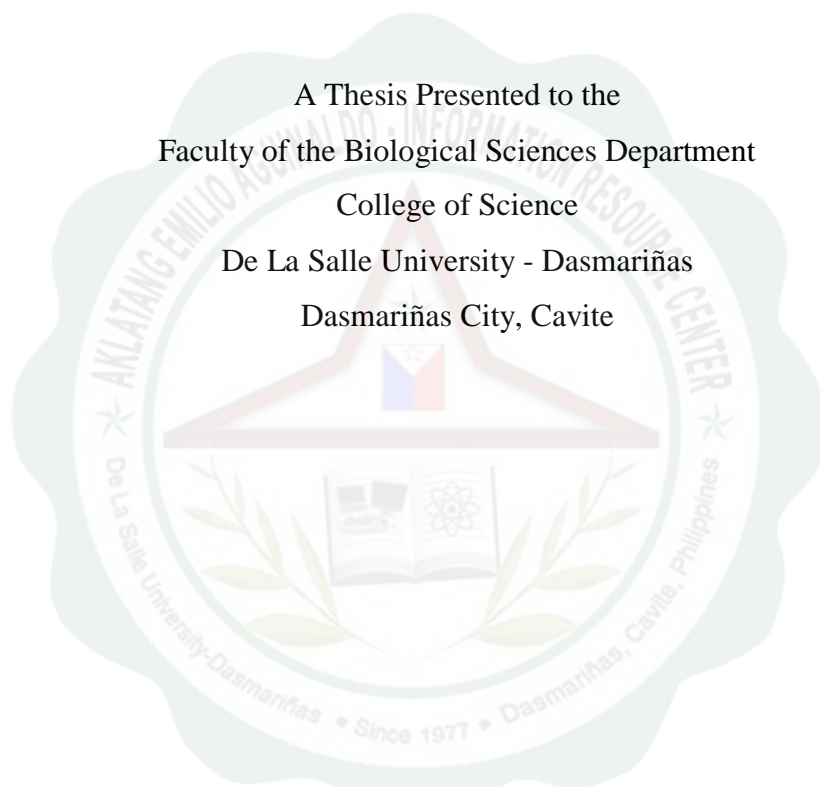




**PHYTOCHEMICAL ANALYSIS AND CYTOTOXICITY ASSESSMENT  
OF *Syzygium curanii* L. (LIPOTE) LEAF AND  
BARK EXTRACTS**

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### ABSTRACT

Studying plants' secondary metabolites and their cytotoxic potency are of great help in discovering new drugs. Plant-derived drugs can be an advantage for treating severe diseases. It is then important to establish the presence of different phytochemicals in various plant species and also their cytotoxic potential because they remain to be a great source of medicinal compounds. This study analyzed for the first time the phytochemical composition and cytotoxicity assessment of the young leaves, mature leaves and bark extracts of *Syzygium curanii*. These samples of *S. curanii* were extracted and underwent sequential solvent fractionation using solvents of increasing polarity. Fractions obtained from the young leaves, mature leaves and bark were subjected to phytochemical analysis. The results of the phytochemical screening were based on the intensity of positive colour change. Alkaloids, flavonoids, terpenoids, tannins, and saponins are generally present in the young leaves, mature leaves and bark of *S. curanii*. The bioactivity of the phytochemicals in each fraction was assessed using cytotoxicity test against *Artemia salina*. Most of the non-polar and semi-polar fractions of the samples except bark exhibited cytotoxic effect against *Artemia salina* as compared with that of the drug methotrexate. The relative abundance of terpenoids in young and mature leaves accounted for the cytotoxicity of the samples. At pure concentrations, all the samples exhibited cytotoxicity against *A. salina*. At decreasing concentrations, the percent mortality also decreased. Most of the young and mature leaf fractions elicited lower variations of LC<sub>50</sub> than methotrexate. These fractions were then considered to be cytotoxic to brine shrimp. The most cytotoxic sample fraction was the ethyl acetate fraction from young leaves with an LC<sub>50</sub> value of 65µg/mL. The wide distribution of alkaloids and saponins accounted for the cytotoxicity of the ethyl acetate fraction from young leaves. Conversely, the least cytotoxic sample was the butanol fraction from bark with an LC<sub>50</sub> value of 8623µg/mL. High concentrations of non polar and semi-polar alkaloids were regarded as active.



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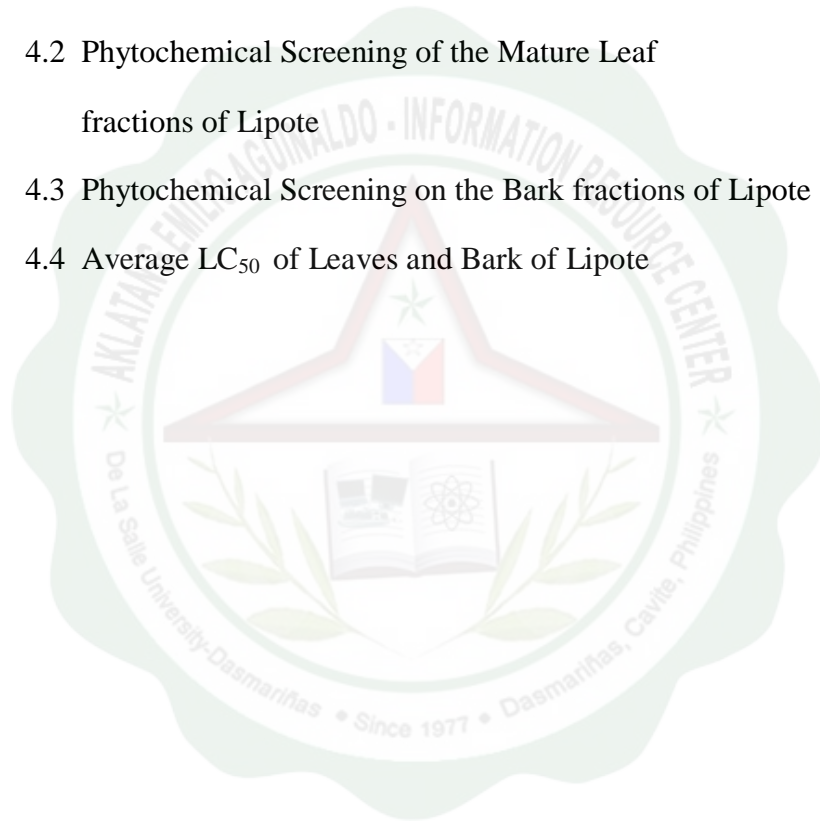


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