Acknowledgements

I would like to express my gratitude to my supervisor Prof. Debashis Chatterjee at Department of Chemistry, University of Kalyani for providing me the opportunity to pursue my doctoral study under university of Kalyani. I am thankful to him for his continuous support, guidance and scientific advice throughout my study. Without his encouragement, this study could not be completed.

I would like to express my appreciation to my co-supervisor Dr. Sanchita Chakravarty at CSIR-National Metallurgical laboratory, Jamshedpur for inspiring me and to access her laboratory, where a portion of analytical work was conducted.

I am grateful to Dr. Robert B. Finkelman at University of Texas at Dallas, USA. My deepest thank to Dr. Finkelman for his constructive suggestion during writing my research articles.

I am very much thankful to Prof. Debasish Shome at Department of Geology, Jadavpur University, for ensuring unlimited access to him for scientific discussion and suggestion.

I am also thankful to my lab mates and friends for ensuring me nice working environment.

I am also expressing my sincere regards to all the members of Department of Chemistry, University of Kalyani.

I wish to thank all my family members specially my mother and my elder sister for giving me close association, mental support, love and everything. It is regretful that I have lost my beloved father during my doctoral study but his hope, inspiration, support and dream that make me capable to achieve this point in my life.

(Debasree Saha)
Department of Chemistry
University of Kalyani
Kalyani-741235, Nadia
West Bengal, India