

**SYNTHESIS AND CHARACTERIZATION OF SCHIFF BASE
LIGANDS FOR CORROSION INHIBITORS OF MILD STEEL**

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APPROVAL SHEET

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ABSTRACT

SYNTHESIS AND CHARACTERIZATION OF SCHIFF BASE LIGANDS FOR CORROSION INHIBITORS OF MILD STEEL

This study focused on synthesis of Schiff base ligands as corrosion inhibitors of mild steel in hydrochloric acid solution. Two Schiff base ligands which is 4-hydroxybenzylideneaniline (AB1) and 4-[(4-methylbenzylidene)amino]phenol (AB2) have been successfully synthesized through the condensation process with the percentage yield of 58% and 96%, respectively. Further characterized using melting point determination, CHNS Analyzer, FT-IR Spectrometer and NMR Spectrometer. Then the mild steel was immersed in 15 mL of 1 M HCL without and with three difference concentration of Schiff base ligands solution which are 0.1 M, 0.01 M and 0.001 M for weight loss method. The final weight of mild steel were measured and calculated after 40 hours immersion. The value of corrosion rate decreased with an increasing concentration of Schiff base ligands. The result revealed that, the decreasing corrosion rate of inhibitor concentration will increase the inhibition efficiency as shown by AB2 with the 83.2% followed by AB1 which gave 67.2% at inhibitor concentration of 0.1 M. It was clear that the AB2 have a better efficiency than AB1 due to the methyl group that act as electron donating group that can changing the electron density and activate the aromatic ring.