Analysis of Membrane Proteins

C. I. RAGAN and R. J. CHERRY (Editors)
Chapman and Hall, London and New York, 1986, pp. 441, £40.50

This multi-author work consists of a series of reviews of techniques applicable to membrane proteins arranged more or less in order of increasing physical complexity. It begins with three chapters on gel electrophoresis, isoelectric focusing and protein solubilization, followed by two chapters on reconstitution, one considering reconstitution into lipid vesicles and the other reconstitution into planar lipid bilayers, two chapters on the topography of proteins within membranes, chapters on immunochemical methods, sequence analysis, freeze etching techniques, three-dimensional analysis by electron microscopy and X-ray, and, finally, two chapters on protein mobility: lateral mobility and rotational diffusion. Some of these subjects, e.g. the material covered in the first three chapters, have been considered fairly recently in similar publications, but others, such as reconstitution into planar lipid bilayers, have not been recently reviewed.

HPLC of Small Molecules; A Practical Approach

C. K. LIM (Editor)
IRL Press, Oxford, 1986, pp. 333, £17.00 (paperback)

The use of h.p.l.c. for the analysis and purification of small molecules is now regarded as common laboratory practice. This is largely due to the wide variety of column-packing materials now available, along with the development of ‘user friendly’ computerized control systems which have automated h.p.l.c. to such a degree that it is suitable for routine analysis in both research and routine laboratories.

The book ‘HPLC of Small Molecules’, in the IRL series ‘A Practical Approach’ attempts to bring together the most reliable of available methods for the analysis of small molecules which are commonly studied in the life sciences, namely amino acids and small peptides, carbohydrates, lipids, bile acids and bile pigments, steroids, vitamins, nucleotides and nucleosides, and porphyrins. As the series title suggests, the books’ emphasis is very much on the practical aspects of carrying out the procedures described.

As such the chapters all include details of the various methods used to isolate samples from biological materials and any pretreatment necessary before h.p.l.c. analysis. Where alternative detection methods are possible, the advantages and disadvantages of each option is discussed. The text is easily read, and, perhaps more importantly, the chapters have a similar layout. This makes the book suitable for quick reference. In addition, the editor has included a clear and concise introduction covering the fundamentals of h.p.l.c. theory and practice. The result is a text which, through its practical approach, is not so much a guide to the theory of h.p.l.c., as a laboratory handbook which provides an excellent starting point for anyone with some h.p.l.c. experience who wishes to initiate in his or her laboratory the analysis of one of these classes of compounds. At a price of £17.00 I am sure that this book will soon find its place on to many laboratory bookshelves.

IAN M. BIRD

Publications Received

The Alkaloids, Volume 28, Chemistry and Pharmacology, A. Brossi (Editor), Academic Press, Orlando, FL, 1986, pp. 326, £74.50


Connective Tissue Disease (The Biochemistry of Disease, Volume 12), J. Vitto and A. J. Perejda (Editors), Marcel Dekker, New York, 1986, pp. 553, price unknown

Fusarium Species, Their Biology and Toxicology, A. Z. Joffe, Wiley-Interscience, New York, 1986, pp. 588, £71.75


Lipoprotein Deficiency Syndromes (Advances in Experimental Medicine and Biology, Volume 201), A. Angel and J. Frohlich (Editors), Plenum Press, New York, 1986, pp. 303, $49.50
As with all volumes in the Practical Approach series, it is aimed at those viewing the field from the outside although, as the authors of Chapter 2 point out, these investigators will probably possess, or have access to, HPLC equipment. The first chapter is an introduction to HPLC of small molecules. Subsequent chapters are of roughly uniform format and deal with analyses of amino acids and small peptides, biogenic amines, carbohydrates, lipids, bile acids, steroids, vitamins, nucleotides, nucleosides and bases, porphyrins and bile pigments. BIOCHEMICAL EDUCATION 16(2) 1988.