i>Cheng-Fang Lin, Chung-Hsin Wu, and Shang-Lien Lo</i> .....	262
Adsorption of Biomolecules at Silica / <i>Vladimir A. Basiuk</i> .....	277
Adsorption of Drugs / <i>Laurent Marchal-Heussler and Jérôme Barra</i> .....	294
Adsorption of Dyes on Clay Surfaces / <i>Miguel G. Neumann and Fergus Gessner</i> .....	307

Adsorption of Electroinactive Organic Molecules at the Mercury-Solution Interface / <i>Juan Miguel López Fonseca</i> .....	322
Adsorption of Fluids / <i>Douglas Henderson</i> .....	336
Adsorption of Gases on Ion-Exchanged Zeolite Surfaces / <i>Masahiro Katoh and Tahei Tomida</i> .....	345
Adsorption of Gases at Porous Solid Surfaces / <i>Philippos J. Pomonis and Athanasios K. Ladavos</i> .....	354
Adsorption of Heavy Metal Ions on Clays / <i>Heike Bradl</i> .....	373
Adsorption of Heavy Metal Ions on Soil Surfaces and Similar Substances / <i>Reşat Apak</i> .....	385
Adsorption of Immunoglobulins at Solid-Liquid Interfaces / <i>Carla E. Giacomelli</i> .....	418
Adsorption of Metal Complexes at Oxide and Related Surfaces / <i>Allen P. Davis</i> .....	440
Adsorption of Molecules at Metal Surfaces / <i>Walter R. Caseri</i> .....	450
Adsorption of Organic Acids on Silica Substrates from Aqueous and Nonaqueous Solutions / <i>Kristine Spildo</i> .....	465
Adsorption of Particles onto Metallic Surfaces / <i>Estela María Andrade and Fernando Víctor Molina</i> .....	482
Adsorption of Particles: Theory / <i>Zbigniew Adamczyk</i> .....	499
Adsorption of Polyelectrolytes on Mica / <i>Orlando J. Rojas</i> .....	517
Adsorption of Polyethoxyethylenic Surfactants on Clay Surfaces / <i>D.M. Nevskaja</i> .....	536
Adsorption of Polymers at Colloid Surfaces / <i>Tsetska Radeva</i> .....	547
Adsorption of Polymers in Mixed Polymer Systems / <i>Yuri S. Lipatov</i> .....	558
Adsorption of Polysaccharides on Mineral Surfaces from Aqueous Solutions / <i>Qi Liu and J.S. Laskowski</i> .....	573
Adsorption of Surfactants and Biological Molecules at the Mercury/Solution Interface / <i>Antonis Avranas, Sotiris Sotiropoulos, and Nikos Papadopoulos</i> .....	591
Adsorption on Carbon / <i>Keith Lenghaus and David H. Solomon</i> .....	609
Amino Acids: Adsorption at Solid Surfaces / <i>Gamal M.S. El Shafei</i> .....	618
Approximate Expressions for Electrical Double-Layer Interaction Between Spherical Particles / <i>Anh V. Nguyen, Geoffrey M. Evans, and Graeme J. Jameson</i> .....	630
Atmospheric Aerosols: Natural and Anthropogenic Particles / <i>Chiu-sen Wang</i> .....	642
Atomic Force Microscopy and Colloid Interaction Forces / <i>Ian Larson and John Ralston</i> .....	653
Atomic Force Microscopy of Membranes / <i>W. Richard Bowen and Teodora A. Doneva</i> .....	664
Behavior of Mixed Micellar Systems / <i>S. Milioto</i> .....	683
Biodegradable and Chemically Degradable Anionic Surfactants / <i>Andrzej Piasecki</i> .....	701
Biodegradable and Chemodegradable Nonionic Surfactants / <i>Bogdan Burczyk</i> .....	724
Bioelectrochemistry at Surface Modified Carbon Electrodes / <i>Albertas Malinauskas</i> .....	753
Biofunctional Surfaces Studied by Quartz Crystal Microbalance with Dissipation Monitoring / <i>Fredrik Höök, Charlotte Larsson, and Camilla Fant</i> .....	774
Biosorption / <i>Hideshi Seki and Akira Suzuki</i> .....	792
Block Copolymer Micelles / <i>Watson Loh</i> .....	802
Bubble and Drop Pressure Tensiometry / <i>Reinhard Müller, Valentin Fainerman, and V.I. Kovalchuk</i> .....	814
Calculation of Zeta-Potentials from Electrokinetic Data / <i>Nikos Spanos, Pavlos G. Klepetsanis, and Petros G. Koutsoukos</i> .....	829
Calibration of Atomic Force Microscope Cantilevers / <i>John Elie Sader</i> .....	846
Carbon Particles / <i>Hisashi Tamai and Hajime Yasuda</i> .....	857
Carbon-Silica Adsorbents / <i>Vladimir M. Gun'ko and Roman Leboda</i> .....	864
Catalysis by Metallic Colloids / <i>Naoki Toshima and Yukihide Shiraishi</i> .....	879
Catalysis by Porous Solids / <i>César Jiménez Sanchidrián</i> .....	887
Catalytic Activity of Layered Double Hydroxides or Hydrotalcite-Type Anionic Clays / <i>Francesco Basile, Giuseppe Fornasari, and Angelo Vaccari</i> .....	909
Characterization of Alumina and Related Surfaces by Inverse Gas Chromatography / <i>Frank Thielmann</i> .....	931
Characterization of Porous Media by Dynamic and Equilibrium Techniques / <i>A.Ch. Mitropoulos, K.L. Stefanopoulos, and N.K. Kanellopoulos</i> .....	942
Characterization of Silica Gels by Physical Methods / <i>Jacek Goworek</i> .....	954

Chemical Equilibrium in Three-Phase Colloid Systems / <i>Michael Zilberbrand</i> .....	972
Chemical Kinetics in Micelles / <i>Clifford A. Bunton</i> .....	980
Chemical Modification of Clay Surfaces / <i>Fernando Wypych</i> .....	995
Chemically Modified Silica, Alumina, and Related Surfaces / <i>Takashi Monde</i> .....	1012
Chirality in Monolayers / <i>Keith J. Stine</i> .....	1017
