

**Bound Carbohydrates in Nature.** Leonard Warren, Cambridge University Press, Cambridge, 1994. 125 pp. Hardback £25.95; paperback £11.95. ISBN 0-521-44231-1 hb; ISBN 0-521-44743-7 pb.

Glycoproteins are a vast array of molecular entities having a broad spectrum of biological activities. The carbohydrates of glycoproteins have many functions, and the heterogeneous presence of the carbohydrate and its covalent attachment to the protein backbone suggest that different bound monosaccharides play different roles in the biochemical manifestations of the macromolecule. Given the plethora of stereochemical variants in carbohydrates this is hardly surprising.

This book is based on a series of lectures given by the author at the University of Siena under the auspices of the Accademia Nazionale dei Lincei as part of the Lezioni Lincee series of lectures reflecting the author's career and interests; this volume follows the historical development of the biochemistry of bound carbohydrates.

Beginning with an introduction to glycoproteins as the basis for a discussion of the properties, function and distribution of bound carbohydrates, the author moves on to examine sialic acids, natural derivatives of neuraminic acid, in detail. The biochemistry and chemistry of sialic acids is dealt with comprehensively from synthesis and distribution to modifications and degradation, concentrating on the enzymatic pathways involved.

The discussion of the role of sialic acids in cellular disorders and cancer leads into the final section on the multidrug resistance of the glycoprotein P-170. The mechanism and activation of P-170 is discussed in some depth and a number of current theories and problems are presented to the reader. Overall this book is a useful source of information for chemists and biochemists new to the field either as molecular biologists or in the pharmaceutical industry.

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**Food Colloids and Polymers: Stability and Mechanical Properties.** Edited by E. Dickinson and P. Walstra, Royal Society of Chemistry, Cambridge, UK, 1993. 427 pp. Price £69.50. ISBN 0-85186-325-6.

The majority of commercially manufactured food products which are currently consumed are colloidal systems containing polymers. The stability and

mechanical properties of these colloidal systems determine the final characteristics of the food product. An understanding of the formation of polymer colloids, their microstructure, mechanical properties, stability and rheology of mixed biopolymer systems must be achieved to enable the food manufacturing companies to provide consumer acceptable products.

This book, *Food Colloids and Polymers: Stability and Mechanical Properties*, details the proceedings of the International Symposium on Food Colloids and Polymers held in Lunteren, The Netherlands, which was organised jointly by the Food Chemistry Group of the Royal Society of Chemistry (UK) and the Netherlands Society for Nutrition and Food Science. It was the fourth in a series of biennial spring symposia on food colloids, the proceedings of which have also been published by The Royal Society of Chemistry.

The conference programme was arranged around a series of invited overview lectures which were complemented by both oral and poster presentations. The book follows a similar format, being divided into five sections: aggregation phenomena, polymer-polymer interactions particularly protein/polysaccharide starch interactions, structure and rheology, fracture properties, and interfacial phenomena with each section containing most of the invited and contributed papers and also short papers on approximately half of the poster presentations. As such it gives a good representation of the spectrum of presentations and current research being undertaken as reflected by the symposia attendees. The book is an up-to-date account of the latest experimentation and concepts which are relevant to the understanding of colloids, liquid/solid foodstuffs and covers both stability and mechanical properties including deformation of particles, emulsion droplets and factors including composition, structure and dynamic properties. The role of adsorbed polymers, proteins, polysaccharides and surfactants on controlling stability are also discussed.

This book is well written and produced to a high standard. The editors have done an excellent job in maintaining such a high standard from many authors. All the contributions are easy to read and contain much interesting and useful information on the current techniques available for studying the structure and dynamics of colloidal systems which are relevant to the food manufacturing industry.

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