

1. Record Nr.	UNINA9910140460703321
Titolo	Fundamentals of conjugated polymer blends, copolymers and composites : synthesis, properties and applications // edited by Parveen Saini
Pubbl/distr/stampa	Salem, Massachusetts : , : Scrivener Publishing, , 2015 ©2015
ISBN	1-119-13710-1 1-119-13716-0
Descrizione fisica	1 online resource (802 p.)
Disciplina	547/.70457
Soggetti	Conjugated polymers Copolymers
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover; Title Page; Copyright Page; Contents; Foreword; Preface; Part 1: Multiphase Systems: Synthesis, Properties and Applications; 1 Conjugated Polymer-based Blends, Copolymers, and Composites: Synthesis, Properties, and Applications; 1.1 Introduction; 1.2 CPs/ICPs-Based Blends; 1.2.1 Classification of CPs/ICPs-Based Blends; 1.3 CPs/ICPs-Based Copolymers (CCPs); 1.3.1 Types of CPs/ICPs-Based Copolymers; 1.3.2 Sub-Classification of Linear or Graft BCPs; 1.4 CPs/ICPs-Based Composites/Nanocomposites/Hybrids; 1.4.1 Categorization of CPs/ICPs-Based NCs 1.5 Interpenetrating/Semi-Interpenetrating Polymer Network (IPN/SIPN) 1.6 Synthesis of CPs/ICPs-Based BLNs, CCPs, and CMPs/NCs/HYBs; 1.6.1 Synthesis of Undoped CPs-Based BLNs; 1.6.2 Synthesis of Conjugated Polymers-Based Copolymers; 1.6.3 CPs/ICPs-Based CMPs/NCs; 1.7 Applications of CPs/ICPs-Based BLNs, CCPs, and CMPs/NCS/HYBs; 1.7.1 ICP-Based Systems; 1.7.2 CPs-Based Systems; 1.8 Conclusions; Acknowledgments; References; 2 Progress in Polyaniline Composites with Transition Metal Oxides; 2.1 Introduction; 2.2 PANI/Transition Metal Oxide Composites 2.2.1 PANI Composites with Oxides of the Copper Group of Transition Metals 2.2.2 PANI Composites with Oxides of the Zinc Group of

Transition Metals; 2.2.3 PANI Composites with Oxides of the Scandium Group of Transition Metals; 2.2.4 PANI Composites with Oxides of the Titanium Group of Transition Metals; 2.2.5 PANI Composites with Oxides of the Vanadium Group of Transition Metals; 2.2.6 PANI Composites with Oxides of the Chromium Group of Transition Metals; 2.2.7 PANI Composites with Oxides of the Manganese Group of Transition Metals
2.2.8 PANI Composites with Oxides of Iron, Cobalt, and Nickel Groups of Transition Metals 2.3 Conclusions and Outlook; Abbreviations; References; 3 Conjugated-Polymer/Quantum-Confined Nanomaterials-Based Hybrids for Optoelectronic Applications; 3.1 Introduction; 3.2 Quantum-Confined Nanomaterials (QCNs); 3.2.1 Inorganic Quantum-Confined Nanomaterials (QCNs); 3.2.2 Organic Quantum-Confined Nanomaterials (QCNs); 3.3 Synthetic Approaches for Quantum-Confined Nanomaterials (QCNs); 3.3.1 Synthesis of Inorganic Quantum-Confined Nanomaterials
3.3.2 Synthesis of Organic Quantum-Confined Nanomaterials 3.3.3 Optical Properties; 3.4 Conjugated-Polymer/Quantum-Confined Nanomaterials (CP/QCN) Hybrids; 3.4.1 Methodologies for Making Conjugated-Polymer/ Inorganic QCN Hybrids; 3.4.2 Chemical Methods; 3.5 Optoelectronic Applications of Hybrids; 3.5.1 Hybrid Solar Cell; 3.5.2 Light-Emitting Diodes; 3.5.3 QDs/Conjugated-Polymer-Based Counter Electrode for Dye-Sensitized Solar Cells; 3.6 Outlook and Perspective: Current Challenges and Future Scope/Prospects; Acknowledgments; References
4 Graphene/Conjugated Polymer Nanocomposites for Optoelectronic and Biological Applications

Sommario/riassunto

Foreword xv Preface xvi Part 1: Multiphase Systems: Synthesis, Properties and Applications 11 Conjugated Polymer-based Blends, Copolymers, and Composites: Synthesis, Properties, and Applications 3 Parveen Saini 1.1 Introduction 41.2 CPs/ICPs-Based Blends 71.3 CPs/ICPs-Based Copolymers (CCPs) 111.4 CPs/ICPs-Based Composites/Nanocomposites/Hybrids 231.5 Interpenetrating/Semi-Interpenetrating; Polymer Network (IPN/SIPN) 291.6 Synthesis of CPs/ICPs-Based BLNs, CCPs, and CMPs/NCs/HYBs 301.7 Applications of CPs/ICPs-Based BLNs, CCPs, and CMPs/NCs/HYBs 631.8 Conclusions 79 Acknowledgments 80 References
