

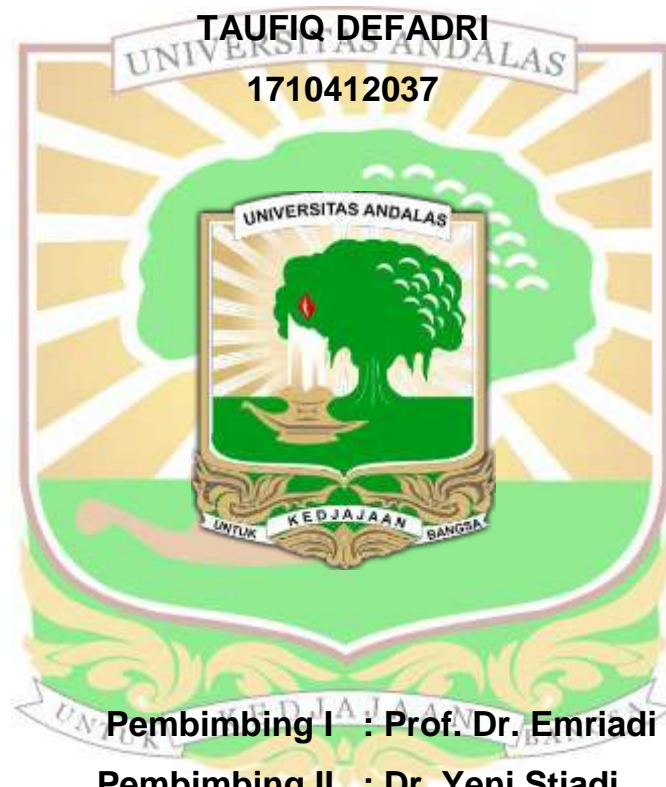
**LIGNIN DARI EKSTRAK RAKIS PISANG (*Musa paradisiaca*) SEBAGAI
INHIBITOR KOROSI BAJA LUNAK DALAM MEDIUM ASAM KLORIDA**

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**PROGAM STUDI SARJANA
JURUSAN KIMIA
FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM
UNIVERSITAS ANDALAS
PADANG
2021**

ABSTRACT

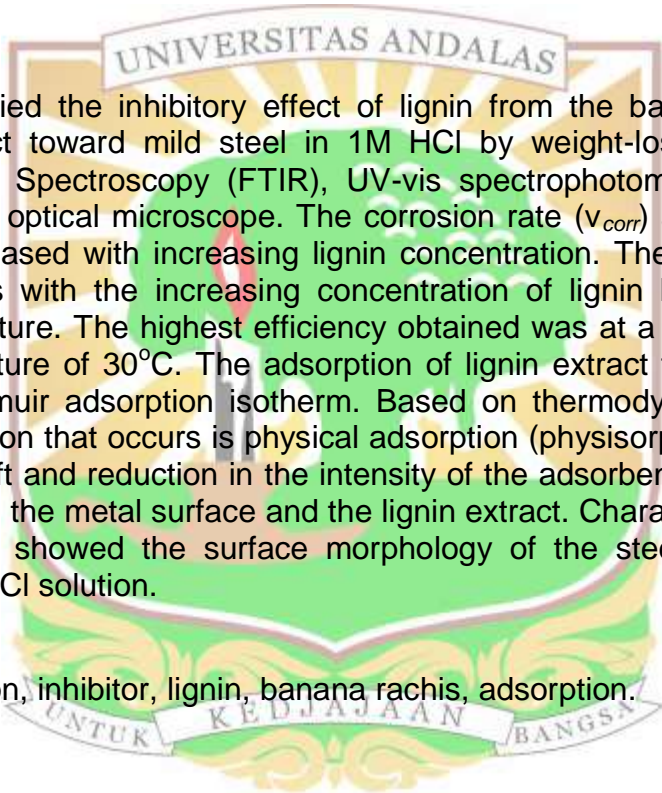
LIGNIN FROM BANANA RACHIS (*Musa paradisiaca*) EXTRACT AS CORROSION INHIBITOR OF MILD STEEL IN HYDROCHLORIC ACID MEDIUM.

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This research studied the inhibitory effect of lignin from the banana rachis (*Musa paradisiaca*) extract toward mild steel in 1M HCl by weight-loss method, Fourier Transform Infrared Spectroscopy (FTIR), UV-vis spectrophotometric analysis, and characterization by optical microscope. The corrosion rate (v_{corr}) after the addition of lignin extract decreased with increasing lignin concentration. The efficiency of lignin inhibition increases with the increasing concentration of lignin but decreases with increasing temperature. The highest efficiency obtained was at a concentration of 10 g/L and a temperature of 30°C. The adsorption of lignin extract from banana rachis followed the Langmuir adsorption isotherm. Based on thermodynamic calculations, the type of adsorption that occurs is physical adsorption (physisorption). Analysis with FTIR showed a shift and reduction in the intensity of the adsorbent, which means the interaction between the metal surface and the lignin extract. Characterization using an optical microscope showed the surface morphology of the steel before and after immersion in 1 M HCl solution.

Keywords: Corrosion, inhibitor, lignin, banana rachis, adsorption.