

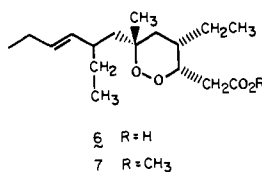
Additions and Corrections

Proton NMR Characterization of the Ferryl Group in Model Heme Complexes and Hemoproteins: Evidence for the $\text{Fe}^{\text{IV}} = \text{O}$ Group in Ferryl Myoglobin and Compound II of Horseradish Peroxidase [*J. Am. Chem. Soc.* **1983**, *105*, 782-787]. G. N. LA MAR,* J. S. DE ROPP, L. LATOS-GRAZYNSKI, A. L. BALCH,* R. B. JOHNSON, K. M. SMITH, D. W. PARISH, and R.-J. CHENG

Page 785: Figures 7 and 8 have been reversed (the captions are correct).

Antifungal Peroxide-Containing Acids from Two Caribbean Sponges [*J. Am. Chem. Soc.* **1983**, *105*, 7735]. D. W. PHILLIPSON and K. L. RINEHART, JR.*

Page 7736: Structures **6** and **7** for plakortic acid and plakortin should have an ethyl group instead of a methyl on the alkenyl side chain, as shown below.



Book Reviews*

Methods of Enzymatic Analysis. 3rd Edition. Volume 1. Fundamentals. Edited by Hans Ulrich Bergmeyer [Boehringer-Mannheim, GmbH]. Verlag Chemie, Weinheim, Deerfield Beach, Florida. 1983. xxiv + 574 pp. \$116.00 subscription price, \$86.00 per volume.

This excellent source book should be on the book shelf in every laboratory that engages in any form of enzyme analysis. Its excellent and refreshingly concise descriptions of various aspects of enzyme based assay have already proven to be of significant practical value in my own laboratory.

The first edition of Dr. Bergmeyer's work appeared 20 years ago in a single volume. Now he begins his third edition with an initial volume entitled Fundamentals [and which is just that], which will be only the first of 10 volumes to be issued over the next 10 years. This series will cover sampling techniques, reagents, enzymes, metabolites (e.g., peptides, lipid, carbohydrates, nucleic acids), coenzymes, proteins without enzyme activity, and molecular biochemistry.

This particular volume is so full of useful methods, with accompanying critical evaluation, that it is difficult to single out any specific feature as "best". The book is organized in three sections, Introduction, Theory, and Application. Section 1 introduces general aspects of enzyme based analytical procedures, analysis of reliability, and precision and cost factors in assay development and projects future trends in enzymatic methods of analysis. Section 2 presents the theory and mathematic aspects of enzyme analysis in a very readable way. Especially noteworthy is the discussion by Manfred Gloger and Wilhelm Tischer on the kinetics of immobilized enzymes, an area that is continuing to increase in importance. Also worth noting are those portions of Section 2 that critique visual indicators for enzyme reactions including the important H_2O_2 /peroxidase and tetrazolium/NADH redox indicators. Finally, the discussion of enzyme-linked immunoassay by Michael Oellerich is both a timely and clear treatment of the basics of ELISA.

Section 3 discusses the techniques and instruments of enzyme analysis, giving elemental principles and a critical analysis of the old standbys and the innovative techniques of the future. While this section covers nearly all the major techniques, it does so in a far less thorough fashion than the first two sections, albeit with a great many references to recent

reviews and significant journal articles. The survey nature of this section is not surprising in view of the projected scope of the succeeding volumes, and one can expect that these volumes, if done as well as the first, will fill the gap.

The only other major drawback to this series is its cost; \$116.00 is certainly outrageous even for a volume of high quality, and the price will be an impediment to its acquisition and use by the great many scientists who could benefit by possessing it for themselves rather than relying on their libraries.

William H. Scouten, *Bucknell University*

Ion Exchange Membranes. Edited by D. S. Flett (Head of Metals Extraction Division, Warren Spring Laboratory, Stevenage, England). John Wiley and Sons, New York. 1983. 210 pp. \$49.50.

This volume reports a symposium held in Britain by the Society of Chemical Industry. Its scope is practical: the structure and uses of the newer ion-permeable membranes.

Of particular interest are the papers on perfluorinated polymer membranes, now used in the alkali-chlorine industry and for electro dialysis. Radical advances in this area have been made in Japan, and there are four papers by Japanese authors, including M. Seko and his colleagues in Asahi Chemical Industry Co. These and two others from British laboratories describe the chemical and physical structures of perfluorinated membranes, including a novel membrane with functional sulfonate groups through most of its thickness and a thin zone of carboxylate groups on the side that faces the cathode in the alkali-chlorine cell. Extensive performance data are given in graphical form.

Other papers describe solid membranes such as β -alumina, used in high-temperature applications such as the sodium-sulfur electrochemical cell and electrorefining of metals. Again, the structure of β -alumina and its mode of conduction receives as much attention as its very interesting applications. More exotic applications include a solar cell and a heat engine that generates electricity directly instead of first doing mechanical work. The use of membranes in hydrometallurgy and waste metal recovery is described, and a short chapter summarizes the present state of ion-selective electrodes.

The volume begins with a plenary lecture by Patrick Meares, a leading authority who has been publishing on ion-exchanging membranes since 1955. He reviews the simpler theories of membrane transport that take

*Unsigned book reviews are by the Book Review Editor.