It is a great privilege for me to have this opportunity of expressing my indebtedness, profound gratitude and hearty regards to my Teacher Dr. Kallol K. Ghosh for his expert, painstaking guidance, farsightedness, undaunted strong will and his positive and simple approach to solve every kind of problems. I have been overwhelmed by his constant encouragements, extra-cases and affections throughout the tenure of my Ph.D work. I am quite fortunate to have been associated with him. I would always remain indebted to him for all the things which I have learned from him.

I owe my deep regards and thanks to Prof. V.K. Gupta, Head and Dr. G. L. Mundhara, School of Studies in Chemistry, Pt. Ravishankar Shukla University, Raipur for extending me all the necessary facilities and help during my research work.

I have been lucky enough to be associated with some wonderful scientists during this work. I am deeply indebted to Dr. K. N. Ganesh, Head, Organic Division National Chemical Laboratory, Pune and his group for providing necessary facilities for DNA cleaving work. I am very grateful to Dr. Sudha Srivastava, Tata Institute of Fundamental Research, Mumbai for high field NMR work, Dr. Debashish Roy and Tarashankar Pal, Indian Institute of Technology, Kharagpur for IR and metal complexation work, Prof. Pradyot Banerjee, Indian Association for Culture of Science for spectroscopic work, Dr. Chittaranjan Sinha, University of Burdwan, Burdwan for Cyclic Voltametric work.

I am greatly indebted to Prof. Kalyan K. Banerjee, JNV University, Jodhpur for providing GW Basic Computer Programme for linear and multilinear regression analysis and Prof. A. C. Dash, Utkal University, Bhubneshwar for constant encouragement and suggestions.

Dr. S. K. Rajput, Department of Chemistry, Govt. Model Science College, Raipur, deserves special regards for his constant encouragement and his assistance in the synthesis of hydroxamic acids.

I would also like to take this opportunity to express my considerable gratitude to Prof. Jose M. Leal, University of Burgos, Spain, Dr. Alessandro Bagno, University of Padova, Italy and Dr. Robin A. Cox, University of Toronto, Canada for their valuable correspondence and highly useful suggestions. They were not only helpful in providing recent literatures but provided computer programme of characteristic vector analysis for studying acid-base equilibria.

I feel pleasure in expressing my earnest thanks to Dr. (Mrs.) Rama Pande, Dr. K.S. Patel, Dr. (Mrs.) S.A. Bhoite, Dr. Manas Kanti Deb of School of Studies in Chemistry and Dr. S.C. Naithani, School of Studies in Life Science and Dr. D. P. Kuity, School of Studies in Geology, Pt. Ravishankar Shukla University, Mr. Debashish Sanyal, Govt. Eng. College, Raipur for their valuable suggestions and help.

The financial assistance in the form of Junior and Senior Research Fellowship from the Department of Science and Technology (DST), New Delhi through a major research project entitled 'Acid Base Equilibria and Metal Complexation of Hydroxamic Acids—Applications to DNA-Cleavage' (No. SP/ S-1/G-28/94/PRU) is gratefully acknowledged.

I would remain highly indebted to Dr. K.K. Krishnani, Dr. Sharmistha Ghosh, Dr. Santosh Sar, Dr. Santosh Singh Thakur, Dr. (Mrs.) Supriya Roy, Dr. (Ms.) Alka Pandey, Mr. S. K. Patle, Mr. L. K. Tiwari and Ms. Manisha Thakur for useful suggestions and encouragement.

I would also wish to express my thanks to Mrs. Shuvra Ghosh whose affection and support enabled me to work hard to achieve this long cherished goal of finishing my thesis work at the earliest.

I fall short of words in expressing my feeling towards my beloved parents, brothers, Mr. Neeraj Tamrakar and Varun Tamrakar, my sister Ms. Garima Tamrakar, Tauji, Dr. D. S. Tamrakar, Uncle Dr. V. K. Tamrakar and Taiji and Chachiji, who have always cared for me and remained very close to me emotionally despite all the constraints and odds. I owe a lot to them. In fact it is their love everlasting blessings and affection which enable me to bring this work to a sound end.

I am greatly indebted to my friends for their love support encouragement and appreciation to keep me on the path of truth and reach my destination all the time. It will difficult to acknowledge the everwilling and cheerful help of numerous, well wishers, individually, I am indeed thankful to all of them.

The helping hands and the warm smiling countenance of my affectionate hostel mates always assured me that they will prevent me from foundering at tiring times. They genuinely deserve my special appreciation and thanks.

My thanks are also to Mr. Sushil Agrawal, Super Graphics for Raipur, for composing of the thesis and converting the pages in ink to the present mass output which is a mirable visu.

Lastly, I wish to apologize for any inadvertent omission of the names of persons who had helped me in one way or the other.

Nothing is possible without the blessings of GOD, which I always felt very close to me.

Finally, I would like to conclude my acknowledgement by expressing few words for the experimental studies in general and Chemistry to particular as: "Experiments never deceive, it is our judgement that sometimes deceives itself because it expects results that experiment refuses. We must consult experiments varying the circumstances until we have deduced reliable rules".

(Pankaj Tamrakar)