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Anticorrosive Behaviour of Aqueous Extract of *Markhamia lutea* Leaves in Acid Medium

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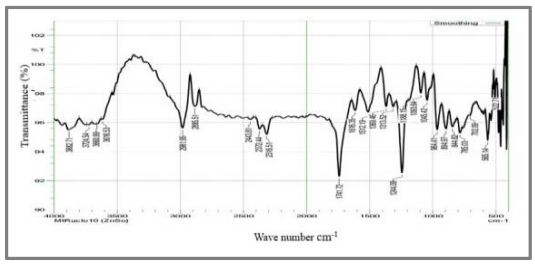
ABSTRACT

The anticorrosive action of Markhamia lutea leaves (MLL) extract on mild steel(MS) specimen in the presence of acid medium was examined by various techniques such as weight loss measurement, immersion time, electrochemical impedance spectroscopy, potentiodynamic polarization, effect of temperature, kinetics and thermodynamic parameters and SEM morphology. The inhibition efficiency was increasing with increase in concentration of the extract. The potentiodynamic polarization technique showed that the inhibitor acts as a mixed type of inhibitor. Electrochemical impedance spectroscopy revealed that the plant extract got adsorbed on the metal surface. The protective film which was formed on the metal surface was proved by SEM morphology.

Graphical Abstract



FTIR spectrum of *Markhamia lutea* leaves extract.

Keywords: Corrosion inhibitor, EIS, SEM, *Markhamia lutea* leaves, Polarization.