Chromatography of Biomolecules and Biopolymers: An FTIR Insight into Protein Structural Changes During the Adsorption Process / <i>Sylvie Noinville, Madeleine Revault, and Marie-Hélène Baron</i> .....	1033
Coagulation Approach to Water Treatment / <i>Chihpin Huang and Jill Ruhsing Pan</i> .....	1049
Coagulation of Aerosol Particles / <i>K.W. Lee and S.H. Park</i> .....	1065
Coagulation of Protein-Stabilized Dispersions / <i>Jeffrey Leaver and David S. Horne</i> .....	1077
Colloidal Chemo-Mechanics of Cement Hydrates and Smectite Clays: Cohesion vs. Swelling / <i>Henri Van Damme</i> .....	1087
Commercial Applications of Membranes / <i>Hsiun Philip Hsieh</i> .....	1104
Composite Fine Particles / <i>Juan Yang, José M.F. Ferreira, Sen Mei, and Wenjian Weng</i> .....	1118
Compound Semiconductor Formation by Electrochemical Atomic Layer Epitaxy Surface Chemistry / <i>John L. Stickney, Kris Varazo, Lindell C. Ward, Marcus D. Lay, and Thomas A. Sorenson</i> .....	1129
Computer Simulation of Fractal Structure of Flocs / <i>S. Tang</i> .....	1162
Conductivity of Foams / <i>Peter J. Wilde</i> .....	1169
Confinement-Induced Structural Forces in Colloidal Systems / <i>D.T. Wasan, A.D. Nikolov, D. Henderson, and A. Trokhymchuk</i> .....	1181
Conformation of Adsorbed Proteins / <i>Arnoldus W.P. Vermeer</i> .....	1193
Contact Angle Measurement Techniques for Determination of Wettability / <i>Yongan Gu</i> .....	1213
Contact Angle Measurements on Oxide and Related Surfaces / <i>Zhenghe Xu and Jacob H. Masliyah</i> .....	1228
Control of Protein Adsorption at Surfaces / <i>Krister Holmberg</i> .....	1242
Coordination Chemistry of Porous Solid Surfaces: Surface Complex Formation of Heavy Metal Ions on Amorphous Aluminosilicates / <i>Akane Miyazaki</i> .....	1254
Coprecipitation of Oxide and Related Surfaces / <i>Russell J. Crawford, Justin Dann, Ian H. Harding, and David E. Mainwaring</i> .....	1266
Critical Size of a Bubble in a Superheated Fluid and Problems in Its Modeling / <i>Freddy A. Romm</i> .....	1282
Crystal Growth Kinetics and Mechanisms / <i>Ljerka Brečević</i> .....	1289
Crystalline Colloids / <i>Tsuneo Okubo</i> .....	1300
Cyclic Voltammetry at Electrode Surfaces / <i>Valentina Lazarescu</i> .....	1310
Cyclodextrin Interfacial Behavior / <i>Seiki Tanada and Naohito Kawasaki</i> .....	1344
Delivery of Liposome-Associated Solutes / <i>Eduardo Lissi and Elsa Abuin</i> .....	1355
Deposition of Species Containing Catalytically Active Ions on the Interface Developed Between Oxidic Support Particles and Electrolytic Solutions / <i>Alexis Lycourghiotis, Christos Kordulis, and Kyriakos Bourikas</i> .....	1366
Detergency for Engineering Applications of Surfactant Solutions / <i>Clarence A. Miller</i> .....	1379
Dielectric Behavior of Clay Surfaces / <i>Tomoyuki Ishida</i> .....	1385
Dielectric Constants and Other Electrical Properties of Monolayers at Liquid Interfaces / <i>Włodzimierz Zwierzykowski and Donata Konopacka-Łyskawa</i> .....	1393
Dielectric Properties of Suspensions of Solid Particles / <i>Constantino Grosse</i> .....	1404
Dielectric Spectroscopy of Micro-Emulsions / <i>Robert M. Hill and Jayne Lawrence</i> .....	1423
Diffuse Reflectance Spectroscopy of Iron Oxides / <i>José Torrent and Vidal Barrón</i> .....	1438
<b>Volume 2</b>	
Diffusion at Oxide and Related Surfaces / <i>Lisa Axe, Paras Trivedi, and Paul Anderson</i> .....	1447
Diffusion-Limited Adsorption Kinetics of Polymer Layers Adsorbed at the Solid-Liquid Interface / <i>Maria M. Santore</i> .....	1458

Dissolution Kinetics of Ores / <i>Tiberius C. Vaimakis and Emmanuel M. Papamichael</i> .....	1471
Dissolution of Mineral Oxides / <i>William H. Casey</i> .....	1486
Dyes on Mica Mineral Surfaces / <i>Georg Hähner</i> .....	1496
Dynamics of Crystal Formation by Optical Detection: Crystallization Kinetics of Benzophenone, Naphthalene-h <sub>8</sub> , and -d <sub>8</sub> Multilayers on Al <sub>2</sub> O <sub>3</sub> (0001) / <i>David J. Saiti and A.M. Nishimura</i> .....	1505
Dynamics of Micellar Systems / <i>R. Zana</i> .....	1515
Dynamics of Particles on Interfaces and in Thin Liquid Films / <i>Jordan T. Petkov and Nikolai D. Denkov</i> .....	1529
Dynamics of Wetting of a Solid by a Liquid: Movement of Thin Liquid Films / <i>Oleg V. Voinov</i> .....	1546
Edible Emulsions / <i>C.C. Ho and M.C. Chow</i> .....	1561
Effects of Adsorption on the Redox Processes of Oxide Surfaces / <i>Robson Fernandes de Farias</i> ....	1572
Effects of Electric Fields on the Aggregated Structures of Fine Particles and Suspension Rheology / <i>Yasufumi Otsubo</i> .....	1576
Effects of Electromagnetic Radiation on Colloid and Interfacial Behavior / <i>J.J. Leahy</i> .....	1588
Effects of Polyhydroxylated Compounds and Osmotic Stress on the Interfacial Properties of Lipid Bilayers / <i>E. Anibal Disalvo, Fabiana Lairion, Sonia B. Diaz, and Jesus Arroyo</i> .....	1596
Electrical Behavior of Inorganic Membranes / <i>J. Benavente and A. Hernández</i> .....	1610
