

Methanol as a Suitable Solvent for Polyaniline Emeraldine Base (PANI-EB)

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Abstract

Conducting polyaniline is unique among conducting polymers on account of its excellent optical and electronic properties. The processing of conducting polymers has attracted considerable attention owing to their possible application in molecule-based electronic devices, such as molecular rectifiers, field-effect transistors, molecular transducers and sensors. Methods that were applied in this study are addition method (powder), liquid homogeneous method and filtration method. The effects of bonding between methanol and Polyaniline emeraldine base (PANI-EB) has been investigated. UV-visible spectrum shows two sharp absorption peaks at 350nm (π - π^*) and \sim 720nm (polaron bands). FTIR spectra proved there is a distinct increase in wave number when PANI-EB dissolved in methanol which caused by the H-bonding interaction between PANI-EB chains and methanol. Thus this make the PANI-EB molecules change in size that supported by a DLS result. As a conclusion, it indicates that there is interaction between methanol molecules and polyaniline chains.