## Acknowledgements

During my research work, I have been supported and persuaded by many peoples. Today I am very much pleased to express my gratitude to all of them.

First and foremost I want to express my deepest gratitude to my honorable advisor, Dr. Anirban Misra for his constant advice, guidance, inspiration, insight and sharing his extensive knowledge throughout the work. I feel lucky being associated with his research group and begin research work under his prudent and affable supervision. His enthusiasm and constant encouragement have been of the utmost importance for the progress of this work.

I take this opportunity to show deep reverence to all my teachers, Department of chemistry, North Bengal University for their help in different ways.

I am especially thankful to my lab mates (Rakesh da and Debojit da Satadal, Manoj, Tamal and Suranjan) for their kind cooperation and friendly demeanor.

I express my sincere gratitude to my family for all their unconditional love and encouragement. My father has raised me with a love of science and supported me in all my pursuits. Most of all, for my loving, supportive, encouraging, and patient husband whose faithful support during my Ph.D. work is also appreciated.

I would also like to give my thanks to my colleagues at Nand Prasad High School for their help and encouragement in pursuing my research work.

> Sonali Sarkar Sonali Sarkar