## **ACKNOWLEDGEMENT**

I wish to express my greatest appreciation towards my supervisors, Assoc. Prof. Dr. Zaharah Aiyub and Prof. Dr. Zanariah Abdullah for their inspiring suggestions, valuable guidance and advice during the course of my research work.

Then, I would like to thank staff members of the Department of Chemistry, Faculty of Science for their kind assistance in various ways in facilitating my research.

I would like to express my sincere gratitude to all my colleagues who helped me in one way or another and deepest appreciation to them especially the members of my group for being such wonderful, understanding and supportive friends.

I would also like to thank the University of Malaya for the research grants (PJP: FS143/2008C, PJP: FS280/2008A, PJP: F0148/2007A, PPP: P0262/2007A) and financial assistance throughout the entire course.

Last but not least, I would like to dedicate this work to my beloved family especially my parents who have given me an enormous amount of support and encouragement throughout my whole education and for their continuous belief in me.