

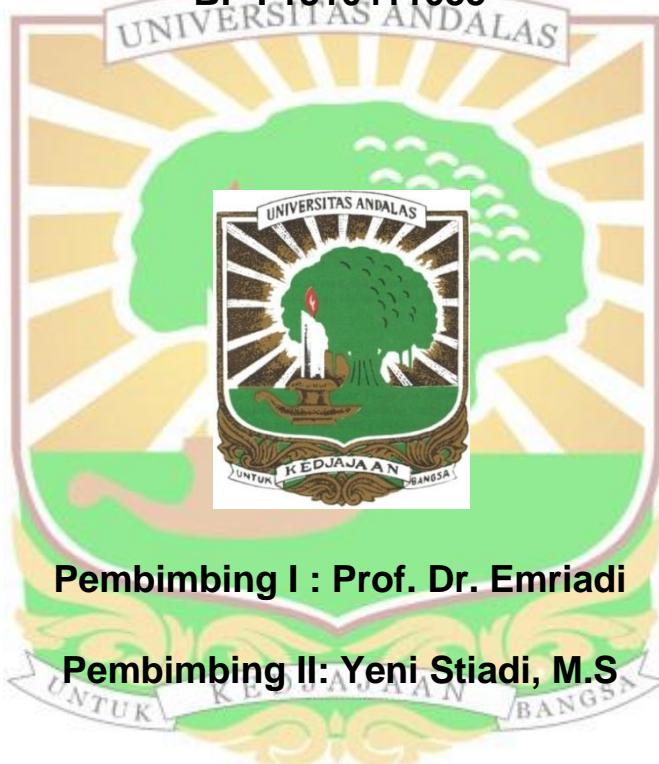
**EKSTRAK DAUN JAMBU AIR (*Syzygium samarangense*) SEBAGAI  
INHIBITOR KOROSI PADA BAJA DALAM LARUTAN ASAM**

**SKRIPSI SARJANA KIMIA**

**Oleh**

**APRIWANDA**

**BP : 1310411055**



**Pembimbing I : Prof. Dr. Emriadi**

**Pembimbing II: Yeni Stiadi, M.S**

**JURUSAN KIMIA**

**FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM  
UNIVERSITAS ANDALAS  
PADANG**

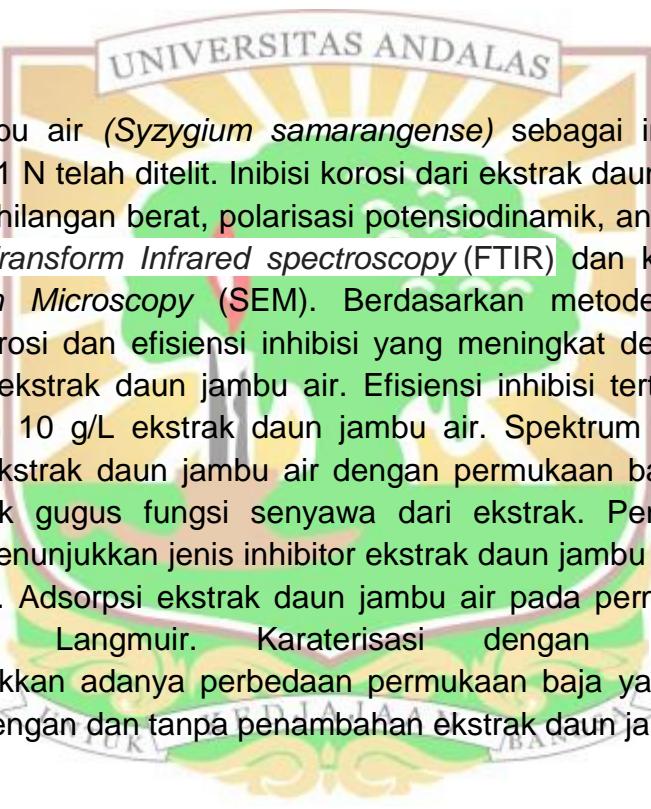
**2017**

## INTISARI

### EKSTRAK DAUN JAMBU AIR (*Syzygium samarangense*) SEBAGAI INHIBITOR KOROSI PADA BAJA DALAM LARUTAN ASAM

Oleh:

Apriwanda (1310411055)  
Prof. Dr. Emriadi, MS dan Yeni Stiadi, MS



Ekstrak daun jambu air (*Syzygium samarangense*) sebagai inhibitor korosi baja dalam larutan HCl 1 N telah diteliti. Inhibisi korosi dari ekstrak daun jambu air diselidiki dengan metoda kehilangan berat, polarisasi potensiodinamik, analisis spektrofometri UV-VIS, Fourier Transform Infrared spectroscopy (FTIR) dan karakterisasi dengan Scanning Electron Microscopy (SEM). Berdasarkan metode kehilangan berat didapatkan laju korosi dan efisiensi inhibisi yang meningkat dengan naiknya suhu dan penambahan ekstrak daun jambu air. Efisiensi inhibisi tertinggi yakni 80,34% pada penambahan 10 g/L ekstrak daun jambu air. Spektrum FTIR menunjukkan adanya interaksi ekstrak daun jambu air dengan permukaan baja ditandai dengan pergeseran puncak gugus fungsi senyawa dari ekstrak. Pengukuran polarisasi potensiodinamik menunjukkan jenis inhibitor ekstrak daun jambu air merupakan jenis inhibitor campuran. Adsorpsi ekstrak daun jambu air pada permukaan baja sesuai dengan isoterme Langmuir. Karakterisasi dengan Scanning Electron Microscopy menunjukkan adanya perbedaan permukaan baja yang direndam dalam medium HCl 1 N dengan dan tanpa penambahan ekstrak daun jambu air.

Kata kunci :*Syzygium samarangense*, Inhibitor korosi, Weight loss, Polarisasi potensiodinamik, SEM, Isoterm Langmuir

## ABSTRACT

### JAMBU AIR (*Syzygium samarangense*) LEAVES EXTRACTAS INHIBITOR CORROSION OF STEEL IN ACID MEDIA

by:

Apriwnada (1310411055)  
Prof. Dr. Emriadi, MS and Yeni Stiadi, MS

Extracts Jambu Air (*Syzygium samarangense*) leaves as a corrosion inhibitor for steel in HCl 1 N has been investigated. corrosion inhibition of jambu air leaves extract was investigated by weight loss method, potentiodynamic polarization, UV-VIS spectrophotometric analysis, Fourier Transform Infrared spectroscopy (FTIR) and characterization by Scanning Electron Microscopy (SEM).Based on weight loss method obtained rate of corrosion and inhibition efficiency increased with increasing tempature and addition of jambu air leaves extract. The highest inhibition efficiency that is 80.34% on addition of 10 g/L extract of jambu air leaves. FTIR showed that jambu air leaves extract had interacted with the surface of the steel was characterized by peak shift functional groups of compounds from the extracts. Potentiodynamic polarization measurements indicated the type of jambu air leaves extract inhibitor was mixture inhibitor. Jambu air leaves extract adsorption on the steel surface according to the Langmuir isotherm. Characterized by Scanning Electron Microscopy showed a difference of steel surfaces immersed in 1 N HCl medium with and without the addition extract of jambu air leaves.

Keywords :*Syzygium samarangense*., Corrosion inhibitors, Weight loss,Potentiodynamic polarization, SEM, Langmuir isotherm.