ACKNOWLEDGEMENT

At the outset, I wish to pay my most humble obeisance to the almighty God for giving me the inspiration and wisdom to take up the task. By the time, I have worked with a great number of people whose contribution in assorted ways to the research and the making of the thesis deserved special mention. It is a pleasure to convey my gratitude to them all in my humble acknowledgement.

I would like to seize this opportunity to thank my research guide Dr. Sujit Baran Kumar, Assistant professor, Department of Chemistry, Faculty of Science, The M. S. University of Baroda. I cannot express the extent to which his support and understanding allowed me to reach at the end of this journey. His encouragement, support and above all his prompt, constructive and greatly appreciated criticism and feedbacks were invaluable to the completion of this study. He has given me valuable advices and shared intelligent thoughts and inculcated discipline. I am highly indebted to him for completing this work successfully with pride and pleasure.

I express my sincere gratitude and thanks to Prof. N.D. Kulkarni, Head and Prof. B. V. Kamath, Former Head, Department of Chemistry, Faculty of Science, The M.S. University of Baroda for providing me infrastructure, Instrument facilities and constant support throughout my research work.

I express my sincere thanks to Dr. Parimal Paul, Chief Scientist, Analytical Science Discipline, CSMCRI, Bhavnagar for providing necessary instrumental facilities (UV–Vis., Cyclic Voltametry, 1H NMR, CD spectra). I would like to thank Dr. E. Suresh, Dr. Pabitra Chatterjee, Scientist, CSMCRI, Bhavnagar and Mr. Partho Mitra, Department of Inorganic Chemistry, Indian Association for the Cultivation of Science, Jadavpur, Kolkata, IIT Roorkey and DST PURSE program, Department of Chemistry, The M.S. University of Baroda, Vadodara for providing single crystal X-ray diffraction facility.

It is my privilege to express my sincere thanks to Prof. M.V. Rajshekharan, Head, Department of Chemistry, University of Hyderabad, for giving me an opportunity to learn crystallography under his guidance. I am thankful to Mr. Krishna, Dr. Bhargavi and other group members for their kind support and help.
I am thankful to Prof. Montserrat Monfort, Departament de Química Inorgànica, Universitat de Barcelona, Barcelona, Spain for variable temperatura magnetic study.

I am greatful to Prof. Chittaranjan Sinha, Department of Inorganic Chemistry, Jadavpur University, Kolkata for IR spectral analysis and Prof. Asim Bhaumik, Department Of Materials Science, Indian Association for the Cultivation of Science, Kolkata for EPR spectral analysis.

I express my sincere thanks to Dr. C. Ratna Prabha and Ms. Ankita Doshi, Department of Biochemistry, Faculty of Science, The M.S. University of Baroda and Advance Diagonist Lab, Surat for antimicrobial activity. I am thankful to Dr. R.V. Devkar and Ms. Sweta Patel, Division of Phytotherapeutics and Metabolic Endocrinilogy, Prof. Pragna Parikh and Dr. Ayaz Rangrez, Department of Zoology, Faculty of Science, The M.S. University of Baroda for cytotoxic activity.

I am grateful to Prof. Bhavana Trivedi and Mr. Shardul Bhatt for CV analysis, Prof. P. Padmaja and Harnish Soni for UV-Vis. Analysis. I am thankful to Dr. Sunil Shah, DDIT, Nadiad for UV-Vis. Analysis. I am thankful to Dr. D. Chakraborty for helpful discussion.

I am heartly thankful to my senior Dr. Mahendrasinh Zala, my friend and colleague Mr. Mehul Sadhu for their invaluable assistance in my work and cooperation during my research.

I would like to acknowledge Dr. Ashok Vishwakarma, Dr. Rabindra Rathore, and Mr. Hemant Mande for their help to solve crystallography related problems. I am thankful to Dr. Gautam for IR spectral analysis. I would like to thank Rama, Rinky and Dr. Komal for helping me in DNA binding study.

I would like to thank all teaching staff of the department. I would like to thank all non-teaching staff of the department, Mrs. Revathi Ganesh, Mr. Rane, Mr. Kalpesh Bhavsar, Mr. Rawal, Mr. D.R Bhavsar and Mr. Dipak.

Financial assistance received in the form of fellowship from C. C. Shroff Fellowship, GNFC Bharuch, University Fellowship and UGC-BSR fellowship under RFSMS scheme.

Although thanks is a very small word but I must thank my intimate friends Vishwanath, Araman, Harsha and Sadhu, who always participates with my problems and supports me to overcome from it and constant encouraging me. Thank you for
being with me and providing me loving atmosphere. I would like to thank my lab mates, Hemantbhai, Sanjaybhai, Rahul, Ishani, Vinita, Amrit and Khusbu for providing me working environment and their support during my research journey.

I am thankful to Namrata, Arati, Priyanka, Puran, Kushan, Harnish, Rahul Bhatt, Nishant, Umesh, Priyanka Solanki, Sukruti, Nilesh Narkhede, Viraj, Heta, Mohini, Mrs. Priyanka, Dr. Harish Talele, Nilesh Jain, Krupa, Shyam, Riddhi, Aditya, Aditya Puranik, Dushyant, Jigar Soni, Dr. Jigar Soni, Ruchita, Dr. Sanjay Parihar, Dr. Arpita, Kanu, Rajesh, Sanjay Yadav, Gaurav, Shreepa, Nisha and other research students of the department.

I wish to express my deep gratitude to my loving and caring Family. My Parents, Pravinsinh Solanki and Asha Solanki deserve special mention for their support and prayers. Thanks to my dear brother Sanket, Uncle Harish Jadav and my cousin Amit Parmar for their constant love, support and encouragement throughout my life. Without it, it would not be possible for me to complete this work.

I am thankful to all my Teachers who help me to reach at this stage. Without their guidance i cannot reach here. Finally, i am thankful to all those who have given me direct or indirect support during my research work.

Solanki Ankitaben Pravinsinh