New Books

J. F. Gerecht, Book Review Editor

Block and Graft Copolymerization, Edited by R.J. Ceresa (John Wiley & Sons, New York, N.Y., 1973, 371 p. $24.95).

This book represents an addition to the vast literature of polymer chemistry and technology. The field of block and graft copolymerization has been growing rapidly during the past decade, and, as the editor notes in his preface, over 6000 relevant references have appeared during that period. This book, which is the first volume of a two volume set, covers certain important aspects of block and graft copolymerization, with the remainder of the subject being covered in a forthcoming second volume.

The scope of the book can best be indicated by listing the chapter titles: "Synthesis of Graft and Block Copolymers of Starch" by George F. Fanta; "Properties and Applications of Graft and Block Copolymers of Starch," George F. Fanta; "Synthesis and Characterization of Natural Rubber Block and Graft Copolymers," R.J. Ceresa; "Properties and Applications of Block and Graft Copolymers of Natural Rubber," T.D. Pendle; "Synthesis of Elastomeric Block Copolymers by Anionic Polymerization," Lewis J. Fetters; "Properties and Application of Elastomeric Block Copolymers," G. Holden; "Grafting onto Wool and Silk," Kozo Arai; "Structure and Properties of Wool Graft Copolymers," Kozo Arai; "Properties and Applications of Wool Graft Copolymers," William L. Wasley; and "Summary of Literature on Graft Copolymerization on Wool."

As is evident, most of the chapters deal with specific graft and block copolymers derived from such materials as starch, natural rubber, and wool and silk. A relatively small proportion of the book is devoted to general information dealing with the synthesis, properties, and applications of block copolymers; these are Chapters 5 and 6. An introductory chapter describing the general principles involved in the preparation, isolation, handling and applications of block and graft copolymers would have been welcome prior to the detailed descriptions of specific graft and block copolymers. Although much of this material already has appeared in older literature, there is an advantage in having such material in a current volume.

Each of the chapters is well written and covers its subject field well, even though the coverage is not particularly up to date. In most of the chapters, the latest literature references found were for 1968; and, in one chapter, all of the literature references but two ended with 1958, and the two other references were taken from literature in 1962 and 1963. Considering the vast growth in the field of block and graft copolymerization since 1962, this failure to include more current literature is a major defeat in this book. The editor has attempted to correct this by providing a series of more recent literature references in the appendix and in addenda to chapters 1-9. Such a procedure is better than nothing but does not excuse the exclusion of current literature information in the explicit chapters under discussion.

There is relatively little in this book of interest to lipid chemists, although it is quite apparent that fat-derived monomers easily could be used in many of the applications where the more conventional monomers have been studied.

The book lists for $24.95 which seems a bit high for a book of ca. 370 pages which is not up to date.

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