Acknowledgements

I express my profound sense of gratitude to my supervising teacher, Dr. T.S. Anirudhan, Reader, Department of Chemistry, University of Kerala, Kariavattom, Thiruvananthapuram, for his sincere guidance, meaningful suggestions and earnest encouragement throughout the period of the research work. He is the divine light that inspired me, who provided me with innovative ideas; and he kindled the flame of inquisitiveness in me and showed me the right path in research. His dedicated involvement and positive approach, gave me the courage, confidence and willpower to complete the task.

I am thankful to Dr. P. Indrasenan, Professor and Head, Department of Chemistry, University of Kerala, Kariavattom for providing me with all the facilities for doing the research work.

I am indebted to Late Prof. (Dr.) K. Sundaresan who inspired me to pursue the most fascinating branch of science, Chemistry. With utmost reverence I cherish the memories of my beloved teachers at this moment.

I am deeply obliged to the University Grants Commission for awarding Teacher Fellowship under the FIP scheme for completing the research work. I would like to record my gratefulness to the Manager, Sree Narayana Colleges and the Principal, Sree Narayana College, Chempazhanthy, Thiruvananthapuram, for permitting me to do part time as well as full time research work.

I acknowledge the warmth and affection showered upon me by all the faculty members of the Department of Chemistry. I remember with gratitude the invaluable inspiration and kind companionship that my colleagues in the lab extended to me during the course of the work. Words are inadequate to express my indebtedness to Dr. V. P. Vinod, Dr. Maya R. Unnithan, Dr. Anoop Krishnan, Mrs. Sumol Varghese, Dr. Sony George, Mr. P.G. Radhakrishnan and all other colleagues, friends and well-wishers for their timely assistance and moral support.

I thank all the members of the non-teaching staff of the Department of Chemistry for their help and encouragement throughout my research work.
I would like to acknowledge my gratitude to the librarians of IIT, Mumbai; IISc, Bangalore; VSSC, Thiruvananthapuram; RRL, Thiruvananthapuram; Department of Chemistry; Kerala University Library, Palayam; Campus Library, Kariavattom; for their generous help in the literature collection. With appreciation, I acknowledge the services of the research organizations like, SCTIMST, Trivandrum; VSSC, Trivandrum; RRL, Trivandrum; RSIC, Chennai; C-MET, Trichur; and Department of Zoology, Kariavattom for the various instrumental probes and results.

The profuse support of my professional colleagues is praiseworthy. I take this opportunity to express thanks to all my colleagues especially to Mrs. & Mr. T.N. Manoharan and Mrs. & Dr. K. Sreevalsan and also to my friends Mrs. & Dr. V.R. Prakasam and Mrs. & Dr. R. Rajeev for their meticulous criticisms, innovative suggestions and unstinted encouragement during the work. I wish to place on record my appreciation to Mrs. Padma Venu for the timely comments and valuable suggestions that improved the organization and readability of the manuscript.

I would also like to extend my deepest appreciation to Mrs. Ambika Anirudhan and regards to Kumari Anagha for all the help and hospitality rendered during the research period.

I bow before my parents who have always kindled the spirit of quest for knowledge. I embrace my life partner and kids for their companionship without which this research could not have materialized in this way. Let me again acknowledge the whole-hearted support and prayers of all my teachers, relatives, colleagues and friends.

I.G. Shibi