



River Publishers

River Publishers Book Catalogue

Series in Polymer Science

River Publishers Series in Polymer Science

Advanced Polymeric Systems **Applications in Nanostructured Materials, Composites and Biomedical Fields**

Editors:

Didier Rouxel, Institut Jean Lamour, Université de Lorraine, France

Praveen K.M, Muthoot Institute of Technology & Science (MITS), India

Indu Raj, Government Dental College; International and Mahatma Gandhi University, India

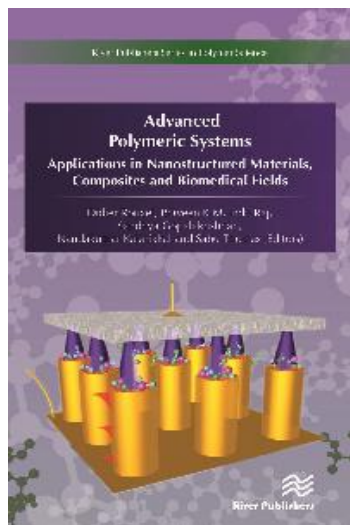
Sandhya Gopalakrishnan, Government Dental College; Mahatma Gandhi University, India

Nandakumar Kalarikkal, School of Pure and Applied Physics; Mahatma Gandhi University, India

Sabu Thomas, Mahatma Gandhi University, India

ISBN: 9788770221368

ISBN: 9788770221374



Description:

Over recent years a considerable amount of effort has been devoted, both in industry and academia, towards the incorporation of various macro, micro and nano sized fillers into polymers. There is also much interest in the evaluation of various polymer properties with respect to a wide set of applications. The advances in nanotechnology together with the development in material sciences has improved the shortcomings of these materials over the decade. This book covers the latest advances in the field of polymer nanocomposites and polymer composites for varied applications.

The major topics discussed in the book include:

- Nanostructured materials for energy applications
- Nanostructured polymercomposites
- Bio-polymers
- Nanostructured polymers for biomedical applications

The book contains extended and updated research papers that were initially selected for the ICAMP-2017 conference which focused on advances in polymer materials.

The book is ideal for researchers and practitioners in polymer science and materials science as well as for graduate students in polymer chemistry, materials science, nanotechnology and biomedical engineering.

Keywords: polymer nanocomposites, polymer-nanoparticle interaction, energy storage devices, solar cells, food packaging, bio synthesised antimicrobial agents, therapeutics.

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Advanced Polymeric Materials **Synthesis and Applications**

Editors:

Didier Rouxel, Université de Lorraine, France

Sabu Thomas, Mahatma Gandhi University, India

Nandakumar Kalarikkal, Mahatma Gandhi University, India

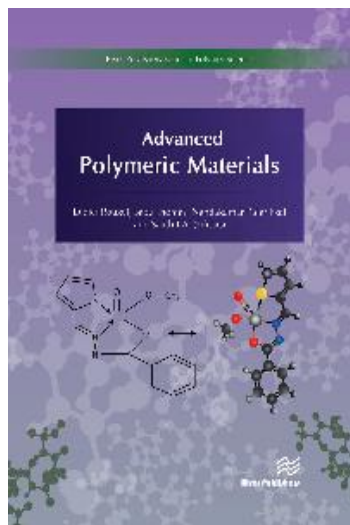
Sajith T.A., Mahatma Gandhi University, India

ISBN: 9788793609686

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Available From: May 2018

Price: € 90.00



Description:

Recent advances in polymer research has led to the generation of high quality materials for various applications in day to day life. The synthesis of new functional monomers has shown strong potential in generating novel polymer materials, with improved properties.

Advanced Polymeric Materials includes fundamentals and numerous examples of polymer blend preparation and characterizations. Developments in blends, polymer nanocomposites and its various characterization techniques are highlighted in the book.

Keywords: Polymer blends, Copolymers, Polymer composites, Polymer nanocomposites, polyurethane sorbents, Molecular imprinting, Natural fibre reinforced polymer composites, Tribology of polymers, Transition metal dichalcogenide materials

River Publishers Series in Polymer Science

Basics of Polymer Chemistry

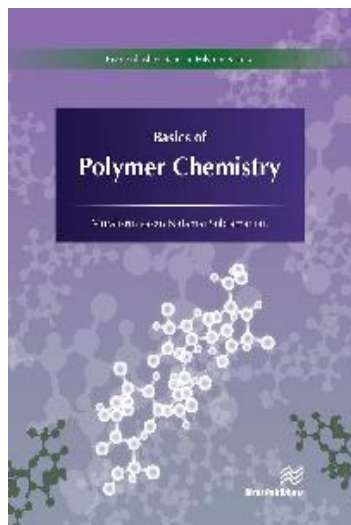
Author: Muralisrinivasan Natamai Subramanian, Consultant, India

ISBN: 9788793519015

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Available From: October 2017

Price: € 80.00



Description:

Basics of Polymer Chemistry is of great interest to the chemistry audience. The basic properties of polymers, including diverse fundamental and applied aspects, are presented. This book constitutes a basis for understanding polymerization, and it presents a comprehensive overview of the scientific research of polymers. The chapters presented can be used as a reference for those interested in understanding the sustainable development in polymers.

Basics of Polymer Chemistry provides a balanced coverage of the key developments in this field, and highlights recent and emerging technical achievements. The topics covered present a comprehensive overview of the subject area and are therefore of interest to professors and students. The recent developments in polymerization using catalysts, homo and copolymerization are presented, and it contains current efforts in designing new polymer architectures. Improved property performance attributes of the polymers by controlling their molecular-structural characteristics such as molecular weight distribution, comonomer type content distribution, and branching level are also discussed.

Keywords: Polymerization, polymer science, addition, condensation, cationic, anionic, degradation, monomer, polyolefins, polyesters, polyamides, tacticity, orientation, crystallinity, functional groups

River Publishers Series in Polymer Science

Structural Analysis using Computational Chemistry

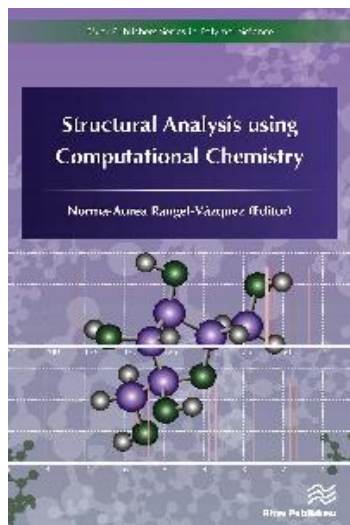
Editor: Norma Aurea Rangel-Vázquez, PCC, Aguascalientes, México

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Available From: September 2016

Price: € 80.00



Description:

Computational chemistry is a science that allows researchers to study, characterize and predict the structure and stability of chemical systems. In other words: studying energy differences between different states to explain spectroscopic properties and reaction mechanisms at the atomic level. This field is gaining in relevance and strength due to field applications from chemical engineering, electrical engineering, electronics, biomedicine, biology, materials science, to name but a few. *Structural Analysis using Computational Chemistry* arises from the need to present the progress of computational chemistry in various application areas.

Technical topics discussed in the book include:

- Quantum mechanics and structural molecular study (AM1)
- Application of quantum models in molecular analysis
- Molecular analysis of insulin through controlled adsorption in hydrogels based on chitosan
- Analysis and molecular characterization of organic materials for application in solar cells
- Determination of thermodynamic properties of ionic liquids through molecular simulation

Keywords: Molecular mechanics, Quantum mechanics, AMBER, AM1, PM3, solar glibenclamide, metformine, insulin, cells, ionic liquids