

Table of Contents

Preface

Conducting Polymers - Present State of Physical Understanding S. Roth	1
Mechanisms of Conductivity in Conjugated Polymers and Relations to Morphology J. Plochanski	17
Electron Transport in Photoconducting Polymers A.V. Vannikov, A.G. Tyurin, A.Y. Kryukov and T.S. Zhuravleva	29
Does the Study of Heterogeneous Photoconductors Offer a Useful Conception for Charge Carrier Transport in Conducting Polymers? M. Kryszewski and J. Ulanski	39
Stationary State of the Junction between Metal and Quasi-One-Dimensional Semiconductor N.N. Kirova	45
Electrochemical Behaviour of Some Hybridized Conducting Polymers: Recent Developments G. Bidan, B. Blohorn, B. Ehui, M. Lapkowski, J.M. Kern and J.P. Sauvage	51
Cyclic Voltammetry as a Tool for Characterizing Conducting Polymers J. Heinze and M. Dietrich	63
Electrochemistry of Polythiophenes B. Krische and M. Zagorska	79
Electrochemical Cycling of Polyaniline: Proton Transfer and ESR Susceptibility F. Genoud, C. Ménardo and M. Nechtschein	85
On the Cis/Trans-Isomerisation of Polyacetylene [1] - A Voltammetric Study - K. Meerholz and J. Heinze	91
Optical Studies on Polymers Prepared by Anodic Oxidation L.M. Abrantes, J.C. Mesquita and L.M. Peter	95
Mechanism and Kinetics of Dark Redox Reactions at Polythiophene Film Electrodes M.D. Levi	101
Recent Advances in the Synthesis and Doping of Conducting Polymers A. Pron and I. Kulszewicz-Bajer	111
Synthesis, Electrical and Electrochemical Properties of Ladder Polymers - A New Class of Conducting Polymers L. Wuckel	121
Electrochemical Properties of Thermally Structurized Polymers K. Jobst, L. Sawtschenko, M. Schwarzenberg, L. Wuckel and A. Zujeva	131
Electronic Properties of Phenylene-Thienylene Copolymers W. Czerwinski, J. Fink, N. Nücker and F. Rozploch	137
Electronic Properties of Potassium Doped Oriented Polyacetylene N. Coustel, C. Fite and P. Bernier	143
Investigations of the Anodic Polymerisation of Ortho- and Meta-Toluidine with the EQMB A. Thyssen, A. Hochfeld and J.W. Schultze	151
Mass Transport Phenomena Related to the Redox Behaviour of Polycarbazole and Poly-O-Phenylenediamine - A Quartz Crystal Microbalance Study - B. Schreck, I. Kamphausen and J. Heitbaum	161
Conduction Electron Spin Resonance of Low-Dimensional Solids under Hydrostatic Pressure A. Graja	167
In-Situ Ellipsometric Studies of Electrochemically Synthesized Thin Polyaniline Films B.K. Grodzicka and K. Brudzewski	179
PEO Based Highly Conductive Solid Electrolytes J. Przyluski, K. Such and W. Wieczorek	185
Polymer Electrolytes with the Multivalent Cations Hg²⁺ and La³⁺ P.G. Bruce, F. Krok, J. Nowinski, F.M. Gray and C.A. Vincent	193
Ion Transport in Hydrophilic Polymers M.R. Tarasevich, S.B. Orlov and E.I. Shkolnikov	199

Conducting Polymers and Their Applications B. Scrosati	207
Poly(Pyrrole-Cobaltporphyrin) Film Modified Electrodes: Preparation and Catalytic Application F. Bedioui, P. Bernard, P. Moisy, C. Bied-Charreton and J. Devynck	221
Electrochemistry of Carbon Fibers J. Przyluski and A. Darkowski	225
The Concept of Fractals Applied to Electrically Conducting Composites J. Bargon, A. Zimmermann and M. Röwekamp	233