

ACKNOWLEDGEMENT

Undertaking this PhD has been a truly life-changing experience for me and it would not have been possible to do without the support and guidance that I received from many people.

I would like to express my deepest gratitude and very big thank you to my honourable supervisor Dr. Sajal Das, Assistant Professor in Chemistry, University of North Bengal, Darjeeling for his all support, guidance and constant encouragement throughout the entire course of study.

I wish to express my warm and sincere thanks to Prof. Basudeb Basu for his precious and inspiring suggestion for my research.

Many thanks also to Prof. P. Ghosh who always keep faith in me and convinced me to clear the CSIR-UGC-NET Exam and do the research.

Furthermore, I would like to express my earnest respect and thanks to the entire faculty, staff members and all research scholars of this department for their valuable suggestion and cooperation.

I offer my special thanks to Biswajit Mondal and Aritra Nandi for their valuable contribution in my scientific work.

I would like to thank my laboratory colleagues, Sumanta Da, Sagnik Da, Seema Di and Somashree Di for their help and co-operation.

This Ph.D study would not have been possible without the cooperation and support given by the Bhaskar da and Barnali. Their patience during the numerous group discussions as well the research work that I have undertaken between 2012 -2017 is very much appreciated. I am especially grateful to them for rapid assessment, analysis and support during my research period.

I convey my special thanks to Kinkar Da, Sujit Da, Antara Di, Ambika Di, Madhurima Di, Bittu da and Soumik Da for their belief, constant encouragement and support.

My deep appreciation goes out to my friends and the local research team members in our department: Samir, Rituparna, Gourab, Biplab, Pritam, Mossaraf, Suchandra, and Prasun. Their excellent cooperation has made an invaluable contribution towards my PhD. I am also

grateful to them for their friendship and the warmth they extended to me during my time in the research work and for always making me feel so welcome.

I am indebted and really inspired by Debasish Da (Hardworking and talented) and Jayanta Da (Talented). They are really models for me to do better in research and cultivate the actual findings minutely. From the very beginning of my research, their invaluable advice, suggestions and feed backs give me extra energy to fulfil the research work properly.

I would like to thank CDRI Lucknow, for providing the HRMS facility.

I would like to express my thanks to UGC, New Delhi, for awarding me Junior and Senior Research Fellowship, University of North Bengal for providing the infrastructural facilities and DST, New Delhi.

I really acknowledge my elder brother (bhai) and my di for their constant inspiration and support throughout my life.

I would like to thank all my family members specially the children Oorjish, sanibh, vurka, guddu, laddu, dustu, oishi, diya, tusi and deepanjan for their childish selflessness, love and support.

And finally to my pets (Rosy, Rocky, Lucky, my arowana fish, love birds, cockatiel and parrots) who always refreshing me throughout my PhD, living every single minute of it, and without them, I would not survive to embark on this journey. Special thanks to my darling Rosy, who always a lucky charm for me and my family also.

The single largest contribution is properly shaping me what I am today comes from the faith, hope and pride of parents. Words are inadequate for expressing such feelings.

Thank You


PRASANJIT GHOSH