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Synthesis and characterization of emulsion polymerized polyaniline doped with DBSA

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In this abstract polyaniline (PANI) has been made through polymerization of aniline using emulsion polymerization technique. The polymerization is carried out in an emulsion comprising water and a non-polar or weakly polar organic solvent (Xylene) in the presence of the functionalized protonic acid dodecylbenzenesulfonic acid (DBSA). It is found that using the emulsion polymerization technique, conducting PANI-DBSA complexes can be produced that exhibit high molecular weight, good conductivity and high solubility in organic solvents in the electrically conducting state. Electrically conducting polyaniline PANI-DBSA prepared by an inverted emulsion polymerization in which DBSA played both roles of surfactant and dopant. Fourier transform infrared FTIR. spectroscopy for the PANI-DBSA showed the existence of hydrogen bonding between PANI and DBSA which indicates the existence of PANI. UVV is spectra was performed to check the doping level of DBSA. The electrical conductivity measurement, TGA test, and measurement of viscosity were also studied in the paper.

Biography

Alok Gupta has completed his PhD in the year 1988 from Indian Institute of Technology-Kanpur on the topic Modelling of Hydrolytic Polymerization of Caprolactam and Transport Processes in Nylon-6 Reactors. He is currently designated as Professor in Malaviya National Institute of Technology, Jaipur, Rajasthan, India. He has published more than 30 papers in reputed journals and has been a reviewer of three journals namely African journal of pure and applied chemistry, Indian Chemical Engineer Journal, Indian Journal of Chemical Technology. He is also being the lifetime member of " American Institute of Chemical Engineers" and " Indian Institute of Chemical Engineers".

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