

1. Record Nr.	UNINA9910797524303321
Titolo	Chemical and structure modification of polymers / / edited by Kajetan Pyrzynski, PhD, Grzegorz Nyszko, PhD, Gennady E. Zaikov, DSc
Pubbl/distr/stampa	Oakville, ON : , : Apple Academic Press, , [2016] ©2016
ISBN	0-429-17344-X 1-4987-2744-1
Descrizione fisica	1 online resource (431 p.)
Disciplina	547/.7
Soggetti	Polymers Polymerization
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
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Sommario/riassunto

"This timely volume provides an overview of polymer characterization test methods and presents experimental research in polymers using modern methods. Each chapter describes the principle of the respective method, as well as the detailed procedures of experiments with examples of actual applications and demonstrates the advantage and disadvantages of each physical technique. Thus, readers will be able to apply the concepts as described in the book to their own experiments. The successful characterization of polymer systems is one of the most important objectives of today's experimental research of polymers.

Considering the tremendous scientific, technological, and economic importance of polymeric materials, especially in industry, it is impossible to overestimate the usefulness of experimental techniques in this field. Since the chemical, pharmaceutical, medical, and agricultural industries, as well as many others, depend on this progress to an enormous degree, it is critical to be as efficient, precise, and cost-effective in our empirical understanding of the performance of polymer systems as possible. This presupposes our proficiency with, and understanding of, the most widely used experimental methods and techniques. The methods and instrumentation described in this volume represent modern analytical techniques useful to researchers, product development specialists, and quality control experts in polymer synthesis and manufacturing. Engineers, polymer scientists, and technicians will find this volume useful in selecting approaches and techniques applicable to characterizing molecular, compositional, rheological, and thermodynamic properties of elastomers and plastics."

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