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| 1. Record Nr.           | UNINA9911020091203321                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Autore                  | Vos Johannes G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Titolo                  | Interfacial supramolecular assemblies // Johannes G. Vos, Robert J. Forster, Tia E. Keyes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Pubbl/distr/stampa      | Chichester ; ; Hoboken, NJ, : Wiley, c2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| Descrizione fisica      | 1 online resource (331 p.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Altri autori (Persone)  | ForsterRobert J<br>KeyesTia E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Disciplina              | 547.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Soggetti                | Supramolecular chemistry<br>Surface chemistry                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Lingua di pubblicazione | Inglese                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| Livello bibliografico   | Monografia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Note generali           | Description based upon print version of record.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Nota di bibliografia    | Includes bibliographical references and index.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Nota di contenuto       | INTERFACIAL SUPRAMOLECULAR ASSEMBLIES; Acknowledgments; Contents; 1 Introduction; 1.1 Introductory Remarks; 1.2 Interfacial Supramolecular Chemistry; 1.3 Objectives of this Book; 1.4 Testing Contemporary Theory Using ISAs; 1.5 Analysis of Structure and Properties; 1.6 Formation and Characterization of Interfacial Supramolecular Assemblies; 1.7 Electron and Energy Transfer Properties; 1.8 Interfacial Electron Transfer Processes at Modified Semiconductor Surfaces; Further Reading; 2 Theoretical Framework for Electrochemical and Optical Processes; 2.1 Introduction; 2.2 Electron Transfer<br>2.2.1 Homogenous Electron Transfer2.2.2 Heterogeneous Electron Transfer; 2.3 Photoinduced Processes; 2.3.1 Photochemistry and |

Photophysics of Supramolecular Materials; 2.3.2 Photoinduced Electron Transfer; 2.3.3 Photoinduced Energy Transfer; 2.3.4 Photoinduced Molecular Rearrangements; 2.4 Photoinduced Interfacial Electron Transfer; 2.4.1 Dye-Sensitized Photoinduced Electron Transfer at Metal Surfaces; 2.4.2 Dye-Sensitized Photoinduced Electron Transfer at Semiconductor Surfaces; 2.4.3 Photoinduced Interfacial Energy Transfer; 2.5 Elucidation of Excited-State Mechanisms; 2.6 Conclusions  
References and Notes  
3 Methods of Analysis; 3.1 Structural Characterization of Interfacial Supramolecular Assemblies; 3.1.1 Scanning Probe Microscopy; 3.1.2 Scanning Electrochemical Microscopy; 3.1.3 Contact Angle Measurements; 3.1.4 Mass-Sensitive Approaches; 3.1.5 Ellipsometry; 3.1.6 Surface Plasmon Resonance; 3.1.7 Neutron Reflectivity; 3.2 Voltammetric Properties of Interfacial Supramolecular Assemblies; 3.2.1 Electrochemical Properties of an Ideal Redox-Active Assembly; 3.2.2 The Formal Potential; 3.2.3 Effect of Lateral Interactions; 3.2.4 Diffusional Charge Transport through Thin Films  
3.2.5 Rotating Disk Voltammetry  
3.2.6 Interfacial Capacitance and Resistance; 3.3 Spectroscopic Properties of Interfacial Supramolecular Assemblies; 3.3.1 Luminescence Spectroscopy; 3.3.2 Fluorescence Depolarization; 3.3.3 Epifluorescent and Confocal Microscopy; 3.3.4 Near-Field Scanning Optical Microscopy; 3.3.5 Raman Spectroscopy; 3.3.6 Second Harmonic Generation; 3.3.7 Single-Molecule Spectroscopy; 3.3.8 Spectroelectrochemistry; 3.3.9 Intensity-Modulated Photocurrent Spectroscopy; 3.4 Time-Resolved Spectroscopy of Interfacial Supramolecular Assemblies; 3.4.1 Flash Photolysis  
3.4.2 Time-Resolved Luminescence Techniques  
3.4.3 Femtochemistry; 3.5 Conclusions; References; 4 Formation and Characterization of Modified Surfaces; 4.1 Introduction; 4.2 Substrate Choice and Preparation; 4.3 Formation of Self-Assembled Monolayers; 4.3.1 Solution-Phase Deposition; 4.3.2 Electrochemical Stripping and Deposition; 4.3.3 Thermodynamics of Adsorption; 4.3.4 Double-Layer Structure; 4.3.5 Post-Deposition Modification; 4.4 Structural Characterization of Monolayers; 4.4.1 Packing and Adsorbate Orientation; 4.4.2 Surface Properties; 4.5 Electrochemical Characterization  
4.5.1 General Voltammetric Properties of Redox-Active Monolayers

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## Sommario/riassunto

Describes the supramolecular properties of molecular assemblies that contain a solid phase, offering an integrated approach to measurement and addressability. \* Offers an integrated approach to measurement and addressability.\* Features case studies describing the major devices developed using this technology.\* The prospects for the future of interfacial supramolecular assemblies are considered.

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