Electric Charge Density of Silica, Alumina, and Related Surfaces / <i>Marek Kosmulski</i> .....	1627
Electric Fields at Electrode Surfaces: The Theory of Electrode Polarization / <i>Matthew Scott, Reginald Paul, and Karan V.I.S. Kaler</i> .....	1637
Electrical Double Layer at Particles / <i>Jeffery A. Greathouse and Garrison Sposito</i> .....	1642
Electrical Double-Layer and Ion Adsorption Behavior at Solid/Solution Interfaces / <i>B.E. Conway</i> .....	1658
Electrical Double Layer at a Colloid Particle / <i>F. González-Caballero and V.N. Shilov</i> .....	1682
Electrical Double-Layer at Oxide-Solution Interfaces / <i>Władysław Janusz</i> .....	1687
Electrical Fluctuations in Small Systems / <i>José A. Fornés</i> .....	1704
Electroacoustics / <i>Robert J. Hunter and Richard W. O'Brien</i> .....	1722
Electrocatalysis of Inorganic Reactions / <i>N.M. Marković and P.N. Ross, Jr.</i> .....	1736
Electrochemical Reactions in Microemulsions / <i>James F. Rusling and Colin J. Campbell</i> .....	1754
Electrodeposited Carbon Fiber Reinforced Epoxy Composites / <i>Joung-Man Park</i> .....	1771
Electrodynamics and Dielectric/Impedance Spectroscopy of Membranes and Polymers / <i>Torben Smith Sørensen</i> .....	1796
Electrokinetic Behavior of Latex Dispersions, Emulsions, and Microgel Particles / <i>A. Fernández-Barbero, A. Fernández-Nieves, M.S. Romero-Cano, and F. Javier de las Nieves</i> .....	1820
Electrokinetic Behavior of Particles: Theory / <i>Hiroyuki Ohshima</i> .....	1834
Electrokinetic Phenomena of the Second Kind / <i>N.A. Mishchuk</i> .....	1853
Electrokinetic Sonic Amplitude Measurements for Surface Characterization—An Improved Method to Calculate Zeta-Potentials / <i>Mario Löbbus, Jürgen Sonnefeld, Wolfram Vogelsberger, Herman P. van Leeuwen, and Johannes Lyklema</i> .....	1864
Electrokinetics of Bubbles / <i>A. Graciaa, P. Creux, and J. Lachaise</i> .....	1876
Electrokinetics of Clay Mineral Surfaces / <i>Ivan Sondi and Velimir Pravdić</i> .....	1887
Electrokinetics of Mineral Particles / <i>Kalyan K. Das</i> .....	1894
Electrokinetics of Particles / <i>Robert J. Hunter</i> .....	1907
Electrokinetics of Suspended Solid Colloid Particles / <i>Ángel V. Delgado and V.N. Shilov</i> .....	1920
Electron Microscopy and Diffraction of Surfaces / <i>J.M. Cowley</i> .....	1951
Electron Microscopy of Particles / <i>Daisuke Shindo and Tadao Sugimoto</i> .....	1965
Electron Paramagnetic Resonance of Polymers at Surfaces / <i>Hubert Hommel</i> .....	1975
Electron Spin Resonance Spectroscopy of Colloidal Metal Surfaces and Conduction Electrons / <i>Keisaku Kimura</i> .....	1981
Electron Transfer Processes of Dyes at Semiconductor Surfaces / <i>Xu Guangzhi, Chen Ciping, and Xiang Junfeng</i> .....	1993

Electronic Spectroscopy of Rhodamine Dyes Adsorbed at Clay Surfaces / <i>F. López Arbeloa, T. López Arbeloa, and I. López Arbeloa</i> .....	2007
Electrooptic Behavior of Colloids / <i>Maria Stoimenova</i> .....	2021
Electrooptical Analysis of a Suspension of Cells and Its Structures / <i>V.D. Bunin</i> .....	2032
Electroosmosis in Porous Solids / <i>P.M. Adler</i> .....	2044
Electrophoresis of Liposomes / <i>Bruno De Meulenaer, Paul Van der Meeren, and Jan Vanderdeelen</i> .....	2057
Electrophoresis of Polymer Particles / <i>H.N. Stein</i> .....	2071
Electropolymerization at Metal Surfaces / <i>Hu-Lin Li and Xiao-Gang Zhang</i> .....	2081
Electrostatic Interaction Between Parallel Plates / <i>Heng-Kwong Tsao</i> .....	2099
Ellipsometric Studies of Thin Films at Solid–Liquid Interfaces / <i>Jürgen Kattner and Helmut Hoffmann</i> .....	2108
Emanation Thermal Analysis: Investigation of Gels, Solid Surfaces, and Near-Surface Layers / <i>Vladimír Balek</i> .....	2124
Enthalpy of Charging Processes at Metal Oxide–Liquid Interfaces / <i>Nikola Kallay, Suzana Žalac, Tajana Preočanin, and Władysław Rudziński</i> .....	2129
Enzyme Behavior in Nonconventional Systems / <i>D. Alejandro Fernández-Velasco, Hugo Nájera Peña, Leticia Ramírez-Silva, and Edgar Vázquez-Contreras</i> .....	2140
Evaporation Kinetics and Thermophoresis of Particles / <i>Xi Chen</i> .....	2152
Fatty Acids at Liquid–Liquid Interfaces / <i>Daniel A. Lowy</i> .....	2167
Field Ion Microscopy of Surface Processes / <i>Kentaro Kyuno and Gert Ehrlich</i> .....	2180
Fine Clay Flocculation / <i>Huining Xiao</i> .....	2197
Flocculation of Particles / <i>Truis Smith-Palmer and Robert Pelton</i> .....	2207
Flotation of Ores / <i>Chengliang Jiang, Xiang-Huai Wang, and B.K. Parekh</i> .....	2225
Fluorescence Correlation Spectroscopy of Particles / <i>Konstantin Starchev</i> .....	2242
Fluorescence Studies of Micelles / <i>Mats Almgren and Per Hansson</i> .....	2255
Forces Between Polymer Surfaces / <i>Y. Uyama and Y. Ikada</i> .....	2270
Fractionation of Soluble Molecular Species by Foaming / <i>John D. Hines</i> .....	2275
Fundamentals in Molecular Adsorption at Electrode Surfaces / <i>Carlos F. Zinola</i> .....	2287
Gels / <i>P. Terech</i> .....	2299
