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Nota di contenuto	Transreactions in Condensation Polymers; CONTENTS; Chapter 1 Interchange Reactions in Condensation Polymers and Their Analysis by NMR Spectroscopy; 1. Introduction; 2. Nuclear magnetic resonance as an analytical tool (1H, 13C, 15N and 29Si NMR); 2.1. Basics of the method; 2.2. High resolution NMR of polymers; 3. Interchange reactions involving different functional groups; 3.1. Reactions taking place in polyesters involving ester groups; 3.2. Reactions taking place in polyamides involving amine and amide groups; 3.3. Interchange reactions involving Si-O bonds 3.4. Interchange reactions involving urethane and urea groups 4. Concluding remarks; References; Chapter 2 Effects of Catalysts in the Reactive Blending of Bisphenol A Polycarbonate with Poly (alkylene terephthalate)s; 1. Introduction; 1.1. An outlook on reactive blending of polyesters and polycarbonates; 1.2. Bisphenol A polycarbonate: an

overview; 1.3. Poly(alkylene terephthalate)s: an overview; 1.4. Blends of PC and poly(alkylene terephthalate)s: a literature survey; 2 . Possible reactions occurring during melt-mixing of polyesters and PC; 2.1. Exchange reactions; 2.2. Side reactions
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3 . Evolution of the chemical structure during melt-mixing; 3.1. Approaches to the investigation of the resulting chemical structure; 3.2. Effects of catalysts in the reactive blending of PC/polyester systems; 4 . Conclusions; References; Chapter 3 Model Studies of Transreactions in Condensation Polymers; 1 . Introduction; 2 . Theoretical; 2.1. Microstructure of copolycondensates from transreactions; 2.2. Kinetics of transreaction; 3 . Application to the PC/PBT system; 3.1. Microstructural study; 3.2. Kinetic study; 3.3. Mechanism of the PC/PBT transcondensation
4 . General discussion and conclusion
References; Chapter 4 Copolymer Composition: a Key to the Mechanisms of Exchange in Reactive Polymer Blending; 1 . Introduction; 2 . Exchange mechanisms of reactive polymers in the melt; 3 . Exchange reactions occurring by inner-inner mechanism (Case 1); 3.1. Capped PBT/PC blends; 3.2. Capped PET/PC blends; 4 . Exchange reactions occurring by outer-inner mechanisms; 4.1. PET/PTX blends (Case 2); 4.2. PET/PEA blends (Case3); 4.3. PBT/PC blends (Case4); 4.4. PET/PC blends (Case4); 4.5. Nylon 6/PC blends (Case5); 5 . Conclusions; Appendix
Monte Carlo modelling of exchange reactions
References; Chapter 5 Interchain Transesterification Reactions in Copolyesters; 1 . Introduction and background; 2 . Synthesis and microstructure; 3 . Randomisation processes; 4 . Sequence ordering; 5 . Adhesive bonds in polyesters formed by ITR; 5.1. Liquid-crystalline copolyesters; 5.2. ITR in thermosetting polyesters; 6 . Mechanism of adhesive bond formation; References; Chapter 6 Inhibition of Transreactions in Condensation Polymers; 1 . Introduction; 1 . 1. Polymer blends; 1.2. Reactive compatibilisation; 1.3. Transreaction during melt-blending
2 . Control of transesterification in polyester blends

Sommario/riassunto

The ability of condensation polymers to undergo additional chemical reactions, so-called transreactions, is really fascinating. These processes lead to novel copolymers with desired composition and sequential order, allow to enhance the compatibility and to minimize molecular weight fluctuations during polycondensation and processing and to provide for chemical healing of laminates of condensation polymers. An international team of highly reputed polymer chemists and physicists discusses here, first of all, various types of transreactions, but additional condensations are also detailed in
