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| Nota di contenuto | Self-Doped Conducting Polymers; Contents; About the Authors; Preface; 1 Introduction; 1.1 Conducting Polymers; 1.1.1 History of Conjugated Conducting Polymers; 1.1.2 Concept of Doping in Intrinsically Conducting Polymers; 1.1.3 Conduction Mechanism; 1.1.4 Synthesis; 1.1.5 Processability; 1.2 Self-Doped Conducting Polymers; 1.3 Types of Self-Doped Polymers; 1.4 Doping Mechanism in Self-Doped Polymers; 1.4.1 p-Type Doping; 1.4.2 n-Type Doping; 1.4.3 Auto Doping; 1.5 Effect of Substituents on Properties of Polymers; 1.5.1 Solubility; 1.5.2 DC Conductivity; 1.5.3 Molecular Weight 1.5.4 Redox Properties 1.5.5 Electronic and Spectroscopic Properties; 1.5.6 Mechanical and Thermal Properties; 1.6 Applications of Self-Doped Polymers; 1.6.1 Molecular Level Processing; 1.6.2 Transistors; 1.6.3 Biosensors; 1.6.4 e-Beam Lithography; 1.6.5 Electrochromic Devices; 1.6.6 Ion Exchangers; 1.6.7 Rechargeable Batteries; 1.6.8 Dip-Pen Nanolithography; References; 2 Self-Doped Derivatives of |

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2.3 Electrochemical Synthesis of Sulfonic Acid Derivatives 2.3.1 Aqueous Media; 2.3.2 Non-Aqueous Media; 2.4 Enzymatic Synthesis of Sulfonic Acid Derivatives; 2.5 Properties of Sulfonic Acid Derivatives; 2.5.1 Solubility; 2.5.2 Conductivity; 2.5.3 pH Dependent Redox Behavior; 2.5.4 Electronic and Spectroscopic Properties; 2.5.5 Molecular Weight; 2.5.6 Thermal Stability; 2.5.7 Morphology; 2.6 Synthesis and Characterization of Carboxylic Acid Derivatives; 2.6.1 Chemical Synthesis; 2.6.2 Electrochemical Synthesis; 2.7 Synthesis and Characterization of Phosphonic Acid Derivatives
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Sommario/riassunto

Self-Doped Conducting Polymers provides an introduction to conducting polymers in general and self-doped conducting polymers in particular. This is followed by an in depth exploration of the synthesis, properties and utilization of several types of self-doped polymers. Optimization of self-doped polymers is also discussed.
