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Summary -- Cross-References -- References -- 3D Electron Microscopy Based on Cryo-Electron Tomography -- Synonyms -- Definitions -- Introduction -- From Samples to Tomograms -- Image Formation and Resolution -- Interpretation of Tomograms -- Outlook -- References -- 3D Optical Sectioning Microscopy -- 3-Oxo-Delta5-steroid Isomerase -- 4-Oxalocrotonate Tautomerase - Computational Studies -- Definition -- Basic Characteristics -- Cross-References -- References -- 7,8-Dimethylisoalloxazine -- 7-Transmembrane Domain Receptors -- - and beta-Glycosides -- -Helical Coiled Coils -- Synonyms -- Introduction: Functions, Structures, and Sequences -- Sequence-to-Structure Relationships and Prediction -- The GCN4 Leucine Zipper as a Model System -- Diversity in Coiled-Coil Structures -- Outlook: Better Understanding, Prediction, and Design -- Summary -- Cross-References -- References -- -Ketoglutarate-Dependent Hydroxylases -- beta-1,4-Glucan -- gamma-Glutamylcysteinylglycine -- Phi Value Analysis -- Synonyms -- Definition -- Introduction -- Theory -- Interpretation of Fractional and Unusual Phi Values -- Experimental Limitations and Errors -- Summary -- Cross-References -- References -- A -- A1AO ATP Synthase.

AAC1, AAC2, AAC3, AAC4 Mitochondrial ADP/ATP Carriers -- Aac3p Yeast ADP/ATP Carrier Isoform 3 -- aaRS -- Ab Initio Molecular Modeling -- ABEL Trap -- Absorbance of Light -- Absorbance Spectroscopy: Overview -- Synonyms -- Definition -- Cross-References -- References -- Absorbance Spectroscopy: Quality Assurance -- Synonyms -- Definition -- Cross-References -- References -- Absorbance Spectroscopy: Spectral Artifacts and Other Sources of Error -- Synonyms -- Definition -- Basic Characteristics -- Solvent Absorption -- Light Scattering Samples -- Stray Light -- Absorbance Flattening -- Photodegradation -- Cross-References -- References -- Absorption Spectroscopy and Transition Polarizations: Pictorial Description -- Synonyms -- Definition -- Cross-References -- References -- Absorption Spectroscopy to Determine Macromolecule Structural Changes -- Definition -- Macromolecule Condensation -- DNA or Protein-Melting Curves: Absorption as a Function of Temperature -- Cross-References -- References -- Absorption Spectroscopy to Probe Ligand Binding -- Synonyms -- Definition -- Basic Characteristics -- Titrations to Determining Data for Binding Constant Calculations -- Binding Constants -- Cross-References -- References -- Absorption Spectroscopy: Practical Aspects -- Definition -- Basic Characteristics -- Cross-References -- References -- Absorption Spectroscopy: Relationship of Transition Type to Molecular Structure -- Synonyms -- Definition -- Basic Characteristics -- Cross-References -- References -- Accuracy of Protein Synthesis -- Acetylation -- Acetylcholinesterase: Computational Studies -- Definition -- Basic Characteristics -- Cross-References -- References -- Action Potentials -- Actomyosin Cycle -- Adhesin -- ADP-Ribosylation -- AGC1, AGC2 Mitochondrial Aspartate/Glutamate Carriers -- Agglutinin.

Ahp1 (Originally Aureobacterium hydantoin Permease) -- Alanine Scanning -- Alignment in Liquid Crystal -- Alignment of Protein Sequences -- Synonyms -- Definition -- Introduction -- Sequence Similarity and Structural Similarity: The Twilight Zone -- Fast Database Search with Blast and Biological Meaning of E-Values -- Low Complexity Regions and Their Effect on the Estimation of Biological Relevance -- High Accuracy Homology Modeling Through Multiple Sequence Alignments -- Profile-Based Sequence Alignments -- Exhaustive Resources on Protein Sequence Aligners -- Summary -- Cross-References -- References -- Alkanols - Effects on Lipid Bilayers

