

**UNIVERSITI TEKNOLOGI MARA**

**FRACTIONATION AND ISOLATION  
OF THE *PANDANUS* LEAVES  
EXTRACTS**

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requirement for the degree of Bachelor of Pharmacy (Hons)**

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## ABSTRACT

The main objective of this study was fractionation and isolation of compounds from *n*-hexane extract of *Pandanus* leaves. First stage was fractionation of the *n*-hexane extract by using column chromatography. Fractionation was done to separate the number of compounds present in the extract. The compounds were purified by preparative Thin Layer Chromatography (TLC). The pure compound was subjected to Nuclear Magnetic Resonance ( $^1\text{H}$  NMR) analysis to know the structure of the compound. We failed to deduce the structure of desired compound by using only  $^1\text{H}$  NMR because the quantity of compound was not sufficient for  $^{13}\text{C}$ -NMR and 2D-NMR analysis. However, we did manage to identify several compounds by using TLC technique.

## CHAPTER 1

### INTRODUCTION

Plants have been used traditionally by people for curing various health disorders around the world. A vast knowledge about the usage of plants against different illnesses may be expected to have accumulated in areas where the use of plants is still of great importance. The medicinal value of plants is due to the presence of some chemical substances that produce a definite physiological action on the human body. The most important bioactive compounds of plants are alkaloids, flavanoids, tannins and phenolic compounds. Many drugs listed as conventional medications were originally derived from plants. Salicylic acid, a precursor of aspirin, was originally obtained from *Salix alba* bark. *Cinchona* bark is the source of quinine. The opium poppy (*Papaver somniferum*) yields morphine and codeine.

Plants of the genus *Pandanus* comprise about 600-700 species and are distributed mainly in tropical and subtropical region especially on the Pacific islands, Malaysian islands and Australia (Lechat et al., 1996; Takayama et al., 2001; Inada et al., 2005). Many of them are used by traditional medicine practitioners as medicines in treating diseases (Takayama et al., 2001). However, the literatures showed that only four species of this genus was studied (Nonato et al., 1993).