1. Record Nr. UNINA9910678133403321 Autore Fuchigami Toshio **Titolo** Fundamentals and applications of organic electrochemistry: synthesis, materials, devices / / Toshio Fuchigami, Mahito Atobe, Shinsuke Inagi Pubbl/distr/stampa London, England: ,: John Wiley & Sons, Inc., , [2014] ©2014 **ISBN** 1-118-67074-4 1-118-67075-2 1-118-67073-6 Descrizione fisica 1 online resource (241 p.) Disciplina 547/.137 Soggetti Chemistry, Organic Electrochemistry Organic electrochemistry Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Includes bibliographical references and index. Nota di bibliografia Nota di contenuto Fundamentals and Applications of Organic Electrochemistry: Synthesis. Materials, Devices: Contents: About the Authors: Preface: Introduction: 1. Fundamental Principles of Organic Electrochemistry: Fundamental Aspects of Electrochemistry Dealing with Organic Molecules: 1.1 FORMATION OF ELECTRICAL DOUBLE LAYER; 1.2 ELECTRODE POTENTIALS (REDOX POTENTIALS); 1.3 ACTIVATION ENERGY AND OVERPOTENTIAL: 1.4 CURRENTS CONTROLLED BY ELECTRON TRANSFER AND MASS TRANSPORT; References; 2. Method for Study of Organic Electrochemistry: Electrochemical Measurements of Organic Molecules; 2.1 WORKING ELECTRODES 2.2 REFERENCE ELECTRODES2.3 AUXILIARY ELECTRODES; 2.4 SOLVENTS AND SUPPORTING ELECTROLYTES; 2.5 CELLS AND POWER SOURCES; 2.6 STEADY-STATE AND NON-STEADY-STATES POLARIZATION CURVES; 2.7 POTENTIALS IN ELECTROCHEMICAL MEASUREMENTS: 2.8 UTILIZATION

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This textbook is an accessible overview of the broad field of organic electrochemistry, covering the fundamentals and applications of contemporary organic electrochemistry. The book begins with an introduction to the fundamental aspects of electrode electron transfer and methods for the electrochemical measurement of organic molecules. It then goes on to discuss organic electrosynthesis of molecules and macromolecules, including detailed experimental information for the electrochemical synthesis of organic compounds and conducting polymers. Later chapters highlight new methodology for organic