

ACKNOWLEDGEMENT

Dr. A.K. Banik, Professor, Dept. of Chemical Engineering, Calcutta University detected in me some prospect and persuaded me to trust on it. He illumined the path for me and I made my arduous trek to this goal. But for his inspiration, guidance, push and monitoring this thesis could never see the light of day. Thanks, I fear, would be little his contribution to this work which belongs also to him.

Dr. R.K. Basu, Professor, Dept. of Chemical Engineering, Calcutta University was always prompt with his suggestion and criticism which went a long way to improve the work.

Mr. Dilip Roy has been persevering to enthuse me to face the challenge of an austere academic carrier. His loving care underlies this work.

At this happy moment I remember with tears late Dr. Purnendu Narayan Roy Bhowmik quite long after his sad demise. He continues to instil in me the daring necessary for any fresh inquiry. He would be the happiest person under the sun to see me submit my thesis.

Thanks are due to Dr. Tapan Bhattacharya for his kind help, encouragement and linguistic suggestions in this work.

I exploit this scope to thank all my friends and family including the in-laws for their solidarity and support without this work would be very difficult indeed to finish.

I express my sincerest gratitude to my laboratory mates as well as seniors especially Dr. Pallab Saha, Dr. Barnali Ray Basu and Dr. Khushi Mukherjee for their valuable advice and kind cooperation. The work would never be accomplished without their unstinted support, advice and cooperation.

I express my sincerest gratefulness to Mrs. Mitali Ganguly and Mr. Partha Roy for their helpful discussions and technical assistance throughout the project.

And last, but not the least, there remains Subhendu, my husband, staunchly standing by me through moments of illumination and darkness. He is always there, and I ever knew that, though he preferred the silent rear ever thrusting me to the fore.

Modhurima Chakraborti
Modhurima Chakraborti

October 2012