



***In vitro* HAEMOSTATIC ACTIVITY OF *Rhodomyrtus tomentosa* (Aiton) Hassk.
METHANOLIC LEAVES EXTRACT**

By

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DECLARATION

I hereby declare that this thesis entitled *In vitro* Haemostatic Activity of *Rhodomyrtus tomentosa* (Ait) Hassk. Methanolic Leaves Extract is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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ABSTRACT

***In vitro* HAEMOSTATIC ACTIVITY OF *Rhodomyrtus tomentosa* (Aiton) Hassk. METHANOLIC LEAVES EXTRACT**

Rhodomyrtus tomentosa has the potential to be developed as the alternative natural based anticoagulant. Evaluation of *in vitro* haemostatic effect of different concentrations (20 µg/ml, 40 µg/ml, 60 µg/ml, 80 µg/ml and 100 µg/ml) of *Rhodomyrtus tomentosa* methanolic leaves extract have been tested for Prothrombin time (PT), Activated Partial Thromboplastin Time (APTT) and Thrombin time (TT) with commercialized human plasma. Mean concentration of phenolic and flavonoid were determined spectrophotometrically and correlate with coagulation time of PT, APTT and TT. The data were analysed by using One-way Analysis of Variance (ANOVA) followed by post-hoc Dunnett's (2-tailed) and Pearson's correlation. The result showed that mean concentration of phenolic and flavonoid were significant at all concentrations of extract with TPC; 2.881 ± 0.023 mg Gallic Equivalent/gram and TFC; 5.391 ± 0.005 mg Quercetin Equivalent/gram, respectively. PT revealed significant prolongation of time ($p < 0.05$) at 80 µg/ml to 100 µg/ml, APTT was only at 100 µg/ml concentration while contradict to TT at 20 µg/ml concentration of *R. tomentosa* extract. The coagulation time for PT, APTT and TT were significantly correlated with total flavonoid content. Meanwhile for the total phenolic content towards the clotting time of PT and TT were significant to prolongation of time but was otherwise for APTT. In conclusion, *Rhodomyrtus tomentosa* has the profound effect of anticoagulant influenced by the phytochemical content of phenolic and flavonoid.

Key words: *Rhodomyrtus tomentosa*, anticoagulant, coagulation cascade, intrinsic pathway, extrinsic pathway, haemostasis