

**SYNTHESIS, CHARACTERIZATION AND ANTI-CORROSION
SCREENING OF Pt(II) THACETAZONE COMPLEX**

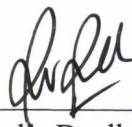
SYAIDATUL ATIQA BINTI GHAZALI

**Final Year Project Report Submitted in
Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science (Hons.) Chemistry
In the Faculty of Applied Sciences
Universiti Teknologi MARA**

JANUARY 2017



This Final Year Project Report entitled “**Synthesis, Characterization and Anticorrosion Screening of Pt(II) Thiacetazone Complex**” was submitted by Syaidatul Atiqah binti Ghazali, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Chemistry, in the Faculty of Applied Sciences, and was approve by



Nur Nadia Dzulkifli
Supervisor
B. Sc. (Hons.) Chemistry
Faculty of Applied Sciences
Universiti Teknologi MARA
Kuala Pilah Campus
72000 Kuala Pilah Negeri Sembilan



Ahmad Husaini Mohamed
Co-Supervisor
B. Sc. (Hons.) Chemistry
Faculty of Applied Sciences
Universiti Teknologi MARA
Kuala Pilah Campus
72000 Kuala Pilah Negeri Sembilan



Dr. Sheikh Ahmad Izaddin Sheikh
Mohd Ghazali
Project Coordinator
B. Sc. (Hons.) Chemistry
Faculty of Applied Sciences
Universiti Teknologi MARA
Kuala Pilah Campus
72000 Kuala Pilah
Negeri Sembilan



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

Date : 7/2/2017

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ABSTRACT

SYNTHESIS, CHARACTERIZATION AND ANTICORROSION SCREENING OF Pt(II) THIACETAZONE COMPLEX

A Pt(II) complex of thiacetazone, (TAC) ligand was successfully synthesized by slow diffusion method. The complex is obtained from the reaction of a few drop ammonia solution and thiacetazone. The ligand and synthesized complex was characterized by spectroscopic method such as FT-IR, UV-Vis, elemental analysis, molar conductance, gravimetric analysis and melting point, and have been applied as inhibitor. The results of characterization showed that TAC was coordinated in the *N* and *S* bidentate mode in the complex. The elemental analysis for compound were in a good agreement with the theoretical values. The value of melting point for complex which is 270-272 °C was higher than ligand which is 228-230 °C. The result of UV-Vis analysis revealed two types of transition which are $n \rightarrow \pi^*$ and $\pi \rightarrow \pi^*$ in ligand and complex spectrum. The molar conductance showed the Pt(II) complex is non-electrolyte with chemical formula $[\text{Pt}(\text{TAC})_2]\text{Cl}_2$. The gravimetric analysis presented the percentage of metal was 26.41%. The data from corrosion inhibition study found that the inhibitor efficiency of ligand is higher than complex. The inhibitor efficiency increase as the inhibitor concentration increase from 0.001 M to 0.1 M.