ACKNOWLEDGEMENT

First and foremost, I would like to thank the Almighty God for having given me this opportunity of doing research and for having showered His blessings upon me to accomplish this work successfully.

Indeed it gives me immense pleasure to record my profound thanks to my research supervisor, Dr. S. Kumaresan, Professor and Head of the Department of Chemistry, Manonmaniam Sundaranar University, Tirunelveli, for having guided me with much care and concern throughout the course of this research. I am very much inspired by his knowledge in the subject and also by his dedication, sincerity and helping tendency.

I am thankful to the Vice Chancellor and the Registrar of Manonmaniam Sundaranar University for their cooperation.

I would like to thank the UGC for having given me a chance to do research under the Faculty Development Programme for a period of twenty months. With great respect, I register my sincere gratitude to our college President, Mr. A. P. C. V. Chockalingam for having relieved me from my routine work to do research for a period of twenty months and also for his magnanimity to give me permission to make use of our college laboratory for carrying out my research work. I would like to thank our college Principal, Dr. Mrs. Pachainayagi and all the members of my department for their moral support and encouragement.

I am especially grateful to Dr. P. Kumaradhas, Reader in Physics, Periyar University, Salem for his scholarly help in the field of crystallography. I express my deepest gratitude to Dr. K. Ramalakshmi, CFTRI, Mysore, Mr. Sarvaharana, IIT, Chennai, Mr. Athavan, research scholar, Annamalai University, Chidambaram and Ms. B. Devi Priya, research scholar, Department of Physics, Periyar University, Salem for their help in numerous ways to complete my research work.

I would like to express my deep sense of gratitude to Prof. William Harrison, University of Aberdeen, United Kingdom and Dr. N. Bhuvanesh, Department of
Chemistry, Texas A&M University, USA and SAIF, IIT, Chennai for having helped me to collect single crystal XRD data

I am very much indebted to Mr. G. S. Suresh Kumar, research scholar of our group for his invaluable help, constructive suggestions, and fruitful discussions during the preparation of this thesis. Words fail me to express my sense of gratitude to Mr. M. S. Xavier Pradheep Singh, Assistant Professor of English, V. O. Chidambarm College, Thoothukudi who skillfully formatted this thesis and artistically gave a proper shape to it.

My thanks are also due to the former researchers of our research group Dr. P. Ramadevi, Lecturer in Chemistry, Rajalakshmi College of Engineering, Chennai, Dr. R. Ramasubramanian, Lecturer in Chemistry, Anna University, Tirunelveli, Dr. Jothibai Margret, Associate Professor of Chemistry, Pope’s college, Sawayerpuram, Dr. Sri Renganathan, Dr. M. Indrani and the present researchers, Mr. P. Palanisamy, Mr. C. Shiju and Mr. Subramanian for their timely help, moral support, and encouragement. I am grateful to all the faculty members, non-teaching staff and the research scholars of the Department of Chemistry, Manonmaniam Sundaranar University for their excellent cooperation.

I seize this opportunity to express my heartful thanks to my dearest husband Mr. V. Muthiah, Head of the Department of English (Rtd), V. O. Chidambaram College, Thoothukudi for his constant support and encouragement throughout the tenure of my research work. My thanks are also due to my son Er. M. Shankar, my daughter Er. M. Mano Gomathy, and all the members of my family for their help and encouragement. Last but always the greatest, I offer my regards to all my well-wishers who could not be enlisted here.

P. G. Seethalakshmi