Acknowledgements

The most awaited moment of thesis submission has finally come and it gives me an immense pleasure to mention the numerous people including my family, teachers, well wishers, my friends and colleagues whose association and contribution have been a driving force for me in completing the study and to make it an unforgettable experience. At this juncture, I would like to take the privilege of acknowledging all those without whose help and support this journey would have been an impossible task.

First and foremost I offer my sincere gratitude to my Ph.D. supervisor Dr. C. Ratna Prabha. This work would not have been possible without her guidance, support and encouragement. Her never-ending patience, commitment, optimistic approach, scientific counseling and urge to seek performance in science have inspired me to flourish for excellence and nothing less. Her critical remarks, corrections and skill to write or present in a scientific way has encouraged me in improving my abilities. Her spiritual motivation has benefited me to accomplish the work.

I would like to thank Professor G. Naresh Kumar for supporting and providing infrastructure which were needed to accomplish the work. His never say no attitude regarding usage of the instruments has encouraged me for completing the work.

I extend my sincere gratitude to Professor Sarita Gupta for always being so kind, supportive and motivating. Her support during the last year of my study was the motivation for me to complete the remaining task of Ph.D. work. I owe a lot of gratitude and I feel privileged to be associated with her.

I would like to express my deep gratitude to Dr. S. R. Acharya, who has always been supportive in finding the new opportunity in the scientific field. His friendly nature and critical remarks and comments about general topics have always impressed me.

I am extremely grateful to all other faculty members of Department of biochemistry; Dr. Jayshree Pohnerkar, Dr. Pushpa Robin, Prof. Rasheedunnisa Begum, Dr. Laxmi Priya and Dr. Devesh Suthar for their encouraging words and criticism, valuable suggestions throughout the research tenure. I extend my gratitude to the faculty member of Department of Microbiology and Biotechnology centre: Dr Mrinalini Nair and Dr. Anuradha Nerurkar.

I sincerely acknowledge Professor Y.U. Shashidhar (Protein Dynamics Lab), Department of chemistry, Indian Institute of Technology (IIT, Bombay) and Professor Nandkishore (Head) Department of
chemistry (IIT, Bombay) for allowing me to carry out my crucial experiments over there. Special thanks to Pinakin and Sandeep who had helped me throughout my stay.

I am thankful to Dr. N. C. Chaturvedi (Scientific advisor) and Dr. K. Shivram (Analytic development department) at SPARC, SUN Pharma, Vadodara for allowing us to perform some of the experiments. Special thanks to Saumik and Sachin for their help in execution of the work.

My heartiest thanks to all the office staff of Department of Biochemistry including Pethe Sir, Manish bhai, Shailesh bhai, Ramesh bhai (Nare), Akshita ben, Vyas bhai, Sandeep, Anil and other non teaching staff members for their help and guidance in all the official matters. I extend my thanks to staff of Department of Microbiology and university office staff including Nair bhai, Nitesh bhai, Vergheese bhai, Milind bhai and Bhavik bhai.

I acknowledge Dr Sanjay Jha and Dr. Vikash Sharma for being always available for any sort of help. Their selfless support has always motivated me. Tea session with them was enjoyable moment in the starting year of the study.

It was a pleasure having seniors like Dr. Shajil Madhvan, Dr. Keyur Dave, Dr. Hiren Modi, Dr. Maulik Thakkar, Dr. Jyotika Rajawat, Dr. Heena Mir, Dr. Chirayu Pandya, Dr. Niraj Bhatt, Dr. Gopit Shah, Dr. Divya Patel, Dr. Aditi Buch, Dr. Jisha Elias, Dr. Prashant Kunjadia and Dr. Prakash Pillai, who taught the do’s and don’ts in research ever-helpful elderly advices. I have shared few of the most memorable moments with them.

