Acknowledgement

It gives me an immense pleasure to express my deep and sincere gratitude to my research guide Dr. (Mrs.) Vaijayanti A. Kumar for all the advice, guidance and encouragement during every stage of this work. I am thankful for the confidence she had on me which encouraged me to pursue different scientific ideas during my research period. She challenged me to set my benchmark even higher and to look for solutions to problems rather than focus on the problem. I learned to believe in my future, my work and myself.

"Thank you doesn’t seem sufficient but it is said with all respect"

Dr. (Mrs.) Moneesha deserves special thanks. Her encouragement, understanding and suggestions were invaluable during my stay in the lab and went a long way towards the completion of this thesis.

My sincere thanks to Mrs. Anita Gunjal for her help during the course of this work. I am also thankful to Dr. Anil Kumar, Dr. (Mrs.) V. S. Pore, Dr. M N Deshmukh, Prof. D. D. Dhavale and for their advice, various kinds of help and encouragement during the course of this work. I am also thankful to Mrs. M. V. Mane and Mrs. S. S. Kunte for HPLC analysis, and also special thanks to Dr Maltesh Kulkarni and Mrs Shanta Kumari for the MALDI-TOF and LC-MS experiments. The kind support from NMR group is greatly acknowledged and I am specially thankful to Dr. Rajmohanan, Shrikant, Snehal and Roshan. Thanks to Dr. (Mrs.) Puranik for the X-ray analysis.

I admire the co-operation of my seniors and colleagues who have taught me many things. I thank Dr Raman, Dr.Nilkantha, Dr Amit, Dr.Sathe, Dr.Shengte, Shridhar, Pradyra, Dr.Ashwani, Dr.Mahesh, Dr.Gitali, Dr.Roop, Dr.Manaswin, Deepak, Nitin.

I thank Dr. Khirud Gogoi, Dr.Madhuri, Dr.Sachin, Namrata, Parameshwar, Harshil, Harshit, Kiran, Venu, Manoj, Anjan, Tanya, Govind and Amit for their support and help, who made workplace fun, lively and made each other forget their worries even for a while. Thanks you all, for making my last period of work fun, enjoyable and sometimes unforgettable. I thank Bhumkar for the laboratory assistance.

My special thanks go to my beloved friends Shital, Ravi, Kishore, Rahul, Dr.Sunita, Archana, Aaliya, Suchita, Pravin, Sachin, Yogesh, Deepa, Madhav, Madhuri, Govri, Roshna, Lalit, Pitamber and Soni for their individual support and encouragement during my carrier.

I would like to express my deep sense of gratitude to my husband, Prashant for providing me unflinching encouragement and support which made this dissertation possible. This piece of work will never be accomplished without him being behind me for guiding and accompanying me through thick and thin.

I want to thank my Parents, Mrs. Indumati Bagmare, without her continuous support and encouragement I never would have been able to achieve my goals and Late. Mr. Rameshappa Bagmare for giving me unconditional love all the way. I thank my all family members for their constant support and encouragement. I warmly appreciate the generosity and understanding of my In-laws Mrs. Bharathi Mengshetti and Mr. Sharnappa Mengshetti for the support provided to me. Without the support of all family members, my ambition can hardly be realized.
My greatest regards to the Almighty for bestowing upon me the courage to face the complexities of life and complete this dissertation successfully and for inculcating in me the dedication and discipline to do whatever I undertake well.

I offer my sincere regards to people who have inspired me directly or indirectly in research and life during my doctoral study.

I am grateful to UGC, New Delhi, for awarding the senior research fellowship and Dr. Sourav Pal, present Director, and Dr. Shivram, former director, National Chemical Laboratory to carry out my research works, extending all infrastructural facilities and to submit this work in the form of a thesis for the award of Ph. D degree.

Seema Bagmare