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Autore	SHUFFELTON, Frank
Titolo	A mixed race : ethnicity in early America / edited by Frank Shuffelton
Pubbl/distr/stampa	New York : Oxford U.P., 1993
ISBN	0-19-507523-4
Descrizione fisica	VIII, 286 p. ; 22 cm
Soggetti	Letteratura americana - Periodo coloniale - 1600-1775
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Autore	Balzani Vincenzo <1936->
Titolo	Molecular devices and machines [[electronic resource]] : a journey into the nano world / / V. Balzani, A. Credi, M. Venturi
Pubbl/distr/stampa	Weinheim, : Wiley-VCH, c2003
ISBN	1-280-52043-4 9786610520435 3-527-60534-7 3-527-60160-0
Descrizione fisica	1 online resource (514 p.)
Altri autori (Persone)	VenturiM (Margherita) CrediA (Alberto)
Disciplina	540 547/.5 620/.5
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	Molecular Devices and Machines - A Journey into the Nano World; Preface; Reference; Contents; 1 General Concepts; 1.1 Devices and Machines at the Molecular Level; 1.2 Miniaturization of Devices and Machines; 1.3 Top-down (Large-downward) Approach; 1.4 Bottom-up (Small-upward) Approach; 1.4.1 Bottom-up Atom-by-atom; 1.4.2 Bottom-up Molecule-by-molecule; 1.5 Supramolecular (Multicomponent) Chemistry; 1.5.1 Comparison of Large Molecules with Supramolecular (Multicomponent) Systems; 1.5.2 Self-organization and Covalent Synthetic Design; 1.5.3 Supramolecular Chemistry, Art, and Nanotechnology ReferencesPart I Devices for Processing Electrons and Electronic Energy; 2 Fundamental Principles of Electron and Energy Transfer; 2.1 Introduction; 2.2 Photoinduced Electron- and Energy-transfer Processes; 2.2.1 Electron Transfer; 2.2.1.1 The Electronic Factor; 2.2.1.2 The Nuclear Factor; 2.2.2 Energy Transfer; 2.2.2.1 Coulombic Mechanism; 2.2.2.2 Exchange Mechanism; 2.2.3 Role of the Bridge; References; 3 Wires and Related Systems; 3.1 Introduction; 3.2 Conductivity Measurements; 3.3 Electron-transfer Processes at Electrodes; 3.4 Photoinduced Electron Transfer 3.4.1 Covalently Linked Systems Containing Metal Complexes3.4.2 Covalently Linked Systems Based on Organic Compounds; 3.4.3 Covalently Linked Systems Containing Porphyrins; 3.4.4 DNA and Related Systems; 3.5 Heterogeneous Photoinduced Electron Transfer; 3.6 Energy Transfer; 3.6.1 Covalently Linked Systems Containing Metal Complexes; 3.6.2 Covalently Linked Systems Based on Organic Compounds; 3.6.3 Covalently Linked Systems Containing Porphyrins; 3.6.4 DNA and Related Systems; References; 4 Switching Electron- and Energy-transfer Processes; 4.1 Introduction 4.2 Switching Electron-transfer Processes4.2.1 Photon Inputs; 4.2.1.1 Long-lived Switching; 4.2.1.2 Fast and Ultrafast Switching; 4.2.2 Redox Inputs; 4.2.3 Acid-Base Inputs; 4.2.4 Other Factors; 4.3 Switching Energy-transfer Processes; 4.3.1 Photon Inputs; 4.3.2 Redox Inputs; 4.3.3 Acid-Base Inputs; 4.3.4 Other Factors; References; 5 Light-harvesting Antennae; 5.1 Introduction; 5.2 Natural Antenna Systems; 5.3 Porphyrin-based Arrays; 5.4 Multichromophoric Cyclodextrins; 5.5 Dendrimers; 5.5.1 Dendrimers Containing Metal Complexes; 5.5.1.1 Metal Complexes as Cores 5.5.1.2 Metal Complexes in Each Branching Center5.5.2 Dendrimers Based on Organic Chromophores; 5.5.3 Dendrimers Containing Porphyrins; 5.5.4 Host-Guest Systems; 5.5.5 Photoinduced Electron Transfer; 5.6 Other Systems; 5.6.1 Polyelectrolytes; 5.6.2 Polymers; 5.6.3 Rotaxanes; 5.6.4 Zeolites; References; 6 Photoinduced Charge Separation and Solar Energy Conversion; 6.1 Introduction; 6.2 Natural Reaction Centers; 6.2.1 Introduction; 6.2.2 Bacterial Photosynthesis; 6.2.3 Photosystem II; 6.3 Artificial Reaction Centers; 6.3.1 Introduction; 6.3.2 Dyads; 6.3.3 Triads; 6.3.4 Tetrads and Pentads 6.3.5 Antenna-Reaction Center Systems
Sommario/riassunto	The miniaturization of bulky devices and machines is a process that confronts us on a daily basis. However, nanoscale machines with varied and novel characteristics may also result from the enlargement of extremely small building blocks, namely individual molecules. This bottom-up approach to nanotechnology is already being pursued in information technology, with many other branches about to follow. Written by a team of experienced authors headed by Vincenzo Balzani, one of the pioneers in the development of molecular machinesCovers

such diverse aspects as sensors, memory components