ACKNOWLEDGEMENTS

It is my first and prime privilege to express my deep sense of gratitude to Dr. Arun D. Natu, who has not only supervised my research work but also nurtured me into a good human being. He has steered my entire research tenure with his inspirational guidance, critical supervision, and in-depth knowledge of the subject, optimistic attitude and exemplary patience. I feel fortunate to be associated with him as his first research student and I vouch for the scientific outcome of this endeavor from this association.

I will be forever indebted to Prof. M.V. Paradkar for motivating me to pursue research and his mentoring is like a blessing for me. His logical planning, result oriented strategies, persistent perfection, constructive criticism and accommodative discussions served as milestone.

The lively presence of Dr. R. C. Chikate blended with philosophical attitude was a source of inspiration for me during my entire tenure. His writing and interpersonal skills, optimistic approach and persistent excellence will be helpful for my entire career.

I am grateful to Dr. D. G. Naik, Scientist, Agharkar research institute, Pune for his constant encouragement. He has evaluated my research work throughout the tenure and his timely suggestions have served for the betterment of my work.

I will be always in debt for the help and support provided by Dr. Dhiman Sarkar, Scientist, National chemical laboratory, Pune. His unconditional help in antitubercular activity testing of our samples has added newer flavor to our research work. His easy accessibility and unhesitant discussions enabled our collaborative work to proceed in smoother manner.

Many thanks are due to Dr. D. D. Dhavle, Head, Dept. of Chemistry, University of Pune and Dr. C.V. Rode, Scientist G, National Chemical Laboratory for their ever helping attitude that has enabled my journey in a smoother manner.

Sincere thanks to Dr. Shrikant G. Gupta, Principal and Dr. Mrs. Sujata S. Kale for lending helping hand by providing all the necessary facilities and constant encouragement in many difficult situations without any hesitation.

I am privileged to be associated with Dr. Sanjeev Kulkarni, Dr. Himanshu Godbole and Dr. Virendra Kumbhar. I will always recall the help and valuable suggestions they provided during the entire tenure.

I thank faculty members of our department for their assistance and cooperation during the course of my tenure, especially Dr. Asha Datar and Dr. Megha Biware and Mrs. Nalini A. Pandhare.
Mr. Bhosale, Registrar, Mr. Sable, Ms. Sanap and all the administrative staff of the college are acknowledged for their cooperation. The assistance offered by Kudale Mama and Mr. Atul Kharpude in the laboratory deserves many thanks.

I shall always recall with affection the fervent and unreserved support from my colleagues Mr. Brijesh Kadu and Ms. Varsha Honmore. I value their company the most. I further extend my sincere gratitude to my colleagues for sharing and nurturing excellent working relationship and friendship: Mr. Raju Walunj, Mr. Anil Wade, Mr. Dhananjay Petkar, Mr. Hari Pawar and Ms. Vidya Kalyankar.

All this work was entirely possible due to the blessings of my parents and the sacrifices made by them. I am thankful to them for trusting me for the path I opted by choice. My gratitude and appreciation for them cannot be put into words.

I am fortunate to have friends like Uttam, Anurag, Ninad, Prashant, Vinayak and Sayali who helped me ever willingly and unconditionally in all possible manners. The relentless support and encouragement provided by my cousins Girish, Avadhoot and Rita is gratefully acknowledged. The company of my friends Sanket, Tushar, Onkar, Saurabh, Tapan, Sanyukta, Kalika, Ritesh, Wasim, Rohit, Vivek, Ganesh and my whole trekking group have provided me greatest relaxation especially during last hectic phase.

Finally, I thank University Grants Commission, New Delhi for awarding the JRF/ SRF and DST-FIST for providing infrastructural facilities.

Despite the help extended by one and all, I am solely responsible for any errors and shortcomings of the thesis.

Rohan A. Limaye