

With the aid of more than 220 helpful tables, illustrations, drawings and equations, *Liquid Chromatography Analysis* is a valuable resource for analytical work in a wide range of disciplines and research areas, particularly to advanced level undergraduates and postgraduate students in these exciting disciplines. The information presented by various authors from different backgrounds and expertise can help the reader to choose the best chromatographic method for optimal results.

W. H. Wan Hassan
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Food Trades Directory of the UK & Europe 1996. Newman Books, London, 1996, 2 Vols, Vol. 1 (UK) xiv + 1074 pp., Vol. 2 (Europe) xiv + 865 pp., Price £140.00, ISBN 0-7079-6971-9.

Food is an essential resource for the entire population and thus information regarding its availability, in terms of whole food and ingredient producers and suppliers is of paramount interest to many areas of the food industry sector. Increasing consumer interest and awareness of better diets has resulted in a general improvement in many areas of food commodities and has led to the production of an abundance of so-called 'functional foods' which are reputed to have direct beneficial health effects. Recent food scares, such as BSE in beef and the cases of *E. coli* poisoning in Scotland have highlighted the necessity of stringent legislation to ensure good safe food practices.

These volumes comprise the 25th, and most complete and comprehensive, edition of the '*Food Trades Directory*'. The first volume of the directory covers the UK, whilst the second, and noticeably smaller, volume deals with the rest of continental Europe. Volume 1 is essentially divided into two sections, the first of which provides detailed information on UK food suppliers, outlets, services, and British food authorities. Food supplier information is well presented and generally provides the reader with addresses, telephone and fax numbers, the names of various members of staff, and information on annual turnover and number of employees, where available. Some information on the range of products produced/supplied is also provided.

Information on food outlets is presented alphabetically within the abundance of subsections, e.g. breweries, department stores, wholesalers, etc., and generally provides addresses, telephone numbers, and the names of various staff members. The food services section covers companies who have expertise in the storage, handling and distribution of food, and in automatic vending, whilst the food authorities section lists regulatory authorities with interests in meat, poultry and fish, eggs, dairy produce and other agricultural produce.

The second section of volume 1 is the food industry

directory, which tackles plant equipment and packaging machinery, hygiene, and packaging materials. This section is of particular use to those in the food industry factory construction business, since alphabetical lists of companies are provided, with addresses and telephone numbers, as well as an alphabetical list of applications/machinery and the companies that can provide equipment for such end-uses. Similar subcategorisation and information is provided in the packaging materials section, where you can, for example, locate manufacturers of laminated soup packets.

The second volume supplies similar information as the first, but for suppliers and industry in the rest of continental Europe. The food suppliers section is subdivided into respective countries with alphabetical listings within each country section. A small section is also devoted to other countries, outside of Europe, and provides some general information and contacts within their respective food industries. Likewise, the food industry directory within volume 2 is subdivided into sections for each country.

The directory is also provided on floppy disk (3½"), to be run on an IBM compatible PC using DOS 3.3 or higher. The idea behind this addition is that the user thus has the ability to define and extract targeted mailing and marketing information from the wealth of information contained within the directory. This comes with an easy to follow user manual and is a valuable addition to the hard copy version of the directory. Overall, these volumes are an invaluable aid to individuals with interests in the food sector, and provide an opportunity for buyers to assess whole food and ingredient producers and suppliers throughout the UK and the rest of Europe.

Charles J. Knill
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Chitin Enzymology, Vol. 2, 1996. Edited by Riccardo A. A. Muzzarelli, Atec Edizioni, Grottammare, 1996, xvi + 620 pp., ISBN 88-86889-00-3.

Chitin is the second most abundant polysaccharide, after cellulose, in the world. It plays principal structural roles in many invertebrates, especially arthropods, in many protozoa, and in all fungi. Chemically, it is a (1 → 4)-linked homopolymer of 2-acetamido-2-deoxy-β-D-glucopyranose (*N*-acetyl-D-glucosamine). Now chitin is becoming more and more interesting and important in industrial and academic research. Research in this field is accelerating with the emphasis being focused on the chitin-related enzymes. Degradation of chitin to its monomer is performed by a chitinolytic system consisting of two hydrolases, chitinase and *N*-acetyl-β-D-glucosaminidase, that act consecutively. The former hydrolyses the polymers of *N*-acetyl-

D-glucosamine, and the latter cleaves the dimer of the polymer repeat unit diacetylchitobiose.

