Acknowledgements

It is a great pleasure to acknowledge those who made this thesis possible.

At the foremost, I would like to express my sincere gratitude to my supervisor Dr. Diganta Kr. Das, Associate Professor, Department of Chemistry, Gauhati University, Guwahati for his valuable guidance, constant support and patience which enabled me to complete this study. He encouraged and challenged me through my research work and never accepted less than my best efforts. He made every possible effort to bring the best out of me and gave me full freedom in my research. He helped me explore facts behind any findings. I am really grateful to have such an understanding, knowledgeable and inspiring supervisor. I consider it to be an honour to work with him.

Besides my supervisor, I would like to express my sincere gratitude to my Ph.D. mentors, Prof. D. K. Kakati and Prof. J. N. Ganguli of Department of Chemistry, Gauhati University for their encouragement, insightful comments and offering me suggestions for my improvement.

I express my heartfelt gratitude to the two Heads of the Department of Chemistry (during the period of my Ph.D. work), Gauhati University, Prof. P. J. Das (former) and Prof. D. C. Deka (present) for providing me lab facilities and helping me with their valuable suggestions. I deeply admire their helping attitude and acknowledge their effort in building up an active research environment in the Department.

I am indebted to Dr. Rupamjyoti Sarma, Assistant Professor, Department of Chemistry, Gauhati University, for teaching me basics of research.

I would also like to show my gratitude to all the teaching and non-teaching staff of the Department of Chemistry, Gauhati University whose help and support accelerated my research.

I am thankful to Dr. Ramesh Deka, Associate Professor, Department of Chemical Sciences, Tezpur University for performing the theoretical calculations of metal-ligand complex and helping me develop a new insight of my findings.

I gratefully acknowledge Thaneswar Barooah Memorial Fellowship, Council of Scientific and Industrial Research (CSIR), New Delhi and Department of Science and Technology (DST), Government of India for financial support.
I am highly greatful to my labmates Babita Sarma, Manashjyoti Goswami, Priyanka Goswami, Partha Biswas and Dhanada Sarma who helped me in my lab and in my research work. Their cheerfulness not only added extra energy to my research but also helped building a symbiotic environment.

I am also thankful to my seniors Jitumoni Rajbangshi and Sanfaori Brahma for helping me with ESIMS analysis of few compounds. I would also like to thank all my batchmates during M.Sc. and Ph.D. in Gauhati University, especially Arun da, Biswa da and Jupi ba for helping me with their experiences.

I am indebted to the staffs of Labour and Employment Department, Assam Secretariat, Dispur who supported me in my research work. I am thankful to them for their help, support, and interest. Especially I am obliged to Kanaklata, Bineet, Pallabi, Manjushree Ba, Chayamoni Ba, Manjula Baideu, Ratna Baideu, Mamoni Baideu, Sandita Baideu, Ashadeep Talukdar, ACS, Dipshikha Dey, ACS and Shri Hiranya Kumar Gogoi, ACS.

I also take the privilege to thank my School teachers (B.V.F.C. Model High School, Namrup), B.Sc. teachers (Handique Girls’ College, Guwahati) and M.Sc. teachers (Gauhati University, Guwahati) and especially Manik Kalita Sir for making me fall in love with chemistry.

I owe my deepest gratitude to my loving parents, my sisters (Niku, Oli, Runjun and Tumoni) and brother in laws (Binod Bharadwaj and Ranjit Saikia) and all my family members for their stimulating encouragement, spiritual support and extreme cooperation not only in my research but in every sphere of my life.

I share the credit of my work with Pradyumna. This thesis would have remained a dream without his moral support and encouragement. Words alone cannot express what I owe him but it is only his patient affection, care and guidance which provided me strength and enthusiasm to carry out my research. I thank the almighty for blessing my life with the presence of such a person who made it more beautiful, meaningful and added extra flavour to it.

Finally, this thesis is an output of collective support and guidance of the above mentioned people and would not have been possible without them.

Date: 
Place: 

(Kaku Dutta)