Grafting of Polymer Surfaces / <i>E.T. Kang, K.G. Neoh, and Yoshito Ikada</i> .....	2320
High-Resolution Electron Energy Loss Spectroscopy / <i>L.L. Kesmodel</i> .....	2341
Hydrodynamic Behavior and Stability of Approaching Deformable Drops / <i>Theodor D. Gurkov and Elka S. Basheva</i> .....	2349
Hydrodynamic Behavior of Suspensions / <i>Lech Gmachowski</i> .....	2364
Hydrodynamic Behavior of Suspensions of Polar Particles / <i>L.A. Dávalos Orozco and L.F. del Castillo</i> .....	2375
Hydrogel Nanoparticles: Their Applications in Drug Delivery / <i>Susmita Mitra, Tapas K. De, and Amarnath Maitra</i> .....	2397
Hysteresis in Contact Angle Measurements / <i>C.W. Extrand</i> .....	2414
Important Role of Molecular Adsorption in Photofunctional Nanosemiconductors / <i>Yuji Wada and Shozo Yanagida</i> .....	2431
In Situ Analysis of Reaction at the Site Level in Heterogeneous Catalysis / <i>Sonia Hammache, James G. Goodwin, Jr., Schohn L. Shannon, and Soo Y. Kim</i> .....	2445
Influence of Hydrogen-Bonding Interactions on Interfacial Properties / <i>S.J. Suresh</i> .....	2455
Influence of Plasma Treatments on the Wettability of Material Surfaces / <i>Alexander Bismarck and Jürgen Springer</i> .....	2471
Infrared Emission Spectroscopy of Clay and Related Minerals / <i>J.T. Kloprogge and R.L. Frost</i> .....	2490
Infrared Reflection Spectroscopy of Adsorbed Molecules at Mineral Surfaces / <i>Jerzy A. Mielczarski</i> .....	2514
Infrared Spectroscopy of Silica, Alumina, and Related Surfaces / <i>James A. Anderson and Colin H. Rochester</i> .....	2528

Inorganic Substitution Reactions in Aqueous Surfactant Solutions / <i>María Luisa Moyá, Gaspar Fernández, María del Mar Graciani, Amalia Rodríguez, and María Muñoz</i> .....	2541
Interaction of Cationic and Anionic Surfactants / <i>Sharad G. Dixit and Parag V. Naik</i> .....	2549
Interaction of Protein with Ionic Surfactants: Part 1. Binding of Surfactant to Protein and Protein Fragments, and Conformational Changes Induced by Binding / <i>Kunio Takeda, Yoshiko Moriyama, and Kazuaki Hachiya</i> .....	2558
Interaction of Protein with Ionic Surfactants: Part 2. Kinetics of Conformational Change of Protein Induced by the Binding of Surfactants; Dynamics of Protein-Surfactant Complexes; Interaction of Protein with Reverse Micelles / <i>Kunio Takeda, Kazuaki Hachiya, and Yoshiko Moriyama</i> .....	2575
Interaction of Surfactants with Skin / <i>Isabelle Pezron</i> .....	2593
Interaction of Volatile Anesthetics with Micellar Systems / <i>Issaku Ueda and Tadayoshi Yoshida</i> ....	2607
Interaction of Water with Silica and Related Surfaces / <i>A.P. Legrand</i> .....	2614
Interactions of Polyelectrolytes with Clay Surfaces / <i>Joachim Kötz and Sabine Kosmella</i> .....	2620
Interface of Keratin Fibers with Their Environment / <i>D.J. Evans, R.J. Denning, and J.S. Church</i> ...	2628
Interface Phenomena and Dielectric Properties of Biological Tissue / <i>Ørjan G. Martinsen, Sverre Grimnes, and Herman P. Schwan</i> .....	2643
Interface Phenomena in Polymeric Coatings / <i>O.L. Figovsky</i> .....	2653
Interfacial Aspects of Printing / <i>Ryszard Sprycha</i> .....	2660
Interfacial Behavior of Latex Dispersions and Emulsions / <i>Fernando Galembeck</i> .....	2677
Interfacial Behavior of Latex Films / <i>Önder Pekcan and Ertan Arda</i> .....	2691
Interfacial Behavior of Organometallic Polymers and Block Copolymers / <i>Lyudmila M. Bronstein</i> .....	2707
Interfacial Behavior of Polymer Nanoparticles / <i>Liang Hong</i> .....	2717
Interfacial Behavior of Polymer-Nanoparticle Complexes: Fundamentals and Applications / <i>Therese Sennerfors</i> .....	2733
Interfacial Behavior of Proteins in Relation to Solution Association and Aggregation / <i>Tommy Nylander</i> .....	2745
Interfacial Chemistry of Fabric Surfaces / <i>M. Espinosa-Jiménez, A. Ontiveros-Ortega, R. Perea-Carpio, and E. Giménez-Martín</i> .....	2770
Interfacial Phenomena in Porous Membranes / <i>Antonio Hernández, Pedro Prádanos, José Ignacio Calvo, and Laura Palacio</i> .....	2788
Interfacial Properties of Glass Surfaces / <i>Yongan Gu</i> .....	2799
Internal Structure and Rheological Properties of Ferrofluids: Approach by Means of Computer Stimulations / <i>Akira Satoh</i> .....	2812

### Volume 3

Inverse Gas Chromatography at Infinite Dilution as a Method to Determine the Structural and Chemical Features of Activated Carbon Surfaces / <i>Teresa J. Bandoz</i> .....	2827
Inverse Gas Chromatography of Fibers and Polymers / <i>Bernard Riedl and Laurent M. Matuana</i> ....	2842
Ion Complexation at Oxide-Solution Interfaces / <i>Hiroki Tamura</i> .....	2856
Ionically Assembled Multilayer Systems on Electrode Surfaces / <i>Daniel A. Lowy</i> .....	2876
Ion-Membrane Interactions / <i>Wilmer Olivares-Rivas, Lauriane Fillous, and Belky Sulbarán</i> .....	2892
Iron Oxide Particles / <i>Kazuhiro Kandori</i> .....	2905
