

form of an iron-sulfur protein. Needless to say, the various iron-sulfur proteins have many fascinating features that warrant the writing of a treatise on the subject, and these two volumes will be received with great interest.

Volume 1 is concerned primarily with the biological roles these proteins play. Chapter 1 leads off with an excellent historical review of the subject, recounting how research on three apparently unrelated subjects led to the interest in iron-sulfur proteins: photo-reactions of chloroplasts, nonheme iron in tissues, and nitrogen fixation in microorganisms. It also points out that the discovery of the extremely labile iron-sulfur proteins, which came rather late, awaited in part the development of gentle handling techniques by the biochemists and the use of nondestructive specific methods of analysis by the physicochemists.

The following seven chapters of volume 1 contain information on the various iron-sulfur proteins as electron carriers involved in nitrogen fixation, carbon metabolism, photosynthesis, and various hydroxylation reactions. The last two chapters deal with the more complex and difficult-to-handle metalloflavoproteins, namely the dehydrogenases and hydroxylases, that contain an iron-sulfur moiety.

Volume 2 is essentially restricted to the physical properties of the proteins. Chapter 1 describes the chemical properties of the ferredoxins as determined by the rather classical biochemical methodology. Chapter 2 is a comprehensive discussion of the primary and secondary structure, structure-function relationships, and evolutionary aspects of the proteins. This chapter has more typographical errors than the others but not enough to prevent it from being absorbing reading.

The five following chapters give clear, concise, and relatively nontechnical descriptions of the theory behind the technique applied in revealing the physicochemical features of the iron-sulfur complex (electron paramagnetic resonance, electron-nuclear double resonance, Mössbauer spectroscopy, magnetic susceptibility, and so on), the near vicinity of the complex (nuclear magnetic resonance), and the entire tertiary structure of the protein (x-ray diffraction). The volume is concluded with a "wrap-up" of all the information (up to 1973) on the active center of the iron-sulfur proteins.

The casual reader should be warned that the historical nature of most of

the chapters can cause confusion unless he keeps in mind that all loose ends will be tied up, or at least explained, in the end. The biochemist will be disappointed by the lack of tertiary structural information for rubredoxin, high-potential iron protein, and ferredoxin.

The two volumes will undoubtedly be useful to the serious researcher and should give the beginner a look into an exciting field for much more research in the coming decade.

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(Continued on page 383)

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BLOOD COMPATIBLE SYNTHETIC POLYMERS: An Introduction by Stephen D. Bruck, *National Institutes of Health, Bethesda, Maryland*. This introductory book contributes to the development of a satisfactory dialogue among physical and biological scientists, physicians and engineers working in the area of blood compatible materials. It represents an effort to bring together the diversified theories that are involved in the understanding of the interactions between synthetic polymers and blood. '73, 142 pp., 69 il., 14 tables, \$9.75

ENVIRONMENT AND POLLUTIONS: Sources, Health Effects, Monitoring and Control by Francis K. V. Leh, *Univ. of California, Riverside* and Richard K. C. Lak, *The Shell Company of the British Crown Colony of Hong Kong*. Designed to provide college students and research workers with a guide to available information on environmental study, this book is primarily concerned with the various aspects of the global environmental problems. '74, 308 pp., 25 il., 71 tables, \$14.75

DRUG RESISTANCE IN ANTI-MICROBIAL THERAPY by E. J. L. Lowbury, and G. A. J. Ayliffe, *Birmingham Accident Hospital, Birmingham, England*. In this book two bacteriologists consider the biological mechanisms of resistance and put forward general recommendations on antibiotic policies aimed at preventing the emergence of resistant pathogens while offering the clinician effective chemotherapy. '74, about 167 pp., 4 il., 4 tables

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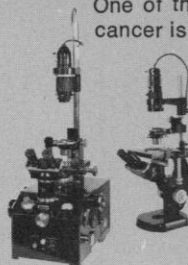
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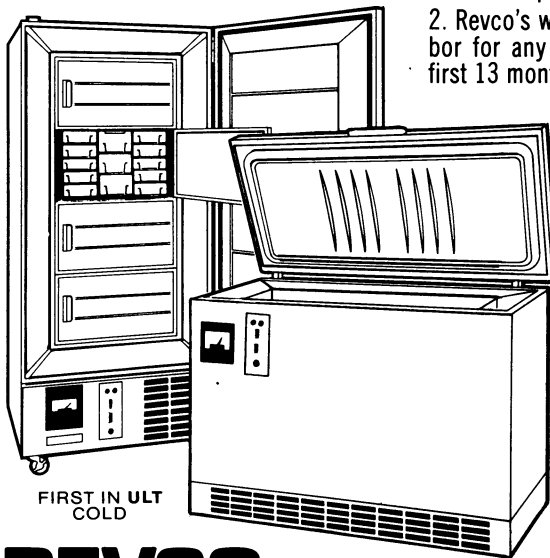
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