This book, *Chitin Enzymology Vol. 2, 1996*, reports proceedings of the second international symposium on chitin enzymology which was held in May 1996, in Senigallia, Italy with the support of the University of Ancona. The book gives up-to-date information about enzymes of chitin and its derivatives related to human health and their roles in animal food digestion. Structure, mechanisms, activities and synthesis are also discussed. Chitinolytic enzymes play important roles not only in humans, and in animals but also in plants in the biocontrol of fungal pathogens. An alternative system for degrading chitin is via deacetylation to chitosan via the enzyme chitin deacetylase. Isolation and characterisation of the organisms, enzymes and genes involved in chitin deacetylase are presented. In addition, this book covers current advances in the biosynthesis of chitinolytic enzymes and the application of immobilised enzymes in various industries such as food, pharmaceutical and chemical industries.

Many valuable ideas and information from the research work presented in this book can be important sources for biological development, both at present and in the future. Therefore, this book is a comprehensive and informative reference for chemists, biotechnologists and anyone who is interested in this subject.

**Pawadee Methacanon
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Capillary Electrophoresis Technology. Edited by Norberto A. Guzman, Marcel Dekker New York, 1993 xv + 857 pp., Price \$190.00, ISBN 0-8247-9042-1.

Capillary electrophoresis (CE) is one of the most exciting separation techniques in analytical chemistry developed significantly within the past few years. It is suitable for trace amounts of samples. Furthermore, it is quite compatible with biological samples such as proteins, nucleic acids and polysaccharides.

Capillary Electrophoresis Technology is divided into five parts. The opening part presents the basics of the electrophoretic process. The operational modes of capillary electrophoresis: buffer systems, and capillary columns are discussed in the following parts. Buffer plays a central role, especially in capillary zone electrophoresis since it influences migration time and resolution. With the aim of higher resolution and miniaturisation in chromatographic systems, fused silica capillaries and polymer-coated capillaries have been adopted mainly to increase the efficiency of separations. The connection of the capillary electrophoresis to the other powerful techniques such as mass spectrometry, UV spectrometry, refractive index detection and laser-induced fluorescence detection also increase power in

separation and detection of trace amount of analytes. The details of the instrumentation are provided in part 4. Finally, this book covers a generous treatment of applications: chemical, biological and medical applications such as quantitative analysis with capillary zone electrophoresis and the use of capillary electrophoresis in clinical diagnosis.

This book covers all important aspects of capillary electrophoresis. Each chapter provides a very interesting reference work of direct relevance for research in this field. This book is recommended to all libraries concerned with chemistry and biochemistry.

**Pawadee Methacanon
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Synthesis in Lipid Chemistry. Edited by J. H. P. Tyman, The Royal Society of Chemistry, Cambridge, UK, 1996, ix + 232 pp., Price £59.50, ISBN 0-85404-716-6

To organise lecture materials into one book from a meeting or workshop is not an easy task since there will be a diversity of the topics or areas presented on the same main subject. However, the editor of 'Synthesis of Lipid Chemistry' managed to produce a book which contains a balanced contribution from different areas of the subject which is based on a two-day workshop on the synthesis in lipid chemistry. The book is divided into three main sections: firstly, glycerides and fatty acids; secondly, phospholipids; and glycolipids; and thirdly, biological, biotechnological and pheromone chemistry.

Besides carbohydrates and proteins, lipids are also available in large quantity and are a renewable source of natural products. With better understanding of the chemical and biochemical aspects of lipids particularly their synthesis, more information can be extracted for the following applications: (i) their nutritional value in diet; (ii) novel use of lipids in the treatment of disease and medical applications; (iii) application of lipid products and their derivatives in oleochemical and fine chemical industries. The importance of lipids in the food industry and their nutritional value have to some extent influenced the lifestyle and eating habits of people throughout the world. There is a shift of the consumption of lipid from animal-derived fat, particularly lard, to plant or vegetable-based lipid, since the latter contains high amounts of polyunsaturated fatty acid.

The book ends with chapters on recent developments in the biotransformation of lipids and the synthesis of pheromones. With the emergence of biotechnological development, the application of lipases for upgrading triglycerides to high added-value lipid-based products is considered one of the areas to be further exploited for the benefit of mankind. The existence of lipases and other relevant enzymes as powerful biocatalysts in organic synthesis, the advent of biocatalysts in low-water enviro-