Isoelectric Point of Metals in Aqueous Media / <i>Davor Kovačević and Nikola Kallay</i> .....	2917
Kinetic Behavior of Vesicles / <i>Tohru Inoue and Hideyuki Minami</i> .....	2925
Kinetics and Mechanism of Chemical Reactions at Silica Surfaces / <i>Jonathan P. Blitz and Vladimir M. Gun'ko</i> .....	2939
Kinetics of Ionic Adsorption-Desorption at Solid-Liquid Interfaces / <i>Kazuaki Hachiya, Yoshiko Moriyama, and Kunio Takeda</i> .....	2951
Langmuir and Langmuir-Blodgett Films of Proteins and Enzymes / <i>Qun Huo and Roger M. Leblanc</i> .....	2967

Lecithin / <i>Yu. A. Shchipunov</i> .....	2997
Light Scattering and Electric Light Scattering from Bacterial Suspensions / <i>Stoyl P. Stoylov</i> .....	3018
Light-Scattering by Proteins / <i>Tianbo Liu and Benjamin Chu</i> .....	3023
Light Scattering from Particles / <i>William E. Vargas and Gunnar A. Niklasson</i> .....	3044
Lipid Bilayers and Monolayers: Characterization Using Micropipette Manipulation Techniques / <i>Dennis H. Kim and David Needham</i> .....	3057
Lipid Emulsions: Formation, Stability, and Metabolism / <i>Hiroyuki Saito, Itaru Arimoto, and Tetsuro Handa</i> .....	3087
Liquid–Liquid Interfacial Films / <i>Makoto Aratono and Takanori Takiue</i> .....	3098
Magnetic Control of Structures and Functions of Molecular Assemblies / <i>Sumio Ozeki and Hutoshi Kurashima</i> .....	3109
Magnetic Interactions in Adsorption at Solid Surfaces / <i>Sumio Ozeki and Hitoshi Sato</i> .....	3120
Mass Transport Phenomena in Emulsions Containing Surfactants / <i>Jochen Weiss and D. Julian McClements</i> .....	3132
Measurement of Interfacial Tension in Fluid–Fluid Systems / <i>J. Drelich, Ch. Fang, and C.L. White</i> .....	3152
Measurement of Surface Conductance / <i>Dongqing Li</i> .....	3167
Mechanisms of Catalysis in Micellar Systems / <i>Mohammad Niyaz Khan</i> .....	3178
Mechanisms of Emulsion Flocculation / <i>Dimiter N. Petsev</i> .....	3192
Mechanisms of Nucleation and Growth of Monodispersed Particles / <i>Tadao Sugimoto</i> .....	3208
Mechanistic Models for Adsorption Reactions at Iron (Hydr)Oxide Surfaces / <i>Jean-François Boily</i> .....	3223
Membranes in Electroanalytical Chemistry: Membrane-Based Chemical and Biosensors / <i>Ernö Lindner, Robert E. Gyurcsányi, and Richard P. Buck</i> .....	3239
Metal Ion Adsorption on Silica, Alumina, and Related Surfaces / <i>Nicolas Marmier</i> .....	3265
Metal Sorption on Oxide, Silicate, and Phosphate Solids: Thermodynamical and Structural Point of View / <i>Eric Simoni</i> .....	3283
Metal-Ion Complexation in Surfactant Solutions / <i>Yasuhiro Umebayashi, Ryo Kanzaki, and Shin-ichi Ishiguro</i> .....	3302
Metallic Colloids / <i>Toshiharu Teranishi</i> .....	3314
Methods for Studying Orientation of Surface Adsorbed Proteins / <i>Magnus Bergkvist</i> .....	3328
Methods of Assessing Protein Adsorption / <i>Peter Kingshott and Hartwig Höcker</i> .....	3342
Micellar Drugs / <i>David Attwood</i> .....	3370
Micellar Thin Films / <i>Panagiotis Lianos</i> .....	3386
Microanalysis of Mass Transfer Processes on a Single Particle / <i>Kiyoharu Nakatani, Tomomi Sekine, and Takayuki Negishi</i> .....	3391
Microcalorimetry of Solid Surfaces / <i>Fu-Yung Lin and Wen-Yih Chen</i> .....	3402
Microemulsion Behavior Under High Pressure / <i>Zameer Shervani and Yutaka Ikushima</i> .....	3413
Microporous Materials: Modeling of Internal Structure / <i>Freddy A. Romm</i> .....	3423
Mineral Adsorption by Bacteria / <i>Christopher J. Daughney and Danielle Fortin</i> .....	3430
Mineral Flotation / <i>Ogbonnaya Ofor</i> .....	3447
Mixed Amphiphile Monolayers at the Air–Water Interface / <i>Adam Baszkin</i> .....	3452
Modeling and Analysis of Pitting During Crystal Dissolution / <i>Faruk Civan</i> .....	3463
Modeling Ion Transport Mechanisms in Unsaturated Porous Media / <i>J. Marchand, E. Samson, and J.J. Beaudoin</i> .....	3466
Modeling of Gas Adsorption at Porous and Dispersed Surfaces / <i>Jürgen Adolphs</i> .....	3472
Modeling of Heavy Metal Adsorption at Clay Surfaces / <i>Marco Petrangeli Papini and Mauro Majone</i> .....	3483
Molecular Adsorption at Well-Defined Pd Electrode Surfaces / <i>Manuel P. Soriga and Youn-Geun Kim</i> .....	3499
Molecular Interactions Between Local Anesthetics and Model Biomembranes / <i>Hitoshi Matsuki and Shoji Kaneshina</i> .....	3517
Molecular Motion and Dielectric Behavior in Monolayers / <i>Mitsumasa Iwamoto and Chen-Xu Wu</i> .....	3535



Molecular Organization in Monolayers: Surface Spectroscopy and Sensing / <i>Toyoko Imae</i> .....	3547
Monte Carlo Calculations for Liquid Films / <i>Stefan Sokotowski and Orest Pizio</i> .....	3559
Monte Carlo Simulation of Adsorption / <i>Małgorzata Borówko</i> .....	3571
Morphology of Monolayers at Air–Water Interfaces / <i>D. Vollhardt</i> .....	3585
Moving Contact Line Problem: State of the Contact Angle Boundary Condition / <i>Enrique Ramé</i> .....	3602
Multicomponent Adsorption: Approaches to Modeling Adsorption Equilibria / <i>Alexander A. Shapiro</i> <i>and Erling H. Stenby</i> .....	3619
