

Title: Preparation and characterization of multi-walled carbon nanotubes/polymer blends as ultrafiltration membranes

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Multi-walled carbon nanotubes (MWCNTs)/polyethersulfone blend membranes were prepared by a phase-inversion method,using N-methyl-2pyrrolidinone (NMP) as a solvent and water as a coagulant. Carbon nanotubes were treated with strong acid to make them well dispersed in organic solvents. The resultant membranes were characterized by scanning electron microscopy (SEM), Fourier Transform InfraRed spectroscopy (FTIR) and permeation tests. It was found that the content of functionalized MWCNTs was an important factor affecting the morphology and permeation propertise of the blend membranes.SEM images of the blend membrane surface and cross-section showed that the average pore size and pore structure of blend membranes changed with the content of functionalized MWNTs.This study has shown that addition of CNTs to polymeric membranes has improved separation propertise of the membrane.

Biography

I graduated in Nanotechnology at Tarbiyat Modares University of Tehran/Iran. For the past 7 years, I have been focusing on research on membrane processes, water treatment methods, nanocomposite membranes. My M.Sc. Thesis is entitled "synthesis of nano carbon membranes and study of its selectivity aimed at determination of heavy metal ions". I managed to get grant of INIC for my project. I was teacher assistant in Sirjan University of technology for Nanotechnology, Heat transfer, engineering the environment courses. I have also introduced nanotechnology field for the first time in this university and start to work on it and teach. I supervised more than 50 projects for undergrad students that the main of projects are listing in my CV.

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