

BOOK REVIEW

Developments in Food Carbohydrates – 2. Edited by C. K. Lee. Applied Science Publishers Ltd, London, 1980. Pp. xii + 397. ISBN 0-85334-857-X. Price: £30.00.

The increase in interest and application of biotechnology in the last few years has led to an awareness that many naturally occurring carbohydrates have potential as raw materials for the chemical industry. One group of carbohydrates, available in great abundance, is that of the naturally occurring di- and tri-saccharides. These carbohydrates have attracted considerable attention from biochemists, food scientists, nutritionists, medical scientists and physicians because of the role they play in nutrition and disease. Chemists and technologists are also interested in these compounds, partly from a desire to extend the understanding of the fundamental chemistry of these compounds and partly from their presence in biologically active materials such as antibiotics.

Traditional carbohydrate texts seldom devote more than a passing reference to this group of compounds, and frequently any reference is restricted to their structure and occurrence. *Developments in Food Carbohydrates – 2* brings together under one cover the most recent developments and future trends in oligosaccharide chemistry. The book is divided into eight chapters, the first six of which deal with the individual oligosaccharides; trehalose, sucrose, raffinose, melezitose, maltose, cellobiose and lactose. These chapters have been organised to include discussion on the source, biosynthesis, properties and industrial uses of the oligosaccharide, followed by a detailed but critical summary of its chemistry, the synthesis of a number of derivatives and analytical methods available. Each chapter is concluded by tabulated lists of physical constants of the existing analogues and derivatives of the oligosaccharide.

The remaining two chapters are devoted to aspects of oligosaccharides in general but with emphasis being directed toward the subject compounds. The first of these chapters provides a timely reminder to the use of alternatives to the ever more costly petrochemical derivatives for surface active agents. The cost and rapidly diminishing resources of petrochemicals is making the alternative of using carbohydrates more and more feasible, particularly in this pollution conscious age, because of the unique bio-

degradability of sugar derivatives. The remaining chapter, on carbon-13 nuclear magnetic resonance spectroscopy and its application to food-directed oligosaccharides, provides an up-to-date account of this rapidly expanding area of carbohydrate analysis and includes many tables of coupling constants, etc. which are invaluable to those involved in interpreting analytical data in this field.

The editor has succeeded in producing a volume in keeping with the aim of the other volumes in the Developments Series, namely of publishing material from many sources in a single volume in a rapid manner whilst providing a text which is both interesting and readable. The inclusion of extensive tables of physical constants makes this an ideal and valuable reference book to all those involved in this area of carbohydrate chemistry. In addition this book provides an in depth review to the less involved reader and is a suitable source book for lecturers, etc. in carbohydrate chemistry.

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