Contents of Volumes 228, 230–262

VOLUME 228
AQUEOUS TWO-PHASE SYSTEMS
Harry Walter and Göte Johansson

Section I. General Methodology and Apparatus

Section II. Partitioning and Affinity Partitioning of Macromolecules

A. Proteins

B. Nucleic Acids

Section III. Studies of Protein Interactions, Molecular Structure, Charge, Hydrophobicity, and Conformational Changes

Section IV. Partitioning and Affinity Partitioning of Particulates

A. Cells

Separation and Fractionation of Cell Populations and Obtaining Information on Their Surface Properties

Affinity Partitioning

B. Organelles: Separation and Subfractionation

C. Membranes

Separation and Subfractionation

Affinity Partitioning

Membrane Domain Analysis

Section V. Aqueous Phase Separations in Biological Systems

Section VI. Aqueous Two-Phase Systems in Large-Scale Processes: Biotechnology

A. Extractive Bioconversions

B. Proteins: Downstream Processing

C. Design of Proteins for Enhanced Extraction

D. Other Applications of Aqueous Phases in Biotechnology

VOLUME 230

GUIDE TO TECHNIQUES IN GLYCOBIOLOGY

William J. Lennarz and Gerald W. Hart

VOLUME 231

HEMOGLOBINS (PART B: BIOCHEMICAL AND ANALYTICAL METHODS)
Johannes Everse, Kim D. Vandegriff, and Robert M. Winslow

Section I. Preparation, Purification, and Analysis of Human Hemoglobin

Section II. Preparation and Characterization of Nonhuman Hemoglobins

Section III. Hemoglobin Hybrids and Model Hemes

Section IV. Chemically Modified Hemoglobins

Section V. Recombinant Hemoglobin

Section VI. Hemoglobin Stability and Degradation

Section VII. Enzymatic Reactions Catalyzed by Hemoglobin

Section VIII. Xenobiotic Adducts of Human Hemoglobin

Addendum

VOLUME 232

HEMOGLOBINS (PART C: BIOPHYSICAL METHODS)

Johannes Everse, Kim D. Vandegriff, and Robert M. Winslow

Section I. Molecular Structure and Dynamics

Section II. Spectroscopy

Section III. Ligand Binding

Section IV. Mathematical Analysis and Modeling

VOLUME 233
OXYGEN RADICALS IN BIOLOGICAL SYSTEMS (PART C)
Lester Packer

Section I. Generation, Detection, and Characterization of Oxygen Radicals: Chemistry, Biochemistry, and Intermediate States of Reduction

VOLUME 234
OXYGEN RADICALS IN BIOLOGICAL SYSTEMS (PART D)
Lester Packer

Section I. Oxidative Damage to DNA and DNA Repair

Section II. Assay of Stress Genes/Proteins, Effects of Reactive Oxygen Species and Antioxidants on Cell Regulatory Processes

Glutathione

Carotenoids and Vitamin A

Flavonoids

α-Lipoic Acid

Extracts from Natural Products

C. Synthetic Antioxidants: Drugs

VOLUME 235

BACTERIAL PATHOGENESIS (PART A: IDENTIFICATION AND REGULATION OF VIRULENCE FACTORS)

Virginia L. Clark and Patrik M. Bavoil

Section I. Evaluations of Virulence in Animal Models

Section II. Species and Strain Identification

Section III. Bacterial Cell Fractionation

Section IV. Microbial Acquisition of Iron

Section V. Genetics and Regulation

Section VI. Enzyme and Toxin Assays

VOLUME 236

Bacterial Pathogenesis (Part B: Interaction of Pathogenic Bacteria with Host Cells)

Virginia L. Clark and Patrik M. Bavoil

Section I. Bacterial Effects on Immune Cells

Section II. Phagocytosis and Killing Assays

Section III. Adherence

Section IV. Invasion and Intracellular Survival in Eukaryotic Cells

Section V. Identification of Genes Involved in Invasion

VOLUME 237

Heterotrimeric G Proteins

Ravi Iyengar

Section I. Gα Subunits

Section II. G$\beta\gamma$ Subunits

VOLUME 238

HETEROTRIMERIC G PROTEIN EFFECTORS

Ravi Iyengar

Section I. cGMP Phosphodiesterase

Section II. Adenylyl Cyclases

Section III. Phospholipases C

Section IV. Growth and Transformation

Section V. Ions and Channels

VOLUME 239
NUCLEAR MAGNETIC RESONANCE (PART C)
Thomas L. James and Norman J. Oppenheimer

Section I. Techniques

A. Experimentation

B. Data Processing

Section II. Protein Structure

A. General

B. Classes of Proteins

Section III. Dynamics and Disorder

Section IV. Protein–Ligand Interactions

VOLUME 240
NUMERICAL COMPUTER METHODS (PART B)
Michael L. Johnson and Ludwig Brand

VOLUME 241

RETROVIRAL PROTEASES

Lawrence C. Kuo and Jules A. Shafer

Section I. Bacterial Expression and Enzymatic Assays

Section II. Purification and Characterization

Section III. Substrate Specificity and Inhibitor Design

VOLUME 242

NEOGLYCOCONJUGATES (PART A: SYNTHESIS)

Y.C. Lee and Reiko T. Lee

Section I. Neoglycoproteins

Section II. Neoglycolipids

Section III. Synthetic Polymers

VOLUME 243

INORGANIC MICROBIAL SULFUR METABOLISM

Harry D. Peck, Jr., and Jean LeGall

Section I. Sulfate Transport

Section II. Dissimilatory Sulfate Reduction

A. Dehydrogenases: Hydrogenases from Sulfate-Reducing Bacteria

B. Electron Carrier Proteins from Sulfate-Reducing Bacteria

C. Terminal Reductases of Sulfate-Reducing Bacteria

D. Molecular Biology

Section III. Dissimilatory Sulfur Reduction

Section IV. Oxidation of Reduced Sulfur Compounds

Section V. Metabolism of Polythionates

Section VI. Special Techniques

VOLUME 244

PROTEOLYTIC ENZYMES: SERINE AND CYSTEINE PEPTIDASES

Alan J. Barrett

Section I. Serine Peptidases

Section II. Cysteine Peptidases

VOLUME 245

EXTRACELLULAR MATRIX COMPONENTS

Erkki Ruoslahti and Eva Engvall

Section I. Extracellular Matrix Proteins