**Abstract**

The corrosion inhibition of mild steel in 1M HC1 by indoloimidazole derivative namely 2-(l, 8-Dihydro-l, 3, 8-triaza-cyclopenta[a]inden-2-yl)-benzaldehyde (DCD) has been studied using weight loss, potentiodynamic polarization, electrochemical impedance and quantum chemical studies. Inhibition was found to increase with increasing concentration of the inhibitor. The effect of temperature on the corrosion behavior of mild steel was studied in the range of 303 K-343 K. Potentiodynamic polarization results showed that the inhibitor acted as mixed type of inhibitor in 1M HC1. The adsorption of the inhibitor on the mild steel surface followed Langmuir and Tempkin adsorption isotherms at 303 K. Molecular modelling has been conducted to correlate the corrosion inhibition properties with the calculated quantum chemical parameters