

This book is very useful reading for professionals who are in both the chemical, polysaccharide and oil industries and is attractively priced so as not to deter the casual reader.

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Telechelic Polymers: Synthesis and Applications. Edited by E. J. Goethals, CRC Press, Inc., Boca Raton, Florida, 1989. 402 pp. ISBN 0 8493 6764 6. Price: £126.00.

Three main classes of synthetic compounds can be distinguished in organic and polymer chemistry: monomers, oligomers and polymers. In the last two decades other types of molecules, called telechelics, which can be classified between oligomers and polymers, have gained increasing interest in chemistry and industry. Telechelic polymers are usually biofunctional linear polymers having reactive groups at their extreme positions-chain ends. However, a number of telechelic polymers have functionality other than two; star trifunctional or tetrafunctional telechelic polymers are commercially available. These oligofunctional prepolymers are impressive because of the great versatility of their applications, e.g. as organic intermediates, sealants, coatings, and as reactive compounds in many fields. Also important is the role of telechelic polymers in the basic research of network formation and rubber elasticity.

One of the primary goals in the synthesis of telechelics is to provide bifunctional chemically inert segments capable of modifying condensation polymers. Almost all classical synthetic methods for the preparation of polymers have been used for the production of telechelics. This book provides the interested reader with an overview and a starting point for more detailed investigation of these synthetic methods which are classified according to the mechanism of polymerization, such as stepwise polymerization, free radical polymerization, anionic and group transfer, and cationic and ring-opening polymerization. Moreover, this book includes chapters on: controlled degradation of polymers as a method to produce telechelics, macromonomers, chemical transformation of the functional end-groups, polyols used in polyurethane

technology, and 'halato telechelics', which are those carrying electrically charged end-groups. The last contribution presents a theoretical study of the properties of model polyurethane networks. A useful review table, which allows a search for combinations of polymer backbones and reactive end-groups has also been provided.

It seems that both research and applications of telechelics are still in the early developing stage and represent a tremendous challenge to chemical and interdisciplinary research. Therefore, this book is full of interest and is a necessary text for all libraries concerned with organic and macromolecular chemistry.

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