Acknowledgements

At the outset let me express my profound gratitude to the Supreme Power that made it possible through the following individuals, who were instrumental in fulfilling my objectives, to complete this research work.

In particular I would like to express my heartfelt gratitude to Dr. M. R. Gopinathan Nair, Professor Emeritus, School of Chemical Sciences, Mahatma Gandhi University, Kottayam, Kerala for his guidance, constant encouragement and support. His valuable advice to pick the lost track of research work and inspiration to delve deeper into the field of research in polymers, are herewith acknowledged. He paved the way for perfection with his critical analysis and consequent guidance. This motivated me to aim for perfection in all aspects of this research work. This has had an overwhelming influence in giving the finishing touch to the final form of the thesis.

I am also grateful to Dr. Suresh Mathew, Director, School of Chemical Sciences, Mahatma Gandhi University, Kottayam and former Directors Prof. Sabu Thomas, Prof. P. K. Radhakrishnan, and Prof. M. Padmanabhan for their valuable suggestions and wholehearted support in completing this work. I am deeply indebted to Dr. Beena Mathew, Dr. C.T. Aravinda Kumar and Dr. Usha Aravinda Kumar who encouraged me throughout the course of my research work and for the fruitful discussions to fulfill my research work in the most effective manner. The help rendered by the faculty members of the School of Chemical Sciences are also gratefully acknowledged.

I express my deep sense of gratitude and heartfelt thanks to all the research scholars of our laboratory, Dr. Gopa Kumar, Dr. M.N. Radhakrishnan Nair, Christina George, Saritha M.T., Mridula M. S., Priyanka K.G. and all other research scholars of School of Chemical Sciences for their valuable help and suggestions. My deep appreciation, for help rendered by Dr. Siby Komalan, Dr. Viju Susan Mathew, Dr. K. Indira, Dr. Leelamma and my other fellow FIP research scholars.

I take this opportunity to thank Dr. Sibhu Eapen, Mr. Adarsh of SAIF, CUSAT for being ever ready to help in getting all the analytical facilities at STIC.
I am very grateful to Dr. Biju Chacko, Dr. Mitra of IIT Karaghpur, for their valuable support and help in getting the TEM done.

I wish to express my sincere thanks to Dr. C. Arunan for helping me to do the characterization throughout my work. I also take this opportunity to thank the Librarian and office staff of the School of Chemical Sciences for their prompt services.

I express my thanks to the University Library staffs, especially to Mr. Raju and Mr. Muralsi for the service provided throughout the Ph.D programme.

I wish to thank the management and the Principal of NSS College, Pandalam, for their whole-hearted co-operation and encouragement. I gracefully acknowledge the teacher fellowship granted by the UGC.

I would be failing in my duty if I do not register my appreciation to Dr. Suprabha T., Advocate S, P, Guruprasad and Dr. A. V. Velayudhan Nair whose constant urging and frequent reminder made me speed up my thesis work. I remember with gratitude the help and support given by my colleagues especially Asst. Prof. K. Usha Devi, Dr. Leelamma, Dr. Viju Susan Mathew, and Dr. K, Indira Devi.

My deep gratitude is due, to the family members, who helped me in completing this research work. I sincerely thank my parents, siblings, husband and children for their silent concern, support and forbearance without which the accomplishment of this task would have been well-nigh impossible.

My genuine and special thanks are due to Mr. Bibin Chandran and Mr. Anish K, S. of v4u computers, Athirampuzha for the neat word processing of this work.

Prema Sukumar