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Sonication assisted synthesis and characterization of organic and inorganic acid doped polyaniline materials

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In the current scenario, the conducting polymers are extensively studied due to their fascinating electronic properties and potential applications. In the present work, organic and inorganic acid doped polyaniline (PANI) salts and their dispersions were synthesized by chemical oxidative polymerization method assisted with sonication. Material characterization such as UV–Visible, FT–IR and FT–Raman were used to interpret their molecular structure, interacting nature and the effect of doping. The emission pattern of the samples was recorded through photoluminescence (PL) studies suggesting elongation of life time of charge carriers. The formation of nano fibers and nano rods were confirmed by TEM analysis. The dispersions were used as an electrolyte to measure the electrical conductivity. The electrical conductivity of the samples was found to be high due to better electron transport.

Biography

K Karthika has completed her M Phil, PhD in Physics and is a UGC project fellow. Currently she is working in synthesis of conducting polymers, TiO2 and graphene based materials for energy conversion applications under the guidance of Dr. E Jasmine Vasantha Rani. She has done a project in Dye Sensitized Solar Cells by extracting natural dyes. She has published 6 papers and presented several papers in various national and international conferences.

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