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Phytochemical Investigation of the Green Part of *Pandanus tectorius* "Sanderi" Leaves

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ABSTRACT

Pandanaceae has been used as the traditional medicine, dye and in culinary. From the literature review, this family has high species variability. *Pandanus tectorius* "Sanderi" is one of the species in *Pandanaceae* family, widely used as a decorative plant. Based on the literature review, the leaves of this plant are green in color with the golden band along the length of it. Currently, there are limited study was done on this plant. The present study was carried out to investigate the phytochemicals in the green part of the *Pandanus tectorius* "Sanderi" leaves by fractionation using the column chromatography and thin layer chromatography profiling (TLC). The stationary phase used was silica gel while the mobile phase used was the hexane:acetone system with different ratios according to the polarity of the each sample eluted. Three active compounds were purified by preparative TLC with the R_f value of 0.9, 0.6, and 0.7, respectively. The antioxidant property of the crude chloroform extracts was determined by 1-dipheny-2-picrylhydrazyl (DPPH) solution. Initially the antioxidant property is present however; further identification was hindered due to deterioration of the light sensitive antioxidant compound(s).

CHAPTER 1

INTRODUCTION

1.1 Background

Pandanus (Pandanacae) is a plant that have high variability species complex which can withstand drought, strong winds and salt spray (Thomson *et al.* 2004). The genus of *Pandanus* of Pandanacae family comprises about 700 species worldwide (Tan *et al.* 2008). The taxonomy of the *Pandanus* species is difficult due to the lacking of correlation between male and female plants and extensive widely distributed of the species in different state (Beentje 1993). It grows fairly quickly where different parts of the plant have different usage (Thomson *et al.* 2004). The leaves are spirally in shape and arranged in two or three row. The Pandanus flowers are unisexual and normally colored bracts (Beentje 1993). In Pacific Island, different parts of the tree are used such as to produce dye and in production of traditional medicines (Thomson *et al.* 2004). The leaves of *Pandanus* have been used for traditional medicines and cooking aid in some recipes (Thomson *et al.* 2004). Previously, *Pandanus tectorius* were found to contain sterols, terpene and linalool (Nonato *et al.* 1993). Takayama et al. reported that *Pandanus tectorius* var. *laevis* contain phytochemicals against *M. tuberculosis* (Takayama *et al.* 2008). Different compounds might be isolated from different species. Thereby, further investigation of *Pandanus* chemistry is vital to facilitate