DESCRIPTION

A concise and practical overview of the most important modern synthetic aspects of conjugated polymers and carbon materials, including their properties and applications.

Well structured, this book summarizes recent achievements, outlines the current state and reviews research trends. As such, a wide variety of polymerization techniques are included on both a strategic as well as a practical level, including Stille, Suzuki, and direct (hetero)arylation polymerizations. Furthermore, it covers various carbon-rich materials, such as graphene and carbon nanotubes, followed by a look at how the different synthetic pathways and strategies influence their final properties, for example, for use in organic electronic devices. The whole is rounded off with a discussion of future technology advances.

An essential reference for newcomers as well as experienced researchers in the field.

ABOUT THE AUTHOR

Mario Leclerc obtained a PhD in chemistry from the Université Laval, Quebec City, Canada, in 1987. After a short post-doctoral stay at INRS-Energie et Matériaux near Montréal, he joined the Max-Planck-Institute for Polymer Research in Mainz, Germany, as a post-doctoral fellow in the research group of Prof. Dr. G. Wegner. In 1989, he accepted a position of professor at the department of chemistry of Université de Montréal. In 1998, he moved to Université Laval to join the Centre de Recherche sur les Matériaux Avancés (CERMA). Since 2001, he is the recipient of the Canada Research Chair (Tier 1) on Electroactive and Photoactive
Polymers. His current research activities include the synthesis and characterization of new conjugated oligomers and polymers for applications in the areas of micro-electronics, electro-optics, energy and genomics.

Prof. Leclerc has authored more than 250 scientific publications and 10 book chapters and has 10 patents.

Jean-François Morin obtained a PhD in chemistry from the Université Laval, Quebec City, Canada, in 2004, under the supervision of Professor Mario Leclerc. His work focused on the design, synthesis and characterization of oligo- and poly(2,7-carbazole)s for organic electronic. He joined Professor James M. Tour's group at Rice University (Houston, USA) as a postdoctoral research associate where he worked on the development of self-propelled nanomachines on surfaces. In 2006, he moved back to the Université Laval, Department of Chemistry, as an Assistant Professor. His current research activities include the synthesis and characterization of carbon nanomaterials, dendrimers for bio-related applications and organic semiconductors.

Prof. Morin has authored more than 60 scientific publications and several book chapters and has 4 patents.

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