ACKNOWLEDGEMENTS

It has been a great privilege to carry out this work under the able, inspiring and encouraging guidance of Dr. Rajender Singh.

I express my sincere thanks to Prof. S. R. Shenoy and Prof. A. P. Pathak, the deans, school of Physics, during the course of my Ph.D for all the facilities extended from the school.

I am also indebted to those faculty members and research scholars without whose help I could not have succeeded in completing my work. Here I would specially mention Ms. I. Ramasita, Mr. J. S. Chakravarthy, Ms. Shoba Rani and many others for their constant encouragement and help during the course of my Ph.D work.

I am grateful to Dr. Rajasekharan, school of Chemistry, for his useful guidance and discussions. I also thank Mr. Prasad, Ms. S. Ammeerunisa and my other friends in the school of Chemistry who have extended their cooperation during my work.

I am grateful to the Principal Scientific Officer Dr. K. V. Reddy and all the employees of CIL for their assistance in carrying out various measurements.

My special thanks to my friends Mr. S. Manjunath, Ms. D. Ramasita, Mr. S. Srinath, Ms. S. Jayasree, Dr. M. Ramachandran, Dr. D. Palaniappan and Dr. Najmul Hassan who helped me personally in ever so many ways during my stay here.

Financial assistance from the Department of Atomic Energy (DAE), Council of Scientific and Industrial Research (CSIR) and the Department of Science and Technology (DST) is gratefully acknowledged.

I also thank God for giving me such wonderful parents and sister who are responsible for this day.

Lastly, words are insufficient to describe what my husband Dr. P. Murali’s constant help and encouragement means to me in the completion of this thesis.

ELIZABETH ZACHARIAS