1. Record Nr. UNINA9910139520903321

Titolo	Electrochemistry of functional supramolecular systems [[electronic resource] /] / edited by Paola Ceroni, Alberto Credi, Margherita Venturi
Pubbl/distr/stampa	Hoboken, NJ, : Wiley, c2010
ISBN	1-282-49140-7 9786612491405 0-470-58346-0 0-470-58345-2
Descrizione fisica	1 online resource (632 p.)
Collana	Wiley series on on electrocatalysis and electrochemistry
Altri autori (Persone)	CeroniPaola CrediA (Alberto) VenturiM (Margherita)
Disciplina	547.137 547.7 547/.137
Soggetti	Supramolecular electrochemistry Supramolecular chemistry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index
Nota di contenuto	ELECTROCHEMISTRY OF FUNCTIONAL SUPRAMOLECULAR SYSTEMS; CONTENTS; Preface to the Wiley Series on Electrocatalysis and Electrochemistry; Foreword; Preface; Contributors; 1. Electrochemically Controlled H-Bonding; 2. Molecular Motions Driven by Transition Metal Redox Couples: Ion Translocation and Assembling-Disassembling of Dinuclear Double-Strand Helicates; 3. Molecular Encapsulation of Redox-Active Guests; 4. Dendritic Encapsulation of Redox-Active Units; 5. Redox-Active Metal-Polypyridine Dendrimers as Light-Harvesting Antennae; 6. Dendrimers as Multielectron Storage Devices 7. Self-assembled Monolayers and Multilayers of Electroactive Thiols8. Electrochemistry of Carbon Nanoparticles; 9. Molecular Devices Based on Fullerenes and Carbon Nanotubes; 10. Functional Electroactive Biomolecules; 11. Functional Nanoparticles as Catalysts and Sensors; 12. Biohybrid Electrochemical Devices; 13. Electroactive Rotaxanes and Catenanes; 14. Electrochemically Driven Molecular Machines Based on

Transition-metal Complexed Catenanes and Rotaxanes; 15. Electroactive Molecules and Supramolecules for Information Processing and Storage
16. Electrochemiluminescent Systems as Devices and Sensors17. Recent Developments in the Design of Dye-Sensitized Solar Cell Components; Index

Sommario/riassunto

With contributions from the most prominent experts around the world, this resource provides an accessible summary of electrochemical techniques and the applications of electrochemical concepts to molecular-level systems. It describes the most important electro-active functional supramolecular systems developed so far, including rotaxanes and catenanes as molecular machines and as elements for information processing; dendrimers as molecular batteries, sensors, light harvesting antennae, and drug delivery systems; and bio-hybrid devices