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Nota di contenuto	Handbook of Oligo- and Polythiophenes; Contents; 1 The Chemistry of Conducting Polythiophenes: from Synthesis to Self-Assembly to Intelligent Materials; 1.1 Introduction; 1.2 Chemical Synthesis of Unsubstituted Polythiophene (PT); 1.3 Chemical Synthesis of Polyalkylthiophenes (PATs); 1.3.1 Straight Alkyl Side Chains; 1.3.1.1 Chemical Synthesis of PATs; 1.3.1.1.1 Metal Catalyzed Cross-coupling Polymerizations; 1.3.1.1.2 FeCl ₃ Method for the Polymerization of PATs; 1.3.1.2 Comparison of the Above Methods; 1.3.1.3 Regioregular PATs; 1.3.1.3.1 Regioregular HH-TT and TT-HH PATs 1.3.1.4 Regioregular, Head-to-Tail Coupled PATs1.3.1.4.1 The McCullough Method; 1.3.1.4.2 The Rieke Method; 1.3.1.4.3 The Mechanism and Catalyst Choice; 1.3.1.4.4 NMR Characterization of HT-PAT; 1.3.1.4.5 IR and UV-Vis; 1.3.1.4.6 Self-Assembly, X-ray, and Electrical Conductivity in HT-PATs; 1.3.1.4.7 Other Methods; 1.3.1.4.8 Random Copolymers of Alkyl Thiophenes; 1.3.1.4.9 Head-to-Tail Coupled, Random Copolymers of Alkyl Thiophenes; 1.3.1.5 Branched

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This first concise handbook on this important new class of organic conducting materials gives a broad survey over this emerging field of research. The physical background is covered as well as the synthesis, electronic and nonlinear optical properties and applications of these advanced materials. This information will be of high value for graduate students, researchers and practitioners working in the interdisciplinary field of materials science, polymer and organic chemistry and applied physics.

2. Record Nr.	UNISALENTO991003695629707536
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