-- Definition -- Introduction -- Insertion of Alkanols into Lipid Bilayers
-- Effect of Alkanols on the Structure and Dynamics of Lipid Bilayers --
Effect of Alkanols on Membrane Protein/Lipid Bilayer Systems -- Cross-
References -- References -- Alkanols: Long Chain Fatty Alcohols --
Allosteric Functions of AAA+ ATPase -- Allostery Allosterism --
Alpha-Helix Prediction -- Alternative Pre-mRNA Splicing -- Alternative
Splicing -- Synonyms -- Definition -- Introduction -- Why Genes in
Pieces? -- The Splicing Mechanism -- Alternative Exon Events --
Regulation of Alternative Splicing -- Genome-Wide Detection Methods
-- Implications of Alternative Splicing -- Evolution of Alternative
Splicing -- Bioinformatics and Alternative Splicing -- Cross-References
-- References -- Alternative Splicing Regulation: Structural and
Biophysical Studies -- Synonyms -- Definition -- Alternative Splicing
-- Alternative Splicing of the FAS Gene -- Structural Biology and
Biophysical Studies for Understanding Mechanisms of AS -- Cross-
References -- References -- Amide I Spectroscopy -- Amiloride-
Sensitive Cation Channels -- Amine Dehydrogenase -- Aminoacyl-
tRNA Synthetases -- Synonyms -- Definition -- Basic Characteristics.
Cross-References -- References -- Amperometric Biosensors --
Synonyms -- Definition -- Introduction -- Three Main Generations of
Amperometric Biosensors -- Electrochemical Setup -- Biological
Component of Biosensor: Selectivity/Specificity -- Transducer
Component of Biosensor: Sensitivity -- Methods for Immobilizing
Enzymes on Electrode Surfaces -- Summary -- Cross-References --
References -- Amphipathic Helix -- Amyloid Formation -- Synonyms
-- Definition -- Introduction -- History -- The Formation of Fibrils --
The Kinetics of Fibril Formation -- Structure -- Fibril Networks and
Aggregates -- The Amyloid-Like Fibril -- The Protofilament --
Prefibrillar Aggregates -- Natural" Amyloid -- Summary -- Cross-
References -- References -- Useful Books -- Amyloid Formation in
Bacteria -- Synonyms -- Definition -- Cross-References -- References
-- Amyloid Inhibitors -- Definition -- Cross-References -- Amyloid
Protein Biomaterials -- Introduction -- Nanowires and Nanoelectronics
-- Hydrogels -- Scaffolds for Light Harvesting -- Summary -- Cross-
References -- References -- Amyloids in Prokaryotes -- Anaerobic
Respiration -- Analysis of Macroscopic Currents -- Synonyms --
Introduction -- Isolating the Current of Choice -- Current-Voltage
Curves -- Obtaining Information About Channel Activity -- Calculating
Activation Curves Using Tail Currents -- Measuring Reversal Potential
Using Tail Currents -- Inactivation Curves -- Kinetics of Macroscopic
Currents -- Mean-Variance Plots -- Summary -- Cross-References --
References -- Analytical Ultracentrifugation -- Anandamide
Amidohydrolase -- Angular Optical Trapping -- Synonyms --
Definition -- Basic Characteristics -- Applying Twist with Light --
Measurement of Torque -- Applications of Angular Optical Trapping --
Cross-References -- References -- Anisotropic Magnetic Alignment --
Anisotropic Spectroscopy.
Anomeric Effect in Sugars -- Synonyms -- Definition -- Basic
Characteristics -- Cross-References -- References -- Anti-Brownian
Traps -- Synonyms -- Definition -- Tracking -- Feedback --
Generalizations -- Applications -- Comparison to Optical Tweezers --
Cross-References -- References -- APC1, APC2, APC3 Mitochondrial
Mg-ATP/Pi Carriers -- Apodization -- Application of Thermodynamic
Data to Biological Understanding -- Aquaporin (AQP) -- Aromatic Side
Chain Aromatic Amino Acids -- Arrest -- ARS -- Arthrobacter
aureescens DSM 3747 -- Artificial Eye -- Artificial Lipid Bilayer --
Aryldialkylphosphatase -- Assignment of 19F Resonances in Protein
Solution State NMR Studies -- Synonyms -- Basic Characteristics -- 19

F Assignment via NOE Contacts to the Backbone -- 19F NMR
Assignments Via Scalar Couplings -- Fractional Labeling -- Cross-References -- References -- Asymmetric Flow Field Flow Fractionation (A4F) -- Asynchronous Correlation -- Atomic Force Microscopy -- Atomic Force Microscopy (AFM) for Topography and Recognition Imaging at Single Molecule Level -- Synonyms -- Definition -- Introduction -- Contact Mode Imaging -- Dynamic Mode Imaging -- Atomic Force Spectroscopy -- Simultaneous Topography and Recognition Imaging -- Summary -- Cross-References -- References -- Atomic Force Microscopy of Lipid Membranes -- Introduction -- Imaging: Structure and Dynamics -- Force Spectroscopy: Mechanics and Function -- Summary -- Cross-References -- References -- Atomic Force Spectroscopy -- Synonyms -- Definition -- Introduction -- Atomic Force Microscopy - Force Extension -- Force-Clamp Spectroscopy -- Force Dependency of Chemical Reactions -- Folding Trajectory of a Single Protein -- Summary -- Cross-References -- References -- ATP Synthases from Archaea: Structure and Function -- Synonyms -- Definition -- Introduction.
A Unique Class of ATP Synthases in Archaea: The A1AO ATP Synthase.

Sommario/riassunto

The Encyclopedia of Biophysics is envisioned both as an easily accessible source of information and as an introductory guide to the scientific literature. It includes entries describing both Techniques and Systems. In the Techniques entries, each of the wide range of methods which fall under the heading of Biophysics are explained in detail, together with the value and the limitations of the information each provides. Techniques covered range from diffraction (X-ray, electron and neutron) through a wide range of spectroscopic methods (X-ray, optical, EPR, NMR) to imaging (from electron microscopy to live cell imaging and MRI), as well as computational and simulation approaches. In the Systems entries, biophysical approaches to specific biological systems or problems – from protein and nucleic acid structure to membranes, ion channels and receptors – are described. These sections, which place emphasis on the integration of the different techniques, therefore provide an inroad into Biophysics from a biological more than from a technique-oriented physical/chemical perspective. Thus the Encyclopedia is intended to provide a resource both for biophysicists interested in methods beyond those used in their immediate sub-discipline and for those readers who are approaching biophysics from either a physical or biological background. .
