

BOOK REVIEW

SIGEL (H): Metal Ions in Biological Systems, Vol. 2 (Mixed-Ligand Complexes), pp. 294. Marcel Dekker, Inc., New York, 1973, \$ 25.25.

Recently, the importance of metal ions to the vital functions of living organisms has become known more and more. As a result, the long-neglected field of "bio-inorganic chemistry" is now developing at a rapid pace. The series of six volumes on METAL IONS IN BIOLOGICAL SYSTEMS planned by Helmut Sigel is therefore timely and appropriate.

The contents of the book under review may be summarized in terms of the titles of the five chapters that it contains—namely

1. Mixed-ligand metal ion complexes of amino acids and peptides by R. P. Martin, M. M. Potit-Ramel and J. P. Scharff.

2. Structural aspects of mixed-ligand complex formation in solution by Helmut Sigel.

3. Kinetic study of the formation of mixed-ligand complexes of biological interest by V. S. Sharma and D. L. Leussing.

4. Multimetal-multiligand equilibria: A model for biological systems by D. D. Perin and R. P. Agarwal.

5. Artificial enzymes by Arthur E. Martell.

The focal point in all these chapters is the connection between the chemistry of metal ions and their role in biochemical processes that take place in living systems.

The first chapter deals essentially with the detection of mixed-ligand complexes, the factors governing their formation and stability, with special reference to copper, nickel, and other metal complexes. The second chapter deals with methods to characterize the stability of mixed-ligand complexes and their catalytic qualities. The third chapter deals with ternary complexes and the kinetics of their formation and dissociation along with theoretical considerations. Chapter four contains a description of ligands in biological systems, including mathematical models for such systems, with special reference to blood plasma. Chapter five is an interesting study of the possibility of making in the laboratory artificial enzymes. Various examples are considered, such as the oxidation of ascorbic acid by oxygen, oxidation of catechols, catalase and peroxide models, etc.

The book as a whole is very timely and contains, in a condensed form, a vast volume of contemporary literature, with full references to them. It should certainly find a place in every laboratory devoted to biochemistry.

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