ACKNOWLEDGEMENTS

I express my deep sense of gratitude and indebtedness to Dr. P. Indrasenan, Professor and Head (Rtd), and Former Dean, Faculty of Science, University of Kerala for his eminent guidance, constant encouragement, inspiring thoughts and appropriate suggestions throughout this investigation.

I record my sincere thanks to Dr. K.N. Rajasekharan, Professor and Head, other teachers, and non-teaching staff of the Department of Chemistry, University of Kerala for their wholehearted cooperation. My acknowledgement also goes to all research scholars in the department who helped me with their valuable directions in shaping the contents of the thesis.

I wish to place on record my sincere thanks to Dr. Ashalatha Thampuran, Principal, Mohandas College of Engineering and Technology, Nedumangad, Thiruvananthapuram for her constant support and inspiration. I am thankful to the Management, Mohandas College of Engineering for permitting me to pursue this work. I also gratefully acknowledge the valuable advice and moral support given by Dr. Asha K.V. and all other colleagues, in Mohandas College of Engineering, throughout this investigation.

I am greatly indebted to Dr. Asha Panicker, Selection Grade Lecturer, N.S.S. College for Women, Neeramankara, Trivandrum for her assistance, valuable suggestions and whole hearted support. I also record my sincere thanks to the authorities of Regional Sophisticated Instrumentation Centre, CDRI, and Lucknow, and the VSSC, Trivandrum for providing some of the instrumental and library facilities for the successful completion of my research work.

Finally, I am very much thankful to my parents, Mr. K.N.P.Nair and Mrs. Remani P. Nair and to my brother, Mr. Ajith for their prayers, moral support and good wishes, which I needed the most. I am particularly grateful to my husband, Mr. N. Mohankumar for his never ending encouragement, patience, understanding and whole hearted support, without which this work would not have been possible at all.

Above all, thousand pranamas to god who guided me throughout.