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Autore	Hagiopol Cornel
Titolo	Copolymerization [[electronic resource]] : Toward a Systematic Approach / / by Cornel Hagiopol
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Nota di contenuto	1. Binary Copolymerization -- 1.1. Copolymers and Copolymerization Processes -- 1.2. The Terminal Kinetic Model: The Copolymer Composition Equation -- 1.3. Copolymerization Reaction Types -- 1.4. The Integral Form of the Copolymerization Equation -- 1.5. Use of the Differential and Integral Forms of the Mayo—Lewis Equation to Describe Copolymerization Processes -- 2. Estimation of Reactivity Ratios -- 2.1. Analysis of Experimental Data -- 2.2. How Consistent Are Existing Reactivity Ratios? -- 2.3. Differential Methods for Calculating Reactivity Ratios -- 2.4. Preliminary Remarks on an Experimental Strategy for Estimating Reactivity Ratios -- 2.5. Shortcomings of Differential Methods when Conversion Is Taken into Account -- 2.6. Estimation of Reactivity Ratios when Conversion Values Are Taken into Account -- 2.7. The Use of Composition versus Conversion Data in Estimating Reactivity Ratios -- 2.8. Recalculated Values for Reactivity Ratios -- 2.9. Experimental Errors and Effectiveness of theQ—eScheme -- 3. Ternary Copolymerization -- 3.1. The Terminal Kinetic Model: The Alfrey—Goldfinger Equation. -- 3.2. Estimation of Reactivity Ratios Directly from Ternary Copolymerization Data -- 3.3. Azeotropy with Ternary Copolymerization -- 3.4. Consistency of Reactivity Ratio Values Used in Ternary Copolymerization -- 3.5. Do Ternary Azeotropes Exist? (Pseudoazeotropy) -- 4. Going Beyond the Limits of the Terminal Model -- 4.1. The Extent to Which the Mayo—Lewis Equation Can Fit All Copolymerization Data -- 4.2. Higher Order Kinetic Models -- 4.3. The Potential of Experimental Composition Data -- 4.4. Optimal Experimental Design for Estimating Reactivity Ratios -- 4.5. Model Discrimination -- 4.6. Generalized Kinetic Model for Binary Copolymerization -- 5. Homogeneous and Heterogeneous Copolymerization -- 5.1. Copolymerization within Initially Homogeneous Systems -- 5.2. Emulsion Copolymerization -- 5.3. Copolymer Composition and the Mechanism of Emulsion Copolymerization -- 6. Running a Copolymerization Process.
Sommario/riassunto	Copolymerization is a very widely used industrial process, in fact the dominant process in macromolecular chemistry. With the advent of widespread computing power, this book will be very useful both to academic researchers in copolymerization and to researchers in industry concerned with the synthesis of polymers such as plastics, rubbers, chemical fibers, and paints. A disk with 15 computer programs accompanies the book.