**ABSTRACT**

New polyester-bentonite clay composite was prepared and characterized by FTIR, TGA, SEM& XRD. The XRD and SEM studies are quite supportive of well dispersed polymer clay composite formation. The thermal stability of the polymer was significantly improved as indicated by TGA. The composite was evaluated for its inhibition performance for mild steel corrosion in 1M H2SO4 by weight loss, polarization and electrochemical impedance techniques. The studies reveal that the clay composite was an excellent adsorption type inhibitor and obeys Langmuir adsorption isotherm. Electrochemical studies showed that the polymer composite was a mixed inhibitor retarding both anodic metal dissolution and cathodic hydrogen evolution.