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Nota di contenuto	Analytical techniques -- Microscopy -- Single molecule techniques -- Preparation of cells and tissues for microscopy -- Principles of optical spectroscopy -- Photometry -- Fluorimetry -- Chemiluminescence -- Electrophoresis -- Immunological methods -- Isotope techniques -- Purification of proteins -- Homogenisation and fractionisation of cells and tissues -- Isolation of organelles -- Precipitation methods -- Chromatography -- Membrane proteins -- Determination of protein concentration -- Cell culture -- Protein modification and inactivation -- General technical remarks -- Amine-reactive reagents -- Thiol- and disulphide reactive reagents -- Reagents for other groups -- Cross-linkers -- Detection methods -- Spontaneous reactions in proteins -- Protein size and shape -- Centrifugation -- Osmotic pressure -- Diffusion -- Viscosity -- Non-resonant interactions with electromagnetic waves -- Protein structure -- Protein sequencing -- Synthesis of peptides -- Protein secondary structure -- Structure of protein-ligand complexes -- 3D-structures -- Folding and unfolding of proteins -- Enzyme kinetics -- Steady-state kinetics -- Leaving the steady state: Analysis of progress curves -- Reaction velocities --

Isotope effects -- Isotope exchange -- Protein-ligand interactions -- General conditions for interpretable results -- Binding equations -- Methods to measure binding equilibria -- Temperature effects on binding equilibrium and reaction rate -- Industrial enzymology -- Industrial enzyme use -- Immobilised enzymes -- Special statistics -- Quality control -- Testing whether or not a model fits the data -- Appendix -- List of symbols -- Greek alphabet -- Properties of electrophoretic buffers -- Bond properties -- Acronyms.

Sommario/riassunto

This textbook, designed for all scientists interested in protein research, provides a thorough overview of laboratory methods for the biophysical chemistry of proteins. This new edition, completely restructured and expanded for ease of learning, includes sections on analytical techniques, working with proteins, protein size and shape, protein structure, enzyme kinetics, industry enzymology, and a new section on special statistics.