Record Nr. UNINA9911019744603321 Electropolymerization: concepts, materials and applications // edited **Titolo** by Serge Cosnier and Arkady Karyakin Pubbl/distr/stampa Weinheim,: Wiley-VCH, c2010 **ISBN** 9786612783869 9783527642045 3527642048 9781282783867 1282783866 9783527630592 3527630597 9783527630608 3527630600 Descrizione fisica 1 online resource (298 p.) Altri autori (Persone) CosnierSerge KaryakinArkady Disciplina 620.19204297 Soggetti Polymers - Electric properties Conducting polymers Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Electropolymerization; Contents; Preface; List of Contributors; 1 Electropolymerized Films of p-Conjugated Polymers. A Tool for Surface Functionalization: a Brief Historical Evolution and Re; 2 Mechanisms of Electropolymerization and Redox Activity: Fundamental Aspects; 3 Electrochemical Impedance Spectroscopy (EIS) for Polymer Characterization; 4 Recent Trends in Polypyrrole Electrochemistry, Nanostructuration, and Applications 77; 5 Electropolymerized Azines: a New Group of Electroactive Polymers; 6 Electropolymerization of Phthalocyanines; 7 Imprinted Polymers 8 Gas Sensing with Conducting Polymers9 Chemical Sensors Based on Conducting Polymers; 10 Biosensors Based on Electropolymerized

Films; 11 Inherently Conducting Polymers via Electropolymerization for

Sommario/riassunto

Energy Conversion and Storage; 12 Electrochemomechanical Devices: Artificial Muscles; Index

Providing extensive coverage, including conducting, insulating and electroactive films, this handbook and ready reference deals with introductory topics and fundamentals as well as advanced insights. Clearly structured, in the first part of the book readers learn the fundamentals of electropolymerization for all important types of polymers, mechanisms of film formation and functionalization, while the second part covers a wide range of applications in biochemistry, analytics, photovoltaics, energy and the environment as well as actuators.