My acknowledgement will never be complete without the special mention of my lab seniors who have taught me the lab culture and have lived by example to make me understand the hard facts of research execution. I would like to acknowledge Dr. Pradeep Mishra who has always been available to clear any scientific doubt. His punctuality, hard work and dedication towards work have always motivated me. I would like to extend my thanks to my senior Dr. Hemendra Vekaria who has always helped unconditionally. His valuable suggestions, down to earth and friendly nature have inspired me a lot.

I would like to extend my thanks to my colleagues and very good friend Swapnali who was always available for sharing the experiences and to console during the hard time of Ph.D. Many many thanks to Ankita for her active participations in the work especially in motivating me to reinstate the work in the last year of my Ph.D. Her critics like “nikiu sir lehut hu yaya abu” were fun as well as motivation for me to wind up the work. I would like to thank Varsha, Brinda and Pranshu for their constant help in the research work and to make the lab atmosphere light and enjoyable.
I would like to thank all of the dissertation students, Seema, Harshada, Hemendra, Pranshu, Brinda, Khyati, Shruti, Dhwanit, Prateek, Chinmay, Ananya, Yesha, Devna, Maitry and Veena for being a great helping hand all along and for creating a fun-filled work atmosphere.

Doing Ph.D. was a long commitment and made me to go through significant turbulence. My very special thanks go to my well wishers. Whenever I felt that I am all alone Nidheesh (Thutish) was always behind me with enormous positivity, zeal, compassion and care. This work would have been left incomplete if he would have not come forward to rescue me in my tough time. Hemanta Adhikary, who has always encouraged me by saying ”Io jayega bhai ...” Rashikesh (Joshya) who is always available for any sort of help. I appreciate his never say no attitude and passion to finish any task. I wish him all around success in his scientific career. Santosh (Sarkar) whose sense of humor and typical Bihari style was enjoyable. Whether it’s a tea session, picnic or movie at rajshee. I have enjoyed company of you all.

I would like to thank Purva who is always available for counseling me and to pull me out from negativity in my tough time. Her cheerful nature and positive attitude has encouraged me to move further with zeal. I would like to extend my thanks to Hiral Tanna, who has always supported me unconditionally, her sensible approach, joyful and fun loving nature has transformed me. Her ”Live life to the fullest” philosophy has changed my views completely.

I expand my thanks to all my colleagues. Research scholars viz. Sanket, Prasant, Chanchal, Jitendra, Anubha, Vijay, Purna, Naresh and Mitesh for their constant support and moral boost.

Thanks to all research scholars of department of Biochemistry. Thanks to Akhilesh, Abhay, Tushar, Ragita, Sucheta, Prateek, Komal, Mitul, Krishna, Divya, Supriya, Radha, Neerja, Amruta, Ankit, Shoail, Aashish, Sumit, Archana, Ujjawal, Sonal madam and Praveena madam.

Thanks to all research colleagues in Department of Microbiology and Biotechnology Centre, Thanks to Mahima, Soshina, Chandra Prakash, (CPya), Jagat (Jagga), Dr. Hasmukh, Kuldeep bhai, Sumant, Subramaniam (subbu), Murli, Nandan, Ruchi, Yimal, Anoop, Chethan, Dr. Bishun, Vikas, Abhik for their constant support till the end.

I would like to pay my high regards to my late father and my mother. Their unconditional love, care, prayers and blessings have always kept me moving on the right path. I owe everything to them. I extend my regards to my eldest brother Mayank and bhabhi, Reena for their endless support, never ending patience, love and care since last six years of my stay with them. I express my regards to my bhabhi Trapti Sharma.
who has always been concerned about completion of my thesis and my elder brother Dr. Mayur Sharma, who has been a source of inspiration for me. He has always encouraged me by sharing his experiences during his Ph.D and motivated me by his valuable suggestions.

I would like to end the acknowledgement by stating a quote from a renowned scientist....

"the more I study science, the more I believe in Gd"

Albert Einstein

Mrinal Sharma