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PHYTOCHEMICAL STUDIES OF CHEMICAL CONSTITUENT FROM  
*PANDANUS AMARYLLIFOLIUS* ROXB.

By

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the requirements for the degree of  
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**JABATAN SAINS KIMIA  
FAKULTI SAINS DAN TEKNOLOGI  
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI  
MALAYSIA**

**PENGAKUAN DAN PENGESAHAN LAPORAN  
PROJEK PENYELIDIKAN I DAN II**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:

**PHYTOCHEMICAL STUDIES OF CHEMICAL CONSTITUENT FROM  
PANDANUS AMARYLLIFOLIUS ROXB.** oleh **TAY SEE YENG**, No. Matrik :  
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## LIST OF ABBREVIATIONS

H <sub>2</sub> SO <sub>4</sub>	Sulfuric acid
HgCl <sub>2</sub>	Mercury chloride
KI	Potassium Iodide
UV	Ultraviolet
IR	Infrared
TLC	Thin layer chromatography
CC	Column chromatography
FTIR	Fourier Transform Infrared spectrometer
UV-Vis	Ultraviolet and Visible spectrophotometer
NMR	Nuclear Magnetic Resonance
MS	Mass spectrometry
EtOAc	Ethyl acetate extract
MeOH	Methanol extract
C <sub>6</sub> H <sub>12</sub>	n-Hexane
CHCl <sub>3</sub>	Chloroform

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## ABSTRACT

*Pandanus amaryllifolius* Roxb or normally known as “daun pandan” is one of the species under Pandanceae family. Extractions of *Pandanus amaryllifolius* Roxb. was successfully conducted using two different solvents which were ethyl acetate and methanol. In this study, ethyl acetate extract was used for further separation and purification by using thin layer chromatography and column chromatography. Four compounds (PAE-F, PAEE-5, PAEG-A and PAEGC-2) were isolated from ethyl acetate extract. Fourier Transform Infrared (FTIR) and ultraviolet-visible (UV-Vis) spectrophotometric techniques were used for structural analysis. Compound PAEG-A and PAEGC-2 showed the presence of carbonyl group (C=O) in their IR spectra, while the other two compounds showed the existing of an alcohol group (C-OH). The UV-Vis analysis revealed the presence of chromophore in those four compounds.

## **KAJIAN FITOKIMIA TERHADAP KOMPOSISI KIMIA DALAM *PANDANUS AMARYLLIFOLIUS* ROXB.**

### **ABSTRAK**

*Pandanus amaryllifolius* Roxb. atau dikenali sebagai daun pandan tergolong di dalam famili Pandanceae. Pengekstrakan komposisi kimia yang terkandung dalam *Pandanus amaryllifolius* Roxb. telah berjaya dilakukan dengan menggunakan etil acetat dan methanol. Di dalam kajian ini, hanya ekstrak etil acetat digunakan dalam proses pemisahan dan penulenan dengan menggunakan kaedah kromatografi lapisan nipis dan kromatografi turus. Empat komposisi tulen (PAE-F, PAEE-5, PAEG-A dan PAEGC-2) telah berjaya dipisahkan daripada ekstrak etil acetat. Struktur komposisi kimianya dianalisis dengan menggunakan spektroskopi inframerah (IM) dan spektroskopi cahaya ultralembayung-nampak (UL-Nampak). Komposisi PAEG-A dan PAEGC-2 menunjukkan kehadiran kumpulan karbonil (C=O) dalam spectra IR, manalaka komposisi PAE-F dan PAEE-5 menunjukkan kehadiran kumpulan alkohol (C-OH). Analisis UL-Nampak menunjukkan kehadiran kromofor dalam keempat-empat komposisi tersebut.