I consider myself fortunate in working in the research group of Dr. C. V. Asokan. His untiring industry, unruffled patience and above all his efforts to keep his students in resonance with their research activities were the catalysts for the successful completion of the work. I am so much beholden to him. I express my gratitude towards Dr. M. Padmanabhan, Reader in charge, School of Chemical Sciences, for providing the basic facilities available in the department, for carrying out the research work.

The relative ease with which the entire work has been done was enhanced by many able and cooperative persons. Among them, a very special “thank you” is due to my friend, Dr. C. Arunan, School of Chemical Sciences, for his constructive criticism, ideas, technical assistance and proof reading. Suffice it to say that, the thesis in its present form would not have been possible without his invaluable help and his nice company throughout.

The fathomless helps and encouragements from Ms. Reichel Samuel, Jiju M. Joseph and Joma P. Mathew are remembered with deep sense of gratitude. Their moral supports and incentives at every turn and stage of the thesis preparation helped me to cross the Rubicon. M/s Mr. Ajith Dain Thomas, Prakash Chandran, Ms. Dhanya Viswam, Suma S, Deepa S, Raju Thomas and Ratnamma S., my colleagues, were cooperative and their presence always created a friendly ambience in the laboratory. I can not belittle the helps I received from Ms. Aleyamma A. J and Josemin, my seniors, whom I remember at this time.

The timely help of Dr. C. T. Aravindakumar, Dr. K. S. Devaky and Dr. A. S. Padmanabhan is greatly appreciable. The endurance shown by the research group of Dr. C. T. Aravindakumar can not be expressed in a few words. They have allowed me to use their computer throughout for the last couple of months, respiteing their work using it and I am very much grateful for
their courtesy. My thanks to the research group of Prof. V. N. R. Pillai, for kindly donating the polymeric reagent used for some studies.

Dr. Mathew George, RRL, Thiruvananthapuram had done a herculean job in recording the NMR spectra of majority of the compounds discussed in the thesis. I express my indebtedness to him. Thanks are also due to RSIC's of IIT Madras, CDRI Lucknow and NEHU Shillong for providing the spectral data. The library, academic, administrative staffs of the department and the University were very helpful throughout my research work. The financial assistance from UGC is gratefully acknowledged.

All the spectra incorporated in the thesis were scanned from School of Pure and Applied Physics, MGU. Prof. M. A. Ittyachen, Director, SPAP have generously permitted me to use the scanner freely for whom I am thankful. Mr. Dileep Kumar, SPAP; Mr. Davis Jose and Mr. Aji Kumar P. K. of the School of Chemical Sciences are remembered with thanks for their helps and service whenever I needed.

Finally, I share the ecstasy of submitting the thesis with my parents and sisters, who were very loving and understanding in spite of my eschewal from my filial and fraternal duties during my research period.

To all, thank you!

(Satheesh K. Nair)