



Electrochemical Polymerization and Characterization of Multipurpose Advanced Polymers

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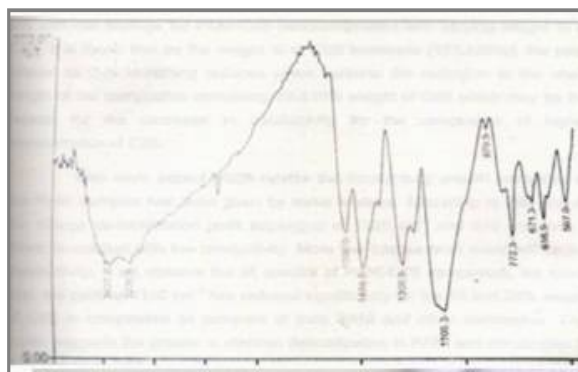
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ABSTRACT

The speedy development of the polymer industry with balanced properties for industrial applications is a matter of much interest amongst material scientists and engineers. Nano composites are possible materials than micro composites and monolithic due to their outstanding properties. This work emphasized on electrochemical polymerization of conducting polymer in presence of oxidant using inorganic compound as dopant. The synthesized polymer was characterized using different techniques. These synthesized polymers were studied for their absorption spectra and their electrical conductivities. The molecular and banding behaviour have been studied using FTIR where as conductivity measurement has been carried out by four-probe technique. It is observed that results are in comparable with the available results. The results reveals that these materials are ideally suited for the manufacture of optoelectronic devices in the visible wavelength and could also be used to photovoltaic applications such as solar cell fabrication and gas sensors etc.

Graphical Abstract



FTIR Spectra of polymer.

Keywords: Nano-composites, Electrochemical Polymerization, FTIR Technique, Electrical Conductivity, Solar cell, Optoelectronic devices etc.