

Carbohydrates as Organic Raw Materials III. Herman van Bekkum, Harald Roper and Fons Voragen (eds.), VCH, Weinheim, Germany, 1996, x + 315 pp., DM 178.00, ISBN 3-527-30079-1

Carbohydrates are versatile natural materials and can be used as they are, in a processed form or in a chemically modified form. Although they are available in nature in abundance, the present industrial utilization of the total available natural carbohydrates is rather small. This, however, is expected to increase with the development of non-food utilization of agricultural products and as the search for new environmentally friendly product continues.

"*Carbohydrates as Organic Raw Materials III*" details the presentations held at the Third Workshop on Carbohydrates as Organic Raw Materials, Wageningen, The Netherlands, which was organized by the Carbohydrate Research Foundation. This volume contained several new topics which were not discussed in the preceding two workshops, for example, insulin, lactose and lactic acid and a topic which was not presented at the workshop, but relevant to the subject—metal-catalyzed oxidation and hydrogenation.

The papers in this volume were mainly contributed by people from the industries; thus the subject discussed is broad and is written with an overview style (except for the chapter on starch and dextrin in emulsion copolymerization which was written in a more specific research report format). As is the case in other multi-author books, the scope and depth of discussion is not consistent. The paper on lactic acid focuses more on the practical processing and application aspects, whilst others on cell wall polysaccharides, insulin, lactose, fermentation and starch were more comprehensive, containing discussions on theoretical details like properties and other chemical aspects. However, they all give an excellent review of the current status and future development of the carbohydrates as chemical raw materials of the respective industries.

All in all, the chapters have been well written, and are easily comprehensible with good diagrams and illustrations. "*Carbohydrates as Organic Raw Materials III*" would be a valuable reference not only for researchers but also for those people involved in the relevant industries.

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Comprehensive Polymer Science—Second Supplement. S.L. Aggarwal and S. Russo (eds.), Elsevier Science, Oxford, 1996, x + 763 pp., price \$385.00, ISBN 0-08-042708-1

Polymer chemistry is a very important and extremely broad topic involving the study of the synthetic char-

acteristics and physico-chemical properties of large molecules formed by the repetition of small chemical units called monomers.

This book is the second supplement to a seven-volume treatise on polymer science. It is a reference work consisting of 19 chapters, each written by a different author(s). The first 12 chapters cover recent developments in six areas of interest (catalysis, mechanisms and kinetics; synthesis and novel structures; advanced characterisation methods; crystallisation and other phase transitions; structure–property relationships; and theories of rubber elasticity), and the remaining seven chapters are committed to special topics of current interest.

The content of these chapters varies from the theoretical work such as 'Statistical Thermodynamics of Copolymers and their Blends' to practical subjects like 'Overview of Polymer Recycling Technologies'. All chapters are written as self-contained review articles and are aimed at a research audience. Each chapter is provided with a comprehensive list of references (typically around 200 in number).

In general, the style is to outline the chronological development of the subject matter described and the reader is often directed to the original work for details. As a consequence, a critical reader would probably want to use this book in a library where they can easily obtain the references cited. The book is well presented, with clear diagrams and photographs. It provides an excellent introduction to the literature for the topics covered and access to it would be an asset to any research scientist starting out in one of these areas.

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Magnetic Resonance in Food Science. P.S. Belton, I. Delgadillo, A.M. Gil and G.A. Webb (eds.), The Royal Society of Chemistry, Cambridge, 1995, ix + 292 pp., price £55.00, ISBN 0-85404-725-5

Nuclear magnetic resonance (NMR) spectroscopic techniques are undoubtedly some of the most widely used, informative and powerful analytical tools currently at the disposal of the research scientist. However, the application of these techniques to complex multicomponent systems such as food materials has only really developed over recent years and significant progress continues to be made. This volume is based upon the proceedings of the '*Second International Conference on Applications of Magnetic Resonance in Food Science*' which was held in Portugal, and is essentially divided into four main subject areas. The first area contains eight chapters which deal with the developing scene of magnetic resonance applications. An introductory chapter on the basic principles and applications of magnetic resonance paves the way for