of naturally occurring sweeteners. A number of terpenoides, flavonoides and proteins have also been discovered as highly sweet plant constituents. Other sweeteners have been accidentally discovered, such as, saccharin, cyclamate, aspartame and acesulfame-K. Structural modification of known sweeteners has also been used, e.g. sucralose and alitame. The world market for synthetic sweeteners is on the way up. However, novel sweeteners intended for use in food supply must undergo rigorous review by government health agencies as a prerequisite to market approval.

The Future for Low-calorie Sweeteners in the European Community and Eastern Europe is based on a collection of ten papers presented at the International Sweeteners Association Annual Conference, Vienna. The speakers were from scientific circles, the European Commission, industry and national governments. The opening chapter, by Prof. Dr A. Somogyi provides a brief discussion on caloric restriction and health. The other chapters include a wide range of topics, such as, future developments in European Legislation relevant to sweeteners; perception, synergy, psychophysics and quality of sweetness; perception of low-calorie products in the USA; the changing image of sweeteners in advertising; sweetener regulation in the new democracies; consumer trends, research and use of sweeteners in Eastern Europe; and doing business in Eastern Europe.

This book covers a variety of issues in the field of sweeteners and is a useful reference for industrial product managers and those involved in the research and development of the subject.

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Crown Compounds: Toward Future Applications. S.R. Cooper, VCH Publishers, Inc., New York, 1992. x + 325 pp. Price £89.00. ISBN 1-56081-024-6.

The crown-ether field has gone through an evolutionary process in the past two decades. It has evolved into the more general host–guest field, for which the name 'supramolecular chemistry' has been given. Recently, the efforts in this area of chemistry have been placed under the broad rubric of molecular recognition. Examples of molecular recognition include antibody–antigen interactions, biochemical catalysis reactions, the DNA double helix, and incorporation of single enantiomeric forms of amino acids and sugars in metabolic pathways. Recent successes in imitating biochemical phenomena using small synthetic compounds has shown that biological behaviour can be engineered into simple molecules. Crown-ethers, for example, exhibit excellent ability to selectively bind cationic guests and have gained much popularity as enzyme models.

Crown Compounds: Toward Future Applications discusses various areas of research in crown compounds and speculates on where likely future applications might arise. It contains sixteen chapters which include investigations on several distinct areas, such as, redox-active polyether ligands; macrocycles for medical applications; computer modelling of metal-containing macrocyclic ligand systems; design of macrocyclic polyamine ligands; and developments in the field of functionalized tetraazomacrocycles. It also discusses selective complexation of organic and inorganic guests, enantiomeric recognition, thiacrown ethers and torands, a new class of cation receptors.

Each chapter provides a very interesting reference work of direct relevance for researchers in this field.

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Cellulose Hydrolysis and Fermentation. J. Coombs and G. Grassi, CPL Press, Newbury, 1993. 238 pp. Price £45.00. ISBN 1-872691-60-9.

Over the last decade considerable progress has been made towards understanding, manipulating and commercializing processes for enzymatically hydrolyzing cellulose to fermentable sugars. Much of this effort was spurred by concern over the escalating cost and reduced availability of fossil fuels. More recently, concern over the environmental impact of fossil fuels has stimulated again wide interest in the sector of renewable resources. This effort is critical for increasing the economic and technical viability of processes using enzymatic hydrolysis to convert cellulose to food, energy and chemicals.

Cellulose Hydrolysis and Fermentation is the proceedings of a workshop held in Brussels, Belgium, which was attended by the participants of the Concerted Action on Enzymatic Hydrolysis and supported by the Commission of the European Communities. It contains twenty two chapters which include investigations on several distinct areas, ranging from genetic engineering to pilot fermentation; from bacteria, through actinomycetes to fungi and from artichokes to straw. The common theme being the search for improved methods of using lignocellulosic materials for the production of fuels, chemicals, fertilizers and paper/pulp by biological means. One of the highlights is the work on *Clostridium thermocellum*, which includes both the nature and function of non-catalytic structural proteins in the cellulosome and the detailed three dimensional structure of endoglucanase CelD.

This book provides an interesting and up to date coverage of the subject and is a useful reference for researchers working in this field.

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