

Book reviews

Advances in Inorganic Biochemistry Vol. I, Editors Gunther L. Eichhorn and Luigi G. Marzilli. Elsevier/North-Holland, 1979, pp. 261, hardbound, price Dfl.68.00, U.S.\$29.00.

The field of Inorganic Biochemistry has expanded at a rapid rate for the past 10 years or so. One major stimulus was the publication, in 1973, of a two volume set 'Inorganic Biochemistry' edited by Gunther Eichhorn. This Volume represents the first in a new series which will continuously update the field of Inorganic Biochemistry. It is intended that this series of *Advances* will emphasize completed work about which we have a good understanding and should not include much speculative material.

To facilitate rapid publication, the book has been produced by direct photographic reproduction of the manuscripts (camera ready). The overall presentation is excellent, with a clean appearance, and does not suffer from the problem of different type styles common in camera ready productions.

The chapters are:

Molecular Properties and Mechanism of Alkaline Phosphatase by J.E. Coleman and J.F. Chlebowski (64 pages, 212 refs.).

Superoxide and Superoxide Dismutases by I. Fridovich (23 pages, 245 refs.),

The Copper-Containing Oxidases by R. Reinhammar (27 pages, 76 refs.),

Cytochrome P-450 and Other Heme-Containing Oxygenases by J.T. Groves (26 pages, 109 refs.),

B₁₂-Dependent Methyl-Transfer Reactions by Y.-T. Fanchiang, W.P. Ridley and J.M. Wood (15 pages, 45 refs.),

Chromium(III) and Cobalt(III) Nucleotides as Biological Probes by W.W. Cleland and A.S. Mildvan (28 pages, 39 refs.),

The Structure of the (Na⁺ + K⁺)-ATPase. Implications for the Mechanism of Sodium and Potassium Transport by C.M. Grisham (25 pages, 105 refs.),

Hemerythrin and Myohemerythrin. A Review of Models Based on X-ray Crystallographic Data by R.E. Stenkamp and L.H. Jensen (14 pages, 45 refs.). Hemerythrin. A Review of Structural and Spectroscopic Properties by J.S. Loehr and T.M. Loehr (17 pages, 54 refs.).

There is a useful subject index, but no author index. The editors have clearly succeeded in attracting some first class contributions by world

authorities in the field of Inorganic Biochemistry. The topics are all of current interest in rapidly moving fields. This series of *Advances* seems destined to play a similar role to its 1973 precursor in acting as a further stimulus to the area.

Advances in Inorganic Biochemistry Vol. 2, Methods for Determining Metal Ion Environments in Proteins. Structure and Function of Metalloproteins, Editors Dennis W. Darnall and Ralph G. Wilkins. Elsevier/North-Holland, 1980. pp. 324, hardbound, price Dfl.79.00, U.S.\$33.50.

This is the second in the *Advances* series reviewed above. The chapters are based on lectures delivered at a Conference on protein metal ion environments held in Las Cruces, New Mexico on January 10–12th 1979. This book represents a unique collection of the uses of various techniques to probe metal ion active sites. It includes not only the advantages of each technique but also the disadvantages, pitfalls, etc. The chapters are:

Electronic Absorption Spectroscopy by H.B. Gray (24 pages, 68 refs.),

Circular Dichroism and Magnetic Circular Dichroism by B.L. Vallee and B. Holmquist (47 pages, 94 refs.),

Metal Ions and Donors and Acceptors of Fluorescence by B. Holmquist (18 pages, 49 refs.),

Infrared Spectroscopy by W.S. Caughey (20 pages, 43 refs.),

Raman Spectroscopy by D.F. Shriver (34 pages, 87 refs.),

Electron Paramagnetic Resonance by G. Palmer (29 pages, 54 refs.),

High Resolution NMR by L. Lee and B.D. Sykes (27 pages, 68 refs.),

Nuclear Magnetic Relaxation Rates by A.S. Mildvan, J. Granot, G.M. Smith and M.N. Liebman (25 pages, 44 refs.),

Kinetic Approach by G.G. Hammes (26 pages, 59 refs.),

X-Ray Diffraction by W.N. Lipscomb (36 pages, 57 refs.),

On the Resolution of Metal-Ligand Distances in Metalloproteins by EXAFS by B.M. Kincaid and R.G. Shulman (6 pages, 11 refs.),

There is a subject index but no author index, and the camera ready production is excellent. Once again, a glance through the list of authors for this volume convinces one of the value of this text. Almost every author is a world authority in the technique under discussion.

Both these volumes (1 and 2) **MUST** be on the shelves of any serious Student of Inorganic Biochemistry. They will be well-thumbed and borrowed!

The Editors Desk