

contains computer-animated colour images of proteins and nucleic acids which the student can manipulate in three dimensions. These two aids should benefit both teacher and student. As with the first edition of this book the text is authoritative and comprehensive, and the use of colour illustrations throughout enhances the information and facilitates a rapid assimilation of the salient points of the text. The second edition has been updated to reflect the current major areas of advancement in biochemistry, in particular, in relation to molecular and protein structure. There is an increased emphasis on human disease and more extensive molecular biology material. The authors have addressed the question of reporting the results of current research by continuing to publish an annual supplement that highlights the previous year's biochemical advances.

This is a text book for first and second year biochemistry students which has been written by two scientists who obviously have a great enthusiasm for their subject, which is reflected in the way in which the information is presented to the student. It is also obvious from the way the book is organised and the problems which are posed to the student at the end of each chapter that they have a great deal of experience in teaching students of this level. This book presents biochemistry often from a chemist's viewpoint and assumes only a general background in chemistry, organic chemistry, and biology. It is highly recommended for students of biochemistry and also for those working in other disciplines who wish to improve their general scientific knowledge.

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**Gas Chromatography, 2nd Edition.** Ian A. Fowles, John Wiley & Sons, Chichester, UK, 1995 xix + 258 pp., Price £45.00, ISBN 0-471-95467-5.

Selection of the appropriate method and analytical tool is important for solving analytical problems and obtaining the best possible results. With great advancement and technological developments in analytical chemistry, gas chromatography (GC) plays a very vital role and is considered to be one of the most important and powerful analytical tools in various aspects of chemistry, biological sciences and environmental sciences; with a wide range of applications. This importance of gas chromatography is further enhanced and supported by the development of computer and information technology.

*Gas Chromatography* is designed as a convenient and flexible way of studying for people who cannot attend conventional education courses in analytical chemistry. By employing a specific approach, the learning objectives of each chapter are clearly stated. As a checking mechanism, the student's understanding of the material

is constantly challenged by self-assessment questions with remedial responses. Overall, the contents are systematically organised, covering the basic concept in gas chromatography, technical aspects, proper usage of the equipment, qualitative and quantitative analysis.

Even though the book is specifically designed for open learning approach, it is also a valuable resource material for beginners in gas chromatography or for first year undergraduate course students. Its simple and interesting approach with the self-assessment technique allows the reader to understand the book in stages. However, its high cost is a drawback.

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**Lipid Chromatography Analysis.** Edited by T. Shibamoto, Marcel Dekker, New York, USA, 1994, viii + 412 pp., Price US\$ 135.00, ISBN 0-8247-8941-5.

Analysis of the lipids, which are often linked to carbohydrate, has been one of the challenges faced by the analyst in both chemical and biological research. Being insoluble in aqueous medium, it requires the use of organic solvent to separate or extract a lipid from a mixture. Despite the unique nature and characteristics of lipids, they are one of the basic components of living systems as they have a vital role and effects in all biochemical, biological and physiological activities such as growth, cell metabolism, aging, diseases and protection from harmful agents. Development of various aspects of chromatography techniques has made the analysis of volatile and non-volatile components of lipids and its derivatives possible. Furthermore, supercritical fluid chromatography (SFC) using liquid carbon dioxide as a mobile phase has been devised to analyse some materials not separated by gas chromatography (GC) or high performance liquid chromatography (HPLC). However, conventional column chromatography and thin layer chromatography are still important and powerful analytical tools for preparative studies of lipids.

Highlighting the latest detection methods for the first time, *Lipid Chromatographic Analysis* gives a reader a chance to scan through a comprehensive review of a number of important methods for the analysis of lipids. The chapters are divided into 12 segments with a balanced discussion and coverage on gas-liquid chromatography and high pressure liquid chromatography. Other topics are also covered including application of supercritical fluid chromatography for lipids, gas chromatography-mass spectroscopic method for identification of lipids, GC technique for detection of plasmalogen phospholipids and GC analysis of lipid breakdown products for monitoring biological processes such as mutagenesis, carcinogenesis and aging.