

elution chromatography, is a nonlinear elution mode called high-performance displacement chromatography which is designed more for preparative and production-scale separation. A comprehensive review of the historical development of this technique is presented culminating with its present potential advantages.

The comprehensive presentation of each topic, aptly supported by tables and figures, provides a complete picture of each technique presented. A novice or an experienced chromatographer will find this book a useful guide and source of reference on HPLC.

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Principles of Polymer Systems, 3rd Edition. By Ferdinand Rodriguez, Hemisphere Publishing Corporation, New York, 1989. xiv + 640 pp. ISBN 0-891-16176-7. Price £35.00.

The use of polymers has increased significantly in the last few years, mainly with the advancement of biotechnology. Several industries use polymers as raw material for the manufacture of their products, and these industries can be identified as carbohydrates/polysaccharides, rubber, plastics, fibres, coating and adhesives. This book relates the behaviour of polymer systems whenever possible to examples from everyday experience, since many of the things we use, such as clothing, food and even our bodies are made up of polymer systems.

The applied chemistry and physics of polymers, including carbohydrates, lagged behind the technology for many years. Many contributions in this field were made following the macromolecular hypothesis proposal by Standinger in 1920, such as the studies of Emil Fisher on proteins, Meyer and Mark on cellulose, Carothers on poly-condensation, Ziegler in 1950 on synthetic catalysts, up until the discovery of large single crystals of high polymers a few years later.

This book gives a general view on polymer studies and basically elaborates on the kind of polymers contained in two broad classes; carbon chain polymers and heterochain polymers. Its contents include; Basic Structures of Polymers, Properties of Polymers, Degradation and Stabilization of Polymer Systems, Fabrication Process, Carbon Chain Polymers, Heterochain Polymers and Analysis and Identification of Polymers.

In summary, this book is sensibly organized, reads well, and provides knowledge to students of science and engineering who follow courses on polymers during their academic studies. This book is also of great value to researchers with no previous polymer experience.

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Cellulose and Wood: Chemistry and Technology. Edited by Conrad Schuerch, John Wiley & Sons Inc., New York, 1989. xi + 1638 pp. ISBN 0-471-51256-7. Price: £61.30.

A splendid collection of original research reports, this volume on cellulose provides an up to date record of progress made on cellulose and wood chemistry. The papers presented were aimed at furnishing new information gathered in recent years on biogenesis and structure of cellulose, characterization of cellulose structures, interaction of cellulose with moisture and electrolytes, microbial processes involved in synthesis of cellulose, surface chemistry of cellulose-wood-lignins and cellulosic membranes, as well as several other general papers. It is thus a rich collection of information in this ever expanding field of natural products.

The work has been dedicated to Professor Anatole Sarko, who is an internationally reputed authority on the chemistry of polysaccharides. He was very much associated with the organisation of the scientific program which this book represents.

The collection contains the valuable plenary lecture on 'Cellulosics as Advanced Materials' by Dr Robert H. Marche-Ssault and the illuminating lecture on 'Studies on the Inhibition of Carbohydrate Metabolism' by Dr Bruce Ganem. The former lecture pinpoints the close relationships of cellulosic materials with biomass, through ecology, energy and economy to technology at large, and stresses the truth that the progress of electronic printing technologies will have its bearing on advanced material challenges from cellulosics. The other paper marks an account of the biochemical significances of glycosides and the very many microbial pathways of their inhibition.

The papers dealing with cellulose structures provide details of such important and advanced techniques as X-ray fibre diffraction, Ramar Spectroscopy and solid-state ^{13}C NMR along with topics covering structure of cellulose and cellulose derivatives using their chiral