



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

**By**

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**Thesis submitted in Partial Fulfilment of the Requirement for Bachelor of Medical  
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**MARA**

**2017**

## 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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930808-07-5314

Date : 26 July 2017

## **ACKNOWLEDGMENT**

First and foremost, I would like to express my greatest appreciation to my research supervisor, Puan Evana Binti Kamarudin for her full support, professional guidance, knowledge and endless encouragement throughout this research. Without her willingness of time and great assistance, my research would not be on schedule. In addition, I would like to offer my special thanks to En. Muhammad Idham for his valuable thought and comments during completing this research. His advices and constructive comment has been much appreciated.

My sincere gratitude goes to my group members; Norlela Samsuddin, Ramizah Hamzah, Nor Hamidah Ramli for their extraordinary collaboration and commitment especially to my partner, Rabiul Hamizah Binti Mohd. Norzaini. How grateful I am as without her support, this research would have been impossible from the beginning.

Not to forget, I would like to thank all staffs from Medical Laboratory Technology (MLT) department as for their knowledge, time, technical guidance and endless support toward this research.

Most importantly, thanks to my beloved parents, family and colleagues especially to Norhisyam Zafri Nasharuddin and Khairul Amirin Zulkifli from the bottom of my heart for their spiritual support, blessing and love. I would not be able to complete these three years journey without their enthusiastic encouragement.

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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;  $2.881 \pm 0.023$  mg Gallic Equivalent/gram and TFC;  $5.391 \pm 0.005$  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