

T_cSUH Bi-Weekly Seminar

Texas Center for Superconductivity at the University of Houston

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Electropolymerizable Dendrimer and Hybrid Nanomaterials

Friday, May 8, 2009

Room 102, University of Houston Science Center
12:00 noon – 1:00 p.m.

Abstract

In this talk, we describe the investigation of dendrimeric precursor and hybrid nanomaterials towards the formation of conjugated polymer nanoparticles, networks, nanopatterning, and nanoobjects. Electropolymerizable precursor polymer materials have been widely reported by our group and have been used to modify electrode surfaces with the formation of conjugated polymer network films. Most of these materials are based on linear polymers and block/graft copolymers. Very few reports have been given on dendritic precursor materials utilized for their electrochemical activity. In this talk, we will describe several strategies in which we have synthesized dendritic precursor polymers. These materials have applications for conducting polymer-based energy transfer materials, nanoelectronics, and sensing.

Bio

Professor Rigoberto Advincula received his B.S. and Ph.D. in Chemistry from The University of Florida in 1987 and 1994, respectively. He conducted postdoctoral research at the Max Planck Institute for Polymer Research and Stanford University. He is a NSF CAREER Awardee and received the Research Excellence Award from the University of Houston. Research interests include the design, synthesis, and characterization of nanostructured materials capable of controlled-assembly, tethering, and self-organization in ultrathin films. This includes functional macromolecules, polymerization on surfaces, electropolymerization, and preparation of nanoparticles and hybrid materials. Properties include: electrically conducting, photoluminescent, electroluminescent, energy harvesting, optically active, and biocompatible. Surface sensitive spectroscopy and microscopy is systematically utilized to probe materials properties and biological phenomena.

Persons with disabilities who require special accommodations in attending this lecture should call (713) 743-8210 as soon as possible.



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