Nanocrystal Powders / <i>Richard Kho, Claudia L. Torres-Martínez, and Rajesh K. Mehra</i> .....	3629
Nanoparticles as Magnetic Resonance Imaging Contrast Agents / <i>Benoît Denizot</i> .....	3643
Neutron-Scattering Studies of Micellar Structure / <i>Jeffrey Penfold</i> .....	3653
New Solid Phases for Chromatography / <i>Miroslav M. Kopečni and Jožef J. Čomor</i> .....	3668
Non-equilibrium (Dynamic) Electrical Double Layer / <i>Stanislav Dukhin</i> .....	3677
Nuclear Magnetic Resonance of Emulsions / <i>Björn Håkansson, Olle Söderman, and</i> <i>Balin Balinov</i> .....	3684
Nuclear Magnetic Resonance Spectroscopy of Molecules and Ions at Clay Surfaces / <i>Jean Grandjean</i> .....	3700
Nuclear Magnetic Resonance Spectroscopy of Platinum Nanoparticle Electrode Surfaces / <i>YuYe Tong, Eric Oldfield, and Andrzej Wieckowski</i> .....	3713
Nucleation and Crystal Growth in Zeolite Systems / <i>Boris Subotić</i> .....	3726
On the Problem of Surface-Chemical Purity of Surfactants—Phenomena, Analysis, Results, Consequences, and Prospects / <i>Klaus Lunkenheimer</i> .....	3739
On the Relationship Between Surface Structure and Ion Complexation of Oxide–Solution Interfaces / <i>Tjisse Hiemstra and Willem H. van Riemsdijk</i> .....	3773
Optical Spectroscopy of Proteins at Interfaces / <i>Vladimir Hlady and Jos Buijs</i> .....	3800
Optics of Ion Exchange Membranes: Photovoltage Generation from Anion-Exchange Membranes and Change in Permselectivity Between Anions Through the Membranes by Photoirradiation / <i>Toshikatsu Sata</i> .....	3816
Organic Adsorption on Carbon Surfaces / <i>Hajime Tamon</i> .....	3829
Organic Molecular Beam Epitaxy (OMBE): Creation of Ordered Organic Thin Films and Organic/Organic' Heterojunctions / <i>Derck Schlettwein, Dana Alloway, Ken Nebesny,</i> <i>Paul Lee, Neal R. Armstrong, and Andrew Back</i> .....	3842
Orogenic Displacement of Interfacial Protein Films by Surfactants / <i>A. Patrick Gunning</i> .....	3858
Osmotic Properties of Membranes / <i>Dietrich Woermann</i> .....	3871
Oxides and Related Surfaces as Catalyst Supports / <i>Cristian Contescu and Adriana Contescu</i> .....	3885
Oxide Materials for Water Treatment / <i>S. Bhanojee Rao and M.G. Sujana</i> .....	3895
Particle Nucleation and Growth / <i>Clifford Y. Tai, Wen-Chen Chien, and Pao-Chi Chen</i> .....	3903
Particles at Polymer Surfaces / <i>Alain Ricard</i> .....	3919
Passive Transport of Ionic Drugs Through Synthetic Fixed Charge Membranes / <i>Patricio Ramírez, Salvador Mafé, and Akihiko Tanioka</i> .....	3927
Perlite Surfaces / <i>Mahir Alkan and Mehmet Doğan</i> .....	3945
Permeability of Biomembranes / <i>M. Ersoz</i> .....	3959
Phase Behavior in Emulsion Systems / <i>Kenji Aramaki, Anil Kumar, and Hironobu Kunieda</i> .....	3973
Phase Behavior of Cationic Quaternary Ammonium Salt Surfactants in Aqueous Solutions with Alcohols as Cosurfactant / <i>Gemma Montalvo and Mercedes Valiente</i> .....	3983
Phase Transitions in Finely Divided Aqueous Systems / <i>A. Bogdan</i> .....	4002
Phases, Phase Transitions, and Nucleation Theory / <i>Jörn W.P. Schmelzer</i> .....	4017
Photocatalytic Environmental Remediation Involving Clay Surfaces / <i>Z. Ding, H.Y. Zhu,</i> <i>G.Q. Lu, and P.F. Greenfield</i> .....	4030
Photocatalytic Oxidation Processes at Titanium Dioxide Surfaces: Enhancing Effect of Surface Modification with Oxide-(Sub)Monolayers on Photocatalytic Activity / <i>Hiroaki Tada</i> .....	4043
Photoelectron Emission Microscopy of Surfaces / <i>Martin E. Kordesch</i> .....	4059

Photon Spectroscopy of Colloids / <i>J. Callejas-Fernández, M. Tirado-Miranda, M. Quesada-Pérez, G. Odriozola-Prego, and A. Schmitt</i> .....	4072
Physical Methods for the Determination of Stability Constants / <i>Elena Junquera and Emilio Aicart</i> .....	4090
Physico-Chemical Properties of Ethoxylated Surfactants in Aqueous Solutions / <i>Vincenzo Vitagliano, Gerardo D'Errico, Ornella Ortona, and Luigi Paduano</i> .....	4105
Physisorption at Surfaces: Two-Dimensional Models / <i>Ángel Mulero, Laura Morala, Vicente Gómez-Serrano, and Francisco Cuadros</i> .....	4124
Plasma Perfusion Using Immunosorbents / <i>Willi Paul and Chandra P. Sharma</i> .....	4137
Polarographic Studies of Adsorption at Mercury Electrode Surfaces / <i>Petr Zuman and James F. Rusling</i> .....	4143
Polyion-Protein Nanocomposite Films / <i>Yuri M. Lvov</i> .....	4162
Polymer Composites / <i>Mirta Inés Aranguren</i> .....	4172
Polymer Interfaces and Crop Protection / <i>Claudia Conti Medugno and Marina de Moraes Lessa</i> .....	4187
Polymer Membranes / <i>Jacqueline Marchand-Brynaert</i> .....	4199
Polymerization of Monomer Emulsions / <i>Chong-Shyan Chern</i> .....	4220
Polypeptide Behavior at Interfaces / <i>Hiroyuki Yamamoto and Kousaku Ohkawa</i> .....	4242
<b>Volume 4</b>	
Porous Glass / <i>Etsuo Yonemochi and Keiji Yamamoto</i> .....	4255
