

## **Poly(3,5-dichloroaniline) doped with different sulfonic acids**

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### **Abstract**

Poly(3,5-dichloroaniline) was prepared by chemical oxidation in the presence of various sulfonic acids as doping agent, using potassium permanganate as oxidant. 1-Naphtalene sulfonic acid, 2-naphatalene sulphonic acid, 1,5-naphtalene disulfonic acid, and p-toluenesulfonic acid were the acids of choice. Infrared and UV-Vis spectroscopy, utilized to characterize the polymers, revealed that the compounds exist in the emeraldine (conductive) oxidation state. The level of doping, conductivity, and morphology were determined as well. The presence of a sulfonic acid produces a morphological change, from granular to microtubule structures, which is responsible for the strong increase in the conductivity of the polymer.

### **Keywords**

chemical oxidation, sulfonic acids, polymer conductivity, doping agent, potassium permanganate.