

## **COMPOSITES OF CONDUCTING POLYMER: PREPARATION AND CHARACTERIZATION**

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### **ABSTRACT**

The preparation of conducting polymer composite films in aqueous medium using pyrrole monomer, *p*-toluene sulfonate electrolyte and an insulating polymer over indium-tin oxide electrode has been studied. The free standing, flexible and conductive polymer composite films were prepared by potentiostatic method. Poly(vinyl alcohol) and carboxymethylcellulose were used as insulating polymers to make composite films with polypyrrole conducting polymer. The prepared composite films were characterized by Fourier Transform infrared spectroscopy (FT-IR), UV-spectroscopy, scanning electron microscopy (SEM) and measuring the conductivity. It was found that the conductivity increased with the increase in insulating polymer concentration. The morphology of the polymer composites were found different with the different process conditions. The FT-IR results suggest the successful formation of the composite of polypyrrole and the insulating material.

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