CHEMICAL CONSTITUENTS FROM THE TWIG OF *JASMINUM SAMBAC* AND ITS ANTIOXIDANT ACTIVITY

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ABSTRACT

CHEMICAL CONSTITUENTS FROM THE TWIG OF JASMINUM SAMBAC AND ITS ANTIOXIDANT ACTIVITY

Jasminum sambac or J. sambac is a plant species from family of Oleaceae which widely cultivated throughout Malaysia. The twig, stem, flowers and roots of the plant used traditionally in the treatments of regulating menstrual flow, inflamed, lowering blood glucose level and diarrhea. This plant species was found to contain chemical constituents that have antioxidant properties which could reduce oxidative stress. Oxidative stress is the major role involved in the aetiology of depression. The concentrations of antioxidants and some pro-oxidative enzymes in the human brain may be involved in depression. The objective of this study to determine the chemical constituent from the twig of *J. sambac* and its antioxidant activity. The twig of *J. sambac* was extracted using methanol, petroleum ether and dichlorometane solvent. Phytochemical screening of the methanol extract found that the extract was content saponin, tannin and triterpenoid. Result of TLC screening of dichloromethane extract found that the extract contained terpenoid and alkaloid. Radical scavenging activity of extracts was assessed by DPPH free radical scavenging assay. Dichloromethane extract scavenged DPPH radicals more effective compare to methanol and petroleum ether extracts. The percent of radical scavenging activity of dichloromethane was (IC50 = 5.22 ppm) while for the methanol and petroleum ether extract are more than 100 ppm. The isolated compounds from dichloromethane extract that responsible for the antioxidant activity in *J. sambac* were known as isoamyl nitrite and benzophenone. The plant appears to be a promising source of bioactive compound with antioxidant activity.

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CHAPTER 3 METHODOLOGY