Record Nr. UNINA9910825352003321 Autore Crichton Robert R **Titolo** Biological inorganic chemistry: a new introduction to molecular structure and function / / Robert R. Crichton Pubbl/distr/stampa Amsterdam;; Boston,: Elsevier, 2012 **ISBN** 1-78268-947-8 1-283-39629-7 9786613396297 0-444-53783-X Edizione [2nd ed.] Descrizione fisica 1 online resource (473 p.) 572.51 Disciplina Soggetti Bioinorganic chemistry Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Front Cover; Biological Inorganic Chemistry: A New Introduction to Molecular Structure and Function; Copyright; Contents; Preface to the 2nd Edition; Chapter 1 - An Overview of Metals and Selected Nonmetals in Biology; INTRODUCTION; WHY DO WE NEED ANYTHING OTHER THAN C, H, N, AND O (TOGETHER WITH SOME P AND S)?; WHAT ARE THE ESSENTIAL ELEMENTS AND THE ESSENTIAL METAL IONS?: AN IDIOSYNCRATIC VIEW OF THE PERIODIC TABLE; REFERENCES; Chapter 2 - Basic Coordination Chemistry for Biologists; INTRODUCTION; TYPES OF CHEMICAL BONDS; HARD AND SOFT LIGANDS; COORDINATION GEOMETRY; REDOX CHEMISTRY REFERENCESChapter 3 - Structural and Molecular Biology for Chemists; INTRODUCTION; THE STRUCTURAL BUILDING BLOCKS OF PROTEINS; PRIMARY, SECONDARY, TERTIARY, AND QUATERNARY STRUCTURE OF PROTEINS; SECONDARY AND TERTIARY STRUCTURES OF NUCLEIC ACIDS; REFERENCES; Chapter 4 - Biological Ligands for Metal Ions; INTRODUCTION: INSERTION OF METAL IONS INTO METALLOPROTEINS: CHELATASE - THE TERMINAL STEP IN TETRAPYRROLE METALLATION: IRON-SULFUR CLUSTER FORMATION: MORE COMPLEX COFACTORS -

REFERENCES

MOCO, FEMOCO, P-CLUSTERS, H-CLUSTERS, AND CUZ; SIDEROPHORES;

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BioenergeticsINTRODUCTION; REDOX REACTIONS IN METABOLISM; THE CENTRAL ROLE OF ATP IN METABOLISM; THE TYPES OF REACTION

Sommario/riassunto

The revised and expanded second edition of Biological Inorganic Chemistry, winner of a 2013 Texty Award from the Text and Academic Authors Association, presents an introduction to this exciting and dynamic field. An increasing understanding of the importance of metals in biology, the environment and medicine, and the multiple roles of metal ions in biological systems, has given rise to biological inorganic chemistry as a field of study. The book begins with an overview of the concepts, both chemical and biological, required for the detailed analysis which follows. Pathways of