

Acknowledgement

I take this opportunity to express my first and foremost sincerest gratitude to my supervisor, Dr. Pranab Ghosh, Associate Professor, Department of Chemistry, University of North Bengal, Darjeeling, who has supported me throughout my thesis with his patience and knowledge whilst allowing me the room to work in my own independent way. I have no heartfelt words actually to acknowledge him and how he helped me in solving different research problems serves as inspirations to me. His way of searching to get out of problems has made him as a constant oasis of ideas and passions in science, which exceptionally inspire and enrich my growth as a student, a researcher and a scientist that I want to be. I am and will be thankful to him more than he knows. I could not have imagined having a better advisor and mentor for my Ph.D. study.

I express my deep gratitude, respect and sincere thank to Dr. Shilpi Ghosh, Assistant Professor, Department of Biotechnology, University of North Bengal, Darjeeling, who has supported me to carry out all biological works by allowing me to in her own laboratory as her own student throughout my Ph.D. work. Her constant support, way of training in biological research work, encouragement, inquisitive assessment always inspired me to perform all the biological works. I will always remain grateful to her.

I owe my cordial respect to Dr. Asim Bothra, Associate Professor, Department of Chemistry, Raiganj College (University College) for his constant help, instructions and support while carrying out the Docking studies in his laboratory at Raiganj. His calm and cool approach to solve problems and excellent sense of humour astonished me. I am always indebted to him.

I am very much thankful to my family members, my beloved parents, my loving sister, her husband, my loving nephew and my nearest friend Susmita Paul and the omnipresent God, for answering my prayers, for giving me the strength. Without their constant support I would never have been able to finish my research work.

I am indebted to Prof. B. P. Pradhan and Prof. S. N. Bose, the two very gentle retired professors of this department for their inspiration, able support and valuable suggestions; otherwise I would not have been able to reach this point.

I wish to express my warm and sincere thanks to Dr. A. K. Nanda, Associate Professor, Department of Chemistry, NBU for his valuable advice, cooperation to run and interpret NMR spectrum and Prof. (Dr.) B. Basu, Department of Chemistry, NBU for his kind co-operation in each step I received from him throughout the period of my research work.

I am thankful to Prof. (Dr.) S. K. Saha, of this department for his constant support by supplying some costly reagents from his laboratory and his valuable suggestions. Sincere thanks to Dr. B. Sinha Assistant Professor, Department of Chemistry, NBU for his help to perform the atomic absorption spectra.

I want to acknowledge Prof. M. N. Roy, Dr. A. K. Panda, Dr. Anirban Mishra and other faculty members of this department for their imperative support.

I am thankful to Dr C. Pal, Department of Zoology, West Bengal States University, Barasat, for giving me the opportunity to perform the antileukemic activity of some of my synthesized compounds and thanks to all other friends at there for their warm cooperation.

Deep thank and respect to all my teachers of Raiganj Coronation High School and Raiganj College (University College) whose teaching/thoughts actually helped me to build myself as a strong person and to reach at this point. I am always proud of them.

I want to express my respect and thanks to the entire non teaching staff members and all the research scholars of this department for their selfless cooperation who have given their heart whelming full support in making this compilation a magnificent experience.

I wish to thank my fellow lab mates (both from Chemistry and Biotechnology) for the stimulating/exciting discussions, with whom I enjoyed many more unforgettable moments during last four years.

I wish to thank all my friends specially Rajib Biswas, Research Scholar, Department of Botany and all my other near ones whose continuous support always encouraged me till today.

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