Acknowledgements

It's my proud privilege to acknowledge the people who have provided me all the support and encouragement throughout my research work.

I thankfully acknowledge my supervisor Prof. L.C. Mishra, Head and Dean, K. N. Kaul Institute of Life Sciences, C.S.J.M. University, Kanpur, for his kind support, encouragement and co-operation for making things better.

My heartfelt acknowledgement to my Co-supervisor Dr. (Mrs.) Leela Iyengar, Chief Scientific Officer, Department of Chemistry, IIT Kanpur, for giving me an excellent opportunity to work under her able guidance. I dedicate this work to her which is the result of her total involvement, indispensable guidance, encouragement and support. Her untiring efforts are responsible for bringing out the best performance out of me and to introduce me to a way of life of constant self-improvement. I will be highly obliged to her throughout my life.

It's my privilege to acknowledge with gratitude Prof. N.G.R. Iyengar for his encouragement and support.

I will always remain indebted to Dr. R. Gurunath, Assistant Professor, Department of Chemistry, IIT Kanpur, for his valuable help, suggestions, discussions and co-operation during my thesis work.

I am sincerely thankful to Padmashree Prof. S.S.Katiyar, Vice Chancellor, C.S.J.M. University, Kanpur for according permission for Ph.D. registration in C.S.J.M. University.

I am very much thankful to Prof. N. Satyamurthy, IIT Kanpur, for the necessary permission to conduct this study.

My sincere thanks to Prof. S. Sarkar, Department of Chemistry and The Director, IIT Kanpur for the necessary permission to conduct this study.

I am thankful to Dr. Devraj and Dr. R. Sahai, C.S.J.M. University Kanpur, for the necessary permission and help to conduct this study.

I am thankful to Prof. N.K. Birkeland and his group at the University of Bergen, Norway for sequencing the 16SrDNA of the bacteria and supplying the sequence of the same.

My sincere thanks to Anjaliji, Rashmiji and Nalini Mam for their help and support.

I must acknowledge my seniors Sami Sir and Swapna Mam for their help, guidance and support.
I express my deep sense of gratitude and indebtedness to Mr. Harekrishnan for his constant encouragement, help and support and for helping me to establish myself in Lab. I learnt a lot from him during this period.

I am sincerely thankful to Mr. Mahesh for his great help, encouragement and support during compilation of this thesis.

I am thankful to all my colleagues Gitalee, Deepak, Anushi, Vartika, Awantika, Kamlesh, Shiv, Ajay, Vivek and Ajit for their constant encouragement, help and support and for creating a good working atmosphere.

I am sincerely thankful to Pradeep, Arumugham for their constant help and support.

I specially thank Miss Darpan Saraswat for all the love, support, encouragement and care which she has given to me in her small stay at IIT Kanpur.

I am sincerely thankful to Harnarayanji and Rajeshji for their constant support and help during my thesis work.

My heartfelt thanks to my friend Sanjeev for his constant encouragement, moral support, help and care. He helped me deal the hardest times with utmost patience. I owe a lot to him.

I would like to thank Nidhi and Sharmina for their constant love, care and support.

I thankfully remember my hostel friends Tanu, Heena didi, Bhawana, Nidhi and Yamuna didi for their encouragement and support.

I am sincerely thankful to Anuj, Ajay and Himanshu for their constant encouragement and support.

I thankfully remember all the M.Sc. Project trainees for their help and support.

I would like to thank U.P. CST for providing financial help for carrying out this study.

I would like to thank my parents, brothers, bhabhi and all family members for their constant love, encouragement and support during this period. Whatever I am, today is their painstaking efforts. They extended complete support and cooperation without which I could not have completed this work.

I heartily thank my Guruji and God for giving me the opportunity to carry out this work.

Thanks to all who contributed to the success of this work

Poonam