## **Acknowledgements**

It is a great pleasure to express my deep sense of gratitude and heartfelt thanks to Dr. B S Chakrabarty for his available guidance, unflagging optimism and constant encouragement throughout the course of this investigation. He has been a great support to me during my good and bad times. I will always remember him.

I am especially thankful to Dr. Jignesh Pandya for helping me during the course of my work whenever I needed. I am thankful to Prof. Arun Pratap for his support and encouragement. I would also like to thank Dr. Arun Anand, Dr. Navin Acharya and Mr. Ashwin prajapati for their help and co operation.

I hereby acknowledge the support and cooperation of Mrs. Vandana Rao, Dr. Bharti Rehani and Prof. P B Joshi at various stages of my work

My sincere thanks especially to Dr. Avani Umatt for helping me in synthesis procedures. My thanks to Prachi, Rakeshbhai and all others for giving me facilities to synthesize my samples. I thank the teachers, staff and research students of the Department of Applied Chemistry for their cooperation.

To all my friends especially Kanti, Jack, Alaguraja, Vishal, Mayur, Vinod, Gautam and Devang for their moral support.

I would also like to thank office and laboratory staff of Applied Physics Department for their Help.

Finally, I acknowledge the support of M S University of Baroda for providing me University Research Scholarship during the course of this study.

I express my heartfelt gratitude to my parents and my brother for being with me.

Finally I would like to thank everybody who has been of help to me directly or indirectly during the course of my work, Thanks a lot.

Nishant B Shah