

Preparation and Characterization of Polyaniline (PANI) - Platinum Nanocomposite

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Abstract : Polyaniline used as light-emitting devices (LEDs), televisions, cellular telephones, automotive, Corrosion-resistant coatings, actuators and ability to have micro- and nano-devices. the electrical conductivity properties can be increased by introduction of metal nano particles. In the present study, platinum nano particles have been utilized to achieve the improved properties. Polyaniline and Pt-polyaniline composite are synthesized by chemical routes. The samples characterized by X-ray diffractometer show the amorphous nature of polyaniline and Pt-polyaniline composite. The Bragg's diffraction peaks correspond to platinum nano particles and thermogravimetric analyzer predicts its decomposition at certain temperature. The current-potential characteristics of the samples are also studied which indicate a significant increasing the value of conductivity after introduction of pt nanoparticles in the matrix of polyaniline (PANI).

Keywords : polyaniline, XRD and platinum nanoparticles, characterization, pharmaceutical sciences

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