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BOOK REVIEWS

STRUCTURE, FUNCTION AND GENETICS OF RIBOSOMES
Edited by BOYD HARDESTY and GISELA KRAMER
Springer-Verlag; New York, Berlin, Heidelberg, London, Paris, Tokyo,
1986 xxii + 810 pages. DM 420.00

The size and complexity of ribosomes make the detailed elucidation of their structure and function a formidable challenge, which has taxed the ingenuity of biochemists and biophysicists for more than a quarter of a century. Progress has been impressive but the field has not always been considered fashionable and in a recent article entitled "The ribosome returns" P.B. Moore (*Nature* 331, 223–227, 1988) highlights the current renaissance of research. Likewise, this book of papers presented at a "Ribosome Conference" at the University of Texas Marine Science Institute, Port Aranasas, in April 1985 shows the renewed interest in ribosomes during recent years.

Altogether, there are 45 contributions from different laboratories, mainly in the United States and Europe, and many authors have been actively engaged in research on different aspects of ribosome structure and function since the golden age of the 1960's. Because of the large number of papers it is not possible to review them all and it would be invidious to single out particular contributions. Suffice it to say that they range from general reviews (H.G. Wittmann, I.G. Wool and M. Nomura) to specialized reports on specific aspects, such as the use of electron microscopy, computer image analysis and neutron-scattering analysis in structural studies, work on the structure, function and interactions of ribosomal RNAs and proteins, and the regulation of ribosome biosynthesis. The quality of presentation is excellent with clear printing and illustrations. The references to the original literature are reasonably up-to-date considering that the meeting took place three years ago.

Taken together, the contributions represent an informative and balanced account of recent research in this important area and this excellent book should find a place in every library concerned with biochemistry and molecular biology. Unfortunately, the price is bound to deter individuals from purchasing personal copies and even libraries may have difficulties bearing in mind current financial problems in many Universities and other institutions.

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APPLICATIONS OF HPLC IN BIOCHEMISTRY

[Series: Laboratory techniques in biochemistry and molecular biology]
A. FALLON, R.F.G. BOOTH and L.D. BELL. (1987)
(Series editors: RH Burdon and PH Van Knipperberg).
Elsevier. pp 338

High-performance liquid chromatography has become an integral part of the biochemistry laboratory and the subject is a timely choice for the popular series 'Laboratory Techniques in Biochemistry and Molecular Biology'. So much has been written on the subject that it is difficult to select one particular book over comparable texts. The authors have tried to compress and balance the fundamental principles with comprehensive information and examples of the numerous applications of the technique in order 'to provide a practical guide to HPLC for both novice and experienced chromatographer'. In adopting this approach, they have produced an informative introduction to a fast developing field, but the book contains insufficient detail to satisfy the expert.

The first chapter is a brief introduction to the origins of liquid chromatography and precedes short chapters on the fundamentals of HPLC and the mechanisms of ion-exchange, size-exclusion, normal phase, reversed-phase, ion pair and affinity chromatography. Each chapter discusses the factors affecting separations but applications are left to the final, extensive chapter which comprehensively illustrates the use of HPLC in the analysis of: nucleosides and nucleotides; proteins, peptides and amino acids; lipids; carbohydrates; prostaglandins, leukotrienes and hydroxyeicosatetraenoic acid; steroids; amines; vitamins and antibiotics. The test does not contain detailed practical procedures for routine use; instead, the authors have surveyed the available techniques and emphasized the problems that often arise with particular methodologies. The examples given for the analyses of lipids, steroids and proteins are generally outstanding. One exception is the short section on the fat-soluble vitamins. Those interested in the analysis of this type of compound will be disappointed by the outdated bibliography and the absence of 'state of the art' methodology used in their measurement.

The strength of the book may be the choice of an innovative chapter which contains 'hints and tips', the purpose of which is 'to familiarise or remind the chromatographer of the more general considerations vital for successful separations'. It is impossible for this chapter to cover every aspect of routine operation, but I think an opportunity was missed in the omission of a basic guide to maintenance, repair and trouble shooting which would have been particularly helpful to the novice.

This book will inevitably interest the reader and will encourage the novice into further perusal of the contemporary literature, without which it would be impossible or unwise to establish an analytical method from the contents of this book alone.

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