Abstract:

HY zeolite (solid acid) doped poly (aniline) has been synthesized through oxidative polymerization of aniline with ammonium peroxydisulfate used as an oxidant in aqueous medium. The influence of HY zeolite contents (5wt %, 10 wt %, 15 wt %, 20 wt % and 50 wt %) on the conductivity characteristic, thermal stability, and specific surface area of poly (aniline)/ HY zeolite composites was performed. All samples were characterized by FTIR, UV-Vis, XRD, TGA and SEM techniques. The electrical conductivity was measured using a fourprobe method and it was found to be equal to 2.2 S/cm. FTIR spectra has confirmed the presence of poly (aniline) in the form of conducting emeraldine salt and suggest significant interaction of poly(aniline) with HY zeolite.