Record Nr. UNINA9910830416803321 Electropolymerization [[electronic resource]]: concepts, materials and **Titolo** applications / / edited by Serge Cosnier and Arkady Karyakin Pubbl/distr/stampa Weinheim,: Wiley-VCH, c2010 **ISBN** 3-527-64204-8 1-282-78386-6 9786612783869 3-527-63059-7 3-527-63060-0 1 online resource (298 p.) Descrizione fisica Altri autori (Persone) CosnierSerge KaryakinArkady Disciplina 620.19 620.19204297 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 Energy Conversion and Storage; 12 Electrochemomechanical Devices: Artificial Muscles; Index Sommario/riassunto 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 electropolymerizatoin 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.