UNIVERSITI TEKNOLOGI MARA

COLLECTION, EXTRACTION, FRACTIONATION AND ISOLATION OF PHYTOCHEMICAL FROM PANDANACEAE SPECIES

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Dissertation submitted in partial fulfillment of the requirements for the degree of Bachelor of Pharmacy (Hons)

Faculty of Pharmacy

October 2006

ACNOWLEDGEMENT

I would like to express my deepest gratitude to Professor Dr. J.F.F. Weber Abdullah, Head of the Institute of Chemistry of Herbal Remedies (iKUS), University Teknologi Mara (UiTM) for his kindness, supervision and unlimited guidance and understanding throughout this project.

I owe a heartfelt thank you to Dr. Humera Naz for her kindness, supervision, advises and dedication in guiding my friends and I throughout completing this project. Indeed her comments, helps and teachings have contributed a lot in this project.

I am also indebted to the staff of iKUS especially for the helps and teaching in dealing with equipments, constructive advises and supervision during this project in the iKUS laboratory.

Last but not least, I am mostly thankful to my beloved family and friends for their tolerance of my absences, physically and emotionally. I am blessed by their unconditional love which has indeed given me the strength and motivation to stay focused and positive throughout completing this project.

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ABSTRACT

The main objective of this project is to isolate as many possible phytochemical constituents of a Pandanaceae species. The study has been performed by collecting, extracting, fractioning, isolating and identifying the chemical constituents of a *Pandanaceae* species. Firstly, a species of Pandanaceae collected from a secondary jungle in Sungai Lembing, Pahang have been utilized to perform the extraction process by using two solvents, petroleum ether and methanol. The two extracts were subjected to fractionation process by column chromatography technique. Isolation process takes place after the detection of possible compound of interest on the TLC plate. Preparative TLC had been used to isolate the compound(s). The compound(s) will be sent for identification by using Nuclear Magnetic Resonance (^{1}H NMR) spectrometer, Infrared (IR) spectrometer and Ultra Violet (UV) spectrometer. Even though the compounds of desire have failed to be isolated, we managed to identify the presence of several compound(s) by using the TLC technique.

CHAPTER 1

INTRODUCTION

The genus *Pandanus* of belongs to the family Pandanaceae which comprises of about 600 to 700 species. Plants of the genus *Pandanus* is abundant in Malaysia and is being used widely in Malaysia. Scented pandan leaves are used in food preparations as colouring and flavouring agent. Other species are also being used tradtionally to weave household items such as mats, food coverings, and straw hats. Plants from the genus *Pandanus* are believed to contain various medicinal properties which have been used traditionally (Takayama *et al.,* 2001). However; plants belonging to the genus *Pandanus* (Pandanaceae) have not been well studied chemically (Nonato *et al.,* 1993).

Thus the goal of this project is to study the phytochemical constituents from the leaves of a Pandanaceae species. Specifically, this project is done to collect, extract, fractionate and isolate phytochemical constituents from the leaves of a Pandanaceae species.