

Synthesis of Indium Tin Oxide/ Polypyrrole Nanocomposites via Miniemulsion Polymerization

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Keywords: Synthesis; Polypyrrole; Indium tin oxide; Miniemulsion polymerization; Conductivity

Extended Abstract

Polypyrrole/Indium tin oxide nanocomposites were synthesized via in situ miniemulsion polymerization of pyrrole in the presence of Indium tin oxide nanoparticles. Firstly, nano- Indium tin oxide was synthesized by sol-gel method. Then, different nanocomposites were synthesized by different loading of Indium tin oxide nanoparticles. The results of FTIR and DSC analyses showed the Indium tin oxide nanoparticles were well placed in the polymeric structure of latex. The morphology and nanoparticles distribution of the nanocomposites were characterized by Electron Microscopy. Conductivity of nanocomposites was determined by Four point probe method and compared to the neat polymer.