**Abstract**

The inhibition performance of tor on mild steel in 1 M hydrochloric acid solution was studied by weight loss and electrochemical methods. The results show the inhibition efficiency was found to increase with increasing the concentration of the inhibitor from 1 to 50 ppm. The maximum inhibition efficiency 95.4% was observed in the presence of 50 ppm inhibitor. The inhibition action of tor was explained in terms of adsorption on the mild steel surface. Electrochemical Impedance spectroscopic technique (EIS) exhibits, the corrosion reaction is controlled by charge transfer process. Polarization measurements showed that the inhibitor is of a mixed type. The results obtained from the different methods are in good agreement. The computational calculations are performed to find a relation between their electronic and structural properties.