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Nota di contenuto	Enzymatic Processes as a Basis for the Creation of Advanced Chemical Catalysts -- Methods of Analysis in Enzyme Processes -- Methods of Enzyme Kinetics -- Elementary Mechanisms of Enzyme Reactions (Part 1) -- Enzymes Mechanisms. (Part 2) Radical Processes -- Multielectron Redox Mechanisms -- Molecular Dynamics of Proteins and their Functional -- Enthalpy-Entropy Relationships in Enzyme Reactions -- Artificial and Nano Enzymes -- Artificial Photosynthesis -- Modeling Nonhemin Iron Proteins and Enzymes -- Artificial Hydroxylases and Hydrolases -- Miscellaneous Biomimetic Processes.
Sommario/riassunto	This book examines enzymatic reactions from the standpoint of physical chemistry. An introductory chapter gives a brief overview of the role of enzymes in metabolism, biotechnology and medicine, while

describing the framework for chemical mimicry of enzyme reactions. Subsequent chapters of the book are devoted to a general overview of vital enzyme processes, methods of enzyme kinetic reactions, the theory of elementary mechanisms, oriental, dynamic and polar factors affecting enzyme catalysts, as well as the current status and prospects of enzyme chemical modeling. The book gives particular attention to chemical reactions highly important in modern research efforts, such as the conversion of light energy into chemical energy with a high quantum yield, photooxidation of water, reduction of atmospheric nitrogen, and utilization of carbon dioxide in ambient conditions. The book is intended for scientists working on enzyme catalysis and the adjacent areas such as chemical modeling of biological processes, homogeneous catalysis, biomedical research, biotechnology and bioengineering. In addition, it can serve as secondary instructional material for graduate and undergraduate students of chemistry, medicine, biochemistry, biophysics, biophysiology, and bioengineering.