ANTIOXIDANT ACTIVITY AND TOTAL PHENOLIC CONTENT OF *GARCINIA BANCANA* & *GARCINIA CLAUDIFOLIATA* OF STEM BARK EXTRACTS

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FEBRUARY 2024

ACKNOWLEDGMENTS

First and foremost, praises to God, the Almighty for His showers of blessings and ease our journey in completing the Final Year Project (FYP) successfully. I would like to extend our deepest gratitude to my Supervisor, Dr Shaari bin Daud for the crucial guidance, continuous support, and ceaseless motivation in ensuring my understanding and objectives of this FYP are reached. Dr Shaari's competence, knowledge, and commitment to excellence have been pivotal in shaping my FYP journey. My supervisor and second examiner's profound knowledge, exceptional mentoring, and diligence counsel to ensure excel in academics have been indispensable to my success in completing the project. In addition, I would like to express my gratitude to my parents for their endless support, understanding, continuous encouragement, and offering ideas throughout finding information, analyzing the results, reading the articles, and this writing process. My parents' constant encouraging words, belief in my abilities, and wise judgment have assisted me in completing this assignment. On top of that, we are also grateful to my classmates who expended all their strength, time, motivation, and energy to assist in ensuring the project was completed excellently. Without the help of my supervisor, second examiner, and lab mate, this report could not have been completed each individual played a vital part making me gain valuable experiences and knowledge in performing company analysis and matrixes. In conclusion, I am thankful from the bottom of my heart to the individuals mentioned above and everybody who directly or indirectly played a part in making this report successful. The mental support, physical aid, enlightenment, and guidance that we receive are truly appreciated.

(Shafika Shubaruddin)

TABLE OF CONTENTS

ABSTRACT

Accumulation of free radicals causes oxidative stress that can cause cell damage and accumulation of free radicals recorded tangible relation with human disease. The potential of antioxidants in suppressing these free radicals has garnered the current researcher's interest in exploring phytochemical benefits identified in *Garcinia* species. Most investigations were done on *Garcinia forbesii* and *Garcinia atroviridis*; however, there needs to carry out more research on *Garcinia bancana* and *Garcinia claudifoliata*, especially on stem bark. Thus, a study on phytochemical compounds, antioxidant activity, and total phenolic content is conducted in studying the antioxidants that might present in both *Garcinia*, and how they could assist in inhibiting these free radicals. Methods in determining phytochemicals present were done by conducting alkaloid, steroid, terpenoids, saponin, cardenolide, phenolic, cardiac glycoside, and flavonoid tests. These tests are based on previous articles that conducted similar phytochemical tests on plant extracts. Next, semi-quantitative dot-blot assays are conducted by observing how the samples with different concentrations can inhibit 2,2-Diphenyl-1-picrylhydrazyl (DPPH) purple colour and leave a yellow patch on the TLC plate. Lastly, total phenolic content is employed by using the Folin-Ciocalteu method and calculating the absorbance recorded with the calibration curve of gallic acid. The findings show that stem barks of *G. bancana* recorded presence of cardenolide compound in all extracts while methanol extracts shown positive on flavonoids and phenolic compound. Lastly, *G. bancana* hexane and ethyl acetate extracts show positive presence of cardiac glycoside compound. Meanwhile, *G. claudifoliata* shows positive presence of cardenolide compounds while methanol extracts show positive presence of phenolic compound. For antioxidant activity, methanol extracts record low inhibition of *G. bancana* and *G. claudifoliata* both at 6.25mg/mL and 25mg/mL respectively. In addition, total phenolic content of *G.bancana* and *G. claudifoliata* both shown highest phenolic content of 26.9229 mg/mL and 36.6818mg/mL respectively. This shown that *G. bancana* and *G. claudifoliata* are similar to *G. atroviridis* that shown methanol extracts have higher antioxidant activity and total phenolic content.