

**SYNTHESIS, CHARACTERIZATIONS AND ANTI-CORROSION  
SCREENING OF SADIMINE AND BROSADIMINE**

**NUR ANIS ATIRAH BINTI ZULKIFLEE**

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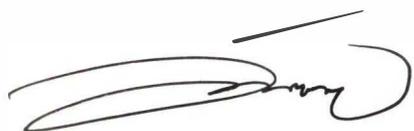


This Final Year Project Report entitled “**Synthesis, Characterizations and Anti-Corrosion Screening of Sadimine and Brosadimine**” was submitted by Nur Anis Atirah binti Zulkiflee, in partial fulfilment for the requirements for Degree of Bachelor of Science (Hons.) Chemistry, in the Faculty of Applied Sciences, and was approved by



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Siti Noriah binti Mohd Shotor  
Supervisor  
B. Sc. (Hons.) Chemistry  
Faculty of Applied Sciences  
Universiti Teknologi MARA  
72000 Kuala Pilah  
Negeri Sembilan



---

Dr. Tn. Sheikh Ahmad Izaddin  
Bin Sheikh Mohd Ghazali  
Project Coordinator  
B. Sc. (Hons.) Chemistry  
Faculty of Applied Science  
Universiti Teknologi MARA  
Negeri Sembilan



---

Mazni binti Musa  
Head of Programme  
B. Sc. (Hons.) Chemistry  
Faculty of Applied Sciences  
Universiti Teknologi MARA  
72000 Kuala Pilah  
Negeri Sembilan

Date: 8/2/2017

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## ABSTRACT

### SYNTHESIS, CHARACTERIZATIONS AND ANTI-CORROSION SCREENING OF SADIMINE AND BROSADIMINE

A Schiff base is a compound that consists of carbon-nitrogen double bond with nitrogen connected to an aryl or alkyl group but not hydrogen. The objectives of this study are to synthesize Schiff bases ligands derived from salicylaldehyde and 5-bromosalicylaldehyde with ethylenediamine, to characterize the synthesized ligands and to carry out anti-corrosion screening on the Schiff bases ligands by weight loss method. Sadimine and Brosadimine ligands were synthesized from the condensation of salicylaldehyde with ethylenediamine and 5-bromosalicylaldehyde with ethylenediamine, respectively. Both ligands were refluxed for 5 hours and yielded of 91.37 % and 92.81 %, respectively. These ligands were characterized by elemental analysis, Infrared Spectroscopy, UV-Vis analysis, melting point measurement and anti-corrosion screening. IR and UV analysis suggested the presence of  $C=N$  chromophore which confirm the compound of a Schiff base. Both ligands were tested and compared for their effectiveness as corrosion inhibitor by using different concentration, 0.001 M, 0.01 M and 0.1 M. The result stated that the ligand with heteroatom (*Br*) show higher percentage inhibitor efficiency as compared to the unsubstituted ligand. This may due to the increase electron density by the presence of  $\pi$  benzene and heteroatoms thus provide better absorptivity to the inhibitor. Also, Brosadimine has higher inhibitor efficiency due to their high molecular weight compared to Sadimine.