البحث الرابع

Tailored polymer coatings as corrosion inhibitor for mild steel in acid medium.

Abstract:

Poly(o-bromophenol-co-N-methylaniline) [poly(OBP-co-NMA)] was electropolymerized in an acidic medium at 30C under inert atmosphere. The formed polymer was characterized using IR spectroscopy, XRD, SEM and TGA analysis. The efficiency of the deposited polymer as a corrosion protection coating on a mild steel electrode in an acidic medium was investigated. Corrosion and impedance measurements reveal that the prepared polymer has excellent passivation properties. The free energy of adsorption of the prepared polymer on the electrode surface was in the range of » 19.5 kJ /mol, which reveals a physical adsorption of the inhibitor molecules on the metallic surface.

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