ACKNOWLDGEMENTS

I would like to express my deepest appreciation to my supervisors, including Prof. Dr. Phang Siew Moi, Dr. Lee Hong Boon and Dr. Chu Wan Loy for their earnest advice and constant supports in completing this study.

I would also like to express my heartfelt thanks to other collaborators, including Puan Zurina (UPM), Prof. Dr. Weber, Cik Nurhuda as well as Dr. Syed Adnan (UiTM) who have granted me access to their facilities as well as sharing their practical experiences with me throughout my research.

Last but not least, I would never have pulled through without encouragement and help from my colleagues and friends, as well as moral support from my family.