ACKNOWLEDGEMENT

With deep regards and profound respect, I express my indebtedness to my research supervisor, Prof. M. K. Rabinal for introducing me to this fascinating field of research and for his dedicated help, advice, inspiration and unconditional support throughout my Ph.D. His passion for science, integral view on research and his mission for providing high-quality work has made a deep impression on me. During the Ph.D period I had been through numerous difficulties. I had felt frustrated and depressed. Without his encouragements and help, I would not have been able to come this moment. I feel privileged to have had an opportunity to work under his supervision and hence preserve an everlasting gratitude for him.

I extend my thanks to Prof. B. G. Mulimani, Prof. A. M. Karguppikar and Prof. S. S. Kubakkaddi for their support and encouragement.

I express my sincere thanks to the HOD, Prof. J. S. Kadavarmath, Department of Physics for rendering me all the necessary facilities. I sincerely thank the teaching faculty of our department Prof. N. S. Sankeshwar, Prof. S. R. Inamdar, Prof. L. R. Naik, Prof. J. R. Tonannavar, Prof. U. S. Raikar, Prof. J. S. Bhat, Prof. N. M. Badiger, Prof. (Smt) J. V. Yenagi, Shri. S. Y. Amargolkar and Dr. A. H. Sidrai for their motivation and support. I am thankful to the office and library staff of Department of Physics, for their help.

I also thank Prof. I. M. Khazi and Prof. M. Y. Karidurgannavar, Department of Chemistry, Karnatak University, Dharwad for their invaluable help in the chemistry part of my work.

I am thankful to the Director, USIC, Karnatak University, Dharwad for providing distilled water, liquid nitrogen, FTIR, DSC-TGA and UV-Vis Spectroscopy facilities.

I am grateful to Prof S. R. Inamdar for permitting me to carryout Fluorescence spectroscopy measurements in his lab. I also thank Mrs Sumana, Department of Physics, IISc. Bangalore for recording XRD patterns. My thanks are also due to Prof. P. S. Patil, Department of Physics, Shivaji University Kolhapur for SEM facilities.

The financial assistance from UGC Delhi for awarding Research Fellowship in Science for Meritorious Students fellowship is gratefully acknowledged.
I remember with appreciation my seniors Dr. R. K. Hiremath, Dr. M. N. Kalasad, Dr. I. Mohamed Ikram, Smt. Uma Nerle who have helped and encouraged me in my work. I express my thanks to my dear juniors, Shridhar Mundinmani, Bindu Sharma, Raghu Gunnagol, Bahubali and Rafiq Mulla for the timely help they showered upon me. I have greatly benefited from their creative/practical ideas and stimulating discussions.

I thank all my fellow research scholars Anita Shettar, Arun Nisimmagoudar, Shivkumar M, Anita Nandurkar, Yashashwita Chauhan, Balesh, Manju Wari, for their help.

I cherish all the fun and pleasant times I had with my dearest friends Dr. Anita G. Sullad, Amrapali P. Rajput, Varsha. Koppal, Dr. Roopa Patil, Archana Vaishnav Motagi, Jyoti Ritti, Kavita Shadambi, Roopashree Joshi. I would also specially thank my M.Sc class mates (Dr. Vinay Katti, Smita Karagudari, Shoib Sayyed) for their care and concern. My thanks to Rizwana Begum for her timely help especially during the last term of my Ph.D. I express my gratitude to my family: My parents, my husband: Sangmesh, brothers: Raju, Nagesh and Dipu, A. S. Hosamani and S. S. Pattanad’s family for their unreserved love, encouragement and of course persuasion to continue to study and understand the true value of education.

Smt. Rajashree M. Hodlur