ACKNOWLEDGEMENT

Completion of this doctoral dissertation was possible with the support of several people. I would like to express my sincere gratitude to all of them.

First of all, I would like to express my sincere gratitude to my research guide, Prof. C. Ratna Prabha for her valuable guidance, scholarly inputs and consistent encouragement I received throughout the research work. A person with an amicable and positive disposition, Madam has always made herself available to clarify my doubts despite her busy schedules and I consider it as a great opportunity to do my doctoral programme under her guidance and to learn from her research expertise. I am very grateful for her patience, motivation, enthusiasm, and immense knowledge in the field, taken together, make her a great mentor. Ma’am also helps me to write this thesis. Thank you very much Madam, for all your help and kind support.

I extend my sincere gratitude to Prof. Sarita Gupta, Head, Dept. of Biochemistry for supporting and providing infrastructure which were needed to accomplish the work and also being kind, supportive and motivating. I also thank madam as co-ordinator of DBT-ILSPARE for extending Instrumentation facility to complete my research work.

I would also like to thank my Doctoral Committee members Dr. Anuradha Nerurkar, Dept. of Microbiology, Prof. Pushpa Robin, Dept. of Biochemistry, Prof. Sarita Gupta, Head, Dept. of Biochemistry for generously offering their time, support, guidance and good will throughout my Ph.D. tenure.

I would like to thank Prof. G.Naresh Kumar, Prof. Rasheedunnisa Begum, Dr. Jayashree Pohnerkar, Prof. Pushpa Robin, Dr. Shashikant Acharya, Dr. Rajesh Singh, Dr. LaxmiPriya, Dr.Devesh Suthar and Dr. Ravi Vijayvargia for their constant support, always ready for scientific discussions and encouragement during my Ph.D. tenure.

I extend my sincere gratitude to Prof. P. V. Balaji, IIT Bombay, for permitting me to work in his laboratory on the problem of coevolution and also enriching me with the knowledge of bioinformatics, a totally new subject for me to deal with. His wonderful
approach towards teaching and explaining the subject in a very simple way helped me a lot to understand and complete my work.

I sincerely acknowledge Prof. Y.U. Sasidhar and Prof. Nand Kishore Department of chemistry, IIT, Bombay for allowing me to use circular dichroism instrument over there. Special thanks to Sandeep and Nitin who had helped me throughout my stay in IIT.

I am grateful to Prof. P. Coffino, University of California for providing us yeast ODC gene, Prof. Herbert Tabor, National Institutes of Health for Y05034 and Y651 strains of Saccharomyces cerevisiae and Prof. Jeffrey Gerst and Rachel Kama, The Weizmann Institute of Science, Israel for providing us with and pUG35 and pUG46 plasmid. I am also thankful to Prof. Johannes H. Hegemann, Heinrich-Heine Universitat, Dusseldorf and Prof. R. Jurgen Dohmen, University of Cologne, Germany for kindly providing us with yeast expression vector and strains.

I am extremely grateful Prof. P. P. Sood, Saurastra University, Rajkot, my M. Sc. dissertation mentor for inspiring me to do research and expand my territories in scientific fields.

My heartiest thanks to all the office staff of Department of Biochemistry including Pethe Sir, Akshitaben, Vyasbhai, Manishbhai, Shaileshbhai, Rameshbhai and all non-teaching staff members for their help and guidance in all the official matters.

I extend my thanks to Mr. J. D. Patel, academic registrar and Neeta Dhar Ma’am, Development Officer, The M. S. University of Baroda to support me in official work.

I am thankful to DBT, DST-SERB and CICS for travel awards to attend The Protein Society conference, Barcelona, Spain.

Mutual understanding among research scholar in our department and healthy discussions about research work encouraged me to do more and more work. It might be difficult to complete these work without getting help from them. I convey my thanks to all who help me directly or indirectly to complete my research work.
I would like to thank my lab seniors Dr. Pradeep Mishra, Dr. Hemendra Vekaria, Dr. Swapnali Kulkarni and Dr. Mrinal Sharma for teaching me the lab culture and good laboratory practices and also for standardizing many techniques I used routinely during my work. My heartiest thanks to Ankita, for her helping nature. She has helped me and gave me unconditional support to complete this work. Thank you very much Ankita for your kind support. I would like to thank Varsha, Brinda, Prranshu and Hemang for their help to complete my research work.

Doing Ph.D. was a long commitment and made me to go through significant turbulence. My very special thanks to all my well wishers, especially Abhay and Ujwal. They supported me unconditionally to complete this work.

I would like to thank all my seniors and good friends Nidheesh, Prashant, Hemanta, Tushar, Akhilesh, Krishna, Radha, Muskaan, Santosh, and Chandraprakash for their constant support during my work. I would like to thank all present research scholars of Department of Biochemistry Regitha, Mitul, Gaurav, Komal(DBT), Komal, Divya, Shoieb, Tina, Ashlesha, Mala, Shahnaz, Nirja, Arpi, Shubham, Archana, Ruma, Parini, Ridhi, Suresh, Laxmi, Paresh, Khyati, Kritarth and Milton for their constant support till the end. I would like to thank all the M. Sc. dissertation students who worked on the project.

I would like to pay my regards to my Parents. Their unconditional love, care, prayers and blessings have always kept me moving on the right path. My special thanks to my younger brother Prashant. I would like to thank Monali and my entire family for being with me.

Thank you very much to all..........................

Rushikesh G. Joshi