

UNIVERSITI TEKNOLOGI MARA

**FRACTIONATION AND ISOLATION OF
SECONDARY METABOLITES FROM
METHANOLIC-LEAVES EXTRACT OF
GENUS *Pandanus*.**

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ABSTRACT

The main objective of this project is to study the phytochemical constituents from the leaves of genus *Pandanus*. This project deals with fractionation and isolation of chemical constituents from methanolic *Pandanus*-leaves extract. 55 fractions of the crude extract were analyzed by thin layer chromatography (TLC) to determine significant spot of compound(s). Then, fractionation of the compound(s) has been done to remove the impurities which come together with pure compound(s) by column chromatography. After detection of interested compound, the isolation process will be done to purify compound. Preparative TLC has been used to isolate compound(s). The pure compound was sent for identification by using Nuclear Magnetic Resonance (NMR) spectrometer.

CHAPTER 1

INTRODUCTION

Plants have formed the basis of sophisticated traditional medicine systems that have been in existence for thousands of years and continue to provide mankind with new remedies. Although some of the therapeutic properties attributed to plants have proven to be erroneous, medicinal plant therapy is based on the empirical findings of hundreds and thousands of years (Gurib-Fakim *et al.*, 2006). In Southeast Asian countries, there is a long history of medicinal use of plants, some of which have proved useful to humans as pharmaceuticals (Lee & Houghton *et al.*, 2005).

The genus *Pandanus* comprise about 500 to 600 species that are widely distributed in tropical and subtropical regions (Inada *et al.*, 2005) especially on the Pacific islands, Malaysian islands and Australia. The leaf extract from the plants of the genus *Pandanus* is used as a food flavour in India (Jong & Chau *et al.*, 1998) and several *Pandanus* species are recognized as medicinal plants used as a remedy for toothache and rheumatism and as a diuretic, cardiotoxic and purgative (Aiguade *et al.*, 2001).

Only four species of the genus *Pandanus* have been studied so far that *Pandanus amaryllifolius*, *Pandanus tectorius*, *Pandanus latifolius* and *Pandanus veitchii* (Nonato *et al.* 1993). The constituents isolated from *Pandanus* plants included pyrolidine-type