Book Reviews

Inorganic Biochemistry Vol. 2, a Specialistic Periodical Report, Senior Reporter H. A. O. Hill, The Chemical Society, Burlington House, London W1V OBN; pp. XIV + 347.

For everyone working in the field of bioinorganic chemistry the appearance of the Inorganic Biochemistry Vol. 2 represents a happy event for the invaluable help that this kind of publication provides to the researchers in the field. Indeed even in the concise style typical of such reviews, it is possible to obtain a first hand feeling of the status of affair for every treated topic.

The topics which are covered are: Inorganic Analogues of Biological Molecules, an extensive summary of inorganic complexes which mimic the structure and function of biological systems; Storage, Transport, and Function of Non-transition Elements, covering also synthetic ionophores; Electron-Transport Proteins, with a particular emphasis on iron-sulfur proteins and cytochromes c; Oxidases and Reductases; Zinc Metalloenzymes; Manganese Metalloproteins and Manganese-activated Enzymes, covering both the manganese specific proteins and the (Mn/Mg) activated enzymes; Trace Elements in Animal Nutrition; Inorganic Elements in Biology and Medicine.

The subdivision of the whole area is well done and this helps the reader in the research of the particular subject. The inclusion of a chapter on "Trace Elements in Animal Nutrition" witnesses the growth of the fields of pertinence of Inorganic Biochemistry and their relevance also from the pharmacological and clinical points of view.

ANDREA SCOZZAFAVA

Structural and Functional Aspects of Enzyme Catalysis, Edited by H. Eggerer (Technical University of Munich, FRG) and R. Huber (Max-Planck Institute Martinsried, FRG) Springer Verlag, Berlin-Heidelberg New York 1981; VIII + 216 pp.; DM 59.

This volume contains the contributions of the 32nd Meeting of the German Biochemical Society at which a well recognized international participation was present. The editors' objective is to provide the reader with a feeling about the progress in the understanding of established fields as well as about new developments in enzymology. The dimensions of the book are such that these objectives could not be fully accomplished; however, the choice of the subjects is well balanced, the story is easy to read, and stimulating in every part.

The book deals with the mechanisms of enzyme action, the dynamic aspects of enzyme-substrate interactions, the function of metals in metalloenzymes, the biological and chemical modifications of enzymes, and finally some topics of enzyme catalysis. The metal ions treated are the zinc ions. Some cobalt(II) substituted enzymes are also discussed, although the structural inferences are too heavily based in CD and MCD studies.

Very general and interesting comments regard the mechanism of enzyme actions as far as the stereochemical requirements and the thermodynamic contributions are concerned and, as a chemist, I would like to underline the contribution on Design of Synthetic Molecular Receptors and Catalysis.

IVANO BERTINI

Metal Ions in Biological Systems - Volume 11 - Metal Complexes as Anticancer Agents, Edited by Helmut Sigel, Marcel Dekker, Inc., New York, 1980; pp. 427; SF 170.

This volume contains eight chapters dealing with the antitumor properties or potentialities of very different types of metal complexes, either synthesized as drugs or formed via the interaction of metal ions with anticancer chemotherapeutic agents. The introductory chapter gives a concise review of the field of anticancer studies on metal complexes. Two chapters are devoted to the platinum antitumor drugs. They go from their basic coordination chemistry, necessary to understand how these complexes can bind to biological molecules, to the various clinical aspects including toxic side effects, combination chemotherapy, development of resistance to the drugs. One chapter describes the properties of ruthenium complexes in relation to the potentialities of these compounds as chemotherapeutic and radiodiagnostic agents. Coordination of a metal ion can greatly modify the properties of a ligand and possibly enhance its cytotoxicity. This is illustrated by the two chapters dealing with the carcinostatic copper

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