Positron Annihilation Studies in Micellar and Reverse Micellar Systems / <i>Bichitra Nandi Ganguly</i> .....	4265
Positron Beam Studies of Surface Nanolayers / <i>Tamás Marek, Károly Süvegh, Attila Vértes, and Éva Kiss</i> .....	4278
Preparation and Characterization of Xerogels / <i>Kiyoshi Okada</i> .....	4292
Preparation and Properties of Magnetic Nanoparticles / <i>V. Cabuil</i> .....	4306
Preparation of Uniform Inorganic Colloidal Particles / <i>Egon Matijević</i> .....	4322
Preparation of Uniform Polymer Composite Microspheres / <i>Guanghui Ma and Shinzo Omi</i> .....	4337
Protein Adsorption in Intravenous Drug Delivery / <i>Martin Malmsten</i> .....	4355
Protein Adsorption in Langmuir Films: The Example of Glucose Oxidase / <i>S. Alexandre and J.M. Valleton</i> .....	4361
Protein Adsorption on Polymer Particles / <i>Jung-Hyun Kim and Jeong-Yeol Yoon</i> .....	4373
Protein Films / <i>Joseph McGuire, Cynthia K. Bower, and Michelle K. Bothwell</i> .....	4382
Pyrogenic Silica and Alumina / <i>A. Bogdan and M. Kulmala</i> .....	4396
The Quasiton Theory of the Interface / <i>Emil V. Veitsman</i> .....	4411
Radiotracer Studies of Adsorption at Electrode Surfaces / <i>György Horányi</i> .....	4423
Raman and Infrared Spectroscopic Study of the Modification of Kaolinite Surfaces by Intercalation with Organic Molecules / <i>R.L. Frost and J.T. Klopogge</i> .....	4438
Raman Spectroscopy of Colloidal Metal Surfaces: Surface Enhanced Raman Spectroscopy (SERS) on Metal Hydrosols / <i>J.V. García-Ramos, S. Sánchez-Cortés, and J.A. Sánchez-Gil</i> .....	4453
Reactions of Aggregates of Bile Salts With Heavy Metal Ions / <i>Petr Zuman, Adamo Fini and Giorgio Feroci</i> .....	4464
Recovery of Chlorinated Organic Compounds by Adsorption on Activated Carbon and Zeolite Surfaces / <i>Mark A. Keane</i> .....	4479
Reflection Spectroscopy of Monolayers at Fluid/Fluid Interfaces / <i>Aruna Dhathathreyan</i> .....	4486
Relationship Between Adsorbate Molecular Area and Monolayer Coverage / <i>Ahmed Kamel Helmy</i> .....	4509
Relativistic Brownian Motion and Its Geometrical Analogy: From Scaling Laws in Polymer Physics to a Statistical Thermodynamics at Quantum Level / <i>Stefano A. Mezzasalma</i> .....	4516
Removal of Natural Microcontaminants from Drinking Water / <i>Gayle Newcombe</i> .....	4524
Responsive Microgel Dispersions / <i>Brian R. Saunders and Brian Vincent</i> .....	4544
Reverse Permeation of Ions Through Ion-Exchange Membranes / <i>Kazuo Nomura</i> .....	4560

Role of Surface Forces in the Foaming Behavior of Liquids / <i>A. Prins</i> .....	4569
Scanning Electron and Auger Microscopy of Surfaces and Small Particles / <i>J.A. Venables and J. Liu</i> .....	4581
Scanning Tunneling Microscopy of Electrode Surfaces / <i>Kingo Itaya</i> .....	4602
Scanning X-Ray Photoelectron Microscopy (SXPEM) / <i>Gerry A. Garwood, Jr.</i> .....	4626
Self-Assembly and Self-Organization of Surfactants in Agriculture / <i>Mariette S.B. Brandão</i> .....	4644
Silica Gel-Based Composite Adsorbents for Water Vapor / <i>Andrzej Bolesław Jarzębski and Julita Mrowiec-Białon</i> .....	4661
Single-Crystal Thin-Layer Electrochemistry / <i>Daxing Ren and Arthur T. Hubbard</i> .....	4675
Size and Shape Analysis of Micellar Systems / <i>Magnus Bergström</i> .....	4684
Small-Angle Neutron Scattering Studies of Adsorbed Polymer Layers / <i>P.C. Griffiths and S.M. King</i> .....	4700
Solid-Phase Transitions of Ionic Surfactants / <i>N. Filipović-Vinceković and Vlasta Tomašić</i> .....	4718
Solid-Water Interface Reactions of Polyvalent Metal Ions at Iron Oxide-Hydroxide Surfaces / <i>H. Geckeis and T. Rabung</i> .....	4737
Solubility of Gases in Micellar Solutions / <i>Allen D. King, Jr.</i> .....	4749
Sonochemical Preparation of Colloids / <i>Muthupandian Ashokkumar and Franz Grieser</i> .....	4760
Spontaneous Gas Bubble Formation in Water / <i>Edvard A. Hemmingsen</i> .....	4775
Stability of Thin Liquid Films / <i>Chi-Chuan Hwang, Jyun-Jye Liao, and Jun-Liang Chen</i> .....	4785
Stabilization of Aqueous Colloidal Dispersions: Electrostatic and Steric Forces / <i>Michal Borkovec and Sven H. Behrens</i> .....	4795
Stark Spectroscopy at Metal Surfaces / <i>A.K. Gaigalas and Lili Wang</i> .....	4807
Statistical Mechanics of Lattice Models of Electrochemical Interfaces / <i>Per Arne Rikvold, Gregory Brown, and Steven J. Mitchell</i> .....	4814
Structural Models for the Interpretation of Gas–Solid Adsorption and Mercury Porosimetry Data / <i>Sean P. Rigby</i> .....	4825
Structure and Properties of Semiconductive Oxide Surfaces / <i>Naofumi Uekawa and Katsumi Kaneko</i> .....	4853
Structure of Multibranching Polymers in Solution / <i>Koji Ishizu</i> .....	4862
Structure of the Oxide-Solution Interface / <i>Sergey Pivovarov</i> .....	4869
Studies of Divided Solids by Immersion Calorimetry / <i>Vincent Médout-Marère and Jean-Marc Douillard</i> .....	4878
Studies of the Ice–Water Interface / <i>Jan Drzymala</i> .....	4892
Studying Surfactant Adsorption onto Colloidal Particles Using the Electrophoretic Fingerprinting Approach / <i>Lee Yezeck</i> .....	4899
Sugar Surfactants / <i>Per M. Claesson and U.R. Mikael Kjellin</i> .....	4909
Supported Metal Clusters / <i>Chuan-yi Wang and Chun-yan Liu</i> .....	4926
Surface and Colloid Chemistry of Papermaking / <i>Xiang H. Wang</i> .....	4936
Surface Area Exclusion Chromatography / <i>Emile Pefferkorn</i> .....	4962
Surface Behavior of Bacteria / <i>Richard B. Dickinson</i> .....	4972
Surface Charge of Calcite / <i>Lene Madsen</i> .....	4982
Surface Chemistry of Manganese Nodules / <i>Kulamani Parida and Amarendra Samal</i> .....	4995
Surface Chemistry of Silica Gels / <i>Mahir Alkan and Mehmet Doğan</i> .....	5014
Surface Complexation Models of Adsorption / <i>Johannes Lützenkirchen</i> .....	5028
Surface Electrical Properties of Polymer Particles and Polyelectrolytes / <i>Mikael Rasmusson</i> .....	5047
Surface Reactivity of Carbon / <i>Akira Tomita</i> .....	5069
Surface Speciation of Dolomite and Calcite in Aqueous Solutions / <i>O.S. Pokrovsky, J. Schott, and Jerzy A. Mielczarski</i> .....	5081
Surface Structure and Properties of Synthetic and Modified Calcium Hydroxyapatite / <i>Hidekazu Tanaka</i> .....	5096

Surface Tension and Related Thermodynamic Properties of Aqueous Electrolytes / <i>Norihiro Matubayasi</i> .....	5108
Surface Tension Measurements on Micellar Systems / <i>Magali Deleu, Michel Paquot, and Christophe Blecker</i> .....	5119
Surface Tension of Aqueous Electrolytes / <i>Peter K. Weissenborn</i> .....	5127
Surface Tension of Bubbles and Microbubble Nuclei / <i>David E. Yount</i> .....	5132
Surface–Molecule Interactions in Silica Gels / <i>Bogdan Biliński</i> .....	5146
Surfactant Adsorption and Adsorption Induced by Surfactants at Solid–Water Interfaces / <i>C. Treiner</i> .....	5154
Surfactant Design and Structure-Properties Relationships of Surfactant/Water Systems / <i>Krystyna Kratzat</i> .....	5169
Surfactant Molecular Complexes / <i>Hiroataka Hirata</i> .....	5178
Surfactant–Dye Aggregates / <i>Syed Sakhawat Shah, S.W.H. Shah, and Kashif Naeem</i> .....	5205
Surfactant-Free Emulsions / <i>Keiji Kamogawa and Masahiko Abe</i> .....	5214
Surfactant–Protein Interactions / <i>Takeyoshi Imamura</i> .....	5230
Synthesis and Surface Modification of New Inorganic Porous Materials / <i>P. Cool, P. Van Der Voort, and E.F. Vansant</i> .....	5244
Synthesis of Inorganic Membranes / <i>Klaas Keizer and Arian Nijmeijer</i> .....	5257
Theoretical Aspects of Polymer Adsorption at Solid Surfaces / <i>V.N. Kislenko</i> .....	5269
Theory and Modeling of Thin Film Flows / <i>S.B.G. O'Brien and L.W. Schwartz</i> .....	5283
Theory of Dispersed Air Flotation / <i>Theodore J. Heindel and Frederick Bloom</i> .....	5298
Thermodynamic Analysis of Micellar Systems / <i>Hiroshi Maeda</i> .....	5312
Thermodynamic Description of Interfaces / <i>Peter Bräuer, Matthias Heuchel, and Mietek Jaroniec</i> .....	5326
Thermodynamics and Binding Properties of Surfactant–Protein Interactions / <i>Ali A. Moosavi-Movahedi</i> .....	5344
Thermodynamics of Clay Surfaces / <i>Aécio Pereira Chagas and José de Alencar Simoni</i> .....	5355
Thermophoresis of Particles / <i>E. James Davis</i> .....	5365
Thermosensitive Gels / <i>Kimiko Makino</i> .....	5376
Thin Films of Polymer Particles: UV-Vis Transmission Spectroscopy During Film Formation / <i>Klaas te Nijenhuis</i> .....	5396
Thin-Film Stability During a Surface Chemical Reaction / <i>Dominique Gallez</i> .....	5410
Transport in Membranes: Ionic Transport Across Charged Membranes in Aqueous Organic Solutions / <i>Akihiko Tanioka, Tzu-Jen Chou, and Masato Hamada</i> .....	5418
Transport Phenomena for Bubbles / <i>Ying Liao and John B. McLaughlin</i> .....	5430
Transport Through Monolayers and Bilayers at Fluid–Fluid Interfaces / <i>Antonio Raudino and Francesco Castelli</i> .....	5441
Ultrafiltration of Micellar Systems / <i>Daniel Lemordant</i> .....	5457
Ultrasonic Studies of Micellar Systems / <i>Abdulla A. Saidov</i> .....	5471
Ultrasound-Based Techniques for Characterizing Concentrated Dispersions / <i>Andrei S. Dukhin and Philip J. Goetz</i> .....	5481
Unique Reactivity of Ultrafine Mo-Based Oxide Particles / <i>Wenxing Kuang</i> .....	5538
Valency at Electrode Surfaces / <i>Peter M.A. Sherwood</i> .....	5551
Van der Waals Interactions at Surfaces / <i>Soo-Jin Park</i> .....	5570
Viscoelasticity of Monolayers / <i>Dominique Langevin</i> .....	5584
Water Adsorption at Clay Surfaces / <i>Jean Marc Douillard</i> .....	5601
Wave Motion in Thin Liquid Layers / <i>Manuel G. Velarde and Michèle Vignes-Adler</i> .....	5616
Wetting Behavior at Liquid–Liquid Interfaces / <i>Li-Jen Chen</i> .....	5630
X-Ray Diffraction from Electrode Surfaces / <i>Jun Li</i> .....	5641
Zeta-Potential of Polymer Surfaces / <i>Emiko Uchida and Yoshito Ikada</i> .....	5657
Index .....	